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MAVRIC MODEM ASSEMBLY

Multi-Function Aperture (MFA) adapter for VITA-49 to RF interface conversion

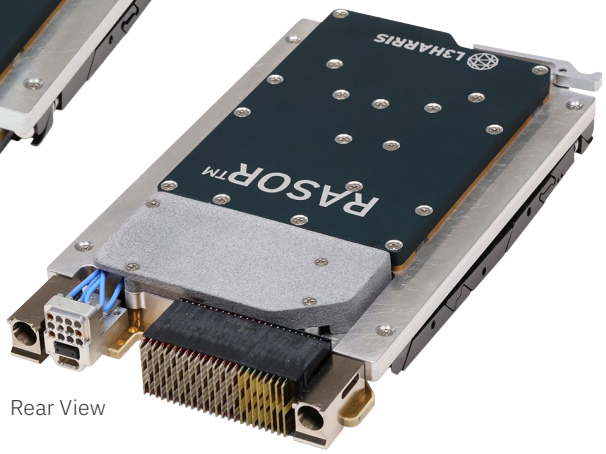
The 3U SOSA MAVRIC[1] Modem Assembly from L3Harris delivers robust BLOS communications with advanced DVB-S2X modulation, ensuring high data throughput and reliable performance for a wide range of platforms.

PRODUCT DESCRIPTION

The 3U SOSA MAVRIC Modem Assembly by L3Harris is a state-of-the-art communication solution that combines advanced technology, high reliability and versatile applications to meet the demanding needs of modern air-to-ground communication systems. With its seamless integration into SOSA-aligned systems, adherence to stringent environmental standards and robust performance capabilities, the MAVRIC Modem Assembly stands out as an essential component for both military and commercial communication networks. Whether for tactical operations, commercial aviation, or emergency services, the MAVRIC Modem Assembly delivers unmatched connectivity and performance, ensuring mission-critical data is transmitted accurately and securely.



Front View



Rear View

1. Multi-Function Aperture (MFA) Adapter for VITA-49 to RF Interface Conversion


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Unmatched Connectivity, Reliability and Performance for Diverse Air-To-Ground Communication Needs

KEY FEATURES

- **Seamless Integration:** Compatible with SOSA-aligned systems
- **Advanced Modulation:** Supports DVB-S2X and can host other waveforms for high data throughput
- **High Reliability:** Built to withstand rigorous environmental conditions
- **Compact Design:** 3U form factor for space-saving installation
- **SOSA-Aligned:** Adheres to SOSA standards for rapid system integration
- **Versatile Applications:** Ideal for military and commercial use
- **Enhanced Performance:** Ensures superior connectivity and communication efficiency
- **RASOR™ Product Line:** Secures faster lead times, continuous maintenance and long-term product roadmap support

SPECIFICATIONS

The 3U SOSA MAVRIC Modem Assembly by L3Harris is a cutting-edge communication solution designed to deliver exceptional performance and reliability for air-to-ground communications. This SOSA-aligned 3U module integrates seamlessly into the Rapidly Adaptable Standards compliant Open Radio (RASOR™) systems, providing robust connectivity and advanced modulation capabilities.

KEY FEATURES AND CAPABILITIES	
Advanced Modulation	The MAVRIC Modem supports DVB-S2X (symbol rate range 160 ksps-150 Msps) waveform and can host other waveforms, utilizing Generic Stream Encapsulation (GSE) to transport IP packets over satellite links efficiently
Health Status	Power-up Built-In-Test (PBIT), Continuous Built-In-Test (CBIT), Initiated Built-In-Test (IBIT), Elapsed Time Indicator (ETI), temperature, voltage and current sensors
Over-the-Air (OTA) Updates	Upload new skills or update existing skills—whether in standalone or cluster environments—using the Dynamic Software Capability Orchestrator (DSCO)
System Integration	Rapid networking and systems integration in standalone (as a simple network node) or RASOR cluster environment (using RASOR Network Manager)
High Reliability	Designed to meet stringent environmental standards
SOSA-Aligned Design	Aligned to SOSA standards. Ensuring easy integration and interoperability with existing systems
Compact and Efficient	Optimizes the 3U SOSA form factor
Product Line Supported	Supported as part of the RASOR family of products
Future	Waveform-Y, Link-182, BE-CDL

CERTIFICATIONS AND COMPLIANCE	
Standards	Designed to ANSI/VITA 46, VITA 48, SOSA Edition 1.0
Environmental	VITA 47 (statement of compliance available on request)
Quality Assurance	Manufactured according to IPC-A-610 and MIL-HDBK-454 guidelines within an AS9100D and AS9102C facility, ensuring high-quality

INTERFACES	
IPMI	VITA 46.11 Tier 3 compliant
Clock References	Internal 100MHz MEMS TCXO Reference Clock
Networking	Control and Data 10GBASE-KR[1] and 100GbE fiber (future)
RF	Tx (900 to 2300 MHz) and Rx (900 to 2150 MHz) coaxial
Discretes	Non Volatile Memory Read Only (NVMRO), UART (2x), System Reset, Geographical Addressing, Maskable Reset, GDISCRETE (future), LVDS Input/Output pairs (8X) (future)
Security	Secure Element (SE), Trusted Platform Management (TPM) (future)

CONFIGURATION DETAILS	
AMPS string	MODA3p-16.6.11-1-12-F2C-(E8-E7)(P3F-G2)(E7)(N-N)[E12]<C1>
Slot Profile	SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11-12 (adaptable to SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11-4 future)
Processors	Zync RFSoC ZU43DR with quad-core ARM Cortex-A53, dual-core ARM Cortex-R5
FPGA Fabric	930k system logic cells, 38Mb Block RAM and 22.5Mb UltraRAM, 4272 DSP slices
Memory	8GB DDR4 Processor RAM (x64 width), 4GB DDR4 Fabric RAM (x32 width), 16GB eMMC NAND, 256MB QSPI NOR

SWAP	
Size	3.937 W x 6.716 D x 0.970 H in Compatible with 3U x 160 mm
Weight	Less than 1.5 lbs.
Temperature	> -40°C to 84°C (operating, module rail) > -40°C to 85°C (non-operating) > Conduction cooled
Power Consumption	55 W typical, 75 W maximum

1. While Control and Data are 10GBASE-KR at the physical layer, data rates may be limited by other factors.

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1025 W. NASA Boulevard
Melbourne, FL 32919

L3Harris.com