深圳市奥金瑞科技有限公司
Shenzhen Ogemray Technology Co., Ltd

IEEE 802.11 b/g/n
300Mbps WiFi Module

Product Specifications

Model: GWF-1M01

Version: 1.1

2012-11-20

1. Introduction

The GWF-1M01 is a WLAN module supporting IEEE 802.11b/g/n standards with 7-pin or 4-pin connector supporting USB2.0 interface. This is a small form factor and low cost compact WLAN module designed for the wireless connectivity. This module operates in 2.4GHz ISM frequency band, it applies a highly integrated MAC/BBP and RF single chip RT5372 with 300Mbps PHY rate supporting. It fully complies with IEEE802.11n draft 3.0 and IEEE802.11b/g feature.

2. Features

- 20MHz/40MHz bandwidth support.
- 802.11b: 1, 2, 5.5, 11Mbps; 802.11g: 6, 9, 12, 24, 36, 48, 54Mbps ;
- 802.11n: Support PHY rate up to 300Mbps.
- Security support for WEP 64/128, WPA,WPA2, TKIP,AES

3. Product Information

3.1 Specification:

Main Chipset	Ralink RT5372
Operation Frequency	2412~2462MHz, ISM band
Protocols	802.11b: CCK, QPSK, BPSK, 802.11g/n: OFDM
Antennas	Two outputs to external antennas
Security	WPA/WPA2, 64/128/152-bit WEP, WPS
Typical Transmit Power (Antenna feed point)	802.11b (CCK) : 20.5+/-1dBm
	802.11g (OFDM) : 16.5+/-1dBm
	802.11n (HT20@MCS7), 16+/-1dBm; (HT40@MCS7),16+/-1dBm
Receive Sensitivity (Antenna feed point)	802.11b: -88+/-1dBm
	802.11g: -73+/-1dBm
	802.11n (HT20), -71+/-1dBm; 802.11n (HT40), -68+/-1dBm
Operating Voltage	5.0VDC ± 5% ; <300mA @802.11g ; or3.3VDV± 5%
Bus Interface	USB 2.0
Interface	7-pin or 4-pin, 2.0mm , or 4-pin 2.54 mm pitch pin header
Physical Specification	
Dimensions	33* 15*3 mm
Weight	1.6 g

