



# ALETHRA ENV™

*AE-E1 (Environmental Verification Edition)*  
***The Atmosphere, Authenticated***

# ALETHRA ENV™

## The Atmosphere, Authenticated

ALETHRA ENV™ is the atmospheric sentinel of the ALETHRA ecosystem. It captures CO<sub>2</sub>, particulates, humidity, temperature, VOCs, methane, ammonia, and pressure data—and verifies each reading using ALETHRA AI Clarity™. Unlike traditional sensors that only measure, ENV™ proves each reading's validity before it's accepted, stored, or reported.

From controlled agriculture to food plants, clean rooms, and packaging halls, ENV™ turns the air itself into a trusted data source.

### CORE CAPABILITIES

- Air integrity verification
- Confusion-detection for drifting sensors
- Predictive contamination alerts
- 360° intake design
- Blockchain-backed audit trail (TraceChain)

### HARDWARE

**Processor:** Quad-core ARM Cortex-A53 + AI Clarity Coprocessor

**Memory:** 4 GB LPDDR4

**Storage:** 128 GB eMMC (expandable to 512 GB)

**Sensor Suite:** CO<sub>2</sub>, O<sub>2</sub>, VOC, PM2.5 / PM10, CH<sub>4</sub>, NH<sub>3</sub>, Temp, Humidity, Pressure

**Connectivity:** Ethernet, Wi-Fi 6, BLE, optional LoRa

**Enclosure:** Electric Red anodized cylindrical housing (IP65)

**Dimensions:** 280 mm × 80 mm

**Weight:** 840 g

### SOFTWARE

- ALETHRA AI Clarity™ Environment Module
- Air Integrity Library
- Predictive Compliance Model
- TraceChain Ledger Sync
- OTA firmware + model updates



Model: AE-E1 (Environmental Verification Edition)

ALETHRA ENV™ verifies air quality, environmental safety, and atmospheric integrity using multi-sensor cross-authentication and AI-driven truth scoring. It prevents false readings and secures verified environmental data to the ALETHRA Ledger.

### FUNCTIONAL PERFORMANCE

**Verification Speed:** > 500 samples/sec

**Accuracy:** ±0.1 ppm CO<sub>2</sub> / ±0.5 µg/m³ PM2.5

**Latency:** < 30 ms

**Operating Range:** -10 °C to +60 °C

### APPLICATIONS

- Hydroponic and Controlled-Environment Agriculture
- Food and Beverage Processing Lines
- Pharmaceutical and Biotech Clean Zones
- Smart Buildings and Factories for ESG Reporting
- Regulatory Compliance and Environmental Auditing

### SUMMARY

ALETHRA ENV™ makes the invisible verifiable, ensuring environmental truth across agriculture, food, pharma, and smart facilities.

**“INTELLIGENT CLARITY TECHNOLOGY”**