

WSG300S Sigfox Verified Module (RC2/4)

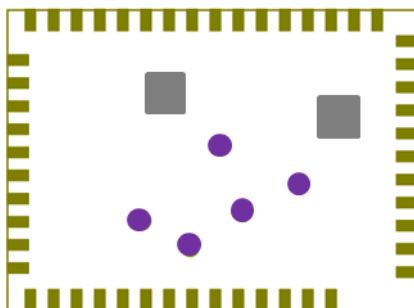
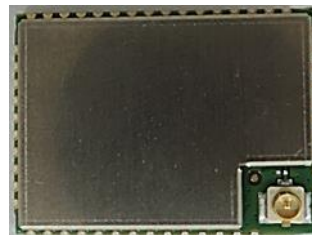
RF Output Power Up To +22dBm (Sigfox)

WSG300S RC24 is a Sigfox modem module for the low power wide area network (LPWAN) market. It is designed with STM's system S2-LP+STM MCU+Sky66421 for the US or other FCC-like market (FCC Part 15.247). The module was designed for high performance, high quality, low cost, small form factor and most importantly, high RF power of up to 22dBm. The design is fully compliant to FCC regulations. The Sigfox application is running on STM32 MCU at high efficiency using its internal 32bit core Cortex-M0 processor. Every module is preloaded with Sigfox application software, module specific ID/KEY/PAC as referring to Sigfox network system. The preloaded software also includes a bootloader which allows software update or future user application development.

(Pin to pin compatible with WSG303S RC1 Module)

Features

- Operating Frequency: ISM RC2 (902MHz) and RC4 (920MHz)
- Sigfox compliant AT command set via UART
- Maximum transmission power: 22dBm
- Current consumption:
 - 282mA Tx at 22dBm (Peak current with Sigfox packet transmission)
 - 2.2uA at sleep mode
- Small-form-factor
 - 22.5x16.5mm Stamp type
 - Compact board design with low external component counts
- Voltage supply : 2.1V ~ 3.6V
- 64KB Flash & 8KB RAM Embedded
- Operation Temperature: -40°C ~ 85°C
- FCC Part 15.247
- Preloaded Sigfox application with ID/KEY/PAC and bootloader for firmware update
- Evaluation kit available



Pinout (Top view)

- Thermal pad
- Test pad

Pin.	Description	Function
1,2,3,4,5,15,16,39,40,41,42,43,44,45,47,48,49,50,51	GND	GND
6	SDO	PA6
7	SDI	PA7
8	SCLK	PB3
9	CSN	PA1
10	GPIO0	PA0
11	GPIO1	PA4
12	GPIO2	PB1
13	GPIO3	PA15 (S2-LP Uplink Interrupt pin)
14	SDN	SDN=0, Shutdown mode
17	USART2_TX	PA2 (115200bps)
18	USART2_RX	PA3 (115200bps)
19	PA5	PA5
20	PB0	PB0
21	PB2	PB2
22	UART1_TX	PA9 (115200bps)
23	UART1_RX	PA10 (115200bps)
24	PA11	PA11
25	PA12	PA12
26	SWDIO	PA13 (MCU debugging and programming)
27	SWCLK	PA14 (MCU debugging and programming)
28	NC	NC
29	PB4	PB4
30	PB5	PB5
31	I2C1_SCL	PB6
32	I2C1_SDA	PB7
33	NRST	NRST (MCU Reset)
34	BOOT0	BOOT0 (Floating or Low)
35	PB8	PB8
36	XI	PC14-OSC_IN (Ready for External Crystal)
37	XO	PC15-OSC32_OUT (Ready for External Crystal)
38	VDD	VDD_3V3
46	ANT1	SigFox Antenna

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Functional Block Diagram