3.2 Block Diagram

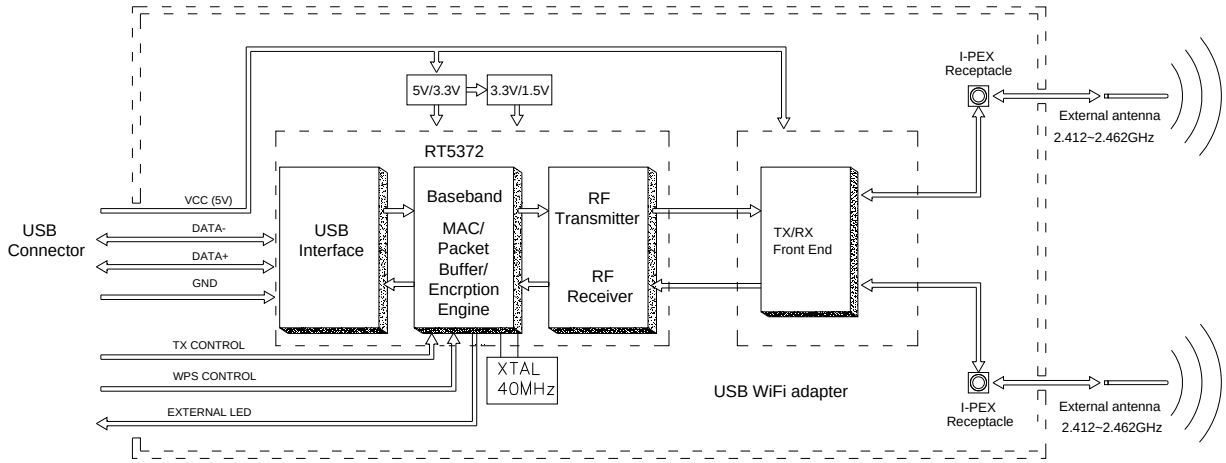


Figure 1: System Block Diagram of 7 pin GWF-1M01 5.0V WLAN Module

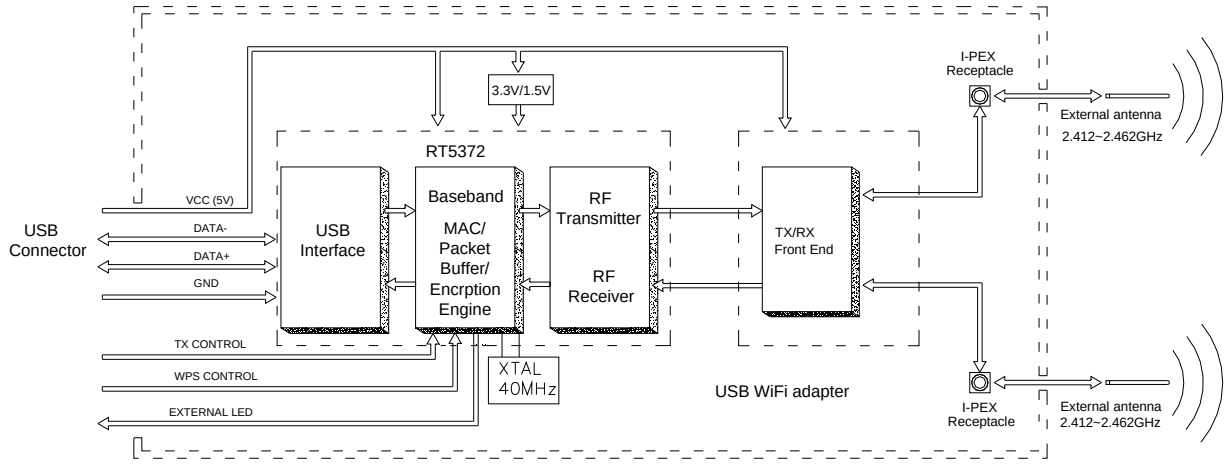


Figure 2: System Block Diagram of 7 pin GWF-1M04 3.3V WLAN Module

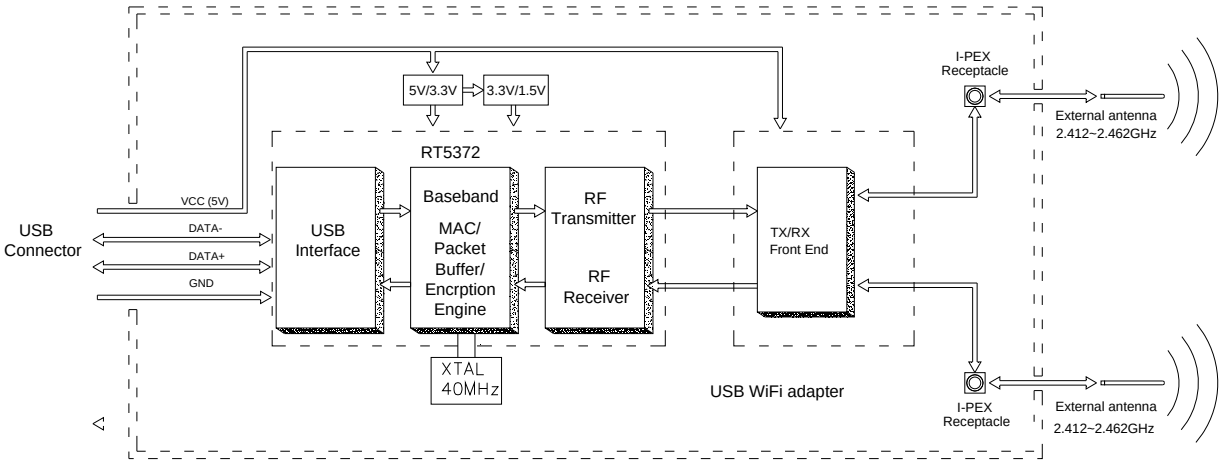


Figure 3: System Block Diagram of 4 pin GWF-1M04 5.0V WLAN Module

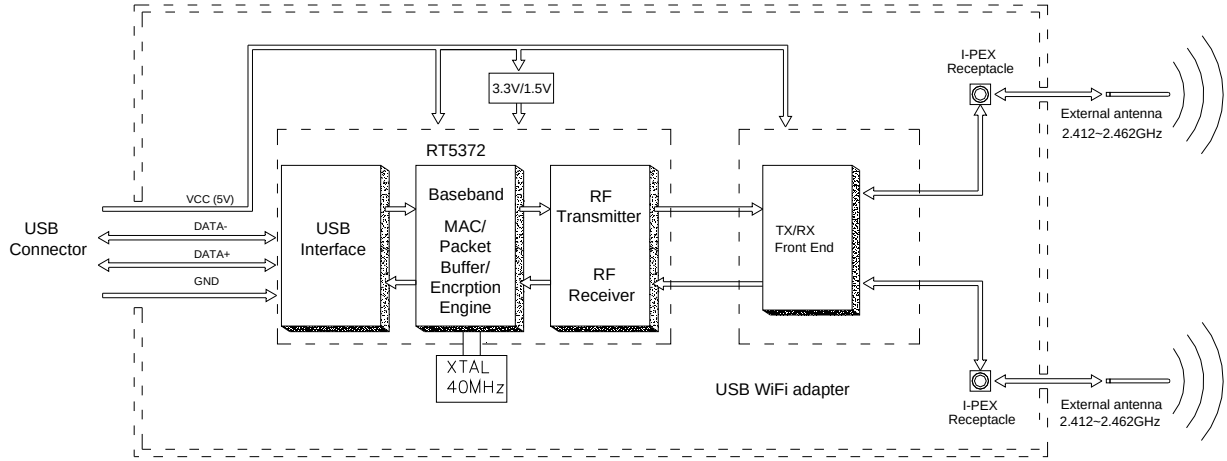


Figure 4: System Block Diagram of 4 pin GWF-1M04 3.3V WLAN Module

3.3 Software and system Information

