



Lightweight SDR for Airborne and ISR Applications



TW GHOST 881 EMBEDDED MODULE

The TW Ghost 881 is a cost-effective, lightweight Software Defined Radio (SDR) purpose-built for Unmanned Aircraft Systems (UAS) and other Size, Weight, and Power (SWaP)-constrained platforms. Designed for seamless integration across a broad range of mission systems, it provides high-performance Intelligence, Surveillance, and Reconnaissance (ISR), real-time video, Command and Control (C2), and relay capabilities that extend network reach and resiliency. Based on the proven TW-880 architecture, the TW-881 offers exceptional performance with minimal integration effort—ideal for airborne, ground, and relay node deployments.

KEY FEATURES

- **Compact, Airborne-Ready Design**—Lightweight, cost-effective SDR optimized for SWaP-constrained Group 1 and 2 UAS platforms.
- **ISR, C2 and Relay Optimization**—Enables high throughput, low latency networking for real-time sensor data, video, C2, and relay across extended ranges for airborne and mobile missions.
- **Plug-and-Play Interfaces**—Ethernet, Serial, and USB data interfaces to support C2, status, and payload data.
- **Streamlined Integration**—Compatible with TrellisWare APIs, tools, and the TW-880 ecosystem to accelerate development and reduce overall integration effort.

MULTI-WAVEFORM CAPABILITIES

- **TSM**—A scalable and robust MANET waveform purpose-built to support extremely large networks with simultaneous voice, data, video, and Position Location Information (PLI) operating in a single radio frequency channel.
- **Katana WB Anti-Jam Connectivity* (Optional)**—Wideband frequency-hopping anti-jam MANET delivering resilient voice, PLI, and high-throughput IP data in harsh RF environments.
- **Seismic A/J UAS Connectivity* (Optional)**—Anti-jam C2 link with simultaneous high-throughput downlink for video, sensor data, and telemetry, optimized for low latency.

* Waveforms to be supported at a later date.

