SkyEdge IV Taurus

Ultra-High-Performance DVB-S2X Modem

High-Performance In-Flight Modem

SkyEdge IV Taurus is an ultra-high-performance modem solution (Modman or card) for broadband In-Flight Connectivity (IFC) designed to provide Wi-Fi internet and IPTV for passengers on commercial airlines, regional aircraft and business jets. Taurus is backward compatible, thus preserving past investments with the proven SkyEdge II-c platform, already deployed globally. Taurus meets all satellite communication needs for multi-orbit constellations and Very High Throughput Satellites (VHTS) and enables the delivery of reliable, high-performance connectivity solutions to air travelers.

Carrier-Class-Performance

The SkyEdge IV Taurus 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.

SkyEdge IV 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, SkyEdge IV Taurus contains a full set of embedded protocol optimization and application acceleration features. These include TCP protocol acceleration and compression.

Aeronautical Services and Seamless Connectivity

SkyEdge IV 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 smart beam switchover, ensuring optimized continuity of passenger service. The unique distributed Elastix-Architecture makes SkyEdge IV 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 Cellular Data)
- High availability: supporting transmission regulations via adaptive transmission technologies (Elastix-SCPC/MF-TDMA / dynamic spread spectrum)
- Maintaining application continuity with automatic beam/gateway/satellite switchover

SkyEdge IV Taurus

Enhanced Quality of Service for Global Service Providers

SkyEdge IV Taurus modems are part of a complete VSAT ground system that includes Elastix-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 IV Elastix-TotalNMS enables IFC Global Service Providers to manage their services independently 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 the simple creation, activation and operation of end-to-end services, with high-level visibility and flexibility.

A Comprehensive Aeronautical Solution

Gilat's SkyEdge IV Taurus is a core component of our complete aeronautical SATCOM solution. 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 carrier 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, fade and 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:
5Msps-500Msps (3.5Gbps)

Modulation:
QPSK, 8PSK, 16APSK, 32APSK, 64APSK, 256APSK

Coding:
LDPC, BCH

FEC:
All FECs supported by standard

Return Channel

Access Scheme:
Elastix-SCPC and MF-TDMA

Inbound Rates:
Symbol rate - 128Ksps-30Msps

Modulation:
BPSK, QPSK, 16QAM, 64QAM

Coding:
XDC

Dynamic Range:
- 15dB to +15dB

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, 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 encryption
- ACL Firewall
- X.509 Terminal Authentication

Application Acceleration and Protocol Optimization:
- TCP acceleration
- 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:
-40C to +60C