QINETIQ

High Speed Telemetry Modem (HSTM) 1W

Support products and services

The Multi-Unit Control Modem is a 400 to 450 MHz UHF frequency wireless modem, which is optimized for long distance communications. It offers high speed transmit to receive switching times, low latency, and has a full serial port and separate diagnostic port for real time diagnostics without interrupting data communications. The modem is a half-duplex modem used for multi-unit control of multiple vehicles on a single frequency or can be used as a high speed modem operating in a Simplex mode with a 50 Hz Update rate.

The modem typically operates in a half duplex modem for vehicle telemetry between the vehicle and the control station. However, it typically operates in a simplex mode for the High Speed Telemetry Module (HSTM) in which the vehicle TX has a 50 Hz update rate between the vehicle and the receive module. The modem is designed to be a frequency hopping modem, commands to the modem are sent through either the Advanced Vehicle Processor (AVP) on the vehicle or through the Universal Target Control Station (UTSC™) in which power and frequency is set. Therefore programming is not required for use in the vehicle or at the control station. Pre-programming of the modem is necessary for the use of the HSTM since there are no commands sent to inform the modem to change frequency or power output. If powered down, the modem remembers the last programmed frequency and power output setting.

The modem comes equipped with 3 Received Signal Strength Indication (RSSI) LED for visual reference as well as an analog 0-5V RSSI output.

Signal strength is calculated based on the last four valid receive packets with the correct Cycle Redundancy Check (CRC), and represented by RSSI 1, 2, and 3. When calculating the RSSI, the master takes into account all the packets received from the slaves and repeaters. Repeaters and slaves only transmit back to the master when they have information to send. Therefore, if no data is coming back to the master then RSSI will never get updated at the master, and the LED's will be off.

Key features

- Wide input voltage range between 8 to 34 VDC
- Adjustable transmit power (250 mW – 1 W)
- Wide temperature specifications (-40°C - +85°C)
- RSSI LED Indication
- RSSI output voltage indication

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Specifications

Physical

Dimensions	Approx. 3.00" x 1.75" x 4.72" (76mm x 44.5mm x 120mm)
Weight	Approx. 2.8oz (80 grams)

Performance

Frequency	400-450 MHz
Channel bandwidth	Depends on link rate
Synthesizer step	25 Hertz
Selectable channels	16,000 at 6.25 kHz
Alarm	90 dB buzzer
Sensitivity	107dBm @ 115.2kbps link rate 115dBm @ 19.2kbps link rate
Output power	100mW − 1W (20-30dBm)
Input voltages	8V − 34V
Serial interface	RS232
Serial baud rate	300bps to 230.4kbps
Link rate	19.2 kbps − 230.4kbps
Operating modes	Point-to-Point, Point-to-Multipoint, Store & Forward Repeater, Peer-to-Peer, TDMA, Multi-master
Signals interface	RxD1, TxD1, DCD, RSSI LEDs, Tx/Rx LEDS
Diagnostics	Battery Voltage, Temperature, RSSI, and remote diagnostics
Rejection	
I/O voltage (user selectable)	8 − 34 VDC; RS232 levels
Antenna connector	SMA
Environmental	-40°C - +85°C (-40°F - +185°F) 5-95% humidity, non-condensing

Note: Due to continuous process improvement, specifications are subject to change without notice.

Collaborating with QinetiQ

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Working with our partners and customers, we collaborate widely, working in partnership, listening hard and thinking through what customers need. Building trusted partnerships, we are helping customers anticipate and shape future requirements, adding value and future advantage.

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