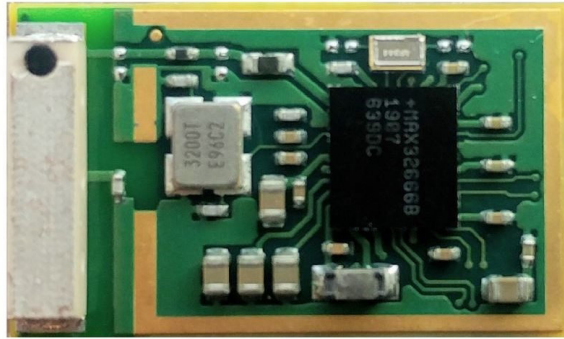




MAXBLUE DATA SHEET



Pictured: The GRBTM-ANT-01 module (with antenna) without the shield.
Not pictured: GRBTM-NANT-01 module (no antenna)

Featuring Maxim MAX32666, this Bluetooth 5 module brings advanced security functionality to short range radio applications. The MAX32666 microcontroller provides efficient computation of complex functions and algorithms with integrated power management combined with a low energy radio and high throughput.

MaxBlue Benefits

- No intentional radiator certification required
- Simple, compact, and low power consumption
- Easily integrated into any board build with USB, UART or SPI communications
- Embedded antenna for an all-in-one RF solution

General Features

Bluetooth 5 Low Energy Radio

- Up to 2Mbps data throughput
- Long Range: 125kbps - 500kbps
- Rx Sensitivity: -95dBm
- Tx Power: +4.5dBm

Microcontroller Features

- 2 x ARM M4 with FPU up to 96MHz
- Low-Power 7.3728MHz System Clock Option
- 1MB Flash, organized into Dual Banks 2 x 512KB
- 560KB (448KB ECC) SRAM; 3 x 16KB Cache
- Optional Error Correction Code (ECC-SEC-DED) for Cache, SRAM, and Internal Flash

Interfaces

The module contains multiple peripherals for system control.

- Three QSPI Master/Slave with three chips selects each
 - QSPI SPIXF with Real-Time Flash Decryption
 - QSPI SPIXR RAM interface provides SRAM expansion
- Three 4-wire UARTs



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- Three I² C Master/Slave
- USB 2.0 HS engine with internal transceiver
- PDM interface supports two digital microphones
- I² S with TDM
- 1-Wire Master
- 8-input, 10-bit Delta-Sigma ADC at 7.8ksps
- Secure digital interface supports SD3.0/SDIO3.0/eMMC4.51
- See the Maxim MAX32666 documentation for a complete list of peripherals.

Secure Valuable IP/ Data with Hardware Security

- Trust Protection Unit (TPU) with MAA Supports Fast ECDSA and Modular Arithmetic
- AES-128, -192, -256, DES, 3DES, Hardware Accelerator
- TRNG Seed Generator, SHA-2 Accelerator
- Secure Bootloader

Module Clocks

The GRBTM series comes equipped with two additional oscillators:

- 32 MHz
- 32.768 kHz

Antenna

- Onboard low-profile ceramic surface mount antenna
 - 2.4 GHz embedded loop chip antenna
 - Antenna dimensions: 8mm x 2mm x 2mm
- Available RF pad for customer-supplied antenna (pin 61)

Supported Band

- 2.4 GHz ISM band with support for worldwide power and band edge limits

Environmental Conditions

- Extended temperature range up to 105C

Power

- Supply voltage: v2.0V-3.6V, **+3.3VDC Recommended**

Approvals

- FCC - USA
- IC - Industry Canada

Contact Us



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