

# Evolution iConnex e850mp Series Satellite Router Board

## Portable, Powerful and Secure IP Broadband Connectivity

Extremely compact and lightweight boards, the iConnex e850mp and the iConnex e850mp-IND are designed to be easily integrated into a portable VSAT solution. This iConnex series meets the most rigorous demands for mobility and security, delivering always-on broadband capabilities into smaller form factors that support data, voice, and video connectivity in highly mobile military and government applications. The e850mp-IND has been industrialized to MIL Standard requirements for extreme operational conditions.

## Maximum Portability

Approximately seventy percent smaller surface area than our state-of-the-art e8350 router and half the size of the iConnex e800 board, the e850mp and the e850mp-IND allow for maximum customization into a portable router solution that can be easily transported by a single person or mobile vehicle, making it ideal for Communications-on-the-Move (COTM), emergency response, and for command and control applications in the field.

Combined with leading spread spectrum technology, this iConnex series enables the use of ultra-small and phased-array antennas on aircrafts, ships, and land-based vehicles. The iConnex e850mp series is fully enabled for iDirect's Global Network Management System (GNMS) and automatic beam switching technology allowing for a seamless network with truly global coverage while on the move.

## Greater Flexibility

The iConnex e850mp series offers the choice between iNFINITI TDM or DVB-S2/ACM on the outbound, providing even more flexibility for network design and bandwidth optimization.

## High Security

Compliant with the highest military security requirements, the iConnex e850mp series features embedded AES encryption and TRANSEC with advanced FIPS 140-2 Level 2 compliance\*. Also, to support Wideband Global Satellite (WGS) frequency ranges, the e850mp series is equipped to cover wider IF ranges, providing flexibility in secure network deployment.

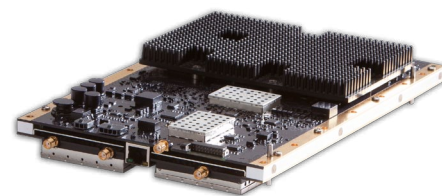
## Superior Quality of Service

With iDirect's state-of-the-art Group QoS, high-priority traffic designation can be recognized by advanced encryption devices and traffic can be segregated by groups of remotes, multiple sub-networks, and multiple applications, ensuring the highest quality transmissions where needed.

## Simple, Intuitive Network Management

Service providers can easily configure and centrally manage each individual unit through the iVantage™ network management system, a complete suite of software-based tools for configuring, monitoring and controlling networks from one location.

*\*Certification pending*



e850mp-FIPSL2

## Features

- ◆ Extremely compact and lightweight
- ◆ Star topology
- ◆ High carrier data rates up to 149 Mbps outbound, 11.1 Mbps in TDMA and 20 Mbps in SCPC Return
- ◆ Flexible modes of operation: iNFINITI outbound or DVB-S2/ACM outbound
- ◆ Next-generation, extremely efficient 2D 16-State inbound coding
- ◆ Spread spectrum waveform technology supports very small antennas and COTM applications
- ◆ Unique TRANSEC security with AES 256-bit encryption
- ◆ Advanced QoS and traffic prioritization options
- ◆ Supports WGS IF ranges: 950-2000 MHz
- ◆ Optional conformal coating and heat sink (e850mp-IND)

**Evolution 8000 Series  
Satellite Router Board  
iConnex e850mp, iConnex e850mp-FIPSL2,  
iConnex e850mp-IND, iConnex e850mp-IND with Heat Sink**



