Product Brochure

SkyEdge II-c Taurus

Ultra-High-Performance DVB-S2X Aero MODMAN

High-Performance In-Flight Modem

SkyEdge II-c Taurus is an ultra-high-performance modem manager (MODMAN) for In-Flight Connectivity (IFC). Taurus meets all satellite communication needs for both HTS (High Throughput Satellites) and wide-beam satellites on a global network. Taurus manages the in-flight SATCOM system, including Internet and IPTV for passengers, Wi-Fi and cellular backhauling, and provides connectivity for other aircraft systems.

Carrier Class Performance

The Taurus aero-modem optimizes the performance and efficiency of IFC services. It is an ARINC-791 certified terminal, achieving aggregate rates of 400Mbps, enabling Internet and multimedia applications that support all airplane passengers.

Taurus is an ARINC 600 DO-160, full-featured aero IP modem/router that includes advanced application-based QoS, VLANs, and next generation IPv6 networking.

To ensure fast web browsing, and the ultimate in high-quality passenger experience, Taurus contains a full set of embedded protocol optimization and application acceleration features. These include TCP/HTTP protocol acceleration and compression, with embedded web-caching and fingerprint (byte-stream caching) technologies.

Aeronautical Services and Seamless Connectivity

Taurus provides the full feature set for aeronautical services, incorporating advanced mobility features such as high speed Doppler compensation, transmit power control with link adaptation, and antenna skew compensation with dynamic spread spectrum. Taurus also incorporates true seamless beam switchover, ensuring continuity of passenger service. The unique distributed X-Architecture makes SkyEdge II-c the only platform that can offer transparent switchover between beams, satellites and gateways, while maintaining user application sessions, resulting in 100% uninterrupted service.

Benefits

- Core component of Gilat's Ku/Ka aeronautical SATCOM solution - ARINC-791 compliant
- ARINC 600 DO-160 certified aero MODMAN or card for integration with avionic systems
- Embedded performance acceleration (TCP / HTTP / Cellular data)
- High availability: supporting transmission regulations via adaptive transmission technologies (MF-TDMA / SCPC/ dynamic spread spectrum)
- Maintaining application continuity with automatic beam / gateway / satellite switchover



SkyEdge II-c Taurus

Enhanced Quality of Service for Global Service Providers

Taurus modems are part of a complete VSAT ground system that includes TotalNMS – Gilat's advanced Network Management System. Using an electronic B2B interface, it facilitates the service management available to multiple VNOs or service providers.

SkyEdge II-c TotalNMS enables IFC global service providers to manage their services independent of the satellite network operator, and provides a complete management suite. This includes real-time viewing of the location and status of all airborne terminals, as well as bitrate capacity, events, alarms and statistics, plus historical/trend analysis of the service over longer periods. The system also offers service providers an automated and easy-to-use interface for simple creation, activation and operation of end-to-end services, with high level visibility and flexibility.

A Comprehensive Aeronautical Solution

Gilat's Taurus is a core component of our complete aeronautical SATCOM solution. It is a member of our unified Ku/Ka terminal, which includes Gilat's tracking antenna, and our leading power amplifier, Wavestream AeroStream® Ka/Ku (KRFU). Taurus works in conjunction with in-flight entertainment equipment, service management and in cabin content distribution systems.

Maximum Spectral Efficiency

Gilat's innovative transmission technologies deliver exceptional performance and space segment efficiencies, optimizing bits per Hz. Wideband DVBS2X carriers in the forward direction and 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, 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 (3.5Gbps)
Modulation:
QPSK, 8PSK, 16APSK, 32APSK, 64APSK, 256APSK
Coding: LDPC, BCH
FEC:
All FECs supported by standard
Dual tuner:
support for multicast and unicast on two separate FWD carriers

Return Channel

Access Scheme:
MF-TDMA, Dynamic Channels
Inbound Rates:
Symbol rate - 128Ksps-30Msps
Modulation:
BPSK, QPSK, 16QAM
Coding: LDPC
FEC: 1/4, 1/3, 2/5, 1/2, 2/3, 4/5, 6/7
Spread Spectrum:
Factor 2-12; BPSK 1/4, 1/3, 2/5, 1/2

Return Channel (SCPC)

Standard: DVB-S2 ACM
Carrier Rate:
1.5Msps-40Msps (100Mbps)
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, 9/10

Modem Interfaces

RF Input / Output over ARINC600:
- RF in frequency - 950-2150MHz
- RF out frequency - 950-2150MHz

Data Interfaces over ARINC600:
4 / 8 x Ethernet 10/100/1000
1 x Serial Interface: RS485
Management Interface:
- Web-based local management Full FCAPS management, SNMP
- M2M interface for VNO operations

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 encryption
- IPSEC Client
- ACL Firewall
- X.509 Terminal Authentication

Application Acceleration and Protocol Optimization
- TCP acceleration
- HTTP web pre-fetch acceleration and compression
- GTP cellular data acceleration

Mobility – Antenna Interface:
OpenAMIP (IP)

Environmental and Mechanical

Compliance:
DO160 ARINC600 Chassis, ARINC791
Operating Voltage:
115V/400Hz AC
Power Consumption: 15W
Operating Temperature:
-40°C to +60°C

All registered trademarks are the property of their respective companies. This brochure is being provided for informational purposes only. The details contained in this document, including product and feature specifications, are subject to change without notice and shall not bind Gilat to a specific product or set of features related thereto. DVB is a registered trademark of the DVB Project.

16/01/2024