

## Evolution eM1D1 Line Card



The Evolution eM1D1 line card is suited for supporting secure voice, data, and video communication links for mission-critical military and COTM broadband applications operating in either iNFINITI TDM or DVB-S2/ACM mode. The line card features one modulator and one demodulator and is designed to meet the guidelines of MIL-STD 810F for operation in harsh environments. The eM1D1 supports IP data rates of up to 156 Mbps on the outbound and easily fits in any new or existing universal hub chassis, making network expansion easy.

### Network Configuration

<b>Modem</b>	One Modulator (Transmit one downstream carrier) One Demodulator (Receive one upstream carrier)		
<b>Modulation</b>	<u>Downstream (iNFINITI TDM)</u>	<u>Downstream (DVB-S2/ACM)</u>	<u>Upstream (D-TDMA)</u>
<b>FEC</b>	BPSK, QPSK, 8PSK	QPSK, 8PSK, 16APSK	BPSK, QPSK, 8PSK
<b>Maximum Carrier Rates</b>	Turbo, 0.495–0.879	LDPC, 1/4–8/9	Turbo, 0.431–0.793
<b>Symbol Rate</b>	15 Msps	45 Msps	7 Msps
<b>IP Data Rate</b>	20 Mbps <sup>1</sup>	156 Mbps <sup>2</sup>	10 Mbps <sup>3</sup>
<b>Notes:</b>	<sup>1</sup> QPSK, .879 FEC	<sup>2</sup> 16APSK 8/9 FEC	<sup>3</sup> QPSK .793 FEC, unlimited NMS
<b>Spread Spectrum</b>	Symbol Rate IP Data Rate Spreading Factor	Up to 7.5 Msps* Up to 6.5 Mbps 2, 4, 8	Up to 3.75 Msps* Up to 2.0 Mbps 2, 4, 8, and 16
	* rates vary based on spreading factor		
<b>Interoperability</b>	Compatible with Series 12000 Universal Hub (4-slot) and Series 15000 Universal Hub chassis		

### Interfaces

<b>SatCom Interfaces</b>	TxIF: Type-F, 950–2000 MHz, +5dBm/-35dBm RxIF: Type-F, 950–2000 MHz, -5dBm/-65dBm
<b>Data Interfaces</b>	LAN: RJ-45 Two 100/1000Base-T, one 10/100Base-T RS-232: RJ-45 (console connection) USB port
<b>Security</b>	TRANSEC with FIPS 140-2 certification (iNFINITI TDM and D-TDMA)
<b>10 MHz Reference</b>	10 MHz reference to BUC

### Mechanical/Environmental

<b>Redundancy</b>	Software Controlled, Hot-Swappable, and Auto-Failover
<b>Weight</b>	~1.2 lbs (0.6 Kg)
<b>Operating Temperature</b>	-30° to +60°C (-22° to +140°F), tested in accordance with MIL-STD 810F
<b>Radio Standards (System Level)</b>	EN 301-428 v1.3.1 — Ku-Band System Level Specification EN 301-443 v1.3.1 — C-Band System Level Specification
<b>Safety Standard (System Level)</b>	Complies with IEC 60950, EN 60950-1, UL 60950-1, CSA C22.2 No.60950-1-03
<b>Emission Standard (System Level)</b>	Complies with EN 55022 Class A, FCC Part 15 Class A, CISPR 22 Class A, EN 61000-3-2, EN 61000-3-3
<b>EMC/Immunity Standard (System Level)</b>	Complies with EN 55024, EN 301-489-1, EN 301-489-12, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-11
<b>Certification</b>	FCC, CE, and RoHS Compliant