



The Most Cost-Effective TSM-Enabled Radio

TW SPIRIT 860 RADIO

TRELLISWARE'S TW SPIRIT 860 IS DESIGNED FOR NEXT-GENERATION SOLDIER SYSTEMS, PUBLIC SAFETY, AND FIRST RESPONDER REQUIREMENTS.

TrellisWare's TW Spirit 860 is designed for next-generation soldier systems, public safety, and first responder requirements. Interoperable with all TrellisWare radios, the TW Spirit 860 radio supports a true flat network with massive scalability in a single radio frequency (RF) channel, while still delivering rapid position location information (PLI) updates for every radio.

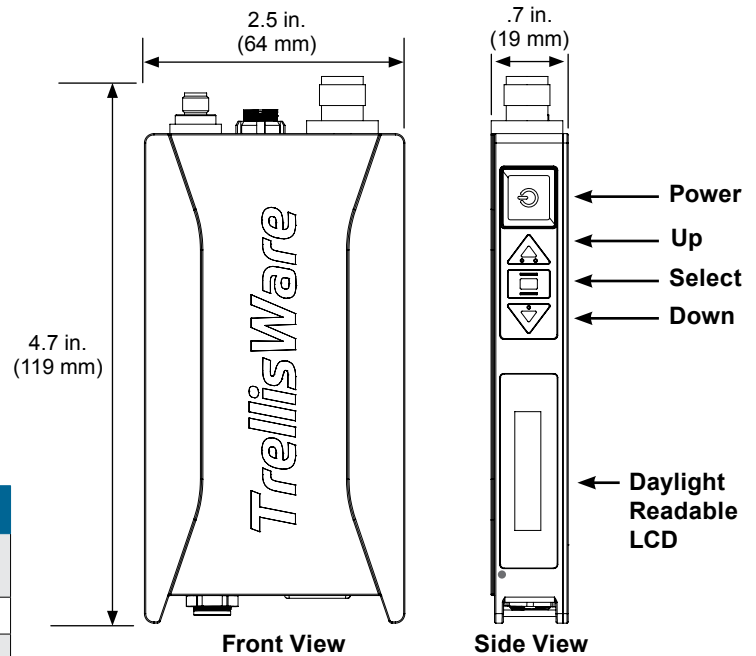
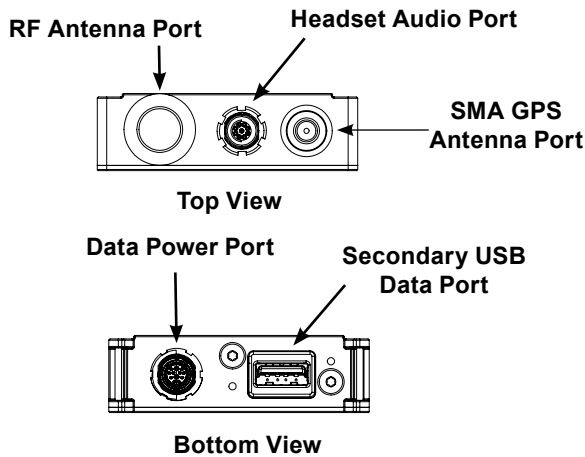
KEY FEATURES

- Designed specifically for body-wearable applications with industry-leading size, weight, and power (SWaP) among body-worn mesh networking radios
 - Single data and power connector that supports Internet Protocol (IP) data and USB-C power delivery to support soldier hub devices and conformal wearable batteries
 - Ideal for use with body-worn wearable antennas, only requiring one antenna to achieve reliable performance (versus MIMO radios that require multiple antennas)
- Seamless data connectivity for all body-worn end-user equipment
- Expansion port for Wi-Fi wireless connectivity for audio and data
- Full voice capability with dual push-to-talk (PTT) and up to 32 selectable talk groups
- FCC/IC-certified configuration available

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	4.7 L x 2.5 W x 0.7 H in (119 x 64 x 19 mm)
Weight	0.5 lbs (249 g)
Frequency Range	
Standard	<ul style="list-style-type: none">• L-UHF: 225–450 MHz• U-UHF: 698–970 MHz• L/S Bands: 1250–2600 MHz
FCC/IC	<ul style="list-style-type: none">• 902–928 MHz (Use with TW-1149 antenna)• 2400–2483.5 MHz
Bandwidth/Channel Spacing	Wideband: 1.2, 3.6, 10, 20 MHz Narrowband: 6.25, 8.33, 12.5, 20, 25, 50 kHz
Transmit Power	
Standard	.001 mW, .01 mW, .1 mW, 10 mW, 100 mW, 250 mW, 500 mW, 1 W, 2 W
FCC/IC	100 mW, 250 mW, 500 mW, 1 W
Input Power	5–20 VDC
RF Connector	TNC
Headset Audio Port	9-Pin Connector – Supports Dual Push-To-Talk (PTT) and Two Simultaneous Talk Groups
Data/Power Port	12-Pin ODU Connector – Supports USB-C Power Delivery and Data
Secondary USB Port	USB-A Connector – Supports Data, Programming, and WiFi
Environmental	MIL-STD-810G
Operating Temperature Range	-20°C to +55°C (-4°F to +131°F)
Water Resistant	IP67 without USB-A Cap IP68 with USB-A Cap
Audio Encoding	AMR 5.9, MELPe
Waveforms	<ul style="list-style-type: none">• TSM– Barrage Beamforming (optional)• NB LOS
GNSS	GPS

Networking Capabilities

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, and PLI• 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• TW Connect• ATAK support

Specifications subject to change without notice.

*Expanded temperature range test results available.

Note: For FCC/IC radio options, please contact TrellisWare Customer Support at support@trellisware.com.

Note: For military and public safety/security use. Please contact TrellisWare Customer Support at support@trellisware.com for FCC/IC radio options, or EU and UK declarations.



When Nothing Else Works
TRELLISWARE.COM

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

The appearance of U.S. Department of Defense (DoD) visual information does not imply or constitute DoD endorsement or Public Safety/First Responders.

This TrellisWare product is under the jurisdiction of the Department of Commerce and is subject to Export Administration Regulations (EAR)