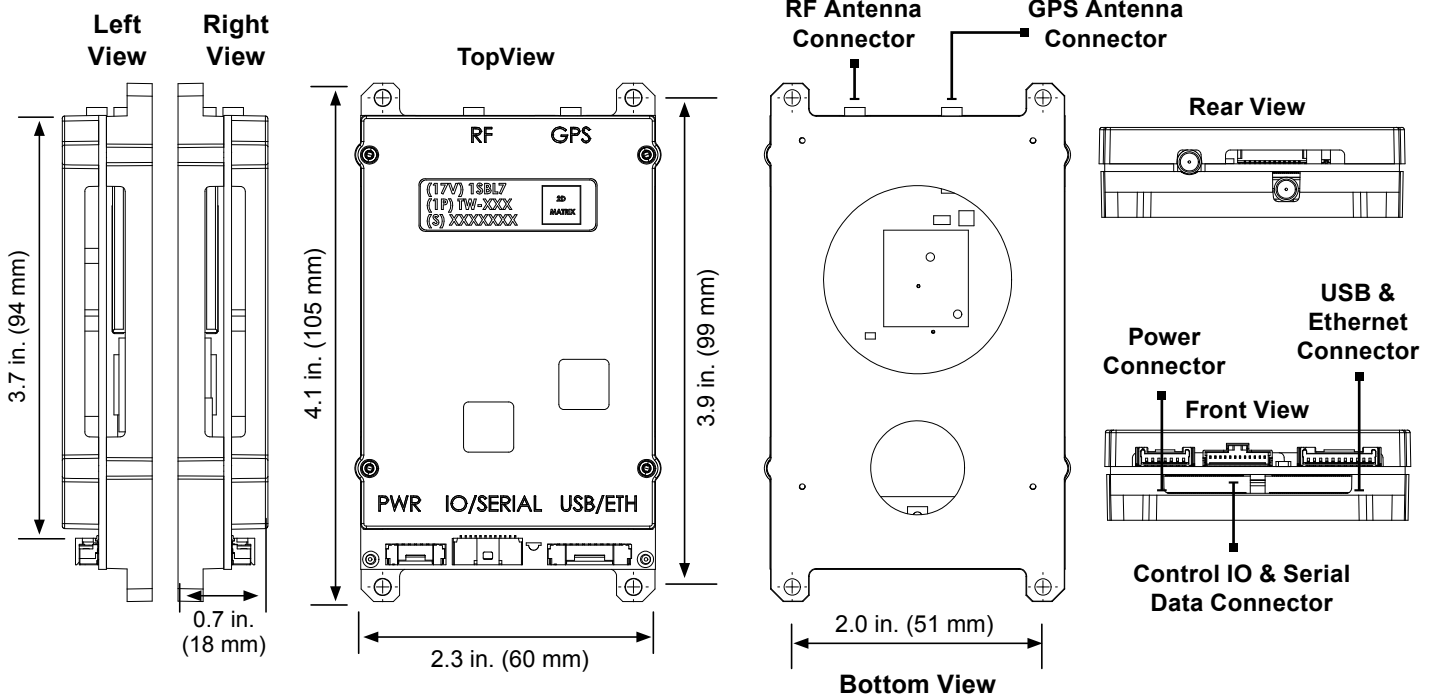
TRELLISWARE WAVEFORMS

TrellisWare's patented Barrage Relay technology delivers proven network scalability and performance, ensuring quality of service without compromising operational demands as they evolve, empowering users to stay connected when it matters most. TrellisWare's TSM waveforms are globally recognized as the industry standard for resilient communications, delivering scalable and adaptable services for voice, video, data, and Position Location Information (PLI). The optional Katana waveforms add fast frequency hopping with tactical MANET for operations in highly contested radio frequency (RF) conditions. TrellisWare's multi-waveform capabilities set the standard for resilient communications solutions supported by a large ecosystem of interoperable platforms.



SCAN ME





Specifications	
Size	4.1 L x 2.3 W x 0.7 H in (105 x 60 x 18 mm)
Weight	0.22 lbs. (99.13 g)
Frequency	L/S Bands: 1250–2600 MHz
Configurable Bandwidth	1.2, 3.6, 10, 20 MHz
Spectrum Pipelining Bandwidth	Dual-channel operation (2x10 MHz or 2x20 MHz) with user-selectable spacing; 20 MHz or 40 MHz total occupied bandwidth
Transmit Power	100 mW, 250 mW, 500 mW, 1 W, 2 W
Input Power	8-20 VDC
Interfaces	<ul style="list-style-type: none"> • USB On-the-Go • Ethernet • Control Status • Serial Data • RF SMP • GPS SMP
Data Rate	Throughputs of 50+ Mbps supported
Security	Built-in AES-256 COMSEC TRANSEC
Environmental	MIL-STD-810G, IP41
Operating Temperature	-20°C to +55°C (-4°F to +131°F)
Waveforms	<ul style="list-style-type: none"> • TSM <ul style="list-style-type: none"> – Barrage Beamforming (optional) • Katana NB (optional) • Katana WB* (optional) • Seismic A/J* (optional) <p>* Will be supported upon release.</p>

Networking	
Network Coverage	<ul style="list-style-type: none"> • Barrage Relay • Multi-hop – 205 miles (330 km) per hop • Hosts multiple waveforms • Robust in Harsh RF Environments • Throughputs of 50+ Mbps supported
Communication Services	<ul style="list-style-type: none"> • Relay node for TSM services (Data, PLI) • Built-in or External GPS • IP Support – IPv4, IPv6; Unicast, Multicast, Broadcast; TCP, UDP
Security	AES-256 Encryption (AES Standard – FIPS 197)
Application Support	<ul style="list-style-type: none"> • Built-in Web Applications • Over-the-Air Remote Control • APIs for 3rd Party Integration • PLI with CoT, KML, and JSON • Integration with Android applications

Specifications subject to change without notice.



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To place an order, please contact your account manager.
For more information, email sales@trellisware.com

Please access the most recent digital version of this datasheet on the TrellisWare Customer Support Site (site registration required).