

- » Multi-waveform software-defined modem enabling network interoperability and operational flexibility
- » Up to 400 Mbps total throughput for enterprise applications and tactical flexibility
- » Adapts to future mission requirements with software updates
- » Significantly reduced integration complexity and life cycle costs



The Viasat Commercial Broadband Modem 400 (CBM-400) is the most adaptable SATCOM modem platform, delivering more bandwidth efficiency, interoperability, and security to mobile, on-the-pause, and fixed communications.

The Viasat CBM-400 is a software-defined modem platform that combines the power of high-speed connectivity with the flexibility of waveform switching to meet the needs of any mission and application. Multiple form factors offer flexibility to arm your SATCOM terminal with the most versatile networking capability for your mission today and tomorrow.

With speeds up to 400 Mbps, the WGS certified Viasat CBM-400 is powerful enough for the most intensive enterprise missions and flexible enough for highly tactical integrations into any micro-sat terminal, half or full ATR chassis, or enclosure. The Viasat CBM-400 delivers satellite broadband performance whether at-the-halt or on-the-move (COTM). Mobile users can pair the modem with an ultra-compact antenna on ground vehicles or aircraft to send and receive true HD video, voice, and data networking.

Benefiting from a software-defined architecture, the Viasat CBM-400 platform is ready for any mission, network, or topology. One hardware platform with waveforms for every satellite networking challenge or operational environment: star and full-mesh networking with the LinkWay™ waveform; point-to-point networking with EBEM; airborne mobility with ArcLight® waveforms; and two integrated high performance DVB-S2 receivers/decoders with resources for additional waveforms. Choose the waveform that suits your mission today, and have the ability to adapt tomorrow or whenever your requirements change. With this flexibility, the Viasat CBM-400 significantly reduces the complexity and cost associated with deploying, operating, maintaining, and upgrading a network. The Viasat CBM-400 is interoperable with today's networks while also providing users with a path toward network convergence.

The Viasat CBM-400 delivers operational and capital savings by minimizing the expense of procurement and integrated logistics support (ILS) for modem hardware. Use of a single hardware platform across applications reduces the complexity of integration by collapsing hardware variants. A single Viasat CBM-400 solution significantly reduces total lifecycle costs, all while allocating the most efficient use of bandwidth with the right waveform for every application.

VIASAT CBM-400 AT-A-GLANCE

One Platform for Multiple Missions and Networks

- » Serves multiple missions simply by switching waveforms
 - Star and full-mesh Comms-At-The-Halt and Comms-On-The-Move: LinkWay™ waveform
 - High efficiency point-to-point: EBEM waveform
 - Airborne mobility: ArcLight®1 and ArcLight®2 waveforms
 - Software-upgradeable for protected and future waveforms
 - Software-upgradeable for Paired Carrier Multiple Access (PCMA) bandwidth savings
 - Reduced logistics footprint
 - Future-proof with support of additional waveforms
- » Seamlessly adapts to topology and architecture of your network
- » Operates on any satellite band (C-, X-, Ka-, Ku-)
- » Available in rack-mount, embedded card set, ruggedized outdoor enclosure, and 1/2-ATR enclosure for fixed or mobile applications

Broadband for Bandwidth-Demanding Applications

- » HD video, high-resolution imagery, C2, SA
- » Internet, VPN, VTC, secure voice, email, and data

High-Speed SATCOM with Bandwidth Efficiency

- » ArcLight, LinkWay, and EBEM approved for WGS
- » 400 Mbps combined throughput
- » Fast-hopping transmitter and receiver supports 16,000 hop/s MF-TDMA operation up to 30 Msps (Mcps)
- » High-performance transmitters and receivers support FDMA and CDMA operation up to 52 Msps (Mcps)
- » Dual DVB-S2 receivers, each supporting up to 170 Mbps IP Layer 3 traffic (52 Msps/Mcps) with adaptive coding, modulation, and spreading
- » Carrier cancellation technology (PCMA) to increase bandwidth efficiency, increase network capacity, and lower the cost of satellite networking

Security

- » FIPS 140-2 Level 2 certified Transmission Security (TRANSEC)
- » Automatic over-the-air authentication, re-keying, and zeroization
- » Designed to support data/control plane separation

SPECIFICATIONS CAPABILITIES

Waveform Options	LinkWay™ and EBEM with simultaneous DVB-S2 Rx, ArcLight®1, ArcLight®2, and Viasat high-capacity internet service
Network Control and Management	Embedded LinkWay™ Network Control Center (eNCC) hosted on CBM-400 Modem
TRANSEC	FIPS 140-2 Level 2 certified AES 256-bit bulk encryption of user data plane and network control plane; Key load via front panel or Ethernet port; Compatible with Simplex and Full-Duplex links

