



IEEE 802.11 b/g/n WiFi Module

Product Specifications

Model: GWF-3M05

Version: 1.6

2011-11-2



1. Introduction

GWF-3M05 is a WLAN module supporting IEEE 802.11 b/g/n standards with 6-pin connector supporting USB 2.0 interface. This is a low cost compact WLAN module designed in products with embedded system for the wireless connectivity. This Module is designed to operate in 2.4GHz ISM frequency band, it applies a highly integrated MAC/BBP and RF single chip RT3070 with 150Mbps PHY rate supporting. It fully complies with IEEE802.11n draft 3.0 and IEEE802.11b/g feature.

1.2 Features

- 802.11b: 1, 2, 5.5, 11Mbps;
- 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps
- 802.11n: (20MHz) MCS0-7, Support up to 72Mbps
(40MHz) MCS0-7, Support up to 150Mbps
- OFDM, Peak rate 150Mbps, Peak throughput 90Mbps.
- Security support for 64/128 WEP, WPA, WPA2, TKIP, AES

2. Product Information

2.1 Specification Overview

Standards	IEEE802.11b/g & 802.11n (1T1R mode)
Operating Frequency	USA (FCC): 2.412GHz ~ 2.462GHz (channel 1 – 11) ISM band
	Europe (CE): 2.412GHz ~ 2.472GHz (channel 1 – 13) ISM band
Protocols	802.11b: CCK, QPSK, BPSK, 802.11g/n: OFDM
Antenna	External 50 ohm antenna via an I-PEX receptacle
Security	WPA/WP2, 64/128/152-bit WEP, WPS
Transmit Output Power (Typical)	11b: 19±1.0dBm @ 11Mbps
	11g: 16±1dBm @ 54Mbps
	802.11n: (HT20), 15+/-1dBm, 802.11n: (HT40), 15+/-1dBm,
Receive Sensitivity (Typical)	11b: -84dBm @ 11Mbps; 11g: -70dBm @ 54Mbps.
	802.11n: (HT20), -66dBm@MSC7, (HT40),-62dBm@MSC7
Operating Voltage	5.0VDC ± 5% (or3.3VDV± 5% upon special requirement)
Operating Current	<110mA at 5.0V DC input.
Bus Interface	USB 2.0/USB1.1
USB Interface	6-pin, 2.0mm pitch male jumper , or 1.0mm pitch connector



