Product Brochure

SkyEdge II-c Capricorn MEC S2X

Rack-Mounted Satellite Router with Embedded Edge Computing

Enabling Ultra-High-Speed, Advanced Future Services

SkyEdge II-c Capricorn MEC S2X is a rack-mounted, ultra-high-performance VSAT designed to enable strong Edge Computing capabilities for corporate services, enterprise (such as banking), and 3G/LTE cellular backhauling.

For 3G and LTE cellular backhauling, Capricorn MEC S2X includes Gilat's patent-pending cellular data acceleration technology that enables full LTE speeds for cellular handheld devices, with end-to-end encryption. Capricorn MEC S2X enables future integration of Linux-based applications at the edge of a network.

Complete Feature Set

The telco-grade Capricorn MEC S2X can be front-mounted or back-mounted as needed, enabling installers to select the best mounting option based on field conditions and easy access for communications and power lines.

Capricorn MEC S2X is a full-featured IP router that includes all the features of the Capricorn family of VSATs, such as advanced application-based QoS, VLANs, and next generation IPv6 networking.

To ensure fast running of applications, web browsing and a high-quality user experience, Capricorn MEC S2X contains a full set of protocol optimization and application acceleration features, including TCP, HTTP, and GTP protocol acceleration, compression and embedded web caching technologies.

Capricorn MEC S2X 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 Backhauling

Capricorn MEC S2X enables ultra-high speeds in both the forward and return directions. The speeds exhibited by this VSAT platform, combined with built-in TCP, HTTP, cellular data (GTP) acceleration technologies and IPSEC, is ideal for vertical markets that demand high bandwidth and high packets-per-second performances such as Cellular Backhaul, ISP PoP Locations, Oil & Gas, Video Contribution and Corporate Networking.

Benefits

- Delivering Edge Computing capabilities for cellular backhauling and high-end enterprise
- Telco-grade, rack-mounted VSAT
- Built-in acceleration for 3G and LTE cellular data services
- On-demand inbound switchover between TDMA and high-speed SCPC carrier
- Forward and return adaptive transmission technologies
- Central monitoring and service management

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Enhanced Central Service Interface for VNOs

Capricorn MEC S2X VSATs are 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, Capricorn MEC S2X advanced adaptive transmission technologies maximize performance and improve service availability. Capricorn MEC S2X 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. Adaptive transmission in the return direction, enables high on-the-move service availability and maximum bandwidth efficiency at any condition – at beam peak, beam edge, at fade and at different traffic demands. This is achieved by adaptive power control and changes to the carrier symbol rate and ModCod 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
Modulation:
QPSK, 8PSK, 16APSK, 32APSK, 64APSK, 128APSK, 256APSK
Coding: LDPC, BCH
FEC:
1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9

Return Channel

Access Scheme:
MF-TDMA, Dynamic Channels
Inbound Rates:
Symbol rate - 128Ksps-12Msps
Modulation: BPSK, QPSK, 16QAM
Coding: LDPC
FEC:
DVB-S2X FECs
Spread Spectrum FEC:
BPSK 1/4, 1/3, 2/5, 1/2

Return Channel (SCPC)

Standard:
DVB-S2 Adaptive Coding and Modulation (ACM)
Carrier Rate: 1.5Msps - 40Msps
Modulation:
QPSK, 8PSK, 16APSK
Coding: LDPC, BCH
FEC:
1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9

Performance

FWD: 150Mbps/
E2E Encryption (100Mbps)
RTN: 36Mbps
PPS: 25K PPS

Modem Interfaces

RF Input / Output:
Two female F connectors, 75 Ω
RF in frequency - 950-2150MHz
RF out frequency - 950-2400MHz
DISEqC
Data Interfaces:
- 5 x Ethernet 10/100/1000BaseT RJ-45, 802.1q VLAN
- 1 x RS232 Interface, RJ-45
- 1 x RS485 Interface, RJ-45
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
IPsec (Capricorn MEC only)
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, dynamic key rotation
Security:
AES-256 bit link encryption IPSEC Client, ACL Firewall, X.509 Terminal Authentication
Embedded Application Acceleration & Protocol Optimization:
TCP acceleration, HTTP web pre-fetch acceleration and compression, GTP cellular data acceleration
Mobility – Antenna Interface:
Gilat ICD (Serial), OpenAMIP (IP). Not applicable to Capricorn Outdoor.

Environmental and Mechanical

Rack Mount: 1 rack unit
Operating Voltage:
100V-240V AC Auto Range
-48V DC
Power Consumption: 30W
Operating Temperature:
-15°C to +50°C
Certifications: CE, FCC, EMC
Dimensions:
444.50 x 350 x 44.4mm (WxDxH)
Weight: 4.9Kg

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

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03/01/2024