

HM400 Modem

The Hughes HM400 provides users with the next-generation software-defined modem for satellite communications (SATCOM) on-the-move. Building off the success of the award-winning HM200, the HM400 leverages the unique Hughes Scrambled Code Multiple Access (SCMA) Waveform technology that enables bandwidth efficiency for smaller antennas and EBEM with integrated TRANSEC for Fixed or Mobile Military applications. Being software defined, the HM400 has the flexibility to host a large suite of downloadable, standardized government and commercial waveforms. The HM400 can also flexibly operate over multiple frequencies (L-, Ku-, Ka-, Mil Ka-, and X-band) and multi-orbit (LEO, MEO, GEO) constellations. Finally, the HM 400 provides the capability to access worldwide SATCOM services through existing VSAT and MobileSat service providers or customer-specific networks/gateways.

The HM400 was designed with flexibility in mind, leveraging an open architecture that enables use with any qualified system components that are best suited for delivering mission-specific requirements. One key enhancement in the HM400 includes increased resiliency to withstand the harsh environmental conditions, such as high-altitude flight, lightning strikes, and Electromagnetic Interference (EMI). This makes the unit ideal for applications ranging from disaster response, storm tracking, military operations, and airborne geological surveys. The enhanced resiliency enables reliable Beyond-Line-of-Sight (BLoS) video and data communications, even in harsh environmental conditions.

Benefits

- High data throughput rates for efficient video and data transmissions
- Software-defined modem
- L-band intermediate frequency for C, X, Ku, Ka operation
- Supports open AMIP
- Open-architecture design for end user flexibility
- Enhanced resiliency
 - SCMA Waveform
 - Ruggedized to support high altitude flight applications
 - Lightning/EMC/EMI protection circuitry
- Open architecture for use with various qualified small antennas
- Low Size Weight and Power (SWaP) footprint HM400 modem



Key Features

- Design is a 1/2-ATR style enclosure with heat sinks
- Designed for natural convection cooling
- Compliant with environmental standard requirements
- Wide variety of data interfaces
- Mil-Spec-compliant (vibration, temperature, EMI/RFI)
- EBEM (MIL-STD-188-165A/B, STANAG 4486 Edition 3, Annex E) with Integrated TRANSEC

Technical Specifications

Technical specifications and features are subject to change at any time without notice.

- Dimensions: 5" W x 13" L x 8" H
- Weight: ≤ 14 lbs
- Operational Temperature: -55° C to +71° C
- Power: 65 W–75 W
- Environmental standards: MIL-STD-810, 461-, 462-, and 464-compliant
- Throughput: Up to 45 Mbps
- Altitude: 50,000 ft+

***About Hughes SCMA Waveform:** The basis of the HM System is the Hughes SCMA technology. Continuing the Hughes tradition of innovative satellite solutions, the SCMA waveform utilizes the latest software-definable technology, enabling high-data throughput with secure and efficient sharing of bandwidth. Hughes SCMA technology is especially well suited for operating over satellites employing extremely small antennas (microterminals), with potential applications, such as tactical COTM, asset tracking, sensor networking, and smart grid. The waveform optionally includes Upper-Layer Protocol Enhancements (ULPEs) for high-speed transmission with zero packet loss through rotating blades on aircraft. Additionally, there is an outer code that offers protection against intentional interferences. Paired with the SCMA, the HM System is an advanced generation solution that continues the Hughes legacy by using advanced waveform capabilities to bridge the gaps in current market technology and delivers meaningful cost and size reductions where they matter most.

Please contact Hughes Defense Systems Sales at 301-548-1907 for information on service plans and coverage areas before placing orders for this product.