

# **KBMB360171IC User Manual**

## **1、Summary of functions**

The KBMB360171IC is designed to offer high integration, ultra-low power application capabilities. It integrates strong 32-bit MCU, BLE/2.4G Radio, 16KB SRAM, 512KB external FLASH (TLSR8266) or 512KB internal Flash (TLSR8266F512), 14bit ADC with PGA, 6-channel PWM, three quadrature decoders, a hardware keyboard scanner (Keyscan), abundant GPIO interfaces, multi-stage power management module and nearly all the peripherals needed for Bluetooth Low Energy applications development.

## **2、Technical parameters**

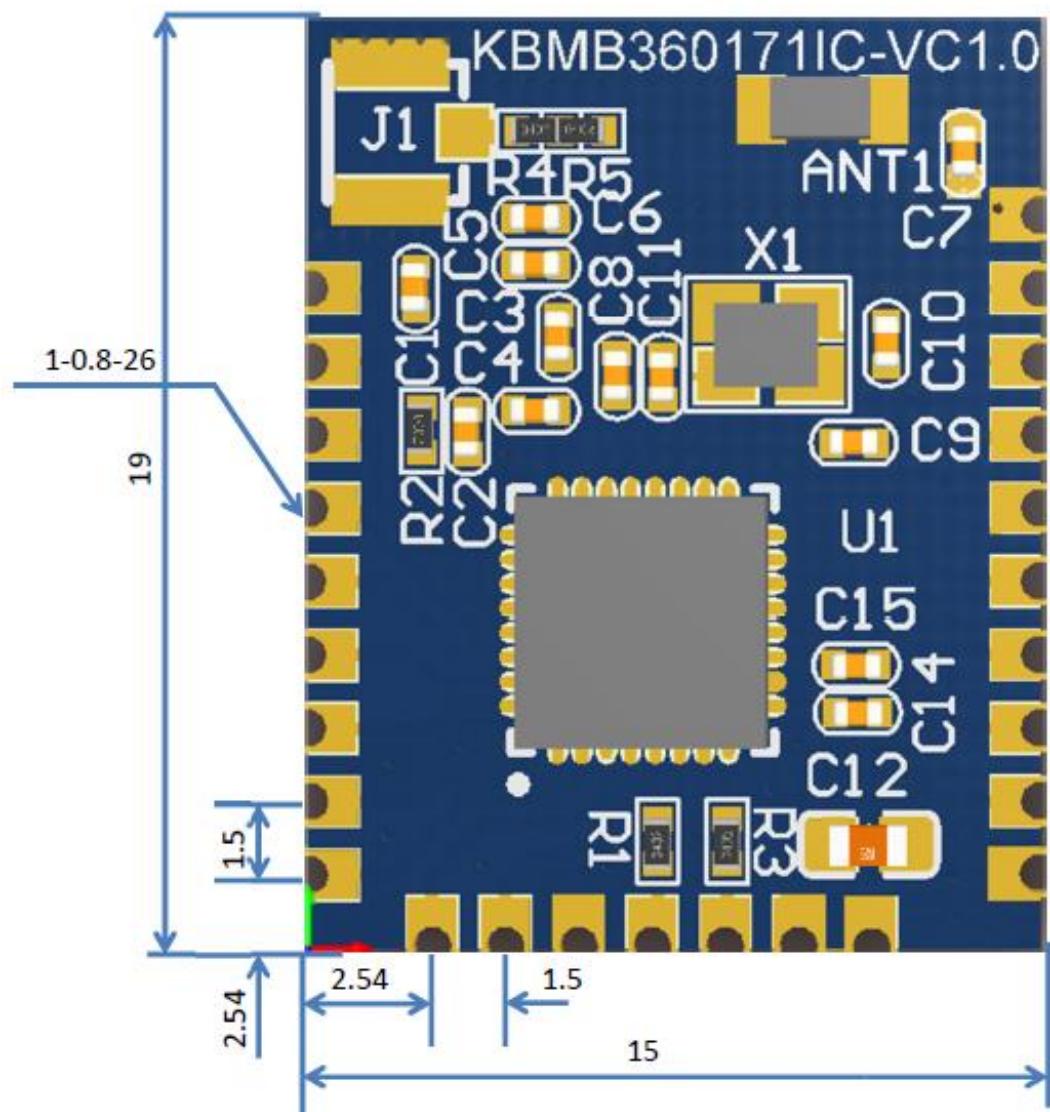
RF features include

- 1) BLE/2.4GHz RF transceiver embedded, working in worldwide 2.4GHz ISM band.
- 2) Bluetooth 4.0 Compliant, 1Mbps and 2.4GHz 2Mbps Boost Mode.
- 3) -92dBm BT4.0 Rx Sensitivity.
- 4) RF link data rate up to 2Mbps.
- 5) Tx output power: +7dBm.
- 6) Single-pin antenna interface.
- 7) RSSI monitoring

