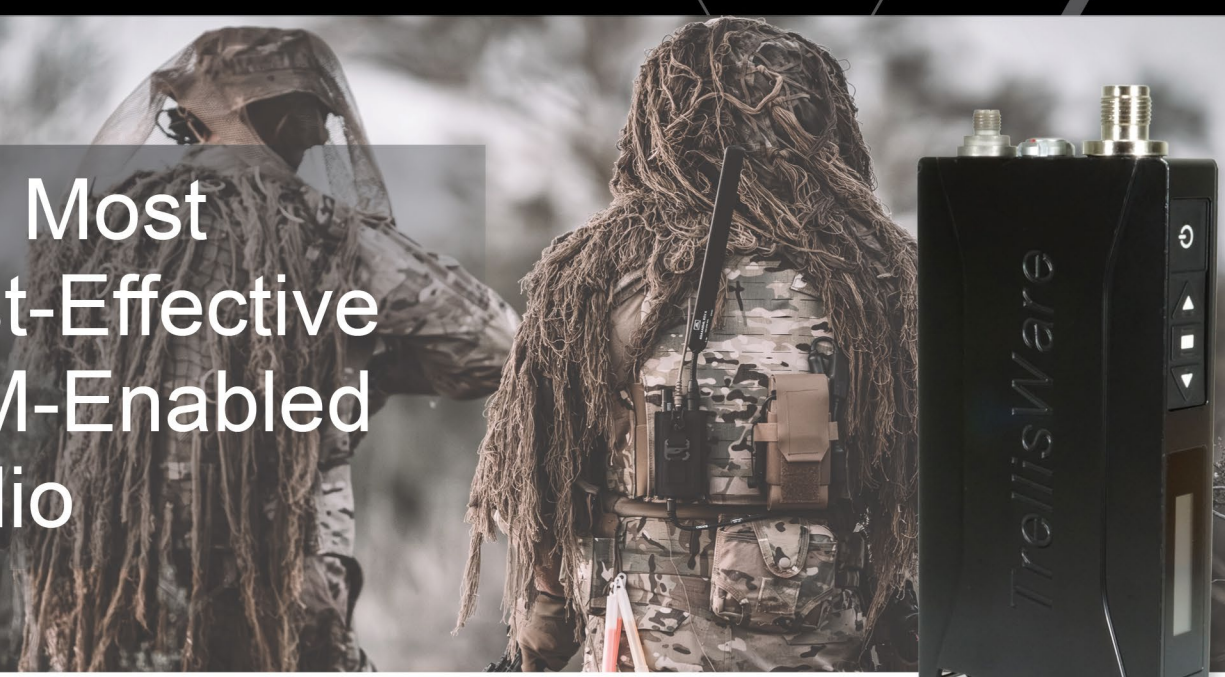




# The Most Cost-Effective TSM-Enabled Radio



## TW-860 TSM SPIRIT RADIO

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

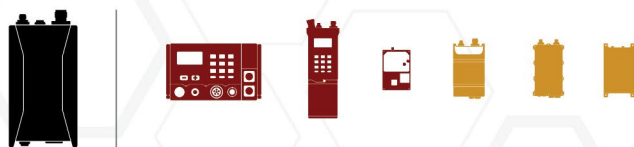
The TW-860 TSM Spirit radio is the most compact TrellisWare radio available. Interoperable with all TrellisWare radios, the TW-860 TSM Spirit radio supports a true flat network with massive scalability in a single radio frequency (RF) channel, while still delivering rapid position location information (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 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 TSM voice capability with dual push-to-talk (PTT) and up to 32 selectable talk groups

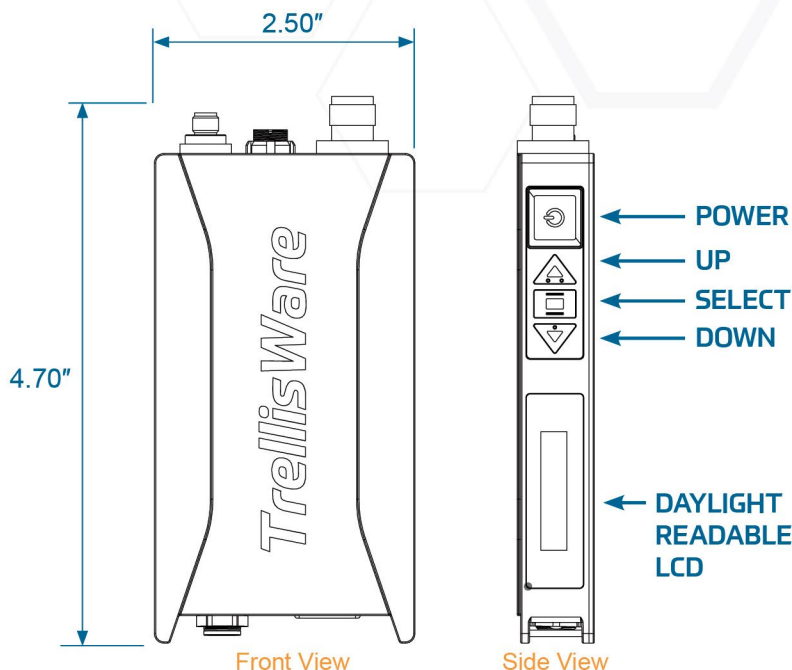
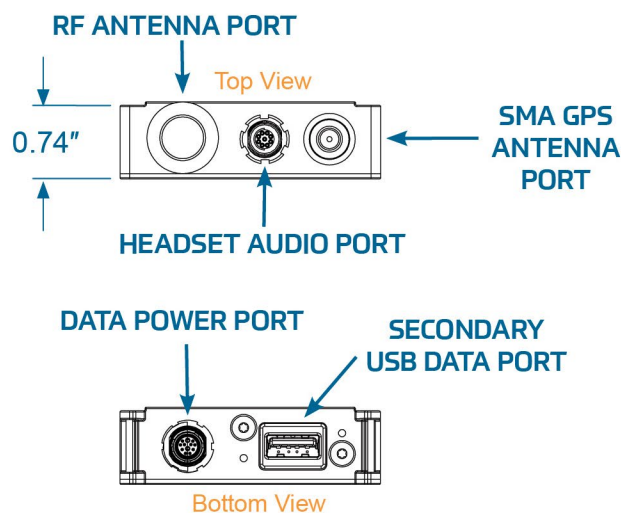
### PROVEN SCALABILITY AND PERFORMANCE

