Gilat Defense

Product Brochure

Taurus Card Mini

Compact Embedded Satellite Modem Card

Ultra-High-Performance Mobility Modem

The Taurus Mini Card is a compact embedded satellite modem card based on the proven Taurus technology, designed for integration into customer-specific mechanical enclosures and platforms. It delivers high-availability, high-speed satellite connectivity for both fixed and mobility applications, while maintaining a small footprint and low power consumption suitable for embedded designs.

Supporting operation on Gilat SkyEdge II-c and SkyEdge IV platforms, the Taurus Mini Card enables reliable IP data, voice, and video services over HTS, VHTS, and wide-beam satellite networks. It provides advanced mobility support, adaptive modulation and coding, and efficient bandwidth utilization to ensure consistent performance across diverse network conditions.

Optimized for OEMs and system integrators, the Taurus Mini Card offers full modem functionality without enclosure-specific features, allowing flexible implementation in land and maritime systems where compact embedded integration is required.

High-Performance Connectivity, Simplified

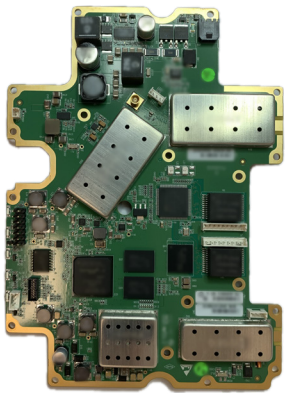
The Taurus Mini Card is engineered to deliver secure, reliable, and high-quality satellite communications in a compact, integration-ready form. Its advanced VSAT technology ensures maximum link availability, efficient bandwidth utilization, and consistently high throughput across a wide range of operating environments.

With built-in QoS, acceleration, and intelligent traffic handling, the Taurus Mini Card provides a unified platform for seamless data, voice, and video services over diverse network topologies. Its robust performance, adaptive waveforms, and high spectral efficiency make it ideal for solution providers seeking dependable connectivity for next-generation terminals and embedded communication systems.

Designed for easy integration and smooth operation, the Taurus Mini Card supports C, Ku, and Ka-band solutions and enables strong performance even with compact antennas, helping developers reduce system size without compromising capability.

Benefits

- Manages encrypted Internet, VoIP and provides connectivity for mobile systems in land and sea.
- Compatible with Manpack and Flyway terminals
- Accelerated FWD speed of up to 200Mbps
- Fully adaptive RTN transmission
- Automatic beam-switchover based on real-time utilization
- Highest spectral efficiency – DVB-S2X FWD and LDPC RTN
- Supports RTN Spread Spectrum for increased resilience to interference and for low SNR links



Taurus Card Mini

Complete Feature Set

The Taurus Card Mini is a full featured, multi-purpose IP VSAT supporting advanced application based QoS, VLANs and IPv6 networking. It provides the full feature set for mobility 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. The Taurus Card Mini also incorporates true seamless beam switchover, ensuring service continuity. The unique distributed X-Architecture of SkyEdge II-c and the Elastix-Architecture of SkyEdge IV are ideal platforms for switchover between beams, satellites and gateways, while maintaining user application sessions.

In addition, the Taurus Card Mini provides the highest level of transmission security, supporting X509 terminal authentication and AES-256-bit link layer encryption with dynamic key rotation to protect all user traffic. It delivers acceleration and packet-per-second performance that supports hundreds of users per VSAT with 200Mbps throughput.

Due to the Taurus Card Mini's low power consumption, it enjoys long hours of battery operation. It also supports reliable data, voice and video transmissions, with high availability in secure mode and excellent performance in low SNR.

The Taurus Card Mini supports data rates of up to 200Mbps with modulation, FEC and selectable frame size, minimizing highspeed overhead and low speed delay. It provides significant bandwidth savings along with QoS capabilities in graceful degradation conditions.

The Taurus Card Mini is part of the SkyEdge II-c and SkyEdge IV VSAT ground systems that include TotalNMS and Elastix-TotalNMS, Gilat's advanced Network Management Systems.

Portable, Reliable, Capable

The Taurus Mini Card is engineered for developers and solution providers who need a compact, dependable satellite modem engine that integrates seamlessly into their own platforms. Its lightweight, power-efficient design makes it an ideal choice for portable terminals, mobile systems, and space-constrained connectivity solutions.

Delivering consistent broadband performance across a wide range of operating scenarios, the Taurus Card Mini ensures smooth, reliable IP connectivity wherever it is deployed. With full support for voice, data, and video services, it enables OEMs to rapidly develop versatile, next-generation communications products for land and maritime environments, without the constraints of a full modem enclosure.

Technical Specifications

Forward Channel

Standard:
DVB-S2X Adaptive Coding and Modulation (ACM)
Carrier rate:
1.5Msps (SEIIc)
5Msps (SEIV)- 500Msps
Modulation:
QPSK, 8PSK, 16APSK, 32APSK, 64APSK, 256APSK
Coding:
LDPC, BCH
FEC:
All FECs supported by standard

Return Channel SkyEdge IIc

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, 3/4, 5/6, 8/9
Spread Spectrum:
BPSK 1/4, 1/3 with factor 2,3,4,6,8,12

Return Channel SkyEdge IV

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/:
RF in frequency- 950-2150MHz
RF out frequency- 950-2400MHZ
Tx port:
N-type, 50Ω
Rx port:
N-type, 50Ω
DISEqC:
22kHz tone, 13V/18V
Data Interfaces:
LAN 1 10/100/1000 BaseT
LAN 4 10/100 BaseT

Reference Signal:

Reference Clock Source:
Internal
Ref. Clock Frequency [MHz]:
10
Ref. Clock Aging [PPM/10Y]:
1
Ref. Clock Output Power [dBm]:
-5 dBm to 5dBm

Enhanced Features:

IP Features:
IPv4/IPv6, TCP, UDP, ICMP, DHCP, NAT/PAT, DNS Caching, cRTP, IGMPv2, SIP, VLANs, RIPv2, Static Routes
Mobility - Antenna Interface:
OpenAMIP
Layer 2:
Ethernet frame forwarding, 802.1p QoS, 802.1ad, VLAN re-tagging, P2P, P2MP
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, TRANSEC
Application Acceleration and Protocol Optimization:
TCP acceleration, HTTP web pre-fetch acceleration and compression, GTP cellular data acceleration.

Mechanical:

Dimensions (L x W x H) [mm]:
130 X 180 X 10.5
Weight [Grams]:
171

Electrical:

Operating Voltage [VDC]:
12 – 30
Max. Power Consumption [W]:
Modem Only: 15
Modem + ODU: 100
Max. Current @ Power Off [µA]:
100

Environmental:

Operating Temperature [°C]:
-40C to +60C

Additional Specifications:

DC Power out to BUC
Max DC Power to BUC [V/A]:
24 / 3
DC Power Out to LNB
13V/18V, or 20.5V, or no DC
Up to 1A (software controlled)
High Temperature Protection:
DC power disconnection @ approx. 85°C (internal temperature)
Safety:
EN 62368-1:2020+A11:2020
IEC 62368-1:2018 (Ed.3)
AS/NZS 62368:1:2022
EMC:
EN 55032

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