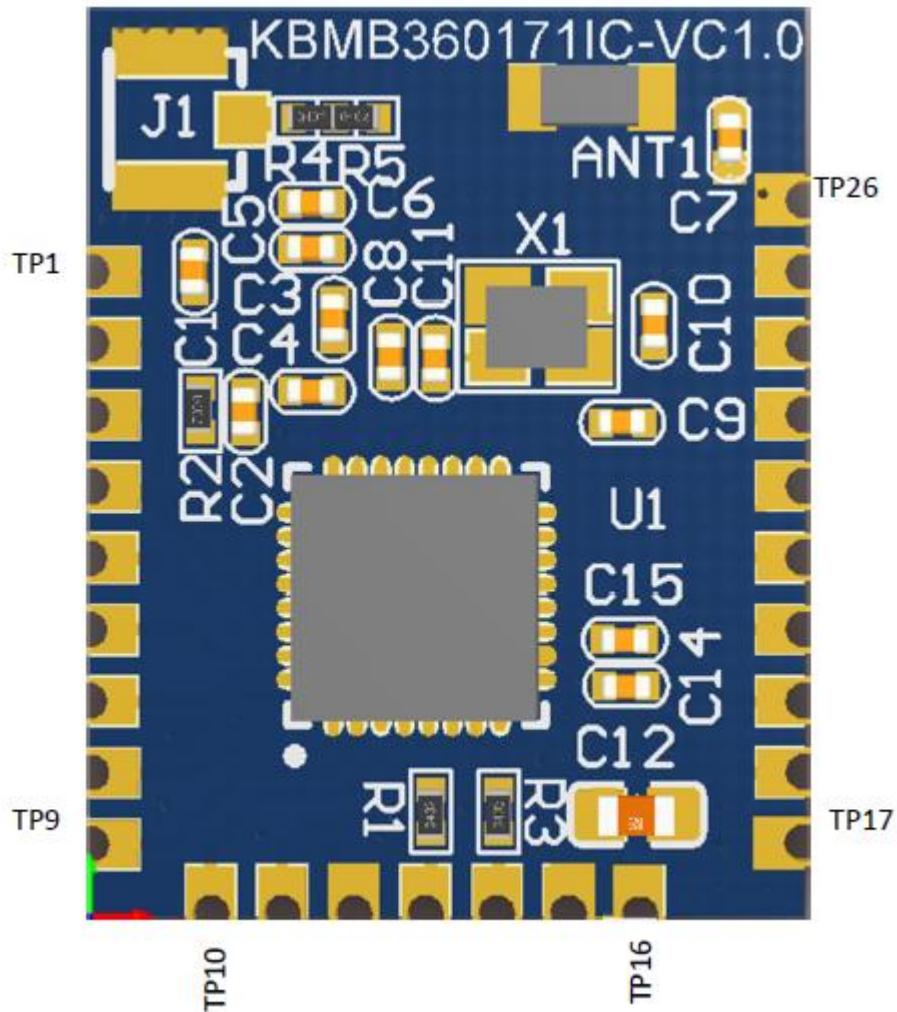
Features of power management module include:

- 1) Embedded LDO.
- 2) Battery monitor: Supports low battery detection.
- 3) Chip power supply: 1.9V~3.6V (with external flash), 2.7V~3.6V (with internal flash)
- 4) Multiple stage power management to minimize power consumption.
- 5) Low power consumption:
  - ② Receiver mode current: 13mA
  - ② Transmitter mode current: 13mA @ 0dBm power, 19mA @ max power
  - ② Suspend mode current: 20uA (IO wakeup)/22uA (Timer wakeup)
  - ② Deep sleep mode current: 0.7uA

### 3、 Outline Dimension (mm)



#### 4、Pin configuration



脚序	功能	脚序	功能
TP1	RESET	TP14	DP/B<6>
TP2	G16/SDM_P/E<4>	TP15	VCC(3-3.3V)
TP3	GP17/SDM_N/E<5>	TP16	VCC(3-3.3V)
TP4	CN/uart_rts/E<6>	TP17	GND
TP5	DI/I2C_SDA/E<7>	TP18	P0/C<0>/ABIS
TP6	D0/uart_cts/F<0>	TP19	G1/P1N/C<1>/AIN
TP7	CK/I2C_SCL/E<1>	TP20	P1N/C<2>
TP8	SWS/A<0>	TP21	P2/C<4>
TP9	P3/A<1>	TP22	G4/uart_tx/C<6>
TP10	P4/A<5>	TP23	G5/uart_rx/C<7>
TP11	P5/B<0>	TP24	GP0/D<4>
TP12	GND	TP25	G11/D<5>
TP13	DM/B<5>	TP26	GND

## FCC Statement

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
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- Consult the dealer or an experienced radio/TV technician for help important announcement

Important Note:

## Radiation Exposure Statement

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

### Important Note:

In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

Any company of the host device which install this modular with limit modular approval should perform the test of radiated emission and spurious emission according to FCC part 15C:15.247 and 15.209 requirement, only if the test result comply with FCC part 15.247 and 15.209 requirement, then the host can be sold legally.

## **End Product Labeling**

If the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: Contains Transmitter Module FCC ID: 2ANG4-360171IC.

## **Manual Information to the End User**

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.

The end user manual shall include all required regulatory information/warning as show in this manual.

The modular is not intended to be fielded serviceable as without shielding, host manufacturer must be considered shielding when integrating a module.

When the module is installed inside another device, the user manual of this device must contain below warning statements;

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
  - (1) This device may not cause harmful interference.
  - (2) This device must accept any interference received, including interference that may cause undesired operation.
2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The devices must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product.