

RING_ZERO // TECHNICAL & ECONOMIC FRAMEWORK

RING_ZERO

Split-compute spatial computing and secure self-custody



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This document describes the current reference architecture. Product measurements marked as targets remain subject to production engineering validation.

00. ABSTRACT

RING_ZERO is a phone-first spatial-computing ecosystem built around two devices: 0xLENS, a lightweight visual client, and 0xRING, a fingerprint-enabled secure-element hardware wallet and discreet haptic controller. RING_ZERO Companion on a compatible iPhone or Android phone remains the primary compute host.

The architecture keeps primary compute, large battery capacity, and the heaviest thermal work on the phone. 0xLENS receives the rendered experience through a direct Wi-Fi link or a wired USB-C display connection. 0xRING provides subtle control and locally controlled transaction signing.

01. SYSTEM PRINCIPLES

- Phone-first compute: RING_ZERO Companion manages supported rendering, pairing, wallet review, and the glasses connection.
- Dedicated signing: 0xRING creates and uses private keys inside its secure element; private keys are not carried over Bluetooth.
- Layered access: local fingerprint verification or a ring access code unlocks signing; a separate deliberate action confirms each signature.
- Clear review: high-assurance transactions require the docked ring, access code, trusted dock display, and confirmation.

02. 0xLENS: SPLIT-COMPUTE OPTICS

0xLENS is designed as a lightweight visual client rather than a standalone computer worn on the face. The phone renders the workload; the glasses drive their displays, manage local sensors and audio, and provide the wearer with a transparent spatial interface.

Visual source	Two Sony ECX350F 0.44-type Full-HD OLED microdisplays, one per eye
Display link	Direct Wi-Fi in wireless mode; USB-C DisplayPort Alt Mode in wired mode
Power paths	Balanced frame pack, optional 0xLINK neckstrap, or compatible wired USB-C Power Delivery
Companion role	Phone-side rendering, pairing, wallet review, and supported platform integration

03. 0xRING: INTERACTION & SECURITY

0xRING combines a hardware wallet with a discreet input surface. The thumb uses swipes, taps, and holds on the capacitive outer surface to navigate the Companion experience without prolonged mid-air gestures. A linear resonant actuator provides tactile feedback for deliberate interactions.

Local fingerprint authentication is an access layer, not a replacement for signing review or recovery. The wallet remains locked by default. The wearer unlocks it using the thumb-accessible fingerprint sensor or a ring access code, then separately confirms every transaction.

Secure element	NXP SE050 over I2C; private keys are created and used inside the secure element
Wireless controller	Nordic nRF54L15 with Bluetooth LE for low-rate control, status, requests, and signed responses
Local access	Fingerprint sensor + ring access code
Recovery	User-controlled 24-word phrase via dock display
Supported networks	Bitcoin · Solana · Ethereum/ERC-20 · BNB Smart Chain/BEP-20
Form-factor targets	Target: 3.8 grams; Target: 2.5 mm; Target: up to 7 days / 18 mAh, subject to production validation

Fingerprint Enrollment & Reset

Fingerprints are enrolled only during trusted docked setup. The access code remains the deliberate fallback if fingerprint matching is unavailable. A fingerprint is never a recovery credential: ownership recovery relies on the user-controlled 24-word phrase.

04. WALLET SECURITY & TRANSACTION POLICY

The owner configures the transaction policy only while the ring is docked. The protected policy is enforced by the ring rather than by RING_ZERO Companion alone. This separates convenient routine signing from higher-assurance approval.

Routine transfers	Configured per-asset threshold; fresh Companion authentication; local fingerprint or access code; deliberate ring confirmation
Session limits	Rolling session and daily limits prevent multiple routine transfers from bypassing a higher-assurance threshold
Dock-required approval	Docked ring, ring access code, trusted dock-display review, and physical confirmation for transfers above the owner threshold
Always high-assurance	Smart-contract approvals, delegation or authority changes, recovery-policy changes, device pairing, and unknown transaction types
Clear review	Dock display presents asset, amount, recipient, network, fee, and transaction type before approval

The dock is deliberately part of the security model. Its display gives the signer a device-controlled surface for high-assurance review; the phone may request a transaction, but it cannot bypass the ring policy, fingerprint/access-code gate, or required confirmation.

05. RING_ZERO COMPANION

RING_ZERO Companion is the Android and iPhone application at the center of the system. It manages supported phone-side rendering, OxLENS pairing, phone-to-glasses connectivity, OxRING pairing, and wallet transaction review through supported platform APIs.

- Wireless mode uses a direct phone-to-OxLENS Wi-Fi link for the rendered visual experience.
- Wired mode uses a full-featured USB-C cable for DisplayPort Alt Mode video, USB control, and USB Power Delivery where supported by the phone.
- Bluetooth LE is reserved for OxRING low-rate control, status, transaction requests, and signed responses - not visual transport or private-key transfer.

06. PRODUCT INTERACTION

Current spatial interfaces often rely on prolonged hand gestures or eye intent alone. 0xRING provides a tactile interaction path that keeps the hand relaxed and gives a deliberate physical response for navigation and signing.

Capacitive control	Thumb swipes, taps, and holds map to familiar navigation commands
Haptic feedback	Linear resonant actuator provides short tactile feedback for confirmed interactions
Fingerprint access	Thumb-accessible sensor verifies local wallet access; access code remains available
Visual client	0xLENS presents the phone-rendered experience while the phone remains primary compute host

07. TOKEN ECONOMY

0RING is the utility token for the RING_ZERO ecosystem. The total supply is 100,000,000,000 0RING. Allocation is stated as 40% presale, 20% liquidity, 15% development/team, and 25% marketing. Token utility and delivery remain contingent on successful product development, deployment, and applicable legal requirements.

08. ROADMAP

Phase 1: 2024 - Aug 2026	Research and development, engineering prototypes, and RING_ZERO Companion architecture
Phase 2: Q3 2026 - Q1 2027	Genesis launch, presale, token-generation work, Solana mainnet deployment, and builder-program expansion
Phase 3: Q2 - Q4 2027	Planned public hardware launch and expansion of supported Companion experiences
Phase 4: 2028	Planned ecosystem expansion and further hardware development

09. PRIVACY & DATA HANDLING

0xRING is designed so that private keys remain in its secure element. Fingerprint authentication is designed for local wallet access; RING_ZERO does not collect fingerprint data or transmit it to RING_ZERO servers. The recovery phrase remains offline and is never stored by RING_ZERO Companion or RING_ZERO services.

Website and presale operations may process wallet addresses, on-chain transaction data, technical data needed for operation and analytics, and communications submitted by visitors. Blockchain addresses and confirmed transactions are public on their respective networks.

10. RISK DISCLOSURE

- RING_ZERO hardware and software are under development. Component qualification, supported-phone compatibility, and final product measurements remain subject to engineering validation.
- Cryptocurrency networks, tokens, and smart contracts involve technical, market, liquidity, and regulatory risks.
- Users remain responsible for protecting their recovery phrase, access code, trusted devices, and transaction-review decisions.
- No website, companion application, or wireless link can replace the required deliberate review on the wallet signer for high-assurance actions.

CONCLUSION

RING_ZERO combines lightweight split-compute optics with a dedicated, locally controlled hardware wallet. The system is designed to make spatial interaction more natural while maintaining clear boundaries between phone-side convenience and ring-controlled signing authority.

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