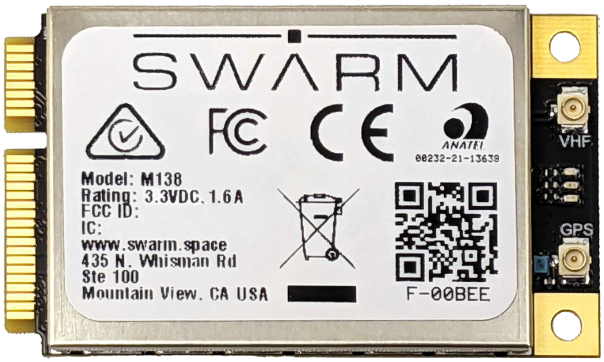
Swarm M138 Modem

KEY FEATURES

- Remote 2-way data transfer from anywhere on Earth via the Swarm satellite constellation
- mPCIe connection provides simple integration with a PCB
- Compact, lightweight, and low-power
- Wide input voltage (3.0V to 5.5V)



USE CASE WITH SWARM NETWORK

The Swarm Modem transmits and receives satellite data to and from Swarm's space network and is designed to be embedded into a third party product. Swarm backend systems can support delivery of customer data via a REST API or Webhook to/from the Swarm cloud or user email, text message, AWS, Slack, etc.

SIMPLE INTEGRATION

The Swarm Modem is easy to integrate into any new or existing PCB design. The Swarm Modem communicates via a standard 3.3V CMOS serial UART or a developer-provided PC interface with a USB-to-serial converter. The Swarm Modem also uses a standard mPCIe 30mm x 51mm form factor for easy integration and replacement.

SMALL SIZE AND MASS

The Swarm Modem is a miniaturized module suitable for a variety of low-bandwidth, latency-tolerant use cases: from connecting people, tracking vehicles, ships, and packages to relaying sensor data for agriculture, energy, and industrial IoT applications.

LOW POWER

The Swarm Modem supports a number of low-power modes which can can be triggered for wake-up via built-in timer, external GPIO, or via serial command.

COMPONENTS	GPS, VHF radio with integrated T/R switch, U.FL connector for GPS and VHF antennas, ARM Cortex-M4 processor, indicator LEDs, CMOS serial UART interface, 3.3V GPIO
SENSORS	Onboard GPS (lat/lon/alt)
DIMENSIONS	51.0 mm x 30.0 mm x 5.3 mm
MASS	9.6 grams
POWER	**Sleep mode (3.3V):** 70 µA (max) **Receive mode (3.3V):** 26 mA (typ), 40 mA (max) **Transmit mode (3.3V):** 1275 mA (typ), 1600 mA (max)
ENVIRONMENT	Operational: -40 C to +85 C Storage: -40 C to +85 C
MODULE PROTOCOL	Data sent to the Modem should be formatted into a hex-ascii string. Two-letter NMEA-like commands are sent to a 3.3V CMOS serial UART.
BIT RATE	1 kbps
FREQUENCY	137-138 MHz (downlink) 148-150 MHz (uplink)

CONTACT

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