2.2 Hardware Information

2.2.1 Block Diagram

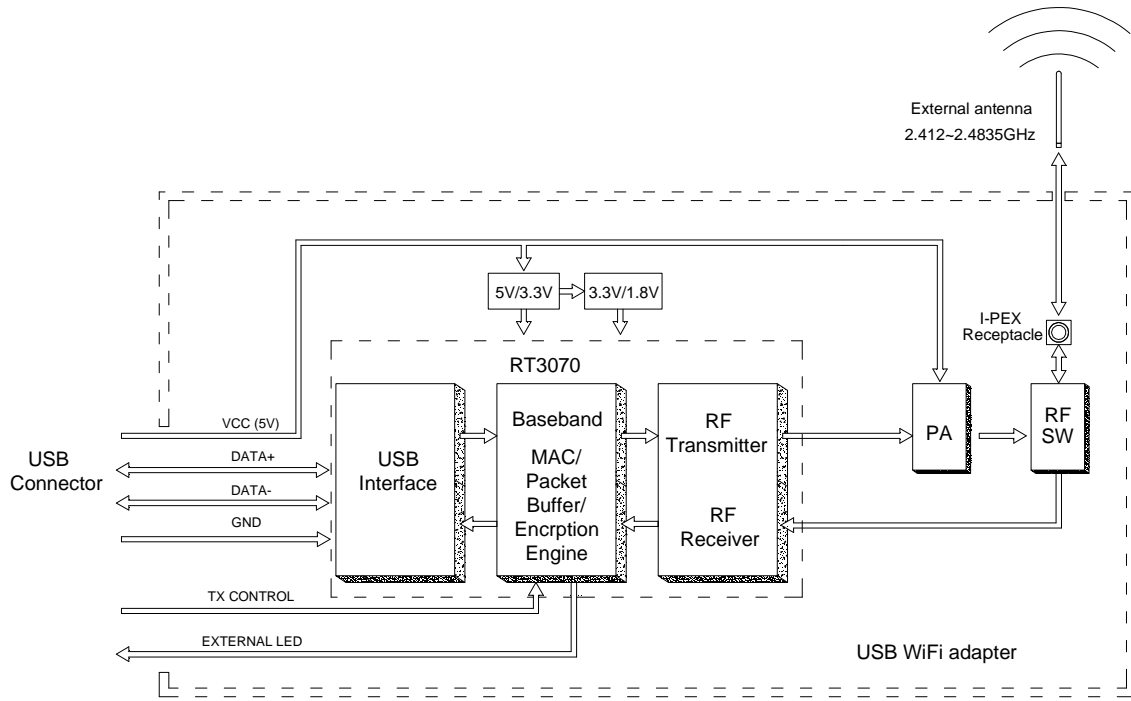


Figure 1: System Block Diagram of GWF-3M05 5.0V WLAN Module

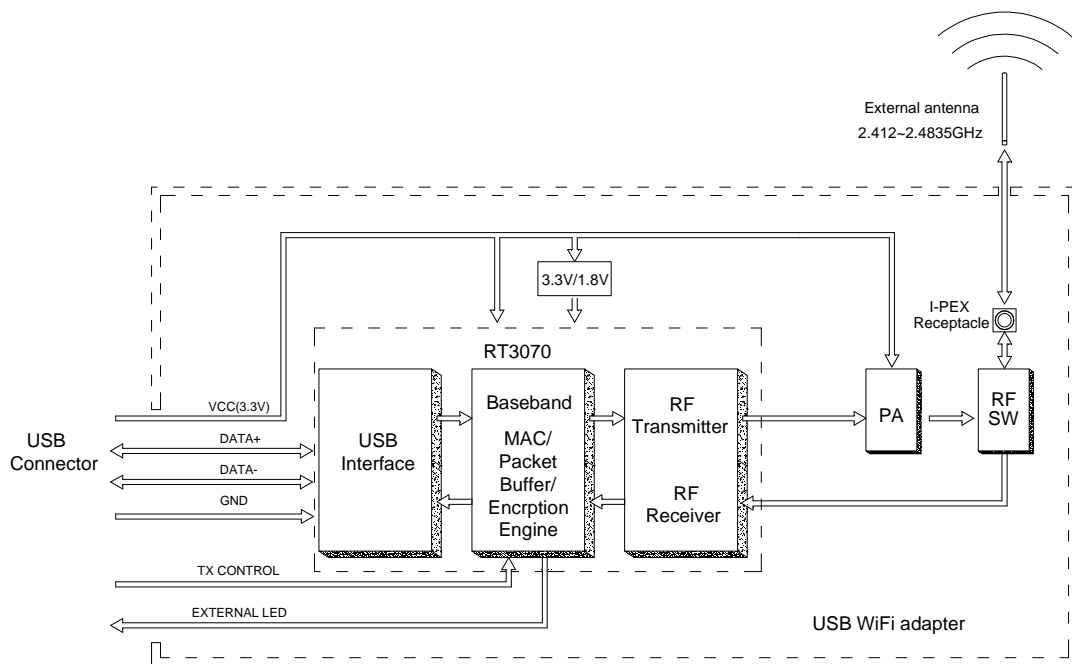


Figure 2: System Block Diagram of GWF-3M05 3.3V WLAN Module



2.3 Software and system Information

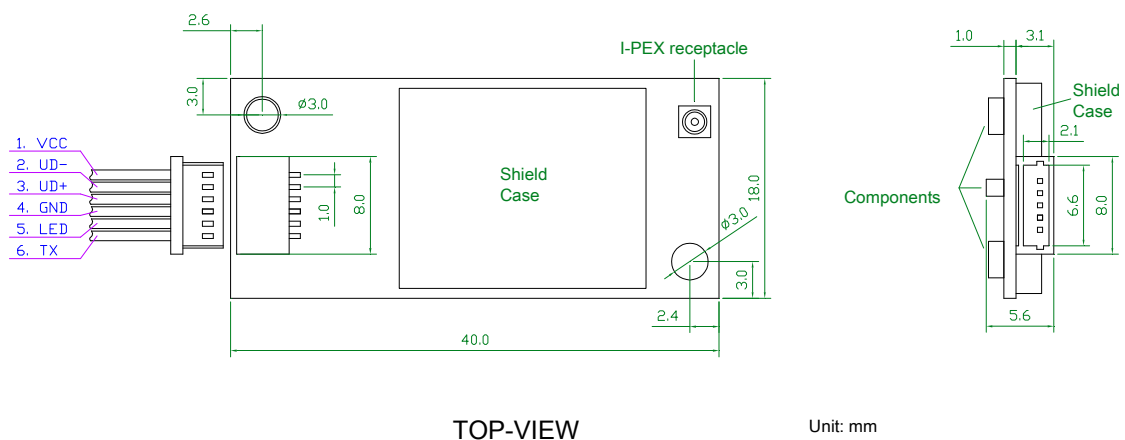
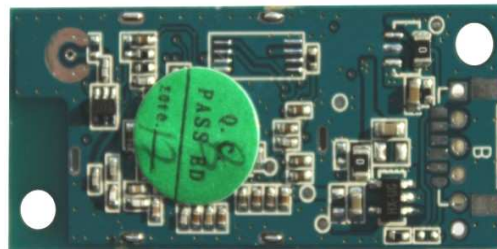
Operation System	CPU Supplier	Driver
Linux 2.4/2.6	ARM, MIPSII	Available
Windows 2000/XP/Vista	X86 Platform	Available
Windows CE 5.0/6.0	ARM, MIPSII	Available
Mac OS X 10.3/10.4/10.5/10.6	N/A	Available

