



SWAVE™ VM3 SECURE WIDEBAND MULTIROLE - SINGLE CHANNEL VEHICLE RADIO

The SWave™ VM3 is the vehicular adaptation of the single-channel Hand Held software defined radio that provides wide and narrowband secure voice/data services for present and future tactical needs. Based on the Software Communications Architecture (SCA), the SWave™ VM3 can support both legacy and new waveforms, thus providing interoperability with fielded radios and C4I systems.

This small, lightweight vehicular assembly hosts an SWave™ HH radio that can be easily and quickly removed to provide personal communications capabilities for dismounted soldiers.

It provides electrical and mechanical characteristics compliant with MIL-STD-1275 and MIL-STD-810F. The SWave™ VM3 can be operated either remotely, via SNMP interface, or locally, via its HMI, with backlit graphic display and keyboard.

It provides all the features of the SWave™ HH radio, including 30-512MHz frequency range, 5W peak RF output power and support of Selex ES proprietary narrowband FFH WF SelfNET™ EASY II™ and broadband MANET WF SelfNET™ SBW.

Voice, data and control traffic can be remoted. Ethernet, USB and serial cable interfaces are available. The SWave™ VM3 also provides battery charging capability for the hosted SWave™ HH. The embedded commercial-grade GPS receiver can be also interfaced to active/passive external antennas.

The vehicle mounting base can be optionally equipped with a co-siting filter module to ease integration in multiple-radio, electromagnetically crowded systems. An external 50W RFPA is also available for vehicle installations. Due to its small, lightweight formfactor, the SWave™ VM3 is suitable even for small vehicles and any other installation with tight space constraints.

The SWave™ VM3 is supplied with manuals and headset. A wide set of ancillaries options is available, including shock mounting base, vehicle remote terminals, a choice of antennas suitable for different mission needs (VHF, UHF, wideband) and a dualchannel headset.

SELFNET™ SBW

The SelfNET™ Soldier Broadband Waveform is a multi-hop Mobile Ad-hoc NETWORK UHF (225-512MHz) waveform, designed for squad/platoon operational needs. The SelfNET™ SBW can automatically establish a network of up to 50 nodes with a depth of up to 5 hops. Network topology is automatically built and dynamically adapted for mobile operation.

Voice and data services, including broadband traffic such as video streaming, can be provided simultaneously, with voice prioritization and configurable QoS policies for data. Groups are supported, so that a node can be part of two closed Voice Groups (Dual Net feature) and Data Groups (V-LAN) at the same time. Commander Priority and Emergency Call features are provided.

SWAVE™ EASY II

The SWave™ Enhanced Anti-jamming System II WF is a narrowband, fast frequency-hopping waveform with voice and data communications capabilities. The SelfNET™ EASY II can operate in both VHF (30-88MHz) and UHF (225-512MHz).

TRANSEC synchronization can be achieved with or without GPS support. Digital voice (CVSD or MELP) or data at up to 16kbps can be provided over a 25kHz channel bandwidth.

IP data communication is also supported.

SWAVE™ EASY II

General

| | |
|--------------------|--|
| Channels | 1, half-duplex |
| Frequency range | 30-512MHz |
| Channel bandwidth | NB: 25kHz WB: 1.25MHz (up to 5MHz) |
| Channel spacing | NB: 25kHz WB: 2 MHz |
| Audio interfaces | 1 analog audio channel with dual PTT |
| Data interfaces | serial (RS-232), USB, Ethernet |
| Control interfaces | HW: Ethernet CANBUS + discrete wires for external ancillaries SW: SNMP |
| SW environment | SCA 2.2.2 compliant IPv4 Bridging and routing capabilities Text messaging SA (Situational Awareness) support |
| GPS receiver | Embedded (commercial) Interface for external GPS receiver |

Security

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|------------|------------------|
| Modes | COMSEC + TRANSEC |
| Encryption | AES 256 (Type3) |
| Key fill | Yes |

Power

| | |
|-------------------|------------------------|
| Power input | MIL-STD-1275-compliant |
| Power consumption | 55W max |

Physical and environmental

| | |
|---------------------|---|
| Size | 262 x 120 x 190mm (HxDxW) |
| Weight | ≤ 4.5kg without CIM module ≤ 5.0kg with CIM module |
| Temperature range | -30 °C to +55°C (operational) |
| Shock and vibration | IAW SICCONA requirements |
| Immersion | 1m/30 min IAW MIL-STD-810F |
| EMI/EMC | IAW MIL-STD-461E |

Transmitter

| | |
|-----------------------|--|
| Power output | 5W (max peak), adjustable (Full, ½, ¼, 100mW) 2.5W (rms typ) w/ SBW 50W (max peak) w/ external PA, adjustable (Full, ½, ¼) |
| Harmonics suppression | better than - 50dBc |

Receiver

| | |
|--------------|--|
| Noise figure | ≤ 8dB (without CIM module) ≤ 10dB (with CIM module) |
| IF rejection | Better than - 58dBc |
| Sensitivity | ≤ -115dBm (NB FM @ 10 dB SINAD, w/o CIM module) |

Waveform support

| | |
|-----|---|
| NB | V/UHF AM/FM (STANAG 4204/4205) |
| WB | SelfNET™ SBW (Soldier Broadband Waveform) UHF MANET broadband WF with native IP support |
| EPM | EASY II (proprietary) EPM VHF/UHF narrowband WF (optionally with IP support via MIL-STD-188-220C) |

Ancillaries

- Headset
- Handset
- Operating manual, Reference Guide
- CIM module
- Shock mounting base
- 50W vehicular RFPA

SDR PRODUCT LINE

