

Wi-SUN module for FAN

BP35C5-T01 Evaluation Board

Version 1.0.0

Overview

This document describes the specifications of the Wi-SUN module Evaluation board BP35C5-T01.



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1. Absolute Max. Rating

| No. | Item | Symbol | Rating | Unit | Remarks |
|-----|-----------------------------|------------------|-----------------|------|---------|
| 1 | Power supply Voltage | VDD | -0.3 to +3.9 | V | DC |
| 2 | Digital input voltage | V _{DIN} | -0.3 to VDD+0.3 | V | |
| 3 | Digital output voltage | V _{DO} | -0.3 to VDD+0.3 | V | |
| 4 | Digital output current | I _{DO} | -8 to +8 | mA | |
| 5 | RF input power | PIN | 0 | dBm | |
| 6 | Operating temperature range | T _{opr} | -30 to +85 | °C | |
| 7 | Storage temperature range | T _{stg} | -30 to +85 | °C | |

(Note) The absolute maximum ratings represent values that shall not be exceeded for even an instant on all operating or testing conditions. Design systems with a margin for the ratings listed above.

2. Recommend Operating Conditions

| No. | Item | Symbol | Specifications | | | Unit | Remarks |
|-----|-----------------------|--------|----------------|------|------|------|---------|
| | | | MIN. | TYP. | MAX. | | |
| 1 | Power supply Voltage | VDD | 2.6 | 3.3 | 3.6 | V | |
| 2 | Operating Temperature | Ta | -30 | +25 | +85 | °C | |

3. Main Performance

| Item | Contents |
|-----------------------|--|
| Radio standards | ARIB STD-T108, FCC Part15 Compliant |
| Radio frequency | •ARIB STD-T108 : 920.6MHz~928MHz •FCC Part15 : 902.2MHz~927.8MHz |
| Modulation scheme | Binary GFSK |
| Data rate | •ARIB STD-T108 : 50kbps, 100kbps, 150kbps, 300kbps •FCC Part15 : 50kbps, 150kbps, 300kbps |
| Transmission Power | 20mW |
| Reception sensitivity | -95dBm (Typ.) (150 kbps, BER<0.1 %) BP35C5 Antenna terminal end |
| Frequency deviation | Below ± 20 ppm |
| HOST interface | UART(115,200 bps) , GPIO |

