

TapeOut

Complete Beginner's Guide

From a NAND gate to an on-chain chip factory

September 2026 edition / v1.5

Editor: Hong Qigong

Editorial assistant: Grok Bot, Chief Economist

This is an English machine translation of the latest 144-page Chinese edition dated September 25, 2026. Names, protocol identifiers, contract addresses, URLs, and quoted source material should be checked against the Chinese edition before operational use.

This guide does not constitute investment, legal, or tax advice.

Contents

Editor's Note

Preface and How to Read This Guide

Chapter 1 What Is TapeOut

Chapter 2 Core Concepts from NAND Gates to Processors

Chapter 3 Wallets and First Steps

Chapter 4 Circuit Containers and tape:// Addresses

Chapter 5 PoD Mining and Cost Calculations

Chapter 6 The BEM Token

Chapter 7 Developer Tools and DeWEB

Chapter 8 Ecosystem Map

Chapter 9 Safety and Risk

Chapter 10 Selected In-Depth Reading

Chapter 11 Video Index

Chapter 12 Overview and Editor's Viewpoint

Appendices

Chinese edition source page 1

Unofficial beginner's guide September 2026 version / v 1.5 NAND ONCHAIN From a NAND gate to an on-chain chip factory Transistor / Circuit / Container / PoD Mining / BEM / tape:// Editor: Hong Qigong Editorial Assistant: G rok Bot, Chief Economist Authors and sources included: 110 See the full list on the next page.

Data as of September 25, 2026 (Singapore time) This book does not constitute investment, legal, or tax advice.

Chinese edition source page 2

Authors and sources included (1/2)

110 individuals/family members, in the order of formal acknowledgments.

Inclusion here does not imply the author's endorsement of this book; the author's name is written as it was in the original publication.

Blonskr Alphana @0xAlphana Huang Z hou@Web32049 TapeOut Official Benson @benson_doge Daniel Zhou X Layer Chinese Channel @xlayer_zh CUPID @ cupid_elvis Tizer Luo HashPort JayChen @0xJayChen Renren Meilishuo Ignix @Ignixbot Jo00000 @ zhuoning293 TapeOut Daily Report TapeOut Labs Martin_sen Master of Slacking Off @martin23_sen CoinDesk (Omkar) Burnbem Godbole) Mi1997_ @ Mizaza1997_ TapeOut Container Uploader CoinW Research Institute SpongeMochi TAPQQ Foresight News UPay @UPayOfficial_EN

8.888 Premium Number M all

Golem @ web3_golem Venz @wenzherunze Nibble (author) KuCoin Blog YW @ywweb3 KallyGame) 01 OOKC Labs @ OOKCLabs Zakk @zakk_okx Protocol Official Website (Author Unknown) New Things / TechFlow alda @ nat_poprika @0xEvinC mox @JiangX68993 (Editor, @BitGoldKnight ABMedia (Neo) News @CryptoLoser9) @DigitalBeggar_c BruceBlue @StaveLiu Casual Talk on Coin @mantancoin Qinglan @TapeOutFun Scientist Wuxie Black Mario @sciencedegens 93.bitmap Strategy Lao Chen @ZxzxbdSdRw7565 Xiao Zhan (@Xiao_zhanyang) The section "Included Authors and Acknowledgments" below lists the specific content included for each author and the source links.

Chinese edition source page 3

Authors and sources included (2/2)

110 individuals/family members, in the order of formal acknowledgments.

Inclusion here does not imply the author's endorsement of this book; the author's name is written as it was in the original publication.

@blueshirt666 TapeHub tapeout.work @dc_cap TapeLens wNAND (Author unknown) @tapeilotai TapeOut Meow Meow Lottery (Author unknown) Cards (Author unknown) @xuxincoin1 Meow Meow Texas Club (Author TapeOut Club unknown) BEM Clock TapeOut Market Anonymous Exploration+ (Author unknown) BEM Community TapeOut On-Chain Chip Market BEM Chat (Author unknown) Destruction Board (Author Unknown) Master of Lying Flat (Author Unknown) TapeOut Protocol BITMAP Runtime Blockchain-based Chinese Chess (Author unknown) Telegram group V0.2.1

(Author unknown) Blonskr Fans Getting Started with TapeOut Black Myth: The Beast (Author Unknown) C3S Reflex Circuits TapeOut Ecosystem Navigation

Bitget (Official Announcement) TapeOutScan DeQQ Bitrue Blog TapeOut @ TapeOutWorld Firsto BscScan TapeSite (Author unknown) GatePilot CoinCarp TapeWeb GatePilot (Author unknown) DexScreener giang.me NAND Driver MEXC gradfi (Author unknown) NANDPU TopicDigg tapeout.build Perpetua ekonomeest tapeout.pro SiliconX tapeout.space SkillPass Control Room (Author unknown) tapeout.vip The section "Included Authors and Acknowledgments" below lists the specific content included for each author and the source links.

Chinese edition source page 4

TapeOut Complete Beginner's Guide Editor: Hong Qigong; Editorial Assistant: Grok Bot, Chief Economist Unofficial beginner's guide - September 2026 edition (v1.5) Data is current as of September 25, 2026 (Singapore time). All data in the "On-Chain Testing in This Book" section were obtained via read-only querying of BNB Chain public nodes on September 25, 2026.

This book does not constitute any investment, legal, or tax advice. The illustrations in this book are original drawings; screenshots, unless otherwise noted, are all photographs taken by the author; third-party images are credited in the captions.

Included with the book are: an HTML version (which can be read and played on a mobile phone), an EPUB version, three self-made animations in the videos/ folder, and the source directory catalog g.csv.

For a complete list of authors cited in this book, please see "Authors and Acknowledgments". This book was primarily compiled, written, and proofread by the editorial assistant, Chief Economist (AI) Grok Bot, while the editor, Hong Qigong, determined the direction and reviewed the work. For details, please see "How this book was compiled".

About the editor: Hong Qigong (X: @CryptoLoser9), founder (and president) of RWA University, Crypto independent investor, evangelist of "Conceptual Economics," author and co-author of books such as "The New Digital World Revelation," "Libra: A Financial Innovation Experiment," and "Understanding NFTs in One Book"; one of the earliest participants, developers, and builders of the TapeOut community. His six TapeOut works (TapeOut Daily, "Slacking Off Master," Burnbem, TapeOut Container Uploader, TAPQQ, and 8.888 Premium Number Mall) are collected in Chapter 8, Section 8.9.

About the editor Hong Qigong (X: @CryptoLoser9) Founder (and president) of RWA University, Crypto investor, and evangelist of "Conceptual Economics"; Authored and co-authored books including *The New Digital World: A Revelation*, *Libra: An Experiment in Financial Innovation*, and *Understanding NFTs in One Book*; 2013 Buy Bitcoin in 2018; In early 2018, he entered the cryptocurrency industry as an entrepreneur and founded "Foodie Continent"; Invested in dozens of Web3 projects; One of the earliest participants, developers, and builders in the TapeOut community. In the past two weeks, he has created six small TapeOut applications using AI coding (vibe coding), see Chapter 8, 8.9, "The Editor's Work".

/ 8.5 DeWEB: On-Chain Websites and Messaging / 95 // 8.6 Games and On-Chain Projects / 95 // 8.7 Launchpad and Mini-Applications / 96 // 8.8 Learning, Navigation, and Community / 97 // --- / --- // 8.9 Editor's Works / 97 // Chapter 9 Getting Started with Safety: Risk Warnings and Self-Protection / 100 // 9.1 Contractual Permissions: Which permissions has the founder relinquished? / 100 // 9.2 Economic Models: Hearing Different Voices / 102 // 9.3 Recognize the genuine product: Avoid counterfeits and false alarms / 102 // 9.4 Five Good Habits You Can Take Control of Yourself / 104 // 9.5 Starting with the Bitget theft: What can front-end blockchain protection prevent, and what can't it prevent? / 104 /

/ Chapter 10 In-depth Reading: Selected Articles / 108 // 10.1 Official First-Hand Documents (Must Read) / 108 // 10.2 Introductory Science (Suitable for reading after Chapters 1 -3) / 108 // 10.3 Advanced Mining (Suitable for reading after Chapter 5) / 109 // 10.4 Ecology and Economy (Suitable for reading after Chapters 6 and 8) / 109 // 10.5 Technology and Vision (Suitable for reading after Chapters 4 and 7) / 110 // 10.6 Viewpoints and Debates / 110 // Chapter 11 Video Index / 112 // 11.1 Self-made animation for this book (silent, with Chinese subtitles) / 112 // 11.2 Founders and Community Video (X) / 113 // 11.3 YouTube / 115 /

/ 11.4 How We Found It / 117 // Chapter 12 Overview: From a NAND Gate to a New World / 119 // 12.1 One Chapter, One Section: A Quick Overview of the Book's Key Points / 119 // 12.2 Editor's Viewpoint: Why I'm Bullish on PoD / 120 // 12.3 Editor's Viewpoint: On-Chain Circuit Economics and Tape:// Why It Can Grow / 121 // 12.4 Editor's Outlook: How Far Can TapeOut Go? / 121 // 12.5 The most anticipated thing next / 122 // 12.6 Editor's Viewpoint: Putting design drawings on the blockchain is essentially Native RWA / 122 // Appendix / 125 /

Appendix A: Contract Address Table (BNB Chain Mainnet) / 125 /

/ Appendix B Source Directory / 126 // Appendix C: Matters Unverified in This Book / 127 // Appendix D Version History / 128 / Editor's Note: Understanding TapeOut in One Sentence This page contains editor Hong Qigong's core views on TapeOut, and it serves as a central theme throughout the book: the "Editor's Note" at the beginning of later chapters all return to this point. The following quotations are from his public posts on X and represent his personal opinions, not factual statements, nor do they constitute investment advice.

Understanding TapeOut in One Sentence \$BTC ensures the credibility of the ledger and provides trusted accounting tools.

\$ETH makes computation results credible and provides trusted financial instruments.

\$BEM makes computation processes trustworthy and provides trusted production tools.

- Hong Qigong, September 22, 2026, Post X (He calls himself the "upgraded version") " In layman's terms: Bitcoin makes people trust the "ledger," Ethereum makes people trust the "calculated results," and TapeOut aims to make people able to trace even the "calculation process" step by step. The circuitry is burned on the blockchain, and anyone can replay and verify each step of the calculation, so it provides a "trustworthy production tool." What is the value of TapeOut?

1. Once a rule is sealed, no one can change it. He wrote in his first TapeOut post: "What truly constrains powerful things in the long run is often not something stronger." It's not something

powerful, but rather the kind of existence that says, "I'm not that smart, but I absolutely won't change my mind." (Post X, August 26, 2026) After the mining contract was sealed, the production rules became something like that that "won't change its mind" (Chapter 6).

2. DeWEB is "the Internet with permanent assets".

The website and data are stored in the circuit container on the blockchain. "No one can shut it down. One site can be used for three generations. Even if you leave, it will still be there." (Post X, 2026-09-19) He also did the math: for only about 10U, "one-time payment (gas) for permanent use" (Post X, 2026-09-23).

3. Open and transparent operations. In the same post, he said, " #Deweb completely transforms the black box of Web 2.0 into an open and transparent platform, making the website verifiable." The front-end also includes...

Anyone can verify whether the link or the page has been secretly modified (Chapter 7).

Putting design drawings on the blockchain is essentially Native RWA.

This is the editor's core point, which will be discussed in detail in Chapter 12, Section 12.6. In short: things in the real world that can't yet be included on a balance sheet, such as a circuit or a design, become on-chain assets that can be held, traded, verified, and combined for the first time once they are written onto the blockchain and burned into a circuit. In his longer article, he says, "Burning is key. It's not mapping; it's a design action being consumed in exchange for an irreversible on-chain existence." (2026-09-14 X Long Article)

Foreword: An On-Chain Chip Factory Open to Everyone

Manufacturing chips sounds like something for big companies, large factories, and billions of dollars. TapeOut has brought the "chip design" process to the blockchain (it manufactures on-chain circuits, not actual silicon wafers), allowing ordinary people to participate.

Here's a little suggestion: if you find this book a bit long, you can skip to the last chapter and read the overview in Chapter 12 to get a general idea before coming back. However, the overview is just a general introduction; the details are all in the earlier chapters.

Chinese edition source page 9

On August 15, 2026, TapeOut released its manifesto. Its gameplay is simple: on the BNB blockchain, build circuits using basic NAND gates, then layer them to create more complex processors. Circuits fabricated on officially designated processors can participate in mining BEM tokens: the foundation of computing power is the transistors you burn (which you have to buy with BNB); if your design is the best in the same problem, you can also receive an additional design premium, which can be substantial, even exceeding the base premium. This method is called PoD (Proof of Design). Bitcoin mining relies on machines and electricity costs; TapeOut mining relies on the transistors you burn, plus your circuit-building skills.

In just over a month, this ecosystem has grown considerably. The mining contract was permanently locked on September 14th, and no one can change the rules. The total supply of BEM is capped at 21 million, and it can only be produced through the mining contract. Dozens of tool sites, navigation sites, and data sites have sprung up in the community. Some people are creating circuit marketplaces, some are building on-chain websites, and some are writing tutorials and recording videos. Addresses starting with `tape://` allow the entire website to exist on the blockchain and be accessible directly.

But for newcomers, this information is too scattered. One article is in a media column, another is a long post on Twitter, and yet another is in a GitHub documentation file. Much of it is in English and written in a very technical style. Many people want to get in, but are discouraged after reading just a couple of articles.

This book is designed to solve this problem. We read through over 100 articles, documents, and videos we could find, selected the most valuable ones, rearranged them in a learning order for beginners, and explained them clearly in plain language. We added illustrations to difficult parts and animations to challenging sections. Each section credits its original author and source; those who want to delve deeper can follow the links to read the original text.

You don't need to understand chips or know how to code. Start from Chapter 1 and read through the chapters one by one. After reading, you'll know what TapeOut is, how to get started, how to mine, how to calculate the costs, and which pitfalls to avoid.

Thank you to every author included in this book. It is because you paved the way that this book would be possible.

Welcome to TapeOut. The chip factory doors are open; now it's your turn to come in.

Hong Qigong September 2026

Foreword

Welcome to TapeOut: The Complete Beginner's Guide! We're glad you're interested in this slightly "hardcore" yet incredibly fun new project. Don't worry, this book is for complete beginners - we'll take it step by step, and after reading it, you'll understand, be able to do it, and even explain it to your friends.

This book is for people who have absolutely no experience with TapeOut. You don't need to know anything about chips or how to code. We'll start with "What is a NAND gate?" and work our way up to on-chain circuits, mining, tokens, and on-chain websites. After reading it once, you should be able to:

Explain in your own words what TapeOut is and what it is not; Understand what the main buttons on the official website do; Do the math yourself about the profits of mining, instead of listening to others say "how many days it will take to break even";

[Chinese edition source page 10](#)

Know which claims have been confirmed and which are just community rumors; Identify common counterfeit currency, phishing scams, and misleading information.

Notice

Three small habits to protect yourself (take a minute to read before you start):

1. Only use spare cash. Transistors, circuit NFTs, and BEM tokens are all high-risk on-chain assets; their prices may fluctuate significantly in a short period.

Even if it goes to zero. The best mindset is to experience it with money you can afford to lose.

2. Prepare a dedicated wallet. On-chain operations cannot be reversed once confirmed. Give TapeOut...

It's the easiest way to keep your main assets in a separate wallet.

3. If you don't understand something, stop for a moment. If your wallet pops up as signature or authorization you don't understand, don't click on it. Verify the complete domain name and ask the community first.

This book does not constitute any investment, legal, or tax advice.

Editor's Works: The editor of this book, Hong Qigong, created six small applications on TapeOut: TapeOut Daily, "Master of Slacking Off," and...

Burnbem, TapeOut container uploader, TAPQQ, and 8.888 premium phone number store. These are not official TapeOut products. Chapter 8 has a dedicated section, "Editor's Works," which focuses on these products, and they are also mentioned elsewhere in the book as "Editor's Works." The editor's game room includes a collection of competitive mini-games.

Nibble is a product of KallyGame, not the editor's. Whether you use it or not is up to you; the editor's own reminder is: "These are all unfinished products, please use an ew wallet to experience them."

How to read this book If you... / I suggest starting here / / --- / --- / Complete beginner / Read in order: First look at the safety checklist, then start reading from Chapter 1 / / Just want to try it out first / Safety Checklist Chapter 3 First Impressions / / Want to learn about mining? / Chapter 5: PoD Mining, in conjunction with Chapter 6: BEM / If you... / I suggest starting here / / --- / --- / For developers / Chapter 4 Containers and Tapes:// Chapter 7 Developer Tools /

Worried about the risks? / Read Chapter 9, Getting Started with Safety, directly.

The book will repeatedly display some "tips and prompts":

hint

Chinese edition source page 11

Fun fact: The blue boxes contain supplementary explanations; skipping them won't affect your understanding.

Notice

Note: The orange boxes indicate areas of risk or potential pitfalls; please read them carefully.

Conflict of statements Conflicting statements: The red box indicates inconsistencies in statements from different sources. We will list the statements from various parties along with the information we have found.

To be honest: most of the work in this book was done by A I.

Who did what? Data collection, reading original texts, writing, drawing, on-chain verification, and proofreading were mainly done by AI: Editorial Assistant G rok Bot The chief economist was responsible for finding materials, reading the original text, performing read-only queries on the blockchain, and writing the main text and diagrams; there was also an A I proofreading assistant who proofread chapter by chapter and produced two rounds of proofreading reports, which were then revised line by line in the book.

What did the editors do? Hong Qigong The direction, structure, and selection processes were determined, and each version was reviewed and confirmed. The sections marked "Editor's Viewpoint" in the book represent Hong Qigong's own opinions, which were compiled by A I and confirmed by him.

Data as of September 25, 2026 (Singapore time). TapeOut changes rapidly; please refer to the official website and on-chain data for new features and figures after publication.

Only write down facts that can be verified.

Each key statement is accompanied by a source link. We mark any content that hasn't been independently verified, such as "community timelines" or "media reports." I performed my own on-chain verification. All the numbers in the book that state "On-chain testing in this book (September 25, 2026)" were verified via BNB on September 25, 2026.

The Chain public nodes directly read the contract without sending any transactions.

The illustration was drawn by myself.

All illustrations in the book are drawn by the author; most screenshots were taken using a browser without login; the source of a few third-party images will be indicated in the captions.

No investment advice is given. All the "calculation" examples in the book use clearly marked example figures, only teaching the method.

AI can also make mistakes. Therefore, the book includes links to the original source for almost every statement. If you're unsure about something, please refer to the original text via the link. If you find any errors, please let us know.

The editor's complaint.

Safety Checklist: Read this page before you start.

Please go through the following list before every on-chain operation. It is more important than any chapter in the book.

Chinese edition source page 12

Wallet and Funds I use a new wallet specifically for playing TapeOut, and I only keep money in it that I can afford to lose.

I have never and will never tell anyone my mnemonic phrase or private key, enter it into any webpage, or send it to any "customer service." I know all transactions are...

It's irreversible; if you send it to the wrong address or buy the wrong cryptocurrency, you can't get it back.

Website and Contract The official website is <https://www.tapeout.net/>. I manually entered it or opened it from my bookmarks; I didn't click on a link sent by a stranger in a group. I know BEM.

The token's contract address is 0x5ce033B2bFCa3Af30b3e8C8457DeaF776A8b695a (BNB Chain), I checked it before buying.

I am aware that tokens with "TapeOut" in their names are not necessarily related to this protocol, such as TapeOutX on X Layer and flap.sh The \$TapeOut on this page is not related to this agreement (see Chapter 9).

Third-party tools (marketplaces, dashboards, mining assistants) are not officially endorsed. When they require authorization, I know what I am authorizing.

I ignore all private messages offering to "design mining rigs for you," "send the money first and I'll help you assemble them," or "claim airdrops." - Community Author @93bitmap A post on preventing scams (August 28, 2026) summarized it well: "They can design, but they won't guarantee. They can

quote prices, but they won't hold shares on your behalf. They can make tools, but they won't ask for your seed." Operating habits If I first simulated the circuit on the canvas for free to confirm that the circuit was correct before considering tape-out (tape-out will destroy the transistors, which is irreversible).

When the circuit is mining, I collect the earnings before selling or transferring it - the uncollected earnings will go to the new owner along with the circuit NFT.

Before listing the circuit for sale, I checked the assets in the container - the items in the container would be transferred along with the circuit and would not be included in the listing price.

.

When my wallet pops up a signature request, I make sure to check which website it is, which contract it is calling, and how much money it is; if I don't understand, I refuse.

After using third-party tools, I will periodically check and revoke any licenses that are no longer needed.

Information Judgment I consider any claims of "guaranteed returns", "recovery of investment in X days", or "internal quota" as warning signs.

I know that PoD Mining and the transistor market are now closed and the rules can't be changed; but that doesn't mean all contracts have been abandoned.

Granting access does not mean there is no risk in investing (see Chapter 9).

Chinese edition source page 13

hint What should you do if your wallet pops up a "phishing website" warning? You might see this warning when opening tapeout.net with wallets like MetaMask. This is because the wallet's team hasn't added the TapeOut protocol to its list yet. The easiest way is to switch to OKX Wallet. Regardless of which wallet you use, first make sure the domain name in the address bar matches the official website tapeout.net exactly; ignore anyone who sends you private messages in groups.

Chinese edition source page 14

Authors and Acknowledgments (Part 1) This document was automatically generated from PDF and has not yet been independently proofread; please check the original text against the page number backtracking annotations.

Includes authors and acknowledgments Editor: Hong Qigong; Editorial Assistant: Grok Bot, Chief Economist This book was primarily edited by Grok Bot's chief economist (AI, with an additional AI proofreading assistant) who collected data, wrote, checked, and proofread the text. The editor, Hong Qigong, determined the direction and approved the work. For details, please see "How this book was compiled".

This book is built upon articles, videos, documents, and tools that have been publicly shared by many people. The table below lists all sources and their authors actually cited in the main text, captions, "Further Reading," and video index, sorted by category. Author names are written as they were at the time of original publication (Xaccounts retain @username); for those without individual attribution, the name of the publishing organization or website is written.

hint The inclusion of this book does not imply endorsement by the authors, nor does it imply endorsement of their views or products. The responsibility for any inaccuracies in the book's

paraphrasing of the original text lies with the book publisher. If you are an author and wish to have your attribution corrected, please contact us.

List of authors included (110 per organization): Blonskr, TapeOut Official, X Layer Chinese Channel @xlayer_zh, HashPort, Ignix @Ignixbot, TapeOut Labs, CoinDesk (Omkar Godbole), CoinW Research Institute, Foresight News, Golem @web3_golem, K uCoin Blog, OKC Labs @OOKCLabs, Something, TechFlow, ChainNews ABMedia (Neo), BruceBlue, Qinglan, Black Mario, 93.bitmap, Alphana @0xAlphana, Benson @benson_doge, CUPID @cupid_elvis, JayChen @0xJayChen, J oooooo @zhuoning293, Martin_sen @martin23_sen, Mi1997_ @Mizaza1997_, S pongeMochi, UPay @UPayOfficial_EN, V enz @wenzherunze, Y W @ywweb3, Zakk @zakk_okx, a lida @nat_poprika, Moxinmox @JiangX68993, Hong Qigong (editor, @CryptoLoser9), Talking about Coin @mantancoin, Scientist Wuxie

@sciencedegens, Strategy Lao Chen @ZxzxbsdRw7565, Xiao Zhanyang @Xiao_zhanyang, Huang Zhou @Web32049, Daniel Zhou, T izer Luo, Renren M eilishuo, TapeOut Daily, Moyu Daren, Burnbem, TapeOut Container Uploader, TAPQQ, 8.888 Premium Number Mall, Nibble (author K allyGame), 01 Protocol Official Website (author unknown), @0xEvinC, @BitGoldKnight @DigitalBeggar_c, @StaveLiu, @TapeOutFun, @blueshirt666, @dc_cap, @tapepilota, @xuxincoin1, BEM Clock, BEM Community, BEM Destruction Board (author unknown), BITMAP Runtime V 0.2.1 (author unknown), Blonskr Fans, C 3S Reflex Circuits, DeQQ, Firsto, GatePilot, GatePilot (author unknown), NAND Driver, NANDPU, Perpetua, SiliconX, S killPass Control Room (author

unknown), TapeHub, TapeLens TapeOut Cards (author unknown), TapeOut Club, TapeOut Market, TapeOut On-Chain Chat (author unknown) TapeOut Protocol Telegram Group, TapeOut Introduction, TapeOut Ecosystem Navigation, TapeOutScan, TapeOut @TapeOutWorld, TapeSite (author unknown), TapeWeb, giang.me, gradfi (author unknown), tapeout.build, TapeOut.pro, TapeOut.space, tapeout.vip, TapeOut.work, wNAND (author unknown), Miaomiao Lottery (author unknown), Miao

Chinese edition source page 15

Meow Texas Club (author unknown), Anonymous Exploration+ (author unknown), Chip Market, Laying Flat Master (author unknown), On-Chain Chinese Chess (author unknown), Black Myth Behemoth (author unknown), Bitget (official announcement), Bitrue Blog, BscScan, CoinCarp, DexScreener, MEXC, TopicDigg, and e konomeest are included. The works featured are those of editor Hong Qigong (based on the six items listed by the editor on X on 2026-09-24).

Chapter 7, section 7.7 lists 39 community DeWEB applications and 2 official on-chain websites; the authors are also listed in the table below under "Community Sites and Tools" and "Official and Project Teams." For applications whose authors cannot be confirmed, the application name is written with the note "Author Unknown." Due to space limitations, each DeWEB application is not listed on the cover.

Application author.

Officials and project owners / Author / Content (Title) / Platform / Chapter / Link / / --- / --- / --- / --- / --- / / Blonskr (@Blonskr) / Tapekit Open Source Browser Kernel for On-Chain Websites / tape:// (On-Chain Websites) / Quick Reference, Chapter 4, Chapter 7 / 4246-0.tapekit.org / / Blonskr (@Blonskr) / Blonskr tweeted: On-Chain Processor (2,251 NAND + latches, Intel 4004 specification, running Fibonacci) / X / Chapter 1, Chapter 10,

Chapter 1 1 / x.com/Blonskr/status/208854274598... / /

Blonskr (@Blonskr) / Blonskr (Founder) X Homepage / X / Chapter 1 / x.com/Blonskr / / Blonskr (@Blonskr) / Blonskr: TapeOut Protocol V2 Core Preview (Component Slots/BNN/LUT/Device R epository/1% Protocol Fee) / X / Chapter 1, Chapter 6, Chapter 1 2 / x.com/ Blonskr/status/209255149539... / / Blonskr (@Blonskr) / Mining Core Formula Released! (PoD Optimal F irst-of-its-Kind Rules and H ashrate Formula) / X / Chapter 1, Chapter 5, Chapter 10 / x.com/Blonskr/status/ 209042063409... / / Blonskr (@Blonskr) / \$BEM Launches on BNB Chain (Contract, Total Supply, Minting Rights Explanation) / X / Chapter 1, Chapter 6 / x.com/Blonskr/status/ 209082948194... / / Blonskr (@Blonskr) / First Official Mining Machine Launched + Relinquishing 0.2% Transaction Tax and Related Ownership / X / Chapter 1, Chapter 5,

Chapter 6, Chapter

9 / x.com/Blonskr/status/209079569598... / / Blonskr (@Blonskr) / Circuit Container System Officially Launched / X / Chapter 1, Chapter 4 Chapter 1, Chapter 6 / x.com/Blonskr/status/ 209637259971... / / Blonskr (@Blonskr) / TapeOut Protocol 26-Day Data Summary Announcement / X / Chapter 1, Chapter 6, Chapter 10, Chapter 12 / x.com/Blonskr/status/ 209770584633... / / Blonskr (@Blonskr) / First Time Running Linux on L 1 M ainnet (Push + 71-Second Video) / X /

Chapter 1, Chapter

7, Chapter 11 / x.com/Blonskr/status/ 209695612376... / / Blonskr (@Blonskr) / BEM Mining Contract Sealing Completed (isSealed=true, No Owner) / X / Chapter 1, Chapter 6,

Chapter 9, Chapter

12 / x.com/Blonskr/status/ 209943804913... / / Blonskr (@Blonskr) / PoD Adds "Counterexample R eview" Function (Effective in 48 Hours) / X / Chapter 1, Chapter 5, Chapter 12 / x.com/Blonskr/status/ 209464459142... / / Blonskr (@Blonskr) / TapeOut Protocol Alpha Version Officially Launched / X / Chapter 1, Chapter 11 / x.com/Blonskr/status/ 208863914866... / / Blonskr (@Blonskr) / Transistor Trading Market Launched (Pure O n-Chain Order Book) / X / Chapter 1, Chapter 3 / x.com/Blonskr/status/ 208889681507... / / Blonskr (@Blonskr) / First Application: O n-Chain SHA-256 Bitcoin Miner (Demo) / X / Chapter 1, Chapter 3, Chapter 1 1 / x.com/Blonskr/status/208872528322... / / Blonskr (@Blonskr) / Sliceupgrade to Open Beta: Sliceupgrade Protocol Fees to Begin at 16:00 on September 1 2th / X / Chapter 3,

Chapter 9 / x.com/Blonskr/status/209850935716... / / Blonskr (@Blonskr) / TapeKit Open Source Browser Kernel R eleased / X / Chapter 4 / x.com/Blonskr/status/210013160271... / / Blonskr (@Blonskr) / Circuit Container Functionality on X Layer Launched / X / Chapter 4 Chapter / x.com/Blonskr/status/ 210270866544... / / Author / Content (Title) / Platform / Chapter / Link / / --- / --- / --- / --- / --- / / Blonskr (@Blonskr) / First Commercial Project Based on TapeOut (HashPort) / X / Chapter 4, Chapter 8 / x.com/Blonskr/status/209910047761... / / Blonskr (@Blonskr) / PoD Question Bank Released (278 questions, each with a reference implementation) / X / Chapter 5 / x.com/Blonskr/status/209043915453... / / Blonskr

(@Blonskr) / Mining Machine " One-Click Chip Fabrication" Function Launched / X / Chapter 5 / x.com/Blonskr/status/209109467623... / / Blonskr (@Blonskr) / "Original and Certified" Tag Launched (Optimal Commitment to Prevent Front-Running) / X / Chapter 5 / x.com/Blonskr/status/ 209535757237... / / Blonskr (@Blonskr) / Mining Contracts Running Smoothly + Seal Proposal Announcement (09-12) / X / Chapter 6 / x.com/Blonskr/ status/ 209869143295... / / Blonskr

(@Blonskr) / TapeOut One Month + TapeHub Launch Platform Launch / X / Chapters 6 & 8 /
[x.com/Blonskr/status/209985017111...](#) // Blonskr (@Blonskr) / First On-Chain AI Component:
 Binary Neural Network BNN (Handwritten Digit Recognition) / X / Chapters 6 & 11 /
[x.com/Blonskr/status/209140787123...](#) /

Chinese edition source page 16

/ Blonskr (@Blonskr) / DeWEB Vision: A Decentralized Wide Area Network Spanning Major Public
 Blockchains (with Video) / X / Chapter 7, Chapter 11 / [x.com/Blonskr/status/210127856162...](#) //
 Blonskr (@Blonskr) / TapeKit Issue #7 Review Invitation (50 BEM Award for Proposer + 5 BEM Valid
 Suggestions) / X / Chapter 7 / [x.com/Blonskr/status/210319709343...](#) // Blonskr (@Blonskr) / Makes
 as olemn appeal: DeFi and third-party tools should deploy their front-ends to DeWEB, with the
 founder personally sponsoring on-chain security funds for the front-ends / X / Chapter 7 /
[x.com/Blonskr/status/210333505434...](#) // Blonskr (@Blonskr) / On-chain autonomous vehicle trained
 with 21 NAND flash memory (forwarded by J oooooo) / X / Chapter 8 /
[x.com/Blonskr/status/209740322248...](#) /

/ Blonskr (@Blonskr) / Retweeted and recommended Neon Reliquary (high-quality games on
 DeWEB) / X / Chapter 8 / [x.com/Blonskr/status/210316896319...](#) // Blonskr (@Blonskr) / Quoting Y
 W's long article: Deploying the authorization page frontend on DeWEB can "completely solve" the
 problem / X / Chapter 9 / [x.com/Blonskr/status/210339261788...](#) // Blonskr (@Blonskr) / Retweeted S
 pace's preview: Condemning hackers, seeking more secure solutions for the industry (DeWEB) / X /
 Chapter 9 / [x.com/Blonskr/status/210336223206...](#) // Blonskr (@Blonskr) / Blonskr: Circuits are
 "Productivity Infrastructure" (Mathematical Exploration of 16x16 Optimal Circuit Design, etc.) / X /
 Chapter 10 / [x.com/Blonskr/status/209215392350...](#) /

/ TapeOut Official Website / TapeOut Protocol Official Website (On-Chain Hardware Maker I
 nfrastructure) / [tapeout.net](#) / Preface, Chapter 1, Chapter 3, Chapter 8 / TapeOut.net // X Layer
 Chinese Platform (@xlayer_zh) / TapeOut Protocol has been deployed on the X Layer mainnet / X /
 Quick Reference, Chapter 1, Chapter 4, Chapter 7, Chapter 12 / [x.com/xlayer_zh/status/](#)
[2101286671...](#) // HashPort / HashPort (On-Chain Front-End Hosting Commercial Service) /
[hashport.ai](#) / Chapter 1, Chapter 4, Chapter 8 / [hashport.ai](#) // Ignix (@Ignixbot) / TapeOut Genesis
 Transistor Hackathon Begins (IGNIX x X Layer x TapeOut) / X / [ignix.bot](#) / Chapter 1, Chapter 8 /
[x.com/ignixbot/status/21022543461...](#) /

/ Author / Content (Title) / Platform / Chapter / Link // --- / --- / --- / --- / --- // TapeOut Labs (GitHub:
 TapeOutProtocol) / GitHub Organization TapeOutProtocol (TapeOut Labs) / GitHub / Chapter 1 /
[github.com/TapeOutProtocol](#) // TapeOut Labs (GitHub: TapeOutProtocol) / [tapekit.org](#) (tape:// official
 gateway) / [tapekit.org](#) / Chapter 1, Chapter 4, Chapter 8 / [tapekit.org](#) // TapeOut Official Website /
 TapeOut On-Chain Linux Demo / [tapeout.net](#) / Chapter 1, Chapter 7 / [tapeout.net/linux.html](#) //
 TapeOut Official / PoD Mining Page (Proof of Design) / [tapeout.net](#) / Chapters 1, 5, 8, 10, 12 /
[tapeout.net/pod](#) // TapeOut Official / Blonskr (@Blonskr) / TapeOut On-Chain Microprocessor
 Manifesto (TapeOut-Protocol.pdf) / [tapeout.net](#) (PDF) / Chapters 1, 2, 9, 10, 12 /
[tapeout.net/TapeOut-Protocol.pdf](#) /

/ TapeOut Labs (GitHub: TapeOutProtocol) / TapeKit README (Chinese/English/Korean) / GitHub /
 Chapters 4, 7, 12, Appendix / [github.com/TapeOutProtocol/TapeKit](#) // TapeOut Labs (GitHub:
 TapeOutProtocol) / [tape:// On-Chain Website Specification v0.2 \(SPEC.zh.md / SPEC.md\)](#) / GitHub /
 Chapters 4, 7, and 10 / [github.com/TapeOutProtocol/TapeKi...](#) // TapeOut Labs (GitHub:
 TapeOutProtocol) / TapeKit GitHub Issues (#4-#7) / GitHub / Chapter 4, Chapter 7 /
[github.com/TapeOutProtocol/TapeKi...](#) // TapeOut Labs (GitHub: TapeOutProtocol) / TapeKit

Technical Notes GUIDE.md (Kernel + Viewer + Browser Extension + Switch Gateway) / GitHub / Chapter 7 / github.com/

TapeOutProtocol/TapeKi... // TapeOut Labs (GitHub: TapeOutProtocol) / TapeSend / DeWEB Message Layer (TAP-10) send/README.md / GitHub / Chapter 7, Chapter 10 / github.com/TapeOutProtocol/TapeKi... // TapeOut Labs (GitHub: TapeOutProtocol) / @tapekit/send Module Description send/module/README.md / GitHub / Chapter 7 / github.com/TapeOutProtocol/TapeKi... // TapeOut Labs (GitHub: TapeOutProtocol) / tape:// Service Worker Gateway sw-gateway/README.md / GitHub / Chapter 7 / github.com/TapeOutProtocol/TapeKi... // TapeOut Official / TapeKit - Open Source Browser Kernel for On-Chain Websites / tape:// (On-Chain Websites) / Chapter 7 / 157-1.tapekit.org /

/ TapeOut Labs (GitHub: TapeOutProtocol) / TapeKit SECURITY.md (Security Statement) / GitHub / Chapter 9 / github.com/TapeOutProtocol/TapeKit... / Media and columnists / Author / Content (Title) / Platform / Chapter / Link // --- / --- / --- / --- / --- // CoinDesk (Omkar Godbole) / Bitget \$ 352 Million Stolen: Forged Transfers, Not Private Key Leak (CEO Gracy Chen) / CoinDesk / Chapter 9 / coindesk.com/markets/2026/09/25/b... // CoinW Research Institute / Blonskr, founded by a 16-year-old, goes viral; TapeOut mechanism and risk analysis / PANews (Column) / Chapters 6, 9, 10, and 12 / papenslab.com/ zh/articles/01a0c86... /

Chinese edition source page 17

/ Foresight News / What is BEM, the stock that CZ liked twice and Bonk Guy bought? / Foresight News (reprinted from BlockWeeks) / Chapter 6, Chapter 10 / foresightnews.pro/article/detail/...; Reprinted from: blockweeks.com/view/317967; English reprinted from: BlockBeats // Golem (@web3_golem) / After CZ's three-click like, the on-chain CPU project created by a 16-year-old has become a hit / O daily Planet Daily / Chapter 1,

Chapter 9, Chapter 10 / odaily.news/zh-CN/post/5212520; English reprint: BlockBeats /

/ KuCoin Blog / What Is BEM Token? TapeOut Protocol & Proof of Design / kucoin.com / Chapter 9, Chapter 10 / kucoin.com/blog/what-is-bem-token... // OOKC Labs (@OOKCLabs) / TapeOut Operability Research Report (English Research Report) / X (Research Report) / Chapter 10 / x.com/OOKCLabs/status/21030480278... // New Thing / Something / TapeOut Protocol Beginner's Guide: From NAND Gates to On-Chain Mining / PANews (Column) / Chapter 1, Chapter 2, Chapter 10 / panewslab.com/zh/articles/01a0382... // New Item / Something / TapeOut Protocol \$ BEM Beginner Mining Tutorial / PANews (Column) / Chapters 3, 5, and 10 / panewslab.com/zh/articles/01a03e6... /

/ TechFlow Deep Dive / Decoding TapeOut: A Kid Built a CPU on the Blockchain / techflowpost.com / Chapter 1, Chapter 10 / techflowpost.com/article/33302 // ABMedia (Neo) / Gracy Responds to Bitget Hack Details (Different from Bybit Attack Pattern) / abmedia.io / Chapter 9 / abmedia.io/gracy-chen-bitget-wall... / KOL / Author / Content (Title) / Platform / Chapter / Link // --- / --- / --- / --- // BruceBlue (@BruceBlue) / When Tokens Start Becoming Transistors: Why I'm Taking TapeOut Seriously / PANews (Column) / Chapter 2 / panewslab.com/zh/articles/01a00ff... // BruceBlue (@BruceBlue) / From Mint to Tapeout: TapeOut Beginner's Guide / PANews (Column) / Chapter 3, Chapter 10 / panewslab.com/zh/articles/01a00ff... /

/ BruceBlue (@BruceBlue) / Response to "AMM Pricing Based on Daily Capacity" / X / Chapter 5 / x.com/BruceBlue/status/2102729527... // BruceBlue (@BruceBlue) / The Day TapeOut Launchpad

Gave BEM a Second Clock / X / Chapter 6, Chapter 10 / x.com/BruceBlue/status/2099774044... // BruceBlue (@BruceBlue) / When everyone moved computing off the mainnet, TapeOut brought Linux back in / X / Chapter 7, Chapter 10 / x.com/BruceBlue/status/2097177531... // BruceBlue (@BruceBlue) / Not Burning A I into Circuits: GateCraft is a Mid-Autumn Festival Experiment for the TapeOut Community / X / Chapters 8 & 10 / x.com/BruceBlue/status/2103027350... // Author / Content (Title) / Platform / Chapter / Link // --- / --- / --- / --- / --- /

/ BruceBlue (@BruceBlue) / C3S: The First Research Object for TapeOut's Fabrication Layer / X / Chapter 10 / x.com/BruceBlue/status/2099054412... // BruceBlue (@BruceBlue) / When Experience Can Be Burned into CircuitsLogic Gates, Neural Networks, and TapeOut's Next Path / X / Chapter 10 / x.com/BruceBlue/status/2098315194... // BruceBlue (@BruceBlue) / When Machines Begin to Evolve On-Chain: TapeOut and the Birth of a Public Machine Civilization / X / Chapter 10 / x.com/BruceBlue/status/2090507223... // Qinglan / TapeOut Ecosystem: On-Chain Chips and BEM Mining / qinglan.org / Chapter 8 / qinglan.org/tapeout-ecosystem-onc... / Black Mario / In-depth overview of the TapeOut ecosystem /

Odaily Planet Daily / Chapter 8, Chapter 10, Appendix / odaily.news/zh-CN/post/5213070 // 93.bitmap (@93bitmap) / Anti-fraud post: Five most common sales pitches two weeks after the hype starts / X / Preface, Chapter 9 / x.com/93bitmap/status/20932696412... // A lphana (@0xAlphana) / TapeKit Issue #7 Proposal:

DeWeb can now be opened, understood, and manipulated by agents (long article) / X / Chapter 7 / x.com/0xAlphana/status/2103100371... // A lphana (@0xAlphana) / Neon Reliquary: Oath Expedition Released / X / Chapter 8, Chapter 11 / x.com/0xAlphana/status/2103139971... // Benson (@benson_doge) / When NFTs Start Continuously Producing:

An A MM Approach Based on Daily Production Capacity / X / Chapter 5, Chapter 10 / x.com/benson_doge/status/21027040... // C UPID (@cupid_elvis) / TapeOut Explained: A Beginner's Guide to NAND, LATCH, Circuits and \$ BEM / X / Chapter 2, Chapter 10 / x.com/cupid_elvis/status/20986706... // C UPID (@cupid_elvis) / From Mining to Onchain Computing: TapeOut Through My Eyes / X / Chapter 2, Chapter 10 Chapter / x.com/cupid_elvis/status/20935266... // CUPID (@cupid_elvis) / Expressing Fruit Fly Neural Reflexes with NAND and LATCH / X / Chapter 8 / x.com/cupid_elvis/status/20997513... // CUPID (@cupid_elvis) / DeWEB and Web 4.0: TapeOut's Next Blueprint / X / Chapter 10 / x.com/cupid_elvis/status/

21015065... // JayChen (@0xJayChen) / 166,700 Neurons, I Made a BNB Chain on a Fruit Fly / X / Chapter 8, Chapter 10 / x.com/0xJayChen/status/2101539893... // Joouoooo (@zhuoning293) / A vehicle relying only on 21 NAND Driver / X / Chapter 8 / x.com/zhuoning293/status/20973981... /

Chinese edition source page 18

/ Martin_sen (@martin23_sen) / Original Risk Warning Post (Fake Currency and Rebound Schemes) / X / Chapter 9 / x.com/martin23_sen/status/2102273... // Mi1997_ (@Mizaza1997_) / TapeOut Deployment, Purchase, and Mining Tutorial / X / Chapter 3 / x.com/Mizaza1997_/status/20982369... // SpongeMochi (@spongemochi) / I created TapeOut.space: On-chain website circuit diagram, community gateway, one-click on-chain tool / X / Chapter 4, Chapter 8 / x.com/spongemochi/status/21010251... // SpongeMochi (@spongemochi) / Wafer: The first desktop browser to natively support tape:// (preview) / X / Chapter 4 / x.com/spongemochi/status/21031176... // SpongeMochi (@spongemochi) / TAPE S TRIKE: TapeOut On-Chain Shooter Game (600KB, All On-Chain) / X / Chapter 8 / x.com/spongemochi/status/21005201... /

/ UPay (@UPayOfficial_EN) / UPay x TapeOut Payment Card Cooperation Announcement (Third-Party Claim) / X / Chapter 9 / x.com/UPayOfficial_EN/status/2098... // Author / Content (Title) / Platform / Chapter / Link // --- / --- / --- / --- / --- // Venz (@wenzherunze) / TapeOut x X Layer x I GNIX Hackathon Complete Guide / X / Chapter 8 / x.com/wenzherunze/status/21023743... // YW (@ywwweb3) / Here are some answers to some recent popular questions about TapeOut (6 questions, 6 answers) / X / Quick Reference, Chapter 10 / x.com/ywwweb3/status/2102762282904... // YW (@ywwweb3) / TapeKit: More Than Just "A New Tool," It's a Redesign of the Internet's Underlying Structure / X / Chapter 4, Chapter 10 / x.com/ywwweb3/status/2100188153416... /

/ YW (@ywwweb3) / TapeSend's 24-Hour Birth: Three Products Explode, Opportunities and Concerns Behind the Frenzy / X / Chapters 7 and 8 (The editor's work is mentioned in the text) TAPQQ) / x.com/ywwweb3/status/2101606055461... // YW (@ywwweb3) / TAPQQ Beginner's Guide: From Zero to Sending Your First On-Chain Message / X / Chapter 8 (Mentions the editor's work TAPQQ) / x.com/ywwweb3/status/2101709058227... // YW (@ywwweb3) / Full Progress! TapeOut's Recent Developments, New Products, and My Honest Opinions / X / Chapter 8 / x.com/ywwweb3/status/2102475330036... // YW (@ywwweb3) / ToshX Launchpad First Release \$ TO: Very emotional, but not enough highlights / X / Chapter 8 / x.com/ywwweb3/status/2102682953751... /

/ YW (@ywwweb3) / Urgent Risk Warning: The only official token is \$ BEM. Beware of fake tokens and "rebound scams." / X / Chapter 9 / x.com/ywwweb3/status/2102279391695... // YW (@ywwweb3) / From the Bitget hack to why the crypto community should pay more attention to TapeOut (X Long Article) / X / Chapter 9 / x.com/ywwweb3/status/2103389804402... // YW (@ywwweb3) / What kind of new world will TapeOut create if it really succeeds? / X / Chapter 10 / x.com/ywwweb3/status/2099039251619... // YW (@ywwweb3) / After Bitcoin and Ethereum, TapeOut is opening up the "Third World" / X / Chapter 10 (Mentions the editor's work TAPQQ) / x.com/ywwweb3/status/2102261091640... /

/ Zakk (@zakk_okx) / Zakk reposted: Unveiling the First TapeOut Hackathon / X / Chapter 8 / x.com/zakk_okx/status/21022602355... // alda (@nat_poprika) / TapeHub Direction and DeWEB AMA Summary / X / Chapter 6, Chapter 8 / x.com/nat_poprika/status/21030018... // MoX (@JiangX68993) / What is the mining logic of BEM? What are the differences between it and the mining logic of BTC? / X / Chapter 5, Chapter 10 / x.com/JiangX68993/status/20998036... // New Things / Something / TapeOut Community Ecosystem Tools Overview / X (@someth_labs) Chapter 8 / x.com/someth_labs/status/20932... // Hong Qigong (Editor, @CryptoLoser9) / A brief introduction to TapeOut (upgraded version): BTC makes the ledger trustworthy / ETH makes the computation results trustworthy / BEM makes

the computation process trustworthy / X / Editor's View / x.com/CryptoLoser9/status/2102298... // Hong Qigong (Editor, @CryptoLoser9) / Comment: Internet Plus with Permanent Assets: Transparent Kitchens (DeWeb) / X / Editor's Viewpoint / x.com/CryptoLoser9/status/2101311... // Hong Qigong (Editor, @CryptoLoser9) / TapeOut's Possible New Mission: A I's On-Chain Iron-Faced Judge / X / Editor's Viewpoint / x.com/CryptoLoser9/status/2092503... // Hong Qigong (Editor, @CryptoLoser9) / Musk, don't be afraid, burn it! TapeOut, the leader in Native RWA, and its AI taming techniques (X long article) / X / Editor's Viewpoint, Chapter 12 / x.com/CryptoLoser9/status/2099212... /

Chinese edition source page 19

Authors and Acknowledgments (Part 2) This document was automatically generated from PDF and has not yet been independently proofread; please check the original text against the page number backtracking annotations.

