

SKYEDGE II-C GEMINI-4 S2X

Integrated 4-Port VSAT



ENABLING HIGH-SPEED BROADBAND SERVICES

SkyEdge II-c Gemini-4 S2X is a high-throughput VSAT designed to enable high-speed enterprise broadband Internet services. The Gemini-4 VSAT enables fast web browsing, video streaming, IPTV, VoIP, and other bandwidth-intensive services. This solution is ideal for markets such as retail, banking, ATMs, SCADA, M2M and lotteries, as well as USO/USF and government-funded programs aimed to expand broadband connectivity to underserved regions.

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 supports next-generation IPv6 networking and can also be configured to support layer-2 services.

To ensure fast web browsing and a high-quality user experience, Gemini-4 contains a full set of protocol optimization and application acceleration features, and the highest level of transmission security 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 ENTERPRISE

Based on the latest-generation ARM technology, Gemini-4 enables high-speed services while employing full link encryption, TCP and HTTP acceleration.

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

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.

BENEFITS

- 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
- Central monitoring and service management
- Supports C, Ku and Ka bands



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.

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 Wavestream's VSAT technologies, which power over a million terminals worldwide.

MAXIMUM SPECTRAL EFFICIENCY

Wavestream'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 enables 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

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

802.1ad,

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

Dimensions:

201 x 176.5 x 36mm (WxDxH)

Operating Voltage:

- 100V-240V AC Auto Range
- 11V - 60V DC

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 up to 12W BUC*

Antenna Size: 0.7m and higher

Operating Temperature:

-40°C to +60°C

* Requires selection of appropriate IDU power supply

ABOUT WAVESTREAM

Wavestream sets the standard in the design and manufacture of next generation high power solid state amplifiers. Wavestream's Family of Ka, Ku and X-band Solid State Power Amplifiers (SSPAs), Block Upconverters (BUCs) and transceivers provide systems integrators with field-proven, high performance solutions designed for ground mobile and fixed, gateway and airborne satellite communication systems worldwide.

These items are subject to the Export Administration Regulations (EAR), 15 C.F.R. Parts 730-774, and may not be exported or transferred to any non-U.S. person, except as authorized by the U. S. Department of Commerce.

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