VERSATILE FAST-HOPPING TRANSMITTER AND RECEIVER

Symbol (Chip) Rates	Up to 30 Msps/Mcps MF-TDMA, up to 60 Msps/Mcps FDMA/CDMA; 1x to 23x spreading
Modulations	BPSK, BPSK $\pi/2$, QPSK, OQPSK, 8PSK, 16APSK, GMSK
Turbo codes	DVB-RCS, 3GPP, EBEM, DVB-S2
Performance	Code rates 1/5 to 9/10; Ec/No: -17 to +15 dB
Modes	MF-TDMA, FDMA, CDMA/CRMA, Adaptive power, modulation, code rate, and spread factor control, based on waveform
IF interface	
» Transmit	950 to 2050 MHz
» Receive	900 to 2050 MHz
Transmit Output Carrier	-35 to +10 dBm
Receive Noise Density	-90 to -140 dBm/Hz

DUAL INTEGRATED HIGH-EFFICIENCY RECEIVERS

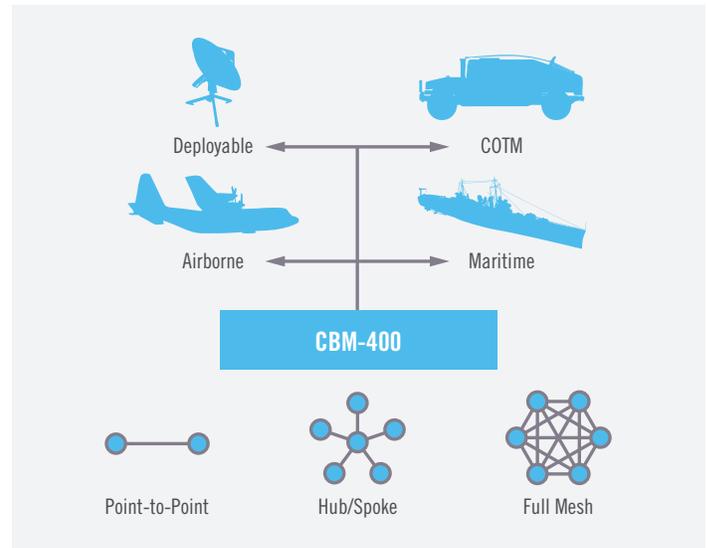
Symbol (Chip) Rates	1 to 52 Msps (Mcps), 1x to 23x spreading
Demodulations	BPSK, BPSK $\pi/2$, QPSK, 8PSK, 16APSK
Performance	DVB-S2 code rates 1/4 to 9/10; Ec/No: -17 to +15 dB
Modes	FDMA with adaptive spreading, coding, and modulation
IF interface	900 to 2150 MHz
Receive Noise Density	-140 to -90 dBm/Hz

INTERFACES

IF Interfaces	TNC or SMA; VSWR 2:1
Reference to BUC, LNB	10 MHz, -5 to 0 dBm output on IF interfaces
DC Power	BUC up to 2.5A @ 24 VDC (rack mount) or up to 4A @ external 18 to 52 VDC input; LNB up to 500 mA @ 13, 18, or 21 VDC
Ethernet	4x RJ-45 10/100/1000: Data, Control, Expansion
USB	Up to 2x USB 2.0 compatible, USB-A Female
Timing Reference	50-Ohm, dual 5 MHz, 10 MHz or 1PPS -5 to +5 dBm input or +10 to +13 dBm output
ARINC 429	4-channel receiver, DE-9 interface
Miscellaneous	RJ-45 with dual RS-232 or one RS-422 for ACU control, GPS NMEA-183 receiver

ENCLOSURES AND ENVIRONMENTAL

Rack Mount Enclosure	
» AC powered	100 to 240 VAC, 47 to 63 Hz
» Dimensions (W x H x D)	17.0 x 1.75 x 14.0 in; 43.2 x 4.5 x 35.6 cm
» Weight	<9 lb; convection cooled
» Temperature	-40° to 60°C Operational, -40° to 70°C Storage
» Humidity	Up to 95%, non-condensing
Card Set	
» DC powered	22 to 30 VDC
» Dimensions (W x H x D)	
» Digital Card	6 x 1 x 9.5 in; 15.2 x 2.5 x 24.1 cm
» Analog Card	6 x 0.9 x 9.5 in; 15.2 x 2.2 x 24.1 cm
» Digital & Analog Stacked	6 x 2.5 x 9.5 in; 15.2 x 6.4 x 24.1 cm
» Weight	<3 lb card set; <4.5 lb with optional metal frame, conduction cooled
» Temperature	-40° to 60°C Operational, -40° to 70°C Storage
» Humidity	Up to 95%, non-condensing
1/2ATR	
» DC powered	26 to 30 VDC
» Dimensions (W x H x D)	4.88 x 7.62 x 13.5 in; 12.4 x 19.4 x 34.3 cm
» Weight	<19 lb; conduction cooled
» Temperature	-40° to 60°C Operational, -54° to 70°C Storage
» Ruggedization	MIL-STD-810G, MIL-STD-461F sealed chassis
Ruggedized Outdoor Enclosure	
» DC powered	10 to 36 VDC
» Dimensions (W x H x D)	8.90 x 3.25 x 13.80 in; 22.6 x 8.3 x 35.1 cm
» Weight	<13.5 lb; conduction cooled
» Temperature	-40° to 60°C Operational, -40° to 70°C Storage
» Ruggedization	MIL-STD-810G, MIL-STD-461G, MIL-STD-1275D, IP-67



CONTACT

SALES

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