/ Author / Content (Title) / Platform / Chapter / Link / / --- / --- / --- / --- / --- / / Hong Qigong (Editor, @CryptoLoser9) / Only 10U: A Permanent On-Chain Container / X / Editor's View /
 x.com/CryptoLoser9/status/2102648... / / Hong Qigong (Editor, @CryptoLoser9) / Vibe Coding Achievements in the Last Two Weeks: Six Applications (Editor's List of Works) / X / Chapter 8 /
 x.com/CryptoLoser9/status/2103028... / / Hong Qigong (Editor, @CryptoLoser9) / 8.888 DeWeb Premium Number Mall Launched / X / Chapter 8 / x.com/CryptoLoser9/status/2103412... / / Hong Qigong (Editor, @CryptoLoser9) / Handcrafting the First TapeOut Ecosystem Media (TapeOut Daily) with Codex / X / Chapter 8 / x.com/CryptoLoser9/status/2094139... / / Hong Qigong (Editor, @CryptoLoser9) / My Handcrafted Container Uploader with Codex, Launched at 1688-0.tapekit.org / X / Chapter 8 / x.com/CryptoLoser9/status/2101020... / / Hong Qigong (Editor, @CryptoLoser9) / Why TapeOut Can Be Classified as Native RWA (RWA University Live Stream Preview) / X / Chapter 12 / x.com/CryptoLoser9/status/2099709... / / Talking about Coin (@mantancoin) / TapeSta: The Optimal Path for Budget to Enter Computing Power (One-Click Mining Aggregator) / X / Chapter 8 / x.com/mantancoin/status/210278264... / / Scientist Wuxie (@sciencedegens) / How to Play TapeOut, and Is It Worth Reading? / X / Chapter 3 / x.com/sciencedegens/status/208910... / / Scientist Wuxie (@sciencedegens) / Many People Didn't Understand TapeOut: It Might Be a "Mining Machine Version of Pump" / X / Chapter 10 / x.com/sciencedegens/status/208935... / / Strategy Lao Chen (@ZxzbSdRw7565) / Introduction to Chipfire Treasure Hunt (Using Behemoth Circuits to Calculate Lottery Results) / X / Chapter 9 / x.com/ZxzbSdRw7565/status/20971... / / Xiao Zhanyang (@Xiao_zhanyang) / TapeOut Milestone Review (July 31, 2026 - September 13, 2026) / X / Chapter 1 / x.com/Xiao_zhanyang/status/209930... / / Xiao Zhanyang (@Xiao_zhanyang) / Introduction to TapeOut Container Factory (id.tapeout.link) / X / Chapters 4 & 8 / x.com/Xiao_zhanyang/status/210264... /
 / Xiao Zhanyang (@Xiao_zhanyang) / Tape:// Browser Plugin Modified Based on TapeKit Plugin / X / Chapter 4 / x.com/Xiao_zhanyang/status/210308... / / Xiao Zhanyang (@Xiao_zhanyang) / TapeChat Notes Beta (Based on TapeSend Secondary Development) / X / Chapter 8 Chapter (Mentions the editor's work TAPQQ in the text) / x.com/Xiao_zhanyang/status/210184... / Huang Zhou (@Web32049) / TapeOut Beginner's Guide to Mining / 4 Steps to Teach You How to Mine BEM / X / Chapter 5 / x.com/Web32049/status/20923979930... / Video creator / Author / Content (Title) / Platform / Chapter / Link / / --- / --- / --- / --- / --- / / 93.bitmap / Popular Science Episode 7: The Secret of the Number One Boss, Decrypting Chip Design / X (Video) / Chapter 5, Chapter 11 / x.com/93bitmap/status/20943650753... / / 93.bitmap / Popular Science 14: The Fruit Fly Brain on Circuits and Chains / X (Video) / Chapter 11 / x.com/93bitmap/status/20988220241... / / 93.bitmap / Popular Science 15: TapeOut Will Explode in Web3 Applications / X (Video) / Chapter 11 / x.com/93bitmap/status/20991773575... / / Author / Content (Title) / Platform / Chapter / Link / / --- / --- / --- / --- / --- / / 93.bitmap (@93bitmap) / Popular Science 20: Detailed Explanation of Participating in the Tapeout Hackathon / X (Video) / Chapter 11 / x.com/93bitmap/status/21026122896... /
 / 93.bitmap (@93bitmap) / Popular Science Episode 4: Tapeout, Will It Be AI's Gladiator Arena? / X (Video) / Chapter 11 / x.com/93bitmap/status/20931843803... / / 93.bitmap (@93bitmap) / TapeOut Science Popularization # 5 (English) / X (Video) / Chapter 11 / x.com/93bitmap/status/20937047310... / / 93.bitmap (@93bitmap) / Episode 6 of Popular Science: A Factory Isn't TSMC, Is a Virtual Factory Really Useful? / X (Video) / Chapter 11 / x.com/93bitmap/status/20939021396... / / 93.bitmap (@93bitmap) / TapeOut Science Popularization

6 (English) / X (Video) / Chapter 1 1 / x.com/93bitmap/status/20940753248... // Daniel Zhou / What is BEM? Mining Rigs & PoD Mining Explained / TapeOut Chat #1 / YouTube / Chapter 1 1 / youtube.com/watch?v=LbQb2ytKs0Q /

Chinese edition source page 20

/ Tizer Luo / Neon Reliquary / Official Game Trailer Play with AI, Forge Circuits / YouTube / Chapter 11 / youtube.com/watch?v=tQDY2Mj3lFY // Everyone's Beauty Talk / \$ BEM! One Circuit = One Economy? TapeOut Launches X Layer Container / YouTube / Chapter 4, Chapter 11 / youtube.com/watch?v=4NNB2m7mPbM // Renren Meilishuo / DeWEB is here: No servers, no DNS, no cross-link bridge needed! Is TapeOut going to make Tape the next HTTP? / YouTube / Chapter 7, Chapter 11 / youtube.com/watch?v=mtQ4d9QUodw // Everyone's Beauty Talk / TapeOut Breaking News! 50% of Official Market Fees Will Be Used for BEM Buyback and Destruction / YouTube / Chapter 11 / youtube.com/watch?v=D4R-VUDiZVo /

/ Everyone's Beauty Talk / CZ Likes It Twice, BonkGuy Buys It! What Exactly is BEM? Can TapeOut's "Design Mining" Become the Next Crypto Narrative? / YouTube / Chapter 11 / youtube.com/watch?v=LCioZDXuwfQ // Everyone's Beauty Talk / Without BEM rewards, who would still use TapeOut? What is the true value of DeWEB? / YouTube / Chapter 11 / youtube.com/watch?v=Xtxrubt07nA // Everyone's Beautiful Talk / TapeOut is finally delivering on its vision! From PoD, HashPort to TapeKit: 154 BNB revenue buyback and burn of BEM / YouTube / Chapter 11 / youtube.com/watch?

v=ZFkSUxQ7bqY // Everyone's Beauty Talk / \$ BEM! Is a 16-year-old rewriting the internet? TapeOut x XLayer Hackathon Unveiled / YouTube / Chapter 11 / youtube.com/watch?v=zQ7EFknsJ7o / Community sites and tools / Author / Content (Title) / Platform / Chapter / Link // --- / --- / --- / --- / --- // TapeOut Daily Report (Editor's Work) / TapeOut Daily Report: Five Minutes to Understand How TapeOut Turns Logic into Circuits / tapeoutdaily.ai / Chapter 2, Chapter 10 / tapeoutdaily.ai/learn/from-nand-t... // TapeOut Daily (Editor's Work) / TapeOut Daily (Editor's Work) / tapeoutdaily.ai / Chapter 8 / tapeoutdaily.ai // TapeOut Daily (Editor's Work) / TapeOut Daily: Community Video Index / tapeoutdaily.ai / Chapter 11 / tapeoutdaily.ai/videos /

/ Author / Content (Title) / Platform / Chapter / Link // --- / --- / --- / --- / --- // Moyu Daren / Burnbem/TapeOut Container Uploader (Editor's Work) / Moyu Daren/Burnbem/TapeOut Container Uploader (1688.0.tape, BURNBEM Game Hall) / 1688-0.tapekit.org / burnbem.ai / Chapter 7, Chapter 8 / 1688-0.tapekit.org // TAPQQ (Editor's Work) / TAPQQ (1.888.tape) / 1-888.tapekit.org / Chapter 7, Chapter 8 / 1-888.tapekit.org // 8.888 Premium Number Mall (Editor's Work) / 8.888 Premium Number Mall (8.888.tape) / 8-888.tapekit.org / Chapter 7 & 8 / 8-888.tapekit.org // KallyGame (@KallyGame) / Nibble (author KallyGame) / burnbem.ai / Chapter 7 & 8 / burnbem.ai/nibble // 01 Protocol Official

Website (author unknown) / 01 Protocol Official Website - Building Mining Machines with 0s and 1s / tape:// (on-chain website) / Chapter 7 / 1-1011.tapekit.org // @0xEvinC / Kid Brother / Circuit Expedition 99 / V 0.0.3 / tape:// (on-chain website) / Chapter 7 / 16-68.tapekit.org // @BitGoldKnight / TapeFlow / BEM Payment / tape:// (on-chain website) / Chapter 7 / 3057-0.tapekit.org // @DigitalBeggar_c / BEM / Collateralized Lending / tape:// (on-chain website) / Chapter 7 / 979-30.tapekit.org // @StaveLiu / BEMD / Fast Container Wallet (DeSQL Container Wallet) / tape:// (on-chain website) / Chapter 7 / 1-2-210.tapekit.org // @TapeOutFun / TapeOut Fun / tape://

(on-chain website) / Chapter 7 / 4451-0.tapekit.org // @blueshirt666 / R AIDEN Thunder / tape:// (on-chain website) / Chapter 7 / 5182-30.tapekit.org // @dc_cap / BEM ROYALE / TapeOut On-Chain Battle Royale / tape:// (on-chain website) / Chapter 7 / 14031-30.tapekit.org //

@tapeilotai / TapePilot.ai TapeHub guide / tape://(on-chain website) / Chapter 7 / 9481-30.tapekit.org // @xuxincoin1 / TapeOut to the Moon / tape://(on-chain website) / Chapter 7 / 1340-30.tapekit.org // Alphana (@0xAlphana) / NEON C ITADEL The Last Light / tape://(on-chain website) / Chapter 7 / 40-865.tapekit.org // Alphana (@0xAlphana) / This page is stored on-chain: in container # 41 of BNB Smart Chain / tape://(on-chain website) / Chapter 7 / 41-865.tapekit.org // Alphana (@0xAlphana) / NEON R ELIQUARY Oath Expedition / tape://(on-chain website) / Chapter 7, Chapter 8 Chapter / 1 -2-231.tapekit.org // BEM Clock (GitHub: fashen002) / BEM Clock / GitHub Pages / Chapter 8 / fashen002.github.io/bem-clock // BEM Community / BEM Community Mine. Build. Compute. / BEM.community / Chapter 8 / BEM.community // BEM Destruction Kanban (Author Unknown) / BEM Destruction Kanban / B SC / tape:// (On-chain website) / Chapter 7 / 16267-30.tapekit.org // BITMAP Runtime V 0.2.1 (Author Unknown) / BITMAP Runtime V0.2.1 / tape:// (On-chain website) / Chapter 7 / 335-0.tapekit.org /

Chinese edition source page 21

/ Author / Content (Title) / Platform / Chapter / Link // --- / --- / --- / --- / --- // Blonskr Fans (Community Site) / Blonskr Fans Community Site (blonskr.com) / blonskr.com / Chapter 8 / blonskr.com/zh-cn/index.html // BruceBlue (@BruceBlue) / GateCraft (Browser Circuit Gadget) / gatecraft.fun / Chapter 8 / gatecraft.fun // C3S Reflex Circuits (GitHub: brucelanelan) / C3S Reflex Circuits / GitHub Pages / Chapter 8 / brucelanelan.github.io/c3s-reflex-... // DeQQ / DeQQ(deqq.pages.dev) / deqq.pages.dev / Chapter 8 / deqq.pages.dev / Firsto / Firsto TapeOut (Trading/Mining Panel) / TapeOut.firsto.ai / Chapter 8 / TapeOut.firsto.ai // GatePilot / GatePilot (tapeout.vibedegens.com) / tapeout.vibedegens.com Chapter 8 / tapeout.vibedegens.com / GatePilot (Author Unknown) / GatePilot / TapeOut PoD Mining & Leasing One-Stop Platform / tape:// (On-Chain Website) / Chapter 7 / 1-165.tapekit.org // Jooooooo (@zhuoning293) / Circuit 283 / tape:// (on-chain website) / Chapter 7 / 282-732.tapekit.org // NAND Driver (GitHub: jogjohgoeg) / NAND Driver (Circuit # 279) / duck brain / GitHub Pages / Chapter 8 / jogjohgoeg.github.io/nand-driver // NANDPU / NANDPU / nandpu.app / Chapter 8 / nandpu.app // Perpetua (GitHub: h805846716) / Perpetua (On-Chain Game of Life, 14,592 Gates) / GitHub Pages / Chapter 8 / h805846716.github.io/perpetua // SiliconX / SiliconX / siliconx.top / Chapter 8 / siliconx.top / SkillPass Control Room (Author Unknown) / SkillPass Control Room / tape:// (On-chain website) / Chapter 7 / 1-2-223.tapekit.org // SpongeMochi (@spongemochi) / TAPE STRIKE / Clearing Bugs in Chips / tape:// (On-Chain Website) / Chapter 7 / 1-894.tapekit.org // SpongeMochi (@spongemochi) / TAPE HOLD'EM / On-Chain Texas / tape:// (On-Chain Website) / Chapter 7 / 2-894.tapekit.org // SpongeMochi (@spongemochi) / Construction: Building a Tang Dynasty Palace at the Foot of Mount Wutai / tape:// (On-Chain Website) / Chapter 7 / 3-894.tapekit.org // TapeHub / TapeHub.ai (Launchpad) / TapeHub.ai (Founder's post, operating entity unverified) / Chapter 8 / tapehub.ai / TapeLens / TapeLens / tapelens.xyz / Chapter 8 / tapelens.xyz // TapeOut Cards (Author Unknown) / TapeOut Cards / tape:// (On-chain website) / Chapter 7 / 3434-30.tapekit.org // TapeOut Club / TapeOut Club / tapeout.club / Chapter 8 / tapeout.club/zh // TapeOut Market / TapeOut Market (Third-Party Marketplace) / tapeout.market / Chapter 8 / tapeout.market // TapeOut On-Chain Chat (Author Unknown) / TapeOut On-Chain Chat / tape:// (On-Chain Website) / Chapter 7 / 4357-0.tapekit.org // Author / Content (Title) / Platform / Chapter / Link // --- / --- / --- / --- / --- // TapeOut Protocol Telegram Group (Unverified by Administrator) / t.me/TapeOutnet "TapeOut Protocol" Telegram Group / Telegram / Chapter 8 / t.me/TapeOutnet /

/ Getting Started with TapeOut (Community Site) / Getting Started with TapeOutBuilding a Never-Stop Machine on the Blockchain / tapeout-guide-public.vercel.app /

Chapter 3, Chapter 8 / tapeout-guide-public.vercel.app /

/ TapeOut Ecosystem Navigation / TapeOut Ecosystem Navigation (tapeout.link) / tapeout.link (Community Website) / Chapter 1, Chapter 8, Chapter 10 / tapeout.link // TapeOutScan / TapeOutScan (tapeoutexplorer.com) / tapeoutexplorer.com / Chapters 5 and 8 / tapeoutexplorer.com // TapeOut (@TapeOutWorld) / TapeOut Mid-Autumn Festival Event (@TapeOutWorld) / X (Unverified official status) / Chapter 1 / x.com/TapeOutWorld/status/2102306... // TapeOut (@TapeOutWorld) / The Bitget and B ybit theft reminds us: What does the front end ultimately affect when users sign up? (@TapeOutWorld) / X (Unverified official status) / Chapter 9 / x.com/TapeOutWorld/status/2103374... /

/ TapeOut (@TapeOutWorld) / On-chain validity Business rationality (@TapeOutWorld discusses the Bitget incident) / X (Unverified official status) / Chapter 9 / x.com/TapeOutWorld/status/2103393... // TapeSite (Author Unknown) / TapeSite / One-Sentence AI Website Builder, Permanently Deployed to DeWEB / tape:// (On-Chain Website) / Chapter 7 / 14599-30.tapekit.org // TapeSite (Author Unknown) / TapeSite / One-Sentence AI Website Builder, Permanently Deployed to DeWEB / tape:// (On-Chain Website) / Chapter 7 / 15731-30.tapekit.org // TapeWeb / TapeWeb(web.tapeout.link) / web.tapeout.link / Chapter 8 / web.tapeout.link // UPay (@UPayOfficial_EN) / UPay - TapeOut Card / tape:// (on-chain website) / Chapter 7 / 1-231.tapekit.org /

/ giang.me / Silicon TapeOut Protocol (Interactive Explanation) / Personal Website / Chapter 2, Chapter 8 / giang.me/tapeout // gradfi (author unknown) / gradfi / fair-launch mining protocol on bsc / tape:// (on-chain website) / Chapter 7 / 3114-0.tapekit.org // tapeout.build / TapeOut Computing Canvas (tapeout.build) / tapeout.build / Chapter 8 / tapeout.build // tapeout.pro / TapeOut Verifier (tapeout.pro) / tapeout.pro / Chapter 8 / tapeout.pro/verifier // tapeout.space / tapeout.space (DeWEB Tools) / tapeout.space / Chapter 8 / tapeout.space /

Chinese edition source page 22

/ tapeout.vip / tapeout.vip Data Panel / tapeout.vip / Chapter 8 / tapeout.vip // tapeout.work / TapeOut Protocol Data (tapeout.work) / Community Data Station / Chapter 8 / tapeout.work // wNAND (Author Unknown) / wNAND / Wrapped TapeOut NAND / tape:// (On-chain website) / Chapter 7 / 15821-30.tapekit.org // MiaoMiao Lottery (Author Unknown) / MiaoMiao Lottery / tape:// (On-chain Website) / Chapter 7 / 2-1031.tapekit.org // MeowMeow Texas Hold'em Club (Author Unknown) / MeowMeow Texas Hold'em Club Lobby / tape:// (On-chain Website) / Chapter 7 / 1-1031.tapekit.org // Anonymous Exploration+ (Author Unknown) / Anonymous Exploration+ / tape:// (On-chain Website) / Chapter 7 / 1520-0.tapekit.org /

/ Coin Talk (@mantancoin) / TapeStar - The Optimal Path for Budget to Enter Hashrate / tape:// (On-Chain Website) / Chapter 7 / 12566-30.tapekit.org // Author / Content (Title) / Platform / Chapter / Link // --- / --- / --- / --- / --- // Coin Talk (@mantancoin) / TapeStar (One-Click Mining Aggregator) / tapestar.org / Chapter 8 / tapestar.org // Xiao Zhanyang (@Xiao_zhanyang) / TapeOut Container Factory / TapeChat (id.tapeout.link, chat.tapeout.link) / id.tapeout.link / chat.tapeout.link / Chapter 4, Chapter 8 / id.tapeout.link // Xiao Zhanyang (@Xiao_zhanyang) / TapeOut One-Click Container / tape:// (on-chain website) / Chapter 7 / 1-8.tapekit.org /

/ Chip Market / Chip Market (yuequan123.com/bem) / yuequan123.com / Chapter 8 / yuequan123.com/bem // Lying Flat Master (Author Unknown) / Lying Flat Master / TP Chip Casting /

tape:// (On-Chain Website) / Chapter 7 / 1-899.tapekit.org // On-Chain Chinese Chess (Author Unknown) / On-Chain Chinese Chess / 122.6.tape / tape:// (On-Chain Website) / Chapter 7 / 122-6.tapekit.org // Black Myth: Behemoth (Author Unknown) / Black Myth: Behemoth / tape:// (On-chain website) / Chapter 7 / 12123-30.tapekit.org / Data platforms, exchanges and others / Author / Content (Title) / Platform / Chapter / Link // --- / --- / --- / --- / --- // Bitget (Official Announcement) / Bitget Security Notice: Hot Wallet Incident (2026-09-24) / bitget.com / Chapter 9 / bitget.com/support/articles/12560... // Bittrue Blog / TapeOut X (TAPEOUTX): Price, Contract, and Purchase (Irrelevant Tokens on X Layer) / bittrue.com / Chapter 9 / bittrue.com/blog/tapeout-x-tapeout... // BscScan / BEM Token Contract (BscScan) / bscscan.com / Chapters 6, 9 / bscscan.com/token/ 0x5ce033B2bFCa3... // BscScan / PodMining Contract + TimelockController (BscScan) / bscscan.com / Chapter 6, Chapter 9 / bscscan.com/address/ 0x7E2E0DC66a3... // BscScan / Processor Factory Contract (BscScan) / bscscan.com / Chapter 9 / bscscan.com/address/ 0x68224F66808... // CoinCarp / TapeOut (BEM) New Listing on L Bank / coincarp.com / Chapter 6 / coincarp.com/events/tapeout-bem-n... // DexScreener / BEM/USDT PancakeSwap V3 Main Pool (DexScreener) / dexscreener.com / Chapter 6 / dexscreener.com/bsc/ 0x2f5ec19ab05... // MEXC / MEXC Meme+ First Listing of BEM Announcements / mexc.co (Announcements) / Chapter 6 / mexc.co/announcements/article/fir... // TopicDigg / TopicDigg: Blonskr Tweet Mirror / topicdigg.com / Chapter 10 / topicdigg.com/x/Blonskr // ekonomeest / TapeOut Mining Intelligence (Dune Board) / Dune (dune.com) / Chapters 5 & 8 / dune.com/ekonomeest/tapeout-mining... / Image and video materials: Three third-party images in the book are from an article published on PANews by Something and CoinW Research Institute.

(As noted in the captions); The TapeOut logo and TapeSend icon are from TapeOut Labs' GitHub (the TapeSend icon is from MIT).

(License required); the video thumbnails in Chapter 11 are from the respective video creators (Renren Meilishuo, Daniel Zhou, 93.bitmap, Blonskr); the founder videos added in v1.3, some episodes from 93.bitmap, and thumbnails containing images of minors are all replaced with self-made text cards in this book; the Neon Reliquary trailer (Tizer Luo) added in v1.4 is also replaced with text cards. All other illustrations, screenshots, and animations are self-made for this book.

Editor's Works: Entries marked "Editor's Works" in the table (TapeOut Daily, The Master of Slacking Off, Burnbem, TapeOut Container Uploader, etc.) TAPQQ and 8.888 Premium Number Mall are works by the book's editor, Hong Qigong, and the list is based on his self-description on X on September 24, 2026; they are not official TapeOut products and will be discussed in detail in Chapter 8, Section 8.9. Following closely behind is Nibble, a competitive mini-game created by KallyGame (@KallyGame), included in the editor's BURNBEM game room; it is not the editor's work and therefore not included. The editor's own X posts are also cited in this book, listed in the "KOL" group, and will not be repeated on the cover. Additionally, there are four articles included (YW...

Chinese edition source page 23

The three articles (one by Xiao Zhan and one by Yang) mentioned TAPQQ, and the "Chapter" column in the table has been marked; the authors of these articles are credited as usual.

Thanks to all the authors, developers and community members mentioned above.

Quick Reference, Ecosystem Map and FAQs This document was automatically generated from PDF and has not yet been independently proofread; please check the original text against the page number backtracking annotations.

Quick Reference: Visual Guide, Glossary, and Frequently Asked Questions A Visual Guide to the TapeOut Ecosystem TapeOut Eco Map (September 2026) Inner circle: Official/Official related; Outer circle: Community and third parties (non-official endorsement); Red box: Irrelevant projects with the same name.

Trading Market DeWEB / Message TapeOut.market / First TapeOut.space / DeQQ / TAPQQ SiliconX / TapeOut Club 8.888 Premium Number Mall / Container Uploader tapeout.net PoD Mining Official Website dApp / Canvas / Marketplace tapeout.net/pod/ Data Browser Games & Works TapeOutScan / TapeOut.work Game of Life / Gomoku tapeout.vip / Dune NAND Driver / C3S Linux Demo TapeKit / tape:// tapeout.net/linux.html TapeOut tapekit.org Gateway Protocol / BNB Chain Mining Tool Learning & Navigation GatePilot / TapeOut.build TapeOut.link / TapeOut Daily Report TapeOut.pro / TapeLens HashPort TapeSend BEM.community / Tutorial Site On-Chain Front-End Hosting (Commercial) TAP-10 Message Layer Launcher / Small Applications Note: Unrelated tokens with the same name

TapeHub (Published by the Founder) / TapeOutX on Toshi X Layer / \$ TapeOut Burnbem on fclap.sh / Nibble, a work by the editor (made by the editor Hong Qigong himself), see Chapter 8, 8.9 "The Complete TapeOut Beginner's Guide" / Self-drawn illustration TapeOut Ecosystem Map (self-drawn for this book, September 2026). The inner circle represents official or official-related products, the outer circle represents community and third-party tools, and the red boxes represent tokens with the same name but unrelated. See Chapter 8 for details.

In short: TapeOut is an "on-chain chip-making" protocol on the BNB Chain. You use "transistor tokens" to build circuits on a canvas, and then "chip out" the circuits into NFTs; qualified circuits can participate in PoD mining to produce BEM tokens; each circuit can also open a container, which can store assets, host an on-chain website (tape://), and send and receive encrypted messages.

Glossary

Arranged in a general learning order. We will also explain it again the first time it appears in the main text.

/ Terminology / One-sentence explanation / See details / --- / --- / --- // TapeOut (protocol) / On-chain circuit protocol on BNB Chain, official website TapeOut.net. The name borrows from the chip industry's "tape-out" terminology / Chapter 1 // Tape-out / Formally writing the design on the canvas onto the chain: destroying the transistors used to generate a circuit NFT. Irreversible / Chapters 2 & 3 // Terminology / One-sentence explanation / See details / --- / --- / --- // NAND (NAND Gate) / The most basic logic gate: outputs 0 when both inputs are 1, otherwise outputs 1. Any computation can be built using it. / Chapter 2 // LATCH (Latch) / A component

that can remember a 1-bit state, updated with each "heartbeat". With it, the circuit has memory. / Chapter 2 // Transistor Tokens / The on-chain form of NAND and LATCH is ERC-1155 tokens, which can be minted and traded. / Chapter 2 // ERC-1155 / ERC-721 / Two token standards in the Ethereum ecosystem.

The former is suitable for "many copies of the same thing" (transistors), while the latter is for "unique" NFTs (circuits). / Chapter 2 // Processor (Project) / A "transistor issuing factory" created by factory contracts, each with its own transistor and circuit number. 0 is the Genesis CPU / Chapter 2 / Factory Contract / The contract that creates the processor / Chapter 2 / Behemoth / The official website calls processor 1 (on-chain name Blonskr_No1) Behemoth, with a mining coefficient $P=6$. This name comes from the on-chain CPU mentioned in the manifesto that rivals the Intel 4004 / Chapters 2 & 5 / Canvas / The circuit design tool on the official website, allowing real-time simulation in your browser, free / Chapter 3 / Circuit NFT / The ERC-721

NFT obtained after tape-out, the circuit logic exists on-chain in data form, and anyone can call it for free / Chapter 2 / Test Vectors / The "standard test questions" prepared by the official team for each question: as set of "input standard answer". During mining, the contract selects a few from these to check your circuit / Chapter 5 / REF (Reference) / Reusing existing circuits as "black boxes" in new circuits. The current version of the mining rules prohibits circuits with references from participating / Chapter 5 / Circuit Container / On-chain account (ERC-6551) bound to a circuit NFT, without a private key, whoever holds the circuit controls it / Chapter 4 / ERC-6551 / The standard for allowing an NFT to have its own smart contract account, also called

"token-bound account" / Chapter 4 / tape:// / The address format of the TapeOut on-chain website, for example, tape://4246.0.tape/ / Chapter 4 / .tape name / Written as <circuit#ID>.<processor number>.tape, for example, 4246.0.tape / Chapter 4 / TapeKit / The official open-source toolkit: reads the chain, verifies and opens the tape:// website's kernel, gateway, and extensions / Chapter 7 / HashPort / A commercial hosting service based on TapeKit, helping you upload your website to a container / Chapters 4 & 7 // Terminology / One-sentence explanation / See details // --- / --- / --- // TapeSend / TAP-10 / The "DeWEB Message Layer" for sending and receiving encrypted messages between containers; TAP-10 is its specification number. / Chapter 7 /

/ Endpoint / The recipient address in TapeSend is composed of the chain ID and the container address. / Chapter 7 // DeWEB / Official terminology for the "decentralized website + messaging" layer / Chapters 4 & 7 // PoD (Proof of Design) / TapeOut's mining mechanism: BEM is allocated based on the transistors you burn and the quality of your design / Chapter 5 // Mining Machine / A colloquial term used in the community for "circuits currently participating in PoD mining" / Chapter 5 // Hashrate H / Your circuit's weight in mining, calculated using the official formula / Chapter 5 // Best Original Design / Designing the lowest-cost circuit for a given processor to solve a certain problem earns an extra "design premium" / Chapter 5 /

Chinese edition source page 26

/ Verified Pool / Unverified Pool / 99% and 1% of daily output. Those who solve the problem and pass the sampling check go to the former. / Chapter 5 // BEM / Tokens produced through PoD mining, capped at 21 million / Chapter 6 // Seal / The contract administrator permanently relinquishes the right to upgrade. Once sealed, the rules cannot be changed. / Chapters 6 & 9 // Timelock / A contract that forces management operations to wait a certain period of time (in this case, 48 hours) before execution. / Chapter 6 // Mempool/MEV / Before a transaction is officially recorded on the blockchain, it must wait in a public "queue area" (mempool) for a few seconds; if someone takes advantage of this time to peek and place an order first, this behavior is collectively called MEV / Chapter 3 /

/ salt / A string of random numbers that only you know. The official website saves it in a backup file on your computer during the tape-out process to prove that you were the one who made the design first. / Chapters 3 & 5 // Gas / The transaction fee paid on the BNB Chain, paid in BNB / Chapter 3 //

Sliceouts Protocol Fee / A small amount of BNB is paid to the protocol for each slice (starting from September 12, 2026; 0.0002 BNB was available on-chain on September 25th of this book), going into the protocol's treasury / Chapters 3 & 6 // PancakeSwap / DEX / DEX stands for "Decentralized Exchange," allowing direct token exchange on-chain; PancakeSwap is the largest on the BNB Chain. / Chapter 6 /

/ TapeHub / A cryptocurrency launch platform (tapehub.ai) launched by its founder on September 15, 2026. 50% of the national treasury revenue will be used to buy back and burn BEM. / Chapters 6 & 8 / Terminology / One-sentence explanation / See details // --- / --- / --- // X Layer / Base / Two other blockchains. 2026-09-19 TapeOut / Chapters 4 and 7 // Already deployed to the X Layer mainnet (area code 2), Base // (Area code 3) is still in the planning stages. BEM mining will remain only available on the BNB Chain. /

Frequently Asked Questions (FAQ)

Q: Does TapeOut build real chips on the blockchain? A: No. It builds "on-chain circuits": logic gates are tokens, circuits are NFTs, and operation is handled by on-chain contracts. "Tapeout" is just a term borrowed from the chip industry. It has nothing to do with actual chip fabrication in the semiconductor industry. (Chapters 1 & 2) Q: Who created it? Is it an official team? A: The founder is Twitter user @Blonskr, who states he is 16 years old. The company field for the GitHub organization TapeOutProtocol is "TapeOut Labs". Other team information is mainly compiled from the community and has not been independently verified. (Chapter 1) Q: How much does it cost to participate? A: Canvas simulation is free. Actual on-chain operations all cost BNB: purchasing

transistors (the two processors capable of mining have already been fully mined; you must buy them at the market price, plus a 1% transaction fee), tape-out (tape-out protocol fee + gas; the protocol fee was 0.0002 BNB as of September 25th), creating a processor (officially listed as 0.001 BNB), opening a container (officially listed as 0.012 BNB on BNB Chain; 0.08 OKB on X Layer), etc. Calculate your costs carefully before entering the market; don't underestimate them. Refer to the official website for the most up-to-date information. (Chapters 3 & 4) Q: Do I need a graphics card or mining rig for mining?

A: No, you don't need a graphics card. The official statement is that "the only cost is the transistors you irreversibly destroy on the chain" - these transistors cost BNB to buy, and every unit of computing power requires a burned-out transistor. A "mining rig" is simply a qualified circuit NFT; if your design is the best in a given problem, you get an extra design premium, which can be substantial, even exceeding the base premium. (Chapter 5) Q: How many days does it take to break even on mining? A: No one can guarantee that. Profitability depends on the total network hashrate, the quality of your design, and the price of BEM, all of which change daily. Chapter 5 teaches you how to calculate it yourself and demonstrates it with example figures.

Q: What is the total supply of BEM? Will there be any further issuance? A: The maximum supply is 21 million BEM. The only way to mint them is through the mining contract, which produces 7,200 BEM per day, halving approximately every 4 years. The mining contract is sealed, and no one can change the rules. Approximately 231,800 BEM have already been minted (contract total supply, on-chain testing in this book, as of 15:21 Singapore time on September 25, 2026), representing about 1.1% of the maximum supply. (Chapter 6)

Q: Can TapeOut on X Layer mine BEM? A: No. The deployment announcement from X Layer Chinese website @ xlayer_zh (September 19, 2026) states that "the PoD mining economic system remains unaffected and is still centered around BNB Chain"; community author YW (@ywweb3)'s "6 Questions & 6 Answers" (September 23, 2026) also reminds readers that X Layer does not produce BEM; only the circuitry of the Behemoth/TapeOut processor on BNB Chain can be mined. On X Layer, you can create processors, open containers (0.08 OKB), send messages, and host websites (the website repository address is different from BNB Chain; currently, the official website frontend on X

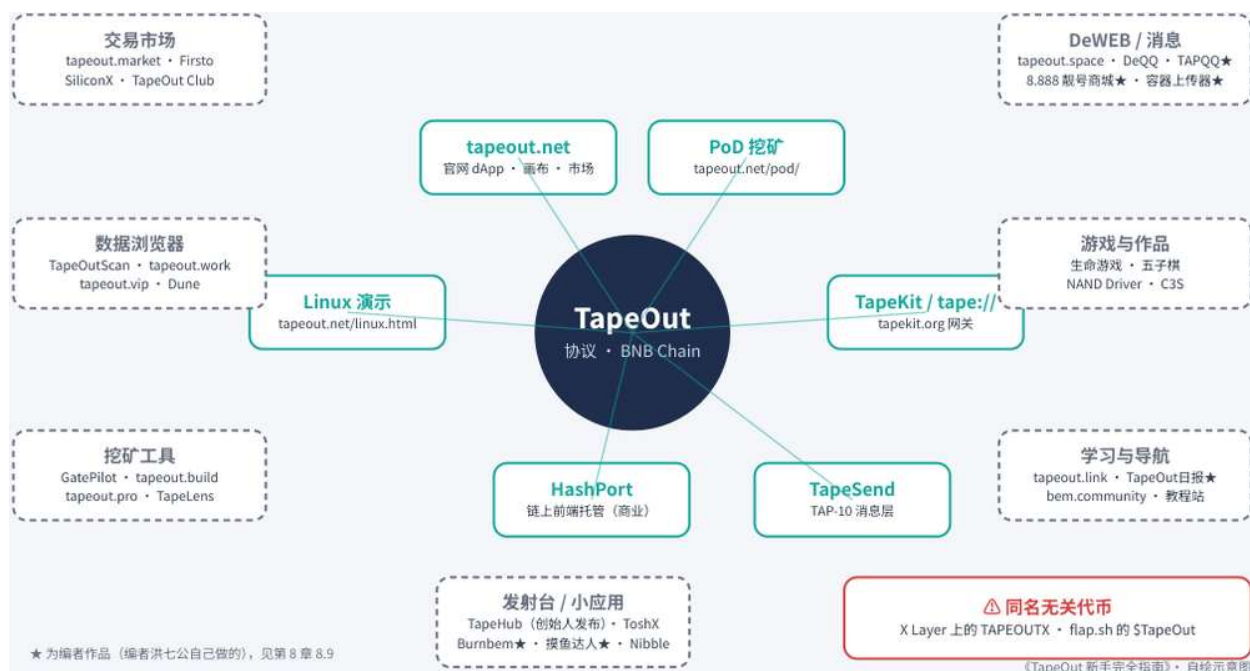
Layer can only open and view containers; please confirm tool support before building a website, see Chapter 4). (Chapters 4 & 7) Q: Is the contract secure? A: First, let's talk about what can be confirmed on-chain: Founder @ Blonskr has sealed the mining contract PoD Mining and the transistor market (owner is address zero), and no one can change the mining rules; the BEM token

has no administrator, only the mining contract can mint coins. This doesn't mean all contracts have relinquished control, nor does it mean there's no risk. The new protocol is still rapidly evolving, so protecting yourself is paramount: use a dedicated wallet, only keep spare cash in it, never give your

mnemonic phrase to anyone, and don't click on signatures you don't understand. (Chapter 9) Q: Can the tape:// website be opened with a regular browser? A: Yes. Through an official gateway, such as <https://4246-0.tapekit.org/>, no additional software needs to be installed. (Chapter 4) Q: I bought a token with the name "TapeOut". Is it official? A: Most likely not. The token for this protocol is BEM, contract 0x5ce0...695a. TapeOutX on the X Layer and \$TapeOut on flap.sh are unrelated to this protocol.

(Chapter 9) Q: Which is the official X account and Telegram group? A: Neither the official website nor GitHub links to any social media accounts. The only clues we can find are:

@TapeOutWorld appears to be operated by the project team (based on the use of "we/the organizers" in the September 22nd Mid-Autumn Festival post; some third-party tutorials list it as a co-organizer of the hackathon, but the original I GNIX post didn't mention it), however, neither the official website nor the founder has made an official statement, so this book treats it as "unverified official status"; the founder @ Blonskr's homepage lists the Telegram group t.me/TapeOutnet in the "Location" field, which also lacks an official statement. For important announcements, please refer to the founder's own account @Blonskr. (Chapter 1)



Chinese edition source page 28

Chapter 1: What is TapeOut?

This document was automatically generated from PDF and has not yet been independently proofread; please check the original text against the page number backtracking annotations.

Chapter 1 What is TapeOut: An "On-Chain Chip Factory"

Let me explain in one sentence first.

TapeOut is a protocol that runs on the BNB Chain: it turns "logic gates" into tokens, allowing anyone to use these tokens to build circuits and processors on the chain.

Editor's Note Editor Hong Qigong puts it more succinctly: "BTC makes the ledger trustworthy, ETH makes the calculation results trustworthy, and BEM makes the calculation process trustworthy." Bitcoin makes people trust the ledger, Ethereum makes people trust the calculated results, and TapeOut wants to make "how it was calculated" traceable step by step on the chain. See the "Editor's Viewpoint" at the beginning of the book for details.

The official website, TapeOut.net, states it quite plainly: Blockchains can not only store money, but also "production tools that anyone can verify," such as circuits capable of actual computation. The Chinese subtitle on the website is "On-Chain Hardware Maker Infrastructure." hint What is BNB Chain? It's a public blockchain (also called BSC, BNB Smart Chain) compatible with Ethereum, where transaction fees are paid in BNB. Unless otherwise specified, "on-chain" in this book refers to the BNB Chain mainnet.

Where does the name come from: "Chip-out"?

"Tape-out" is as semiconductor industry term: after the chip design is completed, the design is handed over to a wafer fab for manufacturing; this step is called tape-out.

TapeOut borrowed this term. Here, "chip fabrication" refers to: you design a circuit on a web canvas, click a button, and the "transistor tokens" you use are destroyed, creating an NFT on the blockchain

representing that circuit. It has nothing to do with actual chip manufacturing - there are no silicon wafers, no factories; everything is on-chain data and contracts.

Notice

Make sure you search correctly: searching "tapeout" online will bring up a lot of content related to the semiconductor industry (such as the open-source chip project Tiny TapeOut). These have absolutely nothing to do with the TapeOut protocol discussed in this book.

Core idea: One token = one transistor

Chinese edition source page 29

On August 15, 2026, TapeOut released a 5-page Chinese manifesto, "TapeOut On-Chain Microprocessor Manifesto," signed by @Blonskr. It begins with only a few sentences:

I defined a new token on the BNB Chain....One token is one transistor. - TapeOut On-Chain Microprocessor Manifesto What does this document say?

TapeOut On-Chain Microprocessor Manifesto (PDF) This 5-page manifesto, TapeOut's "birth certificate," was released on August 15, 2026, and signed by @Blonskr. It aims to answer the question: Is it possible to build a real computer on the blockchain, treating tokens like transistors? The manifesto's answer is: Yes, and anyone can build one.

Atoken is atransistor: NAND (NAND gate) is responsible for "calculation", and LATCH (latch) is responsible for "recording".

After the circuit is fabricated, it becomes an NFT, which stores data about "which gate is connected to which gate", not executable program code.

A block is like a clock: BNB Chain produces a block in about 0.45 seconds, and the on-chain processor completes one beat, which is about 2.22 Hz.

The circuit is always online, and anyone can access it for free in a read-only manner.

At the heart of the agreement is a factory contract that anyone can use to build their own processor; the "Behemoth" is a direct competitor to the Intel 4004.

Tip: The statement in the declaration that "the factory has relinquished all rights" differs from the actual tests conducted on the blockchain in this book. Chapter 9 provides a detailed explanation.

Let's summarize the key points of the declaration in our own words:

1. The smallest component is a NAND gate. All computations can be built using it. In TapeOut, it's atoken, each worth only 7.

1 byte.

2. Add another "memory" element: LATCH. It stores 1...

Bit state. The original words of the declaration are: "Only the world of NAND gates has no memory, and something without memory cannot be called a computer." 3. The circuit is an NFT. After tape-out, the circuit becomes an ERC-721.

An NFT is a piece of data that connects "which door to which door" rather than executable code.

4. A block is like a clock. For every block produced on the BNB Chain (the manifesto states 0.45 seconds), the on-chain processors advance by one clock cycle, approximately 2.22 seconds.

Hz. The declaration jokingly refers to it as "the slowest CPU in the universe".

5. The circuit is always on, and anyone can access it. Accessing the circuit is a read-only query; it does not generate transactions and costs no money.

Chinese edition source page 30

6. Anyone can operate a processor. The manifesto states that at the heart of the agreement is a factory contract, which anyone can use to deploy their own processor.

The starting point of all computation: NAND and LATCH. NAND is responsible for "calculation," and LATCH is responsible for "recording"; each block (approximately 0.45 seconds) is a heartbeat.

NAND gate, LATCH (latch/flip-flop), ABYA 00 1 Y 01 1 Input 1 bit state B 101110 Store one bit state; output 0 only when both inputs are 1 during each heartbeat (block output) update. What would happen if you built this? (Example from the official documentation) Half adder, full adder, 4-bit adder, 7-segment decoder, Behemoth, 5 transistors, 9 transistors, 36 transistors, 100 transistors, comparable to Intel 4004 (2,300).

