



The “CORE” Of All TrellisWare Radios Available For Embedded Integration

ALTIUS-700 Army Photo by Daniel Henke



Actual size shown

TW SHADOW 650 CORE BOARD MODULE

EMBEDDED INTEGRATION

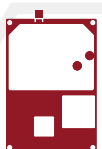
The TW Shadow 650 Core Board Module is a Software-Defined Radio (SDR) that is specifically designed to be embedded into a wide range of systems, including tactical communications platforms, network devices, and uncrewed systems.

KEY FEATURES

- Advanced SDR architecture designed for embedment into a wide range of systems
- Designed for optimal size, weight, and power consumption (SWaP), allowing for embedment into small to large platforms
- Seamless interoperability with TrellisWare radios
- Full software application programming interface (API) for status and control of the radio through an Internet Protocol (IP) interface

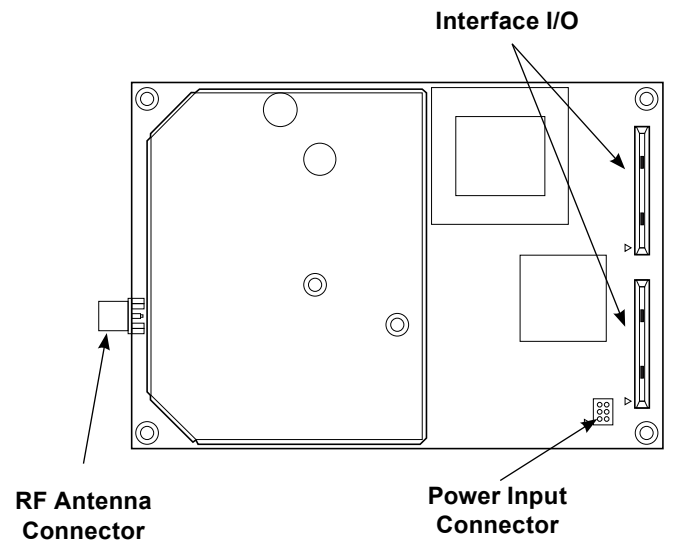
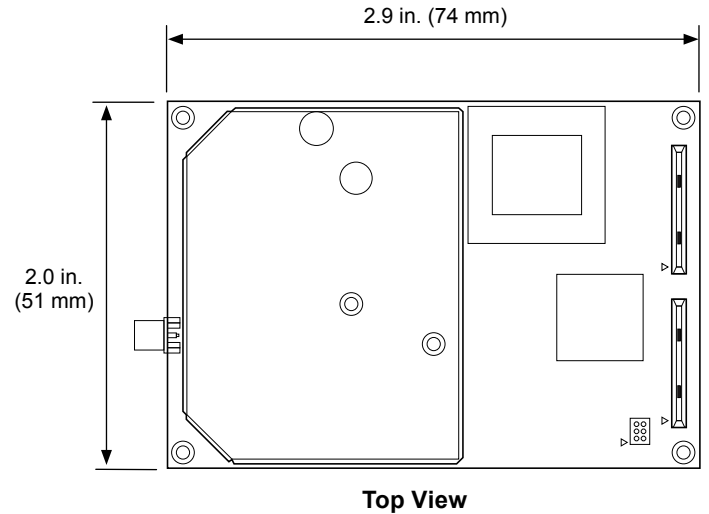
TRELLISWARE WAVEFORMS

TrellisWare's 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 Nothing Else Works*. 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 with a large ecosystem of interoperable platforms.





Specifications	
Overall Size	2.9 L x 2.0 W x 0.1 H in (74 x 51 x 3 mm)
Weight	0.1 lbs (34 g) (core board with shielding)
Frequency Range	<ul style="list-style-type: none"> • L-UHF: 225–450 MHz • U-UHF: 698–970 MHz • L/S Bands: 1250–2600 MHz
Configurable Bandwidth	1.2, 3.6, 10, 20 MHz
Spectrum Pipelining Bandwidth	User-Selectable Spacing with 20 or 40 MHz Occupied Bandwidth
Transmit Power	100 mW, 250 mW, 500 mW, 1W, 2W
Input Power	3.4–4.2 VDC
Interfaces	<ul style="list-style-type: none"> • Board Mount • Power and Control • Ethernet • USB 2.0 Ports (USB-OTG, USB-H1) • Serial to IP • I2C • RF Antenna (SMP jack)
Data Rate	Pt. to Pt., up to 32 Mbps
Security	Built-in AES-256 COMSEC TRANSEC
Waveform	<ul style="list-style-type: none"> • TSM – Barrage Beamforming (optional) • Katana NB (optional)



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"> • Simultaneous Voice, Data, PLI • 32 Voice Talk Groups • Built-in or External GPS • IP Support – IPv4, IPv6; Unicast, Multicast, Broadcast; TCP, UDP
Security	AES-256 (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.

When Nothing Else Works
T R E L L I S W A R E . C O M

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).
support.trellisware.com



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