Operation System	CPU Supplier	Driver
Linux 2.4/2.6	ARM, MIPSII	Available
Windows XP/Vista/7	X86 Platform	Available
Windows CE 5.0/6.0	ARM, MIPSII	Available
Mac OS X 10.4~10.7	N/A	Available

3.4 Mechanical Information

3.4.1 OUTLINE and Connection Interface (Pictures are for reference only)

Figure 5: 5.0VDC power input module.

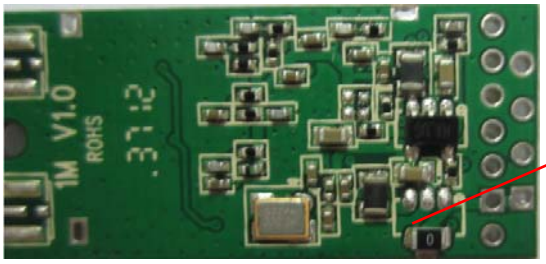


Figure 6: 3.3VDC power input module.

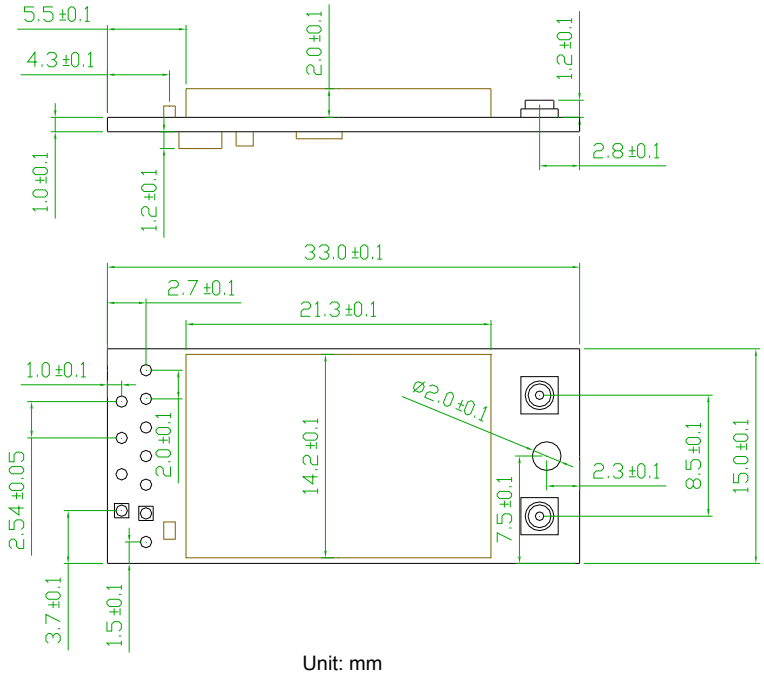


Figure 7: General dimensions

3.4.1.1 4-pin 2.54 mm pitch pin header.

