

# Small size 915MHz wireless transceiver module 「915M\_SG」

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The 915M-SG is a 915MHz Low power wireless transceiver module.



## Product Photo

### < Features >

- Integrated by MCU, RF circuits, antenna
- Communicated by the functions of device detect and data transmission
- 1:1,1:N, and N:N communication style
- Controlled by UART I/F
- Low power sleep mode
- DC3.0V supply voltage
- FCC certification

## <Specifications>

Product name	915M_SG
Carrier frequency	903.5MHz~926.5MHz (24 channel)
Communication protocol	Proprietary protocol
Modulation	GFSK
Wireless bit rate	9.6kbps/100kbps
Transmit Power	Maximum 8dBm (At the feeding point of the antenna)
Effective range	About 250m (Reference value)
Interface	-UART serial communication Data length: 8bit Baud rate : 9.6kbs,19.2kbps,38.4kbps,57.6kbps,115.2kbps Data length: 8bit Parity: no parity Stop: 1stop bit Flow control: none
Supply Voltage	-DC +3.0±0.3V
Current Consumption	-TX: Typ. 34mA -RX: Typ. 23mA -Sleep Mode : Typ. 3uA (power-supply voltage DC 3.0V)
Operating conditions	-Operating temperature range:-20°C~+75°C -Operating humidity range:85%RH or less (No do be dewy)
Weight	About 3g
Dimensions	37.3mm×18.8mm×5.2mm (D×W×H)
Restrictions	RoHS-Compliant (Pb free)
Reguration	FCC certification

## <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.

Modifications not expressly approved by NEC Engineering, Ltd. could void the user's authority to operate the equipment.

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, uses 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.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### Radiofrequency radiation exposure Information:

The radiated output power of the device is far below the FCC radio frequency exposure limits. Nevertheless, the device shall be used in such a manner that the potential for human contact during normal operation is minimized.

## <output I/F connector>

connector type : Stacking connector 20pin 0.5mm pitch  
product name : JST 20R-JMCS-G-TF(NSA) Receptacle  
Signal level : CMOS

Customer : Recommended connector  
JST 20P3.0-JMCS-G-TF(N) Plug  
Stacking height 3mm

### -Module pin definitions

Pin No.	Pin name	Type	Definition	State of reset	Detail
1	VCC	power	Power	—	DC3.0V(Recommended power supply voltage)
2	GND	GND	GND	—	
3	TxD	OUT	UART data transmit	HiZ	
4	RxD	IN	UART data receive	HiZ	
5	WAKEUP	IN	WAKEUP input	HiZ	Sleep mode enable = High /disable = Low input Internal Pullup
6	RESET	IN	RESET input	HiZ	RESET Low input Internal Pullup
7	GPIO1	—	Reserve	—	n.c
8	TSI	IN	TSI input	HiZ	internal Pullup
9	TSO	OUT	TSO output	HiZ	
10	GPIO4	—	Reserve	—	n.c
11	VCC	power	power	—	DC3.0V(Recommend power supply voltage)
12	GND	GND	GND	—	
13	GND	GND	GND	—	
14	CTS	—	Reserve		n.c
15	P_STATE	OUT	Mode output		Normal mode = Low / sleep mode =High output
16	FLMDO	—	TEST Pin	—	n.c
17	TOOLO	—	TEST Pin	—	n.c
18	TOOL1	—	TEST Pin	—	n.c
19	RTS	—	Reserve		n.c
20	GND	GND	GND	—	

## <RF connector>

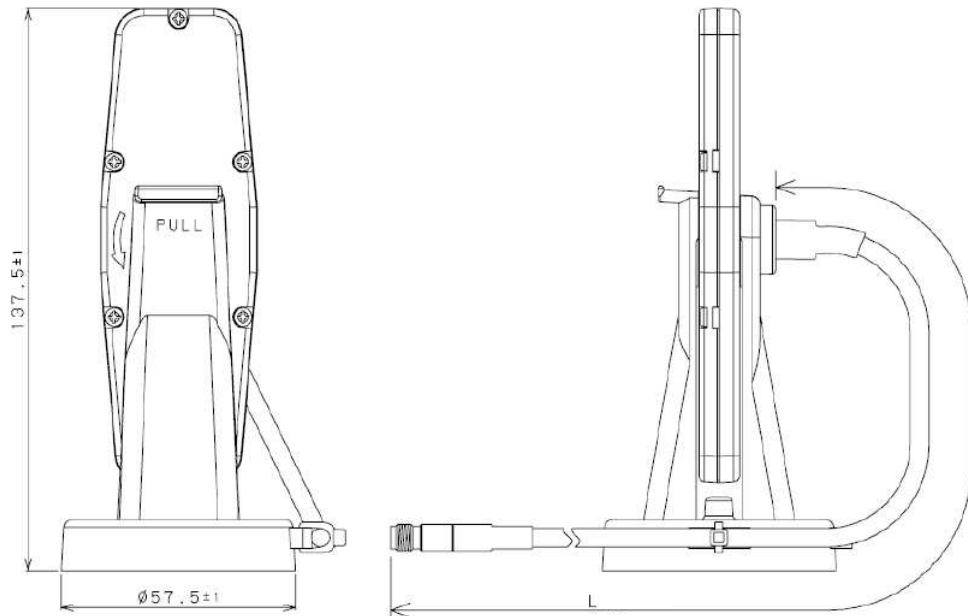
RF Connector connects with antenna through cable.

