UHP-1100

INTEGRATED SATELLITE ROUTER
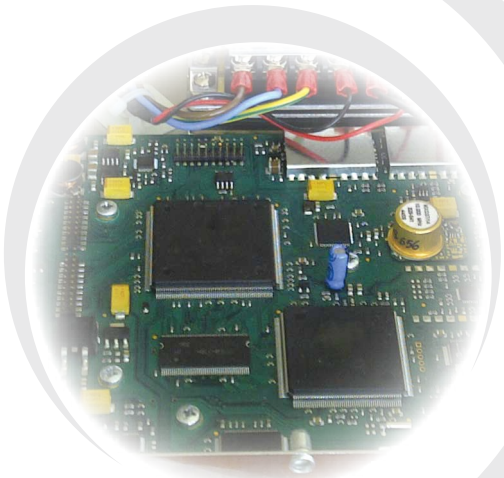
SCPC	TDM/TDMA	Hubless TDMA

UHP-1100 satellite router is a universal component of highly-efficient satellite networks of any operation mode or topology. UHP-1100 router can work as an SCPC modem with the satellite carrier fixed or assigned on-demand. It can also be a mini-hub or a remote station in TDM/TDMA network or any node (master or slave) in a fully meshed Hubless TDMA network.

Innovative algorithms for network access, resource allocation and data encapsulation as well as advanced modulation and coding, implemented in the UHP routers, ensure efficient utilization of satellite resource. Two built-in demodulators allow simultaneous reception of both TDM carrier from the hub and TDMA mesh carrier from two distinct satellite beams or from two antennas. Universal modulator can instantaneously switch from TDMA burst mode to SCPC mode, thus assuring high data throughout and efficiency.

- Various modes of operation and topologies: SCPC, TDM/TDMA, TDM/TDMA Mesh, Hubless TDMA

- Two demodulators with separate IF inputs and universal SCPC/TDMA modulator

- Adaptive coding and modulation (ACM) in forward and return channels, including SCPC mode

- Superior productivity up to 60'000 pps and 150 Mbps aggregate throughput and 150 voice calls compressed

- Innovative TDMA protocol with LDPC coding and proven efficiency of 96% vs SCPC

- Ultra-low latency VSAT system with round-trip delay about 570 ms for TDMA mode of operations

- Support of VLAN, multi-level QoS, codec-independent handling of real-time traffic, TCP acceleration

- Built-in adaptive hierarchic traffic shaper specially designed for VSAT applications

- Built-in web-based management interface, user-friendly software configuration

- Fast network startup — network is ready for use in less than a minute upon power-up

- Low power consumption – less than 10 Watt (without RF ODU)

- Compatible with majority of C, Ku and Ka-band RF Systems, supplies power and reference signals

- Support of 1:1 or 1:N automatic redundancy schemes without use of external controllers
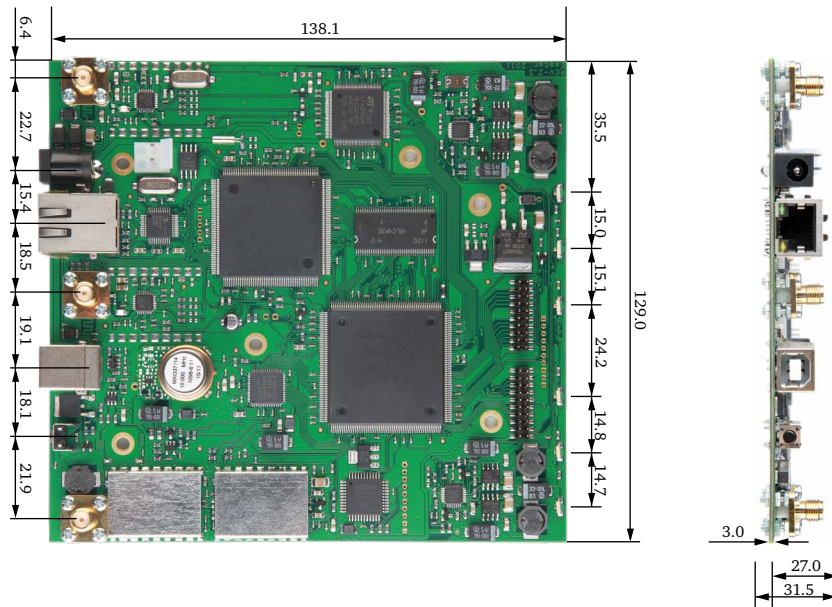
UHP-1100 is implemented as a compact single card ideal for integration into third-party OEM products. It is fully compatible with any other satellite routers of the UHP series. The router card has LED indicators, SMA or F type IF connectors and user LAN interface. Optionally, the router card can be equipped with the asynchronous LVTTL data port. Low power consumption and uniquely fast start upon power-up facilitate use of alternative power sources, such as solar batteries.

