LORA Transceiver Module
HM-6601 Datasheet

1. Overview

HM-6601 is a low-power SoC module integrating an ARM Cortex-M4 processor and RF transceiver with low power consumption, high sensitivity, long-distance communication, cost-effective, and other advantages, while providing rich peripheral functions, including multiple GPIOs, 32.768 KHz external crystal, channel detecting, high-precision RSSI, and 12-bit high-speed ADCs and DACs.

2. Features

- Super anti-interference ability, suitable for the complex interference scenarios
- Working Voltage: 1.7V - 3.7V
- Working Frequency: 433.92 MHz, 470 MHz, 868 MHz, 915 MHz
- Receiving Sensitivity: -138 dBm @SF=12, BW=125KHz
- Tx Current: 108mA @+22dbm, 433.92 MHz
- Rx Current: 10mA @433.92 MHz

3. Applications

- Smart meters
- Building automation
- Remote control applications
- Safety and security sensors
- Smart parking
- Smart cities

- Environmental monitoring
- Supply chain and logistics tracking

4. Pin Diagram

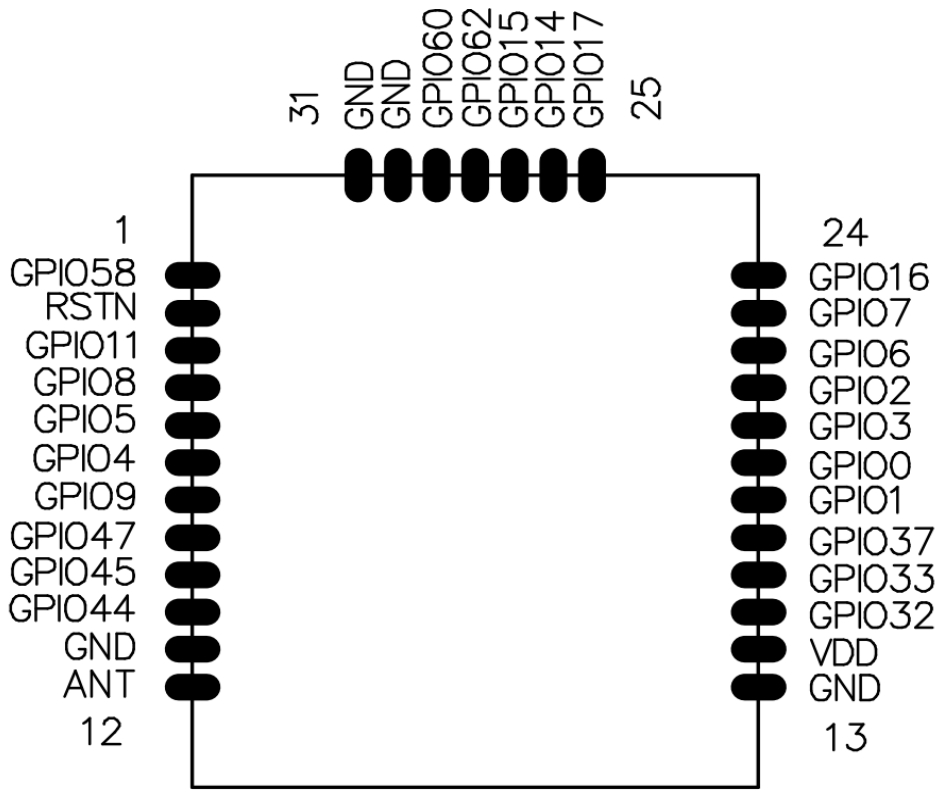

Figure 1. Pin Diagram Top View

Table 1. HM-6601 Module Pin Description

Pin	Name	Description
1	GPIO58	MCU GPIO
2	RSTN	Reset. Active low. The recommended reset circuit is shown in the Figure 2.
3	**GPIO11**	**MCU GPIO （Used in OTA mode ）**
4	GPIO08	MCU GPIO
5	GPIO05	MCU GPIO
6	GPIO04	MCU GPIO
7	GPIO09	MCU GPIO
8	GPIO47	MCU GPIO
9	GPIO45	MCU GPIO
10	GPIO44	MCU GPIO
11,13,30,31	GND	Ground
12	ANT	Antenna port
14	VCC	Power supply
15	GPIO32	MCU GPIO
16	GPIO33	MCU GPIO
17	GPIO37	MCU GPIO
18	GPIO1	MCU GPIO
19	GPIO0	MCU GPIO