a). Model: GWF-1M01-50-T-2.54-4-1; GWF-1M01-33-T-2.54-4-1

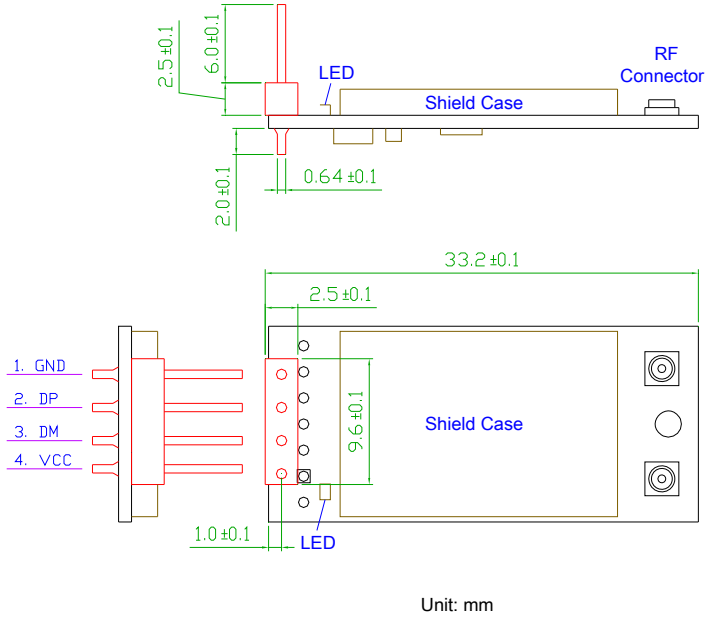


Figure 8: Top side 4–Pin 2.54mm pitch pin header interface.

b). Model: GWF-1M01-50-B-2.54-4-1; GWF-1M01-33-B-2.54-4-1

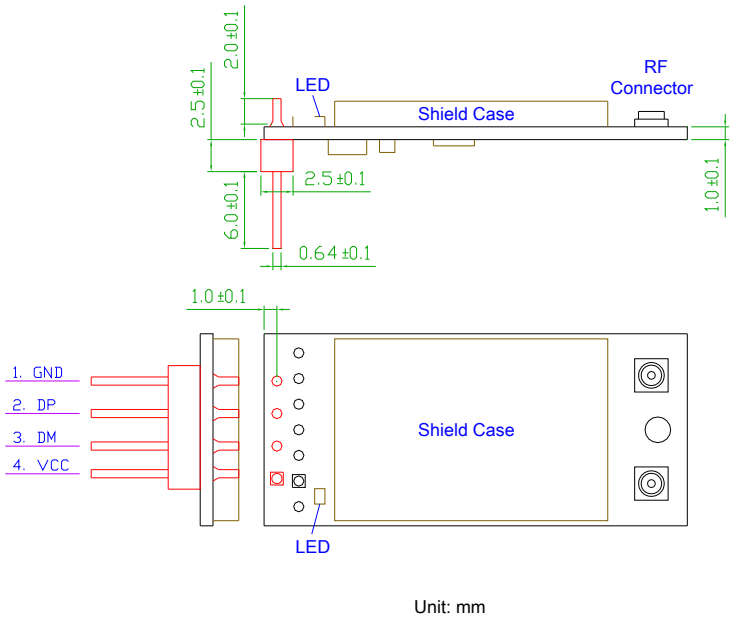


Figure 9: Bottom side 4–Pin 2.54mm pitch pin header interface.

3.4.1.2 4-pin 2.0 mm pitch pin header

a). Model: GWF-1M01-50-T-2.0-4-1; GWF-1M01-33-T-2.0-4-1

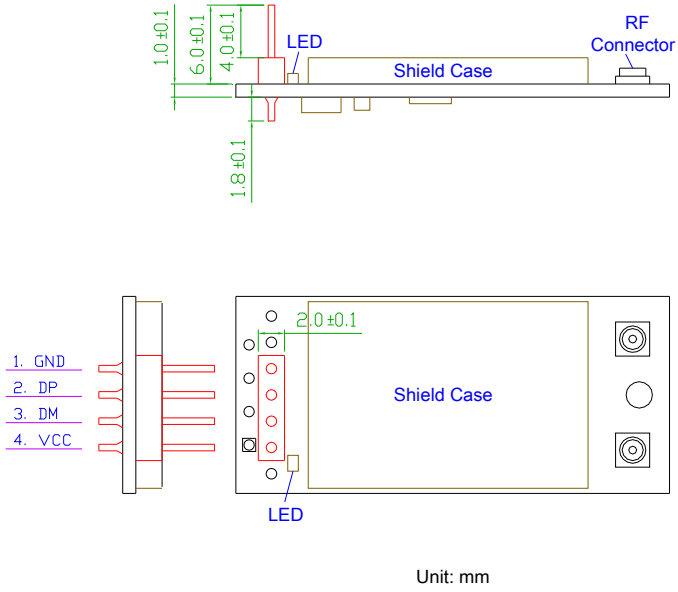


Figure 10: Top side 4–Pin 2.0mm pitch pin header interface.