TapeOut Beginner's Complete Guide - Self-drawn Illustrations The starting point for all calculations: NAND and LATCH. The figures are from the official declaration (illustrated by the author of this book).

This book features self-made animation - silent - 1:00 Understand TapeOut in 60 seconds: What is TapeOut?

Video file: videos/v1-what-is-tapeout.mp4 (Included with the book, in the dist/videos/ folder; can be played directly in HTML/EPUB versions) How did it begin?

August 15, 2026: Founder @Blonskr released an on-chain processor on X: composed of 2,251 NAND flash units and latches, comparable to the Intel 4004 standard, and capable of running the Fibonacci sequence, along with a 30-second demo video. This tweet received 1,131 likes and 236 replies (original tweet, data retrieved on September 25, 2026).

On the same day, the official manifesto PDF was released. The manifesto referred to this processor, which was comparable to the Intel 4004, as the "Behemoth".

Chinese edition source page 31

At 22:49 that evening (Singapore time), founder @Blonskr posted an announcement about the release of the protocol's Alpha version, accompanied by a short video of approximately 98 seconds.

Short video: "The first real on-chain processor manufacturing protocol in human history has been born!" In the early hours of August 16th, founder @Blonskr released his first application: an on-chain SHA-256 Bitcoin miner, available for read-only access and free to try.

He jokingly called it "probably the worst BTC mining machine in the world" - it was a demo and couldn't actually mine Bitcoin. That same afternoon, the founder...

@Blonskr announced the launch of an official transistor trading market, which is a purely on-chain order book.

On August 17th, DeepFlow published an early in-depth analysis, reporting that 58.41 BNB were traded and 237 [unclear text - possibly related to trading volume] were recorded in the first 5 hours.

One participating address (TechFlow). On the same day, Odaily Planet Daily author Golem (@web3_golem) published an original report titled "After CZ's Three-Click Like, the 16-Year-Old's On-Chain CPU Project Goes Viral," documenting early market activity: Behemoth's NAND rose from

aminting price of 0.0005 BNB to 0.0085 BNB, with approximately 1,300 BNB traded in 24 hours. This article takes a relatively calm perspective, and its concerns will be revisited in Chapter 9.

TapeOut First Demo: On-Chain Processor Running Fibonacci @ Blonskr (X) / 2026-08-15 / Duration 0:30 Playback: <https://x.com/Blonskr/status/2088542745980006876> Play

Chinese edition source page 32

TapeOut Protocol Alpha version officially launched @ Blonskr (X) / 2026-08-15 / Duration 1:38 h <https://x.com/Blonskr/status/2088639148660076696> Regarding the founder: @ Blonskr describes himself in his bio as a 16-year-old, 8th-grade developer ("8grade coder").

This is his own statement, and this book cannot independently verify it. Because the founder is a minor, this book does not use his personal photo.

Regarding the team: The company field of the TapeOutProtocol organization on GitHub lists it as "TapeOut Labs," created on September 13, 2026. A timeline compiled by the community states that two full-time staff members joined on September 8th, and a third member joined on September 18th - this information is based on the community's compilation of the founder's tweets and has not been independently verified.

The TapeOut logo used by the GitHub organization TapeOutProtocol (Source: TapeOut Labs / GitHub organization TapeOutProtocol avatar). The official website does not provide a downloadable logo file.

What happened in a month and a half?

Chinese edition source page 33

TapeOut Milestones (2026) Confirmed by official documents, official announcements, or on-chain verification; the rest are compiled from the community timeline: 08-15 08-26 09-07 09-14 09-16 09-21 Confirmed first tweet + manifesto Confirmed V2 preview Confirmed on-chain Linux demo Confirmed mining contract sealing Confirmed TapeKit release 50% fee buyback 08-21 09-06 09-12 09-15 09-19 09-22 Confirmed BEM/PoD mining launch Confirmed Circuit Container launch Confirmed Chipsetup protocol fee Confirmed TapeHub launcher Confirmed X Layer deployment Confirmed First hackathon TapeSend open source (until 10-06) "TapeOut Beginner's Complete Guide" - Self-drawn diagrams

TapeOut Milestones. Entries marked "Confirmed" have been verified by official documents or on-chain data; the rest are from community timelines (drawn by the author of this book).

Several key milestones (see later chapters for details) All times below are in Singapore time, and links to the original posts by the founders have been provided where possible:

August 20: Founder @Blonskr released the core mining formula (Chapter 5).

August 21: PoD mining started at 21:45; founder @ Blonskr also announced that he would waive the 0.2% transaction tax and related ownership. That evening, the founder...

@Blonskr released the announcement of the launch of \$ BEM (Chapters 5 and 6).

August 26: The founder teased V2: "Component Slots", advanced components such as BNN/LUT, and "Device Repository". As of September 25, V2 has not yet been launched (tweet announcement).

September 1: Founder @ Blonskr announced that PoD will add "counterexample review", which will take effect 48 hours later (Chapter 5).

September 6: Founder @ Blonskr announced the launch of Circuit Containers, where each circuit can have its own on-chain account (Chapter 4).

September 7: Founder @ Blonskr released a demo of "Running Linux on L1 Mainnet" (Chapter 7).

Chinese edition source page 34

September 9: Founder @Blonskr released a summary of data from the 26 days since launch (Chapter 6).

September 12-14: The mining contract was sealed after a 48-hour time lock, and founder @ Blonskr announced on September 14 that the execution was completed (this book has also verified this on-chain, Chapter 6).

Starting September 13th: tape:// specification v0.2, HashPort, TapeHub (September 15th), TapeKit (September 16th), TapeSend Released in succession (Chapters 4, 7, and 8).

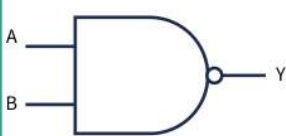
September 19: X Layer Chinese Channel @ xlayer_zh confirmed that TapeOut has been deployed to the X Layer mainnet (Chapters 4 and 7).

September 22: IGNIX (@Ignixbot) announced the first TapeOut hackathon, which will run until October 6 (Chapter 8).

Official Entry List TapeOut's official website homepage (screenshot taken on September 25, 2026, without wallet connection). The page lists all "projects" (i.e., processors), totaling 1,043 at the time of the screenshot.

/ Entry Point / Address / Publisher / Description / --- / --- / --- / --- / Official d App Website / www.tapeout.net / TapeOut Official / Canvas, Projects, Marketplace, Containers, Mining are all here / / Official Declaration / TapeOut-Protocol.pdf / TapeOut Official (Blonskr) / The only "white paper" document, 5 pages / / PoD Mining Page / tapeout.net/pod/ / TapeOut Official Website / Mining Rules, Formulas, and Question Bank / / On-Chain Linux Demo / tapeout.net/linux.html / TapeOut Official / Technical Demo /

NAND (与非门)



A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

只有两个输入都是 1 时才输出 0

LATCH (锁存器 / 触发器)



保存一位状态，每次心跳 (出块) 更新

搭起来会怎样? (官方宣言中的例子)

半加器

5 个晶体管

全加器

9 个

4 位加法器

36 个

七段译码器

100 个

Behemoth

对标 Intel 4004 (2,300)

《TapeOut 新手完全指南》· 自绘示意图

TapeOut Complete Beginner's Guide v1.5 - English

30

/ GitHub / github.com/TapeOutProtocol / TapeOut Labs / TapeKit open source repository // [tape://](https://tapeout.net) Gateway / [TapeKit.org](https://tapekit.org) / TapeOut Labs / Open the on-chain website with a regular browser // [HashPort](https://hashport.ai) / hashport.ai / [HashPort](https://hashport.net) / On-chain website hosting (commercial service) // Founder X / @Blonskr / Blonskr / Most announcements are first published here /

Notice

How to determine if it's "official"? Neither the official website nor GitHub links to any social media accounts. Currently, there are two clues: The X account @TapeOutWorld appears to be operated by the project team - its Mid-Autumn Festival event post on September 22, 2026, used the phrase "we/the organizers," and some third-party tutorials list it as a co-organizer of the hackathon, but the original I GNIX post doesn't mention it; neither the official website nor the founder has made an official statement, so this book is treated as "unverified official status." The founder @Blonskr's X homepage lists the Telegram group t.me/TapeOutnet in the

"Location" field, also without an official statement. The safest approach remains: rely on the official website, official GitHub, and the founder's personal account for important announcements; always verify any "airdrop" or "internal quota" announcements from other accounts first.

Key points of this chapter TapeOut is an on-chain circuit protocol on the BNB Chain: transistors are tokens (ERC-1155), and circuits are NFTs (ERC-721).

"Cutout" refers to the destruction of transistors and the generation of NFT circuits; it is unrelated to the chip fabrication process in the semiconductor industry.

A block is a clock (approximately once every 0.45 seconds), and the circuit can be accessed by anyone for free.

First published on 2026-08-15, founder @Blonskr states he was 16 years old; the official GitHub organization's company field lists TapeOut Labs.

Official information is subject to the official website, manifesto, GitHub, and founder's account; @TapeOutWorld and the Telegram group t.me/TapeOutnet have not been verified as official, and important announcements are subject to the founder's account.

Further Reading [O02] TapeOut On-Chain Microprocessor Manifesto (August 15, 2026) - TapeOut Official (Blonskr) / [TapeOut.net](https://tapeout.net) (PDF):

<https://tapeout.net/TapeOut-Protocol.pdf> [O01] TapeOut Official Website - TapeOut Official / [tapeout.net](https://www.tapeout.net/): <https://www.tapeout.net/> [O03] Founder's first tweet - Blonskr (@Blonskr) / X: <https://x.com/Blonskr/status/2088542745980006876> [M01] Decoding TapeOut: A Kid Built a CPU on the Blockchain - Deep Tide TechFlow / techflowpost.com: <https://www.techflowpost.com/article/33302> Alpha version launch announcement from founder @Blonskr (August 15, 2026) - Blonskr (@Blonskr) / X: <https://x.com/Blonskr/status/2088639148660076696> "After CZ's triple like, the on-chain CPU project created by a 16-year-old boy went viral" (August 17, 2026, a more sober early report) - Golem



TapeOut 首发演示：链上处理器跑斐波那契

@Blonskr (X) · 2026-08-15 · 时长 0:30

<https://x.com/Blonskr/status/2088542745980006876>



TapeOut Alpha

协议上线演示 · @Blonskr



(文字卡片，本书制作)

TapeOut Protocol Alpha 版正式上线

@Blonskr (X) · 2026-08-15 · 时长 1:38

<https://x.com/Blonskr/status/2088639148660076696>





Chinese edition source page 36

(@web3_golem) / Odaily Planet Daily: <https://www.odaily.news/zh-CN/post/5212520> (English reprint: <https://en.t.heblockbeats.news/news/63416>, Golem) TapeOut Milestone Retrospective (July 31, 2026 - September 13, 2026) (Community compilation, can be compared with the timeline in this chapter; the U Pay collaboration on September 10th has not been confirmed by the founder, see Chapter 9) - Xiao Zhanyang (@Xiao_zhanyang) / X: https://x.com/Xiao_zhanyang/status/2099309902707753061 [M05] "TapeOut Protocol for Beginners" - Something / PANews (Column): <https://www.panewslab.com/zh/articles/01a03820-6305-75be-9e73-12005316087a> [S01] TapeOut Ecosystem Navigation (Community Timeline) - TapeOut Ecosystem Navigation / TapeOut.link (Community Website): <https://tapeout.link/>

TapeOut 大事记 (2026 年)

✓ 已由官方文件、官方公告原帖或链上核实；其余整理自社区时间线



《TapeOut 新手完全指南》· 自绘示意图

Chinese edition source page 37

Chapter 2: Core Concepts

This document was automatically generated from PDF and has not yet been independently proofread; please check the original text against the page number backtracking annotations.

Chapter 2 Core Concepts: From NAND Gates to Processors

Understand this chapter in one minute This chapter only covers one chain: transistor canvas chip fabrication circuit processor container. NAND and LATCH are two types of "block tokens." You first connect them into a circuit on the web canvas for free, and when you are satisfied, you burn the blocks to create a circuit NFT.

NAND is responsible for calculation, and LATCH is responsible for recording. With just these two, you can build any circuit.

Transistors are ERC-1155 tokens (there are many token standards for the same thing), and each processor has its own set, which cannot be mixed.

The "processor" here is actually a "transistor distribution factory," created by factory contracts, with a total of 1,043 units as of September 25, 2026; only Behemoth (#1) and TapeOut (#30) are capable of mining. The official website calls Factory #1 Behemoth, a name derived from the founder's on-chain machine, which was comparable to the Intel 4004.

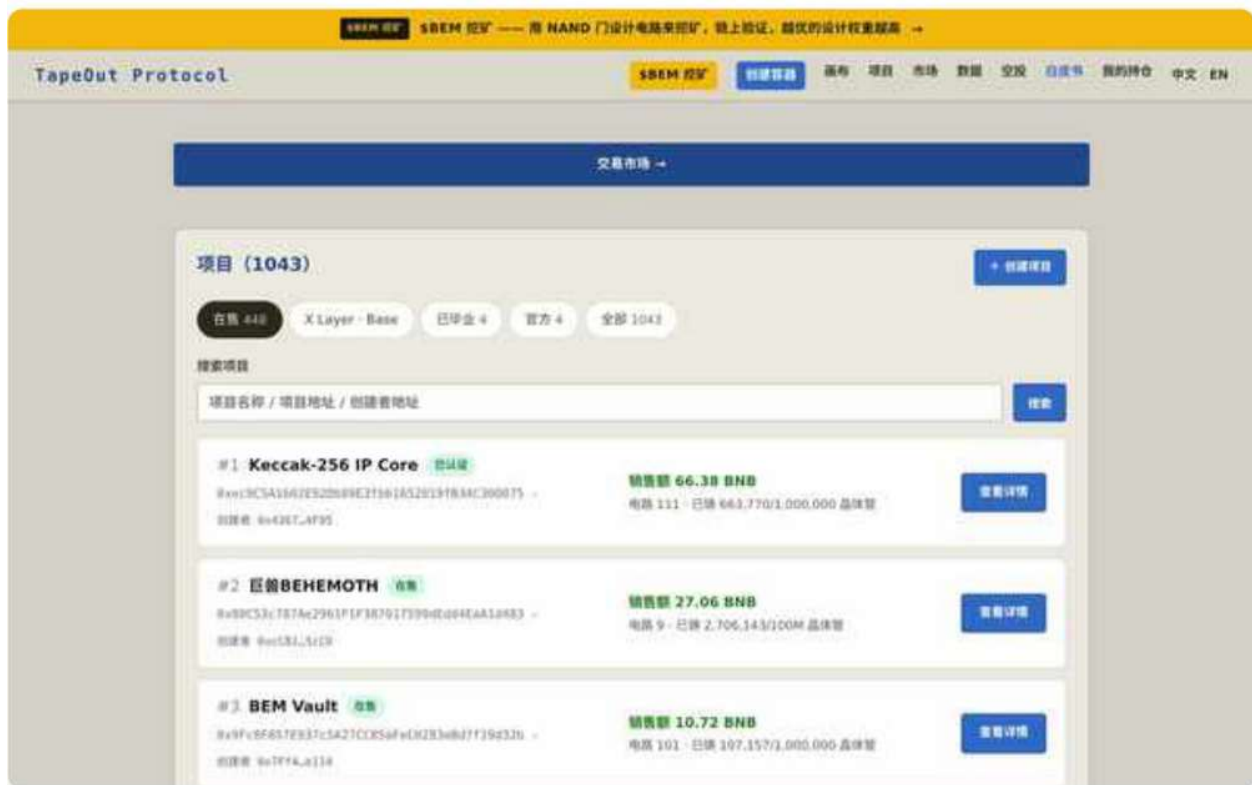
CPU.

Canvas simulation is free and not linked to the blockchain; tape-out will burn out transistors, resulting in an ERC-721 circuit NFT, which cannot be undone.

Circuits can be used by anyone for free; current mining rules do not accept designs that "reference other people's circuits (REF)".

Editor's Note The transistors were indeed burned out during the tape-out process. In the editor's view, this is the fundamental difference between TapeOut and "off-chain credentials": "It's not a mapping, but a design action that is consumed in exchange for an irreversible existence on the chain." (Chapter 12, 12.6) This chapter lays out the "building blocks" of TapeOut one by one. There are quite a few concepts, but each can be explained in just one or two sentences. After reading it, you'll find that they actually form a very smooth chain:

Transistor Canvas Chip Fabrication Circuit Processor Container TapeOut's asset hierarchy: from transistors to websites Transistor Circuit Container Website/Message Endpoint/Asset



Chinese edition source page 38

Processor (project) PoD mining assets are created by factory contracts to produce qualified circuits that can act as "mining machines." BNB, tokens, etc., issue their own transistors to generate these assets.

\$BEM is transferred along with the circuit, such as #0 Genesis, Behemoth Mint, and Mint issues NAND (NAND gate) transistor tokens. These tokens are dragged into a canvas and connected in a browser (destroying transistors). (Destroying the chip body transistor). Circuit NFT ERC-721. Open container.

ERC-6551 Account Circuit Container LATCH (1-bit memory) emulates free logic, storing data on-chain without a private key. ERC-1155 / Can be bought and sold, not on-chain, free for anyone to use. Whoever holds the circuit controls the circuit, and the circuit also belongs to a processor: Name written as #ID@processor number. Website message endpoint tape:// On-chain website TapeSend/TAP-10 TapeOut Complete Beginner's Guide / Self-drawn diagram TapeOut's asset hierarchy (drawn by the author of this book).

2.1 Logic Gates: NAND and LATCH

A logic gate is the smallest "decision unit" in a computer: it takes several 0s or 1s as input and outputs a 0 or 1 according to a fixed rule.

The NAND gate has only one rule: output 0 when both inputs are 1; otherwise, output 1. It sounds simple, but there's a classic conclusion in computer science: using only...

NAND can be used to build any logic circuit - adders, comparators, and even the entire CPU.

The latch (also called a "flip-flop" in the manifesto) is responsible for "remembering" things. It stores a 1-bit state (0 or 1) and updates it with each "heartbeat". Without it, the circuit can only calculate the current input and cannot remember the result of the previous step.

TapeOut offers only these two basic components. The official statement reads: "One basic component, and one memory cell. From these two things, you can build an entire universe."

2.2 Transistor Tokens: What NAND and LATCH Look Like After Being On-Chain

In TapeOut, NAND and LATCH are made into tokens, which are officially called transistors.

[Chinese edition source page 39](#)

These are ERC-1155 tokens. ERC-1155 is a token standard suitable for assets where "there are many copies of the same thing, and they are exactly the same to each other".

Transistors need to be minted first, and they can also be bought and sold on the market.

Each processor has its own transistor contract. For example, the three contracts checked in this book: TapeOut processor transistors 0xCC42...8087 Behemoth's 0xE2Df...550c, Genesis's 0x1d23...DFE6.

Notice

The transistors in different processors are not the same thing. Before buying, you need to confirm which processor's NAND/LATCH you are buying, otherwise it may not be able to be fabricated to the desired location, or it may not be usable for mining.

2.3 Processor (Project): The "Distribution Factory" of Transistors

Understand this section in one minute Sections 2.3 and 2.4 only cover two things: where transistors come from (processor) and how circuits are connected (canvas + tape-out).

The "processor" here doesn't refer to the CPU in a computer, but rather to a transistor manufacturing plant: anyone can pay 0.001 BNB.

Open a store, set the total quantity, unit price and revenue sharing, and issue your own NAND/LATCH.

The official website calls Factory 1 "Behemoth," and it and Factory 30 "TapeOut" are the only two that can mine cryptocurrency. Factory 0 "Genesis" was created by the administrator address 0x571d...aF15, just like the other two (see the book "Contract Creator()", 2026-09-25). Most of the others are community-run.

Simulate the canvas in your own browser, it's free, doesn't require linking, and you can try it as many times as you want.

Clicking "Fabricate to Chain" will burn out the transistors and generate the circuit NFT, which cannot be undone; if the circuit is too large (about 40,000 bytes or more), it needs to be split into several sheets for fabrication.

The processor (also called "Project" on the official website) is a contract created from a factory contract. You can think of it as a "transistor factory + circuit numbering system":

Anyone can create a processor. The official website states the creation fee is 0.001 BNB..

When creating the processor, determine the total number of transistors (as used in the manifesto: the Intel 4004 has 2,300, how many do you have?), the cost per unit, and...

Revenue sharing. These are hardcoded at creation time.

When someone else manufactures transistors for your processor, the revenue is recorded in your name, and you need to manually withdraw it from the details page (the official website calls it "revenue withdrawal").

Each processor is numbered in the order it was created, starting from 0, and only increments.

This book, dated September 25, 2026, retrieved the factory contract, revealing a total of 1,043 processors. Several important processors are listed below.

Chinese edition source page 40

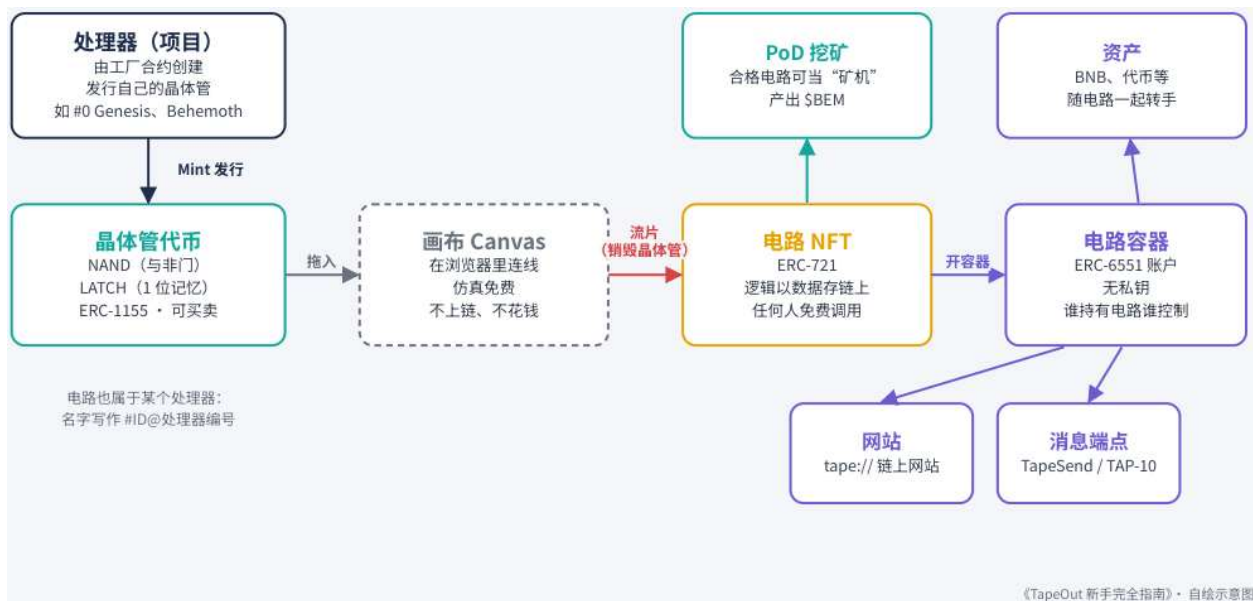
/ Number / On-chain Name / Common Name / Description / --- / --- / --- / --- / 0 / Genesis CPU / Genesis Processor / tape://Example website 4246.0.tape is on it / 1 / Blonskr_No1 / Behemoth / The official website code identifies this address as Behemoth; mining factor P=6 / 30 / TapeOut / TapeOut / Official default chip processor; Mining factor P=1 / (Addresses: Genesis 0x50A9...9DD9, Behemoth 0x1F5C...f12C, TapeOut 0xb102...a14C. This book is based on on-chain testing.) (2026-09-25) hint Only the circuitry on the Behemoth and TapeOut processors can participate in PoD mining (see the official mining page). Many "processors" mentioned in the

community are created by individuals or teams, and the official website will state: This is a "community processor (not official or certified)".

2.4 Canvas and Flowsheet

Canvas is the circuit design tool on the official website. You drag NAND and LATCH onto the canvas, and draw a wire from one output to another input to complete a connection. The manifesto states: "What you see is a wire, on a chain, which is a pointer assignment." Everything on the canvas is simulated in real time in your own browser. It's not blockchain-based, it doesn't cost money, and you can try and fail repeatedly.

Official website canvas (screenshot from this book on 2026-09-25): Two inputs A and Bare connected to a NAND gate, and the output is Y.



Chinese edition source page 41

Once you are satisfied, click "Fabricate and Upload":

The transistor tokens you used were actually destroyed; A circuit NFT (ERC-721, each one is unique) is generated on the chain.

The logic of the circuit exists on the chain as a data segment (officially called a "netlist") that specifies which gate connects to which gate.

There are two things to know. First, asingle tape-out transaction cannot accommodate a very large circuit: the official website states that it will fail if the data exceeds approximately 40,000 bytes, and large circuits need to be broken down into several tape-outs. Second, if you know how to use professional chip design software (such as Yosys and ABC), they can directly import/export BILIF files (a common format for describing circuit connections) into the canvas.

Notice

Tape-out is irreversible: once a transistor burns out, it cannot be recovered. Before tape-out, it is essential to verify the circuit logic on a canvas (Chapter 3 will explain how to do this).

2.5 Circuit: A function that is always on

Once the circuit is fabricated, it becomes a function that anyone can call:

A call is a read-only query (called a view call in blockchain terminology), it does not issue transactions, does not incur gas (on-chain transaction fees), and does not require a wallet connection; there is no "calling others" operation in the circuit, nor is there any writable state, so the manifesto states: if you accept a circuit from a stranger, "the worst outcome is that it returns an incorrect answer"; The canvas also allows existing circuits to be dragged into new designs as "black boxes" for reuse; this is called a reference (REF).

The manifesto refers to it as "LEGO-style processor manufacturing".

hint REF and Mining: Although the protocol allows references, the current version of the PoD mining rules prohibits circuits with references from participating in mining (see the "Algorithm" section on the official mining page). Chapter 5 will explain why.

2.6 Containers, Names, and Mining: Let's Get to Know Them First

Above the circuitry, there are three other things, each of which will be discussed in detail in a later chapter:

Circuit Container: Each circuit can open an on-chain account to store assets, host websites, and receive messages (Chapter 4).

.tape name: For example, 4246.0.tape means "circuit 4246 on processor 0" (Chapter 4).

PoD Mining: A qualified circuit can be used as a "mining machine" and BEM will be allocated according to the rules (Chapter 5).

Chinese edition source page 42

Key points of this chapter NAND is responsible for calculation, and LATCH is responsible for memory; any circuit can be built using only these two components.

Transistors are ERC-1155 tokens. Each processor has its own transistor contract, and transistors from different processors cannot be used interchangeably.

Processors are created by factory contracts, numbered starting from 0; as of September 25, 2026, there were a total of 1,043 units. Mining only recognizes Behemoth (#1) and...

TapeOut (#30).

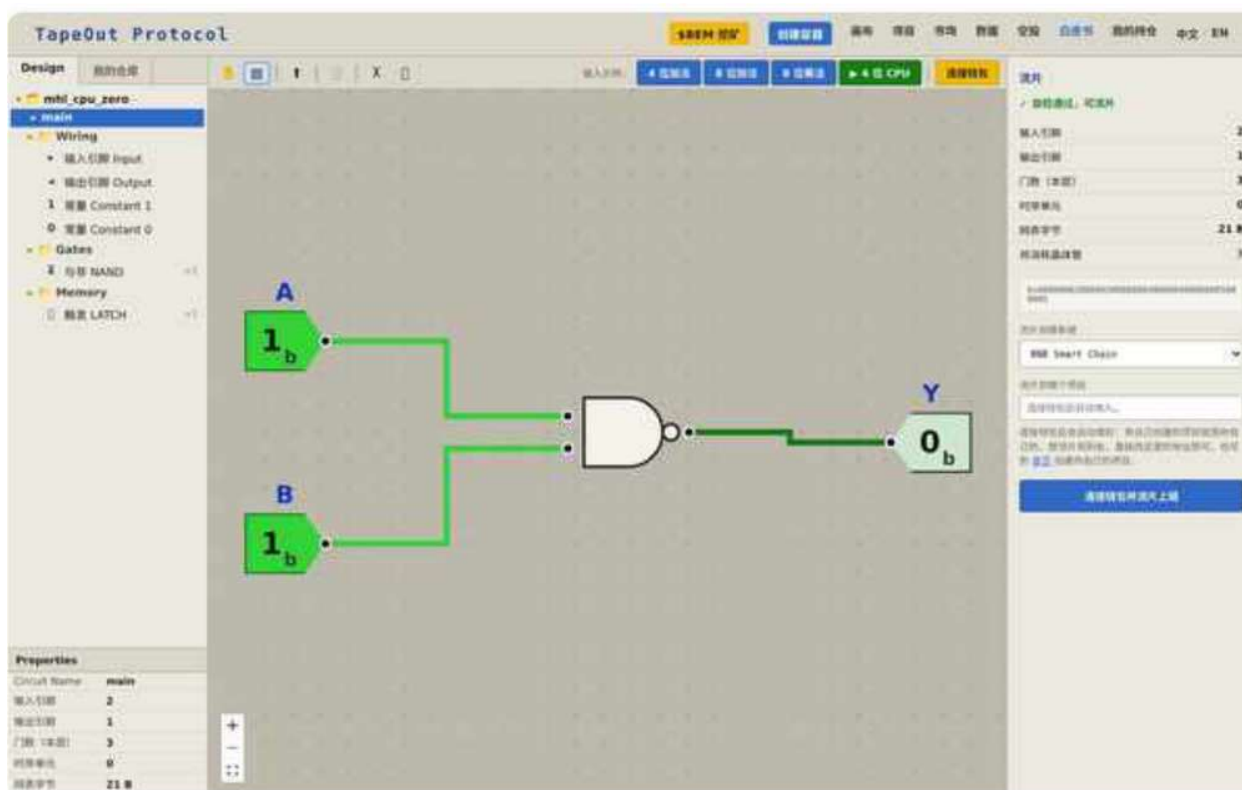
Canvas simulation is free; tape-out will destroy transistors and generate an ERC-721 circuit NFT, which is irreversible.

Circuits can be accessed by anyone in a free, read-only manner; current mining rules prohibit circuits with references (REF).

Further Reading [O02] Official Declaration (Original Definitions of Transistors, Circuits, and Factories) - TapeOut Official (Blonskr) / tapeout.net (PDF): <https://tapeout.net/TapeOut-Protocol.pdf> [M05]
TapeOut Protocol for Beginners: From NAND Gates to On-Chain Mining - Something PANews (Column): <https://www.panewslab.com/zh/articles/01a03820-6305-75be-9e73-12005316087a> [S03] "Understanding TapeOut How to Turn Logic into Circuits in Five Minutes" - TapeOut Daily (Editor's Work) / tapeoutdaily.ai: <https://tapeoutdaily.ai/learn/from-nand-to-processor> [S07] giang.me
Interactive Tutorial (Demonstrating Calls with Real Circuits) - giang.me / Personal Website: <https://giang.me/tapeout>

[X14] "TapeOut Explained: A Beginner's Guide" (English) - CUPID (@cupid_elvis) / X: https://x.com/cupid_elvis/status/2098670687296843777 "From Mining to On-chain Computing: TapeOut Through My Eyes" (Using a "Lego City" analogy to explain the hierarchy, 2026-08-29) - CUPID (@cupid_elvis) / X: https://x.com/cupid_elvis/status/2093526616257531954 [M03] "When Tokens Become Transistors" - BruceBlue / PANews (Column): <https://www.panewslab.com/zh/articles/01a00ffa-5c18-73d1-ae5f-1d86c8661394> Recommended reading To further understand the value logic, number classification, and transaction verification process for beginners using TapeOut numbers, please read the TapeOut DeWeb Ecosystem

Premium Number Beginner's Guide. This guide includes a complete eight-step process from identifying X Y to on-chain verification.



Chinese edition source page 43

Chapter 3: Wallets and First Impressions

This document was automatically generated from PDF and has not yet been independently proofread; please check the original text against the page number backtracking annotations.

Chapter 3 Wallets and First Impressions

This chapter will take you through the process of building your first circuit from scratch. We will try our best to explain whether each step costs money and whether it is reversible.

Notice

At the time of writing, this book was written without connecting a wallet or initiating any transactions; the screenshots below are from publicly available pages. The on-chain interface may change as the official website updates, so please refer to the actual interface you see and reread the security checklist first.

3.1 Prepare a wallet

TapeOut runs on the BNB Chain (Chain ID 56), so you'll need a browser wallet or mobile wallet that supports the BNB Chain. This section covers general wallet knowledge; TapeOut has not released any official wallet tutorials or specified wallets.

1. Create a new dedicated wallet. Do not use your main wallet, which holds large amounts of assets.
2. Write down your mnemonic phrase and save it offline. Your mnemonic phrase gives you complete control over your wallet; anyone asking for it is a scammer.

3. Switch to the BNB Chain mainnet. Most wallets have it built-in; when adding manually, enter 56 for the chain ID.

4. Transfer a small amount of BNB. BNB is used to pay gas (transaction fees) and buy transistors. Put in a little bit first, just enough to try a few times.

hint What is gas? Every change to the on-chain state (buy, sell, tape out, claim) is a transaction that requires paying a small amount of BNB to the network; this is gas. Read-only queries (such as calling circuits or viewing data) do not require gas.

3.2 Understanding the Official Website

Open www.tapeout.net. The top navigation includes: \$ BEM mining, create container, canvas, projects, market, data, airdrop, white paper, and my holdings. You can switch between Chinese and English in the upper right corner.

Connecting a wallet: According to the official website, connecting a wallet only reads your address and lists the circuits under your name; it does not initiate any transactions.

For actual spending transactions, your wallet will display a separate pop-up window asking you to sign up.

Project: Lists all processors. There are 1,043 at the time of the screenshot; you can also filter by "X Layer / Base" for other chains.

Chinese edition source page 44

Markets: Official transistor and circuit markets.

The mobile version of the official website (screenshot taken on September 25, 2026).

3.3 Step 1: Build a circuit on the canvas for free

Chinese edition source page 45

1. Open the canvas.
2. Drag in two input pins, one NAND gate, and one output pin, and connect the wires.
3. Switch the input to 0 or 1 and see if the output matches the truth table of NAND (output is 0 when both are 1).

This step is completely free; all calculations are done in your browser. You can keep making changes until you are satisfied.

hint Practice suggestion: First, build a NAND gate using the truth table in Chapter 2, then try building AND (AND gate) and OR (OR gate) gates using several NAND gates. The official statement mentions that a half adder requires 5 transistors and a full adder requires 9 transistors - this can be considered an advanced exercise.

3.4 Step Two: Verification Before Tape Fabrication

PANews columnist BruceBlue suggests a good habit in his beginner's guide: Before tape-out, perform a few trial calculations. He uses read-only calls like ``eval`` and ``step``: feed in a set of inputs, check if the output is correct, and it's free. Because once the circuit is tape-out, the logic is permanently fixed.

He also cautioned that the "BTC Miner" page on the official website was just a demo and shouldn't be mistaken for actual Bitcoin mining (Bruce Blue, "From Mint to TapeOut"). When founder @Blonskr posted the demo (original post, 2026-08-16), he jokingly remarked that it "might be the world's worst BTC miner" - it was used to demonstrate that on-chain circuits could run SHA-256.

3.5 Step Three: Preparing Transistors

Fabrication requires transistors, which can be obtained in two ways:

Minting: Minting occurs on the processor's details page at the unit price set by the creator. If a processor's transistors are already fully minted, the official website will display a message indicating "Minting is complete." "Sold out, cannot be taped out on it." Note: The two processors capable of mining, TapeOut (#30) and Behemoth (#1), have already been fully mined (2026-09-25 16:04 Singapore time). Contract details: TapeOut 1 million units, Behemoth 10...

(There are 10,000 of them, and the casting quantity is equal to the upper limit), so newcomers who want to mine need to buy them from the market.

Buy on the market: The official transistor market is a pure on-chain order book launched by founder @Blonskr on August 16th, charging a 1% transaction fee.

(Official website explanation). There are also many third-party marketplaces (Chapter 8), but none of them are officially endorsed.

During tape-out, the official website will automatically fill in the processor address: "If you have your own project, use your own; otherwise, it will default to the official TapeOut." If you want to participate in mining, you need to confirm that the circuit tape-out is on TapeOut (#30) or Behemoth (#1) (Chapter 5).

3.6 Step 4: Chip Fabrication

Click "On-Chain Streaming" on the right side of the canvas, and your wallet will display a transaction request. A few points to note:

Chinese edition source page 46

Anti-plagiarism protection: Before a transaction is officially recorded on the blockchain, it will wait for a few seconds in a public "queue area" (mempool). Someone might try to peek at it during this time.

Be the first to copy. The official website will first enable protection (known in the industry as "MEV protection") before sending out your circuit data (netlist). If protection is not established, the official website will stop and remind you; you should only continue if you explicitly accept the possibility of being preempted.

Originality Verification: The mining page supports submitting a "design commitment" before chip fabrication to prevent others from copying your design and claiming "best originality." The official website will notify you via phone.

Store a backup file in your mind containing a string of random numbers (salt) that only you know, to prove that you made the design first. Don't send it to anyone before you start digging (Chapter 5).

After successful tape-out, you will receive a circuit NFT, which can be viewed in "My Holdings". You can also bring the design back to the canvas and generate as shareable link.

Example of a "Successful TapeOut" result page: Displays the circuit NFT's ID, the processor it belongs to, the corresponding challenge, and the number of NAND/LATCH blocks burned. Note: This is the interface of the third-party tool TapeOut Market, not the official website. Image source: Something / "TapeOut Protocol \$BEM Beginner Mining Tutorial", PANews, <https://www.panewslab.com/zh/articles/01a03e64-8a61-7566-badf-f21a43a5fb35>



Chinese edition source page 47

3.7 Quick Fee Inquiry

The figures in the table below are from the official website's interface description (viewed on 2026-09-25) and on-chain testing in this book. Gas is calculated separately and will vary depending on network conditions.

/ Operation / Cost / Is it reversible // --- / --- / --- // Canvas Design, Simulation / Free // Calling Circuit (Read-Only) / Free // Create processor / 0.001 BNB / Irreversible // Transistor Mining / Unit price x quantity, plus as small protocol fee per transaction (unit price is determined by the processor creator;

protocol fee is based on the contract protocolFee(), for example, if TapeOut 0.0001 BNB and Behemoth 0 are read on 2026-09-25; see wallet pop-up for details). The two mining units are fully minted / Irreversible (can be resold) / Official market transaction / 1% commission / Irreversible / / Operation / Fee / Reversible / / --- / --- / --- /

/ Tap-out / Transistor destruction + Tape-out protocol fee + gas. The protocol fee is the official rule: the amount will be displayed on the official website when tape-out occurs; This book 2026-09-25 Read the contract TAPEOUT_FEE () TapeOut, Behemoth, and Genesis processors all have a fee of 0.0002 BNB / Irreversible / Open circuit container / 0.012 BNB (BNB Chain; 0.08 O KB on X Layer) / Irreversible / Transferring assets from the container / A very small protocol fee / Irreversible / Activate.tape name / See Chapter 4 (conflicting statements) / No refund / hint Where does the TapeOut protocol fee come from? Founder @ Blonskr announced on September 12, 2026: Tapeout has been upgraded from "Alpha Beta" to "Open Beta." Starting at 16:00 (Singapore time) that day, third-party exchanges and

mining platforms must read the TAPEOUT_FEE() function in the contract before tapering and pay this fee along with the transaction. Therefore, regardless of whether you tape out on the official website or a third-party platform, you will have to pay this fee; the amount is subject to the wallet pop-up.

3.8 Common pitfalls for beginners

Buying the wrong processor's transistors: Transistors from different processors are not interchangeable; mining only recognizes two processors.

The circuit was too large and the fabrication failed.

The interface will block netlists that exceed the limit in advance; circuits that exceed the mining "gate number gate" can only enter the unverified pool with very low returns (Chapter 5).

Forgot to claim earnings when selling circuits: Unclaimed BEM from circuits that are currently mining will be returned to the buyer along with the NFT.

If you forget to clear the container when placing an order: The assets in the container will be transferred out with the circuit and will not be included in the order price.

Clicked a fake URL: Always access the official website from bookmarks or by manually entering the URL.

Key points of this chapter Use a dedicated wallet to store only a small amount of BNB; the mnemonic phrase will never be leaked.

Chinese edition source page 48

Free canvas, irreversible tape-out: Simulate first, verify with read-only calls first, then tape-out.

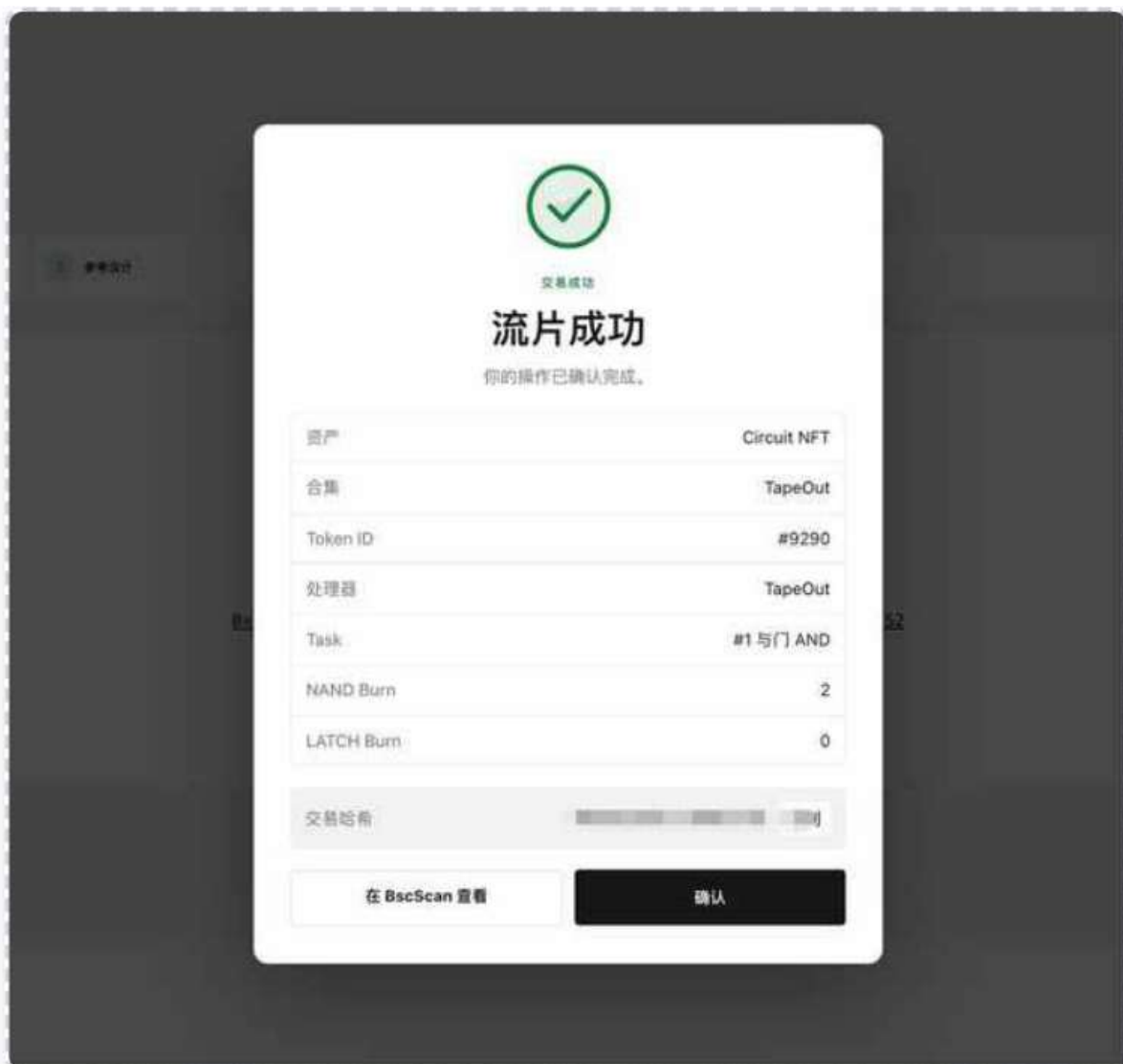
Transistors can be forged or purchased on the market; if you want to mine, choose TapeOut (#30) or Behemoth (#1), as these two machines are already fully forged and you need to buy them on the market.

Before tape-out, make good use of the official website's anti-premature protection and original evidence preservation.

Remember the cost breakdown: Processor 0.001 BNB, Container 0.012 BNB, Marketplace 1%, TapeOut Agreement Fee 0.0002 BNB (actual test on 2026-09-25), Gas Additional charges apply.

Further Reading [M04] " From Mint to TapeOut: A Beginner's Guide to TapeOut" - BruceBlue / PANews (Column): [https:// www.panewslab.com/zh/articles/01a00ff-7b7f-70ff-a188-0448b4d31797](https://www.panewslab.com/zh/articles/01a00ff-7b7f-70ff-a188-0448b4d31797)
[X15] " TapeOut Deployment, Purchase, and Mining Tutorial" - Mi1997_ (@Mizaza1997_) X: https://x.com/Mizaza1997_/status/2098236991246917749 [X13] " How to Play TapeOut, and Is It Worth Watching?" - Scientist Wuxie (@sciencedegens) X: <https://x.com/sciencedegens/status/2089101901929517495> [S06] Community Introduction Site " Getting Started with TapeOut" - Getting Started with TapeOut (Community Site) / tapeout-guide-public.vercel.app/ <https://tapeout-guide-public.vercel.app/>

[O01] Official website (the rules and regulations within the interface are the most authoritative source of payment information) - TapeOut Official / [tapeout.net](https://www.tapeout.net/): <https://www.tapeout.net/>



Chapter 4: On-Chain Websites and Tape:// Addresses

This document was automatically generated from PDF and has not yet been independently proofread; please check the original text against the page number backtracking annotations.