20	GPIO3	MCU GPIO
21	GPIO2	MCU GPIO
22	GPIO6	SWD DATA
23	GPIO7	SWD CLK
24	**GPIO16**	**MCU GPIO (UART_RXD)**
25	**GPIO17**	**MCU GPIO (UART_TXD)**
26	**GPIO14**	**MCU GPIO (Used in intermittent mode)**
27	GPIO15	MCU GPIO
28	GPIO62	MCU GPIO
29	GPIO60	MCU GPIO

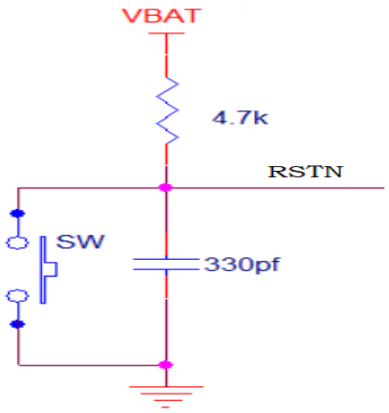

Figure 2. Recommended RSTN circuit

If an external large capacitor is connected on the RSTN pin, the VBAT voltage will rise slowly, which will cause unnecessary risks to the system (For example, the Flash memory might be erased unintentionally).

5. Electrical Characteristics

Testing Conditions: 3.3V @ 25℃

Table 2. Electrical Characteristics

Parameters	Symbol	Conditions	Min.	Typ.	Max.	Unit
Frequency	Fc	HM-6601-433S2		433.92		MHz
		HM-6601-470S2		470		MHz
		HM-6601-868S2		868		MHz
		HM-6601-915S2		915		MHz
Receiving Sensitivity	S	LORA: SF=12, BW=125KHz		-138		dBm
Working Voltage	V_{DD}		1.7	3.3	3.7	V
Rx Current	I_{RX}	433.92 MHz		10	11	mA
		470 MHz		10	11	mA
		868 MHz		10	11	mA
		915 MHz		10	11	mA
Tx Current	I_{TX}	433.92 MHz @+22dbm		108	120	mA
		470 MHz @+22dbm		108	120	mA
		868 MHz @+22dbm		120	135	mA
		915 MHz @+22dbm		120	135	mA
Sleep Current	I_{sleep}	Without RF and RTC		1.3	2	uA
Operating Temperature	T_{OP}		-40		+85	℃

6. Dimension (Unit: mm)

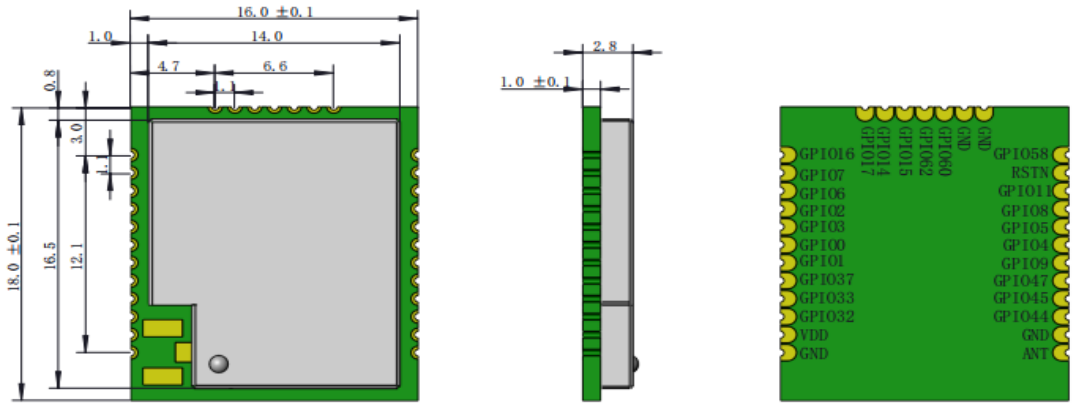

Figure 3. Module Dimension

7. Ordering Information

Model	Frequency
HM-6601-433S2	433.92MHz
HM-6601-470S2	470MHz
HM-6601-868S2	868MHz
HM-6601-915S2	915MHz

8. Contact Information

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