SkyEdge™ II-c Gemini

Enterprise High-Speed DVB-S2X VSAT

Enabling High-Speed Broadband Services

SkyEdge II-c Gemini is a high-throughput VSAT designed to enable high-speed enterprise broadband Internet services. The Gemini 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 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 also supports next-generation IPv6 networking.

To ensure fast web browsing and a high-quality user experience, Gemini contains a full set of protocol optimization and application acceleration features, including TCP and HTTP protocol acceleration and compression.

Gemini 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 Enterprise

Based on the latest-generation ARM technology, Gemini 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 enterprise applications and corporate networking.

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

Benefits

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

Maximum Spectral Efficiency

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, 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	*DVB-S2*	*DVB-S2X*
Standard	DVB-S2 Adaptive Coding and Modulation (ACM)	DVB-S2 Adaptive Coding and Modulation (ACM) (3.5Gbps)
Carrier Rate	1.5Msps-67Msps (235Mbps)	1.5Msps-500Msps
Modulation	QPSK, 8PSK, 16APSK, 32APSK	QPSK, 8PSK, 16APSK, 32APSK, 64APSK, 128APSK, 256APSK
Coding	LDPC, BCH	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	All DVB-S2X FECs2
Return Channel	*TDMA, works with Forward Channel of DVB-S2*	*TDMA, works with Forward Channel of DVB-S2X*
Access Scheme	MF-TDMA, Dynamic Channels	MF-TDMA, Dynamic Channels
Inbound Rates	Symbol rate - 128Ksps-6Msps	Symbol rate - 128Ksps-6Msps
Modulation	BPSK, QPSK, 8PSK, 16QAM	BPSK, QPSK, 16QAM
Coding	TPC	LDPC
FEC	1/3, 2/5, 1/2, 2/3, 3/4, 4/5, 6/7	1/4, 1/3, 2/5, 1/2, 2/3, 4/5, 6/7
Spread Spectrum FEC		BPSK 1/4, 1/3, 2/5, 1/2
Modem Interfaces		
RF Input / Output	Two female F connectors, 75 Ω RF in frequency - 950-2200MHz RF out frequency - 950-2300MHz	
Data Interfaces	1 x Ethernet 10/100/1000BaseT RJ-45, 802.1q VLAN	
Management Interface	Web-based local 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 & Protocol Optimization	TCP acceleration, HTTP web pre-fetch acceleration and compression	
Environmental and Mechanical		
Dimensions	153 x 140 x 35mm (WxDxH)	
Operating Voltage	° 100V-240V AC Auto Range ° 11V - 60V DC Auto Range	
Operating Temperature	0°C to +50°C	
Certifications	CE, FCC, EMC	
Outdoor Unit (ODU)		
Frequency Bands	C, Ku, Ka	
Transmit Power	Via IDU 24V	
Antenna Size	0.76m and higher	
Operating Temperature	-40°C to +60°C	

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