Chapter 4 Circuit Containers and Tape:// Address

Understand this chapter in one minute Each circuit can open its own on-chain account, called a "circuit container." With this container, the circuit can store assets, host websites, and send and receive messages. A website address looks like this: `tape://4246.0.tape/`. When opened, each file on the website is read directly from the chain by your browser, verified byte by byte, without relying on the website owner's server.

The container is an ERC-6551 account ("a wallet tied to an NFT"), with an activation fee of 0.012 BNB (0.08 on X Layer).

OKB); it has no private key, so whoever holds the circuit controls it.

The container follows the circuit: selling the circuit is equivalent to selling the container along with it; the container will be frozen while the circuit is pending.

The name format is "circuit number.processor number.tape", such as `4246.0.tape`.

Steps to access the website: Calculate the container Check the activation status Read the file Verify the SHA-256 (file "fingerprint"), and the results of at least two nodes must match.

The easiest way to access it is through the official gateway: `https://4246-0.tapekit.org/`, which requires no installation.

You can upload to the website using the HashPort hosting service, or you can directly call the contract yourself; beginners unfamiliar with circuits can also use the community's [service/tool/platform].

"Container Factory" opens containers with a single click.

Name activation fee: The document states 0.08 BNB/30 days, but the actual on-chain test for this book shows 0; just check the amount displayed in your wallet before making payment.

Until now, a circuit is simply a "computable NFT". On September 6, 2026, founder @Blonskr announced the launch of the circuit container system, adding a new capability to each circuit: having its own on-chain account. His explanation is easy to understand: "A circuit is logic, and a container is memory, so they can truly form a machine. For the first time, on-chain circuits can not only compute, but also record." With an account, a circuit can store money, host websites, and receive messages. This chapter explains how this works.

4.1 What is a circuit container?

A circuit container is an on-chain account tied to a circuit NFT, technically conforming to the ERC-6551 ("Token-Tethered Account") standard: allowing an NFT to have its own smart contract wallet.

The official documentation on containers can be summarized as follows (viewed 2026-09-25):

Opening a container requires payment: The BNB Chain website states 0.012 BNB, which is paid to the protocol receiving wallet - specifically, the administrator address 0x571d...aF15.

(A regular wallet, verified using the factory contract protocolWallet() in this book). The container activation fee on X Layer is 0.08 O KB (read 2026-09-25).

For X Layer account opening contract 0x536a...0106's FEE(), don't try to apply BNB's numbers. Afterwards, each time assets are transferred out of the container or "liquidated," a small protocol fee will be charged. According to the founder's launch announcement, fees for creating containers, transferring out of containers, and transferring assets all go into the national treasury and are converted into BEM, with 80% periodically burned (Chapter 6).

No private key: Control of the container is vested in the current holder of the circuit NFT. Whoever holds the circuit can take the contents of the container.

No nesting: Containers can hold various on-chain assets, but cannot contain circuits of this protocol.

Follow the circuit: When the circuit is transferred, the assets and continuous income in the container go to the new owner.

Placing an order means freezing: While a circuit is placed on the market, the container is frozen; and the assets in the container are not included in the order price.

Notice

When founder @Blonskr introduced the X Layer container (original post, 2026-09-23), he made a memorable statement: "Note that it is not a wallet. A wallet belongs to the person, while the container belongs to your circuit." When the circuit changes owners, the assets, contracts, website, and ongoing earnings within the container will all be transferred.

.

Because "whoever holds the circuit controls the container," the official website specifically reminds users that the container cannot bear "irreversible" commitments such as lock-up or staking.

Before selling the circuit, be sure to inventory and transfer all assets in the container.

4.2 What can containers do?

/ Uses / Instructions / See details / / --- / --- / --- / / Deposit Assets, Receive Payments / Anyone Can Transfer Funds to the Container Address / This Chapter / / Add a website to the linked list / One container, one website, with an address like tape://4246.0.tape/ / This chapter / Sending and Receiving Encrypted Messages / The container is TapeSend's "recipient address" / Chapter 7 / / Being the Owner of a Machine / In the official on-chain Linux demo, the owner of the machine is a container / Chapter 7 / 4.3. How to pronounce the name "tape"?

TapeKit's "tape:// specification v0.2" specifies that the standard way to write on-chain names is as follows:

<Circuit#ID>.<Processor Number>.tape For example, 4246.0.tape = circuit number 4246 on processor 0 (Genesis CPU). Its container address is 0x86DDaEF00401E3F10418398D67D7189fc458eA95.

Why must the processor number be included? Because the circuit numbering of each processor starts from 1, and "#12" appears between processors 0 and 7.

The processor contains two completely different circuits. Only "processor + # ID" can uniquely identify a circuit.

Chinese edition source page 51

The specification requires that the address bar accept the following format and be displayed uniformly as the standardized name:

/ Style / Example / / --- / --- / / Standardized Name / 4246.0.tape / / Suffix omitted / 4246.0 / / URL / tape://4246.0.tape/docs/ / / Webpage Alias / web+tape://4246.0.tape/docs/ / / Syntax / Example / / --- / --- / / Abbreviation / #4246@0 or 4246@0 / / Container Address / 0x86DD...eA95 / / Processor Contract #ID / 0x50A9...9DD9#4246 / The guidelines also clearly state that any other writing style must be reported as an error and cannot be guessed.

hint Regarding multi-chain names: The official gateway TapeKit.org states that websites on X Layer and Base have an area code before the processor number: 2 represents X Layer, and 3 represents Base; BNB Chain does not have an area code. For example, #1@2.344 (or 1.2.344) is circuit # 1 of processor number 344 on X Layer. X Layer Chinese website @ xlayer_zh announced on September 19, 2026, that the processor factory, circuit container, website repository, and TapeSend are now online on the X Layer mainnet; on September 23, the official website's "Containers" section also opened X Layer containers (activation fee 0.08 OKB). A few more words about the "Website Repository" section: Someone in the TapeKit repository raised Issue # 6 (TapeOut Labs repository, community submission,

September 23), pointing out that the website repository contract cannot be found on X Layer. After reviewing the data using X Layer public nodes on September 25, 2026, this book found that: Checking the BNB Chain addresses SiteRegistry (0xd006...E5e6) and DomainBinding (0x861E...3DB7) on X Layer indeed revealed no contract code. However, the TapeKit official kernel assigned a different set of addresses to X Layer (site registry 0xd6ef...adb6, name binding 0x6880...66f9, added to the registry on September 19th). These two addresses contain contract code on X Layer, and on-chain websites on X Layer (such as the game 1.2.231.tape in Chapter 8) can be read normally using the official kernel. Therefore, the website registry exists on X

Layer, just at a different address than on BNB Chain. On the other hand, the official website states that containers on this chain "can only be opened and viewed at present," and asset transfers and withdrawals are not yet available; if you want to build a website on X Layer, first make sure your tools support it. Base is still in the planning stages.

4.4 How is at ape:// address opened?

Understand this section in one minute In short: The browser calculates the container address based on the name, reads the file back from the chain piece by piece, and displays it only after verifying it byte by byte.

The container address is calculated according to rules, not by anyone's decision, so no one can impersonate someone else's website.

Files are stored on the chain in blocks of 24,000 bytes, with a maximum size of 8.4 MB for a single file.

Ask at least two different nodes, and the answer must be exactly the same for it to count; all files are read as they are at the same point in time on the chain, and there will be no half new and half old.

Chinese edition source page 52

Each website operates in its own "little room," so it can't hurt you or other websites.

This is the most "hardcore" part of this chapter, but you can understand it just by looking at the pictures.

How is the tape:// address resolved?

According to TapeKit's "tape:// specification v0.2" § 3-§5; taking 4246.0.tape as an example.

Input Check processor Calculate container address Check status tape://4246.0.tape/ factory.cpuAt(0) opener.accountOf(processor, 4246) Circuit exists? Container is open? = Circuit #4246 @ Processor 0 Genesis CPU Contract Is 0x86DD...eA95 blocked? Display Verify Read file OK Activation judgment Isolation run length = Declaration size SiteRegistry.fileInfo / read DomainBinding If they don't match, don't display SHA-256 = On-chain record 2 4,000 bytes per block, single file 8.4MB Name or container paid and not expired Multi-node consistent access method Each read must be from at least 2 nodes of different operators and give the same result Gateway: https://

4246-0.tapekit.org/ Any inconsistency Reject (not majority vote) Web alias: web+tape://4246.0.tape/ All reads pinned to the same block height Other writing: # 4246@0 / Container address / Processor address # ID TapeOut Beginner's Complete Guide / Self-drawn diagram The resolution process of tape:// address (based on TapeKit specification §3-§5, illustrated in this book).

In plain terms:

1. Locate the processor: Read the factory contract to obtain the contract address of processor number 0.
2. Calculate the container address: The container address is uniquely calculated from "chain, processor contract, # ID", and is not something that anyone can claim.

Chinese edition source page 53

3. Check status: Does this circuit exist? Is the container open? Is it blocked by this client?
4. Check if it is "activated": Clients that comply with the guidelines will only display names that are activated (see 4.6).
5. Read Files: Read files from the SiteRegistry contract. Files are stored in blocks of 2 4,000 bytes, with a maximum size of 8.4 MB per file.
6. Byte-by-byte verification: The length must equal the declared size, and the SHA-256 hash must equal the record on the chain. If they do not match, they will not be displayed.
7. Isolation Display: Each website operates independently and should not harm users or other websites.

Two "safety bottom lines" are in place throughout the process: each read must be returned by at least two nodes from different operators with completely identical results, and any inconsistency will result in rejection (majority rule will not be taken); when opening a website, all files are read in the same way as they were at the same moment on the chain (the same block), so that they are not half old version and half new version.

This book features a self-made animation - silent - 1:06 tape://. The video file can be opened at: videos/v3-tape-resolve.mp4 (included with the book, located in the dist/videos/ folder; HTML/ EPUB versions can play directly).

4.5 What to use to open?

TapeKit is an open-source browser engine released by its founder, @Blonskr, on September 16, 2026. According to him, it can be opened by entering `tape://4246.0`` or `#4246@0`` and pressing Enter, without going through cloud services or DNS; it queries several unrelated nodes simultaneously for each data block read, and only displays the data if the answers match and the hashes are correct. The TapeKit README lists several ways to open it:

Where / How to input / What is needed / --- / --- / --- / Any browser / <https://4246-0.tapekit.org/> (Official gateway) / No need to install anything / Chrome address bar quick search / tape + Tab + 4246.0.tape / Configure this once in the search engine settings / Chrome Extension / tape + space + 4246.0.tape / Install Extension / Web Link / web+tape://4246.0.tape/ / Allow once on the gateway homepage / Desktop application (planned) / tape://4246.0.tape/ / Application registration agreement with the system / hint

Chinese edition source page 54

The community is also developing "opening tools": Community developer SpongeMochi (@spongemochi) announced Wafer, a desktop browser with native support for tape:// (Mac version in beta testing), on September 24th; Xiao Zhanyang (@Xiao_zhanyang) modified a browser plugin based on the TapeKit plugin source code (customizable gateway, with bookmarks). These are all third-party works; please verify the source yourself before installing.

The official gateway tapekit.org homepage (screenshot from this book, September 25, 2026): Enter `"#4246@0"` or `"4246.0.tape"` to open it.

依据 TapeKit 《tape:// 规范 v0.2》 § 3- § 5; 以 4246.0.tape 为例



《TapeOut 新手完全指南》· 自绘示意图



Chinese edition source page 55

The example site 4246.0.tape, accessed through the gateway (screenshot from this book, September 25, 2026), is itself an introduction page for TapeKit; all files are read and verified from the blockchain.

4.6 How to upload the website?

The TapeKit R EADME provides two paths for site administrators:

A. HashPort Console (Hosting service, wallet signing): Select circuit, drag and drop into website folder, sign. Hash calculation and block division are all handled by it. HashPort Page description: Confirmation of wallet signatures twice, the remaining dozens of upload transactions are signed by a temporary wallet; the upload cost is only on-chain gas, approximately 0.01-0.03 BNB per M B; the service fee is displayed as 0 BNB; binding your own domain name is optional and free.

B. Directly calling the contract: `putFile` writes the first block (24,000 bytes), `appendChunk` appends block by block, `setFallback` Set the back page for as single-page application, and delete it using `removeFile`.

HashPort is the first commercial project based on TapeOut. Founder @Blonskr introduced it on the launch day (September 13, 2026): The team had talked to him many times, and he provided some technical guidance; by using the circuit container as the storage for the d App front-end, users don't need to worry about malicious authorizations or J S Trojans hidden behind buttons.

打开去中心化网站（BNB Chain、X Layer、Base）

网站存在 TapeOut 的电路容器里。输入它的链上地址，地址由两个数字组成：**电路编号**（#ID）和**处理器编号**（也就是项目编号）。两种写法都可以：

#4246@0 —— 0 号处理器（Genesis CPU）上的第 4246 枚电路；
4246.0.tape —— 同一个地址，写成名字的形式（电路编号.处理器编号.tape，例如 123.30.tape 就是 30 号处理器 TapeOut 上的第 123 枚）。

X Layer 和 Base 上的网站在处理器编号前加区号：X Layer 是 2，Base 是 3。例如 #1@2.344（也可以写 1.2.344）就是 X Layer 上 344 号处理器的第 1 枚电路。BNB Chain 不带区号。

所有网页文件都存在链上。这个页面只负责读取链上数据，不经手任何内容。

The screenshot shows a web interface for opening decentralized websites. At the top, there's a text input field containing the address "4246.0 / #4246@0 / 1.2.344". To the right of the input field is a black button with the white text "打开" (Open). Below the input field, there's a light gray box containing the text "让浏览器把 web+tape:// 链接交给这个网关打开" (Let the browser hand the web+tape:// link over to this gateway to open) and a "注册" (Register) button.

Chinese edition source page 56

HashPort homepage (screenshot from this book, September 25, 2026).

hint Even without circuit knowledge, you can create a container in a minute: Community author Xiao Zhanyang (@Xiao_zhanyang) created a "container factory" i d.tapeout.space (introduction post, 2026-09-23): one-click selection of serial number casting tape-out container activation, approximately 1 minute, using 1 NAND tape-out, with the lowest cost; the author says that with @benson_doge's upload tool, "at a total of less than 100 yuan" can create an on-chain website (this is the author's estimate, not verified in this book, and prices will fluctuate with transistor market conditions). Another community author, Spongemochi (@spongemochi), created tapeout.space, which visualizes all websites launched via TapeKit, and also includes a community gateway

and a one-click on-chain tool. These are all third-party tools, not officially endorsed.

When preparing a website, webmaster guidelines remind users to: use only static files, use relative paths for all files, preferably only use English characters for filenames, and calculate the filenames for each file beforehand.

SHA-256; To obtain the "100% on-chain" tag, your HTML/CSS cannot reference any off-chain addresses (fonts, scripts, and statistics code must be self-hosted).

4.7 Does it cost money to "activate" a name?

Conflict of statements Conflicting statement: Activation fee for tape name

TapeKit

基于 BNBChain 的 DeWeb 开源浏览器内核

现在就试：输入一个链上名字，例如 4246.0，用普通浏览器打开它。

[看看它是怎么验证的](#) [源码 - GitHub](#)

正文

基于 TapeOut Protocol 开发，通过电路容器的路径，直接访问在 HashPort 的存储器中上链的网站。完全开源。

打开一个网站有三种写法，指向的是同一个东西：

- 链上名字：4246.0.tape（0 号处理器的第 4246 枚电路）；
- 电路本身：处理器合约地址加 #ID；

完整合约地址：0x861E...3DB7

Chinese edition source page 57

The TapeKit README and specification §3.4 state: 0.08 BNB every 30 days, payable once for 1 -120 months, non-refundable; each container is charged once, and its on-chain name and bound domain name are considered activated.

The HashPort page displays as service fee of 0 BNB, and domain binding is "optional and free".

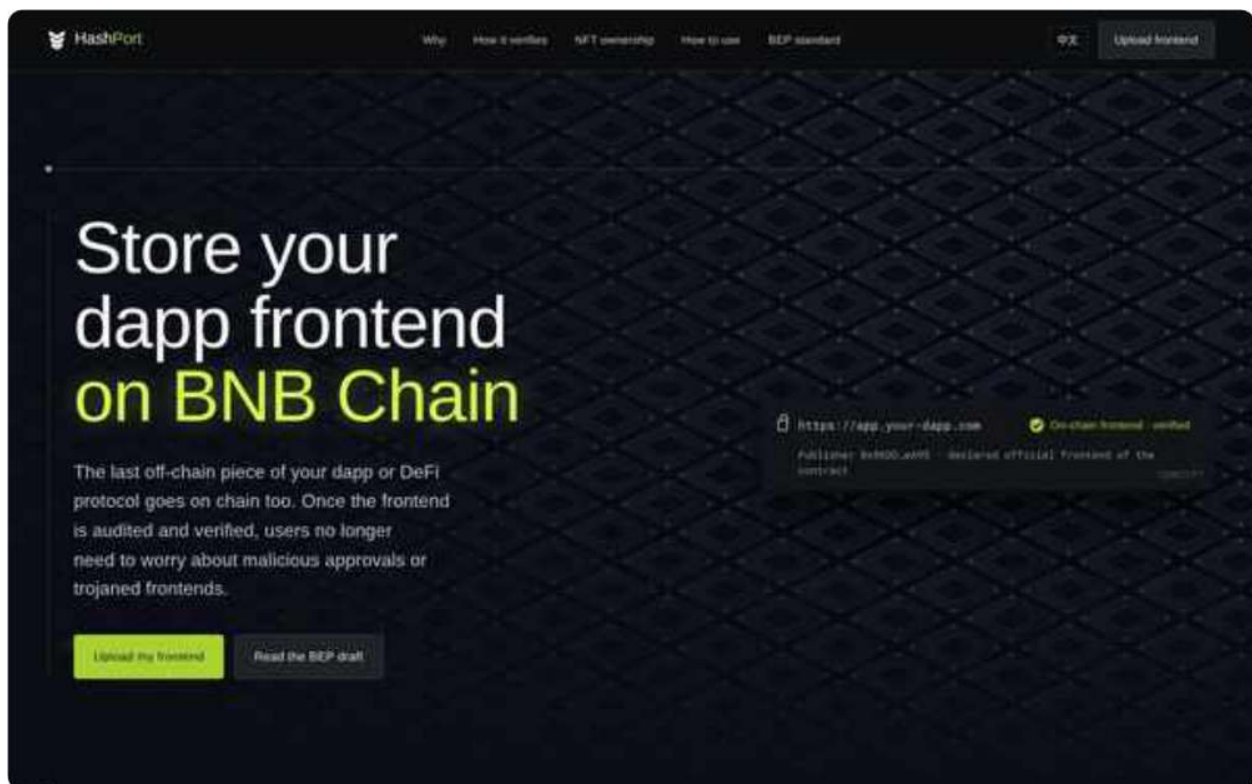
The community timeline says that the monthly fee will be waived starting September 19.

On-chain test results for this book (September 25, 2026): The current reading of monthlyFee() in the payment contract DomainBinding (0x861E...3DB7) is 0.

BNB. Fees may be adjusted in the future.

Conclusion: The monthly fee for activating your name when writing is 0 on the blockchain, but the document has not yet been synchronized; please refer to the amount displayed in your wallet at the time of your operation.

The guidelines are quite straightforward: anyone can read the data on the blockchain. The term "enabled" simply means that the official client agrees to only display websites that have been enabled; it does not mean that the data is locked.



Chinese edition source page 58

TapeOut DeWEB Ecosystem Premium Number Beginner's Guide This section is supplementary information and is not part of the original PDF page count.

First, understand the number.

TapeOut numbers are written as XY:

X is the circuit number (Circuit #).

Y is the processor number (CPU #).

For example, 8.888 represents the 8th circuit in processor 888; 7.0 represents the 7th circuit in processor 0. These numbers are not decimals, nor are they prices.

The same circuit number appearing in different processors represents different NFTs. Before viewing or trading, you should first confirm the processor number on the right, whether the processor comes from an official or trusted community source, and whether the processor is qualified for mining, before looking at the circuit number on the left.

Introduction: DeWEB Premium Numbers - Why Not Just Regular Premium Numbers?

Traditional premium phone numbers often attract attention due to their ease of memorization, limited availability, or ability to showcase identity. DeWEB premium phone numbers combine a unique numerical identifier, an on-chain URL, and publicly verifiable ownership. These attributes offer the potential for use and collection, but do not equate to a price guarantee.

1. Can be used as an on-chain URL. Circuit numbers can be mapped to TapeOut DeWEB addresses. The original description listed the following current cases:

8.888.tape, 1.888.tape (TAPQQ), 1.8.tape (Circuit Container Tool), 4.446.tape (On-Chain Match-3), and 1688.0.tape (BurnBEM Games/Tools Aggregator). These are examples at the time of release and are not a promise that the site will be permanently available.

2. Similar to the scarcity of early QQ numbers. Circuits are generated sequentially, and the number of short and early numbers is limited. Unlike platform accounts, on-chain assets exist within the protocol and chain.

Under the premise of normal operation and private key security, it is controlled by the holder's wallet.

3. Similar to the recognizability of premium mobile phone numbers. Numbers with patterns like 8, 6, 9, and repeating numbers (like "leopard numbers" or "sequential numbers") are easily recognizable and spread. The author believes that in the future, such numbering systems will...

It may become a symbol in full-chain social or communication; this is an application concept, not a widespread reality.

4. Similar to an on-chain license plate or identity card. Early numbers, smaller numbers, and special numbers can be publicly displayed, and the number, holder, and transfer records can also be verified on-chain.

5. The combination on the current chain is unique. On the current chain, the combination is circuit number.CPU number.

The combination is unique. The original description envisions that if cross-chain solutions are implemented in the future, other chains may add chain codes, such as 8.2.888 and 1688.3.0; whether BNB Chain's two-stage structure has additional scarcity is the author's judgment and not a given value fact.

6. It possesses the technical attribute of long-term holding. The serial number itself does not have the renewal fee of a traditional domain name or the monthly fee of a traditional number, but the ownership record, continuous accessibility, and actual control still depend on the continuous operation of the chain and protocol, as well as the security of the wallet and private key.

7. Potential for facilitating DeWeb application migration. If more websites and applications use on-chain content and DeWeb entry points in the future, short, easy-to-remember addresses may become essential.

It will gain more usage scenarios. This is potential for development, but it does not mean that the Internet is inevitably migrating, nor does it mean that prices will necessarily rise.

Other advantages

Chinese edition source page 59

Collectible value and mining value should be distinguished. Only processors and circuits that meet certain criteria have mining capabilities. CPU #1 and CPU #30 Some circuits in the CPU may have mining capabilities; the mining multiplier of CPU # 888 is 0, so the collection or website use of 8.888 and 1.888 should not be confused with mining value.

On-chain markets simplify the transfer process.

According to the design of the relevant market contracts, payments and asset transfers can be completed in the same transaction and the same block, reducing the traditional transfer process; however, risks such as gas, contract errors, front-end misrepresentation, and transaction failures still exist.

Can host website or application content. Circuits and their containers can serve as entry points for DeWeb websites, applications, and other on-chain content.

Information is publicly available and verifiable. Issuance records, current holders, and transaction records are searchable on-chain, which improves verifiability, but does not mean they do not exist.

Contract, interface, or transaction risks.

Risk Warning: The above content is an observation of the use value and collectible characteristics of DeWeb premium numbers and does not constitute investment advice or a guarantee of returns. Price and liquidity are uncertain; Long-term holding is contingent on the continuous operation of the blockchain and protocol, and the security of your wallet and private keys. Before trading, be sure to verify the network, contract, number, owner, order status, amount, and authorization details, and only use funds you can afford to lose.

Content based on Hong Qigong @CryptoLoser9 This is a summary of the explanation released on September 27, 2026.

Common types of premium phone numbers for beginners Short number: fewer digits, easier to input and remember.

Cultural symbolic numbers: such as 7, 8, 18, 66, 88, 168, 518, 520, 521, 666, 777, 888, 999, 1314.

Repeating numbers: Composed of the same digits, such as 11, 222, 8888.

Sequential and reverse numbers: such as 123, 4567, 987, 4321.

Palindrome: The same when viewed from front to back and from back to front, such as 121 and 1221.

Regular combinations: such as AABB, A BBA, A BAB.

Lucky combination: Composed of lucky numbers in an individual's or cultural context.

Hundreds, thousands and powers of 2: such as 100, 1000, 64, 128, 256, 512, 1024.

Technical and Encryption Culture Numbers: such as 56, 20, 721, 404, 1337, 3141, 2718.

Internet slang and year numbers: such as 69, 420, 2024, 2025, 2026.

Personal commemorative numbers: birthdays, anniversaries, or other numbers that are meaningful to the holder.

These classifications are merely tools for identifying number characteristics, not a unified pricing standard. When judging a number, one cannot only look at the circuit number on the left; one must also consider the processor number on the right and the corresponding contract.

Eight Steps for Beginners to Choose a Lucky Number 1. Prepare your wallet and gas. Switch to the BSC network, confirm your Chain ID is 56, and prepare sufficient...

Gas. Never reveal your mnemonic phrase or private key under any circumstances.

2. Define the purpose. First, determine whether the goal is for collection, identity display, DeWEB address, or mining. Collection value and mining purpose should be judged separately.

Chinese edition source page 60

3. Determine the target number. Record the target using XY format, and also note the CPU # and Circuit # separately to avoid confusing them.

4. Identify the number type. Determine if it belongs to as hort number, repeating number, sequential number, palindrome number, patterned combination, culturally significant number, or other category.

5. Locate and compare pending orders.

Compare similar phone numbers, different processors, and different market entry points. The seller's asking price is not the same as the actual transaction price, nor is it the fair value.

6. Complete five verifications before trading. Verify the CPU contract, C ircuit...

The current owner, whether the pending order is still valid, and the final transaction amount and Gas displayed in the wallet. CPU names may be duplicated, so you cannot determine the CPU name based solely on the name.

7. Check for risks and wallet alerts.

Double-check the network, contract, and amount. Assets or unclaimed earnings in the circuit container should not be included in the number price by default.

8. P ost-transaction o n-chain verification. Confirm that the owner has been updated on-chain before proceeding with container management, website deployment, or r elisting.

Risks You Must Know CPU names may be duplicated; the o n-chain number and contract should be used as the reference.

A premium phone number does not guarantee mining capability; mining ability depends on the specific processor and circuitry.

Circuit numbers are usually generated sequentially and cannot be freely chosen. Circuit # usually starts from 1, and CPU # starts from 0.

The status of pending orders and their current owners may change at any time, and must be r e-verified before a transaction can be made.

Third-party pages are merely entry points for queries or transactions; the final status is subject to o n-chain records.

On-chain transactions are irreversible. Do not authorize a uthorizations from unknown sources, and do not disclose your mnemonic phrase or private key to anyone.

The price and liquidity of collectibles are subject to risk; a rare or easy-to-remember number does not guarantee that it will be sold at the expected price.

This guide is for informational purposes only and does not constitute investment advice.

Further View Available at the 8.888 Premium Number Mall Browse relevant categories; before making any transaction, you should independently verify the contract, number, owner, order status, and final wallet balance.

Chinese edition source page 61

Key points of this chapter Circuit Container = ERC-6551 account bound to the circuit NFT, activation fee 0.012 BNB (0.08 OKB on X Layer); no private key, whoever holds the circuit controls it.

Containers cannot contain circuits, orders are frozen, and assets are not included in the order price.

Name format: <#ID>.<processor number>.tape; X Layer zone number 2 (deployed on September 19, website repository address is different from BNB Chain), Base zone number 3 (planned).

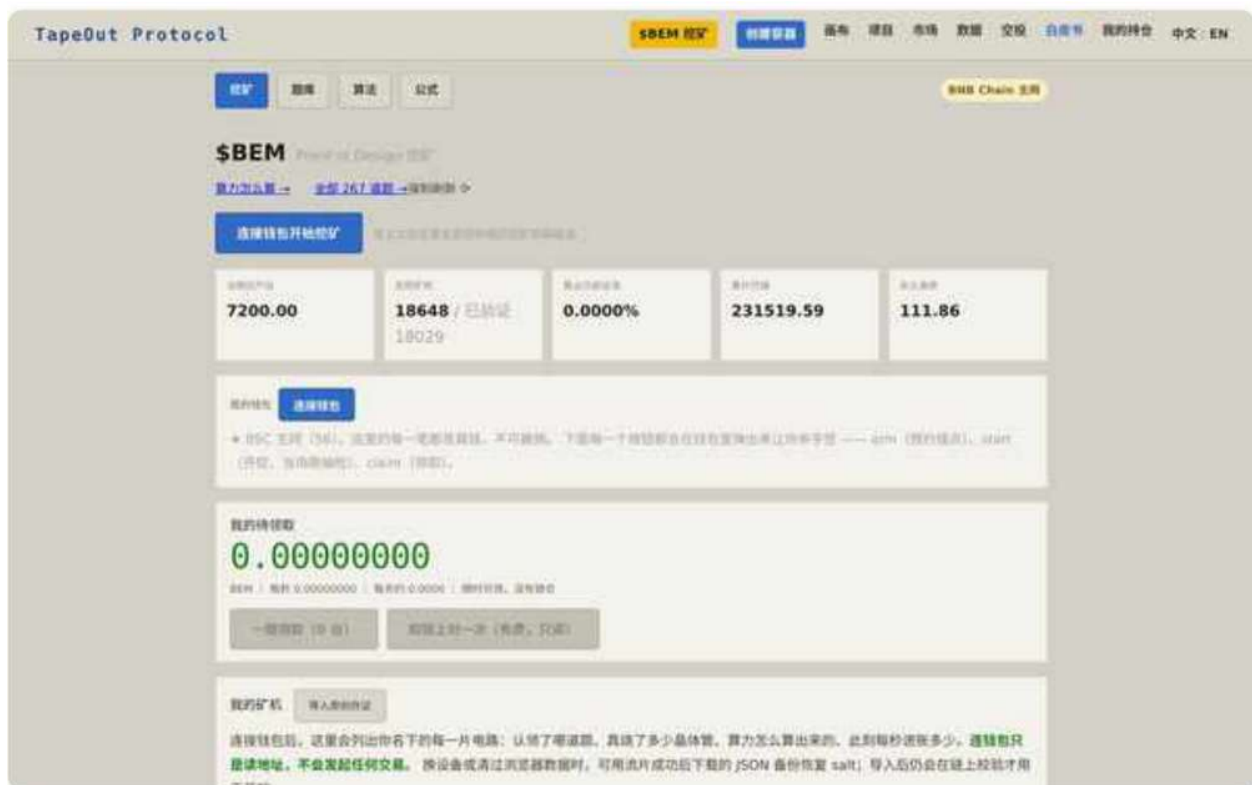
When opening a website: Calculate the container Check for activation Read the file S HA-256 b yte-by-byte verification 2 nodes are consistent.

The simplest way to access it is through the official gateway: <https://<ID>-<processor>.tapekit.org/>.

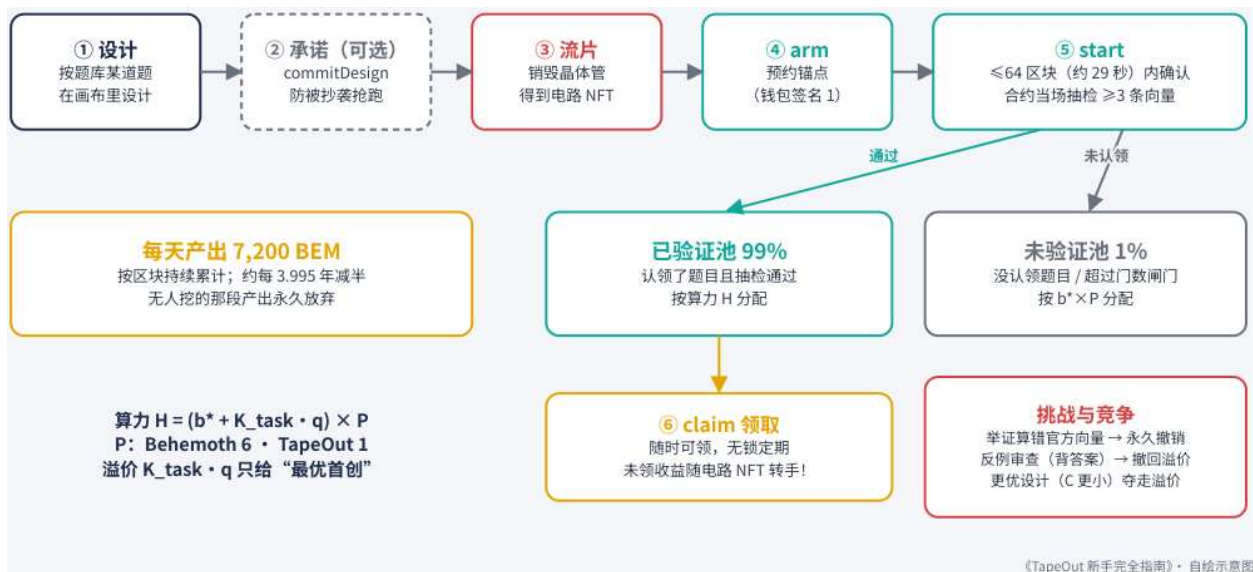
There is a discrepancy between the documentation and the on-chain information regarding the activation fee: the documentation states 0.08 BNB/30 days, while the current o n-chain reading is 0.

Further Reading [O12] tape:// Pure On-Chain Website Specification v0.2 TapeOut Labs / GitHub: <https://github.com/TapeOutProtocol/TapeKit/blob/main/SPEC.zh.md> Announcement of the launch of the circuit container by founder @Blonskr (September 6, 2026) - Blonskr (@Blonskr) / X: <https://x.com/Blonskr/status/2096372599714681190> TapeKit release post by founder @ Blonskr (September 16, 2026) - Blonskr (@Blonskr) / X: <https://x.com/Blonskr/status/2100131602714288258> TapeOut Container Factory: O ne-click container opening - Xiao Zhanyang (@Xiao_zhanyang) / X: https://x.com/Xiao_zhanyang/status/2102646836960141721 [O10] TapeKit README (including site administrator guidelines) - TapeOut Labs / GitHub:

<https://github.com/TapeOutProtocol/TapeKit> [O21] Official Gateway - TapeOut Labs / TapeKit.org: <https://tapekit.org/> [O22] HashPort - HashPort/hashport.ai: <https://hashport.ai/> [X08] " TapeKit: More Than Just 'A New T ool,' a Redesign of the Internet's Underlying Structure" - YW (@ywweb3) X: <https://x.com/ywweb3/status/2100188153416126908> TapeOut DeWEB Ecosystem Premium Number Beginner's Guide - Introducing DeWEB Why are premium phone numbers different from ordinary premium phone numbers? What is their value logic? What are their common types? What are the eight steps for beginners? And what are the o n-chain verification and risks before and after transactions?



[V-4NNB2m7mPbM] Video: TapeOut Launches X Layer Container - Renren Meilishuo/ YouTube:
<https://www.youtube.com/watch?v=4NNB2m7mPbM>



Chapter 5: PoD Mining (Part 1)

This document was automatically generated from PDF and has not yet been independently proofread; please check the original text against the page number backtracking annotations.

Chapter 5 PoD Mining: Mining Machines, Hashrate, and Payback Calculation

Understand this chapter in one minute PoD (Proof-of-Design) mining does not require a graphics card. Your computing power consists of two parts: the transistors burned (cost, which requires BNB to purchase), plus the difference in value between your design and the reference answer (premium, awarded only to the optimal design for each problem). These two are then multiplied by the processor coefficient. Therefore, the transistors burned are a basic requirement that everyone has. A good design can earn an additional premium on top of this, which can be substantial, even exceeding the basic premium (see the example in 5.6: premium approximately 7 0.6, cost 44). The entire network distributes 7,200 BEM daily based on computing power (verified pool).

Only circuits on the Behemoth (coefficient 6) and TapeOut (coefficient 1) processors can be drilled, and references (REF) are not allowed.

Process: Design (Optional commitment) Tape-out ARM reservation Start contract on-site random inspection Claim and receive at any time.

Computing power $H = (b^* + K_{\text{task}} / q) \times P$; The design premium is only given to the "best originality" of each problem.

99% of the output goes to the verified pool (based on computing power), and 1% goes to the unverified pool (based on cost x processor coefficient).

Payback period $\text{Cost} \div (\text{Daily BEM} \times \text{BEM}) \text{ Price}$; don't forget the chip fabrication protocol fee in the cost breakdown. The total network hashrate and coin price change daily, so leave sufficient margin when making estimates.

The mining contract has been sealed, and no one can change the formula and parameters now; anyone can report a mining machine with incorrect calculations without a deposit.

Two good habits: Claim before buying mining equipment; remember that the best original design may be replaced by a better one at any time.

Editor's Note The editor's summary of PoD: "It's not about electricity costs, it's about who has the better circuit design." TapeOut's mining is called PoD (Proof of Design). It's very different from Bitcoin mining: there are no graphics cards, no mining rigs, and no staking.

The official website summarizes it in one sentence:

Computing power = Your permanently wasted resources + How much better your design is than the reference implementation, multiplied by the processor factor. - tapeout.net/pod/ "Algorithm" page All rules in this chapter are from the four tabs "Mining/Problem Bank/Algorithm/Formula" on the official mining page (tapeout.net/pod/, viewed 2026-09-25). The mining tutorial provided by PANews / Something uses formulas consistent with the official website and can be used for comparison.

Chinese edition source page 64

What does this document say?

The official mining page is tapeout.net/pod/ The official mining page is essentially a "manual" for PoD mining, divided into four tabs: "Mining," "Question Bank," "Algorithm," and "Formula." It lays everything out in the open: how to mine, how rewards are distributed, parameter values, and the reasons behind those values. Even the fact that the parameters are "picked" is clearly explained. Just remember this: the formula...

"Workmanship cost" refers to the transistors you bought with real money and then burned out.

The question bank contains 267 official questions, each with a verified on-chain reference implementation.

Process: Design (Commitment) TapeOut ARM Start Sampling Inspection (at least 3 test vectors) Claim.

The computing power formula is $H = (b^* + K_{\text{task}} / q) \times P$, with parameters $b^* = 6$, $q = 3$, and $Q = 4$.

Reward Pool: 99% of the verified pool is awarded based on H , and 1% of the unverified pool is awarded based on $b^* \times P$; rewards generated during periods when no one mines are permanently invalidated.

7,200 BEM per day, halving approximately every 3.995 years, with a maximum of 21 million.

Anyone can submit a counterexample to challenge the "miscalculated mining machine" without a deposit.

The page previously stated that "there may be small-scale parameter optimizations later," which was the old statement before the mining contract was sealed; after the sealing on September 14, no one can change the on-chain parameters (see 5.8).

The page also displays real-time data: number of active miners, total verified weight across the network, and total mined amount.



Chinese edition source page 65

PoD mining page (screenshot taken on September 25, 2026, without wallet connection). The page displays real-time data such as the total daily output of 7,200 BEM, the number of active miners, and the total amount mined.

5.1 What is a "mining machine"?

The "mining rig" mentioned in the community refers to a circuit NFT that is participating in Proof-of-Device (PoD) mining. To be considered a qualified mining rig, it needs to meet the following requirements:

1. On a qualified processor: Only the circuits on Behemoth (#1) and TapeOut (#30) can be drilled.
2. No references (REF): The official "Algorithm" page states that this version "circuits with references are completely unqualified and cannot even enter the unverified pool."
3. The number of gates shall not exceed the specified number.

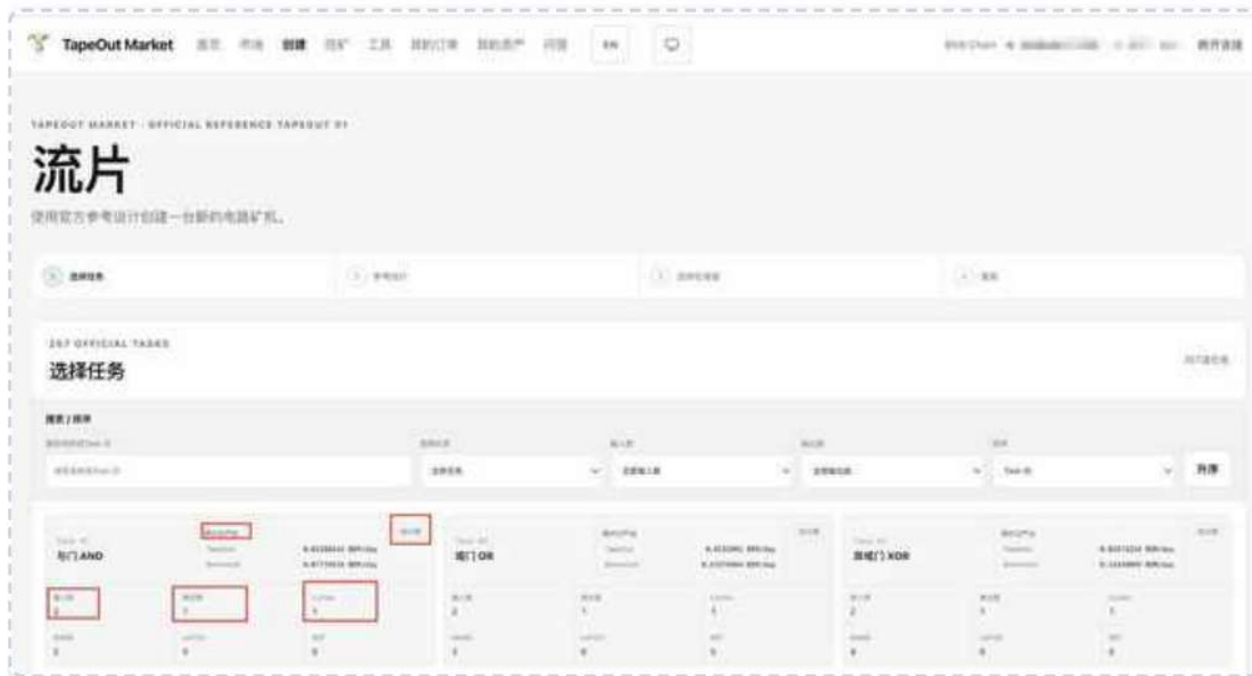
Circuits with too many gates cannot be fully processed during on-chain sampling and cannot be claimed as challenges; they can only enter the unverified pool. The specific upper limit is subject to the information displayed on the mining page.

Why is referencing prohibited? The official website explains it quite frankly: when referencing someone else's circuit, you don't actually burn through transistors again, but the circuit's "area" will still include the referenced portion. If referencing were allowed, a "shell" circuit that burns through almost no transistors could inherit someone else's design achievements. The official website states that security audits, tested on the local blockchain, showed that 14 "zero-burnout" circuits could reduce the share of the real designer from 100% to 2.8%. Therefore, the current rule is: behind every unit of computing power, there must be an equal number of irreversibly destroyed

transistors.

5.2 The Complete Mining Process

How does PoD (Proof of Design) mining work?



Chinese edition source page 66

The official rules are compiled from the algorithm and formula page of TapeOut.net/pod/ (viewed on 2026-09-25).

Design Commit (optional) Tapeout ARM Start CommitDesign based on a question in the question bank Destroy transistors Reserved anchor point 64 blocks (approximately 29 seconds) Confirmed design in canvas to prevent plagiarism and preemption Obtain circuit NFT (wallet signature 1) Contract on-site random inspection 3 vectors passed Pass Unclaimed Unclaimed Daily output 7,200 BEM Verified pool 99% Unverified pool 1 % Continuously accumulated by block; approximately halved every 3.995 years Claimed question and passed random inspection Unclaimed question / Exceeded gate number The output of the gate that no one mines is permanently abandoned Allocated by computing power H Allocated by $b \times P$ Computing

power $H = (b + K_task / q) \times P$ Claim to receive challenge and competition P: Behemoth 6 / TapeOut 1 Available at any time, no lock-up period Prove calculation error Official vector Permanently withdraw Counter-example review (memorize answer) Withdraw premium Premium premium K_task / q Only the "best original" projects receive unclaimed rewards, which can be transferred with the circuit NFT! Superior design (smaller C) captures the premium. TapeOut Complete Beginner's Guide / Self-drawn schematics PoD mining process (based on the official mining page, illustrated in this book).

1. Topic selection and design: The official question bank contains 267 questions (on the official mining page, September 25, 2026; founder @Blonskr wrote this when he announced the question bank on August 20).

(278 problems, reduced to 267 when uploaded to the blockchain on August 21st). Each problem has an on-chain, verified reference implementation. You design the circuit on the canvas according to the specifications of a particular problem. No problem drawing circuits: founder @Blonskr launched "One-Click Circuit making" on August 22nd, providing official example templates for each of the 267 problems; a single click is all it takes to create a mining rig circuit.

2. (Optional) Submit a design commitment: use commitDesign First, register a commitment to prevent others from seeing your transaction and copying it first. The official website will generate a backup containing a salt (a random number that only you know).

Do not share before mining; import it on the mining page when switching devices. The "Original and Certified" label you see during tape-out is its achievement, attributed to the founder.

@Blonskr explained on September 3 that this was to "disrupt scientists' commitment to getting ahead of the best." 3. Fabrication: Destroy the transistors to obtain the circuit NFT.

4. arm (reservation anchor): the first wallet signature.

Chinese edition source page 67

5. Start (Mining): The wallet signature is performed as second time and must be confirmed within 64 blocks (approximately 29 seconds). The contract will be immediately tested using the official "standard test questions" (...).

Test vectors are simply a few questions randomly selected from a set of "input standard answer" pairs, and your circuit is checked against the answer bit by bit; the number of samples is automatically determined by the size of the circuit, but it is never less than 3.

6. Claim (receive): You can claim at any time; there is no lock-in period.

Two prize pools:

Verified Pool (99%): Circuits that have claimed the problem and passed the random inspection, allocated according to computing power H .

Unverified Pool (1%): Circuits that have not claimed a problem or exceed the gate limit will be allocated according to $b^* \times P^*$ ("Even those who have not solved the problem will receive the work fee").

