

PAN1762

Bluetooth 5.0

Low Energy Module

Panasonic



OVERVIEW

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

The new Bluetooth 5.0 features enable a higher symbol rate of 2 Mbps using the high-speed 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 operate 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 and mesh applications.

A high output power of up to 8 dBm (target value) 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 stand-alone mode. With the build-in 128 kB flash memory the PAN1762 can easily be used in user-app 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.

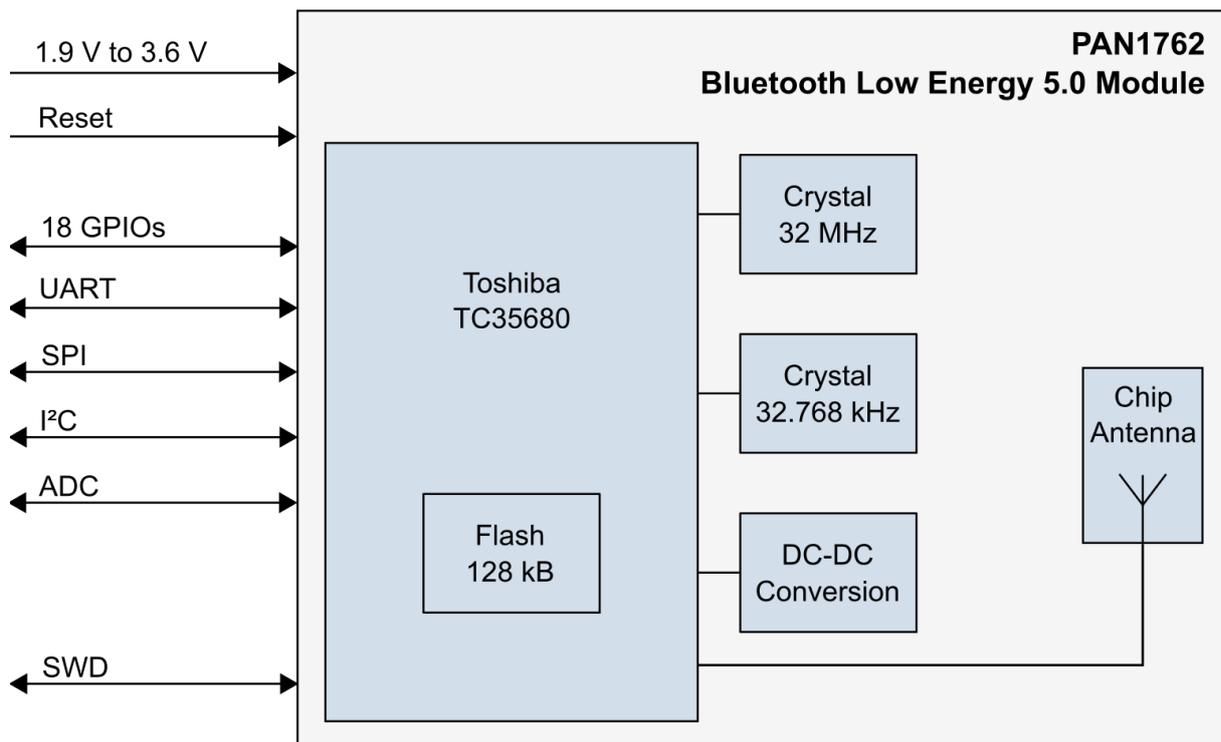
FCC, IC, and CE approval are in preparation.

FEATURES

- Surface mount type dimensions: 15.6 mm x 8.7 mm x 1.9 mm
- Host mode, AT command mode or stand-alone operation mode
- 18 General Purpose IOs
- 2·SPI, 2·I²C, UART, PWM, Wake-up inputs, general purpose ADC
- Toshiba TC35680 featuring ARM[®] Cortex[®]-M0 (selectable 16 MHz or 32 MHz operation frequency) with SWD interface
- 128 kB flash memory and 128 kB internal RAM for application code and data patches
- Bluetooth stack in ROM, flash memory available for application

WIRELESS MODULES
Panasonic Industrial Devices Europe GmbH

BLOCK DIAGRAM



BLUETOOTH

- 2Mbps 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 system software
- Advertising function without CPU wake-up and interaction
- Bluetooth SIG certified Mesh stack

TECHNICAL CHARACTERISTICS

- Target sensitivity -94 dBm @ 1 Mb/s and -105 dBm @ 125 kb/s
- Target max. output power 8 dBm
- Target 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