TrellisWare's patented Barrage Relay networking eliminates the need for routing protocols and allows for massive network scalability with low overhead. The TrellisWare TSM waveform is a highly scalable and robust Mobile Ad Hoc Networking (MANET) waveform designed from the ground up to support over 800 nodes with simultaneous voice, data, video, and Position Location Information (PLI) operating in a single radio frequency channel. The TrellisWare Katana waveform combines resilient narrowband fast frequency hopping with tactical MANET, operating in highly contested radio frequency (RF) communication environments.





## COMPONENTS



## SPECIFICATIONS

Physical	
<b>Overall Size</b>	4.70 L x 2.50 W x 0.74 H in (119.38 x 63.50 x 18.79 mm)
<b>Weight</b>	8.81 oz (249 g)
<b>Frequency Range</b>	<ul style="list-style-type: none"> <li>• LUHF: 225–450 MHz</li> <li>• U-UHF: 698–970 MHz</li> <li>• L/S Bands: 1250–2600 MHz</li> </ul>
<b>Configurable Bandwidth</b>	1.2, 3.6, 10, 20 MHz
<b>Spectrum Pipelining Bandwidth</b>	User-Selectable Spacing with 20 or 40 MHz Occupied Bandwidth
<b>Transmit Power</b>	100 mW, 250 mW, 500 mW, 1 W, 2 W
<b>Operating Temperature Range</b>	-20°C to +55°C (-4°F to +131°F)
<b>Environmental</b>	MIL-STD-810H
<b>Water-Resistant</b>	IP67 without USB-A Cap IP68 with USB-A Cap
<b>RF Connector</b>	TNC
<b>Headset Audio Port</b>	9-Pin Connector – Supports Dual Push-To-Talk (PTT) and Two Simultaneous Talk Groups
<b>Data/Power Port</b>	12-Pin ODU Connector – Supports USB-C Power Delivery and Data
<b>Secondary USB Port</b>	USB-A Connector – Supports Data, Programming, and WiFi
<b>Input Power</b>	5–20 VDC
<b>Data Rate</b>	Up to 32 Mbps Pt. to Pt.
<b>Net Entry Time</b>	< 1 Second
<b>Waveform</b>	TSM, Katana (Optional)

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



Networking	
<b>Network Coverage</b>	<ul style="list-style-type: none"> <li>• Mobile Ad Hoc Networking</li> <li>• Multi-hop – Up to 8 Hops</li> <li>• 800 Nodes in a Single Network</li> <li>• Robust in Harsh RF Environments</li> <li>• Range – 26 Miles (40 Km) in a Single Hop</li> </ul>
<b>Communication Services</b>	<ul style="list-style-type: none"> <li>• Simultaneous Data and PLI</li> <li>• Up to 32 Voice Talk Groups with Voice Option</li> <li>• Built-in or External GPS</li> <li>• IP Support – IPv4, IPv6; Unicast, Multicast, Broadcast; TCP, UDP</li> </ul>
<b>Security</b>	<ul style="list-style-type: none"> <li>• AES-256</li> </ul>
<b>Application Support</b>	<ul style="list-style-type: none"> <li>• Built-in Web Applications</li> <li>• Over the Air Remote Control</li> <li>• APIs for 3<sup>rd</sup> Party Integration</li> <li>• PLI with CoT, KML, and JSON</li> <li>• Integration with Android™ applications</li> </ul>

Specifications subject to change without notice.

\*Expanded temperature range test results available.

## When Nothing Else Works

TRELLISWARE.COM

To place an order, please contact your account manager.  
For more information, email [sales@trellisware.com](mailto:sales@trellisware.com)

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