iQ 800 Board Satellite Modem

ST Engineering

The iQ 800 Aero Modem Board is part of ST Engineering iDirect's DVB-S2/S2X modem series featuring powerful architecture for maximum flexibility and expansion. The iQ Series provides performance, efficiency and security in a variety of form factors for reliable IP-based satellite communications.

The iQ 800 Aero Integrated Board is the DVB-S2/DVB-S2X modem module architected specifically for operation on commercial aircraft. The iQ 800 board is designed to integrate directly into a ARINC 600 enclosure, facilitate compliance with DO-160G and ARINC 791 standards and is manufactured to strict aerospace AS9100 standard for quality. It supports operations in a high-speed COTM environment and is configurable for three independent RF chains.

The iQ 800 board supports multi-band, fast beam switching, spread spectrum returns and skew angle compensation to support aeronautical operations and antennas on iDirect Velocity™.

Markets

Commercial Aero
Business Jets

Main Features:

- OpenAMIP support
- Real time Skew/PSD
- Satellite Blockage mitigation
- Quick Outage Recovery
- Fast Beam switching
- 10/50MHz BUC Support
- 10/50MHz LNB Reference Support

VELOCITY

powered by
Newtec iDIRECT

Network Configuration

Network Topology	**Rx**		**Tx**
	DVB-S2X*/ACM	DVB-S2/ACM	Adaptive TDMA
Modulation	QPSK, 8PSK, 16APSK, 32APSK, 64APSK	QPSK, 8PSK, 16APSK	SS-BPSK, BPSK, QPSK, 8PSK,
FEC	*Refer to the LBA guide*	LDPC 1/4 - 8/9	2D 16-State 1/2 - 6/7
Symbol Rates	5 Msps to 475 Msps	5 Msps to 45 Msps	512kbps to 7.5 Msps
Spread Spectrum*			SF: 2,4,8; Up to 7.5 Mcps

Modem Interfaces

Tx Interface

Connector	MCX 50 Ohm
Frequency range L-band	950 - 2050 MHz
TX level	+5 dBm to -30dBm
BUC reference	10/50 MHz configurable

Rx Interface

Connector	MCX 50 Ohm
Frequency	950-2150 MHz
LNB reference	10/50 MHz configurable
Rx level	-5 dBm (max) -130+10*Log10(Fsym) dBm (min) single carrier

Data Interface

All digital I/O via backplane connector

LAN: Dual 10/100/1000 Mbps Ethernet

Variety of discrete interfaces for aeronautical integrations

Security

256-bit AES Link Encryption (optional), X.509 certificate authentition, Automatic Key Management

*Release dependent

Details on interfaces, mechanical and environmental sections are

available in the integration guide

Management

Protocols Supported

TCP, UDP, ICMP, DHCP, NAT/PAT, DNS, IGMPv2, IGMPv3, ICMP, IPv4, OpenAMIP, OpenBMIP, BGP

Mechanical and Environmental

Size	W 17.65 cm x D 30.68 cm x H 2.43cm (W 6.95 in x D 12.08 in x H 0.96 in)
Weight	1.22 kg (2.7 lbs)
Temperature:	
Operating	-40° to +70°C (-40° to +158°F)
Survival	-40° to +85°C (-40° to +185°F)
Altitude	Up to 55,000 ft
Certifications	

The integrator is responsible for certifications at the terminal level. For more information, please visit http://www.idirect.net/doc.

Power Supply

Input Voltage	+15 to +32VDC
Power Consumption	32W typical