4. Terminal Table

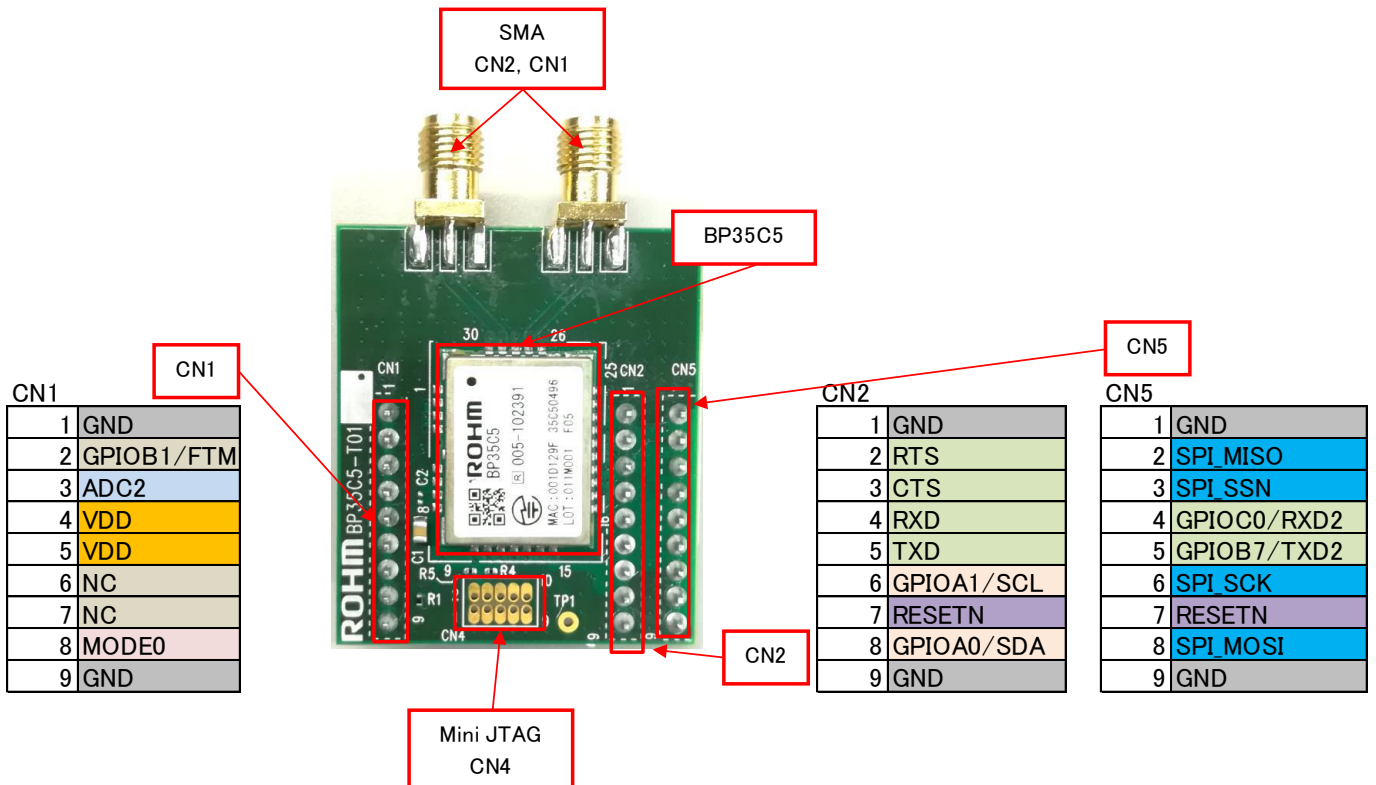


Figure 1 BP35C5-T01 Terminal position

* Antenna connector is SMA Female type.

Table 1. Module Terminal instruction table (CN1)

| No. | Pin | I/O | Features | Remarks |
|-----|------------|-----|-----------------------|-----------------------------|
| 1 | GND | - | GND | - |
| 2 | GPIOB1/FTM | I | Reserve | OPEN |
| 3 | ADC2 | I | Reserve | OPEN |
| 4 | VDD | - | Power supply terminal | - |
| 5 | | | | |
| 6 | NC | - | Non connect | OPEN |
| 7 | NC | - | Non connect | OPEN |
| 8 | MODE0 | I | Mode | Pull down on BP35C5-T01 PCB |
| 9 | GND | - | GND | - |

* I/O definition I: Digital input terminal, O: Digital output terminal

Table 2. Module Terminal Description Table (CN2)

| No. | Pin | I/O | Features | Remarks |
|-----|------------|-----|-----------------------|---------------------|
| 1 | GND | - | GND | - |
| 2 | RTS | O | Reserve (*1) | OPEN |
| | | | UART_RTS (*2) | - |
| 3 | CTS | I | Reserve (*1) | OPEN |
| | | | UART_CTS (*2) | - |
| 4 | RXD | I | UART_RXD | - |
| 5 | TXD | O | UART_TXD | - |
| 6 | GPIOA1/SCL | O | Status indicator (*3) | OPEN or LED etc. |
| 7 | RESETN | I | Power-ON Reset/Reset | RESET: L, Normal: H |
| 8 | GPIOA0/SDA | I/O | Reserve | OPEN |
| 9 | GND | - | GND | - |

*I/O definition I: Digital input terminal, O: Digital output terminal

(*1) When HW flow control is disabled (Default)

(*2) When HW flow control is enabled

(*3) When status indicator is enabled (Default) : Broad cast transmitting : High output

Table 3. Module Terminal instruction table (CN5)

| No. | Pin | I/O | Features | Remarks |
|-----|-------------|-----|----------------------|---------------------|
| 1 | GND | - | GND | - |
| 2 | SPI_MISO | I/O | Reserve | OPEN |
| 3 | SPI_SSN | I/O | Reserve | OPEN |
| 4 | GPIOC0/RXD2 | I/O | Reserve | OPEN |
| 5 | GPIOB7/TXD2 | I/O | Reserve | OPEN |
| 6 | SPI_SCK | I/O | Reserve | OPEN |
| 7 | RESETN | I | Power-ON Reset/Reset | RESET: L, Normal: H |
| 8 | SPI_MOSI | I/O | Reserve | OPEN |
| 9 | GND | - | GND | - |

