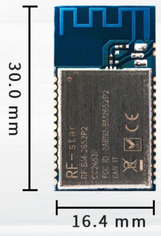
CC2652P RF Module

RF-BM-2652P2 is an RF module based on TI lower-power CC2652P SoC, which is a multiprotocol 2.4 GHz wireless module supporting Thread, Zigbee®, Bluetooth® 5.1 Low Energy, IEEE 802.15.4, IPv6-enabled smart objects(6LoWPAN), proprietary systems, including the TI 15.4-Stack (2.4 GHz), and concurrent multiprotocol through a Dynamic Multiprotocol Manager (DMM) driver. It integrates a 48 MHz crystal and a 32.768 kHz crystal, 352 KB of in-system Programmable Flash, 256 KB ROM, 8 KB of Cache SRAM, 80 KB of ultra-low leakage SRAM. Its ARM®Cortex®-M4F core application processor can operate at an extremely low current at flexible power modes. And the module enables long-range and low-power applications using integrated +20 dBm high-power amplifier with best-in-class transmit current consumption at 85 mA. It features small size, robust connection distance, and rigid reliability. RF-BM-2652P2 integrates three kind of antenna output modes: PCB, IPEX connector and half-hole interface,which make the module more convenient for application and development.



Chipset	CC2652P
Supply Power Voltage	1.8 V ~ 3.8 V, 3.3 V is recommended
Frequency	2402 MHz ~ 2480 MHz
Maximum Transmit Power	+20.0 dBm
Receiving Sensitivity	-100 dBm @ 802.15.4 (2.4 GHz) -105 dBm @ Bluetooth 125 kbps (LE Coded PHY)
GPIO	23
Power Consumption	RX current: 6.9 mA TX current: 7.3 mA @ 0 dBm 9.6 mA @ 5 dBm 22 mA @ 10 dBm 85 mA @ dBm MCU 48 MHz (CoreMark):3.4 mA (71 μA/MHz) Sensor Controller：30.1 μA @ Low Power-Mode, 2 MHz, running infinite loop 808 μA @ Active-Mode, 24 MHz, running infinite loop Standby: 0.94 μA Shutdown: 150 nA
Support Protocol	Bluetooth 5.1 Low Energy, ZigBee, Thread, IEEE 802.15.4, 6LoWPAN
Crystal	48 MHz, 32.768 kHz
Package	SMT packaging (Half hole)
Communication Interface	UART, SPI, I²C, I²S
Dimension	30.0 mm × 16.4 mm × (2.2 ± 0.1) mm
Type of Antenna	PCB antenna, IPEX connector antenna, half-hole antenna interface
Operating Temperature	-40 ℃ ~ +85 ℃
Storage Temperature	-40 ℃ ~ +125 ℃

Pin	Name	Chip Pin	Function	Description
1	DIO5	DIO5	GPIO	GPIO, Sensor Controller, high-drive capability
2	DIO6	DIO6	GPIO	GPIO, Sensor Controller, high-drive capability
3	DIO7	DIO7	GPIO	GPIO, Sensor Controller, high-drive capability
4	DIO8	DIO8	GPIO	GPIO
5	DIO9	DIO9	GPIO	GPIO
6	DIO10	DIO10	GPIO	GPIO
7	DIO11	DIO11	GPIO	GPIO
8	DIO12	DIO12	GPIO	GPIO
9	DIO13	DIO13	GPIO	GPIO
10	RES	RESET_N	RES	Reset, active low. No internal pullup resistor.
11	JTAG_TMSC	TMSC	JTAG_TMSC	JTAG TMSC, high-drive capability
12	JTAG_TCKC	TCKC	JTAG_TCKC	JTAG TCKC
13	VCC	EXT_3V3	VCC	Power supply: 1.8 V ~ 3.8 V, 3.3 V re recommended.
14	GND	GND	GND	Ground
15	DIO14	DIO14	GPIO	GPIO
16	DIO15	DIO15	GPIO	GPIO
17	DIO16	DIO16	GPIO	GPIO, JTAG_TDO, high-drive capability
18	DIO17	DIO17	GPIO	GPIO, JTAG_TDI, high-drive capability
19	DIO18	DIO18	GPIO	GPIO
20	DIO19	DIO19	GPIO	GPIO
21	DIO20	DIO20	GPIO	GPIO
22	DIO21	DIO21	GPIO	GPIO
23	DIO22	DIO22	GPIO	GPIO
24	DIO23	DIO23	GPIO or Analog	GPIO, analog capability
25	DIO24	DIO24	GPIO or Analog	GPIO, analog capability
26	DIO25	DIO25	GPIO or Analog	GPIO, analog capability
27	DIO26	DIO26	GPIO or Analog	GPIO, analog capability
28	DIO27	DIO27	GPIO or Analog	GPIO, analog capability
29	GND	GND	-	Ground
30	ANT	-	ANT	Antenna