SKYEDGE II-C GEMINI-4 BOARD

Integrated 4-Port VSAT Board

ENABLING HIGH-SPEED BROADBAND SERVICES EVERYWHERE

SkyEdge II-c Gemini-4 Board is a high-throughput VSAT designed to enable high-speed broadband Internet services for maritime mobility users such as yachts and fishing boats. The Gemini-4 Board VSAT enables fast web browsing, video streaming, IPTV, VoIP, and other bandwidth-intensive services. This solution is ideal for markets such as maritime where conformal coating is needed to protect against water, salt and dust.

Gemini-4 includes a full-featured IP router, eliminating the need for an external router through its support of enhanced IP routing features such as DHCP, NAT/PAT, VLANs, routing protocols, IPsec client and IGMP. Advanced QoS guarantees the performance of real-time applications such as VoIP and video streaming while simultaneously enabling additional data applications. Gemini-4 also supports next-generation IPv6 networking.

Centralized mobility management and support of automatic beam switching in addition to a full set of protocol optimization, header compression and application acceleration features ensure maximum satellite capacity usage and optimal user experience for maritime mobility applications. Gemini-4 provides the highest level of transmission security, supporting X.509 terminal authentication and AES-256-bit link layer encryption with dynamic key rotation to protect all user traffic.

ADVANCED VSAT PLATFORM FOR MARITIME

Based on the latest-generation ARM technology, Gemini-4 enables high-speed services while employing full link encryption, TCP and HTTP acceleration. The high speed exhibited by this VSAT platform is ideal for demanding, high-bandwidth applications and networking.

The terminal includes an intuitive, web-based Graphical User Interface to assist the user during the installation and service activation process.

INDIVIDUALLY MANAGED PORTS

The four-port Gb Ethernet LAN eliminates the need for an external switch. Each port can be individually managed, including assigning VLANs, monitoring, and configuring Ethernet link parameters.

BENEFITS

- Easy to integrate with mobility terminals using standard OpenAMIP interface

- Integrated, managed 4-port GbE LAN switch

- Includes advanced QoS, VLANs and routing protocols supporting enterprise services

- Fast web browsing with web acceleration and compression

- Enables high-quality VoIP and video

- Simple installation and service activation

- Forward and return channel adaptive transmission technologies

- Central monitoring and service management

- Supports C, Ku and Ka bands
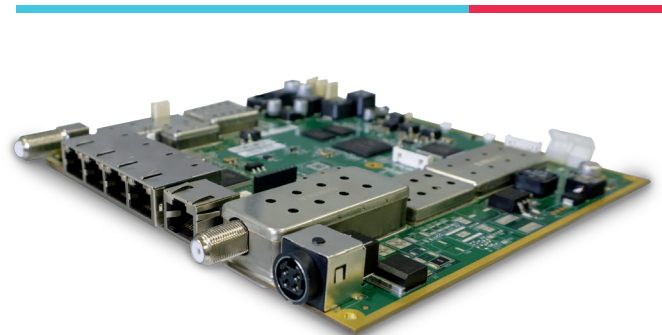
ENHANCED CENTRAL SERVICE MANAGEMENT INTERFACE FOR VNOS

Gemini-4 is part of a complete VSAT ground system that includes an advanced Network Management System (NMS) and facilitates service management available to VNOs via an electronic B2B interface.

SkyEdge II-c Service Management enables VNOs to manage their services totally independent of the satellite network operator, providing a complete management suite. This includes real-time viewing of the service status, events, alarms and statistics, as well as historic/trend analysis of the service over longer periods.

This system also provides VNOs with an automated and easy-to-use interface for simple creation, activation and management of end-to-end services with a high level of flexibility.

SUPERIOR VSAT TECHNOLOGY

Designed to support the latest standard and high throughput satellites, Gemini-4's advanced adaptive transmission technologies maximize performance and improve service availability. Gemini-4 is based on Gilat's VSAT technologies, which power over a million terminals worldwide.

TECHNICAL SPECIFICATIONS

FORWARD CHANNEL

Standard:
DVB-S2 Adaptive Coding and Modulation (ACM)
Carrier Rate:
1.5Msps-67Msps (235Mbps)
Modulation:
QPSK, 8PSK, 16APSK, 32APSK
Coding: LDPC, BCH
FEC:
1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10

RETURN CHANNEL (TDMA)

Access Scheme:
MF-TDMA, Dynamic Channels
Inbound Rates:
Symbol rate - 128Ksps-6Msps
Modulation:
BPSK, QPSK, 8PSK, 16QAM
Coding: TPC
FEC: 1/3, 2/5, 1/2, 2/3, 3/4, 4/5, 6/7

MODEM INTERFACES

RF Input / Output:
- Two female F connectors, 75 Ω
- RF in frequency - 950-2300MHz
- RF out frequency - 950-2300MHz
- DISEqC
Data Interfaces:
- 4 x Ethernet 10/100/1000BaseT RJ-45, 802.1q VLAN
- 1 x Serial Interface RJ-45
Management Interface:
- Web-based local management
- Full FCAPS management
- Remote software upgrades over the air
- SNMP

ENHANCED FEATURES

IP Features:
IPv4/IPv6, TCP, UDP, ICMP, DHCP, NAT/PAT, DNS Caching, cRTP, IGMPv2, SIP, DiffServ, VLANs, RIPv2, Static Routes
QoS:
Per VSAT and per Managed Group, CIR, MIR, CBR, DiffServ and priority-based queuing, application-based priority
Security:
- AES-256 bit link encryption
- IPSEC Client
- ACL Firewall
- X.509 Terminal Authentication
Application Acceleration and Protocol Optimization
- TCP acceleration
- HTTP web pre-fetch acceleration and compression

ENVIRONMENTAL AND MECHANICAL

Form Factor:
Board with optional conformal coating
Dimensions:
162 X 172mm (WxD)
Operating Voltage:
- 11V - 60V DC Auto Range
Power Consumption: 15W
Operating Temperature:
0ºC to +50ºC
Certifications: CE, FCC, EMC

OUTDOOR UNIT (ODU)

Frequency Bands: C, Ku, Ka
Transmit Power:
Via IDU 24V or 48V DC insertion^
Antenna Size: 0.76m and higher
Operating Temperature:
-40ºC to +60ºC

^ Requires selection of appropriate IDU power supply

GILAT SATELLITE NETWORKS