connector type : Ultra small surface mount coaxial connector  
product name : Hirose Electronic U.FL-R-SMT-1  
impedance : 50Ω

## <antenna and cable for antenna connection>

•antenna

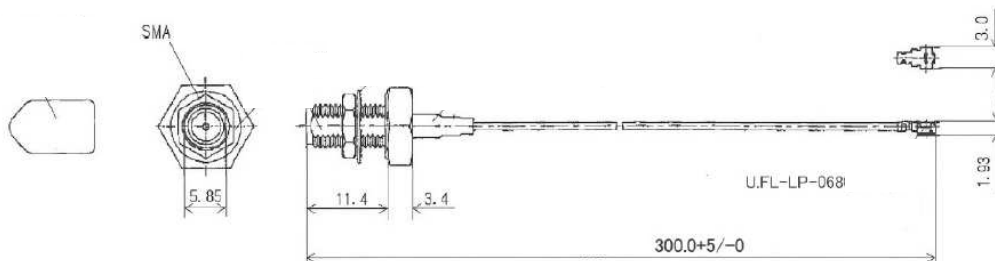
product name : MIDORI ANZEN NMA-01  
impedance : 50Ω  
antenna gain : less than 3dBi



Unit:mm

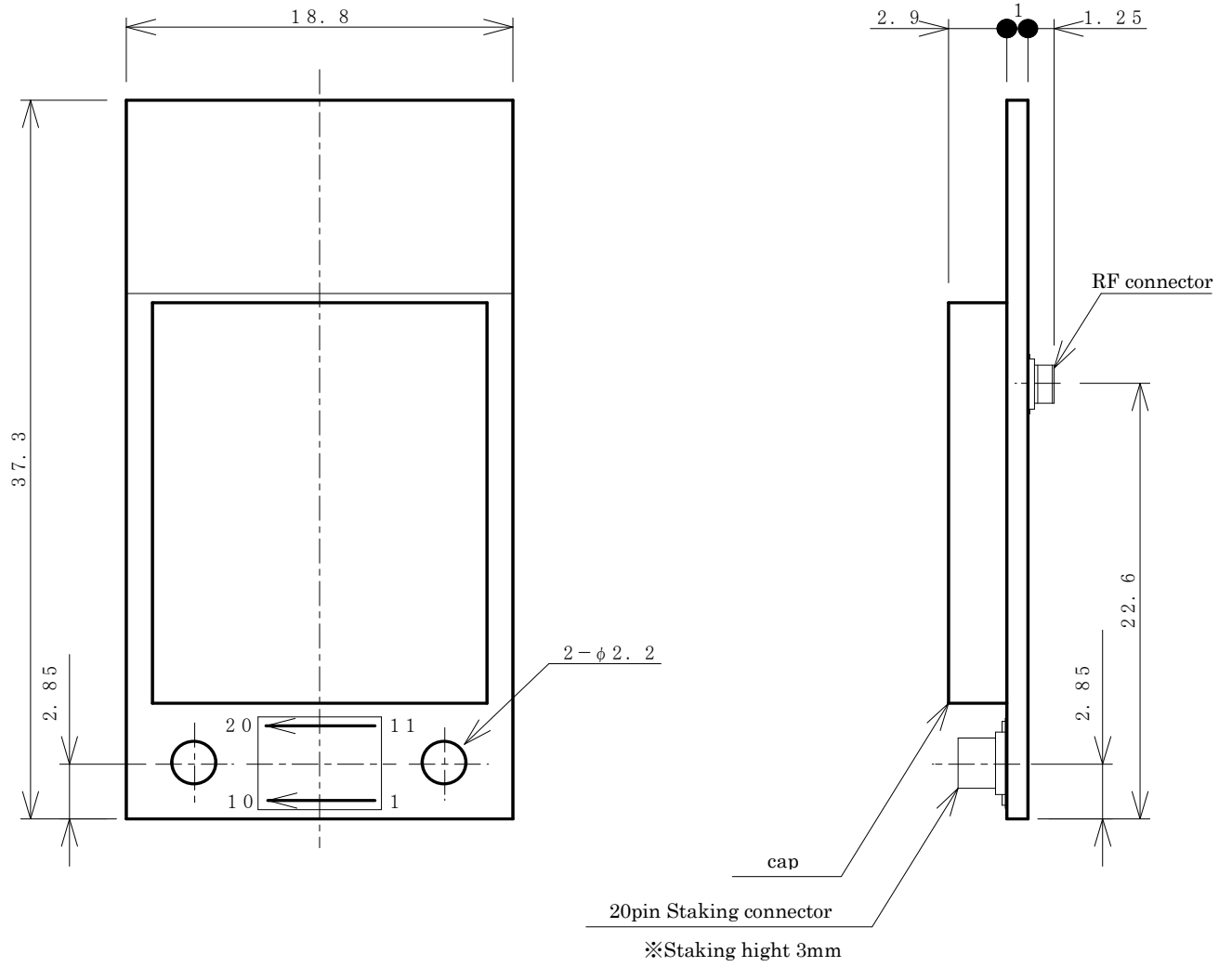
