

BlueFan BT680F, Bluetooth 5 Module

Automobile Temperature, AT Commands, Bluetooth Range to 900 Meters



Features

BlueFan BT680 Series modules use Toshiba SoCs. With an integrated PCB trace antenna or an u.FL connector for external antenna, FCC, and other certifications, it allows faster time to market with reduced development cost.

Easy Prototyping and production

Module has Castellated and LGA (Land Grid Array) hybrid pins. It can be soldered by hand during prototyping and a precision SMT line is not required for production if the 16 castellated pins are enough for your products. When required, additional GPIOs can be accessed by LGA pins.

Model Variants

- BT680F: Bluetooth 5 module, CODED PHY for range up to 900 meters.
- BT680T: automobile temperature range (-40°C to +125°C), needs an external serial EEPROM.
- BT680FAT is preloaded with AT command codes. For legacy products, BT680FAT is an ideal module for long range and Bluetooth 5 feature upgrade.
- BT680E with an u.FL connector for external antenna

Specifications

- Toshiba TC35680 SoCs, 32 MHz, Cortex M0 processor
- Bluetooth RF analog core, baseband digital core
- Transmitter power up to +10 dBm;
- Receiver sensitivity: up to -96.5 dBm at 1Mbps
- Receiver sensitivity: up to -107 dBm at 125 Kbps
- 2Mbps, 1Mbps, and 125Kbps data Rates
- Bluetooth Low Energy (BLE) V5 GATT profile with OTA (Over The Air) support.
- BLE 5 mesh stacks
- Secure connection
- Up to 17 GPIOs to be configured by firmware:
 - SPI interface

- I²C interface
- UART interface, 9600bps to 921.6 Kbps
- Up to 2 wake up interfaces
- Up to 6 ADC channels (1 for internal monitoring of VDD).
- Up to 4 PWM channels
- On board 32 MHz main clock
- External 32.768 kHz sleep clock
- Operation voltage: 1.8V-3.6V
- Peak current consumption, 11 mA.
- deep sleep mode <0.1uA
- Operation Temperature: -40°C to +125°C available
- Size: 15x20.8x1.9mm
- Hybrid pins: 16 Castellated and 24 LGA pins.
- Integrated shield to resist EMI

Certifications

- FCC ID:
- Industrial Canada ID:
- CE:
- QDID:

Applications

- Wearable
- Access Points
- Industrial Control
- Medical
- Scanners
- iOS and Android devices
- Wireless sensors
- Cable replacement
- Instrumentation
- Automobile
- Sports
- Proximity



Ordering Information:

Part Number	BT680F	BT680FAT	BT680T	BT680E
Bluetooth version	5	5	5	5
MCU	Cortex M0 at 32 MHz	Cortex M0 at 32 MHz	Cortex M0 at 32 MHz	Cortex M0 at 32 MHz
Memory ROM/RAM/flash	240KB/144KB/128KB	240KB/144KB/128KB	240KB/144KB/0KB	240KB/144KB/128KB
Preloaded firmware		AT Commands		
Antenna	PCB Trace	PCB Trace	PCB Trace	u.FL for External
Bluetooth range at 1Mbps	450 meters.est.	450 meters.est.	450 meters.est.	
Bluetooth range at 125 Kbps	900 meters, est.	900 meters, est.	900 meters, est.	
Operation temperature	-40°C to +85°C	-40°C to +85°C	-40°C to +125°C	-40°C to +85°C
Evaluation board	EV-BT680F	EV-BT680F	EV-BT680T	EV-BT680E
Price at 1K pcs				