

980 Board Satellite Modem



ST Engineering iDirect's 9-Series defense aero modems are optimized for airborne communications-on-the-move (COTM) and provide a superior level of IP broadband capability with dual DVB-S2/ACM receivers for make-before-break connectivity and an Adaptive TDMA transmitter. The 9-Series defense aero modems include a FIPS 140-2 Level 3 Certified (#3056) TRANSEC module (E0002268) and feature fast beam switching, spread spectrum returns and skew angle compensation to support defense grade aeronautical operations and antennas on both the Evolution® and Velocity® platforms.

The 980 is a powerful satellite modem board architected specifically for integration into defense and government aircraft for operations in an ultra high-speed COTM environment. The 980 is designed to integrate into a ARINC 600 enclosure or other customized solutions, facilitate compliance with WGS, DO-160G and ARINC 791 standards and is manufactured to strict aerospace AS9100 standard for quality.

The 980 modem board is available as a roll-on/roll-off rackmount unit with the 9800 AR and with an ARINC 600 4MCU enclosure with the 9800 AE.

EVOLUTION DEFENSE

VELOCITY

Markets

Government / Defense
Aero

Main Features:

- DVB-S2 up to 45 Msps
- Adaptive TDMA up to 15 Msps
- Dual demodulators for make-before-break connectivity
- FIPS 140-2 Level 3 Certified (#3056) TRANSEC module (E0002268)
- Extended frequency ranges for WGS constellations



Network Configuration*

Network Topology	Rx1 and Rx2	Tx
	DVB-S2/ACM	Adaptive TDMA
Modulation	QPSK, 8PSK, 16APSK	SS-BPSK, BPSK, QPSK, 8PSK
FEC Rates	LDPC 1/4-8/9	2D 16-State 1/2-6/7
Symbol Rates	Up to 45 Msps	Up to 15 Msps
Spread Spectrum		SF: 2, 4, 8; Up to 15 Mcps

Modem Interfaces

Tx Interface

Connector	MCX, 50Ω
Frequency range L-band	950-2050 MHz
Tx level	Composite Power +5 dBm to -30 dBm
BUC reference	10 MHz and 50 MHz

Rx1 and Rx2 Interfaces

Frequency	950-2150 MHz
Connector	MCX 50Ω
LNB pwr supply	+13V to +19V, 0.45A
LNB LO selection	22 kHz on/off

Data Interface

All digital I/O via backplane connector
 LAN: Dual 10/100/1000 Mbps Ethernet; Console: RS-232; BUC Management: RS-422
Variety of discrete interfaces for aeronautical integrations – see integration guide for details

Management Interface

RS-232 Console, RS-422 Keyline, RS-422 BUC control, RS-422 Filter select

* Specifications are Evolution only and software dependent

**Applies to Velocity only and is software dependent



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Management

Protocols Supported

TCP, UDP, ICMP, IGMP, RIP Ver2, Static Routes, NAT, DHCP, DHCP Helper, Local DNS Caching, OpenAMIP, OpenAMIP, cRTP, and GRE

Security

FIPS 140-2 Level 3 Certified (#3056) TRANSEC module (E0002268), AES Link Encryption (256-bit)**, X.509 Digital Certificates, Automatic Key Management

Mechanical and Environmental

Size 30.63 cm x 17.65 cm x 2.69 cm (12.06 in x 6.95 in x 1.06 in)

Weight 1.36 kg maximum (3.96 lbs)

Temperature:

Operating -40° to +70° C (-40° to +158°F) with adequate airflow and thermal integration

Altitude:

Up to 16,764 m (55,000 ft.)
 Not designed for simultaneous maximum temperature at maximum altitude.

Refer to integration guide for thermal design guidelines.

Power Supply

Input Voltage +15 to +32 VDC

Power Consumption 35 Watts Maximum