

iDirect Mesh Receiver Satellite Router



The iDirect Evolution Multi-Carrier Mesh solution consists of a Mesh Receiver and an X7 Satellite Router allowing the remote to participate as a node in a mesh topology network. The Mesh Receiver supports simultaneous multi-carrier reception allowing the device to function as a regional hub. The Mesh Receiver demodulates up to 16 channels with an aggregate baud rate up to 29 Msps. The mesh solution is ideal for applications requiring low latency or high site-to-site traffic.

Network Configuration

Network Topology	Mesh
Multiple Access Technology	TDMA
Modem	Demodulates up to 16 TDMA carriers simultaneously
Modulation	BPSK, QPSK, 8PSK
FEC	2D 16-State 1/2-6/7
TDMA Symbol Rates	Per carrier: 0.468 to 7.5 Msps; Aggregate: Up to 29 Msps
Information Rate	60 Mbps composite (8PSK max)
Interoperability	Compatible with Series 15100 Universal Hub (5IF/20 Slot) Requires X7 Satellite Router - <i>please refer to the X7 Product Sheet for more details</i> Requires Evolution iDX 4.1 software or above
Other Features	TCP Acceleration, Hop-and-a-Half mode

Interfaces

SatCom Interfaces	RxIF In: Type-F, 950–2000 MHz, -5 dBm (max) composite, $-125 + 10 \cdot \log(\text{sym rate})$ dBm (min) single carrier RxIF Out: Type-F (Monitor)												
Data Interfaces	LAN1: GigE over RJ-45, LAN2: GigE over RJ-45, LAN3: GigE over RJ-45 Compute Console: RS232 over RJ-45, Demod Console: RS232 over RJ-45												
Input Phase Noise Mask*	SBB Phase Noise: <table border="0" style="margin-left: 20px;"> <tr> <td>100 Hz</td> <td>up to -60 dBc/Hz maximum</td> </tr> <tr> <td>1 KHz</td> <td>up to -73 dBc/Hz maximum</td> </tr> <tr> <td>10 KHz</td> <td>up to -81 dBc/Hz maximum</td> </tr> <tr> <td>100 KHz</td> <td>up to -95 dBc/Hz maximum</td> </tr> <tr> <td>1 MHz</td> <td>up to -105 dBc/Hz maximum</td> </tr> <tr> <td>10 MHz</td> <td>up to -112 dBc/Hz maximum</td> </tr> </table>	100 Hz	up to -60 dBc/Hz maximum	1 KHz	up to -73 dBc/Hz maximum	10 KHz	up to -81 dBc/Hz maximum	100 KHz	up to -95 dBc/Hz maximum	1 MHz	up to -105 dBc/Hz maximum	10 MHz	up to -112 dBc/Hz maximum
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LNB LO Stability Requirement*	≤ 5 ppm												
LNB IFL Interface	Pass-through-power from IF TO REMOTE port to IF IN port 13-19 VDC, 500 mA (max) + 22 kHz tone												
Timing Interface	10 MHz: BNC**, PPS: BNC**												

Mechanical/Environmental

Size	44.5 cm W x 45.7 cm D x 4.4 cm H (17.5" x 18" x 1.75")
Weight	6.8 kg (15 lbs)
Operating Temperature	0° to +45°C (+32° to +113°F)
Relative Humidity	Operational: 90% (non-condensing); Storage: 5 to 93%
Power Input	100-240 VAC Universal Input, 50-60 Hz, 1.75 A (max)
Certifications (System Level)	FCC, CE, TUV, and RoHS Compliant

* Additional requirements are defined in the BUC and LNB Specifications Guide for Mesh Networks.

** Feature availability is release dependent.