

This powerful cost-effective professional satellite modem/bridge/switch/router for high-speed internet follows the DVB-RCS2 (EN 301 545-2-V1.2.1) open standard, incorporates proprietary WaveSwitch™ Return Link waveforms for Broadband Internet Access, packed with lots of advanced features, provides native L2/L3 network connectivity, high spectral efficiency for High Throughput Satellites (HTS) on ESTELLA for UHTS/Software Defined Satellites (SDS), or ASAT-II VSAT Platforms

U7720 is a high-performance networking satellite modem/router capable of supporting IP speeds of 100Mbps download and up to 15Mbps upload. U7720 supports industry standard OpenAMIP, which when coupled with ASAT™ maritime multi-beam support and beam switching technology, provides a very effective, robust and secure maritime/mobility communication solution.

The U7720 is available in the following formats :

- U7720-60: rackmount low power (<40W RF/BUC power)
- U7720-120: rackmount mid power (<100W RF/BUC power) + Quad GigE
- U7720-ODU: IP67 enclosed low power
- U7720-SA: stand-alone board level

Application and uses

- Small and Medium Businesses (SMB)
- Maritime/Mobility Applications
- Cellular Backhaul for thin rural routes
- Available as standalone board for terminal integration

Features and Benefits

- DVB-S2X forward link. Highest spectral efficiency via highly granular MODCODs, low roll-offs and Adaptive Coding and Modulation (ACM)
- DVB-RCS2 return channels supporting SS-B/QPSK, B/Q/8PSK, 16/32/64QAM and up to 5% roll-offs.
- Internet-traffic optimization (Performance Enhancement Proxy) and QoS, enhancing user experience and conserving satellite bandwidth
- OpenAMIP and/or dedicated serial port to connect to ODU.
- Operates with most COTS BUC/LNBs or transceivers
- Optional : IPsec mode 256AES encryption



Specifications

Forward Link

Waveform Technology	DVB-S2/S2X ACM, QPSK to 256APSK, all modulations, coding and roll-off rates
Encapsulation Modes	GSE or MPE Encapsulation
FEC	LDPC/BCH, Normal and Short block sizes
Symbol Rate	From 128Ksps to 125Msps (optional 250Msps or 500Msps)
Channel Roll-off and Spacing	5%, 10%, 15%, 20%, 25%, 35%
Terminal IF RX Interface	F-type 75 Ohm, 950MHz to 2150MHz satellite/band independent
LNB DC Power Feed	Off/13VDC/18VDC
LNB DiSEqC Feed	Off/22KHz

Return Link

Modulation Technology	ASAT-II: MF-TDMA, QPSK, 8PSK, 16QAM ESTELLA: BM-FDMA or MF-TDMA: BPSK, QPSK, 8PSK, 16QAM, 32QAM, 64QAM
Encapsulation Modes	ATM 1/2/4 ASAT-II: 53/106/188/212 MPE/RLE; ESTELLA: variable length RLE
Waveforms/FEC	Up to 140, Turbo-Phi
Symbol Rate	ESTELLA: 0.128-15Msps
Channel Roll-off and Spacing	5%, 10%, 15%, 20%, 25%, 35% for all MODCODs
Link Variation Mitigation	Built-in Uplink Power Control (ULPC) and Return Link ACM/DRA, power/symbol rate optimization (Power/Bandwidth ratio =1)
Tx Output Power Level	-30dBm to 0dBm
Terminal IFL TX Interface	F-type 75 Ohm, 950-2400MHz satellite/band independent, reference: off/10MHz/50MHz, Power: off/24VDC, matching COTS ODU Provides up to 100W power to the BUC (i.e. 24VDC @4.17A

Traffic ports and performance

Interfaces	U7720-120: 4 x User 1000BaseT Ethernet MGMT: 1 x 1000BaseT Ethernet
Download speed	Up to 100Mbps
Upload Speed	Up to 20Mbps
Packet Processing	20kpps with full QOS and PEP enabled
Network Services	<ul style="list-style-type: none"> Support Layer-2 and layer-3 traffic modes at same time Layer 2 VLAN and bridging Layer 3 NAT, DHCP server/relay, IP Routing

Traffic Enhancement and QOS and PEP

QoS	Up to 256 flows QoS, based on ToS/DSCP, IP addresses, protocol and ports
Application Optimization	SpaceBridge proprietary L3 Performance Enhancement Protocol (PEP) which accelerates IP TCP flows, compresses streams and significantly reduces return link TCP ACK (improves return link utilization and saves up to >80% return link ACK related bandwidth)
VoIP/Multimedia	ASAT-II: Programmable VoIP, Video-over-IP /video-conferencing detection and guaranteed QoS behavior Estella: Carriers assignment on-a-fly within available bandwidth either as dedicated SCPC like carriers (BM-FDMA), or pulled MF-TDMA carriers, reassigned every 20msec to 1 sec (20*M, the M is 1 to 50), or 26.5msec to 848msec (26.5*N, there N is 1 to 32)
Security	Optional: Encryption up to AES256

Environmental and Mechanical

Form factor/Dimensions	Indoor rack mount: 17.125 x 1.75 (1 RU) x 10.7 inches (435 x 45 x 272 mm) Outdoor IP-67 enclosure: 5 x 9 x 7 inches (WxHxD) (127 x 229 x 178 mm)
Weight	<7.5 lbs (3.4kg)
Power	<ul style="list-style-type: none"> U7720-60: 60W AC Power Supply (40W to power RF/BUC) U7720-120: 120W AC Power Supply (100W to RF/BUC) U7720-SA: external 24 VDC up to 60W (40W to power RF/BUC)
Operating Conditions	Indoor rack mount: 32°F-122°F (0°C-50°C) Outdoor enclosure: 0°F-140°F (-18°C-60°C) 10% to 90% humidity, non-condensing
Certifications	CE, FCC, ROHS

U7720-SA board (standalone)

