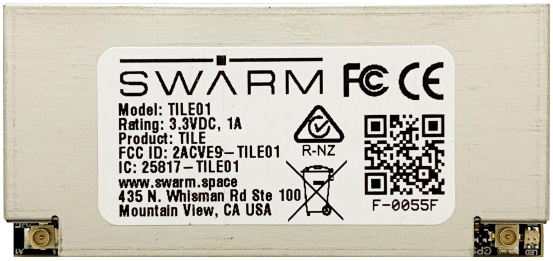
PRODUCT OVERVIEW

Swarm Tile

KEY FEATURES

+ Remote 2-way data transfer from anywhere on Earth via the Swarm satellite constellation
+ Simple integration with a PCB
+ Compact, lightweight, and low-power



USE CASE WITH SWARM NETWORK

The Swarm Tile satellite data modem transmits and receives 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 Swarm REST API to the Swarm cloud or user email, text message, AWS, Slack, etc.

SIMPLE INTEGRATION

The Swarm Tile SMT module is easy to integrate into any new or existing PCB design. The Swarm Tile communicates via a standard 3.3v CMOS serial UART or a developer-provided PC interface with a USB-to-serial converter.

SMALL SIZE AND MASS

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

SATELLITE DATA	Message transmission access will be <1 min (95% of the time).
COMPONENTS	GPS, VHF radio with integrated T/R switch, U.FL connector for GPS and VHF antenna (SMD interface also available), ARM Cortex-M4 processor, indicator LEDs, CMOS serial UART interface, 3.3V GPIO
SENSORS	Onboard GPS (lat/lon/alt), 1 Hz
DIMENSIONS	58.7 mm x 27.4 mm x 6.0 mm
MASS	14 grams
POWER	**Sleep mode (3.3V):** 22 µA (max) **Receive mode (3.3V):** 30 mA (typ), 35 mA (max) **Transmit mode (3.3V):** 888 mA (typ), 939 mA (max)
ENVIRONMENT	Operational -55 C to +130 C Survivable -220 C to +160 C
MODULE PROTOCOL	Data sent to the Tile should be formatted into a hexascii 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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