

PAN1762

Bluetooth® 5.0 Low Energy Module

Panasonic



[OVERVIEW]

The PAN1762 is a Bluetooth 5.0 Low Energy module based on the Toshiba TC35680 single-chip controller.

The Bluetooth 5.0 features enable a higher symbol rate of 2 Mbps using the high-speed LE 2M PHY or a significantly longer range using the LE coded PHY at 500 kb/s or 125 kb/s. The new channel selection algorithm improves the performance in environments which are busy at 2.4 GHz. Furthermore, the new LE advertising extensions allow for much larger amounts of data to be broadcast in connectionless scenarios and are therefore favorable for beacon applications.

A high output power of up to 8 dBm and the industry leading sensitivity of the TC35680 in combination with the LE coded PHY make the module very attractive in applications, where a long range is required.

In addition the ultra-low current consumption of the PAN1762 makes the module an ideal choice for battery powered devices. Additionally, various sleep modes can be used to minimize power consumption and prolong battery life time.

To provide maximum flexibility, the module can be operated in hosted as well as standalone mode. With the build-in 128 kB flash memory the PAN1762 can easily be used in standalone mode, thereby eliminating the need for an external processor, saving complexity, space, and cost.

The older versions PAN1760, PAN1760A, PAN1761, and PAN1026 share the same small form factor and footprint. Furthermore, only minor code changes are required, when migrating from PAN1760A or PAN1760. Previously developed software, such as Bluetooth Low Energy profiles and applications, can be easily migrated with a minimal effort.

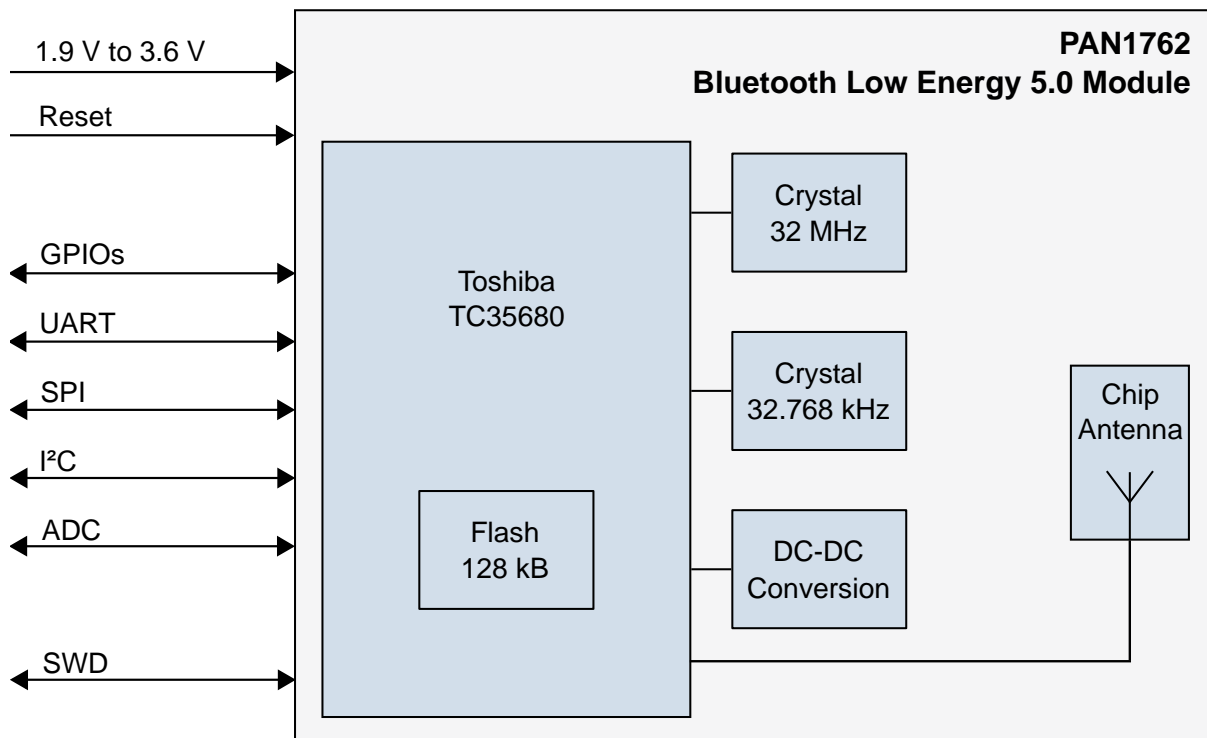
FCC, IC, MIC, and CE approval are available.

[FEATURES]

- Surface mount type dimensions: 15.6 mm x 8.7 mm x 1.9 mm
- Host mode or standalone mode
- AT command mode (peripheral role only)
- 18 General Purpose I/Os, which are shared by 2 SPI, 2 I²C, 2 UART, 4 PWM, 5 ADC and wake-up inputs
- Toshiba TC35680 featuring ARM® Cortex®-M0 (selectable 16 MHz or 32 MHz operation frequency) with SWD interface
- Bluetooth stack in ROM – 128 kB flash memory available for application
- Max. 51 kB RAM for application code and ROM patches

WIRELESS MODULES
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[BLOCK DIAGRAM]



[BLUETOOTH]

- 2 Mbps high-speed PHY, LE long range coded PHY
- LE advertising extensions (advertising on 40 channels total)
- Channel selection algorithm #2
- LE secure connections
- Over-the-air update of application software
- Advertising function without CPU wake-up and interaction

[TECHNICAL CHARACTERISTICS]

- Typical sensitivity -95 dBm @ 1 Mb/s and -105 dBm @ 125 kb/s
- Typical max. output power 8 dBm
- Typical current consumption of 11 mA in TX (@ 8 dBm) and 5.1 mA in RX mode
- Voltage range: 1.9 V to 3.6 V
- Temperature range: -40 °C to 85 °C