UHP-1100 is a high-performance satellite router for a wide range of applications, such as enterprise networking, videoconferencing, distribution and contribution of video, voice and data trunking, cellular backhaul, and broadband Internet access.

UHP-1100 SATELLITE ROUTER SPECIFICATIONS

NETWORK	
Topology	'point-to-point', 'hub and spoke', 'multilevel tree', 'mesh'
Modes of operation	SCPC, SCPC DAMA, TDM/SCPC, TDM/TDMA, TDM/TDMA Mesh, Hubless TDMA
Network size	up to 252 TDMA Inroute channels or MF groups and 500 000 terminals per network

SCPC (TDM) CHANNEL									
Modulation	DVB-S2 ACM: QPSK, 8PSK, 16APSK, 32APSK (Rx-only); TLC; roll-off 20%								
Symbol rate	300 kSps - 32 MSps with 1 kSps step								

C/N threshold levels, dB BER $<10^{-8}$	FEC	1/3	2/5	1/2	3/5	2/3	3/4	4/5	5/6	8/9
	QPSK	-0.9	-0.0	0.6	2.4	3.4	4.3	4.9	5.4	6.6
	8PSK	-	-	-	6.0	7.2	8.2	-	9.7	11.1
	16APSK	-	-	-	-	9.4	10.7	11.3	12.3	13.2
	32APSK	-	-	-	-	-	14.4	15.6	16.6	17.9

QoS	4-level prioritization, traffic policies, CIR, MIR, group QoS, hierarchic traffic shaper, FAP

TDMA CHANNEL	
Modulation	QPSK, 8PSK; LDPC; ACM; TLC; roll-off 20%
Symbol rate	100 kSps - 4 MSps with 1 kSps step
TDMA Protocol	frame 50-1000 ms, 8 slot sizes, manageable minimal bandwidth; slot-to-slot fast MF-TDMA hopping

C/N threshold levels, dB BER $<10^{-7}$	FEC	2/3	5/6
	QPSK (LDPC ACM)	5.4	6.9
	8PSK (LDPC ACM)	9.6	12.0

QoS	CIR, MIR, group QoS, FAP, RT traffic support, day/night, hierarchic manager of TDMA bandwidth

ROUTER	
Performance	up to 60'000 packets per second; 150 Mbps aggregate throughput
Support	DSCP, multiple IP/VLANs, NAT, proxy ARP, L2 Bridging, TCP Acceleration and header compression
Protocols	DHCP, IGMP, SNMP, RIP, SNTP, TFTP, cRTP
Management	HTTP interface, SNMP, Telnet, NMS with VNO support

INTERFACES	
User LAN port	Ethernet 10/100Base-T, RJ-45
Maintenance console	USB, B female
IF Rx	950-2050 MHz (LNB DC – 13.5V/18V 0.75A), F or SMA type
IF Tx	950-1750 MHz, –30…- 5 dBm, (LO 10 MHz / +5 dBm, BUC DC – 24V / 2A), F or SMA type
Power	24 VDC, 10 Watt, PWL-2c connector with 3.96 mm step

MECHANICAL / ENVIRONMENTAL (IDU)	
Operating temperature	-40^0…+50^{0}C, humidity up to 90%

UHP. NETWORKS

Request A Quote