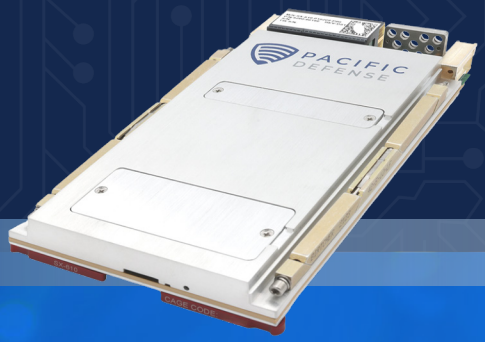
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PACIFIC DEFENSE

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# SX-610

## CMOSS TrellisWare® MANET Card

### Integrated Multi-Mission Comms/EW/C5ISR Solutions



The SX-610 is a ruggedized U.S. Army CMOSS 3U OpenVPX™ plug-in card aligned with The Open Group Sensor Open Systems Architecture™, or SOSA™, Technical Standard and capable of supporting the TrellisWare (TSM™) 6.2.1 waveform for use in a scalable mobile ad-hoc network (MANET). For the first time, this software defined radio brings mobile ad-hoc networking and communications functionality to the CMOSS/ SOSA ecosystem. The SX-610 CMOSS TSM MANET card equipped devices can operate in one network with voice, data, and Position Location Information (PLI) communication. The card can readily interoperate in any CMOSS or SOSA aligned standard Payload Slot to expedite system integration making it an ideal fit for next generation Cyber / Comms applications for use on Air, Land and Sea platforms.

This 3U VPX plug-in card is designed as a single processing enclave based on a manufacturing build option. The support of the TSM waveform on the MANET module is achieved via the Sitara™ microprocessor from Texas Instruments. The SX-610 is compliant to the ANSI VITA 48.2 mechanical standard for VPX REDI conduction cooling and ECC3 environmental class per VITA 47 standard.

## KEY FEATURES

- Built to CMOSS, SOSA™, and OpenVPX™ standards
- 3U VPX form factor
- TSM™ Release 6 Communications waveform enables a scalable mobile, ad hoc network (MANET) fully interoperable with radios and devices that run the TSM-X™ waveform
- TSM waveform supports simultaneous voice, Position Location Information (PLI), and data messaging for up to 250 users, all on a single RF channel
- Built-in COMSEC with AES-256 encryption
- L-UHF, U-UHF, and L/S Bands
- Supports VICTORY interfaces*
- Slot profiles
  - SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11-4
  - Supports other aperture options
- Conduction cooled

** Only in an ITAR configuration, not available in an exportable version*

## General Characteristics

- Configurable channel bandwidths: 1.2, 4, 10, 20, 40 MHz
- Point-to-point network topology, up to 16 Mbps in one hop
- Utilizes L-UHF (225-450 MHz), U-UHF (698-970 MHz), and L/S Bands (1250-2600 MHz)
- VICTORY transport layer supported via Texas Instruments Sitara device family of microprocessors in an ITAR configuration of the product
- G.711 voice over the VICTORY data bus* supports one talk group at a time
- Upgradable to a total of 32 simultaneous talk groups
- Full software API for status and control of the radio through an Internet Protocol (IP) and the VICTORY interfaces*
- Running TSM waveform Release 6, fully interoperable with the TrellisWare family of radios, and partner radios and devices running the TSM-X waveform that interface to NSA-certified Type 1 security architectures
- Built-in COMSEC with Advanced Encryption Standard (AES-256)
- Built-in video encoding
- Web applications hosted on the radio for end-user configuration and monitoring of the TSM network
- Utilizes VICTORY timing messages* or NMEA 0183 protocol from a PNT card for network synchronization
- Supports VICTORY position messages* or NMEA 0183 protocol from a PNT card for PLI
- Gigabit Ethernet control plane and secondary data plane interfaces based on the product build option
- Intelligent Platform Management Interface (IPMI)
- Output power: 0.1W to 2W

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## Applications

- Audio Communication
- Video Communication
- Networking
- Fixed or Mobile Tactical Operations
- Position Location Information
- Cyber Security Solutions
- Other low power embedded communication solutions

INNOVATIVE

# DEFENSE & COMMERCIAL SOLUTIONS

CMOSS SOSA Sensor Open Systems Architecture MEMBER OpenVPX

Pacific Defense is designed to support the DoD's disciplined movement to modular open standards and to mirror the way military services address EMS warfare – holistic mission planning and execution. The company's approach inherently enables what it refers to as a rapid prototyping paradigm – embedding a commercial mentality into the defense industry. Products are designed from the outset for modern, AI-driven autonomy and CMOSS and SOSA-aligned hardware and software solutions. This includes state-of-the-art processing that can readily follow the evolution of commercial technology with complete data sharing across networks and platforms.

Headquartered in El Segundo, California, Pacific Defense takes an organic, commercial-minded approach to military-use electromagnetic spectrum technologies, and solutions. Focus areas include autonomous systems, command and control, communications, cyber operations, intelligence collection, and electronic warfare. Spectranetix, Perceptronics, and Spear Research are part of the Pacific Defense family, specializing in highly-advanced RF spectrum technologies, and engineering with innovative AI-backed algorithms.

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