•cable for antenna connection

product name : Hirose Electronic HRMBPJ-U.FL-04N1-A-100RS  
impedance : 50Ω  
cable length : 300mm



Unit:mm

<Dimensions>

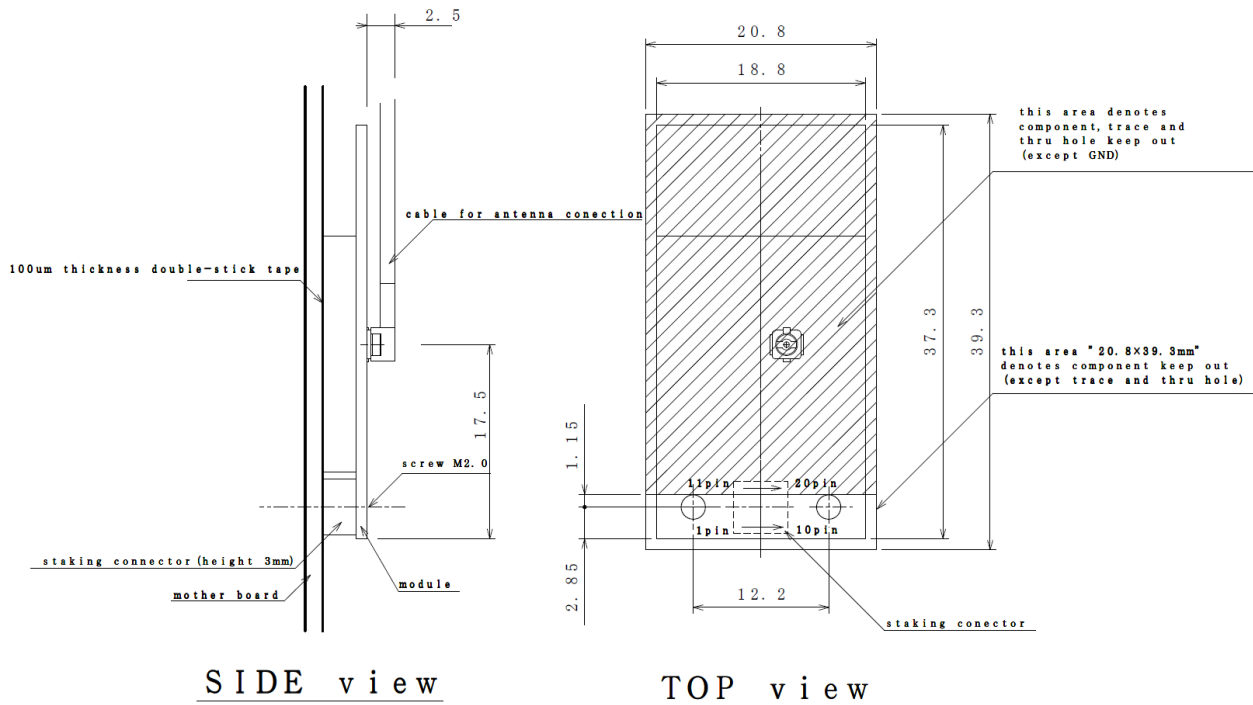


Top view

Side view

unit:mm

## <Installation>



## Contact

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### General inquiries

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