b). Model: GWF-1M01-50-B-2.0-4-1; GWF-1M01-33-B-2.0-4-1

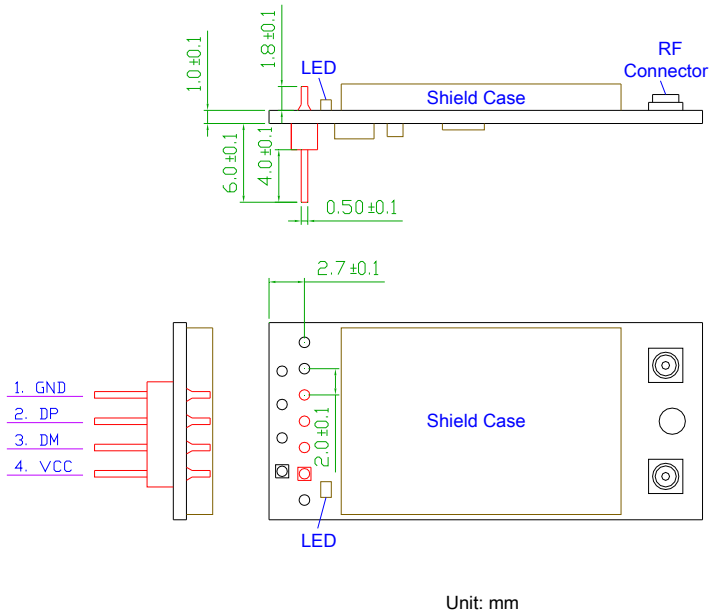


Figure 11: Bottom side 4–Pin 2.0mm pitch pin header interface.

3.4.1.3 7-pin 2.0 mm pitch pin header

a). Model: GWF-1M01-50-T-2.0-7-1; GWF-1M01-33-T-2.0-7-1

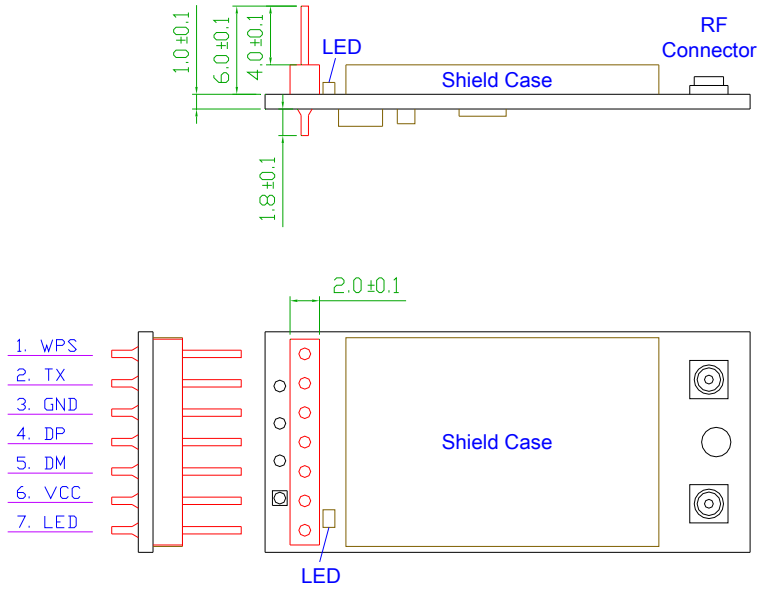


Figure 12: Top side RF connector & 7–Pin 2.0mm pitch pin header interface.

