

**Powerful VSAT satellite modem for advanced enterprise connectivity and cellular backhaul, with a focus on advanced L2 and L3 support.**

U7780 is a high performance L2/L3 networking satellite modem/router capable of supporting download speeds of 100Mbps download and upload up to 15Mbps. With integrated L2/L3 optimization, the U7780 is ideal solution for supporting VSAT connected cellular sites (supports cellular traffic header/payload compression and 4G/LTE/5G acceleration) and/or enterprise L2 networks (IP traffic within VLAN/L2 tunnels can be accelerated across satellite).

### Application and uses

- True broadband capabilities for L2 applications ranging from SMB office productivity to rural communities connectivity
- Enterprise and retail connectivity
- 2G,3G, 4G and LTE/5G rural Cellular Backhaul links
- Critical communications satellite-as-backup links

### Features and Benefits

- DVB-S2X forward link. Highest spectral efficiency via highly granular MODCODs, low roll off rates and Adaptive Coding and Modulation (ACM)
- DVB-RCS2 return channels supporting QPSK-16QAM and up to 5% rolloffs with ACM/DRA.
- Powerful packet processing allowing robust multi-host /multi-user enterprise and cellular backhaul connectivity
- Traffic optimization (Performance Enhancement Proxy) and QoS, enhancing user experience and conserving satellite bandwidth
- Layer-3 / layer-2 traffic and CBH optimization for easy integration with MNOs
- Cellular backhaul and enterprise traffic optimization - ideal for rural 2.5G/3G/4G
- Optional : Cellular traffic decryption/encryption



## Specifications

### Forward Link

Waveform Technology	DVB-S2/S2X ACM, QPSK to 256APSK, all coding and roll off rates Based on SoC SDR
Encapsulation Modes	MPE and/or GSE Encapsulation
Symbol Rate	From 256Ksps to 125Msps, optional 250Msps or 500Msps
Channel Roll-off and Spacing	5%, 10%, 15%, 20%, 25%
Terminal IF RX Interface	F-type 75 Ohm, 950~2150MHz satellite/band independent, off/13/18VDC off/22KHz selectable matching COTS ODU and wideband LNBS

### QOS and PEP

QOS	Up to 8 flows QOS, based on TOS/DSCP, IP addresses, protocol and ports
Application Optimization	<ul style="list-style-type: none"> <li>Advanced Layer 2/Layer 3 header compression and small packet coalescing to reduce 2G/3G overhead</li> <li>4G/5G header compression to reduce overhead of cascaded IP addresses</li> <li>Acceleration of 4G/5G GTP tunnel to maximize performance and mitigate effect of satellite delay on throughput</li> </ul>
Multimedia	Programmable VoIP, video-over-IP /video-conferencing detection and guaranteed QOS behavior
Security	Optional: Encryption up to AES256 (export controlled)

### Return Link

Waveform Technology	MF-TDMA (combined free and demand-assigned multiple access), QPSK, 8PSK, 16QAM Based on SoC SDR
Encapsulation Modes	ATM1/2/4, MPE, and/or RLE Encapsulation
Symbol Rate	From 128Ksps to 6680Ksps
Channel Roll-off and Spacing	5%, 10%, 15%, 20%, 25%
Link Variation Mitigation	Terminal built-in Uplink Power Control (ULPC) and Return Link ACM/DRA supporting Ka, Ku and C-band
Tx Power	-30dBm to 0dBm
Terminal IFL TX Interface	F-type 75 Ohm, 950~2400MHz satellite /band independent, off/10MHz/50Mhz reference, off/24V DC selectable, matching COTS ODU. Provides up to 100W power to the BUC (i.e. 24VDC 4A)

### Environmental and Mechanical

Form factor	Indoor 1U rack mount
Dimensions (WxHxD)	17.125 x 1.75 (1 RU) x 10.7 inches 435 x 45 x 272 mm
Weight	7.5 lbs (3.4kg)
Power	<ul style="list-style-type: none"> <li>24VDC input: Dual fuse protection supporting 30W to U7780 modem and LNB and up to 100W to the BUC.</li> <li>Option: DIN Rail mounted 100-240VAC to 24VDC 120W/240W power supply</li> <li>Option: DIN Rail mounted 48VDC to 24VDC 120W/240W power supply</li> </ul>
Operating Conditions	-4°F to 140°F (0°C to 60°C) 10% to 90% humidity, non-condensing
Certifications	CE, FCC, ROHS

### Traffic ports and performance

Interfaces	User ports: 4x1000BaseT Ethernet MGMT ports: 1x1000BaseT Ethernet
Download speed	Up to 100Mbps
Upload Speed	Up to 15Mbps
Packet Processing	35kpps with full QOS and PEP enabled
Network Services	<ul style="list-style-type: none"> <li>Support Layer-2 and layer-3 traffic modes at same time</li> <li>Layer 2 VLAN and bridging</li> <li>Layer 3 NAT, DHCP server/relay, IP Routing</li> </ul>

### Ordering Options

Unit Build Configuration	U7780 professional MF-TDMA satellite modem
Optional Licenses	<ul style="list-style-type: none"> <li>TX BW upgrade license options</li> <li>1Mbps TX BW CBH License</li> <li>6Mbps TX BW CBH License</li> <li>15Mbps TX BW CBH License</li> <li>OpenAMIP Mobility license</li> <li>Decrypt/Encrypt support license</li> </ul>