This book features self-made animation - silent - 1:06 How does PoD mining work?

Video file: videos/v2-pod-mining.mp4 (Included with the book, located in the dist/videos/ folder; can be played directly in HTML/EPUB versions)

5.3 Computing power formula, broken down one by one

Understand this section in one minute The formula looks intimidating, but it only asks three questions: how many transistors did you burn in this layer (b^* , which costs money to buy), how much your design saves compared to the reference answer (q), and on which processor (P).

Your computing power = number of transistors burned (cost) + design premium, multiplied by processor coefficient (Behemoth 6, TapeOut 1).

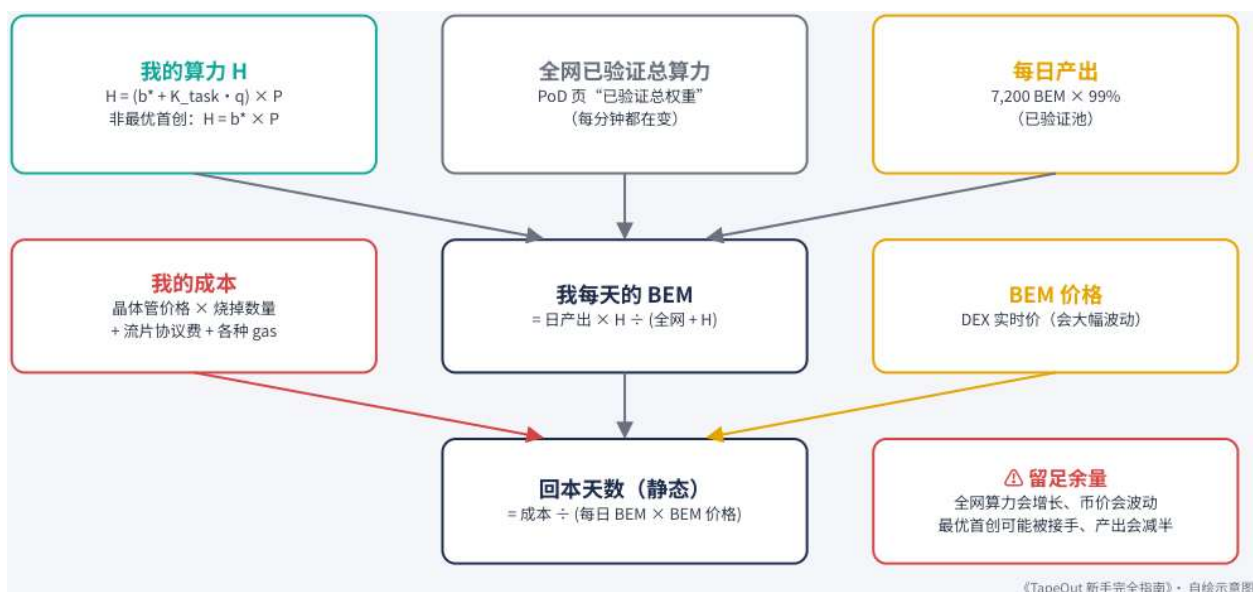
The design premium is only awarded to the circuit with the lowest design cost C_{in} each problem (optimal and original design); other qualified circuits only receive the cost price: $H = b^* \times P$.

$C = \text{Area} \times \text{Depth}$: The fewer components and the shallower the layers, the smaller C is; $q = \text{Reference Cost} \div \text{Your Cost}$, limited to between $1/4$ and 4 . Only circuits on Behemoth/TapeOut without references can be mined; circuits with more than the gate limit can only share 1 % of the unverified pool.

The mining contract has been sealed, and no one can change the formula and parameters now; anyone can report a mining machine with incorrect calculations without a deposit.

The official website's "Formula" page provides the following definition (symbols copied verbatim, explanations are our own):

/ Name / Formula / Plain Language / / --- / --- / --- / / Cost / $b^* = n + \text{_burn} / m$ / The transistors that actually burned out in this layer: n NAND + m LATCH ($\text{_burn} = 1$, both types have equal value and weight) / / Area / $A = g + s / \text{Circuit "size": Total number of components } g$, plus the number of LATCHs s multiplied by 6 (= 6, LATCH is physically larger) /



Chinese edition source page 68

/ Name / Formula / Plain Language / / --- / --- / --- / / Depth / d / How many gates must a signal pass through to travel from input to output? The more gates, the "slower" the circuit. / / Cost / $C = A / m \times d, 1)^{\wedge} /$ Combines area and depth into a single number, = 3: the greater the depth, the more "expensive" it is, encouraging parallel architectures / / Quality / $q = \text{clamp}(C_{\text{ref}} / C, 1 / Q, Q) /$ How much better your design is than the reference implementation, limited to $[1/4, 4]$ ($Q = 4$) / / Computing power / $H = (b^* + K_{\text{task}} / q) \times P$ / Working cost plus "design premium", multiplied by processor coefficient / The "Formula" tab on the official mining page (screenshot taken on September

25, 2026, without wallet connection). The upper part is the formula, and the lower part is the value and explanation of each parameter.

in:

K_{task} : The reference implementation of this problem.

C_{ref} : The cost of implementing this problem. The problem is frozen after the contract verifies the vectors on the spot when it is created, as "the problem setter cannot fill in false numbers." P :

Processor coefficient, Behemoth = 6, TapeOut = 1. The same design, when placed on Behemoth, has exactly 6 times the computing power.

This formula was first released by the founder @Blonskr on X on August 20th. He emphasized, "This is an ever-ending competition, not a first-come, first-served race." On the same day, when he released the problem bank, he added: the cost $b \cdot$ of the reference implementation for each problem is the K_{task} of that problem, and the cost is C_{ref} .

"Best First Idea" and Design Premium: The design premium K_{task} / q in the formula is only awarded to "Best First Idea". A problem is solved on a single processor, and there is only one Best First Idea - the one with the lowest design cost C . Whoever creates C ...

Chinese edition source page 69

Whoever achieves the smaller implementation gets to take it; the original owner is relegated to "non-optimal," retaining only the cost portion.

Best practice: $H = (b + K_{\text{task}} / q) \times P$ Non-optimal: $H = b \times P$ Official documentation states: If your design and reference implementation are the same size (same cost, $q = 1$), the optimal first-in-class computing power is exactly twice that of the non-optimal one. Generally, the multiple = $(b + K_{\text{task}} / q) \div b$. For example, in the 5.6 example, $b = 44$, $K_{\text{task}} = 60$, and $q = 1$, the multiplier is $(44 + 60) \div 44 = 2.36$; in the example, $q = 1.176$, resulting in approximately 2.6 times. If the values of the two designs are exactly the same, arbitration is based on "effective commitment > earlier commitment > earlier tape-out".

Challenges and Revocations: Anyone can submit a "counterexample vector" at any time to prove that a mining rig miscalculated the official vector, without needing to stake. Once the evidence is valid, the mining rig's eligibility will be permanently revoked. Additionally, the "kick" operation only removes the best original identity and design premium; basic mining continues as normal.

Why is this necessary? Founder @Blonskr explained the reason when announcing the addition of the "counterexample review" on September 1st: During mining, only 3-32 official vectors are sampled. Some miners might "memorize the answers" - out of 534 optimal slots across the entire network, the official system exhaustively checks each one, finding 80 circuits that pass the sampling but deviate from the reference implementation in all inputs, accounting for 13.99% of the verified pool weight. After the counterexample review takes effect at 00:14 (Singapore time) on September 3rd, such circuits will have their design premiums withdrawn once reported; honest miners will be completely unaffected.

The example interface for selecting a problem in a third-party tool shows "267 OFFICIAL TASKS" and reference data for each problem. Note: This is the interface of the third-party tool TapeOut Market, not the official website. Image source: Something / "TapeOut Protocol \$ BEM Beginner Mining Tutorial", PANews, <https://www.panewslab.com/zh/articles/01a03e64-8a61-7566-badf-f21a43a5fb35>

5.4 Output and Halving

Chinese edition source page 70

According to the official website's "Formula" page:

Hard cap: 21 million BEMs (8 decimal places).

Initial output: 7,200 per day.

Halving: Halving occurs approximately every 210,000 x 600 seconds 3.995 years.

During periods when no one is mining: output from that period is permanently abandoned, with no reissue or extension.

The network-wide mining started on August 21, 2026 at 21:45:32 (Singapore time, or 13:45:32 UTC). On the day of the start of mining, founder @Blonskr announced that he would give up the 0.2% transaction tax and related ownership of BEM, stating that "everyone has equal rights to participate in mining, without any additional privileges"; only a 30-minute lockout window was retained during deployment to put the 267 questions on the chain, complete pricing on PancakeSwap, and add liquidity.

Real-time snapshot (September 25, 2026, mining page showing no connected wallet): 18,648 active miners (18,029 of which are verified); total verified weight 1,517,905; total unverified weight 40,630; approximately 111.86 BEM permanently abandoned. These numbers change every minute. The total number of BEM minted, consistently measured in contract readings throughout the book, is approximately 231,800 (as of September 25, 2026, 15:21, see Chapter 6).

5.5 Payback Calculation: Method

Understand this section in one minute Calculating your return on investment only requires four steps: calculate your computing power, calculate how much BEM you can earn each day, calculate your total spending, and divide the two. The difficulty lies not in the arithmetic, but in the fact that these inputs change daily.

Daily BEM $7,200 \times 99\% \times \text{your H} \div (\text{total verified computing power across the entire network} + \text{your H})$.

Cost = Transistor cost + Tape-out protocol fee + Gas for tape-out, ARM, start-up, and claim.

Payback period $\text{Cost} \div (\text{Daily BEM} \times \text{BEM price})$.

With the total network computing power doubling, the payback period also doubles; let's estimate based on a conservative price.

Notice

This section only teaches the methods and does not constitute investment advice. The calculations below are "static" estimates: they assume that the total network hashrate, coin price, and your optimal first-mover status remain constant. In reality, these three factors change daily, so please leave sufficient margin when making estimates: calculate hashrate by doubling and coin price by using a conservative estimate, so you have a better understanding of the situation.

.

Chinese edition source page 71

Break-even calculation: Only the method is explained, not the conclusion.

All inputs must be retrieved in real-time from the blockchain/official website; see Chapter 5 for a complete example.

My hashrate H Total verified hashrate of the entire network Daily output $H = (b + K_{\text{task}} / q) \times P_{\text{PoD}}$
page "Verified Total Weight" 7,200 BEM x 99% Non-optimal first creation: $H = b \times P$ (changes every minute) (Verified pool) My cost My daily BEM BEM price Transistor price x Number burned = Daily

output $\times H \div (\text{Total network} + H)$ DEX real-time price (will fluctuate greatly) + slicing protocol fee + various gas Note that you should leave enough margin for break-even days (static) Total network hash rate will increase, coin price will fluctuate = Cost $\div (\text{Daily BEM} \times \text{BEM price})$ Optimal first creation may be taken over, output will be halved TapeOut Beginner's Complete Guide / Self-

drawn diagram The approach to break-even calculation (illustrated by the author of this book).

The calculation involves four steps:

1. Calculate your computing power H : Use formula 5.3. For non-optimal first-time calculations, only calculate $b^* \times P$.

2. Calculate how many BEM you can get each day:

Daily BEM $7,200 \times 9\% \times H \div (\text{Total verified computing power across the entire network} + H)$ 3.

Calculate your total cost: Transistor cost (unit price $\times$ number burned) + tape-out protocol fee (on-chain reading 0.0002 BNB/time as of 2026-09-25) + gas for tape-out and mining + other transaction fees.

4. Calculate the static payback period:

Break-even time Total cost $\div (\text{Daily BEM} \times \text{BEM price})$

Chinese edition source page 72

5.6 Payback Calculation: A Complete Example

Example numbers, not actual data Note that all the following are example numbers, not actual data.

They are only used to demonstrate the calculation steps and do not represent any real circuits, real prices, or real profits.

Step 1: Calculate computing power Your circuit burned out 40 NAND flash units and 4 latches: $b^* = 40 + 1 \times 4 = 44$ Area $A = 68$, Depth $d = 5$: Cost $C = 68 \times 53 = 8,500$ The reference cost for this problem is $C_{\text{ref}} = 10,000$: $q = 10,000 \div 8,500 = 1.176$ (between 0.25 and 4, no truncation required).

This problem has $K_{\text{task}} = 60$, and the processor is TapeOut ($P = 1$).

If you are the first to create the optimal solution: $H = (44 + 60 \times 1.176) \times 1 = 114.6$ If not optimally original: $H = 44 \times 1 = 44$ Step 2: Calculate the daily BEM (assuming the total verified computing power of the entire network = 2,000,000).

Best practice: $7,128 \times 114.6 \div (2,000,000 + 114.6) = 0.408$ BEM/day Non-optimal: $7,128 \times 44 \div (2,000,000 + 44) = 0.157$ BEM/day Step 3: Calculate the cost (assuming transistor cost of 0.0002 BNB/unit, and a total tape-out agreement fee and gas cost of 0.003 BNB).

$44 \times 0.0002 + 0.003 = 0.0118$ BNB

(For simplicity, the chip fabrication agreement fee is included in the 0.003 BNB "gas and transaction fees".) Let's quickly verify the multiples of 5.3: Optimal first-time (114.6) $\div$ Non-optimal (44) 2.6 times. This is more than "exactly 2 times" because $b^* (44)$ is smaller than $K_{\text{task}}(60)$ and q is greater than 1.

Step 4: Calculate the payback period (assuming BEM = 0.001 BNB) Best-in-class time: $0.0118 \div (0.408 \times 0.001) = 29$ days Non-optimal: $0.0118 \div (0.157 \times 0.001) = 75$ days Sensitivity: If the total network hash rate doubles to 4,000,000, the payback period for the best first creation will also double to

approximately 58 days; if the coin price halve, the number of days will double again. If your best first creation is taken by someone else, it will be calculated according to the 75-day period.

Chinese edition source page 73

5.7 Substitute your own real numbers

/ Variable / Where to find / Note / / --- / --- / --- / / n, m, g, s, d / Statistics of your circuit on the canvas/mining page / Only counts true burns at this layer, excluding references (and currently, references are disabled) / / K_task, C_ref / Mining page "question bank" / Each question is different, and the question is frozen after it is created / / P / Behemoth 6, TapeOut 1 / Check which processor your tape-out is on / / Variables / Where to find / Note / / --- / --- / --- / / Total verified hashrate across the entire network / Mining page "Verified Total Weight" / Changes every minute (the official website gives an example: the total hashrate of the unverified pool can differ by 5% within an hour), please use a conservative

value when estimating / / Transistor price / Market transaction price (for other processors, see the minting price on the details page) / The transistors for the two processors used for mining (Behemoth, TapeOut) were fully minted as of 2026-09-25, so only the market transaction price can be viewed; there are significant differences between different processors / / Gas and chiplet protocol fee / Estimated value displayed before wallet signing / Chipletizing, ARM, start, and claim all require gas; chipletizing also requires a protocol fee (0.0002 BNB as of 2026-09-25) / / BEM price / DEX (such as PancakeSwap) real-time price / Volatically fluctuates, please estimate conservatively /

After connecting your wallet to the mining page, it will display "Based on the current total network hashrate, it is estimated to be approximately X BEM/day". The official website itself also emphasizes: This is "only a real-time estimate at this moment, not a promise".

To see overall online trends, you can open the TapeOut Mining Intelligence dashboard created by Dune user [konomeest](#), or other data sites listed in Chapter 8.

hint How to compare prices for mining rigs? Community author Benson (@benson_doge) proposed a useful approach in his long article, "When NFTs Begin Continuous Production:

An A MM Approach Based on Daily Production Capacity" (2026-09-23): Don't just compare the price per unit, but rather "how many BNB it costs to buy 1 BEM/day production capacity." BruceBlue (@BruceBlue) also cautioned that q-values and validation status can change, making fixed-capacity pricing risky. Both articles are research discussions, not trading advice.

5.8 Pitfalls You Must Know About Mining

Claim before you sell: Unclaimed earnings will go to the buyer along with the Circuit NFT. The official website also reminds you that anyone can access the "claim" button, and earnings will be distributed to...

The holder at the moment of receipt - when buying circuits, be aware that the seller may take them before you complete the transaction.

Cool-off period after excavation: After excavation is suspended, it will take 1,200 blocks (about 9 minutes) before excavation can resume.

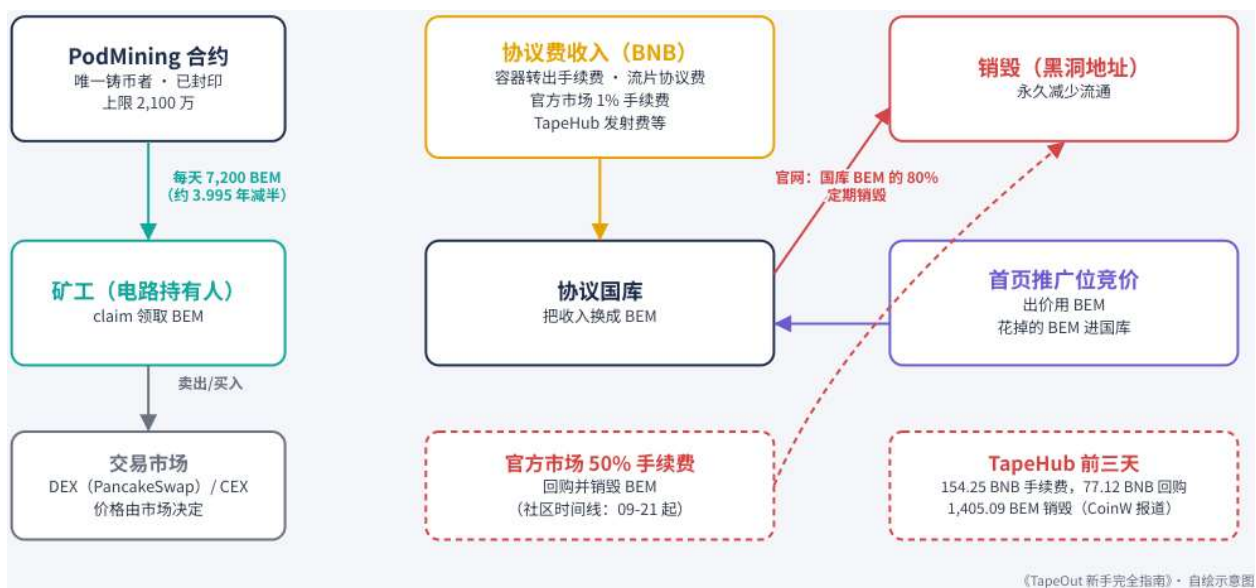
Anchor point expired: More than 64 blocks between arm and start, need to start over.

Being the best and first is not permanent: if someone else makes a better design, your premium will become zero.

The rules have been frozen: The official website's formula page previously stated that "there may be minor parameter adjustments later, but the main structure will not be changed." The founder confirmed this on August 20th.

When the daily formula was released, it was also mentioned that "small-scale fine-tuning cannot be ruled out" - these are all old statements from before the sealing. September 14th mining contract.

PodMining is already sealed (isSealed = true, owner becomes zero address, Chapter 6), and the formula is locked after the problem is created (setFormul).



Chinese edition source page 74

a) Therefore, no one on the chain can change the parameters now. The old statement on the official website is based on the on-chain state.

"Memorizing answers" will be reported: anyone can submit a counterexample for review if the circuit only fits the sampling points and does not actually solve the problem, and the design premium will be withdrawn.

Chinese edition source page 75

Chapter 5: PoD Mining (Part 2)

This document was automatically generated from PDF and has not yet been independently proofread; please check the original text against the page number backtracking annotations.

How are parameters determined? The official website explains it clearly: "(=6) and (=3) cannot be labeled using existing on-chain data... These two numbers are derived from sampling, not fitted data." All parameters are written on the chain and can be publicly verified, but are locked after the problem is set.

Key points of this chapter PoD mining doesn't rely on hardware: the foundation of computing power is "burned-out transistors (cost)," and the optimal design for each problem receives an additional "design premium." The premium may be even greater than the base price.

Qualified miners: On Behemoth/TapeOut, without R EF, and not exceeding the gate limit.

Process: Design (Commitment) TapeOut A RM Start (64 blocks, 3 samples) Claim.

$H = (b^* + K_{\text{task}} / q) \times P^{**}$, the premium is only given to "best first"; Behemoth coefficient 6, TapeOut coefficient 1.

7,200 BEMs per day, 99% of which are given to the validated pool, halving in approximately 3.995 years.

Break-even point $\text{Cost} \div (\text{Daily BEM} \times \text{Coin Price})$; Cost includes transistors, chip fabrication protocol fees, and gas. The total network hashrate, coin price, and the best first-to-market status will all change; this estimate includes sufficient margin.

The mining contract was sealed on September 14th, and no one can change the rules and parameters.

Further Reading [O24] Official PoD Mining Page (including question bank, algorithm, formula) - TapeOut Official / TapeOut.net: <https://tapeout.net/pod/> Founder @Blonskr "Core Formula for Mining Released!" (2026-08-20) - Blonskr (@Blonskr) / X: <https://x.com/Blonskr/status/2090420634094329989> Founder @Blonskr's "PoD Adds New Counterexample Review" (September 1, 2026) - Blonskr (@Blonskr) / X: <https://x.com/Blonskr/status/2094644591425401189> TapeOut Mining Intelligence Dashboard - ekonomeest / Dune: <https://dune.com/ekonomeest/tapeout-mining-intelligence> [M06] "TapeOut Protocol \$BEM Beginner Mining Tutorial" - Something New PANews (Column): <https://www.panewslab.com/zh/articles/01a03e64-8a61-7566-badf-f21a43a5fb35>

图1 从元件认购到挖矿奖励：两条参与路径



Chinese edition source page 76

[X10] "The Difference Between BEM Mining Logic and BTC" - MoX (@JiangX68993) X: <https://x.com/JiangX68993/status/2099803662000546246> [X16] "4 Steps to Teach You How to Dig for BEM" - Huang Zhou (@Web32049) / X: <https://x.com/Web32049/status/2092397993047789808> [V-93bitmap-7] Video: Episode 7 of the Popular Science Series (Principles of Optimal Mining Machines) - 93.bitmap (@93bitmap) / X (Video): <https://x.com/93bitmap/status/2094365075356393931> [S11] TapeOutScan Data Explorer - TapeOutScan / tapeoutexplorer.com: <https://tapeoutexplorer.com/>

Chinese edition source page 77

Chapter 6: BEM Casting

This document was automatically generated from PDF and has not yet been independently proofread; please check the original text against the page number backtracking annotations.

Chapter 6 BEM Token: Issuance, Sealing, Buyback and Burn

Understand this chapter in one minute BEM is a token produced through Proof-of-Device (PoD) mining. Its rules are very strict: the total supply is capped at 21 million tokens, and only the mining contract can produce them; the mining contract is permanently locked and cannot be altered. Protocol revenue is converted into BEM, with the majority of it periodically burned.

Contract address 0x5ce0...695a, 8 decimal places; approximately 231,800 tokens have been minted (contract totalSupply, on-chain testing as of September 25, 2026, as of this book).

(15:21 Singapore time), approximately 1.1% of the upper limit.

It produces 7,200 coins per day, which halves approximately every 3.995 years; any production that is not mined is permanently lost.

The mining contract PodMining was sealed on September 14th, and the owner is now a zero-address address (Founder's Announcement +).

According to on-chain testing in this book, the mining rules, output curve, and upper limit cannot be changed.

Official website rules: Agreement fees go into the national treasury and are converted into BEM, of which 80% are periodically destroyed.

Founder's Announcement: 50% of TapeHub's treasury revenue will be used to buy back and burn BEM. Community and Media Coverage: 50% from the official market.

The transaction fees were used for buybacks and burns; TapeHub used 77.12 BNB to buy back and 1,405.09 BEM in the first three days.

The economic design of V2 is still in the preview stage and has not yet been launched.

Verify the contract address before purchasing and make sure you are buying the genuine BEM product.

BEM is automatically produced through PoD mining and is the most frequently traded asset in the TapeOut ecosystem. This chapter explains its origins, its future, and which rules have been "locked down" and which are still just announcements. Price is not discussed in this chapter.

6.1 Basic Information (On-chain Testing of This Book)

The following data was obtained by directly reading the BNB Chain contract on September 25, 2026 (total supply read at 15:21 Singapore time, block 123,908,049):

```
/ Project / Value / --- / --- / Contract Address /  
0x5ce033B2bFCa3Af30b3e8C8457DeaF776A8b695a / Name/Symbol / BEM / BEM /
```

Chinese edition source page 78

```
/ Decimal places / 8 / Maximum Supply (MAX_SUPPLY) / 21,000,000 / Sole minter minter /  
PodMining mining contract 0x7E2E...7b46 / Current Total Supply / Approximately 231,830 (or  
approximately 231,800 tokens, as of 15:21 Singapore time on September 25, 2026) / Is there an  
administrator? / No administrator, the token contract itself cannot be modified. / In other words, as of  
the time of writing, only about 1.1% of the maximum limit has been minted, and a part from the mining  
contract, no other addresses are capable of minting BEM. This is consistent with the founder's...
```

@Blonskr's announcement on August 21st regarding the launch of \$BEM matches: total supply of 21 million, 8 decimal places, standard ERC20, "minting rights are held by the mining contract, and no wallet can manually increase the supply," and the contract source code has been verified by BscScan.

"Destroying" will not reduce the total supply: the BEM contract does not have a destroy function (the book checked the contract bytecode and there is no burn / burnFrom).

Therefore, totalSupply represents the cumulative amount minted; the "destruction" commonly referred to involves transferring BEMs to the black hole address 0x...dEaD, which does not reduce the totalSupply. (2026-09-25 16:04 (Singapore time)) This book mentions approximately 1,827 BEMs

(1,826.99) in the black hole address, which are still counted in totalSupply (the 231,800 mentioned above is the reading at 15:21).

hint How do I verify it myself? Open the BEM token page in the block explorer BscScan, and check the totalSupply in "Read Contract".

MAX_SUPPLY Minter does not require a wallet connection.

6.2 Issuance Schedule

BEM can only be obtained through PoD mining (Chapter 5):

7,200 tokens are issued daily, of which 99% go to the verified pool and 1 % go to the unverified pool; It halves approximately every 3.995 years; During periods when no one is mining, the output is permanently abandoned (approximately 111.86 coins were abandoned in total at the time of writing).

Community reports state "no pre-mining, no team reservations." What this book can verify is that the sole minter of the tokens is the mining contract.

No transaction tax: On the day BEM began mining (August 21), founder @ Blonskr announced that he was completely abandoning the originally planned 0.2% transaction tax.

Transaction tax, and relinquish related ownership, retaining only a 30-minute lock-in window during deployment (putting the topic on-chain, pricing on PancakeSwap, and adding liquidity).

6.3 "Sealed": Mining rules are locked

Understand this section in one minute "Sealing" means the administrator permanently discards the key to modify the rules. Sealing a mining contract involves three steps, each of which can be tracked on the blockchain. On September 12th, the administrator assigned the "sealing the mining contract" operation to a time-locked contract queue, stipulating that it could only be executed after 48 hours, and everyone could see it in advance.

[Chinese edition source page 79](#)

According to the founder's announcement, the seal will be executed at 17:38 (Singapore time) on September 14th; the on-chain readings for this book on September 25th are: isSealed = true, owner = Zero address.

From now on, the mining rules, output curve, and the 21 million cap cannot be changed, including by the team itself.

Only the mining contract is sealed; it does not mean that the entire agreement cannot be changed (see Chapter 9).

Editor's Note In one of the earliest TapeOut posts, the editor wrote: "What truly restrains powerful things over the long term is often not something even more powerful, but rather that kind of..." "I'm not very smart, but I absolutely won't change my mind." The sealed mining contract is just such a "unwavering" entity.

Seal is an important concept in TapeOut: when a contract administrator calls seal(), they permanently relinquish the right to upgrade and modify it.

The sealing process of the mining contract was announced by the founder, and this book has also verified it on the blockchain:

1. On September 12, 2026, at 1 6:08 (Singapore time), the administrator address 0x571d...aF15 sent at imelock contract (TimelockController) t o...

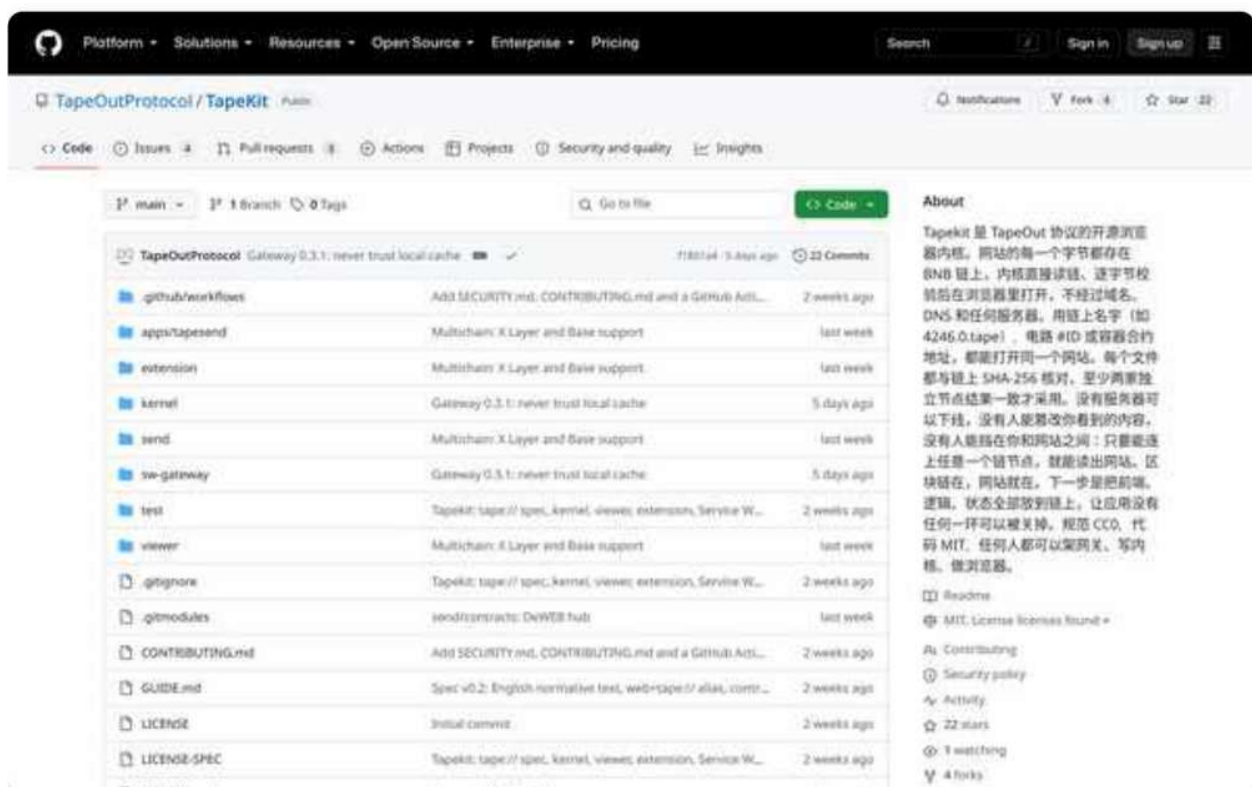
As ealing operation was submitted at 0 xbc95...4876 (transaction 0 xd516cc79...360b9, block 121,419,273). The time lock requires a 4 8-hour wait before execution. 25 minutes later, founder @Blonskr issued an announcement: the mining contract was operating smoothly, and his management rights were "the last remaining r isk," so he decided to completely relinquish them; according to him, after sealing, the BEM contract " cannot be upgraded, paused, or have any questions or answers modified permanently, and the total supply and production curve of BEM will be permanently fixed." 2. On September 14, 2026, at 1 7:38 (Singapore t ime), the execution was sealed on the blockchain. Founder @ Blonskr announced that day: "The P odMining contract is c urrently..."

isSealed = true. There is no owner anymore... BEM belongs to everyone. The execution transaction he gave is 0 xb42998...a300d 121,815,032 (the details of, Block this transaction have not been reviewed separately in this book, but the o n-chain state of the next one matches i t).

3. Tested on 2026-09-25: P odMining's isSealed() returns true, and owner() returns a zero address.

Where does BEM come from and where is it going?

Solid line: Verifiable on the official w ebsite/on-chain; Dashed line: Community timeline or media reports (not independently v erified).



PodMining Contract Protocol Fee Revenue (BNB) Sole Minter Sealed Container Transfer Fee
Threading Protocol Fee Burning (Black Hole Address) Permanently Reduces Circulating Limit by 21
Million Official Market 1 % Fee TapeHub Launch Fee, etc. 7,200 BEM Daily 7,200 BEM Daily Official
Website: 8 0% of Treasury BEM Official Website: 80% of Treasury BEM (Halving approximately
every 3.995 years) (Halving approximately every 3.995 years) Regular Burning Regular Burning
Homepage Promotional Miners (Circuit Holders) Protocol Treasury Bidding Claim with BEM Claim
BEM Convert Revenue into BEM Spend BEM Sell/Buy Sell/Buy Trading Market Official Market 50%
Fee TapeHub First Three Days DEX (PancakeSwap)/

CEX Buyback and Burn BEM 154.25 BNB transaction fee, 7 7.12 BNB buyback price determined by
the market (community timeline: from 0 9-21 onwards) 1,405.09 BEM burned (CoinW report)
TapeOut Complete Beginner's Guide / Self-drawn illustration Where did BEM come from and where
is it going? (Illustrated by the author of this book). Solid lines represent rules that can be verified on
the official website or on the blockchain, while dashed lines represent community timelines or media
reports.

Notice

What's sealed is the mining contract (the transistor market is also sealed). "BEM's issuance rules are
locked" does not mean "the entire protocol cannot be changed," see Chapter 9 for details.

6.4 Where does BEM go: Agreement fees, national treasury, and destruction?

The rules are stated on the official website (viewed on 2026-09-25). First, let's clarify where the
money goes: The protocol receiving wallet is the administrator address 0x571d...aF15 (a regular
wallet, verified using the factory contract protocolWallet()). Exchanges and destructions are
performed periodically by the official team and can be found in the black hole address.

Check the BEM balance of 0 x...dEaD yourself.

The agreement fee goes into the national treasury and is converted into BEM. The agreement fee
comes from sources such as container transfer fees, tape-out agreement fees, and the 1% fee from
the official market.

80% of BEM in the national treasury is periodically destroyed (transferred to an inaccessible "black
hole" address).

The homepage promotion slots are bid on using BEM, and the BEM spent goes into the national
treasury.

Additional information provided in the founder's announcement:

Circuit Container: Founder @Blonskr, September 6 The announcement regarding the launch of the
container system stated that fees for creating, transferring out, and transferring assets will be directly
deposited into the national treasury and converted into BEM. 80% of the BEM in the national treasury
will be periodically destroyed.

TapeHub Launchpad: When founder @Blonskr launched TapeHub on September 15, he stated that
the revenue from chip fabrication, the 1 % pool of coins received from project launches, and the

revenue from purchasing 3x fuel (BNB) would all go into the TapeHub Treasury. 50% of all Treasury revenue would be used to buy back BEM and permanently burn it; for projects using BEM as the pool, the buyback amount and lock-up period would be even greater.

Supplement to community timeline and media reports (not independently verified):

Starting September 21, 50% of the transaction fees from the official transistor and circuit market will be used to buy back and destroy BEM (community timeline; there is also a video on the YouTube channel "Renren Meili Shuo" explaining this announcement).

TapeHub Launchpad: According to an article by CoinW Research Institute, citing developer disclosures, TapeHub earned 154.25 BNB in protocol fees during its first three days of listing, of which 77.12 BNB was used for open market buybacks, and the 1,405.09 BEM acquired has been transferred to a burn address (CoinW Research Institute).

Chinese edition source page 82

CoinW Research Institute has compiled two participation paths: TapeOut native mining (rewarding BEM) and TapeHub project mining (rewarding project tokens). Image source: CoinW Research Institute's "Blonskr, Created by a 16-Year-Old, Goes Viral: TapeOut Mechanism and Risk Analysis," PANews.

<https://www.panewslab.com/zh/articles/01a0c86f-6cb0-7373-83a4-d0fbfaa58aae>

6.5 How "Hot" is the Protocol: Official Data

The original source of these figures is a summary announcement of data from TapeOut protocol's 26-day launch, posted by founder @Blonskr on September 9th (statistical period: August 14th to September 9th, data as of 11:46 UTC on September 9th; includes the official market and two third-party markets: Firsto and TapeOut.Market). CoinW Research Institute also cited it in an article. This is a snapshot of the official release; this book has not verified each item.

Total transaction value: Approximately 34,054 BNB as of September 9 (official 26-day data), of which 7,578 BNB were transistors/circuits/mints.

\$BEM traded 26,476 BNB (approximately 78%, indicating a clear bias towards BEM).

3,120,984 on-chain transactions and 8,879 deduplicated wallets; Created 855 projects, resulting in 24,360 fabricated circuits; Nineteen days after PoD went live, 14,964 mining machines were registered, of which 14,367 (approximately 96%) entered the verified pool.

In comparison, as of September 25, 2026, the number of active mining machines seen on the mining page of this book was 18,648.

6.6 Where to trade

On-chain: PancakeSwap (the largest on-chain exchange platform on BNB Chain) V3 version BEM/USDT pool (0x2f5e...ea38 (can be viewed in DexScreener).

Centralized exchanges: The community timeline states that MEXC, LBank, Gate, URBitt, and Orbit were listed starting September 14th. This is corroborated by the listing announcement for MEXC and the listing record for LBank on CoinCarp; the rest have not been verified individually in this book.

Notice

Before buying BEM anywhere, always verify the contract address 0x5ce0...695a. Other tokens with "TapeOut" in their names (such as...) TAPEOUTX is not BEM and is unrelated to this protocol (Chapter 9). Furthermore, data from market aggregation sites may be significantly outdated (e.g., circulating supply and price are stuck several days in advance); please refer to on-chain and DEX data for accurate information.

Economic design of 6.7 V2 (preview only) What does this document say?

Protocol V2 Core Preview (Founder's Tweet)



Chinese edition source page 83

This is the V2 teaser posted by the founder on X on August 26, 2026. The core message is: future processors won't just be a bunch of doors, they can also...

"Install equipment"; third-party developers can also create equipment, list it, and earn revenue sharing.

Component slots: Developers can create new components according to protocol rules, such as B NN (Binary Neural Network) and L UT (Lookup T able).

New components are listed in the "Equipment Warehouse" after official review.

The processor needs to destroy the BEM when purchasing e quipment - this gives the BEM another use.

When users fabricate on V 2 processors, the protocol takes 1 % of the manufacturer's BNB revenue; if the fabricated component is at hird-party developed component, this 1 % is deducted from the revenue.

Half of it will be replaced with BEM and distributed to the developer of this component.

As of September 25, 2026, V2 has not yet been launched, and details may be adjusted.

The f ounder's V2 teaser on August 2 6th described a future economic model:

Component slots: Third-party developers can develop new components (such as B NN binary neural networks, LUTs) according to the protocol rules.

The lookup table, after official review, will be listed in the " Equipment Warehouse"; Equipment Warehouse: What a processor can manufacture depends on "what equipment it has p urchased," and purchasing equipment requires the destruction of BEMs; 1% Protocol Fee: When a user forges on a V2 processor, the protocol takes 1 % of the vendor's BNB revenue. If the forging is done by at hird-party d eveloper...

For components, half of this 1 % will be automatically converted to BEM and allocated to the developer of that component; the 1% allocated to casting the basic transistor will not be allocated to the developer.

As of September 25, 2026, V 2 has not yet been released, and the above content may change upon official release.

The " BNN element" in V2 already has a prototype: On August 23, founder @ Blonskr demonstrated the first binary neural network element that runs entirely on the BNB Chain. It has 34,048 binary weights stored in the contract, 256-bit input, 128 neurons, and at est accuracy of 93.15% in recognizing handwritten digits (according to the official figures).

Key points of this chapter BEM: 8 decimal places, maximum 21 million, sole minter is the mining contract; approximately 231,800 have been minted (contract reading, as of 2026-09-25).

15:21).

7,200 coins per day, halving approximately every 3.995 years; u nmined coins are permanently abandoned.

The mining contract was sealed on September 1 4th after a 4 8-hour time lock (founder's announcement + on-chain v erification), and no one can change the mining rules.

The "popularity" figures, such as approximately 3 4,054 BNB as of September 9 (official 2 6-day data), are from the f ounder's data announcement and represent an official snapshot.

Official website rules: Agreement fee Treasury Converted to BEM 8 0% periodically destroyed.



Chinese edition source page 84

TapeHub's treasury is repurchasing and burning 50% of BEM, as announced by the founder; 50% of transaction fees will be repurchased from the market via TapeHub.

The repurchase figures for the first three days came from community and media reports; the V2 economic model is still in the preliminary stage.

Further Reading [D01] BEM Token Contract - BscScan / bscscan.com: <https://bscscan.com/token/0x5ce033B2bFCa3Af30b3e8C8457DeaF776A8b695a>

[D02] PodMining Mining Contract - BscScan / bscscan.com: <https://bscscan.com/address/0x7E2E0DC66a3bD9103E69b766afA62d9f7b697b46>

[M08] "TapeOut Mechanism and Risk Analysis" - CoinW Research Institute PANews (Column):

<https://www.panewslab.com/zh/articles/01a0c86f-6cb0-7373-83a4-d0fbfaa58aae> [M09] "What is BEM that CZ twice liked and Bonk Guy brought?" - Foresight News / Foresight News (reprinted by BlockWeeks): Original site <https://foresightnews.pro/article/detail/100335> (may not be directly accessible); BlockWeeks reprint of the Foresight News article: <https://blockweeks.com/view/317967>

Founder @ Blonskr's article "\$BEM Launches on BNB Chain" (August 21, 2026) Blonskr (@Blonskr) / X: <https://x.com/Blonskr/status/2090829481946869800> Founder @ Blonskr's "TapeOut Protocol 26-Day Data Summary Announcement" (September 9, 2026) - Blonskr (@Blonskr) / X: <https://x.com/Blonskr/status/2097705846339973461> Founder @ Blonskr's Mining Contract Sealing Execution Announcement (September 14, 2026) - Blonskr (@Blonskr) / X: <https://x.com/Blonskr/status/2099438049138737228> TapeHub's Direction and DeWEB: A MA Summary (September 24, 2026) - a Ida (@nat_poprika) X: https://x.com/nat_poprika/status/2103001847619559746 [X02] "The Day TapeOut Launchpad Gave BEM a Second Clock" (English) - BruceBlue (@BruceBlue) /

X: <https://x.com/BruceBlue/status/2099774044023542173> [O05] Founder V2 Preview - Blonskr (@Blonskr) / X: <https://x.com/Blonskr/status/2092551495392825791>



Chinese edition source page 85

Chapter 7: Developer Tools (Part 1)

This document was automatically generated from PDF and has not yet been independently proofread; please check the original text against the page number backtracking annotations.

Chapter 7 Developer Tools: TapeKit, tape:// Specification and TapeSend

Understand this chapter in one minute This chapter is for those who want to build something themselves. For those who just want to use it, remember this: Open your on-chain website with `https://<number>-<processor>.tapekit.org/`, nothing needs to be installed; after reading the following points, you can skip to Chapter 8. TapeKit is the official open-source toolkit responsible for reading, verifying, and displaying `tape://` websites from the blockchain; the `tape://` specification defines the naming and verification rules; TapeSend allows containers to send encrypted messages to each other; its specification is called TAP-10; HashPort is a hosting service that helps you upload your website to the blockchain.

The four layers are named: TapeOut (protocol), `tape://` (website and specification), TapeKit (open source tool), and HashPort (commercial service).

TapeKit code is licensed under the MIT license and the specification is licensed under CC0, so anyone can create their own gateway, kernel, and browser.

A few lines of kernel code can open `4246.0.tape` and check each file byte by byte.

TAP-10 endpoint number = reserved bit + chain ID + container address; message body is encrypted, but who sent it to whom is public.

The DeWEB hub has been launched on BNB Chain, but it's still a relatively new technology, so don't rely solely on it for important information.

Protocol V 2 (component slots, device repository) is still in the preview stage, see Chapter 6, Section 6.7.

On-chain Linux Demo Notes: The computation process itself can also be publicly verified.

Editor's Note Editor's perspective DeWEB: Websites are stored in on-chain circuit containers, "unstoppable, one site can run for three generations, it's still there even after you leave"; the front end is also on-chain, turning the black box of Web2 into a "transparent kitchen". The community has already created 41 on-chain applications, see Chapter 7.7.

If you're just looking to mine or collect circuits, you can skim this chapter. If you want to do something with TapeOut - an on-chain website, an messaging application, a chain read tool - this chapter will tell you what the official team has open-sourced, how far they've progressed, and what's still unfinished.