e850mp shown

**Configuration**

<b>Network Topology</b>	Star	
	Downstream DVB-S2/ACM or (iNFINITI TDM)	Upstream D-TDMA or (SCPC Return*)
<b>Modulation</b>	QPSK, 8PSK, 16APSK (BPSK, QPSK, 8PSK)	
<b>FEC</b>	LDPC, 0.25–0.9 (TPC, 0.495–0.879)	
<b>Maximum Rates</b>	Symbol Info Line Card IP Data Remote IP Data	7.5 Msps (15 Msps) 12.8 Mbps <sup>4</sup> (24 Mbps <sup>5</sup> ) 11.1 Mbps <sup>4</sup> (20 Mbps <sup>5</sup> ) 11.1 Mbps <sup>4</sup> (20 Mbps <sup>5</sup> )
	<i>Notes: <sup>1</sup>16APSK 8/9 FEC; <sup>2</sup>QPSK, .897 FEC; <sup>3</sup>QPSK, .793 FEC; <sup>4</sup>QPSK 6/7 FEC; <sup>5</sup>QPSK 4/5 FEC Maximum downstream and upstream data rates cannot be achieved simultaneously Maximum rates are achieved with optimal configurations</i>	
<b>Spread Spectrum</b>	Spreading Factor Max Chip Rate	(TDM: 2, 4 and 8) (TDM: 15 Mcps)
		1, 2, 4, 8, and 16 (SCPCR: 2, 4 and 8) 7.5 Mcps (SCPC Return: 15 Mcps)

**Interfaces**

<b>SatCom Interfaces</b>	TX Out: Type-F, 950–2000 MHz, +5dBm/-35dBm RX In: Type-F, 950–2000 MHz, -5dBm (max) composite/ -130+10*log(Fsymb)dBm (min) single carrier RX Out: Type-F, 950–2000 MHz Software controllable 10 MHz reference on TX Out and RX In ports
<b>Data Interfaces</b>	LAN: Single 10/100 Mbps Ethernet Console: RS-232 Console connection RS-232: GPS input or Antenna Control Signaling 10 MHz: External reference clock (future release)
<b>Protocols Supported</b>	TCP, UDP, ICMP, IGMP, RIP v2, Static Routes, NAT, DHCP, DHCP Helper, Local DNS Caching, OpenAMIP, cRTP, and GRE
<b>Security</b>	AES Link Encryption (256-bit), TRANSEC (iNFINITI and S2 modes), FIPS 140-2 Level 2 Compliant*** (optional), x.509 digital certificates authentication, Automatic Key Management
<b>Traffic Engineering</b>	Group QoS, QoS (Priority Queuing and CBWFQ), Strict Priority Queuing, Application Based QoS, Minimum CIR, CIR (Static and Dynamic), Rate Limiting
<b>Other Features</b>	Built-in Automatic Uplink Power, Frequency and Timing Control, Authentication, Antenna Control Interface (OpenAMIP)

**Mechanical/Environmental**

<b>Size</b>	Models e850mp, e850mp-IND: W 10.35 in x D 6.675 in x H 1.24 in (W 26.29 cm x D 16.95 cm x H 3.15 cm) Models e850mp-FIPSL2, e850mp-IND with Heat Sink: W 10.35 in x D 6.675 in x H 1.6 in (W 26.29 cm x D 16.95cmxH4.1cm)
<b>Weight</b>	Models e850mp, e850mp-IND: 2.0 lbs (0.9 Kg) Models e850mp-FIPSL2, e850mp-IND with Heat Sink: 2.6 lbs (1.18kg)
<b>Operating Temperature</b>	-30° to +60°C (-22° to +140°F) at Sea Level with temperature gradient of 1°C per 1 min
<b>Altitude</b>	Operational: Up to 10,000 feet (3048m); Storage: up to 30,000 feet (9144m)
<b>Relative Humidity</b>	Model e850mp, e850mp-IND: Max 92% non condensing humidity (operational & storage) Models e850mp-FIPSL2, e850mp-IND with Heat Sink: Max 95% non-condensing humidity (operational) Models e850mp-FIPSL2, e850mp-IND with Heat Sink: Max 100% condensing humidity (storage)
<b>Input Voltage</b>	+24V

\* SCPC Return can only be operated when using DVB-S2/ACM  
\*\* TPC not supported for use with DVB-S2 outbound in iDX 3.0 and above  
\*\*\* Certification pending