

BYOTx

MISSION-ASSURED RF ILLUMINATION FOR PASSIVE RADAR OPERATIONS

BYOTx is a tactical RF transmitter built to support multistatic passive radar operations in any RF environment. Passive radar requires RF illumination to detect and track targets, yet in many operational settings—rural areas, austere deployments, or electronically contested environments—ambient RF signals are inconsistent or unavailable.

Paired with the SURGE sensor, BYOTx delivers a high-power, software-defined RF illumination source that enables accurate multistatic passive radar operations regardless of local signal conditions. This provides operators with a clear picture of the airspace, enabling timely, informed decision-making.

Designed for both fixed-site and distributed deployments, BYOTx supports flexible geometries that maximize coverage while minimizing detectability. Operator-controlled waveform agility allows BYOTx to blend into existing RF environments, adapt to mission needs, and maintain a low operational signature. Independent placement enables SURGE sensors to remain passive and undiscovered while still receiving the RF energy required for precision sensing.

Compact, rugged, and low-SWaP, BYOTx provides the critical RF illumination layer that ensures SURGE delivers dependable airspace awareness—anywhere the mission demands.



Key Operational Advantages

- Reliable Passive Radar Performance**
Ensures SURGE can detect and track “dark” or RF-silent aerial threats even in environments lacking reliable transmitters of opportunity.
- Environment-Independent Awareness**
Delivers consistent RF illumination in both RF-sparse and RF-complex environments where natural signal conditions cannot be assumed.
- Extended Detection and Tracking Range**
High output power improves passive radar accuracy and extends airspace coverage when paired with SURGE.
- Seamless Integration Into Any RF Landscape**
Operator-defined waveform control allows BYOTx to match local RF characteristics, supporting low-signature, non-disruptive operations.
- Local or Remote Operational Control**
Pre-programmed or on-the-fly frequency and waveform selection enables flexible mission control across dynamic operational environments.
- Agile, Low-Signature Deployment**
Compact form factor and independent placement reduce detectability and exposure while supporting highly adaptable deployment geometries.

BYOTx SPECIFICATIONS

PERFORMANCE

- **Frequency Coverage:** 500MHz – 2500MHz
 - Supports the operating bands required for SURGE sensors, enabling passive radar performance
- **Field of View:** Antenna-defined; compatible with a range of antenna types to meet mission needs
- **Detection Range:**
 - Up to 6 km for UAS-class aerial targets when paired with SURGE (performance dependent on modality, environment, and target characteristics)

INTEGRATION & DATA OUTPUTS

- **Primary I/O:** 100 Mbps / 1 Gbps RJ45 Ethernet
- **Network Compatibility:** Fully networkable and seamlessly integrates into Hidden Level's Airspace Monitoring Service (AMS)

SIZE, WEIGHT & POWER (SWaP)

- **Sensor Dimensions:** 25.12 in x 12.43 in x 12.89 in (including handles)
- **Weight:** 45 lbs
- **Power Requirements:**
 - AC: 7 Amps
- **Power Input:**
 - AC: 90 – 264 VAC
 - DC: Optional 28V

ENVIRONMENTAL HARDENING

- **Ingress Protection:** IP66 (dust and water resistance)
- **Design, Standards & Compliance:**
 - MIL-STD-810H (shock, vibration, temperature)
 - MIL-STD-461G (EMI / EMC)



DEPLOYMENT OPTIONS & FLEXIBILITY

- **Fixed-Site Mounting:** Supporting pole, wall, and ground mounting schemes, enabling low SWaP and rapid deployment.
- **Independent Emplacement:** Allows the transmitter to be positioned away from sensors, enabling sensors to remain RF-silent while supporting flexible deployment strategies.
- **Software Defined Flexibility:** BYOTx evolves with the threat—fast, flexible, and future-ready.

**Hidden
Level**

Hidden Level is the world's leading RF intelligent platform, delivering mission-defined hardware and software solutions that combine passive sensing, persistent data, and applied intelligence to help customers and partners address complex safety and security challenges across air, ground, sea, and space. Designed and manufactured in the USA. 