7.1 First, distinguish the four names.

The TapeKit README includes a naming list, which we have translated accordingly:





Linux 6.5.12 正在 BNB Chain 上运行 (TapeOut 电路容器测试)

```
0.000000: Linux version 6.5.12mini-rv32lme (charles@charles-linux) (riscv32-buildroot-linux-uclibc-gcc.br_real (Buildroot-glibc50bade) 13.2.0, GNU ld (GNU Binutils) 2.40) #14
0.000000: Machine model: riscv-minimal-nemu_gnu
0.000000: earlycon: uart8250 at MMIO 0x10000000 (options '1000000')
0.000000: printk: bootconsole [uart8250] enabled
0.000000: Zone ranges:
0.000000:   Normal [mem 0x0000000000000000-0x0000000000000fff]
0.000000: Movable zone start for each node
0.000000: Early memory node ranges
0.000000:   node 0 [mem 0x0000000000000000-0x0000000000000fff]
0.000000: Initmem setup node 0 [mem 0x0000000000000000-0x0000000000000fff]
0.000000: riscv: Base ISA extensions ain
0.000000: riscv: ELF capabilities ain
0.000000: Kernel command line: earlycon=uart8250,mmio,0x10000000,1000000 console=ttyS0
0.000000: Dentry cache hash table entries: 2048 (order: 1, 8192 bytes, linear)
0.000000: Inode-cache hash table entries: 1024 (order: 0, 4096 bytes, linear)
0.000000: Built 1 zonelists, mobility grouping off. Total pages: 6063
0.000000: mem auto-init: stack:off, heap alloc:off, heap free:off
0.000000: Memory: 13668K/16100K available (1226K kernel code, 270K rodata, 331K rodata, 703K init, 92K bss, 2722K reserved, 0K cma-reserved)
0.000000: SLUB: Hwalign=64, Order=0-1, MinObjects=0, CPUs=1, Nodes=1
0.000000: NR_IRQS: 64, nr_irqs: 64, preallocated irqs: 0
0.000000: riscv-intc: 32 local interrupts mapped
0.000000: clint: clint@10000000: timer running at 1000000 Hz
0.000000: clocksource: clint clocksource: mask: 0xffffffff max_cycles: 0x10054df40, max_idle_ns: 252636161000 ns
0.000000: sched clock: 64 bits at 1000MHz, resolution 1000ns, wraps every 2199821255500ns
0.100544: Console: colour dummy device 80x25
0.110727: Calibrating delay loop (skipped), value calculated using timer frequency.. 2.00 BogoMIPS (lp=10000)
0.156072: pid_max: default: 4096 minimum: 303
0.196688: Mount-cache hash table entries: 1024 (order: 0, 4096 bytes, linear)
0.220160: Mountpoint-cache hash table entries: 1024 (order: 0, 4096 bytes, linear)
0.764928: devtmpfs: initialized
1.204000: clocksource: jiffies: mask: 0xffffffff max_cycles: 0xffffffff, max_idle_ns: 1911266446275000 ns
1.330720: Futex hash table entries: 16 (order: -5, 192 bytes, linear)
2.274394: clocksource: Switched to clocksource clint clocksource
5.712320: workqueue: timestamp_bits=30 max_order=12 bucket_order=0
24.811520: Serial: 8250/16550 driver, 1 ports, IRQ sharing disabled
25.217024: printk: console [ttyS0] disabled
25.481344: 10000000.uart: ttyS0 at MMIO 0x10000000 (irq = 0, base_baud = 1048576) is a XR16L550
25.438200: printk: console [ttyS0] enabled
25.438200: printk: console [ttyS0] enabled
25.453000: printk: bootconsole [uart8250] disabled
25.463000: printk: bootconsole [uart8250] disabled
26.936320: clk: disabling unused clocks
27.482112: [m] Freeing unused kernel image (initramfs) memory: 792K
27.497472: This architecture does not have kernel memory protection.
27.511000: Run /init as init process
Welcome to mini-rv32lme Linux
Jan 1 00:00:39 login[20]: root login on 'console'
uname -a; echo 'hello from bnbchain' > /root/hello.txt; sha256sum /root/hello.txt; Factor 1000000007
head /root/hello.txt; uptime
uname -a; Factor 1000000007; echo 'hello from bnbchain' > /root/hello.txt; sha256sum /root/hello.txt
ls -l /root; head /root/hello.txt
~ # uname -a; echo 'hello from ...
```

Chinese edition source page 86

/ Layer / Name / What it governs / --- / --- / --- // Protocol / TapeOut / Transistors, Processors, Circuit Containers: Which Layer on the Chain // Website URLs and Specifications / tape:// / What users enter in the address bar; the specification is called "tape:// specification" // Open Source Tool / TapeKit (written as TapeKit in the repository) / Anything that reads tape://: kernel, gateway, extension, command line, future desktop applications // Layer / Name / What it governs / --- / --- / --- // Commercial Services / HashPort / Managed console, domain binding, and pricing operated by the HashPort team / The official GitHub repository TapeOutProtocol/TapeKit (screenshot from this book, September 25, 2026).

7.2 What's in the TapeKit repository?

Repository address (maintained by TapeOut Labs): github.com/TapeOutProtocol/TapeKit. The code is licensed under the MIT license, and the specification text is under CC0 (disclaimer of copyright). The README states: "Anyone can set up their own gateway, write their own kernel implementation, and create their own browser. This is just a reference." What does this document say?

TapeKit README

Chinese edition source page 87

The TapeKit README is the "master directory" of the entire open-source repository, available in Chinese, English, and Korean. It first explains the four-level naming convention, then tells you what each folder does, how to run it, and how website owners can add links to their websites.

Repository Map: kernel, s w-gateway, browser extension, viewer, message layer (send), client apps/tapesend.

Get started quickly: A few npm commands are all it takes to run tests and start your local gateway.

Site Owner Guidelines: Upload using HashPort, or directly call the contract (putFile, appendChunk, etc.). The official "Site Owner Manual" is listed as to be completed in the README roadmap.

The name activation fee is listed as 0.08 BNB/30 days (currently 0 according to on-chain testing in this book, see Chapter 4).

Roadmap: Publish to npm, open source contracts and command-line tools, desktop applications.

License: MIT, Canonical Text: CC0.

/ Table of Contents / What is it / --- / --- / kernel / Kernel@tapekit/kernel: A zero-dependency ES module responsible for name resolution, multi-node consistency, block pinning, implementation pinning, file-by-file SHA-256 verification, and caching. / sw-gateway / Service Worker Gateway: Allows ordinary browsers to open on-chain websites without installing anything; each website has an independent origin. / extension / Browser Extension (Chrome MV3): Address bar keyword "tape"; also verifies whether the current HTTPS page matches the on-chain bytes. / viewer / Webpage Viewer (Preview Mode): Sandboxed iframe, serving as a fallback when there

are no extensions or gateways. / send / TapeSend / DeWEB Message Layer: Contracts, modules, and design documents. / apps/tapesend / TapeSend Client: Webpage, Desktop (Electron, built-in tape:// browser), iOS/Android. / SPEC.zh.md / SPEC.md / tape:// Specification v0.2 (Chinese and English) / GUIDE.md / Chinese Technical Notes: How to run, test, and deploy each component, known limitations / Using the kernel in your own code requires only a few lines (README example):

```
import { createKernel } from './kernel/src/index.js'; const kernel = createKernel(); // Default 4 public nodes, 2 must be consistent
const res = await kernel.resolve('4246.0.tape'); // res.status === 'ok' / 'unpaid' / ...
const site = await kernel.openSite(res); // Read-only file list
const file = await site.get('index.html'); // Bytes have been checked against on-chain SHA-256
The status codes returned by `resolve` are: ok (activated), unpaid (not activated or expired), not-opened (circuit not yet opened), no-such-cpu, etc.
```

no-such-token, not-tapeout (The repository contract blocked, store-changed implementation does not match the pinned token, so reading is refused).

hint What does "pinning the implementation" mean? The "core" of the SiteRegistry and the paid DomainBinding contract can be replaced by the administrator. Therefore, the client will always first check if the core is the version it recognizes (placed in a fixed location called the ERC-1967 implementation slot). If it's not recognized, it won't read it until the client updates the list. This way, even if the contract's core is quietly replaced one day, your browser won't read the new logic.

Chinese edition source page 88

7.3 What did tape:// specification v0.2 say?

What does this document say?

tape:// Specification v0.2 (SPEC.zh.md) The `tape://` specification v0.2 (draft, September 13, 2026) only governs four things: how the URL is written, how the name is resolved into a container, and how the read file is verified.

Yes, it doesn't care how on-chain websites are isolated or how they are uploaded or how wallets are created.

The name is written as "circuit#ID.processor number.tape", and it also accepts several other formats such as #4246@0 and container address.

All reads must be pinned to the same block, and the results from at least two different operators' nodes must be completely consistent for the reads to count.

Files are divided into 24,000-byte blocks, with a maximum size of 8.4 M B for a single file, and each file is verified against SHA-256.

"Pinned Implementation": Once the contract core is replaced, the client will pause and read the contract only after confirming that the new version is trustworthy.

Website isolation: Each website has an independent source, so it will not harm users or other websites; "100% on-chain" will only be displayed when everything is clean.

Only show activated names - "Paying" relies on client-side rules, not locking up the data.

The specification (2026-09-13, draft) clearly states at the outset that it only deals with four things: URL format, address resolution, verification, and website isolation; it does not concern itself with how files are uploaded, how ordinary browsers access them, or how wallets are implemented.

Chapter 4 already covered URLs and DNS resolution. Here, we'll supplement the specifications with three key areas of concern to developers:

Website Isolation (§7): Websites on the chain may be malicious; the shell must ensure it does not harm users, other websites, or the shell itself. For example, each website...

The site should be from an independent source, its code should not run in privileged locations, network requests and pop-ups should be restricted, and wallet interactions should display the user's identity.

"Pure On-Chain" tag (§8): Only websites that are clean in both static scans and runtime checks will be marked "100% On-Chain".

Unchanging Commitment (§15.1): The specification distinguishes between "things that never change" and "things that change", and defines version numbering rules.

7.4 TapeSend and TAP-10: Encrypted Messages Between Containers

Chinese edition source page 89

TapeSend app icon (Source: TapeOut Labs / TapeKit repository, MIT license).

TapeSend allows circuit containers to send messages to each other. As described in TapeOut Labs' send/README:

A container like #4246@0 is a receiving address, and the person holding the circuit sends messages as the container.

Each message is written into a small contract on the sender's blockchain - the DeWEB Hub - with end-to-end encryption; There are no cross-chain bridges, indexers, or servers on the message path; each client checks the content it reads on the chain itself.

.

Its specification number is TAP-10 What does this document say?

TapeSend/TAP-10 (send/README.md) send/README is the design specification (draft) for TapeSend and TAP-10. In short: each circuit container is equipped with an "on-chain mailbox," and

messages are encrypted and written into the central contract of the sender's chain, without passing through servers, cross-chain bridges, or indexers.

Endpoint number = u int32(0) uint64(chain I D) Container address, 32 bytes in total, unique across the entire network.

Encryption: Messages are locked on your own device and can only be opened by the recipient; the key to unlock them is generated by wallet signature (technically using X25519 +).

XChaCha20-Poly1305).

Metadata is public: who sent it to whom, when, and for how long, can all be seen on the blockchain; only the content is encrypted.

The central address 0 xe61A...E25ee went live on BNB Chain on 2026-09-18, and is the same a cross all chains.

Known limitations: Strangers can "swipe" messages into the mailbox; authorized circuit contracts can send messages on behalf of others.

Endpoint ID is the core of T AP-10:

Chinese edition source page 90

Structure of T AP-10 Endpoint ID uint32(0) u int64(chainId) Container address / 32 bytes in total, unique across the entire network Reserved bits: u int32 Chain ID, u int64 Container address fixed at 0 (4 bytes) BNB Chain = 56 (8 bytes) Circuit E RC-6551 account (20 bytes) Byte 0 Byte 4 Byte 12 Byte 32 Example (#4246@0 on BNB Chain): 00000000000000000000000038 8 6ddae00401e3f10418398d67d7189fc458ea95 0x38 = 56 (hexadecimal); Container address displayed as shown in the README example. Message path: BNB Chain: #15324@30 Write to the DeWEB central contract of the sender's chain. Other chains: #15324@30.base (with short name).

End-to-end encryption of the body; Send/receive relationship, time, and length are public. (See TapeOut) Complete Beginner's Guide - Self-drawn Illustrations The structure of TAP-10 endpoint numbers (based on send/README, drawn by the author).

Endpoint number = uint32(0) uint64(chainId) Container address, a total of 32 bytes, unique across the entire network; It appears as #15324@30 on the BNB Chain, and has as shorter name on other chains, such as # 15324@30.base; Encryption: The message is locked on your own device and can only be opened by the recipient (technically using X 25519 +).

XChaCha20Poly1305 (payload format 0 x02). The key used to unlock is generated by your wallet's signature, so you don't need to remember a separate password; the corresponding "public key" is publicly stored in the central hub, and others can use it to send you encrypted messages.

Metadata is public: who sent it to whom, when, and for how long, can all be seen on the blockchain; only the content is encrypted.

Attachments: Small images are placed within encrypted content; asset attachments are transfers into the recipient's container, which are then verified on-chain by the recipient's client.

Deployment status (send/README, 2026-09-18): The central hub is now online on the BNB Chain mainnet, with proxy addresses 0xe61A...E25ee. The current implementation is v 3 0x80aF...EE85, and the addresses are the same across all chains. The README initially stated that the Base and X Layers were in the planning stages; repository date 2026-09-19.

The submission added "X Layer and Base support". On the same day, the X Layer Chinese website @xlayer_zh confirmed that TapeOut had been deployed on the X Layer mainnet: all four modules - processor factory, circuit container, website repository, and TapeSend cross-chain encrypted message channel - were online. X Layer and BNB Chain can directly send end-to-end encrypted messages to each other without a cross-chain bridge. The announcement also stated that the PoD mining economic system is unaffected and remains centered on BNB Chain. On September 25, 2026, this book re-examined the X Layer public nodes: the central address has contract code on X Layer;

the website repository and name binding on X Layer use a different address than BNB Chain (written in the TapeKit kernel), and there is also code - so the statement in Issue #6 that "it cannot be found using the BNB address" is true, but it does not mean it has not been deployed (see Chapter 4). X Layer's container launch cost is

0.08 OKB. Base is still in the planning stages.

On the same day, founder @Blonskr released a video of about 104 seconds, talking about his vision for DeWEB:

to create a decentralized wide area network that spans all major public chains; TapeSend has been fully open source on GitHub under the MIT license, and also comes with clients for four platforms: web, Mac, iOS, and Android, which any developer can use for commercial purposes.

Notice

Known limitations (key points from send/ README): Anyone with an activated container can "swipe" messages into other people's mailboxes (the client only displays 3 messages per page to strangers); contracts that have authorized circuit NFTs (such as trading markets) can borrow circuits and send messages as containers in a transaction (the client will indicate this).

The TapeSend web client running on this machine (screenshot taken on September 25, 2026, without a wallet connection) displays the message "Send and receive messages using circuit containers".

After TapeSend was open-sourced, the community created several clients within a day. Community author YW (@ywweb3) wrote a long article titled "24 Hours After TapeSend's Birth:

Three Products Emerge, Opportunities and Concerns Behind the Frenzy" (2026-09-20), which recorded this excitement and also discussed the issue of user retention.

hint The client mentioned in the article above includes TAPQQ, which is a work by the book's editor, Hong Qigong (see Chapter 8, "The Editor's Work").

7.5 On-Chain Linux: A Technology Demo

On September 7, 2026, founder @Blonskr released this demonstration, calling it "the first time in history that Linux has run on the L1 mainnet": every instruction is executed by BNB Chain mainnet transactions, and all states are stored on-chain. He compared it to Cartesi - Cartesi's Linux runs on off-chain nodes, and L1 only recalculates one step when there is a dispute. According to his announcement, from power-on to root login, there were a total of 44,988 ticks and over 9,000 transactions.

Play Running Linux on the L1 mainnet (demo release) @Blonskr (X) / 2026-09-07 / Duration 1:11
<https://x.com/Blonskr/status/2096956123765264474>



Chinese edition source page 93

The official website's On-Chain Linux page showcases this demo: running mainline Linux 6.5.12 (rv32ima instruction set, no MMU, busybox user space) on BNB Chain. See the page description:

16 MB of memory is stored in 16,384 page contracts;

Each call to tick() executes a maximum of 1,024 instructions; From booting up to the appearance of the root login prompt, approximately 41.8 million commands were executed (according to the page; the founder's announcement stated 4,988 and 9,000).

(The remaining transactions are counted using different units of measurement for the two figures.)
The owner of this "machine" is a circuit container.

On-Chain Linux Demo Page (Screenshot from this book, September 25, 2026): Linux 6.5.12 boot log.

It's not about running fast, but about proving that every calculation can be put on the blockchain for everyone to verify (BruceBlue has a dedicated article on this, see further reading).

7.6 Things that are not yet finished

The "Status and Roadmap" section of the TapeKit README outlines the next steps (September 2026 version):

The gateway domain name is added to the Public Suffix List - this may be related to the list repository forked in the official organization;

Chinese edition source page 94

Publish @tapekit/kernel to npm, completing the API reference and type definitions; Open source contract code and release command-line tools; Register a desktop application using the tape:// protocol; web3:// (ERC-4804 / ERC-6860) read-only adapter.

The TapeKit Issues on GitHub (TapeOut Labs repository, community submissions) also show what's in progress (viewed 2026-09-25):

#4: Mainnet Blocking Item - Verifying the DeWEB central contract and resolving the warning pop-up in the MetaMask wallet for operations on publishKey.

(For what to do when your wallet pops up a warning, see Chapter 9); #5: Containers created directly through the ERC-6551 registry will silently become "receive-only," and `open()` can be bypassed. In short: Containers created directly using the underlying contract instead of the official website can only receive and not send; developers should avoid creating containers this way.

#6: Does X Layer deploy SiteRegistry/DomainBinding? The questioner used an address from the BNB Chain to check with X Layer.

No code was found; a review of this book revealed that the TapeKit kernel assigns a different set of addresses to the X Layer, where the code is located (see Chapter 4). This issue was still open at the time of writing, but no maintainer has responded.

#7: A standardized discussion of site requests/responses and WebMCP tool discovery, essentially a discussion of how to enable AI...

The tool can automatically invoke functions of on-chain websites. The proposer is community developer Alphana (@0xAlphana), who demonstrated in his lengthy proposal on September 24th that AI used as self-reporting tool from a webpage to complete a game of on-chain tower defense. Founder @ Blonskr posted on September 25th inviting everyone to review the proposal: if it passes, he will personally award 50 BEM to proposer @ 0xAlphana, and another 5 BEM to each developer who provides valid suggestions (only suggestions cited or directly commented on in the post will be recognized).

hint The Founder's Appeal for "Front-End On-Chain" (September 25, 2026): Founder @ Blonskr issued a "solemn appeal" at 12:05 PM (Singapore time) on September 25th. He cited the recent Bitget and Bybit hacks as examples, stating that the problems mostly stemmed from the tampering of the front-ends of third-party tools or multi-signature systems. Therefore, he appealed to all DeFi and third-party tools to deploy their front-ends on TapeOut's verifiable DeWEB (tape://), and stated that he would personally sponsor all major third-party tools (including Safe multi-signature, etc.) for front-end on-chain security funds. His reasoning was that once the front-end is on-chain, it cannot be secretly tampered with,

and browsers will automatically compare hashes, immediately alerting users to any potential tampering risks. This is the founder's personal commitment and appeal; specific application procedures and which tools have responded are not publicly available at the time of writing.

Editor's Note: According to Bitget's current official statement, this incident involved a breach of the wallet's backend system, where forged data triggered the authorization process. It was not a case of the website's frontend being tampered with (the frontend being swapped was the situation with Bybit). While putting the frontend on the blockchain can prevent website swapping, it cannot prevent backend control. See Chapter 9, Section 9.5 for details.

Additionally, the README mentions that the TAP-10 specification is "being rewritten as part of the DeWEB standard and will be released separately later." As of the time of writing, no independently released TAP standard text has been found, nor have any other numbered documents such as TAP-1 to TAP-9 been discovered.

7.7 Community DeWEB Applications Overview

Chinese edition source page 95

tape:// has only been online for a little over two weeks, and the community has already moved a large number of games, tools, and mini-applications onto the blockchain. As of approximately 18:40 (Singapore time) on September 25, 2026, this book has scanned all on-chain records of website repository contracts on BNB Chain and X Layer, finding a total of 51...

A blockchain-based website that wrote the file:

There are 39 real-world applications in the community (36 BNB Chain applications and 3 X Layer applications), of which 3 are works by the editor Hong Qigong, as indicated in the table below; There are two official websites (the TapeKit homepage and a copy thereof); The remaining 10 are test pages, empty pages, or templates (such as pages that only contain the word "hello"), and are not considered applications.

The TapeWeb index (web.tapeout.link) in the community was obtained independently by others through chain scanning, and the BNB Chain sites it lists correspond one-to-one with the results in this book. New additions on September 25th included @0xEvinC's "Kid Brother's Circuit Expedition 99" (tape://16.68, uploaded to the blockchain at 14:12); the editor's 8.888 premium number mall was also officially launched at 17:11 that day.

The address in the table leads to the official gateway: tape://AB, corresponding to the website AB.tapekit.org. It can be opened with a regular browser without installing anything.

The "On-Chain" field shows the date the file was first written to the blockchain (Singapore time). The "Author" field should only contain an X that can be verified from the author's own posts or page.

For accounts that cannot be confirmed, write "Author Unknown".

Notice

The vast majority of these applications are community creations, not official products, and this book does not attempt to test each one. It's safest to just open them and take a look; for applications that require connecting a wallet, signing, lending, or betting, use a new wallet with only a small amount of funds first.

Games (15) / Application / Address / Author / On-chain / Introduction / / --- / --- / --- / --- / --- / / TAPE STRIKE / Clearing Bugs from Chips / tape://1.894 / @spongemochi / 09-17 / TAPE STRIKE: TapeOut, the first on-chain first-person shooter game, approximately 600KB, entirely written into the BNB Chain. The gameplay involves clearing bugs that crawl out of the wafer. / / Lying-Down Master / T P Chip Casting Card / tape://1.899 / Author Unknown / 09-18 / "Lying-Down Master": Drag the character to various lying-down poses, then use T P chip casting to create the card surface. / / RAIDEN / tape://5182.30 / @blueshirt666 / 09-18 / RAIDEN: A vertical scrolling shoot 'em up game written in AI, featuring levels, endless mode, and boss mode. /

/ TAPE HOLD'EM / On-Chain Texas Hold'em / tape://2.894 / @spongemochi / 09-19 / TAPE HOLD'EM: 100% Texas Hold'em running on the BNB Chain, with four AI coaches ready to start a game anytime, and chips for entertainment only. / / BURNBEM Game Center / tape://1688.0 / Editor: Hong Qigong / 09-19 / Editor's Work: Burnbem Mini-Game Collection, with BEM Destruction Data Statistics; Includes "Master of Slacking Off" and TapeOut container uploader entry (see 8.9). The game center also includes KallyGame's Nibble (see description below the table). / / Black Myth:

Behemoth / tape://12123.30 / Unconfirmed (suspected to be @benson_doge) / 09-20 / Black Myth: Behemoth: Control Wukong to challenge the bull and its mother, who are controlled

by a circuit board (website not yet paid and activated).

/ BEM ROYALE / TapeOut On-Chain Battle Royale / tape://14031.30 / @dc_cap / 09-20 / BEM ROYALE: A three-in-one game combining on-chain battle royale, looting and evacuation, and maze escape, priced in gates (the smallest unit of BEM). // Application / Address / Author / On-chain / Introduction // --- / --- / --- / --- / --- // NEON CITADEL The Last Light / tape://40.865 / @0xAlphana / 09-22 / NEON CITADEL: An eon tower defense survival game, integrated with DeWebMCP, playable by both humans and AI agents (commercial project).

/ MeowMeow Texas Hold'em Club - Lobby / tape://1.1031 / Author Unknown / 09-22 / MeowMeow Texas Hold'em Club: Play Texas Hold'em with real people, using BEM or free points. No dealer, all hole cards are revealed after each hand (linked to meowtopia.club). Real betting is involved; please understand local laws and risks beforehand. /

Chinese edition source page 96

/ On-Chain Chinese Chess / 122.6.tape / tape://122.6 / Author Unknown / 09-23 / On-Chain Chinese Chess: Local human-computer or two-player simultaneous gameplay, no server, and no tracking.

/ Construction: Building a Tang Dynasty Grand Hall at the Foot of Mount Wutai / tape://3.894 / @spongemochi / 09-23 / Construction: To personally build a Tang Dynasty wooden grand hall (Nanchan Temple) at the foot of Mount Wutai. If the construction is done correctly, it will stand; if it is done incorrectly, it will collapse on the spot. // NEON RELIQUARY Oath Expedition / tape://1.2.231 (X Layer) / @0xAlphana / 09-24 / A four-player squad action expedition 3D game: The captain and three teammates can be assigned to external AI or tactical chips.

Free to play, no wallet required, and no circuit knowledge needed.

/ MeowMeow Lottery / tape://2.1031 / Author Unknown / 09-24 / MeowMeow Lottery: Bets are placed using BEM. A draw is held every 30 minutes, daily, and monthly. The draw uses block hashing. 90% of the prize pool goes to the winners, and 5% is burned (bound to lottery.meowtopia.club). This involves real betting; please understand local laws and risks beforehand. // BITMAP Runtime V 0.2.1 / tape://335.0 / Author Unknown / 09-24 / BITMAP Runtime V 0.2.1: Connect to OKX Bitcoin wallet, enter the 3D BITMAP space, and roam using WASD. // Kid's Circuit Expedition 99 V 0.0.3 / tape://16.68 / @0xEvinC / 09-25 (New Release on September 25) / Kid's Circuit Expedition 99 / "B God's Super Adventure Circuit Journey": An original side-scrolling puzzle game

based on Kid's IP, featuring 9 themes, 99 levels, and 9 bosses. / Nibble (by KallyGame): A real-time competitive game featuring swallowing monsters, included in the BURNBEM Game Center. Created by KallyGame (@KallyGame), located at burnbem.ai/nibble, it is currently a demo version. It is a regular webpage and not written into a separate on-chain container, therefore it is not counted among the 39 on-chain applications mentioned above.

Finance and Payments (6 categories) / Application / Address / Author / On-chain / Introduction // --- / --- / --- / --- / --- // BEM Collateralized Lending / tape://979.30 / @DigitalBeggar_c / 09-17 / A zero-fee BEM mining machine collateralized lending platform: Borrow stablecoins using mining machine NFTs as collateral, with the option to repay partially or in full at any time.

/ TapeOut Fun / tape://4451.0 / @TapeOutFun / 09-19 / TapeOut Fun: A bonded curve token launcher that only supports BEM pairings. After project graduation, the tokens will be transferred to PancakeSwap and liquidity will be permanently locked (in public testing). // GradFi / Fair-Launch M

ining / tape://3114.0 / Author Unknown / 09-20 / GradFi: A fair-launch mining protocol on BSC. You can earn mining rewards by trading Grad and reaching trading volume targets (linked to your IP address).

/ protocol on bsc / gradfi.org).

Chinese edition source page 97

Chapter 7: Developer Tools (Part 2)

This document was automatically generated from PDF and has not yet been independently proofread; please check the original text against the page number backtracking annotations.

/ Application / Address / Author / On-chain / Introduction / / --- / --- / --- / --- / --- / / TapeFlow / BEM Payment / tape://3057.0 / @BitGoldKnight / 09-21 / TapeFlow: TapeOut version of "Alipay", supporting BEM transfers, container payments, red envelopes, encrypted orders, and one-time address payments.

/ / wNAND / / tape://15821.3 / Author Unknown / 09-21 / wNAND: Wrapping the old TapeOut NAND into wNAND / / Wrapped TapeOut / 0 / Minimalist interface. / / NAND / / BEMD / Fast Container / tape://1.2.210 / @StaveLiu / 09-23 / TapeOut Container Dedicated Wallet: Containers on BSC and X Layer / / Wallet (DeSQL Containers / (X Layer) / Can directly use BEMD to pay each other without a cross-chain bridge / / Wallet) / (BEMD is currently not pegged to any valuable assets).

Tools, Mining, and Website Building (8 items) / Application / Address / Author / On-chain / Introduction / / --- / --- / --- / --- / --- / / TapePilot.ai TapeHub guide / tape://9481.30 / TapePilot (@tapepilotai) / 09-18 / TapePilot.ai's TapeHub guide and project repository; the page is also the on-chain verified version of tapepilot.ai. / / TapeStar Optimal path for budget into computing power / tape://12566.30 / @TapeStar_Web3 (Initiator @mantancoin) / 09-19 / TapeStar: An on-custodial mining configuration and execution layer that helps beginners find the optimal path to computing power with a limited budget (linked to tapestar.org). / GatePilot / TapeOut PoD Mining & Rental

One-Stop Platform / tape://1.165 / Author Unknown / 09-20 / GatePilot: A one-stop platform for TapeOut PoD mining and rental. It can generate reference circuits, fabricate chips, manage mining machines, and also list mining machines for hourly rental. / / TapeSite / One-Sentence AI Website Builder / tape://14599.30 / Author Unknown / 09-21 / TapeSite: One-sentence AI website builder. Preview and modify, then permanently deploy to DeWEB via wallet. / / TapeSite (Another Deployment) / tape://15731.30 / Author Unknown / 09-21 / Another deployment of TapeSite ("No code writing, no server required, one-click deployment to DeWEB after AI generation").

/ / TapeOut One-Click Container / tape://1.8 / @Xiao_zhanyang / 09-23 / TapeOut One-Click Container Factory: One-click transistor burning, tape-out, and ERC-6551 container activation, supporting BNB Chain, X Layer, and Base (Web2 version id.tapeout.link). / / 01 Protocol Official Website - Build a Mining Machine with 0s and 1s / tape://1.1011 / Author Unknown / 09-24 / 01 Protocol Official Website: A purely static client; connect your wallet and assemble your mining machine from a single inscription. / / BEM Destruction Dashboard / BSC / tape://16267.30 / Author Unknown / 09-24 / BEM Destruction Dashboard: Directly reads the BSC on-chain contract and displays the number of BEM black holes destroyed.

Chat and social networking (2 items) / Application / Address / Author / On-chain / Introduction / / --- / --- / --- / --- / --- / / TapeOut On-Chain / tape://4357.0 / Author Unknown / 09-20 / TapeOut On-Chain Chat: On-chain encrypted chat using container endpoints (e.g., / Chat / #4246@0). / / TAPQQ / tape://1.888 / Editor: Hong Qigong / 09-20 / Editor's work: A retro QQ window-style TapeSend chat

application, currently only supports peer-to-peer chat (see 8.9). / Market, Cards, and Content (5 items) / Application / Address / Author / On-chain / Introduction / / --- / --- / --- / --- / --- /

Chinese edition source page 98

/ UPay - TapeOut Card / tape://1.231 / UPay (@UPayOfficial_EN) / 09-13 / Countdown page for the release of the UPay x TapeOut co-branded card, hosted on-chain using TapeKit. / / TapeOut Cards / tape://3434.30 / Author Unknown / 09-19 / TapeOut Cards: Connect your wallet, turn your circuitry into cards and claim them on the blockchain. Card designs are generated deterministically entirely from the blockchain's online table. / / Anonymous Exploration+ / tape://1520.0 / Author Unknown / 09-20 / "Anonymous Exploration+": First, read the on-chain container and circuit #1520 for verification, then display the author's AI exploration content ("I am not an expert, I just thoroughly utilize AI").

/ TapeOut to the Moon / tape://1340.30 / @xuxincoin1 / 09-20 / TapeOut to the Moon: Upload your own photos, add the TapeOut tag, and generate a 1 / 1 NFT wallpaper. The photos are permanently stored on the blockchain. / / 8.888 Premium Number Mall / tape://8.888 / Editor: Hong Qigong / 09-23 (Officially released 09-25) / Editor's work: Browsing and purchasing premium number circuits directly calls the contracts of the official website, Firsto, and TapeOut.market; a newly launched semi-finished product, still under testing (see 8.9).

AI and Circuit Experiments (3) / Application / Address / Author / On-chain / Introduction / / --- / --- / --- / --- / --- / / Circuit 283 / tape://282.732 / Jooooooo (@zhuoning293) / 09-16 / Jooooooo's on-chain experimental site: Demonstrating the burning of the Agents API control loop into a TapeOut circuit (21 NAND Driver / Circuit 283), later adding a tool page for nc2net (converting neural network graphs into NAND circuits). / This page is stored on-chain: in container # 41 of BNB Smart Chain (DeWEB MCP Workshop Network) / tape://41.865 / @0xAlphana / 09-23 / An on-chain copy of the DeWEB MCP Workshop Network. The demo page bytes are written into the SiteRegistry in (container, path) format with SHA-256 verification.

/ SkillPass Control Room / tape://1.2.223 (X Layer) / Author Unknown / 09-24 / SkillPass: AI Agent Skill Licensing and Business Routing Console (page meta tag: "SkillPass Agent Skill Licensing and Business Routing Console").

Official (2) / Application / Address / Author / On-chain / Introduction / / --- / --- / --- / --- / --- / / TapeKit Homepage / tape://4246.0 / Official (@Blonskr) / 09-08 / TapeOut Official open-source browser kernel TapeKit's homepage: Website files exist on the BNB chain. The kernel directly reads the chain and verifies it byte by byte before opening it in the browser, without going through DNS and servers. / / TapeKit Homepage (copy, bound to / tape://157.1 / Official / 09-16 / Another on-chain copy of the TapeKit kernel homepage, bound to the domain info.tapekit.org. / / info.tapekit.org) / There are also 10 test pages, empty pages, or templates (e.g., 433.0 pages, 12.10, 3.687, 1.2.217 on the X Layer, etc.), and 2

, that are only bound to the domain name but have not yet been written to the file; 2333.1 pages). 85.74), which will not be discussed separately here.

Key points of this chapter Four-layer naming: TapeOut (protocol), tape:// (website and specification), TapeKit (open source tool), HashPort (commercial service).

TapeKit includes the kernel, Switch gateway, browser extension, viewer, and TapeSend; the code is MIT, and the specification is CC0. The core of the specification is...

Byte-by-byte verification, multi-node consistency, pinning blocks and implementations, and website isolation.

TAP-10 endpoint number = reserved bits + chain ID + container address (32 bytes); text is encrypted, metadata is public.

TAP-10 does not yet have a separate standard text.

On September 25, the founder called on DeFi and third-party tools to deploy the front end to DeWEB and said he would personally sponsor the security costs of putting the front end on the chain.

The website repository contract address on X Layer is different from that on BNB Chain (as stated in the TapeKit kernel), and the code can be found on the chain in this book; the official website front-end on X Layer can currently only enable and view containers.

Chinese edition source page 99

Further Reading [O10] TapeKit README - TapeOut Labs/GitHub:

<https://github.com/TapeOutProtocol/TapeKit> [O12] TapeKit specification v0.2 - TapeOut Labs/GitHub: <https://github.com/TapeOutProtocol/TapeKit/blob/main/SPEC.zh.md> [O13] TapeSend / TAP-10 - TapeOut Labs / GitHub:

<https://github.com/TapeOutProtocol/TapeKit/blob/main/send/README.md> [O14] @tapekit/send module - TapeOut Labs / GitHub:

<https://github.com/TapeOutProtocol/TapeKit/blob/main/send/module/README.md> [O17] Service Worker Gateway Description - TapeOut Labs / GitHub: <https://github.com/TapeOutProtocol/TapeKit/blob/main/sw-gateway/README.md> [O11] TapeKit

Technical Description GUIDE.md - TapeOut Labs / GitHub: <https://github.com/TapeOutProtocol/TapeKit/blob/main/GUIDE.md> [O23] On-Chain Linux Demo - TapeOut Official Website/tapeout.net: <https://tapeout.net/linux.html> Founder @Blonskr's On-Chain Linux Release Post + Video (September 7, 2026) - Blonskr (@Blonskr) / X: <https://x.com/Blonskr/status/2096956123765264474> Founder @Blonskr's DeWEB Vision and TapeSend Open Source (September 19, 2026, with video) - Blonskr (@Blonskr) /

X: <https://x.com/Blonskr/status/2101278561625637017> X Layer Mainnet Deployment Announcement (September 19, 2026) - X Layer Chinese Channel (@xlayer_zh) / X: https://x.com/xlayer_zh/status/2101286671274914074 TapeKit Issues (Development Discussions) - TapeOut Labs / GitHub: <https://github.com/TapeOutProtocol/TapeKit/issues> [X05] "When everyone else moved computing off the mainnet, TapeOut brought Linux back" - BruceBlue (@BruceBlue) / X: <https://x.com/BruceBlue/status/2097177531665481806> [V-mtQ4d9QUodw] Video: DeWEB is here - Everyone's talking about beauty/ YouTube: <https://www.youtube.com/watch?v=mtQ4d9QUodw>

Chinese edition source page 100

Chapter 8: Ecological Map

This document was automatically generated from PDF and has not yet been independently proofread; please check the original text against the page number backtracking annotations.

Chapter 8 Ecosystem Mapping: Markets, Data, Tools, and Works

TapeOut has only been online for a little over a month, and the community has already created dozens of websites and tools: trading markets, data dashboards, mining assistants, on-chain websites, chat applications, and even free on-chain games. This shows that many people genuinely want to create things on it. This chapter categorizes them by purpose, helping you know "where to find what you want to do" - perhaps after reading this, you'll want to create the next one yourself.

Notice

A few reminders before exploring the ecosystem: Aside from items marked "Official," all products listed in this chapter are community or third-party creations - this is where the ecosystem thrives, but it doesn't represent official endorsement or a recommendation for this book. When encountering links to wallets, signatures, or authorizations, verify the complete domain name first, and only authorize operations you understand. This will ensure a safe and worry-free experience. The following links are all accessible as of September 2026 and may become invalid after publication.

TapeOut Eco Map (September 2026) Inner circle: Official/Official related; Outer circle: Community and third parties (non-official endorsement); Red box: Irrelevant projects with the same name.

Trading Marketplace DeWEB / News TapeOut.market / First TapeOut.space / DeQQ / TAPQQ
SiliconX / TapeOut Club 8.888 Premium Number Mall / Container Uploader tapeout.net PoD Mining
Official Website dApp / Canvas / Marketplace tapeout.net/pod/ Data Browser Games & Works
TapeOutScan / TapeOut.work Game of Life / Gomoku tapeout.vip / Dune NAND Driver / C3S Linux

Chinese edition source page 101

Demo TapeKit / tape://tapeout.net/linux.html TapeOut tapekit.org Gateway Protocol / BNB Chain
Mining Tool Learning and Navigation GatePilot / TapeOut.build TapeOut.link / TapeOut Daily Report
TapeOut.pro / TapeLens HashPort TapeSend BEM.community / Tutorial Site On-Chain Frontend
Hosting (Commercial) TAP-10 Message Layer Launcher / Small Application Note: Unrelated tokens
with the same name TapeHub (Published by the Founder) / TapeOutX on Toshi X Layer / \$TapeOut
Burnbern on fclap.sh / Nibble, a work by the editor (made by the editor Hong Qigong himself), see
Chapter 8, 8.9 "The Complete TapeOut Beginner's Guide" / Self-drawn illustration TapeOut Eco Map
(drawn by the author of this book).

The most comprehensive ecosystem overview comes from Black Mario's "In-Depth Overview of the TapeOut Ecosystem" on Odaily (September 20, 2026; reprinted by PANews under the title "A Panoramic Overview of the TapeOut Ecosystem"). This chapter's categorization references that article, supplemented with links we've verified ourselves. For an earlier list of tools, see Something's (@something_labs) "A Glimpse into the TapeOut Community Ecosystem Tools" from August 28th, which categorizes early tools and their authors by trading, mining, and data.

8.1 Official and Official Related

/ Name / Address / Purpose // --- / --- / --- // TapeOut Official Website / tapeout.net / Canvas, Projects, Marketplace, Containers, Mining (Official) // PoD Mining Page / tapeout.net/pod/ / Mining, Question Bank, Formulas (Official) // tape:// G ateway / tapekit.org / Open O n-Chain Website (Official) // HashPort / hashport.ai / Upload O n-Chain Website (TapeKit R EADME refers to it as a commercial service); Founder @ Blonskr claims it is the first commercial project based on TapeOut, and he has provided technical guidance // TapeHub / tapehub.ai / Coin Launch Platform: Founder @Blonskr personally launched it on 2026-09-15, calling it the "TapeOut Launch Platform" (the operating entity is not verified in this book); According to the announcement, 50% of the

national treasury revenue will be used to repurchase and burn BEM / The inaugural hackathon (in progress) Who organized it: IGNIX (@Ignixbot) announced the start of the competition on September 22. X Layer's Zakk (@zakk_okx) retweeted it, saying, " Great to kick off TapeOut's first hackathon with @ Blonskr." What to compare: TapeOut Genesis Transistor Hackathon - Deploying your own processor via TapeOut on the X Layer mainnet and configuring... Transistor supply and price are ranked by the quantity produced, not just by trading volume or coin price; wash trading and wash trading will result in disqualification.

Time and Prizes: 12:00 PM, September 22, 2026 to 12:00 PM, October 6, 2026 (Hong Kong time, same as Singapore time); Top three prizes: HKD 8,000 / HKD 4,000 / \$2,000, and the first-place transistor will become the " Ignix Genesis Transistor".

How to participate: As required by the event page (Ignix), the processor must be deployed on the X Layer mainnet via the TapeOut factory; the transistor supply, unit price, and upper limit must be publicly set during deployment; at least one circuit on this processor must be completed before the deadline (the event page FAQ states that whether it is your own or someone else's, it counts); the project must have a clear purpose; finally, submit the processor contract address, deployment wallet, product demonstration, and project description through the form.

For a step-by-step guide, you can check out Venz's (@wenzherunze) comprehensive competition tutorial (the tutorial lists @ TapeOutWorld as a co- organizer, but the original IGNIX post didn't mention it). Episode 20 of 93.bitmap's (@93bitmap) popular science video also specifically covers competition details (see Chapter 1.1).

PodMining 挖矿合约	已封印 • owner = 零地址 • 挖矿规则谁也改不了
晶体管市场	已封印 • owner = 零地址
BEM 代币	没有管理员 (无 owner) • 唯一能铸币的是 PodMining
BEM 交易税	8 月 21 日创始人宣布放弃原定 0.2% 交易税

8.2 Trading Market

/ Name / Address / Description // --- / --- / --- // TapeOut Market / tapeout.market / A third-party transistor/circuit marketplace with FAQs and an open API; screenshots of P ANews mining tutorials are from here / Firsto / TapeOut.firsto.ai / Third-party transaction and on-chain data dashboards // SiliconX / siliconx.top / Third-party trading platform // Name / Address / Description // --- / --- / --- // TapeOut Club / tapeout.club / Compare prices across multiple markets at once, keeping your money in your own wallet // ChipMarket / yuequan123.com/bem / Third-party TapeOut trading terminal (Page title: "ChipMarket / TapeOut Trading Terminal") /

8.3 Data and Browsers

/ Name / Address / Description // --- / --- / --- // TapeOutScan / tapeoutexplorer.com / Public Data Explorer: Commitment, Tapeout, Mining, Top Performers, Transfers, Address Computing Power // TapeOut Protocol Data / tapeout.work / Public Data Terminal; Community navigation states it belongs to TapeOut Labs, the site describes itself as public data analysis, official status unverified // tapeout.vip / tapeout.vip / Third-party data panel // Dune Dashboard / TapeOut Mining Intelligence / Dune user ekonomeest's mining data dashboard (third-party) /

8.4 Mining Auxiliary Tools

/ Name / Address / Description // --- / --- / --- // GatePilot / tapeout.vibedegens.com / Gate-level circuit optimization and design search, now also includes mining rig rental (page title: "PoD Mining & Rental One-Stop Platform"). Rental contracts require circuit authorization; before authorizing, check if the other party's contract allows upgrades and the scope of a authorization. // Computing Power Canvas / tapeout.build / Third-party Circuit/Computing Power Design Tools // Verifier / tapeout.pro/verifier / Test Vector Verification // TapeLens / tapelens.xyz / Circuit and Miner Data View // TapeStar / tapestar.org / A "One-Click Mining" Aggregator by the Mantacoin (@mantacoin) team (Introduction post, 2026-09-23, Early Beta): Compares material purchasing and chip fabrication plans based on budget, claiming

that assets remain in your own wallet. It involves signature verification; first-time users should try as small a mount. /

8.5 DeWEB: On-Chain Websites and Messaging

/ Name / Address / Description // --- / --- / --- // tapeout.space / tapeout.space / A blockchain website "circuit diagram," community gateway, and one-click blockchain deployment tool created by SpongeMochi (@spongemochi) (author's note). The author clarifies that it is a community gateway, not an official entry point, and can access websites that are not yet operational. // TapeWeb / web.tapeout.link / On-chain site viewer (Page title: "TapeWeb / TapeOut On-chain Site Viewer") // Container Factory / id.tapeout.link / A one-click container opening tool created by Xiao Zhanyang (@Xiao_zhanyang): Select Number Casting Tapeout Container Opening (Introduction Post) /

/ TapeChat / chat.tapeout.link / Xiao Zhanyang (@Xiao_zhanyang)'s on-chain messaging tool based on TapeSend, supporting inter-chain messaging between BNB Chain, X Layer, and Base (post) /

/ DeQQ / deqq.pages.dev / A third-party chat client based on TapeSend // TAPQQ (1.888.tape) / 1-888.tapekit.org / A retro Q Q-style blockchain chat application (Editor's work, see 8.9) / hint The TapeChat post by Xiao Zhan () mentioned TAPQQ, providing the address 1688-0.tapekit.org. That's actually another site of the editor, BURNBEM Game Hall (tape://1688.0, see 8.9); TAPQQ itself is at tape://1.888 (1888.tapekit.org). Both addresses were verified using the official TapeKit kernel on September 25, 2026.

To understand how these clients emerged after TapeSend became open source, you can read Y W's (@ywwweb3) article, "24 Hours After TapeSend's Birth" (which also mentions TAPQQ).

8.6 Games and On-Chain Projects

These works demonstrate "what on-chain circuits can do" and are great for beginners to explore (most are read-only and do not require a wallet):

/ Work / Address / Highlights // --- / --- / --- // Perpetua / h805846716.github.io/perpetua / A "Game of Life" Implemented with 14,592 Gates // NAND Driver / jogjohgoeg.github.io/nand-driver / Joouoooo's (@zhuoning293) On-Chain Self-Driving Car: Driving with Only 21 NAND Gates // Device-made into circuit number 279 on the author's own processor, with each turn calculated by the BNB Chain node (original post by the author) // Work / Address / Highlights // --- / --- / --- // C3S Reflex Circuits / brucelanlan.github.io/c3s-reflex-circuits / A circuit research object inspired by fruit fly reflection // BEM Clock / fashen002.github.io/bem-clock / On-chain circuit clock /

/ NANDPU / nandpu.app / NAND Processor Experiment / TapeOutScan Mini-Games / tapeoutexplorer.com / This site features mini-games like "Black Myth" and "Gomoku".

