L3HARRIS®
FAST. FORWARD.

FALCON® IV RF-9800W-U

High-capacity device with CAMAN™ cognitive networking MANET waveform

The L3Harris RF-9800W changes the game for robust, wireless broadband connectivity across kinetic vehicular, airborne and maritime platforms. Based on the market-leading RF-7800W, the RF-9800W combines a groundbreaking cognitive MANET waveform with autonomous spectrum sensing, maximized throughput and ultra-low latency to keep communications flowing through today's contested and congested environments.

RF-9800W-U
HIGH-CAPACITY MANET RADIO

The 9800W meets the challenges presented by the rapidly evolving modern battlespace, delivering advanced capabilities you won't find on competitive radios while reducing cognitive burden on users.

A powerful combination of robust hardware, CAMAN — a cognitive MANET waveform — and intelligent software reduces stress and distraction at critical moments by automatically optimizing and reassigning frequencies without user inputs.

With the addition of autonomous spectrum sensing, Tx power control and interference avoidance, the 9800W provides a resilient solution supporting hundreds of nodes.

The 9800W's adaptable MANET provides instant infrastructure, delivering a robust, agile network designed with the growing tactical internet of things (TIoT) in mind.

Node clusters can be created based on location or traffic patterns, improving throughput, reducing latency at-the-halt and on-the-move and creating an efficient IP network*.

Operating on an expanded continuous spectrum of 1.3-2.7 GHz or 4.4-5.9 GHz, the RF-9800W provides a 2x2 MIMO channel for simultaneous operation across multiple licensed and unlicensed frequency bands, providing more spectrum than any competitive device.

Security of data and management traffic is supported through embedded or external device encryption. The device is also equipped with a GPS module for up-to-the-moment position location information (PLI).

The L3Harris Smart Antenna integrates with the 9800W at the waveform level to provide increased on-the-move performance with decreased probability of intercept.

KEY BENEFITS

> Send and receive more data, faster with Ethernet data rates over 300 Mbps

> Maintain comms integrity in congested and contested environments

> Make it easier to connect more of the battlefield

> Get multiple clear, detailed, real-time ISR feeds

> Leverage full mesh MANET for instant infrastructure and flexible, self-healing coverage

> Autonomously scale and optimize communication networks

> Integrate with the L3Harris Smart Antenna for drastically improved on-the-move performance

* Future Capability

GENERAL

Frequency Range	RF-9800W-U10x: 1.3-2.7 GHz RF-9800W-U20x: 4.4-5.9 GHz
System Capability	LOS, optical-LOS, and non-LOS (OFDM)
Operating Modes	2x2 MIMO MANET
Software Architecture	Upgradeable via HTTP/HTTPS interface
Max Ethernet Rate	Greater than 300 Mbps
Range	255 km clear LOS

POWER

Power Requirements	POE (802.3 bt class 4)

SECURITY

Encryption	FIPS 140-3 level 2 (future)
Interference Control	Optimized frequency selection, automatic transmit power control, adaptive modulation

PHYSICAL

Dimensions	2.3 H x 5.25 W x 6.5 D in (60 H x 134 W x 165 D mm)
Weight	Less than 4 lbs. (2.1 kg)

MIL-STD-810H

Temperature	MIL-STD-810H: High/low temperature operation and storage, temperature shock
Vibration	MIL-STD-810H
Transit Drop	MIL-STD-810G
Immersion	MIL-STD-810H
Humidity	MIL-STD-810H
Altitude	MIL-STD-810H

NETWORK

QOS	802.1p, DiffServ
VLAN	802.1Q
Network Connection	10/100/1000 BaseT Ethernet
System Configuration	HTTP/HTTPS internet browser interface, SNMP, Telnet, SSH, isolated serial management interface
Network Management	SNMP v3, auto crossover (Ethernet), improved diagnostics (BIT), SNTP, Syslog

WIRELESS

Wireless Transmission	OFDM, time division duplex (TDD) and time-frequency division multiple access (TFDMA), multiple input multiple output (MIMO)
Channel Width	5-40 MHz (1.2, 2.5 MHz future)
Channel Spacing	0.5 MHz
Max TX Power	Average transmit power of 25 dBm per RF port
Rx Sensitivity	-103 to -58 dBm
Modulation	QPS to 256 QAM

WAVEFORM

Type	CAMAN, a time-frequency division multiple access (TFDMA) mobile ad hoc networking (MANET) mesh waveform
Characteristics	Self-forming, self-healing, self-optimizing MANET
Encryption	FIPS 197 advanced encryption standard (AES) with a 256-bit key
Data Rates	Greater than 300 Mbps
Channel Access	Time division duplex (TDD)

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