

FALCON III® RF-7850A-ER

Embeddable Modular Radio (EMR)

The L3Harris EMR is a small form factor, software-defined radio (SDR) that offers the best available size, weight and power (SWaP) today with various security solutions. It provides a voice and data link with maximum flexibility, capable of a diverse set of waveforms suitable for embedment in a wide variety of host platforms.



Anywhere the mission requires voice, data or video transmission and reception, the EMR provides flexible capabilities to support modern Concept of Operations (CONOPS) at the tactical edge.

The proven, leading-edge technology in this single-board SDR is derived from the L3Harris Falcon III® line of radios for secure and reliable communications. With its advanced capabilities, the EMR offers a number of mission-critical options for airborne, maritime and ground operations.

Whether for applications such as UxV control, mobile ad-hoc network (MANET) range extension or advantaged node video dissemination, the L3Harris EMR provides a highly integrated, secure communication link that significantly expands current capabilities and mission goals.



MICRO-SIZED, SECURE SOLUTION FOR MAXIMUM MISSION FLEXIBILITY

KEY BENEFITS

- > Interoperable with fielded L3Harris Falcon III RF-7850 radio family assets
- > SDR capable of storing multiple waveforms in one small form factor
- > SWaP-optimized for flexibility over a wide range of use cases and mission scenarios
- > Secure AES-128/ AES-256 encryption
- > Superior frequency range — from 225 MHz up to 2.5 GHz
- > Transmission power selectable from 0.25 W to 3.2 W

GENERAL	
RT Nomenclature	L3Harris Falcon III® RF-7850A-ER
Frequency Range	225 MHz to 2.5 GHz
Future-Proof	Software Defined Radio
GPS	Internal GPS; supports external GPS from MAVLink devices
Bandwidth	25 kHz
	1.2 MHz
	5 MHz
	75 kHz
	500 kHz
Voice	MELPe

TRANSMITTER	
Operating Voltage	0.25, 1.0, or 3.2 W User-selectable levels

SECURITY	
Encryption	AES-128 AES-256 Citadel 128 Citadel 256

POWER	
Power Input	10.6-34 VDC

ENVIRONMENTAL	
Shock and Vibration	Designed to MIL-STD-810G
Temperature	Operating: -30°C to +55°C Storage: -40°C to +85°C
EMI/RFI	Designed to MIL-STD-461F

PHYSICAL	
Dimensions	3.4 H x 2.5 W x 1 D in (8.63 H x 6.35 W x 2.54 D cm)
Volume	4.4 in³ (72.1 cm³)
Weight	160 grams

AVAILABLE MODES AND WAVEFORMS	
Narrowband Waveforms	TDMA Networking Waveform: Narrowband communication mode Optimized voice and guaranteed GPS reporting Frequency hopping (ECCM) operation UHF Line-Of-Sight: Narrowband communication mode Interoperable with L3Harris radio systems
Wideband Waveforms	M-TNW or ANW2®C S-TNW
Talk Group Wideband Waveform (TGW2)	- TDMA-based advanced wideband communication (TGW2) for team-level deployments - Simultaneous voice and data transmission, up to 240 kbps - Operates between 225 MHz to 2.5 GHz
SOLDIER TDMA NETWORKING WAVEFORM (S-TNW)	- Supports both 1.2 MHz and 5 MHz bandwidths - Tailored for platoon-wide communication architecture, ensuring reliable voice and Position Location Information (PLI)
Video TDMA Networking Waveform (V-TNW) <i>Optional add-on</i>	Advanced Warfighter Video Waveform: - Offers video streaming capability at the tactical edge - Optimized to support multiple video streams to provide battlefield SA and intelligence - Supports up to two talk groups if needed to confirm video intelligence
Vanguard™ and Vapor™ <i>Optional add-on</i>	- Enhanced, resilient tactical edge waveforms that deliver hopping capability along with high-speed IP data - VaporX is designed for long-range, point-to-point, asymmetric, data-only applications
Voice and Data Modes	MELPe and CVSD Voice
Telephony	Embedded SIP

INTERFACES	
Antenna Port	SMA
Programming	USB
Power Connector	Molex connector

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