b). Model: GWF-1M01-50-T-2.0-7-2; GWF-1M01-33-T-2.0-7-2

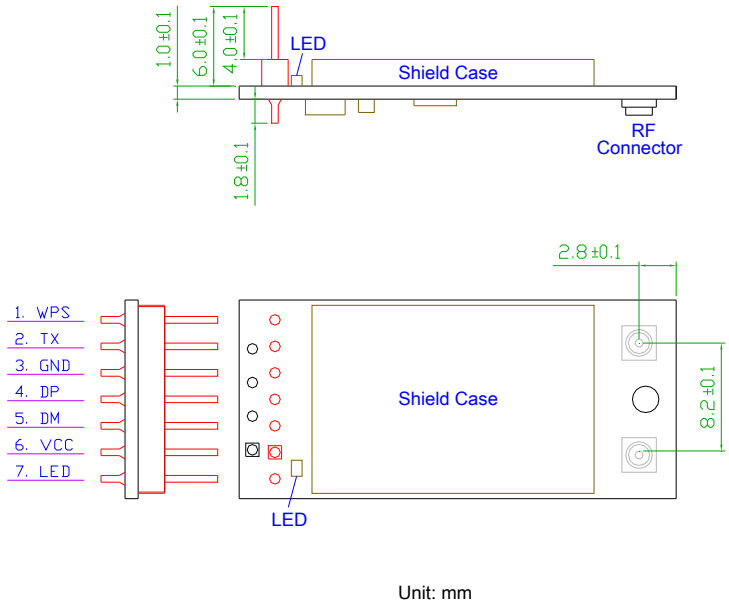
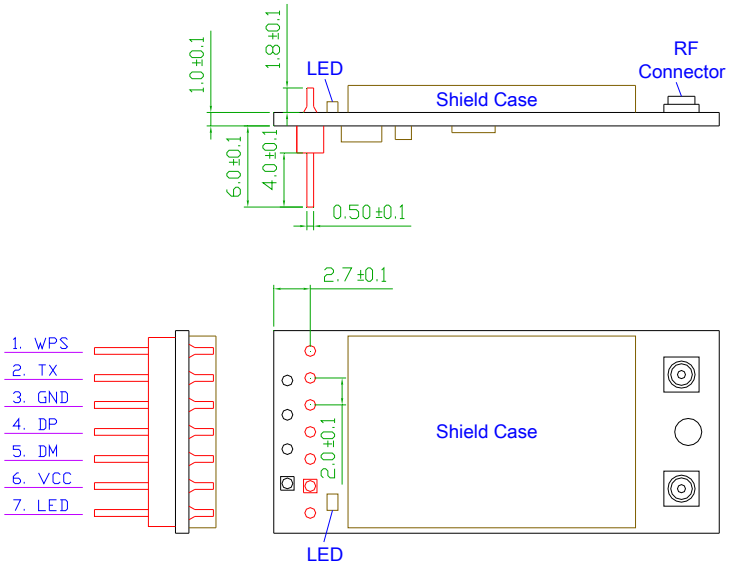


Figure 13: Bottom side RF connector & top side 7–Pin 2.0mm pitch pin header interface.

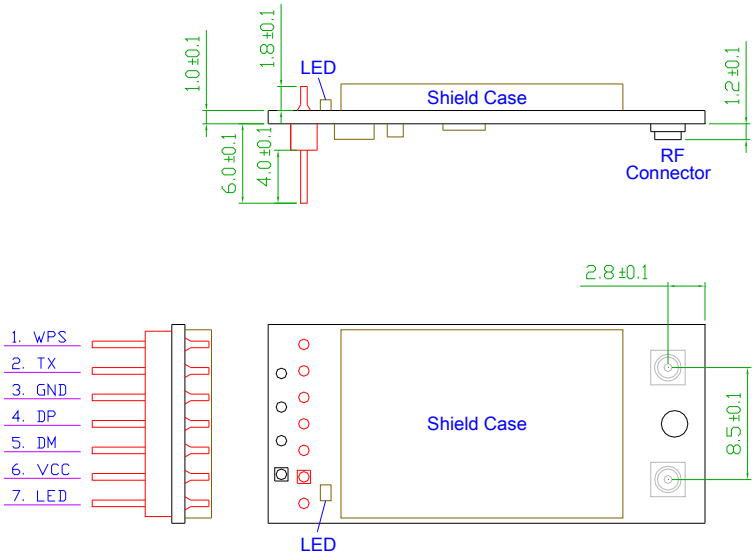
c). Model: GWF-1M01-50-B-2.0-7-1; GWF-1M01-33-B-2.0-7-1



Unit: mm

Figure 14: Top side RF connector & Bottom side 7–Pin 2.0mm pitch pin header interface.

d). Model: GWF-1M01-50-B-2.0-7-2; GWF-1M01-33-B-2.0-7-2



Unit: mm

Figure 15: Bottom side RF connector & 7–Pin 2.0mm pitch pin header interface.