2.4 Mechanical Information

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

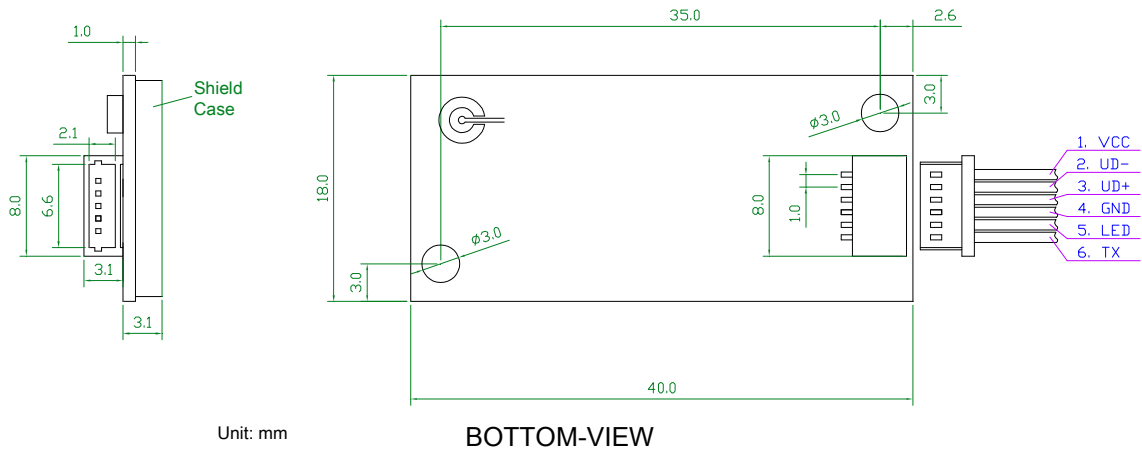
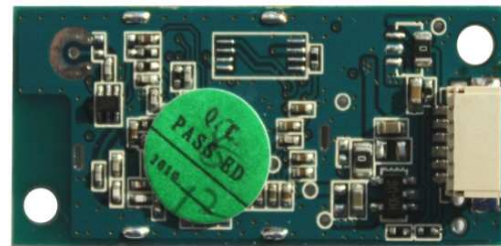
a). 6-pin 1.0 mm pitch connector.

Model: GWF-3M05-50-CT; GWF-3M05-33-CT



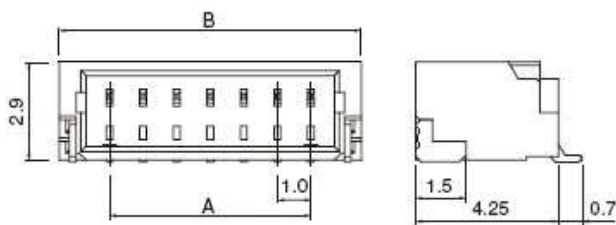


Model: GWF-3M05-50-CB; GWF-3M05-33-CB

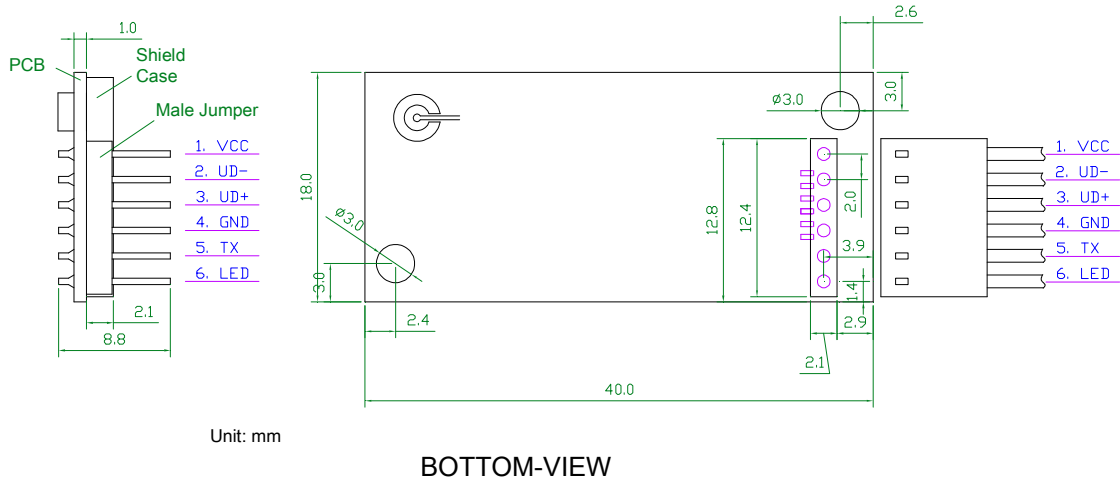


Connector information:

