

SCPC

HIGH-THROUGHPUT SATELLITE MODEM

UHP is a universal, high-throughput IP satellite modem that can be used to deploy point-to-point, simplex or duplex SCPC (Single Channel Per Carrier) channels or point-to-multipoint MCPC (Multiple Channel Per Carrier) networks.

DVB-S2 ACM

UHP modem uses advanced modulation and coding DVB-S2 technologies, providing high bandwidth efficiency. Adaptive Modulation and Coding (ACM) feature ensures the maximum throughput of SCPC channel by utilizing the most efficient coding and modulation scheme depending on weather conditions at the receiving side. Interactive, two-way SCPC ACM technology optimizes the link performance and allows saving up to 30% of satellite capacity.

Transmission level control

Automatic transmission level control (TLC) adjusts local transmission level based on information about reception quality at the remote site. The TLC feature may work with ACM simultaneously to compensate increased propagation loss due to weather conditions and to ensure superior reliability of the communication channel.

L2 Bridge and IP router

UHP modem can operate in a "transparent" L2 Bridge mode or serve as an advanced, high-performance IP router (up to 60'000 pps). The IP router supports a wide range of protocols, VLAN, TCP acceleration, VoIP headers compression, bandwidth management, etc.

Redundancy

Pair of standard UHP modems may work in 1:1 automatic redundancy mode and required no external redundancy controller.

Management

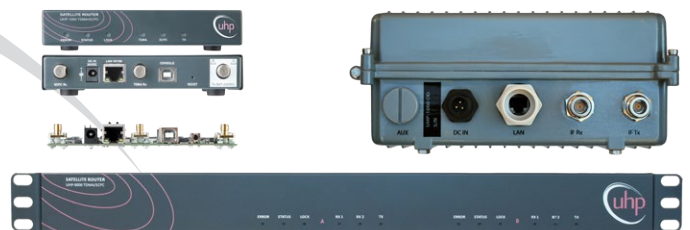
Both local and remote UHP modems can be managed with the help of user-friendly web-interface, via SNMP protocol or by specialized UHP Network Management System. UHP modem can provide digital and analog signals representing current quality of signal that can be used by various antenna controllers to track a satellite.

Extended Functionality

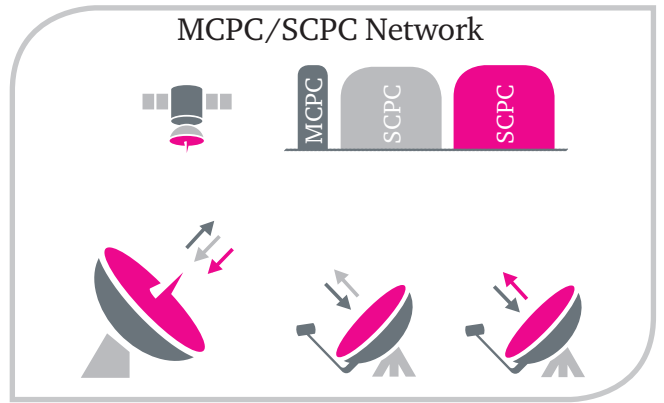
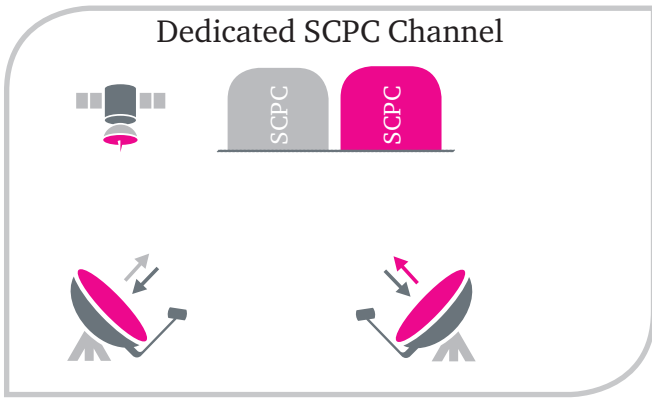
UHP is a universal hardware platform with software definable functionality that can be changed remotely and without any need in hardware replacement. Along with SCPC, UHP modem can operate in SCPC-DAMA, TDM/TDMA or Hubless TDMA modes.

APPLICATIONS

- Satellite backhaul channels
- IP broadcasting of data and media
- Satellite News Gathering
- Backup for terrestrial infrastructure



- High throughput from 250 kbps and up to 86 Mbps in basic configuration
- Efficient modulations: QPSK, 8PSK and 16APSK with efficient DVB-S2 coding
- Adaptive modulation and coding for both directions with dynamic range of 15 dB
- Automatic transmission level control based on information from the remote site
- Ultra-low latency VSAT system with round-trip delay about 570 ms for TDMA mode of operations
- L2 Bridge and advanced IP router with traffic acceleration and throughput up to 60'000 packets per second
- Built-in adaptive hierarchic traffic shaper and traffic policy manager
- Fast network startup — network is ready for use in less than a minute upon power-up
- Compact size, low power consumption and optional automatic 1:1 redundancy
- Various hardware models, including compact, integrated, rack-mountable and outdoor versions
- Compatible with majority of C, Ku and Ka-band RF Systems, supplies power and reference signals
- Compatibility with different mobile antenna systems via OpenAMIP or various proprietary protocols
- Easy to install hardware and reliable operations with MTBF >200'000 hours



High-speed UHP SCPC modems allow creating dedicated channels of any purpose and throughput. It could be classic “point-to-point” SCPC channels of any asymmetry or “point-to-multipoint” MCPC broadcasting or even multi-site network based on combination of MCPC and SCPC channels.

Universal UHP technology also supports Dynamically Allocated Multiple Access mode (DAMA) that allows using SCPC channels in-between any locations on demand. In such DAMA network a common pool of bandwidth is dynamically used to organize SCPC or MCPC connections between any network stations when it is required. After the end of the session such bandwidth is released and available for the new sessions. DAMA network is managed by one of the network stations that communicates with other stations via narrowband control channel. A basic

functionality of SCPC DAMA network can be extended further with use of UHP Network Management System (NMS) and Dynamic Network Layout module, providing a convenient interface for scheduling and managing of SCPC DAMA transmissions.

High-speed DVB S2 ACM modem in conjunction with integrated, powerful IP router opens up great opportunities for the applications like cellular backhaul, primary and secondary connectivity to terrestrial backbones, broadcasting and news gathering, mission-critical communications, etc. Ability to activate any other functionality of universal UHP VSAT just by software provides great opportunities for the further development of UHP-based networks and ensures the best cost of ownership and investment efficiency.

