Product Brochure

SkyEdge II-c Gemini-4 S2X Board

Integrated 4-Port VSAT Board

Enabling High-Speed Broadband Services

SkyEdge II-c Gemini-4 S2X Board is a high-throughput VSAT designed to enable high-speed enterprise broadband Internet services. The Gemini-4 VSAT Board enables fast web browsing, video streaming, IPTV, VoIP, and other bandwidth-intensive services. This solution is ideal for markets such as maritime mobility users including yachts and fishing boats, where conformal coating is needed to protect against water, salt and dust.

Gemini-4 S2X Board 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, 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 supports next-generation IPv6 networking and can also be configured to support layer-2 services.

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 S2X Board 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.

Individually Managed Ports

The four-port 1GbE Ethernet LAN eliminates the need for an external switch. Each port can be individually managed, including assigning VLANs, monitoring, and configuring Ethernet link parameters.

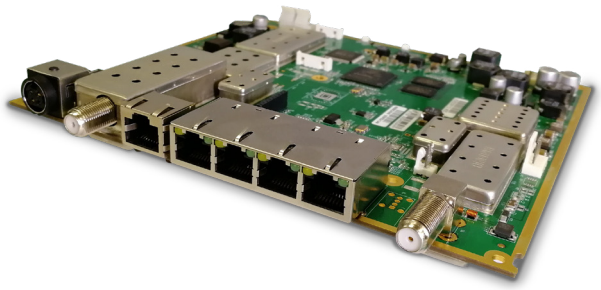
Advanced VSAT Platform for Maritime

Based on the latest-generation ARM technology, Gemini-4 S2X Board 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.

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



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Enhanced Central Service Management Interface for VNOS

Gemini-4 S2X Board 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 independently 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 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 S2X Board's advanced adaptive transmission technologies maximize performance and improve service availability. Gemini-4 S2X Board is based on Gilat's VSAT technologies, which power over a million terminals worldwide.

Maximum Spectral Effciency

Gilat's innovative transmission technologies deliver exceptional performance and space segment efficiencies. Wideband DVB- S2X carriers in the forward direction and adaptive transmission in the return direction enable maximum service availability and highest bandwidth efficiency at any transmission condition. This is achieved by adaptive power control, changes to the carrier symbol rate, ModCod and spread-spectrum factor per VSAT on a per time-slot basis.

Technical Specifications

Forward Channel

Standard:
DVB-S2X Adaptive Coding and Modulation (ACM)
Carrier Rate:
1.5Msps-500Msps
Roll-off: 0.05, 0.1, 0.2
Modulation:
QPSK, 8PSK, 16APSK, 32APSK, 64APSK, 256APSK
Coding:
LDPC, BCH
FEC:
DVB-S2X FECs

Return Channel (TDMA)

Access Scheme:
MF-TDMA, Dynamic Channels
Inbound Rates:
Symbol rate - 128Ksps — 12Msps
Modulation:
BPSK, QPSK, 16QAM
Coding:
LDPC
FEC:
1/4,1/3,2/5,1/2,2/3,3/4,5/6,8/9

Modem interfaces

RF Input / Output:
Two female F connectors, 75 Ω
RF in frequency: 950-2150MHz
RF out frequency: 950-2400MHz
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
- Remote software upgrades over the air
- NMS remote management
- SNMP
- OpenAMIP

Enhanced Features

IP Features:
IPv4/IPv6, TCP, UDP, ICMP, DHCP, NAT/PAT, DNS Caching, cRTP, IGMPv2, SIP, DiffServ, VLANs, RIPv2, Static Routes
Layer 2:
Ethernet frame forwarding 802.1p QoS 802.1 ad, VLAN Re-tagging Point to Point,
Point to Multi-Point
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

Mobility – Antenna Interface:
- OpenAMIP (IP)

Environmental and Mechanical

Form Factor:
Board with optional conformal coating
Dimensions:
162.5 X 175mm (WXD)
Operating Voltage:
11V - 60V DC
Power Consumption:
15W
Operating Temperature:
0°C to +50°C
Certifications: CE, FCC, EMC

Outdoor Unit (ODU)

Frequency Bands:
C, Ku, Ka
Transmit Power:
Via IDU 24V or 48V DC insertion^
Antenna Size:
0.7m and higher
Operating Temperature:
-40°C to +60°C

^ Requires selection of appropriate IDU power supply

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