

# PAN1026A

## Bluetooth Basic Data Rate and Low Energy Module

**Panasonic**



### [OVERVIEW]

The PAN1026A is based on Toshiba's single-chip TC35661 Bluetooth semiconductor device with an embedded Toshiba Bluetooth SIG certified stack. The PAN1026A is a highly-integrated Dual Mode Bluetooth controller that delivers high-speed operation at ultra-low power consumption. An embedded SPP (Serial Port Profile of Bluetooth Classic) and a GATT (Generic Attribute Profile of Bluetooth LE) stack are integrated. The module significantly reduces external component count and power consumption in applications requiring support of Bluetooth 4.2 standards. EDR (Enhanced Data Rate) or Central mode are not supported. Details about iAP integration can be provided on request. The integrated EEPROM has a Panasonic MAC address and it can be used to store link keys.

The module allows for serving both legacy Bluetooth Classic and Bluetooth Low Energy connections with rapid connection and disconnection, needed by a wide range of applications, all at a small form factor. Compared to the PAN1026, the PAN1026A has additional features for secure connections via Bluetooth LE, and it is fully backwards compatible. Next to increased low energy transfer speed, transmission power can also be controlled.

The PAN1026A module is manufactured in a small 15.6 mm x 8.7 mm x 1.9 mm SMD package with a shielded case and it is qualified according to the Bluetooth 2.1 and 4.2 standards.

### [FEATURES]

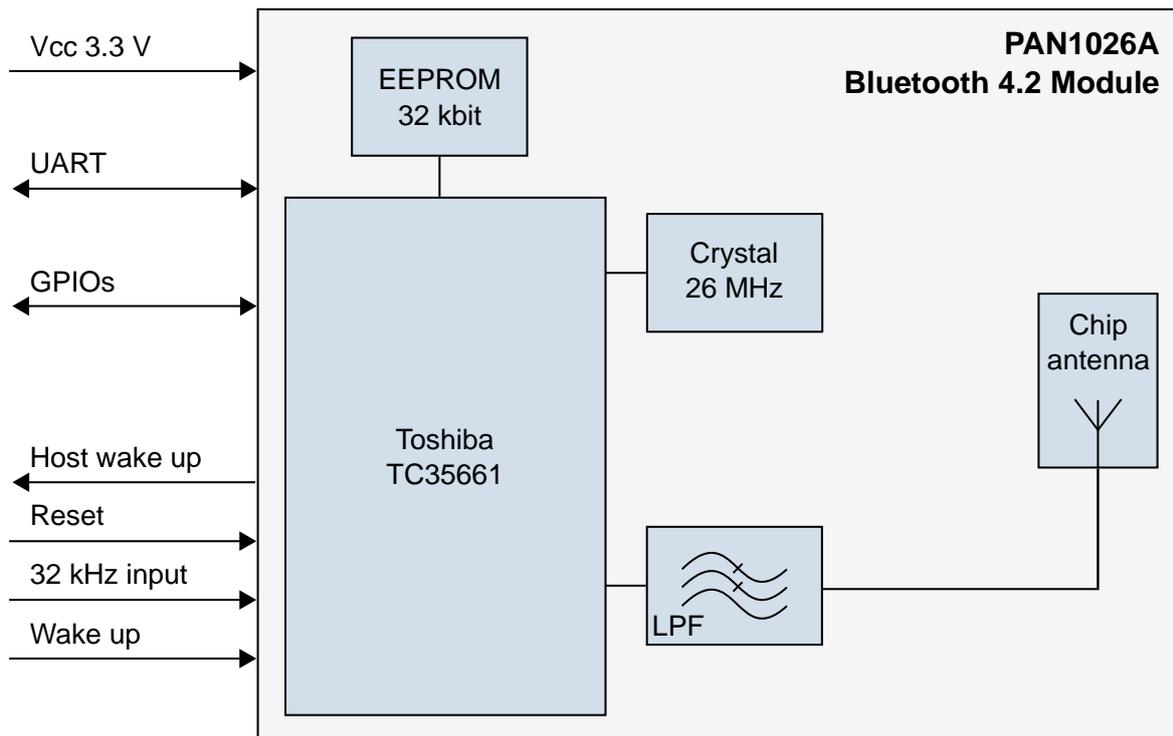
- Small 15.6 mm x 8.7 mm x 1.9 mm SMD module
- Bluetooth 4.2 Basic Data Rate (BR) and Low Energy (LE)
- Embedded SPP profile
- High-level API commands
- Bluetooth 4.2 (LE) embedded GATT profile with high-level API commands, compatible with Toshiba reference BLE profiles
- Integrated high speed crystal oscillator (26 MHz)
- Interfaces: UART, GPIO (10 input/output pins), wake-up control pins

### [BLUETOOTH]

- Basic Data Rate SPP support
- GAP Peripheral and Broadcast support for LE
- GATT Server and Client mode support for LE
- GAP Central and Observer not supported for LE

WIRELESS MODULES  
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## [BLOCK DIAGRAM]



## [NEW FEATURES]

- Increased (2.5 x) BLE data transfer rates through extended MTU size (64 bytes to 160 bytes)
- More complex BLE profiles possible through extended GATT functionality
- Data base pool, number of services and characteristics, data flow control
- Fast SPP classic connection/disconnection times
- Interlaced inquiry/page scan and extended inquiry response
- Transmission (Tx) power control
- Improved PER (packet error rate) for BLE traffic
- Integration of BT 4.2 secure connecting feature implementing ECDH technology

## [CHARACTERISTICS]

- Receiver sensitivity -88 dBm typ.
- Output power 4 dBm maximum setting
- Power supply 2.7 V to 3.6 V +/-10 % single operation voltage
- 46 mA peak Tx power consumption
- Operating temperature range -40 °C to +85 °C