Comtech ELEVATE 2.0 CEL-450 Series

Multi-Orbit SATCOM Platform

Comtech ELEVATE 2.0 delivers new advancements to connect people across the globe using the best available SATCOM networks across all orbits

Comtech's new **software-defined, scalable, and adaptable ground infrastructure system** is designed to meet the always-on connectivity demands of governments, communities, and businesses around the world.

Built on the Company's field-proven, multi-orbit Very Small Aperture Terminal ("VSAT") products and nearly 60 years of experience developing innovative SATCOM ground systems for global customers, Comtech's ELEVATE 2.0 is designed to connect people across the globe with the best available networks on all SATCOM orbits in a single low Size Weight and Power ("SWaP") platform.

Disaggregated Architecture: Comtech ELEVATE 2.0 provides a disaggregated architecture which comprises very low-cost wideband hardware processor at the teleport and centralized packet processing in software at a data center—offering extensive scalability and unique flexibility options for new and existing SATCOM constellations across all orbital regimes.

Increased Bandwidth and Processing Power: Comtech ELEVATE 2.0 offers customers up to a three-fold increase in bandwidth and up to eight times greater processing density compared to the Company's existing VSAT model.

Real-time Upgrades: The software-defined nature of Comtech's ELEVATE 2.0 platform enables the system to keep pace with the upgrade cycles necessary in today's rapidly evolving SATCOM market.

Low SWaP: Comtech ELEVATE 2.0 provides ultra compact terminals and portable gateways, reducing the SWaP of the company's existing VSAT platforms by a factor ranging from 2 to 8 depending on the configuration.

Specifications

410 Board WBM	
CEL 450 Sockets	Up to 10 cards
HUBMUX	1 up to 500 Msps, or 2 Up to 250, or 4 up to 125;
DVB Wideband Modulator	
Standard	DVB-S2 / DVB-S2X ACM
MODCODs	BPSK-S to 256APSK
Roll-Off	5%, 20%
Symbol Rate	300 ksps to 500 Msps, step 1 ksps
Interfaces	
User LAN	1 x 10 Gb SFP+ and 1 x Giga Ethernet
Maintenance	Micro USB, B female
IF Tx	950-2400 MHz, -1…-46 dBm; Ref. 10 MHz/+5 dBm; 24V/3A; F type

408 Board RX8	
CEL 450 Sockets	Up to 4 cards
DVB Demodulator	
Standard	DVB-S2 / DVB-S2X ACM
Channels	8 with selectable IF inputs
MODCODs	BPSK-S to 256APSK
Roll-Off	5%, 20%
Symbol Rate	300 ksps - 500 Msps
Interfaces	
User LAN	1 x 10 Gb SFP+ and 1 x Giga Ethernet
Maintenance	Micro USB, B female
IF Rx	950-2150 MHz; Ref. 10 MHz/+5 dBm [RX1]; 13.5/18 VDC 0.75A; F type;

Specifications

Network	
Topology	P2P, Star, Mesh, Dual-Gateway, Wideband
Modes of operation	SCPC, TDM/TDMA, TDM/DRAM, Universal Hub Controller, Spectrum Analyzer
Network role	TDM/D-RAM Hub, Universal Controller of HTS Hub
Frequency bands	C, X, Ku, Ka, including multi-beam HTS satellites GEO/MEO/LEO

411 Board RX/TX	
CEL 450 Sockets	Up to 10 cards
DVB Demodulator	
Standard	DVB-S2 / DVB-S2X ACM
Channels	Up to 2 DVB-S2 / DVB-S2X
MODCODs	BPSK-S to 256APSK
Roll-Off	5%, 20%
Symbol Rate	300 ksps - 500 Msps
MF-TDMA Demodulator	
Channels	Up to 8 MF-TDMA demodulators
MODCODs	BPSK to 16APSK
Roll-Off	5%, 20%
Symbol Rate	100 ksps – 60 Msps
Multi-frequency	Fast MF hopping
TDMA Modulator	
MODCODs	BPSK, QPSK, 8PSK, 16APSK / LDPC
Roll-Off	5%, 20%
Symbol Rate	100 ksps to 11 Msps. MF Hopping
Multi-frequency	Fast MF hopping
Spreading	Factors 2 and 4, max. 11.7 Mcps
DVB (SCPC) Modulator	
Standard	DVB-S2 / DVB-S2X ACM
MODCODs	BPSK-S to 256APSK
Roll-Off	5%, 20%
Symbol Rate	300 ksps to 120 Msps, step 1 ksps
Interfaces	
User LAN	2 x Giga Ethernet 10/100/1000 Base-T
Maintenance	Micro USB, B female
IF Rx	950-2150 MHz; Ref. 10 MHz/+5 dBm [RX1]; 13.5/18 VDC 0.75A; F type;
IF Tx	950-2400 MHz, -1…-46 dBm; Ref. 10 MHz/+5 dBm; 24V/3A; F type

Routing & QoS	
Protocols	IPv4/IPv6, IGMP, cRTP, SNMP, RIPV2, SNTP, TFTP, PPP, DHCP, DHCP Relay, OpenAMIP, QinQ
Support	DSCP, multiple IP/VLANs, PAT, proxy ARP, L2 Bridging, TCP & GTP Acceleration, Jumbo frames (2KB MTU), AES-256, X.509
QoS	8-level prioritization, traffic policies, CIR, MIR, group QoS, hierarchic traffic shaper, FAP
Performance	Up to + 20 M packets per second
Management	HTTP interface, SNMP, Telnet, NMS

Spectrum Analyzer (Optional)	
Bandwidth	950-2150 MHz; accuracy: ±0.01%
Sweep time	1-2 sec
Span	Span 10 kHz - 1200 MHz; accuracy: ±1.8%
Measurement range	30 dB; Accuracy: ±6 dB; Relative: ±0.15 dB

Mechanical / Environmental	
Operating Voltage (Internal Power Supply)	2 x 100-264 (50-60 Hz) VAC, 250W
Power Redundancy	Single PS (Support up to 10 x Cards) Hot-Swap (Support up to 8 x Cards)
Power custom Options	24 VDC or 48 VDC (Optional)
Operating temperature	0…+50 ℃
Size	440x44x305 mm
Weigh	4 Kg
User LAN (Timing)	2 x RJ-45
Altitude	3000 Meters (~10,000 Feet)

About Us

Comtech Telecommunications Corp. is a leading provider of satellite and space communications technologies; terrestrial and wireless network solutions; Next Generation 911 (NG911) and emergency services; and cloud native capabilities to commercial and government customers around the world. Through its culture of innovation and employee empowerment, Comtech leverages its global presence and decades of technology leadership and experience to create some of the world's most innovative solutions for mission-critical communications. For more information, please visit www.comtech.com.

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