WU7400-C4 ASAT™ System All-Outdoor Cellular Backhaul Satellite Modem

The WU7400-C4 is a weatherized outdoor VSAT satellite modem for 3G / 4G / LTE cellular RAN backhaul links based on GTP.

Features and Benefits

- Built-in 3G / 4G LTE traffic optimization saving about 30% satellite bandwidth and improving user experience by shortening transfer times by approximately 40%.
- All-outdoor installation, DC or AC power input – ideal for small cell outdoor deployment.
- SATCOM allows for quick and unlimited cellular coverage deployment anywhere on the globe.
- Deployment flexibly:
  - Supports hub-less point-to-point deployments as well as ASAT™ System hub-spoke MF-TDMA or SCPC Return Link.
  - Start small with point-to-point SCPC links and grow to large hub-spoke MF-TDMA / SCPC network.
- WaveSwitch™ hub-spoke multi-waveform support:
  - Automatic on-the-fly MF-TDMA / SCPC Return Link switching, based on application, traffic density and scheduled triggers.
  - SCPC Return Link dynamic channel adaptation to meet traffic demand while conserving satellite bandwidth.
  - Real-time waveform switching provides real savings for applications seeing drastic traffic density changes such as cellular backhaul and trunk.
- Layer-2 and Layer-3 support for easy satellite transport integration with the cellular RAN.
- Built-in PEP (Performance Enhancing Proxy) enhancing user experience and conserving satellite bandwidth usage, optimizing the link in both in both point-to-point SCPC deployments and in hub-spoke mode.

- Built-in GTP optimization – traffic compression and TCP session optimization and acceleration over the satellite link.
- Encrypted VPN tunnel support, allowing traffic protection from VSAT modem to the hub or to enterprise own router (ordering option).
- OpenAMIP antenna interface support for SATCOM on the Pause (SOTP) or on Move (SOTM) applications, quick deploy or cellular capacity increase / recovery applications.
- Allows for all-outdoor cellular installations such as small-cells, as well as maritime mobile on-ship cellular coverage.

Typical Applications and Uses

- Remote-population cellular coverage, cellular backhaul links.
- Broadband trunks.
- Mass-population mobile / maritime Cellular Internet access.
- Dynamic-throughput high-capacity links such as 4G RAN.
- Critical communications satellite-as-backup links.

Specification

Unit Characteristics	
Form Factor	Weatherized all outdoor.
Installation	▪ Outdoor. ▪ Matching variety of outdoor / RF options: C-band, X-band, Ku-band and Ka-band. ▪ OpenAMIP antenna integration, GPS integration for on-the-pause / on-the-move applications.
Typical Applications	▪ Remote-population cellular coverage, cellular backhaul links, small cells. ▪ Mobile / maritime Cellular Internet deployment. ▪ Occasional cellular capacity increase or disaster recovery cellular recovery.

Forward Link / RX	
Technology	DVB TDM Forward Link.
Channel Rate	Up to 500MHz.
Waveform	DVB-S2/S2X ACM, GSE encapsulation, QPSK up to 256APSK LDPC/BCH.
Channel Spacing	5%, 10%, 20%, 25% or 35% channel spacing (roll-off factor).
Terminal IFL Input	F-type 75 ohm, 950 – 2150MHz satellite / band independent.
Return Link / TX	

Technology	▪ 3D BoD™ Return Link multi-waveform technology:
	  ▪ MF-TDMA CF-DAMA (Combined Free and Demand Assigned Multiple Access).
	  ▪ Point-to-point and hub-spoke DVB-S2X SCPC.
	▪ WaveSwitch™ on-the-fly and automatic waveform switching.
	▪ Terminal built-in Uplink Power Control (ULPC) and network-wide PowerACM™ link variability mitigation providing support for Ka, Ku and C-band.

MF-TDMA Channel Rate	64Ksps up to 8192Ksps.
MF-TDMA Waveform	BPSK, QPSK, 8PSK, 16QAM.
MF-TDMA Channel Spacing	10%, 15%, 20% or 25% channel spacing (roll-off factor).
SCPC Channel Rate	500Ksps up to 25Msps.
SCPC Waveform	DVB-S2 QPSK up to 32APSK LDPC/BCH.
SCPC Channel Spacing	5%, 10%, 20%, 25% or 35% channel spacing (roll-off factor).
Terminal IFL Output	F-type 75 ohm, 950 – 2150MHz satellite / band independent.
IP Services, PEP and QoS	
Interfaces	▪ 10/100/1000 Mbps Eth RJ-45 towards 3G / 4G eNodeB. ▪ 1x out-of-band satellite modem management.
Download Speed	Up to 100Mbps.
Upload Speed	Up to 100Mbps.
Connectivity	▪ Wireline transparent Layer-2 connectivity. ▪ VLAN and VRF (Virtual Routing and Forwarding) support. ▪ Layer-3 NAT and DHCP server / DHCP relay. RIP routing protocol. VRRP support. ▪ Full multicast support from hub or from behind remote.
Application Optimization	3G / 4G LTE optimization – traffic compression and GTP acceleration.
QoS	Built in embedded QoS support integrated with Forward and Return Link ACM
Security	IPSec VPN tunnel strong encryption (availability limited by export control regulations).
Environmental and Mechanical	
Dimensions	229 x 89 (2RU) x 356mm (W x H x D)
Weight	4.8Kg
Power	▪ 50W (not including BUC power), 24V DC power input, universal 100-240V AC 50/60Hz PSU provided as option. ▪ 24V DC provided to BUC.
Operating Temperature	-40 – +65°C, 5% to 90% humidity non-condensing.
Certification	CE, FCC, CSA.
Available Configurations	
WU7400-C4 – 3G / 4G / LTE outdoor-weatherized cellular backhaul satellite modem.	
WU7400-EC4 – 3G / 4G / LTE outdoor-weatherized cellular backhaul satellite modem with VPN encryption option included.	