/ GateCraft / gatecraft.fun / BruceBlue's (@BruceBlue) Mid-Autumn Festival experiment for the community: Creating a NAND circuit in a browser that can be checked cell by cell (long introductory article; the author states that this is personal research and does not represent TapeOut) // Neon Reliquary: Oath Expedition / 1-2-231.tapekit.org / A four-player team action game released by Alphana (@0xAlphana) on September 24th, deployed on the X Layer on-chain website (the 2 in the address is the X Layer area code); players can be the team leader themselves or delegate the leadership role to an external AI, and it's free to play without a wallet. Founders

@Blonskr shared and recommended. See Chapter 11 for the trailer.

/ TAPE STRIKE / 1.894.tape / SpongeMochi's (@spongemochi) on-chain shooting game, 600KB. All written in BNB Chain (introduction post) / Two other noteworthy "major projects" are: JayChen (@0xJayChen), in his long article "166,700 Neurons: I Built a Fruit Fly onto the BNB Chain," compiled the neural network of a fruit fly into 10,419 circuits, currently deployed on the BNB testnet, preparing for the mainnet launch, and inviting the community to participate; CUPID (@cupid_elvis) is also attempting to use NAND and LATCH to express as implied model of fruit fly neural reflexes. Joouoooo (@zhuoning293)'s on-chain autonomous vehicle, mentioned in the table above, was also shared and introduced by founder @Blonskr.

8.7 Launchpad and Small Applications

TapeHub: A cryptocurrency launch platform personally launched by founder @Blonskr on September 15th, called the "TapeOut Launch Platform" (the operating entity is not verified in this book). Anyone can create a cryptocurrency project, selecting BEM / BNB / USD1.

The project uses a base pool coin with as et total supply and price for transistors. Once the Mint pool is full, the project " graduates," automatically creating a pool on PancakeSwap and permanently locking up liquidity. Project tokens are generated through mining. 5 0% of the treasury revenue is used to buy back and burn BEM (Chapter 6). A Ida (@nat_poprika, referred to by the community as an early team member, identity unconfirmed) posted a direction summary after the AMA: TapeHub aims to help the technical team move from initial launch to long-term development, with the current priority being to make DeWEB truly usable.

ToshX: A third-party token launcher; its first token is \$ TO. YW (@ywweb3) commented (September 23, 2026) that the increasing number of third-party token launchers indicates a growing ecosystem, but i t's crucial to assess their ability to clearly explain the token's purpose and effectively implement buybacks and burns. T hird-party token launchers are not official products; do your research before participating.

Burnbem / The Master of Slacking Off: The editor's B URNBEM Game Hall (tape://1688.0), which specifically collects o n-chain m ini-games that destroy BEM. This is the e ditor's work; see section 8.9. The game hall also includes the competitive mini-game Nibble (created by KallyGame) (burnbem.ai/nibble), which is not the editor's work.

8.8 Learning, Navigation, and Community

/ Name / Address / Description // --- / --- / --- // TapeOut Ecosystem N avigation / tapeout.link / A comprehensive collection of Chinese and English entry points, including articles, milestone timelines, and roadmaps // TapeOut D aily / tapeoutdaily.ai / A TapeOut information aggregation for domestic users, with each piece of information marked with its source level (editor's work, see 8.9) // BEM Community / bem.community / An independent English portal // TapeOut Getting S tarted / tapeout-guide-public.vercel.app / A Chinese b eginner's s ite // giang.me / giang.me/tapeout / Interactive explanations in Vietnamese/English/Chinese // Blonskr F ans / blonskr.com / A c ommunity-created archive of works (self-proclaimed fan site, not official), with links to the founder's original posts on each

page, making it easy to find announcements // Hackathon Participation T utorial / Venz's Tutorial / Venz's (@wenzherunze) illustrated participation steps (see 8.1) // Telegram / t.me/TapeOutnet / TapeOut's Telegram community (approximately 1,821 members, data as of September 2026). The navigation site lists it as official, and the founder @Blonskr's X profile also lists this group in the " Location" field; however, neither the official website nor the founder has made an official statement. This book is treated as " unverified official status," similar to @TapeOutWorld. /

8.9 The E ditor's Works

The book's editor, Hong Qigong (@CryptoLoser9), is the founder (and president) of RWA University, a Crypto investor, and one of the earliest participants, developers, and builders of the TapeOut community. In the past two weeks, he created six small applications using AI programming (vibe coding) and listed them himself in a post on September 24, 2026. The list below is based on the e ditor's original words; the Nibble on the last line is a work by KallyGame, also included in the e ditor's game library. These are the e ditor's own creations, not official TapeOut products; whether or not to use them is up to you.

Notice

The editor's own reminder: " These are all unfinished products; please use an ew wallet to experience them." / Work / Address / Description / / --- / --- / --- / 1. TapeOut Daily / t apeoutdaily.ai (General Website) / TapeOut information aggregation for domestic users, not yet operational. Posted by the editor on 2026-08-31.

/ 2. Master of Slacking Off / 1688-0.tapekit.org (tape://1688.0, game page is /moyu.html) / Casual game, beta version a vailable /

Chinese edition source page 105

/ Work / Address / Description / / --- / --- / --- / 3. Burnbem / 1688-0.tapekit.org (tape://1688.0); W eb2 equivalent: b urnbem.ai / A collection of mini-games for destroying \$BEM, with destruction data s tatistics / 4. TapeOut Container Uploader / Access it from the " Open File Uploader" section on the homepage of 1688-0.tapekit.org (page at burnbem.ai/uploader) / A tool for uploading files into TapeOut containers. The editor found HashPort's uploader inconvenient and created their own.

5. TAPQQ / 1 -888.tapekit.org (tape://1.888) / A nostalgic creation, currently only available for peer-to-peer chat. For beginner tutorials, see YW (@ywweb3)'s " TAPQQ B eginner's Guide".

/ 6. 8.888 Premium Number M all / 8-888.tapekit.org (tape://8.888) / A newly launched, semi-finished product, still under testing. Officially released on 2026-09-25 by the e ditor. / / Nibble (by K allyGame) / b urnbem.ai/nibble (regular webpage, accessed through the BURNBEM Game C enter) / A real-time competitive game where you devour, grow, and compete for rankings. Currently in demo format. The author is KallyGame (@KallyGame), not the e ditor's work, but included here because it's in the editor's game center. / Items 2, 3, and 4 are all on the same on-chain site t ape://1688.0 (BURNBEM Game Center), so there are 3 o n-chain sites (1688.0, 1.888,

8.888) and 6 items in total. The e ditor's original post incorrectly listed the address as " 1688-0tapekit.org," missing a dot; the correct address is 1688-0.tapekit.org. All three on-chain sites were verified using the official TapeKit kernel as of September 25, 2026. Their homepage titles are " BURNBEM / DeWEB Game Center (Rendering)," " TAPQQ," and "8.888 / DeWEB Premium Number M all," respectively. They are also included in Chapter 7, Section 7.7, "Community DeWEB A pplications." Key points of this chapter There are only a few official entry points: tapeout.net, /pod/, TapeKit.org, and H ashPort, which is approved by the README; TapeHub Released by the founder himself, it is called "TapeOut Launch Platform" (the operating entity is not verified in this b ook).

The inaugural Hackathon will be held from 12:00 on September 22 to 12:00 on October 6 (Singapore t ime). To participate, you need to deploy a processor on the X Layer m ainnet, fabricate at least one circuit, and submit a form. See section 8.1 for details.

Marketplaces, data, mining tools, DeWEB applications, and games are mostly developed by communities or third parties, and are not officially endorsed.

To understand "what o n-chain circuits can do," it's safest to start with read-only games and works.

Before using any third-party tools that require a signature, verify the domain name and carefully review the authorization details.

Six works by editor Hong Qigong himself (TapeOut Daily, The Master of Slacking Off, B urnbem, TapeOut Container Uploader, TAPQQ, The 8.888 premium number mall is concentrated in 8.9 " Editor's Works"; in his own words, they are all unfinished products, please use a new wallet to experience them.

Further Reading [M07] " In-Depth Overview of the TapeOut Ecosystem" (PANews reprinted under the title " A Panoramic Review of the TapeOut Ecosystem") - Black Mario/ Odaily Planet Daily: <https://www.odaily.news/zh-CN/post/5213070> TapeOut Community Ecosystem Tools Overview (August 28, 2026) - New Item / Something (@something_labs) / X: https://x.com/something_labs/status/2093240501604601900 "Full Progress! TapeOut's Recent Developments, New Products, and My Honest Thoughts" (Late September Ecosystem Snapshot) - YW (@ywwweb3) / X: <https://x.com/ywwweb3/status/2102475330036678997>

Chinese edition source page 106

TapeOut Genesis Transistor Hackathon Announcement - Ignix (@Ignixbot) / X: <https://x.com/Ignixbot/status/2102254346172051730> [S01] TapeOut Ecosystem Navigation - TapeOut Ecosystem Navigation / tapeout.link (community website): <https://tapeout.link/> [S02] TapeOut Daily (Editor's Work) - Hong Qigong / tapeoutdaily.ai: <https://tapeoutdaily.ai/> [S11] TapeOutScan - TapeOutScan / tapeoutexplorer.com: <https://tapeoutexplorer.com/> [M14] TapeOut Ecosystem: On-Chain Chips and BEM Mining - Qinglan/ [qinglan.org](https://www.qinglan.org): <https://www.qinglan.org/tapeout-ecosystem-onchain-chip-bem-mining>

Chinese edition source page 107

Chapter 9: Security Section

This document was automatically generated from PDF and has not yet been independently proofread; please check the original text against the page number backtracking annotations.

Chapter 9 Getting Started with Safety: Risk Warnings and Self-Protection

Understand this chapter in one minute Every new ecosystem has its imperfections during its growth. Knowing what to watch out for will allow you to play with more peace of mind. This chapter explains contract permissions, economic models, common scams, and teaches you how to verify them yourself.

The founders have relinquished, and the on-chain verifiable permissions are: the mining contract P odMining and the transistor marketplace are sealed (owner).

(It's a zero address), and no one can change the mining rules; the BEM token has no administrator, only the mining contract can mint coins.

There is a discrepancy between the documentation and the on-chain data: tape monthly fee (the documentation states 0.08 BNB, but the on-chain reading is 0).

Increased network computing power will lengthen the payback period; therefore, it is recommended to leave sufficient margin and only invest spare cash.

Look for the BEM contract 0x5ce0...695a; ignore all private messages offering to " help you set up a mining rig"; revoke authorization promptly after use; claim rewards before selling mining rigs.

9.5 Explaining the Bitget theft incident: Front-end blockchain (DeWEB) can prevent webpages from being swapped, but it cannot prevent back-end control.

The previous chapters explained "how it works," and this chapter is a "security beginner's guide." Understanding these points isn't meant to scare you away, but rather to help you use it more confidently and sustainably. We've divided the things to watch out for into three categories: contract

permissions, economic models, and fraud and operational errors. Finally, using the Bitcoin theft incident on September 25th as an example, we'll discuss what "on-chain front-end" can prevent. For each point, we've tried to provide methods you can verify yourself - being able to check yourself is true peace of mind.

hint All "on-chain tests" in this chapter were obtained by this book through read-only queries on public RPC nodes on September 25, 2026 (approximately 14:05-15:21 Singapore time, BNB Chain block numbers approximately 123,897,904-123,908,049), without any transactions being sent. Contract states may change at any time; please refer to the on-chain data at the time you view it.

9.1 Contractual Permissions: Which permissions has the founder relinquished?

Understand this section in one minute This section answers only one question: Which rules are fixed and cannot be changed by anyone?

"Sealed" = The administrator throws away the key to change the rules; after sealing, no one can change them.

Chinese edition source page 108

Sealed: Mining contract PodMining, official transistor market. The BEM token itself has no administrator; only the mining contract can mint it.

You can check these statuses for free on BscScan (Read Contract isSealed / owner) without connecting to your wallet.

First, let's explain the term: seal. TapeOut contracts generally include a seal() function. Once called, the upgrade right is permanently relinquished, isSealed() changes from false to true, and the owner (administrator) becomes a zero address.

What permissions has the founder relinquished?

The first three lines are from a 2026-09-25 on-chain read-only test of this book; the transaction tax line comes from the founder's announcement. Only the confirmed parts are listed, and it does not mean that all contracts have relinquished control.

The PodMining mining contract is sealed; owner = address zero; no one can change the mining rules. The transistor market is also sealed; owner = address zero.

BEM tokens have no administrator (no owner). The only entity authorized to mint BEM is PodMining. Regarding the BEM transaction tax, on August 21st, the founder announced the abandonment of the originally planned 0.2% transaction tax.

TapeOut Beginner's Complete Guide - Self-drawn Illustrations Permissions relinquished by the founder (on-chain testing and founder announcement, September 25, 2026, illustrated by the author).

/ Contract/Permissions / On-chain Status (2026-09-25) / Meaning / --- / --- / --- // PodMining
0x7E2E...7b46 / is sealed, owner = zero address / mining rules are frozen, no one can change them /
/ Transistor Marketplace 0xA6a8...16E4 / Sealed, owner = address zero / Rules frozen // BEM token
0x5ce0...695a / No administrator; minter = PodMining / Only mining contracts can mint coins, total
supply capped at 21 million // BEM Transaction Tax / Founder Announces Waiver of Original 0.2%
Transaction Tax on August 21 (Chapter 6) / No Transaction Tax for Buying and Selling BEM /
PodMining's seal was locked for 48 hours (TimelockController 0xabc95...4876): the scheduled

transaction was submitted on September 12, 2026 (visible on-chain), and executed at 17:38 (Singapore time) on September 14,

2026. Founder @Blonskr issued an announcement on the same day.

Chinese edition source page 109

On August 18th, the community timeline stated that "the market contract admin has given up." What can be confirmed on-chain is that the transistor market has been sealed and the owner is a zero address.

hint One point to note while reading: This list only includes permissions that can be confirmed on-chain and that the founder has relinquished. The statement "all permissions have been relinquished" in the manifesto has not been verified on-chain for each contract, so do not interpret it as all contracts having relinquished permissions. You can check the status of other contracts at any time on BscScan using the method described above.

Conflict of statements There's a discrepancy between the documentation and the blockchain: Should the tape name have a monthly fee?

TapeKit README and Specifications: Activation fee is 0.08 BNB / 30 days, payable in advance for 1-120 months, non-refundable. HashPort page: "0 BNB" The service fee was stated as "optional and free," and the domain name binding was described as "optional and free." The community timeline stated that the monthly fee would be waived starting September 19th.

On-chain testing: DomainBinding contract monthlyFee() returns 0..

Conclusion of this book: The on-chain fee was 0 at the time of writing, the document had not yet been synchronized, and the fee may be adjusted in the future. Please check again before paying.

9.2 Economic Models: Hearing Different Voices

A healthy ecosystem welcomes diverse voices. Understanding what skeptics are worried about can help you make more informed decisions. As early as August 17th, Odaily Planet Daily author Golem (@web3_golem) offered an outer perspective in a report: the protocol is essentially still close to the EVM.

The "mining game" model requires a high level of knowledge in electronic circuits, and its financialization could lead to losses and disputes. CoinW The research institute's article (reprinted by PANews on September 22, 2026) systematically summarizes the "Ponzi scheme" accusations in the market. We paraphrase the core logic below (the viewpoint belongs to the original author):

1. Purchasing components, building mining machines, and making additional investments can give you more tokens, but it will not automatically increase the amount of BNB or stablecoins available to absorb the sell orders.

2. If transaction fees primarily come from subscriptions, mining, and insider trading, then buybacks essentially reinvest participants' money back into the market.

Instead of introducing external revenue.

3. When new funding slows down, existing miners and token holders want to sell and cash out, but the question arises: who will buy their tokens? Liquidity locking can only prevent pool withdrawals.

It cannot prevent concentrated selling from causing price shocks.

4. After component prices rise, new investors may only be able to maintain their original share if they invest more; the hotter the market, the harder it is to break even.

The article also acknowledges that the protocol already has a certain transaction volume and on-chain activity, and suggests focusing on "how many circuits are continuously invoked and how many independent payments are generated." This is actually the most promising direction for the ecosystem: when circuits are truly used, value will have a source.

hint

Chinese edition source page 110

Referring to the break-even calculation in Chapter 5: for every doubling of the overall network weight, your daily output halves, and the break-even period doubles. This is precisely the mathematical meaning of point 4 above. Furthermore, the break-even period is calculated assuming a constant coin price. Coin prices can fluctuate wildly, so using a conservative estimate and only investing spare cash will make things much easier.

9.3 Recognize the genuine product: Avoid counterfeits and false alarms

Once a project becomes popular, those trying to ride its coattails will flock to it. Fortunately, it's not difficult to distinguish them; just remember the following points.

Tokens with the same name but unrelated TapeOut X on the X Layer (TAPEOUTX), contract 0x16aa672dda63f5acd0de098c04c4a3e957d1eeee, is described in the blog. Bittrue but it is unrelated to the TapeOut protocol and BEM.

The \$TapeOut meme on flap.sh claims to be unrelated to the developer.

There is another token on the BNB Chain with the same name and symbol, "TapeOut," contract 0x3142892d1ae4b98eaf9e0471445f5474be0e7777 (This book reads on the chain on 2026-09-25 that both name and symbol are TapeOut). Whether it's the same as \$TapeOut in the above flap.sh, and who posted it, is unclear in this book; what is certain is that it is not BEM..

The actual BEM contract is 0x5ce033B2bFCa3Af30b3e8C8457DeaF776A8b695a (BNB Chain, 8 decimal places).

Before buying, verify the contract address, don't just look at the name.

On September 22, when the market was bustling, community author Martin_sen (@martin23_sen) posted a reminder, which YW (@ywwweb3) then relayed and spread: TapeOut's only official token is \$BEM (the address above). Beware of fake tokens, meme tokens that use the name, and "a bunch of projects promoting themselves with 200Ks".

Five common scam tactics Community author @93bitmap wrote a very practical anti-fraud post on August 28th, summarizing the most common tricks used after something becomes popular:

1. Sending private messages saying "I can design a mining rig for you" or "I can assemble the circuit for you";
2. Fake official website, fake customer service, fake airdrops;
3. Copycat tokens: Tokens with names deliberately similar to TapeOut, Behemoth, Genesis, and BEM;
4. Third-party tool licensing pitfalls: unlimited licenses (Approve), upgradeable rental/collection contracts;
5. "Call me first, and I'll help you assemble the team." He also explained the functions of transferring money, approving, signature login, and SetApprovalForAll in the context of signing, and the last sentence

was easy to remember: " Can design, but not guarantee. Can quote prices, but not hold shares on behalf of others. Can make tools, but won't ask for your seed."

Chinese edition source page 111

Lottery-type gameplay Some community applications use lottery/sweepstakes-style gameplay, such as tapeout.cc/cd (page title "Tapeout Chip Spark Treasure Hunt"). The author, Strategy Lao Chen (@ZxzbSdRw7565), explains that it uses Behemoth...

The lottery results are calculated using a circuit. This type of game is essentially gambling; before participating, check the regulations in your area and only use it for entertainment purposes.

Third-party " cooperation" promotion When a third-party account announces a "partnership with TapeOut," first check if the founder or official channels have confirmed it. For example, U Pay's official account announced a partnership with TapeOut on September 10th, but at the time of writing, I had not seen any confirmation from the founder.

What to do if your wallet pops up a "phishing website" warning?

When opening tapeout.net with wallets like MetaMask, warnings such as "phishing website" sometimes pop up. Simply put, this is because the wallet's team hasn't yet added the TapeOut protocol to its list; TapeOut is still relatively new, and this situation is not uncommon.

The easiest way: Simply switch to OKX Wallet. Regardless of which wallet you use, remember to verify that the URL matches the official website tapeout.net exactly, and only access the site through links on the official website or in announcements from founder @Blonskr.

Errors in Second-hand Data The K uCoin blog contains obvious errors in its informational articles (such as "supply less than 40,000"), so please do not directly quote its figures. When encountering figures in this book, please try to check them against the on-chain information or the original text on the official website.

9.4 Five Good Habits You Can Take Control of Yourself

The following points are all in your own hands; making them a habit will allow you to avoid most of the pitfalls.

Approve: Many third-party marketplaces and tools require you to authorize them to operate your NFTs.

Or tokens. After authorization, the other party's contract can transfer assets without your confirmation. Revoke the authorization promptly after use (you can use tools like BscScan's Token Approval Checker to check).

Third-party tape-out platforms: Starting September 12th, a protocol fee will be required for tape-out (Chapter 3). Founder @Blonskr The upgrade announcement requires third-party platforms to read the contract's TAPEOUT_FEE() function before adding this amount. If a third-party platform asks you to pay significantly more than the protocol fee + transactors + gas, stop and ask for clarification.

Rewards during the listing period: According to the official website, unclaimed mining rewards will be transferred along with the NFT; anyone can claim the reward, and the reward will be sent to...

The holder at the time of the call, and is not protected by pending orders or freezes. Claim the reward before selling the mining machine.

Assets in the container: Assets in the container (ERC-6551 account) move with the circuit NFT. Selling the circuit will also sell the items in the container.

Chinese edition source page 112

TapeSend's metadata is public: who sent the message to whom and when it was sent can be seen on the blockchain.

Private key and mnemonic phrase: Anyone, any website, or any "customer service" representative asking for your mnemonic phrase is a scammer.

9.5 Starting with the Bitget theft: What can and cannot be prevented by blockchain technology on the front end?

Understand this section in one minute In the early hours of September 25th (Singapore time), approximately \$350 million was transferred from some of Bitget's hot and warm wallets. (According to Bitget...) The current explanation is that the wallet's backend system was hacked, not that the private key was lost or the website was modified.

On that day, the founders and the community used this event to talk about DeWEB (on-chain front-end). YW The long article explains which parts can be repaired and which parts cannot, making it a worthwhile read.

Editor's opinion: DeWEB primarily defends against "webpage hijacking" (Bybit and similar attacks); Bitget In situations where the backend is controlled, simply adding blockchain access to the frontend cannot prevent it.

First, let me explain what happened (only what is publicly reported).

Time and Scale: Bitget's official security notice states that on September 24th at 18:31 UTC (Singapore time September 25th)...

(02:31) The system detected unauthorized transfers from some exchange hot wallets, affecting approximately \$351.6 million; cold wallets are secure; the losses will be covered by a user protection fund of over \$464 million; deposits and transactions are proceeding as normal, but withdrawals are suspended.

How it was stolen: According to CoinDesk, CEO Gracy Chen said on X that attackers breached a key backend system within the wallet ecosystem.

It was used to forge transfer data and then trigger the exchange's own authorization process to transfer the money away; private key leakage has been ruled out; the specific method of intrusion is still under investigation, and a full technical report will be issued after confirmation.

How is this different from the Bybit incident? ABMedia's report, quoting Chen's livestream, states: The Bybit theft in 2025 was fundamentally due to Safe...

The front-end of multisignature wallets was hacked and the interface was tampered with, making the signers believe they were conducting normal transactions; in Bitget's case, the back-end authorization process itself was exploited. The identity of the hacker is still unknown.

In layman's terms: the safe key wasn't lost, but the "office for issuing withdrawal slips" was occupied, and the fake slips went through the real process.

What TapeOut said that day At 12:05, founder @Blonskr issued a "solemn appeal," urging DeFi and third-party tools to deploy the front-end to...

DeWEB, and stated that he would personally sponsor the security costs of on-chain front-end (see Chapter 7 for details). At 13:53, he also retweeted the Space announcement for 21:00 that evening, the theme of which was "Condemning Hackers and Finding Safer Solutions for the Industry" (retweeted post). This Space was initiated by the book's editor, Hong Qigong (@CryptoLoser9). At 15:43, community author Y W (@ywwweb3) published a long article, "From the Bitget Theft, Why the Crypto Community Should Take a Closer Look at TapeOut," which the founder quoted and retweeted at 15:54.

@TapeOutWorld (This book's official status is unverified) posted two English posts that day: one saying that front-end development is not just about the interface, but also affects your most...

Ultimately, DeWEB makes it easier to publicly verify front-end files and versions; another point is that a transaction is valid on-chain.

Chinese edition source page 113

This does not mean it is reasonable in terms of business operations. Security should not rely solely on "trusting the server, trusting updates, and trusting pages that seem to be fine." What did Y W say in his long article (author's viewpoint)?

The core message of the article is: The blockchain is very robust, but the layer beneath it is very flexible. Blockchain only guarantees the latter half: once a transaction is signed and recorded on the chain, no one can alter it. However, it cannot control the former, such as who issued the order, whether the document displayed on the screen is the same as the one sent for signature, or whether the withdrawal rules have been altered on the server.

The author believes that approaches like TapeOut could fill the gaps in the "five rings" before signatures take effect:

1. Withdrawal rules are written on the blockchain: withdrawals are only allowed to pre-registered addresses, large amounts will require a waiting period, and amounts exceeding a certain limit will require a second set of conditions. This way, fake withdrawal orders will not be possible.

Then, automatic execution equals a legitimate instruction. The author also states that strict multi-signature and funding strategy contracts can achieve the same result; TapeOut is not the only solution.

2. The page you see is the one registered on the blockchain: TapeKit checks the hash when you open the website to prevent it from being copied by bit.

That kind of "screen lying." The author explicitly states that this isn't a fix for the Bitget backend vulnerability, but rather for the more common issue of frontend code swapping within the same category.

3. Key logic cannot be secretly changed: The judgment of money management should be solidified into on-chain circuits. If the logic is changed, it will become visible to the entire network.

4. Money and rules are put together: Containers bind a piece of logic and an asset to the same account.

5. When signing, you see the on-chain identity, not the name given by the webpage itself.

The author also frankly addressed the gaps in the information: on-chain circuits are public and cannot store private keys; an on-chain circuit cannot replace a hot wallet signature on other chains like XRP; if the rules themselves rely on "trusting the official key," losing the key will still cause problems;

transfers already on-chain cannot be reversed. He also cautioned that TapeOut has been online for less than two months, has slow execution, and a small ecosystem; "paying attention to it doesn't mean buying it or praising it." hint Editor's Note: What type of attack does the on-chain front-end protection prevent? According to Bitget's current statement, the attack occurred when the wallet's backend system was compromised and fake data

went through the genuine authorization process, rather than the webpage opened by the user or signer being tampered with; the specific method of intrusion is still under investigation. DeWEB ensures that the webpage file you open is consistent with the one registered on the blockchain, primarily targeting attacks like B ybit's where the front-end was compromised. Therefore, the founder's statement that "most problems stem from front-end tampering" is more accurate for B ybit's case and has no basis in Bitget's case; his quote from YW's long article that "deploying DeWEB can completely solve this problem" is also an overstatement. Furthermore, the sealed contract protects the rules of the on-chain contract itself and

does not govern the hot wallets of centralized exchanges. On-chain front-end protection is a useful layer of protection, but it cannot replace backend security and access control. It is more prudent to draw conclusions after Bitget releases its full technical report.

Key points of this chapter Founders have relinquished control, confirmed on-chain: PodMining and the transistor marketplace are sealed (owner is a zero address); BEM tokens have no administrators, only mining contracts can mint them; BEM has no transaction tax. This does not mean all contracts have relinquished control..tape monthly fee: documentation states 0.08 BNB, on-chain testing shows 0, subject to change.

Recognize official tokens and ignore private messages offering to "build mining machines for you." Only use lottery-type games for entertainment purposes.













Chinese edition source page 114

The main criticism of the economic model is that "recovery depends on subsequent funding"; an increase in the overall network weight will directly lengthen the payback period.

Be sure to verify the BEM contract address 0x5ce0...695a, and be wary of coins with the same name; revoke authorization promptly, and claim rewards before selling mining equipment.

Bitget hacked (September 25, 2026): According to the official statement, the wallet's backend was compromised, not due to a leak of the private key or modification of the website. DeWEB It is a useful layer to prevent "front-end from being swapped out", but it cannot prevent the back-end from being controlled, nor can it replace back-end security management.

Further Reading [M08] "TapeOut Mechanism and Risk Analysis" - CoinW Research Institute PANews (Column): <https://www.panewslab.com/zh/articles/01a0c86f-6cb0-7373-83a4-d0fbfaa58aae> [O02]
TapeOut Declaration PDF - TapeOut Official (Blonskr) / tapeout.net (PDF):

<https://tapeout.net/TapeOut-Protocol.pdf> [D03] Processor Factory - BscScan / bscscan.com:

<https://bscscan.com/address/0x68224F668083c29e9800Be2a646d42d18cedF7e2> [D02] PodMining and Timelock - BscScan / bscscan.com:

<https://bscscan.com/address/0x7E2E0DC66a3bD9103E69b766afA62d9f7b697b46> [D01] BEM

Token - BscScan / bscscan.com:

<https://bscscan.com/token/0x5ce033B2bFCa3Af30b3e8C8457DeaF776A8b695a> [W01] Tapeoutx (A Negative Example) - Bitrue Blog / bitrue.com:

<https://www.bitrue.com/blog/tapeout-x-tapeoutx-price-contract-address-how-to-buy> Anti-fraud post: Five most common sales pitches used after something becomes popular (August 28, 2026) - 93.bitmap

(@93bitmap) / X: <https://x.com/93bitmap/status/2093269641229738263> Urgent Risk Warning: The only official token \$BEM (September 22, 2026) YW (@ywwweb3) / X: <https://x.com/ywwweb3/status/2102279391695053145> [O18] TapeKit Security Statement - TapeOut Labs / GitHub: <https://github.com/TapeOutProtocol/TapeKit/blob/main/SECURITY.md> [X49] From the Bitget hack, why the crypto community should pay more attention to TapeOut (2026-09-25) YW (@ywwweb3) / X (long article):

<https://x.com/ywwweb3/status/2103389804402495793> [M22] Bitget Security Announcement: Hot Wallet Incident - Bitget (Official Announcement) bitget.com: <https://www.bitget.com/support/articles/12560603896024> [M23]

Bitget Stolen: Forged Transfers, Not Private Key Leak - CoinDesk (Omkar Godbole) / CoinDesk:

<https://www.coindesk.com/markets/2026/09/25/bitget-s-usd351-million-hack-happened-via-spoofed-transfers-not-private-keys->













Chinese edition source page 115

ceo-gray-chen-says [M24] Gracy responds to details of Bitget hack - ChainNews ABMedia (Neo) /
abmedia.io: <https://abmedia.io/gracy-chen-bitget-wallet-bybit>

科普第 15 集

会在 Web3 应用中爆发吗? · @93bitmap



(文字卡片, 本书制作)











Chinese edition source page 116

Chapter 10: Further Reading

This document was automatically generated from PDF and has not yet been independently proofread; please check the original text against the page number backtracking annotations.

Chapter 10 In-depth Reading: Selected Articles and Guides

If you'd like to delve deeper after finishing this book, the following articles are worth reading. We've arranged them according to "reader stage," and each article includes a short introduction to help you decide whether to click on it.

Reading Notes: A part from official documents, the following views represent those of community or media authors and do not necessarily reflect the position of this book. Some article titles are emotionally charged or market-driven; we selected them because the content has explanatory value. For specific figures, please verify them on-chain or on the official website. X Long posts on Twitter require login to read in full; you can try mirror sites like TopicDigg.

10.1 Official First-Hand Documents (Must Read)

/ Number / Document / Author/Platform / Introduction / / --- / --- / --- / --- / / O02 / TapeOut On-Chain Microprocessor Manifesto (PDF) / TapeOut Official (Blonskr) / TapeOut.net / The only white paper-like document explaining " why build processors on-chain." Note that the statement " all permissions have been relinquished" is inconsistent with the current on-chain situation (Chapter 9) / / O24 / PoD Mining Page's " Algorithm" and " Formula" Tags / TapeOut Official / TapeOut.net / The most authoritative source for mining rules: weight formulas, parameter values, question bank, and challenge mechanism / / O12 / tape:// Specification v 0.2 / TapeOut Labs / GitHub / On-chain website naming, resolution, verification, and isolation rules; Original Chinese text /

/ O13 / TapeSend / TAP-10 / TapeOut Labs / GitHub / Design and Known Limitations of Encrypted Messages Between Containers / / O03 / Blonskr's First Tweet / Blonskr (@Blonskr) / X / Project Starting Point: On-chain Processor Composed of 2,251 NAND + Latches / / O26 / The core formula for mining released! / Blonskr (@Blonskr) / X / The original source of the PoD " best first" rule (2026-08-20). The phrase " not excluding small-scale detail optimization" is from the pre-release version. / / O32 / 2 6-Day Data Summary Announcement / Blonskr (@Blonskr) / X / Original text of figures including approximately 34,054 BNB trading volume as of September 9 th (official 2 6-day data), note that the statistics include two third-party marketplaces. /

10.2 Introductory Science (Suitable for reading after Chapters 1-3)

M05 New Thing / Something's " TapeOut Protocol for Beginners: From NAND Gates to On-Chain Mining" (PANews, 2026-08-25): Starting with NAND gates and progressing all the way to mining, it features many diagrams and as low pace, making it perfect for readers with no prior knowledge. <https://www.panewslab.com/zh/articles/01a03820-6305-75be-9e73-12005316087a>

M01 Deep Tide TechFlow "Understanding TapeOut: A Kid Built a CPU on the Blockchain" (August 17, 2026): One of the earliest media articles One interpretation focuses on the project's origins and first-day data. <https://www.techflowpost.com/article/33302>(<https://www.techflowpost.com/article/33302>)







TapeOut × X Layer

黑客松 × 人人美丽说

(原缩略图含人像，已替换)









Chinese edition source page 117

M04 BruceBlue's "From Mint to Tapeout: TapeOut Beginner's Guide" (2026-08-18): An early operation guide.

The interface has changed, but the underlying principles remain the same. h

<https://www.panewslab.com/zh/articles/01a00ff-7b7f-70ff-a188-0448b4d31797> X14 @ cupid_elvis's

"TapeOut Explained: A Beginner's Guide to NAND, LATCH..." (English, 2026-09-12): Suitable for sharing with English-speaking readers. h https://x.com/cupid_elvis/status/2098670687296843777 S03

TapeOut Daily Report (Editor's Work): "Understanding TapeOut in Five Minutes: How to Turn Logic into Circuits": A short, interactive explanation. <https://tapeoutdaily.ai/learn/from-nand-to-processor>

X18 CUPID (@cupid_elvis) "From Mining to Onchain Computing: TapeOut Through My Eyes" (2026-08-29): Using the analogy

of a "Lego city," this post clarifies the hierarchy of NAND/LATCH Circuit Mining Machine BEM, and corrects the misconception that "on-chain transistors are physical components."

https://x.com/cupid_elvis/status/2093526616257531954 X20 Y W (@ywwweb3) "A unified response to several recent popular questions about TapeOut" (2026-09-23): 6 questions 6 The answer, in layman's terms, covers multi-chain, storage, TapeSend, and BEM mining; the author also states that some of these are personal speculations. You can refer to the book's FAQ for comparison.

<https://x.com/ywwweb3/status/2102762282904375695> Recommended reading: "TapeOut DeWEB Ecosystem Premium Number Beginner's Guide", introducing DeWeb.

Why are premium phone numbers attracting attention and what is their value logic? Common premium phone number classifications, eight steps for beginners to choose a premium phone number, and on-chain verification and risks before and after transactions.

10.3 Advanced Mining (Suitable for reading after Chapter 5)

M06 New Thing / Something: "TapeOut Protocol \$ BEM Beginner Mining Tutorial" (PANews, 2026-08-26): Practical Guide with Screenshots The tutorial and formulas are consistent with the official PoD page. Note that the screenshots are from a third-party marketplace.

<https://www.panewslab.com/zh/articles/01a03e64-8a61-7566-badf-f21a43a5fb35> X10 @ JiangX68993 "What is the mining logic of BEM? What are the differences between it and the mining logic of BTC?" (2026-09-15): Using BEM Using Bitcoin as a comparison, this will help you understand the difference between "proof of design" and "proof of work." <https://x.com/JiangX68993/status/20998036620>

00546246 V-93bitmap-7 93bitmap Popular Science Episode 7 "The Secret of the Number One Boss" (video, see Chapter 11): Focuses on the calculation formula of optimal design.

X24 Benson (@benson_doge) "When NFTs Start Producing Continuously: An A MM Approach Based on Daily Production Capacity" (2026-09-23): Mining machines should be compared based on "how much BNB is needed to buy 1 BEM/ day production capacity"; the author also discussed unresolved risks. BruceBlue's response post reminds that the q value and verification status will change. https://x.com/benson_doge/status/2102704047069556837

10.4 Ecology and Economy (Suitable for reading after Chapters 6 and 8)

M07 Black Mario's "In-Depth Overview of the TapeOut Ecosystem" (Odaily, 2026-09-20; PANews reprinted it as "A Panoramic Review of the TapeOut Ecosystem"): The most complete ecosystem overview to date, discussing it layer by layer from components to applications. <https://www.odaily.news/zh-CN/post/5213070>

M08 CoinW Research Institute's "TapeOut Mechanism and Risk Analysis" (PANews, 2026-09-22): Detailed data and systematic discussion.

"Ponzi" Questions (Part 9)



Neon Reliquary

游戏预告片 · Tizer Luo (YouTube)



(文字卡片，本书制作)



Chinese edition source page 118

(This is a paraphrase of an earlier article).

<https://www.panewslab.com/zh/articles/01a0c86f-6cb0-7373-83a4-d0fbfaa58aae> M09 Foresight News, "What is BEM, the stock CZ liked twice and Bonk Guy brought?" (September 16, 2026): A narrative-driven introduction; the original site may refuse to crawl it, but you can read the BlockWeeks repost. <https://blockweeks.com/view/317967> X02 BruceBlue's "The Day TapeOut Launchpad Gave BEM a Second Clock" (English, 2026-09-15): Discussion The impact of the TapeHub transmitter on BEM. <https://x.com/BruceBlue/status/2099774044023542173> M20 OOKC Labs (@OOKCLabs) "TapeOut Operability Research Report" (English, 2026-09-24): A long research article in English, authored by an institution, claiming

independent research and not constituting investment advice, with a conclusion of "Neutral-to-Positive". In-depth English material.

Not many, but worth a look. <https://x.com/OOKCLabs/status/2103048027800027151>

10.5 Technology and Vision (Suitable for reading after Chapters 4 and 7)

X05 BruceBlue, "When Everyone Moved Computing Offline, TapeOut Brought Linux Back"

(2026-09-08): Decoding On-Chain Linux The significance of the demonstration. <https://x.com/BruceBlue/status/2097177531665481806>

X04 BruceBlue "When Experience Can Be

Burned into Circuits / The Next Path of Logic Gates, Neural Networks, and TapeOut" (2026-09-11):

Talking about V2 What might the BNN/LUT components shown in the trailer bring?

<https://x.com/BruceBlue/status/2098315194145657149> X03 BruceBlue, "C3S: The First Research

Object for TapeOut's Fabrication Layer" (English, 2026-09-13): Based on "Using a circuit inspired by "

fruit fly reflexes" as an example, this demonstrates a research subject that can be tested and

challenged by others; the

accompanying webpage is in Chapter 8. <https://x.com/BruceBlue/status/2099054412115374165> X08

@ywweb3 "TapeKit: More Than Just 'A New Tool,' a Redesign of the Internet's Underlying

Structure" (2026-09-16):

Explaining TapeKit from the perspective of an average user.

<https://x.com/ywweb3/status/2100188153416126908> O06 Blonskr, "Circuits are 'Productivity I

nfrastructure'" (2026-08-25): The founder's views on the value of circuit design. <https://x.com/Blonskr/status/2092153923507540377> X19 CUPID (@cupid_elvis), "DeWEB and Web 4.0: TapeOut's Next

Blueprint" (2026-09-20): Discussing the value of DeWEB starting with "How long can something

created by a person remain on the internet?" https://x.com/cupid_elvis/status/2101506529786822843 X25 BruceBlue (@BruceBlue) "Not Burning AI into

Circuits: GateCraft is a Mid-Autumn Festival Experiment for the TapeOut Community"

(2026-09-24): The latest installment in BruceBlue's research series, including a small circuit tool that

can be played with in a browser (the author specifies it is s...).

This is personal research and does not represent TapeOut.

<https://x.com/BruceBlue/status/2103027350183215577> X26 JayChen (@0xJayChen) "166,700

Neurons: I've Built a BNB Chain from a Fruit Fly" (2026-09-20): Compiled the fruit fly neural network

into 10,419 circuits (currently on the testnet), and invited the community to help port it to the mainnet.

<https://x.com/0xJayChen/status/2101539893906387362>

10.6 Viewpoints and Debates

Chinese edition source page 119

X12 @sciencedegens "Many people didn't understand TapeOut: It might be a 'mining rig version of Pump'" (2026-08-17): An early mechanism analogy, which can be read in conjunction with CoinW's risk

analysis. <https://x.com/sciencedegens/status/2089356316188008949> X06 BruceBlue, "When

Machines Begin to Evolve on the Blockchain: TapeOut and the Birth of a Public Machine Civilization"

(August 21, 2026, Singapore Time): A long article with a visionary focus. <https://x.com/BruceBlue/status/2090507223982318077> X09 @ywweb3, "If TapeOut really succeeds,

what kind of new world will it create?" (2026-09-13): Also a visionary piece, suitable for

understanding

community expectations. <https://x.com/ywweb3/status/2099039251619000702> X21 YW (@ywweb3)

"After Bitcoin and Ethereum, TapeOut is Opening Up the 'Third World'" (2026-09-22): Face A long

narrative aimed at newcomers, leaning towards opinion.

<https://x.com/ywweb3/status/2102261091640422646> M21 Golem (@web3_golem) "After CZ's T

three-Click Like, the 16-Year-Old's On-Chain CPU Project Goes Viral" (Odaily Planet Daily Original, 2026-08-17): One of the earliest media reports, with a rather calm perspective, expressing concerns about the barriers to entry in the circuitry field and potential disputes after financialization; it can be read in comparison with the vision article above. <https://www.odaily.news/zh-CN/post/5212520>

hint YW's article "The Third World" mentions TAPQQ. TAPQQ is a work by the book's editor, Hong Qigong (see Chapter 8, "The Editor's Work"), and is not an official TapeOut product.

Notice

Regarding the K uCoin blog (M13): This English popular science article is widely circulated, but it contains obvious factual errors (such as "supply is less than 40,000"). This book does not recommend using it as a data source.

Key points of this chapter First, read the official documentation: the manifesto, the PoD formula page, the [tape:// specification](https://specification), and TAP-10. Start with M05 if you have no prior experience; if you want to mine, read M06 and episode 7 of 93bitmap; read M07 to understand the ecosystem; read M08 to understand the risks. Community articles present opinions; verify the figures on the blockchain or the official website.

Further Reading The complete source catalog (255 entries, including ratings and relationship annotations) can be found in Appendix B and the accompanying [catalog.csv](#) file.

[S01] TapeOut.link Article Aggregator - TapeOut Ecosystem Navigation / tapeout.link (Community Website): <https://tapeout.link/> [M18] Blonskr tweet mirror - TopicDigg / topicdigg.com: <https://topicdigg.com/x/Blonskr>

Chinese edition source page 120

Chapter 11: Video Tutorials

This document was automatically generated from PDF and has not yet been independently proofread; please check the original text against the page number backtracking annotations.

Chapter 11 Video Index

Some things are much faster to watch than read. This chapter will first feature three animated short films created by the author of this book, followed by a list of community videos we found.

hint For readers who are reading the PDF: Each video includes a QR code; simply scan the code with your mobile phone to watch. The files for the self-made videos in this book are included in the [videos/](#) folder; the HTML and EPUB versions can be played directly.

11.1 This book features self-made animation (silent, with Chinese subtitles)

All three short films are built step-by-step using the diagrams in this book. They have no audio and are best viewed in silent mode.

This book features self-made animation - silent - 1:00 Understand TapeOut in 60 seconds: What is TapeOut?

Starting from a NAND gate: Transistor Circuit Processor Container. (Corresponding to the...) Play

Chapters 1 and 2.

Video file: videos/v1-what-is-tapeout.mp4 (Included with the book, in the dist/videos/ folder; can be played directly in HTML/EPUB versions) This book features self-made animation - silent - 1:06 How does PoD mining work?

Play Commitment Chip fabrication Task assignment Spot checks Reward distribution, and the intuitive meaning of the weighting formula. (Corresponds to Chapter 5.) Video file:

videos/v2-pod-mining.mp4 (Included with the book, in the dist/videos/ folder; can be played directly in HTML/EPUB versions)

Chinese edition source page 121

This book features self-made animation - silent - 1:06 How is tape:// accessed?

From 4246.0.tape to the webpage after byte-by-byte verification. (Corresponds to Chapter 4.) Play

Video file: videos/v3-tape-resolve.mp4 (Included with the book, in the dist/videos/ folder; can be played directly in HTML/EPUB versions)

11.2 Founder and Community Video (X)

TapeOut First Demo: On-Chain Processor Running Fibonacci @Blonskr (X) / 2026-08-15 / Duration 0:30 Plays the demo video from the project's first tweet, showing a circuit canvas.

<https://x.com/Blonskr/status/2088542745980006876> TapeOut Protocol Alpha version officially launched @Blonskr (X) / 2026-08-15 / Duration 1:38 The announcement video for the Alpha version of the protocol introduces NAND, the most basic component. Playing this video corresponds to Chapter 1.

Chinese edition source page 122

<https://x.com/Blonskr/status/2088639148660076696> First application: On-chain SHA-256 Bitcoin miner (demo) @Blonskr (X) / 2026-08-16 / Duration 0:17 A demo of running SHA-256 using on-chain circuits. Read-only, free, cannot actually mine Bitcoin.

