

9800 AE+ 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 9800 AE+ features an ARINC 600 4MCU enclosure for fixed integration on defense and government aircraft for operations in an ultra high-speed COTM environment. The 9800 AE+ is operational up to 50,000 feet and meets the rigorous environmental test standards for MIL-STD 810G, MIL-STD 461F, MIL-STD 704F, and DO-160G.

The 9-Series defense aero modems are also available as a board-level product, 980 Modem Board, and as a rackmount, 9800 AR Modem, for roll-on/roll-off applications.

Markets

Government / Defense
Aero

Main Features:

- DVB-S2 up to 45MSPS
- 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

EVOLUTION DEFENSE

VELOCITY





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

Primary Interface

ARINC 600 Size 2 – per ARINC 791, Part 1

SATCOM Interfaces

Tx: Size 8 Coax, 950-2050 MHz, Composite Power 0 dBm to -30 dBm

Rx: Size 8 Coax, 950-2150MHz, -5 dBm (max) composite to -130+10*Log10(Sym rate) dBm (min) single carrier

Software Controllable 10/50 MHz Reference on Tx

Data Interfaces

LAN: Three Gigabit Ethernet; 1-front (RJ45), 2-back (Size 8 Quadrax)
Three 10/100 Mbps Ethernet - rear (Size 8 Quadrax)
Console: RS-232

Discrete Inputs/Outputs

Remote Power Reset, Weight on Wheels, TX Mute In, TX Mute Out, TX Control In, Operator Ground Enable, Maintenance Ground Enable

CPU Interfaces

USB – front panel
KVM – rear panel
Serial Com 1 – (RS-232) – rear panel
Serial Com 2 – (RS-485) – rear panel

* Specifications are Evolution only and software dependent

**Applies to Velocity only and is software dependent



Management

Protocols Supported

TCP, UDP, ICMP, IGMP, RIPv2, Static Routes, NAT, DHCP, DHCP Helper, Local DNS Caching, OpenAMIP, cRTP, GRE

Security

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

Traffic Engineering

Group QoS, QoS (Priority Queuing and CBWFQ), Strict Priority Queuing, Application Based QoS,

Other Features

Built-in Automatic Uplink Power, Frequency and Timing Control, Authentication, Ultra High-Speed COTM

Mechanical and Environmental

Size	4MCU per ARINC 600 W 12.40cm x D 38.18cm x H 19.35cm (W 4.88 in x D 15.03 in x H 7.62 in)
Weight	7.71 kg (17 lbs)
Operating Temperature	-20° to +70°C (-4° to +158°F)
Operating Altitude	Up to 15,240m (50,000 ft.)
Relative Humidity	Max 95% non-condensing humidity (operational)

Power Supply

Input Voltage	18-36VDC; nominal 28VDC
	DC: 7.0A maximum at 28VDC