e). Model: GWF-1M01-50-F-2.0-7-1; GWF-1M01-33-F-2.0-7-1

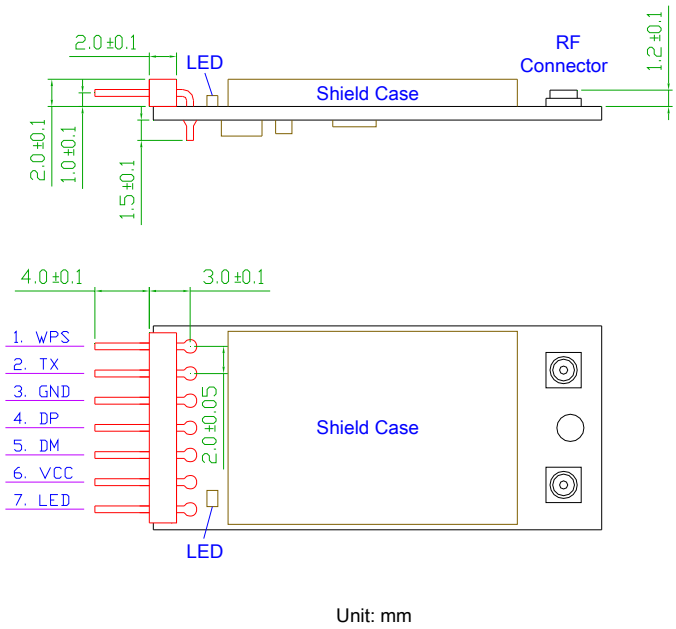


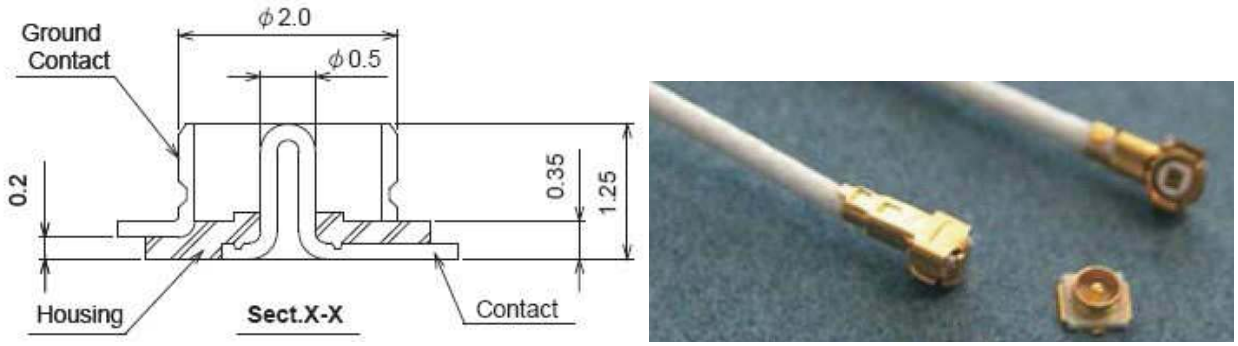
Figure 16: Bottom side 7–Pin 2.0mm pitch 90 degree pin header interface.

3.4.2 Pin definition:

Pin-out	7-pin 2.0mm pitch pin header	4-pin 2.0 or 2.54mm pitch pin header
1	WPS control	GND (Ground)
2	RF/TX ON/OFF control	DP (USB data+)
3	GND (Ground)	DM (USB data-)
4	DP (USB data+)	VCC (3.3 VDC or 5.0VDC)
5	DM (USB data-)	N/A
6	VCC (3.3 VDC or 5.0VDC)	N/A
7	LED* (Wireless TX status)	N/A

3.4.3 RF output Connection Information

If the I-PEX RF connection is selected, a 50 ohm external antenna connects to the module RF output via an I-PEX MHF receptacle (RF connector). (Part No: 20279-001E-01).

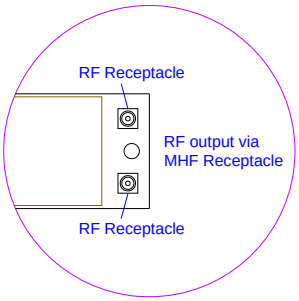


The profile of the I-PEX connector

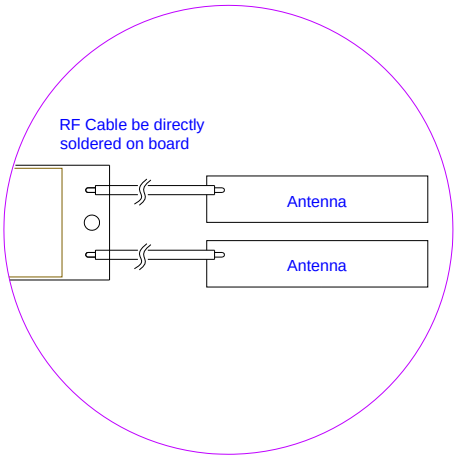
Note: the MHF receptacle can be mounted at the top side or bottom side of the PCB.