Playback corresponds to Chapter 3. <https://x.com/Blonskr/status/2088725283222528224> First On-chain AI Component: Binary Neural Network Recognizing Handwritten Digits @Blonskr (X) / 2026-08-23 / Duration 1:35 Prototype demo of the V2 "BNN Component". Corresponds to Chapter 6, Section 6.7. Play <https://x.com/Blonskr/status/2091407871233921416> Running Linux on the L1 Mainnet (Release Demo) @Blonskr (X) / 2026-09-07 / Duration 1:11 On-chain Linux release video. Corresponds to

Chapter 7, Section 7.5. Play h

<https://x.com/Blonskr/status/2096956123765264474>

DeWEB Vision and TapeSend Cross-Chain Encrypted Messaging @Blonskr (X) / 2026-09-19 / Duration 1:44 Official statements and demonstration videos from DeWEB/TapeSend regarding their cross-chain phase. Refer to section 7.4 of Chapter 7.

Chinese edition source page 123

<https://x.com/Blonskr/status/2101278561625637017> Episode 4 of Science Popularization: TapeOut, will it be the gladiator arena for AI?

@93bitmap (X) / 2026-08-28 / Duration 8:38 The title poses the question: Will TapeOut become a "gladiator arena" for AI? This video focuses on a discussion of visions and represents the author's personal opinion.

<https://x.com/93bitmap/status/2093184380315590863> TapeOut Science Popularization #5English @93bitmap (X) / 2026-08-29 / Duration 7:37 Episode 5 (English version), suitable for sharing with English readers (Chinese version link not found in the book).

Play: <https://x.com/93bitmap/status/2093704731021685205> Science Popularization Episode 6

Chinese edition source page 124

Episode: The Factory Isn't TSMC, Is a Virtual Factory Really Useful for Reality? @ 93bitmap (X) / 2026-08-30 / 13:08 Playback Explains the significance of V2 "Virtual Chip Design Factory" and its relationship with real chip manufacturing. TapeOut Daily Records: Approximately 933 views.

<https://x.com/93bitmap/status/2093902139622056167> TapeOut Science Popularization # 6 (English) @ 93bitmap (X) / 2026-08-30 / 11:30 Playback Episode 6 (English version). TapeOut Daily Records: Approximately 3,615 views. <https://x.com/93bitmap/status/2094075324866900153> Popular Science Episode 7: The Secret of the Top Ranked Enthusiast, Decoding the Optimal Principles of Chip Design @ 93bitmap (X) / 2026-08-31

/ Duration 7:31 This video explains the quality/cost formula for "optimal design," suitable for reading in conjunction with Chapter 5.

TapeOut Daily Report recorded approximately 925 views.

Episode 6 of Popular Science: Factories Aren't TSMC; Are Virtual Factories Really Useful?

Chinese edition source page 125

<https://x.com/93bitmap/status/2094365075356393931> Science Popularization 14: The Fruit Fly Brain on Circuits and Chains @93bitmap (X) / 2026-09-13 / Duration 9:03 The topic is "Blockchain-based Fruit Fly Brain," a popular area in the community. You can watch it in conjunction with the fruit fly-related works in Chapter 8.

<https://x.com/93bitmap/status/2098822024156373037>

Chinese edition source page 126

Play Science Popularization 15: Will TapeOut explode in web3 applications?

@93bitmap (X) / 2026-09-14 / Duration 9:06 The author's interpretation of the prospects for ecological applications is a personal opinion.

<https://x.com/93bitmap/status/2099177357538148814> Play Science Popularization 20: Detailed Explanation of Participating in the TapeOut Hackathon @93bitmap (X) / 2026-09-23 / Duration 8:02 This video details the first Hackathon and can be viewed in conjunction with Chapter 8's event introduction. <https://x.com/93bitmap/status/2102612289627279855> As of September 25th, 93bitmap's popular science series has reached at least 20 episodes. We have found and included episodes 4, 5 (English version), 6, 6 (English version), 7, 14, 15, and 20; links to the remaining episodes have not yet been found (see Appendix C).

11.3 YouTube

The following view counts are as of September 25, 2026. The Renren Meilishuo channel has produced several Chinese interpretations; the pace is brisk and suitable for beginners. The numbers mentioned in the videos can be compared with the verification conclusions in this book.

Chinese edition source page 127

Play CZ gave it two thumbs up, and BonkGuy bought in! What exactly is BEM? Can TapeOut's "design mining" become the next new Crypto narrative?

Renren Meilishuo / 2026-09-18 / Duration 1 4:53 This article discusses BEM and the "design mining" narrative, essentially a retelling of a Foresight article. 193 views.

<https://www.youtube.com/watch?v=LCioZDXuwfQ> Play DeWEB is here: no servers, no DNS, no need for cross-link bridges! Is Tape Out going to make Tape the next HTTP?

Renren Meili Talks / September 20, 2026 / Duration 16:38 Explaining the concepts of DeWEB, tape:// on-chain websites, and the message layer.

135 views. <https://www.youtube.com/watch?v=mtQ4d9QUodw>

Chinese edition source page 128

TapeOut is finally delivering on its vision! From PoD and HashPort to TapeKit: 154 BNB revenue is being used to buy back and burn BEM.

Renren Meilishuo / 2026-09-21 / Duration 11:17 Playback of revenue buybacks for PoD, HashPort, TapeKit, and TapeHub. 91 plays.

<https://www.youtube.com/watch?v=ZFkSUxQ7bqY> TapeOut Breaking News! 50% of official market transaction fees will be used for BEM buyback and burning.

Renren Meilishuo / 2026-09-21 / Duration 12:26 This video interprets the official announcement regarding the 50% transaction fee repurchase and destruction of BEM starting September 21st. (65 views)

Chinese edition source page 129

<https://www.youtube.com/watch?v=D4R-VUDiZVo> Play Play Without BEM rewards, who would still want to use TapeOut? What is the true value of DeWEB?

Renren Meilishuo / 2026-09-22 / Duration 1 2:33 Discusses the real needs of DeWEB after abandoning mining incentives. 62 views.

<https://www.youtube.com/watch?v=Xtxrubt07nA> \$BEM! Is a 16-year-old rewriting the internet? TapeOut x XLayer Hackathon unveiled.

Renren Meilishuo / 2026-09-23 / Duration 11:21

Chinese edition source page 130

This book introduces a TapeOut hackathon related to X Layer. The event itself has been verified by the organizer, I GNIX, in their original post and event page (Chapter 8, Section 8.1). 88 views. (The original thumbnails contained images of minors; these have been replaced with text cards in this book.) <https://www.youtube.com/watch?v=zQ7EFknsJ7o> Play \$BEM! One circuit = an economy? TapeOut launches X Layer container.

Renren M eili Talks / 2026-09-24 / Duration 13:50 Talking about circuit containers on the X Layer (region code 2). 51 views.

Chinese edition source page 131

<https://www.youtube.com/watch?v=4NNB2m7mPbM> What is BEM? Mining Rigs & PoD Mining Explained / TapeOut Chat # 1 Daniel Zhou / 2026-09-23 / 1 minute English short video, 1 minute and 8 seconds long, briefly introducing mining rigs and PoD mining. 10 views.

<https://www.youtube.com/watch?v=LbQb2ytKs0Q> Play

Chinese edition source page 132

Neon Reliquary / Official Game Trailer Play with A I, Forge Circuits Tizer Luo / 2026-09-24 / Duration 0:26 A 26-second English trailer for the on-chain game Neon Reliquary: Oath Expedition (the thumbnail is at ext card from this book). The game was released on Xb y A lphana (@0xAlphana), and this trailer was attached to the release post; the game itself is deployed on an on-chain website on the X Layer, free to play, and does not require a wallet (Chapter 8, Section 8.6). This book had 5 views when viewed on September 2 5th.

<https://www.youtube.com/watch?v=tQDY2Mj3IFY>

11.4 How did we find it?

To ensure no videos are missed, this book underwent a dedicated search on September 25, 2026.

YouTube: We searched using 37 sets of keywords in both Chinese and English (such as TapeOut, TapeOut Protocol, BEM mining, PoD mining, TapeOut.net, tape://, .tape domain, TapeKit, TapeSend, H ashPort, BNB for chip mining, TapeOut tutorial, TapeOut X Layer hackathon, etc.), taking the first 40 results from each set. We also reviewed 12 sets of results sorted by upload date.

We also went through each of the author channels we found.

Results: Nine relevant YouTube videos were known before the search. No new videos were found in that round of searching; eight of them were included in this chapter, and the remaining o ne...

The first one was pure promotional content and was not included. v 1.4 added one more game trailer uploaded on September 2 4th (the Neon Reliquary trailer uploaded by Tizer Luo) based on the second round of proofreading, bringing the total number of YouTube videos in this chapter to 9. The other channel named "Tapeout" contains content about bands, D Js, or semiconductor design and is unrelated to this agreement. There is also a YouTube channel named "Blonskr" with no publicly available videos, and its identity cannot be verified.

X (Twitter): In v1.2, none of the l ogin-free mirrors we tried worked. v 1.3 During proofreading, we switched to using a publicly available tweet reading interface to check each tweet one by one, and added 5 videos from the founder and 5 episodes of popular science videos from 93bitmap; there may still be videos on X that we haven't found yet.

Bilibili: No related videos found.

Exclusion: The semiconductor chip t ape-out project with the same name " Tiny TapeOut" is unrelated to this book and has been completely excluded.

If you find any good videos, please let us know and we'll add them in the next version.

Key points of this chapter This book includes three self-made silent animations: What is TapeOut, PoD mining process, and tape:// explanation.

The video released by founder @Blonskr provides firsthand information: Alpha launch, BTC mining machines, BNN, on-chain Linux, and DeWEB.

93bitmap's popular science series has reached at least 20 episodes; episode 7 discusses optimal design formulas, and episode 20 covers hackathons. YouTube No new videos were added during the specific search. Version 1.4 added one game trailer, bringing the total number of YouTube videos in this chapter to nine. Videos on X may still be missing.

Further Reading [S05] TapeOut Daily (Editor's Work) Community Video Index - TapeOut Daily / tapeoutdaily.ai: <https://tapeoutdaily.ai/videos> [V-93bitmap-7] Episode 7 of Popular Science - 93.bitmap (@93bitmap) / X (Video): <https://x.com/93bitmap/status/2094365075356393931> Science Popularization 20: Details of Hackathon Participation - 93.bitmap (@93bitmap) / X (Video): <https://x.com/93bitmap/status/2102612289627279855>

Chapter 12: Open Questions and Prospects

This document was automatically generated from PDF and has not yet been independently proofread; please check the original text against the page number backtracking annotations.

Chapter 12 Summary: From a NAND gate to a new continent

Understand this chapter in one minute This chapter is the book's "finale." The first half reiterates the most important points of each chapter, making reading it a review of the entire book. The second half contains my personal views as the editor and my vision for the future. This chapter is written in the voice of the editor, Hong Qigong (compiled by the editorial assistant, Chief Economist (AI), according to the editor's perspective, and confirmed by the editor), hence the use of "I." The factual parts are all from data already verified in previous chapters; the viewpoints are placed in sections labeled "Editor's Viewpoint/Editor's Outlook."

12.1: Review the entire book chapter by chapter, using plain language.

12.2: Editor's Viewpoint - Why PoD is a New Idea (The transistors that burn out are the foundation of computing power; a good design can also earn an extra premium).

And it might be even larger than the base one), so why are the seal and the 21 million cap important?

12.3: On-chain circuit economics and why the tape:// network has the potential to grow into a true ecosystem.

12.4: Editor's Outlook - Messaging, Markets, Education, and Multichains among Processors, Development Tools, and Circuit Containers.

12.5: The most anticipated thing next: V2 rollout and more on-chain applications.

12.6: Editor's Viewpoint - Putting design blueprints on the blockchain is essentially Native RWA.

Editor's note: BTC makes the ledger trustworthy, ETH makes the computation results trustworthy, and BEM makes the computation process trustworthy.

The views expressed are solely those of the editor and are not factual statements or price predictions.

As I finish this final chapter, I want to say thank you first - by reading this far, you already know TapeOut better than most people who have only read a few tweets. Now, let's wrap up the book and then share my own thoughts.

12.1 One Chapter, One Section: A Quick Overview of the Book's Key Points

Chapter 1 What is TapeOut? On August 15, 2026, TapeOut launched with a 5 -page manifesto, founded by @ Blonskr. In short: it's an "on-chain chip factory" built on the BNB Chain, using blockchain block generation as a clock - approximately 0.45 seconds per block, roughly equivalent to 2.22 Hz. The first on-chain CPU built by the founder was called "Behemoth," a competitor to the Intel 4004, and the tweet stated that it used 2,251 NAND gates and latches; the first processor on the official website (on-chain name Blonskr_No1) also uses this name.

Chinese edition source page 135

Chapter 2 Core Concepts. The entire chapter follows a single chain: Transistor Canvas Chip Fabrication Circuit Processor Container. Transistors are essentially two types of "building block tokens": NAND (NAND gates) and LATCH (latch). NAND handles the calculations, and LATCH handles the recording; with just these two, you can build any circuit. You first connect the blocks into a circuit for free on the web canvas. Once you're satisfied, you "chip fabricate" - burning the blocks to create a circuit NFT. This step is irreversible. Processors are created by factory contracts. As of 2026-09-25 14:05, there are 1,043 processors, but only Behemoth and TapeOut are available for mining.

Chapter 3: Wallets and Getting Started. Prepare a dedicated wallet, switch to BNB Chain, set aside some BNB for transaction fees, and then proceed step-by-step on the official website. Before each signature, carefully read out what it tells you to do.

Chapter 4 Circuit Containers and tape:// Addresses. Each circuit NFT can open a "container" (costing 0.012 BNB on the BNB Chain and 0.08 O KB on the X Layer, plus gas), which is essentially an on-chain account (ERC-6551) that follows the NFT. The container can hold assets and web pages, and the tape:// address allows anyone to directly access the on-chain website through the official gateway TapeKit.org, without needing to install anything.

Chapter 5: PoD Mining. PoD stands for "Proof of Design": a circuit fabricated on Behemoth or TapeOut without references can function as a miner.

The hashrate formula is $H = (b + K_{\text{task}} / q) \times P$. Simply put, it's: (How much material was burned + Design Premium) $\times$ Processor Coefficient. The coefficient for Behemoth is 6, and for TapeOut it's 1. The Design Premium is only awarded to the "best first" circuit for each problem; other qualified circuits only receive the "how much material was burned" bonus. The problem set currently contains 267 problems. As of September 25, 2026, there were 18,648 active miners on the network, of which 18,029 were verified.

You need to calculate your own break-even point; if the network hashrate doubles, your output will be halved.

Chapter 6 BEM Token. The total hard cap is 21 million tokens, 8 decimal places. The only way to mint tokens is through the mining contract PoDMining. 7,200 tokens are produced daily, halving approximately every 3.995 years. 99% go into the verified pool, 1% into the unverified pool, and any unmined portion is forfeited. The cumulative minted amount is approximately 231,800 tokens (contract totalSupply, as of 15:21 Singapore time on 2026-09-25), representing only about 1.1% of

the cap. According to the official website, 80% of the BEM received by the Treasury is periodically burned. Note: The BEM contract does not have a burn function; "burning" involves transferring tokens to a black hole address. Therefore, `totalSupply` represents the cumulative minted amount;

the portion already transferred to the black hole (approximately 1,827 tokens as of 16:04 Singapore time on 2026-09-25) is still counted within the 231,800.

Chapter 7 Developer Tools. TapeKit is the official toolkit; the `tape://` specification v0.2 defines how to write and parse on-chain URLs; TapeSend (TAP-10) allows circuit containers to send encrypted messages to each other on-chain, and the documentation for the central contract stated on September 18 that it was already online on BSC, and X Layer was also deployed on September 19; the official documentation also demonstrated running the mainline Linux 6.5.12 on BNB Chain.

Chapter 8 Ecosystem Map. In just over a month since its launch, the community has created dozens of websites and tools: marketplaces, data dashboards, mining assistants, on-chain websites, chat applications - you name it.

Chapter 9 Getting Started with Security. The founders have sealed off the mining contract and transistor market; no one can change the mining rules. The BEM token has no administrator; only the mining contract can mint coins. If your wallet pops up a "phishing website" warning, it's because that wallet hasn't added the TapeOut protocol to its list yet.

You can directly switch to the OKX wallet. Always use the genuine contract, revoke authorization after use, claim rewards before selling mining equipment, and never give your mnemonic phrase to anyone.

Chapters 10 and 11 provide further reading and videos.

We've selected articles worth reading and videos worth watching, and have credited the authors and platforms for each, making it easier for you to explore further.

Chinese edition source page 136

12.2 Editor's Viewpoint: Why I'm Optimistic About PoD

The following are my personal opinions, not as statement of fact.

I believe PoD is a truly novel idea. Bitcoin's Proof-of-Work (PoW) is about whose machine can compute faster; Proof-of-Stake (PoS) is about who stakes more coins. PoD takes a third path, rewarding two things: first, the transistors you burn through (cost), a basic resource everyone has; and second, how much better your design is than the reference answer (premium). The premium is only awarded to the best design for each problem, and it can be substantial - using the example numbers from Chapter 5, Section 5.6, the premium is approximately 70.6, more than the cost of 44. So here, skill can yield a much larger return on the same investment - but the cost remains; calculate the necessary expenses

before entering the market. For the first time, mining is linked to "design capability," which is its most beautiful aspect and, in my opinion, a very bold move.

I believe that sealing the mining contract is a reassurance for everyone. Founder @Blonskr announced the sealing on September 14th; on-chain verifiable data shows that as of September 25, 2026, `PoDMining's `isSealed`` is true, and the owner is a zero address. This means that no one can change the mining rules anymore, including the team itself (the earlier statement on the official website about "possible small-scale parameter adjustments" was before the sealing; the on-chain

status is the definitive answer). In a world where many projects can "change their rules at any time," this is a significant step forward.

In an industry where "keys are essential," the confidence to voluntarily throw away the keys is a rare quality.

I believe that a hard cap of 21 million, coupled with an invalidation mechanism, makes the rules simple and transparent. With the total amount and production schedule fixed, any unclaimed shares are automatically forfeited instead of being allocated to anyone. The simpler and more unchangeable the rules, the easier it is for ordinary people to understand and trust them.

I believe that "everyone can be a referee" is a very clever move by PoD. There are actually two hurdles here, don't confuse them: First, according to the official rules, anyone, at any time, can provide evidence without a deposit that a mining rig miscalculated the official test vectors. If the evidence is valid, it will be permanently disqualified from mining. Second, on September 1st, founder @Blonskr announced the addition of "counterexample review": anyone can submit counterexamples to identify optimal, original designs that simply "memorize answers," and withdraw their design premiums (basic mining continues as normal, and the rig won't be disqualified). The official team itself exhaustively searched and found 80 such circuits out of 534 optimal slots. This essentially hands over the oversight power to the entire community - no need to trust a

centralized reviewer; anyone can check, anyone can point out errors. A system that dares to let everyone criticize demonstrates its confidence in its rules.

12.3 Editor's Viewpoint: On-Chain Circuit Economics and Tape:// Why It Can Grow

This is just my personal opinion.

I believe that circuits can be "assembled." In TapeOut, a circuit isn't just an image, but a real, functional logic module that can be called upon by others. Today someone makes an adder, and tomorrow someone else will use it to build something more complex. As long as the circuits are actually used, the value of the ecosystem has a source - CoinW Research Institute's article also suggests paying attention to "how many circuits are continuously being called," and I completely agree with this direction.

The hype is undeniable. Founder @Blonskr's September 9th report on 26 days since launch (official snapshot, not verified item by item in this book; also cited in an article by CoinW Research Institute): As of September 9th, the protocol's total transaction volume was approximately 34,054 BNB (official 26-day data), with 8,879 deduplicated wallets and 24,360 circuits. BEM accounted for approximately 78% of the transaction volume, indicating a clear bias towards BEM. I believe that for a new protocol launched less than a month ago to garner such participation demonstrates that the "on-chain chip manufacturing" concept has indeed resonated with many people.

I believe that an on-chain network is already taking shape. Containers can hold web pages, tape:// can open web pages directly, and TapeSend allows circuit containers to send encrypted messages to each other. Accounts, websites, and communication - the three basic building blocks of a network - are all on the table.

Now is a great time to get involved in building this ecosystem. This isn't about "buying early and profiting early," but rather that the question bank still has a vast number of questions waiting to be improved; the ecosystem has huge untapped potential for tools, tutorials, and websites. The dozens of community products mentioned in Chapter 8 all emerged within just over a month of their launch. For developers, this is a virtually blank canvas; for newcomers, the community is enthusiastically helping each other, making it a perfect time to get started.

12.4 Editor's Outlook: How Far Can TapeOut Go?

The following is my imagination, not a fact, nor any promise or prediction.

More circuitry, a more powerful processor. Today's Behemoth is comparable to the Intel 4004 of 1971. The chip industry has evolved since the 4004.

It has taken more than 50 years to get to where we are today; will on-chain chip manufacturers be able to develop their own "Moore's Law"? I am looking forward to it.

Better development tools. Visual designers, automatic optimizers, circuit testing platforms - who makes "circuit design" as simple as building blocks?

Whoever can bring in thousands of new people.

Communication between circuit containers. TapeSend already enables circuit containers to send encrypted messages to each other. My next envisioned step is automatic collaboration between containers: one circuit completes a calculation, sends the result to another circuit, forming a true on-chain "pipeline." (This requires future additions to the protocol; currently, circuits can only be passively invoked.) Marketplace and device store. The "component slots" and "device repository" in the V2 preview allow third-party developers to create components and earn revenue sharing. If successfully implemented, developers will have a real "on-chain business."

Education. NAND gates, latches, processors - these are things typically taught in university computer science courses. TapeOut has turned them into hands-on experiences. I believe it will be the first gateway for many people to learn digital circuits.

Moving towards multi-chain. The official gateway has reserved area codes for X Layer (area code 2) and Base (area code 3). On September 19th, X Layer Chinese confirmed that TapeOut has been deployed on the X Layer mainnet (the website repository address on X Layer is different from that on BNB Chain, see Chapter 4), while Base is still in the planning stages. This chip factory has already started opening branch factories on other chains; the first hackathon was also held on X Layer (Chapter 8).

12.5 The most anticipated thing next

TapeOut has taken the most crucial step: mining contracts and the transistor market are now sealed, and no one can change the mining rules. Next, I'm most looking forward to seeing two things:

1. V2 Launch. The "component slots" and "device warehouse" (revealed by the founder on August 26th) are now available.

This (section) will allow third-party developers to create components and receive a share of the profits. If the project launches successfully, developers will have a real "on-chain business." 2. More applications are moving onto the blockchain. On September 25th, the founder called on DeFi and third-party tools to deploy their front-ends to DeWEB (the 7th...).

(Chapter 8) The community has also created a large number of on-chain websites and games. The more people use it, the more valuable this on-chain network becomes.

12.6 Editor's Note: Putting design blueprints on the blockchain is essentially Native RWA.

Chinese edition source page 138

The following are my personal opinions, not a statement of fact.

RWA (Real World Assets) has become very popular in the last two years. But most RWAs involve combining stocks, bonds, and real estate...

Assets that have already been recorded are moved onto the blockchain. This is certainly useful, but the variety of assets does not increase.

In my long article on September 14th, titled "Musk, Don't Be Afraid, Burn It! TapeOut, the Leader of Native RWA, and Its AI Taming Techniques" (original text, written by AI according to my wishes), I (Hong Qigong) said the following:

What's truly exciting about Native RWA isn't just another stock being hyped up. It's that things that wouldn't even make it onto a balance sheet in the real world - a circuit, a design, a boundary that can't be crossed - are written onto the blockchain, burned into circuits, and become tradable, verifiable, and composable objects.

Why is it called Native? The key lies in the word "burn":

The key is the burning. It's not a mapping; it's a design action that is consumed in exchange for an irreversible existence on the chain.

Other RWAs issue a "certificate" for off-chain items, but there's always a layer of trust between the certificate and the physical item: someone needs to hold it in escrow, and someone needs to prove that "the off-chain item still exists." TapeOut is different: the design blueprints are on the blockchain; transistors are actually burned out during tape-out, and the circuit NFT...

It's that circuit itself (Chapter 2). Since there's no physical component on the chain, there's no need for anyone to guarantee it.

Therefore, I say that TapeOut adds product categories:

TapeOut adds new categories. A burned-out circuit becomes a tradable production tool; a container with memory becomes a transferable on-chain machine;... as older-on BNN becomes verifiable intelligence; a passable circuit becomes an unremovable rate limiter. In the real world, these are blueprints, APIs, and initiatives. On TapeOut, for the first time, they can be held.

Translated into the examples from this book:

A burned-in circuit is a production tool that can be used for mining and reselling (Chapter 5).

A circuit container is an on-chain machine that can store money and host websites; it can be transferred along with the circuit (Chapter 4).

A blockchain website has its front-end files on the blockchain, which anyone can verify and no one can shut down (Chapter 7).

This is also the origin of my one-sentence definition: BTC makes the ledger trustworthy, ETH makes the computation results trustworthy, and BEM makes the computation process trustworthy (see

"Editor's Viewpoint" at the beginning of this book). When the "computation process" itself is trustworthy and holdable, a design becomes an on-chain asset for the first time. I also specifically discussed "why TapeOut can be classified as Native RWA" in my RWA University live stream on September 15th (Editor's Live Stream Part 1 review).

Of course, this idea is still in its very early stages: the V2 component marketplace is not yet online (Chapter 6), and the capabilities of on-chain circuits today are still limited. But I am convinced of this direction.

hint

Chinese edition source page 139

This does not constitute investment advice. The views expressed in this chapter represent only the editor's personal opinion and are not price predictions, nor does it guarantee any returns.

Finally, welcome to this chip factory. May you design your first circuit here.

Hong Qigong September 2026 Key points of this chapter In short: TapeOut is an on-chain chip factory; qualified circuits are mining machines; and the maximum number of BEM coins is 21 million.

The editor believes that PoD allows "design capability" to participate in the distribution of mining rewards for the first time, representing a new path beyond PoW and PoS; cost is fundamental.

Good design adds a premium, which may be larger than the cost of the work, but the cost cannot be reduced.

Mining contracts are sealed, a hard cap of 21 million is set, and unmined shares are voided, making the rules simple and transparent.

Containers, tape://, and TapeSend form the prototype of the on-chain network, and now is a good time to participate in its construction.

The most anticipated next step: V2 rollout and more applications moving onto the blockchain.

Editor's Note: Putting design drawings on the blockchain is essentially Native RWA (12.6).

The above views do not constitute investment advice.

Further Reading [O02] TapeOut On-Chain Microprocessor Manifesto (August 15, 2026) - TapeOut Official (Blonskr) / TapeOut.net (PDF): <https://tapeout.net/TapeOut-Protocol.pdf> [O24] Official PoD Mining Page (including problem set, algorithms, and formulas) - TapeOut Official Website / TapeOut.net: <https://tapeout.net/pod/> [O10] TapeKit README - TapeOut Labs/GitHub: <https://github.com/TapeOutProtocol/TapeKit> [O05] Founder V2 Preview - Blonskr (@Blonskr) / X: <https://x.com/Blonskr/status/2092551495392825791> [O32] Data Summary Announcement After 26 Days Online (September 9, 2026) - Blonskr (@Blonskr) / X: <https://x.com/Blonskr/status/2097705846339973461>

[M08] "TapeOut Mechanism and Risk Analysis" - CoinW Research Institute PANews (Column): <https://www.panewslab.com/zh/articles/01a0c86f-6cb0-7373-83a4-d0fbfaa58aae>

Chinese edition source page 140

Appendix and Version History

This document was automatically generated from PDF and has not yet been independently proofread; please check the original text against the page number backtracking annotations.

appendix

Appendix A: Contract Address Table (BNB Chain Mainnet)

Understand this section in one minute This table serves as the book's "contact list": the complete address of the official contract, along with its tested status as of September 25, 2026. If someone sends you a "new contract address," simply return here to compare.

BEM token: 0 x5ce033B2bFCa3Af30b3e8C8457DeaF776A8b695a.

Sealed (founders have relinquished control): PodMining, Transistor Marketplace.

You can check for free in BscScan's "Read Contract" section without needing to connect your wallet.

All addresses are derived from the official website code, TapeKit README, or on-chain reads, and were verified by this book on September 25, 2026, using a public RPC node in read-only mode.

(Block approx. 123,897,904). Please verify any "new contract address" sent to you by anyone here or from the official source.

/ Contract / Address / Actual Status (2026-09-25) / / --- / --- / --- / / BEM Token / 0
x5ce033B2bFCa3Af30b3e8C8457DeaF776A8b695a / 8 decimal places; capped at 21,000,000;
approximately 231,830 minted (totalSupply, block 123,908,049, 2026-09-25 15:21 Singapore time);
minter = PodMining; no administrator (no owner()) / / PodMining (mining) /
0x7E2E0DC66a3bD9103E69b766afA62d9f7b697b46 / Sealed, owner = address zero / /
TimelockController (48 hours) / 0xbc951f39eA94818f54A6AbBF0FAC1Fe6AEce4876 /
2026-09-1216:08 (Singapore Time) Scheduled PodMining Seal / / Processor Factory /
0x68224F668083c29e9800Be2a646d42d18cedF7e2 / Number of Processors: 1,043 /

/ Processor # 0 Genesis CPU / 0x50A994E71615474b55559fF4F500928fbc339DD9 /
TAPEOUT_FEE()= 0.0002 BNB / / Processor # 1 Blonskr_No1 (officially called Behemoth, P = 6) /
0x1F5Cb4aeaE1807Bf60c3b9C0D8aDBCC14e91f12C / TAPEOUT_FEE()= 0.0002 BNB / /
Processor # 30 TapeOut (P = 1) / 0xb1024b89886B9a34Aa4ff5F31C411D708b20a14C /
TAPEOUT_FEE() = 0.0002 BNB (Chipout Agreement Fee) / / Transistor ERC-1155: TapeOut /
Behemoth / Genesis / 0 xCC42ba5De07f01B472a5b14cF45aBcC A79Eb8087 / 0
xE2DfD802081C7a05341E20b6582b04b908e8550c / 0 x1d23Bf70e
c6bAAD95f396Ea38f8A8415119dFDE6 / Transistor contracts for each of the three processors / /
Transistor Market / 0 xA6a80C1919a8326022d7c601a488888 C13aA16E4 / Sealed, owner =
address zero /

/ Contract / Address / Actual Status (2026-09-25) / / --- / --- / --- / / Circuit Market / 0
x6feEbbEbC07BcB90bd1Ac8b0CF9BaA4f0fF2B46f / Circuit NFT Trading / / Container Opening
Contract / 0x021745DE2f42A7839d96f2d3634d0294487D81F1 / Activate Circuit Container
(ERC-6551 Account) /

/ ERC-6551 Registry/Account Implementation /

0x000000006551c19487814612e58FE06813775758/ 0xAf4E78a2257C9c5480c2

F8310E3b00437260751d / TapeKit README // SiteRegistry (Website Repository) / 0

xd006ffdd5Ae313B17729621A00999cD 3C71CE5e6 / Stores on-chain website files //

DomainBinding (Name Activation/Paid) / 0x861EE183de2BBE4a6ecf9D15812C123 b566a3DB7 /

monthlyFee()= 0 // DeWEB Hub (TapeSend) / 0 xe61A9C7213a6Aa616C246a2B569e555

B417b25ee / Launched on BNB Chain on 2026-09-18 (send/README) // BEM/USDT PancakeSwap

V3 Pool / 0 x2f5ec19ab0583D3FCd9bcbcd9AB416d 2858EeA38 / DexScreener visible; this book

does not cite prices / Same name but unrelated: TapeOutX on the X Layer

(0x16aa672dda63f5acd0de098c04c4a3e957d1eeee) is unrelated to the protocol.

The token on the BNB Chain with the name and symbol " TapeOut"

(0x3142892d1ae4b98eaf9e0471445f5474be0e7777) is also not BEM.

(See Chapter 9).

Example container: 4246.0.tape container 0x86DDaEF00401E3F10418398D67D7189fc458eA95

(isContainerLive = true).

hint , Verify it yourself: Open the contract page in BscScan, switch to "Read as Proxy" or "Read Contract," and check read-only functions such as owner isSealed and monthlyFee. Read-only queries do not require a wallet connection and incur no fees.

Appendix B Source Directory

All sources cited in this book are listed in the accompanying catalog.csv/catalog.md file. Each entry includes an number, title, author or media, date, link, language, type, Chinese abstract, rating, and a note indicating its "relationship with official sources." Numbering rules:

/ Prefix / Meaning // --- / --- // O / Official sources (official website, manifesto, GitHub, founder's tweets) // D / On-chain data pages (BscScan, DexScreener, etc.) // M / Media and Long Articles //

W / Warning Category (Same Name Currency, Phishing List) // X / X (Twitter) Long Post // Prefix /

Meaning // --- / --- // V / Video // S / Community Learning and Navigation Site // T / Community and

Third-Party Tools / The numbers [O10] and [M07] in the "Further Reading" section of the book are the

same as the numbers in this catalog.

Appendix C: Matters that this book could not verify

/ Item / Current Status // --- / --- /

/ @TapeOutWorld's Identity / appears to be operated by the project team (the Mid-Autumn Festival

post on September 22nd used the phrase "we/the organizer"; third-party tutorials list it as a

co-organizer of a hackathon, but the original IGNIX post did not mention it); neither the official website nor the founder has made an official statement, and this book is treated as "unverified official,"

similar to the Telegram group t.me/TapeOutnet; important announcements are based on the founder's account. / Is the Telegram group t.me/TapeOutnet official? / Third-party navigation sites list

it as official, and the founder X 's homepage also shows this link; the official website does not link to it, and this book is still listed

as "pending verification".

Is TapeHub an official product? / Founder @Blonskr personally launched it on September 1 5th, calling it the " TapeOut Launch Platform"; the operating entity is not verified in this book (Chapter 8). / X Layer Mainnet Deployment (September 1 9) / Confirmed: X Layer Chinese website @xlayer_zh announced on September 19 (Chapter 7); the founder also announced the launch of the X Layer container on September 23 (activation fee 0.08 O KB, o n-chain r eadout). TapeKit Issue # 6 stated that the website repository could not be found on X Layer. This book v1.4 r e-checked: it is indeed not found using the BNB Chain address, but another set of addresses assigned to X Layer by the TapeKit kernel contains contract code, which can be read from the o n-chain website on X Layer; the

official website frontend on X Layer currently only allows activation and viewing of the container (Chapter 4) // TapeOut x X Layer Hackathon / Confirmed: The original post by the organizer, IGNIX (@Ignixbot), on September 2 2nd can be accessed at ignix.bot/x_campaign (Chapter 8). // Sliceout Protocol Fee Amount / v 1.3 Verified o n-chain: T apeout_FEE() for processors #0, # 1, and #30 is 0.0002 BNB (read on 2026-09-25); the f ounder's announcement on September 12th is the official source. If the amount changes in the future, the amount displayed on the official website at the time of sliceout shall prevail. / The PoD page states " There may be small-scale parameter optimizations later" / This was written before the sealing; after the sealing, no one on the chain can modify it, and the official page has not updated this statement. The f ounder's statement

in the official tweet on August 20th that " parameters are adjustable" was also written before the sealing.

/ Transistor Casting Protocol Fee / Contract protocolFee() reading: TapeOut 0.0001 BNB, Behemoth 0 (2026-09-25); Payment is made on the official website front end according to "unit price x quantity + protocol fee". This book does not have actual casting verification; please refer to the wallet pop-up window for accuracy. The transistors of both processors are fully cast.

/ TAPQQ's a ddress / v 1.5 verified: Xiao Zhan's post mentions 1688-0.tapekit.org, which is another site the editor uses, B URNBEM Game Hall (tape://1688.0); TAPQQ itself is at tape://1.888. Both have been verified using TapeKit kernel read c hains. // Item / Current S tatus // --- / --- // Founder's "Front-end Blockchain Security S ponsorship" / The founder publicly pledged this on September 2 5th; how to apply and which tools have responded were not publicly available at the time of writing. // Specific methods of hacking Bitget / Under investigation: The official statement is that the w allet's backend system was hacked, and private key leakage has been ruled out; a full

technical report has not yet been released; the claim that "the entry point was at hird-party tool" has only been mentioned in a few media reports; attributing the crime to North Korea is also inconclusive (Chapter 9, 9.5) // Sealed Transaction (09-14) / The transaction hash and block number are from the f ounder's announcement; this book was unable to reread the receipt of this transaction from public nodes, but the current on-chain state (isSealed = true, owner = zero address) has been verified. // Question bank 278 (08-20) and 267 (current) / The official website currently lists 267 questions; earlier numbers may have been from different time points. /

/ Starting September 2 1st, 50% of transaction fees will be repurchased from the official m arket. / As mentioned in the community timeline and videos, this was not verified on-chain on a transaction-by-transaction basis. // Listed on exchanges such as MEXC, LBank, and Gate / MEXC's announcement and CoinCarp corroborate the listings on two of them // 93bitmap Science Popularization S eries / As of September 2 5th, at least 20 volumes have been released; links to volumes 4, 5 (English version), 6, 6 (English version), 7, 14, 15, and 20 were found, but links to volumes 1-3, volume 5 (Chinese version), volumes 8-13, and volumes 16-19 were not found. /

The contract address for the \$ TapeOut meme coin on flap.sh was not recorded; the relationship between this and another token with the same name, 0x3142...7777, on the BNB Chain is also unclear.

/ Container Factory Website Building "Total Less Than 100 Yuan" / Author's estimate, unverified, subject to change based on transistor market prices // Daniel Z ou's " Money Talks" series, @xing8047's mining tutorial, and the Binance Square post "What exactly is BEM/TapeOut?" / I 've only seen these in search summaries or mirrors; I haven't obtained a link to the original post. This book doesn't include them. The second round of proofreading found a clue to Money Talks Episode 4, but Episodes 1 -3 were not found. It's also unclear whether the author and the YouTube channel " Daniel Zhou" are the same person. v1.4 still doesn't include them. /

Appendix D Version History

v1.0 (2026-09-25): First version. On-chain data as of approximately 14:05 Singapore time on 2026-09-25; webpage screenshot taken on 2026-09-25; YouTube-specific search completed on the same day.

v1.1 (2026-09-25): Authored by " Hong Qigong"; Added " Authors and Acknowledgements" page, with the cover listing all authors included; The " Further Reading" section lists the author and platform for each item.

v1.2 (2026-09-25): Added an opening " Preface" (by Hong Qigong); added "Understand this chapter/section in one minute" prompts at the beginning of difficult chapters and sections.

The reading frame is found in the official technical documentation (Manifesto, PoD Mining Page, V 2 Preview, TapeKit README, tape:// Specification v0.2).

The first introduction to TapeSend/TAP-10 includes "What this document is about"; an new Chapter 12, "Overview," has been added; the editor's text has been revised to be more conversational and user-friendly, and the risk warnings have been rewritten as practical self-protection tips (the facts remain unchanged).

Chinese edition source page 143

v1.3 (2026-09-25): Fully revised based on the first round of proofreading report. It clarifies exactly how mining hashrate is calculated: burned transistors are the foundation, and good designs add a premium on top of that (preface, Chapter 5, and Chapter 12 revised simultaneously; v1.4 further explains that this premium may be even larger than the foundation); the mining rules are sealed and cannot be changed by anyone; the official website's statement about "possible parameter adjustments" is the old statement before the seal was established; the chip fabrication protocol fee recorded on-chain is 0.0002 BNB, already included in the cost formula and examples. The same number is only written in one way throughout the book; the

total minted BEM is uniformly set at approximately 231,800 (contract reading, as of 15:21 on September 25th). This update includes firsthand announcements from founder @ Blonskr, covering everything from formula release to TapeKit, official X Layer deployment announcements, I GNIX hackathons, anti-fraud posts from 93bitmap, and more (popular science) materials, community risk warnings, and practical tools. New authors have been added to the "Authors and Acknowledgments" section and on the cover. Four new "One-Minute Guides" sections have been added (Chapters 2, 4, 6, and 9), and several sections deemed inaccurate have been rewritten. A TapeKit Issues list has been added to Chapter 7, and a founder's video has been added to Chapter 11. Videos without usable

thumbnails have been replaced with self-made text cards from this book. Several risk warnings have been added to Chapter 9: five common scam tactics, lottery apps, third-party claims of "cooperation," and the coin with the same name 0 x3142...7777. The table of contents has increased from 126 to 194 items (69 new items, 1 deleted item: M 19 S oPilot). The editor's own products have been uniformly renamed "Editor-related Products" and re-disclosed; @TapeOutWorld initially treated them as "Project Operator Accounts" (v1.4 changed it back to "Unverified Official Status"). Several items in Appendix C, including the hackathon, X Layer deployment, and TapeHub, have been confirmed.

v1.4 (2026-09-25): Another round of revisions based on the second round of proofreading report. Unified statement on mining hash rate: The transistors burned out are a basic requirement for everyone. The best design for each problem can get an additional design premium, which may be large, even more than the basic one; however, the cost cannot be reduced, so be sure to calculate it clearly before entering the market (preface, chapter 5, chapter 12, and FAQs are revised simultaneously). Clarify two hurdles: Calculating the official test vector incorrectly will result in permanent disqualification from mining; the "counterexample review" added on September 1st only withdraws the

design premium, basic mining continues as normal. The flowchart in chapter 5 has also been revised. The security chapter has been supplemented with details (v1.5 has been simplified a gain). X Layer: Opening a container costs 0.08 O KB; the website repository address on the X Layer is different from that on the BNB Chain (the code was found on the chain in this book), and the official website frontend can currently only open and view containers there. The two processors capable of mining have already been fully mined; newcomers need to buy them from the market. BEM "destruction" involves transferring it to a black hole address, which will not reduce the total supply. 34,054 BNB is consistently

written as "approximately 34,054 BNB as of September 9th (official 26-day data)". @TapeOutWorld and the Telegram group are both treated as "unverified official source". TapeHub states "posted personally by the founder, operating entity unverified". New additions: The founder called on DeFi and third-party tools on September 25th to deploy the front-end to DeWEB and personally sponsored security funds for front-end on-chain deployment (Chapter 7); Alphana's on-chain game Neon Reliquary and its YouTube trailer (Chapters 8 and 11); Issue #7 proposer Alphana and self-driving car author Jooooooooo's signatures. The hackathon entry requirements are now complete; the unsubstantiated disclosures of TAPQQ in the hackathon section have been

removed, and TAPQQ's address has been verified. A new Chapter 9, Section 9.5, "Starting with the Bitget Theft," has been added: On September 25th, the Bitget hot wallet was stolen (according to the official statement, the wallet's backend was compromised, not the private key was leaked). On the same day, YW published a long article discussing which aspects TapeOut could and could not address, and the founder and @TapeOutWorld also discussed DeWEB. The book clarifies that these are the author's views and adds an editor's note: Front-end blockchain protection prevents website sabotage, but it cannot prevent backend control. The same explanation has also been added to the appeal box in Chapter 7. The table of contents has increased from 194 to 208 entries (14

new entries), and the "Authors and Acknowledgements" section has been updated accordingly.

v1.5 (2026-09-25): Revised according to the editor's review comments. The byline has been changed to "Editor: Hong Qigong", and the editorial assistant "Grok Bot Chief Economist" has been added (cover, title page, acknowledgments page); the font size of the author list on the cover has been increased and the layout is more neat; the "X Authors" group has been renamed "KOL", and BruceBlue, Qinglan, and Black Mario have been included in the KOL group; the official group,

Blonskr, is listed first; the editor's six works have also been included in the "Community Sites" section on the cover for labeling. Added "About the Editor" and "Editor's Viewpoint: Understand in One Sentence"

The three pages titled "TapeOut" and "How This Book Was Compiled" truthfully explain that the book was primarily compiled, written, verified, and proofread by AI, with the editor setting the direction and reviewing the final version. The security chapter has been streamlined: contract permissions are now only listed for those that the founder has relinquished and that can be confirmed on the blockchain. The explanation for the wallet pop-up "phishing website" warning has been revised to be more straightforward, and it is recommended to switch directly to the OKX wallet. The editor's own products are now referred to as "Editor's Works" and are concentrated in Chapter 8, Section 8.9, "Editor's Works". A reading tip has been added at the beginning of the preface;

Chinese edition source page 144

Chapter 9, section 9.5 states that Space was initiated by the editor that evening. The editor's list of works is now based on the editor's own post X on 2026-09-24, totaling six items: TapeOut Daily, "Slacking Off Master," Burnbem, TapeOut Container Uploader, TAPQQ, and 8.888 Premium Number Mall (cover, acknowledgments, Chapter 8, section 8.9, and image d06 are synchronized; the author of Nibble has been confirmed as KallyGame and has been reinstated; TapeOut Daily has been renamed TapeOut Daily and marked as the editor's work), with the editor's own reminder: "These are all unfinished products; please use an ew wallet to experience them." The "About

the Editor" section and the title page include the editor's Xpersonal profile (founder and president of RWA University, Crypto independent investor, evangelist of "Conceptual Economics," and author). A "Editor's Viewpoint" page has been added (with one-sentence definitions of "Sealed," "DeWEB," and "Native RWA," all quoted from the editor's original post). "Editor's One-Sentence Summary" has been added to the beginning of Chapters 1, 2, 5, 6, 7, and 12. Chapter 12, section 12.6, completes the discussion of Native RWA. Chapter 7, section 7.7 lists all 39 community DeWEB applications and 2 official websites as of 18:40 on September 25th. The PDF has been changed to the Noto Sans SC font (TrueType subset embedded), resulting

in a significantly smaller file size. A compressed image version of the PDF is also included. The table of contents has been adjusted from 208 entries to 255 (12 new editor's original posts, 38 community DeWEB applications, 1 entry each for the 8.888 premium number mall and Nibble, and 5 deleted entries). The "Included Authors and Acknowledgements" section has been updated accordingly.

The HTML, PDF, and EPUB versions of this book contain the same content; the HTML and EPUB versions can directly play self-made videos.