Side entry type



The profile of the 6-pin connector



(To be noted: For special application, the direction of the male jumper can be upside down mounted, or the connector can be 90 degree bended)

2.4.2 Pin definition:

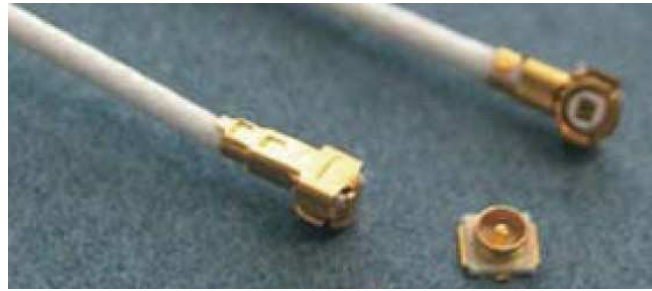
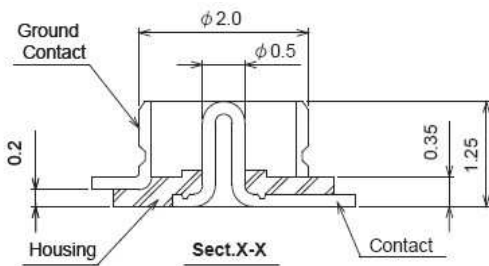
Pin	6-pin 1.0mm pitch connector	6-pin 2.0mm pitch male jumper
1	VCC (3.3 VDC or 5.0VDC)	VCC (3.3 VDC or 5.0VDC)
2	UD- (USB data-)	UD- (USB data-)
3	UD+ (USB data+)	UD+ (USB data+)
4	GND (Ground)	GND (Ground)
5	LED (Wireless TX status)	TX (RF ON/OFF control)
6	TX (RF ON/OFF control)	LED (Wireless TX status)

**The TX (RF ON/OFF control) is low level (suggested <0.3V) activated to OFF. High limit:3.3V. When the TX pin sets to low level, the on bard 1.8VDC power will be put down to turn off the TX function.*

**The LED pin outputs a 3.3V LED driving signal, an internal 330 ohm current limit resistor is serial added.*

2.4.3 Antenna Connection Information

A 50 ohm external antenna via an I-PEX receptacle. (Part No: 20279-001E-01)



The profile of the I-PEX connector

2.5 Order information:

- GWF-3M05-33-T**, for 3.3+/-5%VDC, the long pins are at the same side with the shield case.
- GWF-3M05-33-B**, for 3.3+/-5%VDC, the long pins are at the opposite side with the shield case.
- GWF-3M05-50-T**, for 5.0+/-5%VDC, the long pins are at the same side with the shield case.
- GWF-3M05-50-B**, for 5.0+/-5%VDC, the long pins are at the opposite side with the shield case.
- GWF-3M05-50-CT**, for 5.0+/-5%VDC, Soldered with 6 pin connector, top side mounted.
- GWF-3M05-50-CB**, for 5.0+/-5%VDC, Soldered with 6 pin connector, bottom side mounted.
- GWF-3M05-33-CT**, for 3.3+/-5%VDC, Soldered with 6 pin connector, top side mounted.
- GWF-3M05-33-CB**, for 3.3+/-5%VDC, Soldered with 6 pin connector, bottom side mounted..

3. Agency Approval

Agency	Approval
FCC Part15	Tested
CE	undergoing
RoHS	√

4. Environment

4.1 Temperature

4.1.1 Operating Temperature

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

4.1.2 Storage Temperature

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

4.2 Humidity

4.2.1 Operating Humidity Conditions

Information in this document is subject to change without prior notice.



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

4.2.2 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.

5 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.

We uses reasonable efforts to include accurate and up-to-date information on this document; it does not, however, make any representations as to its accuracy or completeness of the information, text, graphics, links or other items contained within these materials. Your use of this Document is at your own risk. Ogemray, its suppliers, and other parties involved in creating and delivering this Document's contents shall not be liable for any special, indirect, incidental, or consequential damages, including without limitation, lost revenues or lost profits.