*I/O definition I: Digital input terminal, O: Digital output terminal

5. Circuit Diagram

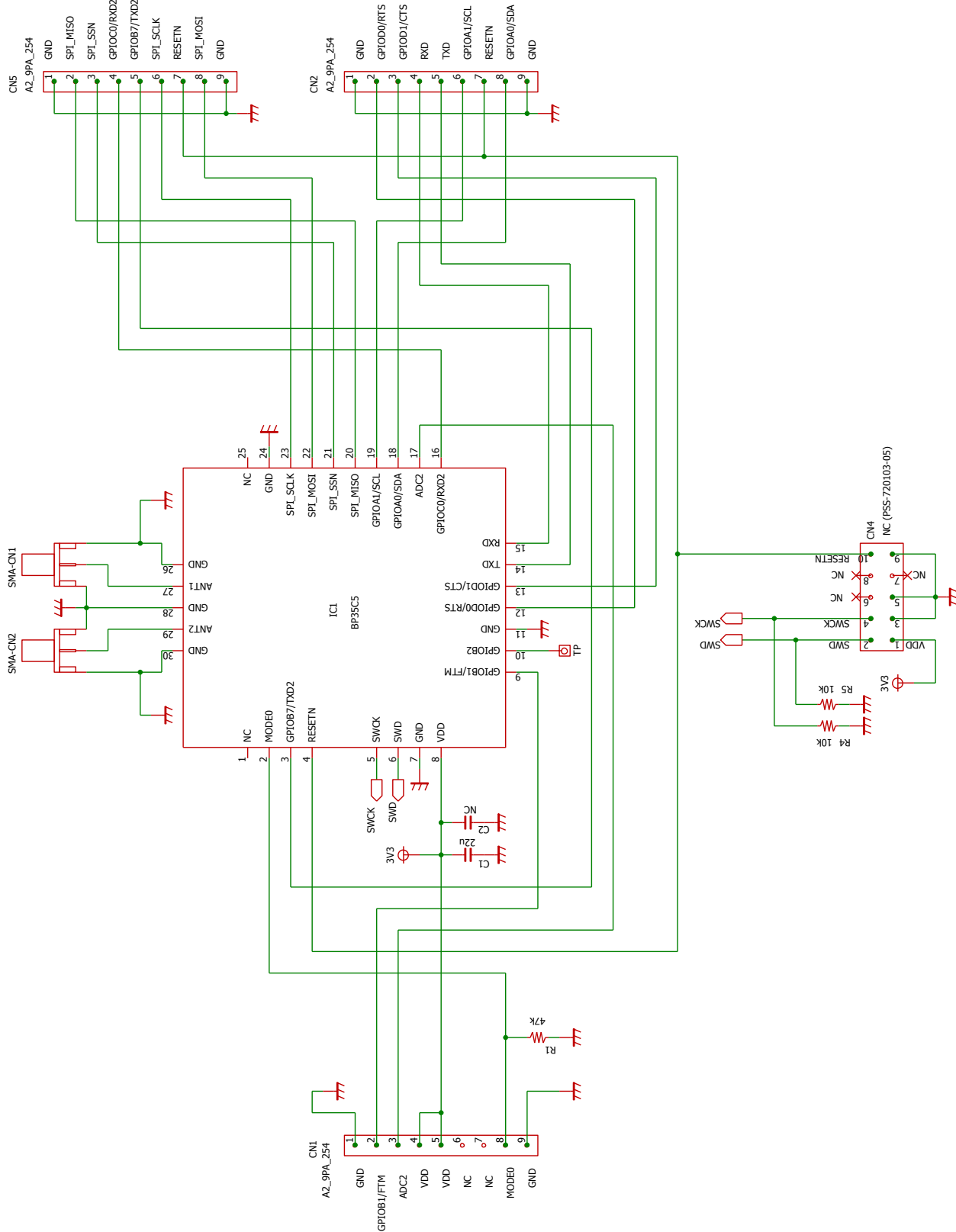


Figure 2 BP35C5-T01 Circuit configuration

6. External Dimensions

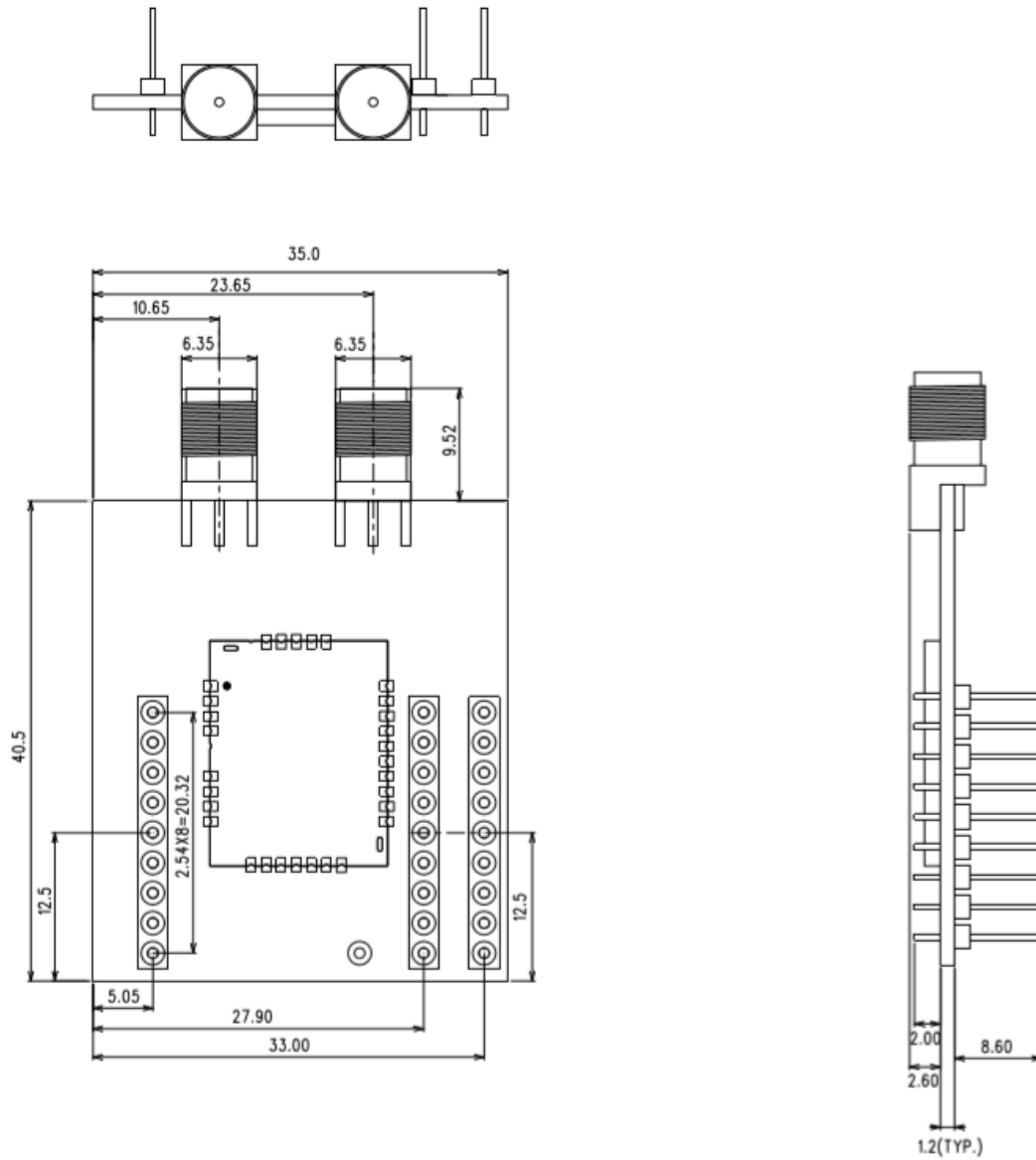


Figure 3 External dimensions

(*) Figures are all reference values.

(*) The board specifications and label specifications of this product may change due to manufacturing lots.

7. Precautions of Use

- (1) The soldering part of the module which is implemented in this product is assumed that there is no solder fillet.
- (2) This product is a technical evaluation board for wireless modules. Please note that the specifications are not intended to be incorporated into the product. If you use it in your product, please use a compatible wireless module.

8. Revision History

| Ver. | Date | Contents |
|-------|-----------|-----------------|
| 1.0.0 | 2020/6/11 | Initial version |
| | | |
| | | |
| | | |

Notes

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