RF Output Type:

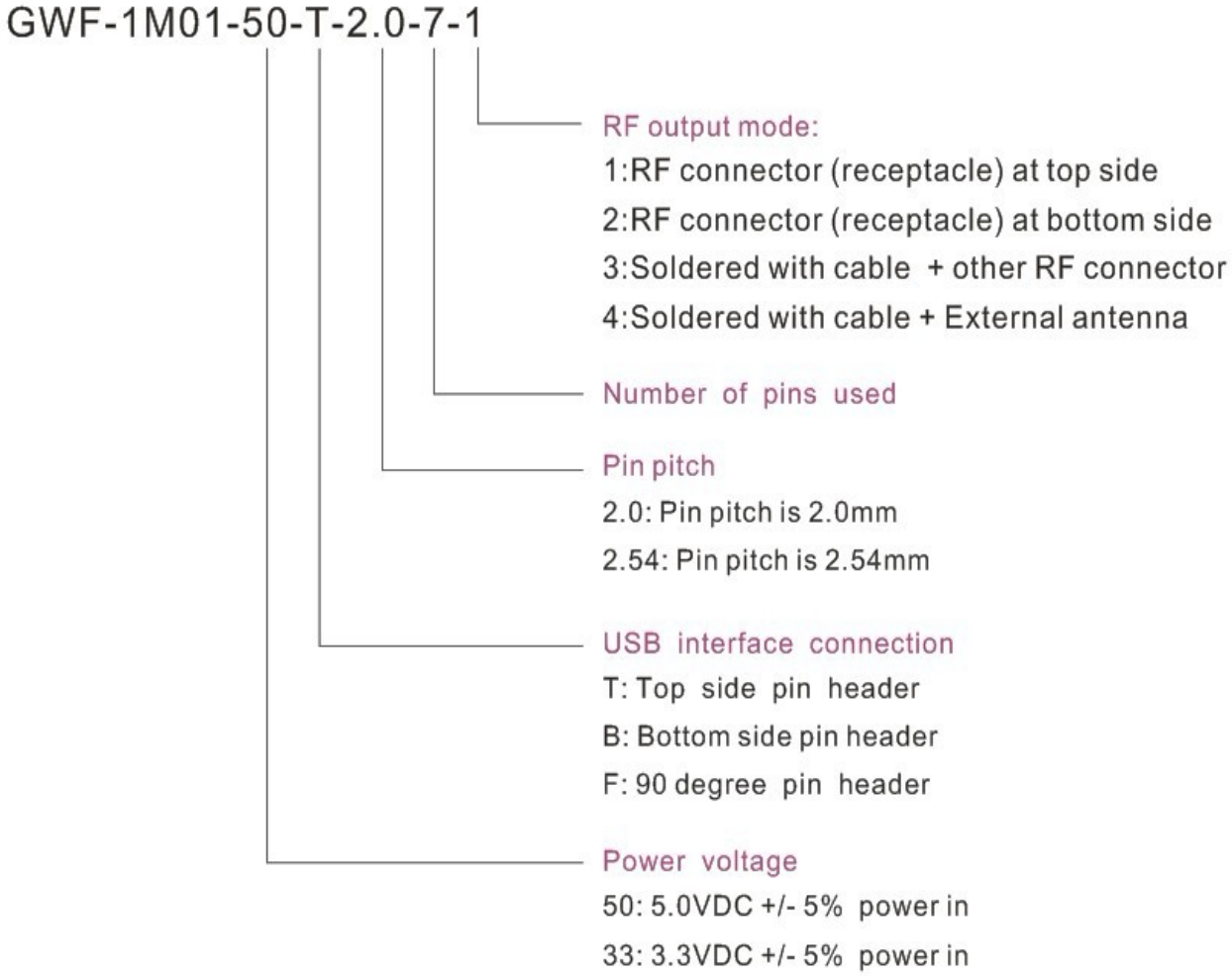
Type 1-2



Type 3



3.4.4 Ordering information



Since there are many different types of pin header might be used, such as: straight pin; 90 degree bend pin; long pin; short pin…, please mention the detail requirement of the pin header when ordering. It can be mentioned by part number or by descriptions.

4 Agency Approval

Agency	Approval
FCC Part15	Pre-scan undergoing
CE	Pre-scan undergoing
RoHS	√

5 Environment

5.1 Temperature

5.1.1 Operating Temperature

Continuous reliable operation in ambient temperature: -10ºC to +60ºC.

5.1.2 Storage Temperature

The product is not damaged or degraded when keeping in -20ºC to +85ºC.

5.2 Humidity

5.2.1 Operating Humidity Conditions

The product should be capable of continuous reliable operation when subjected to relative humidity in the range of 20% to 80% (non-condensing) .

5.2.2 Non-Operating Humidity Conditions (including warehouse)

The product should not be damaged or degraded when kept in the place (where relative humidity range is in the range of 20% to 80%) for 36 hours.

6 Disclaimer

THESE MATERIALS AND INFORMATION ARE PROVIDED “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED , INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT.

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FCC Statement

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.
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 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.

This module must be installed and operated in accordance with provided instructions and the antenna used for this transmitter must be installed to provied a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-uses and installers must be provide with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.
Host device of OEM integrator must be labeled with: CONTAINS TX FCC ID: YWTWF53721MX