IEEE 802.11 b/g/n WiFi Module

Product Specifications

Model: GWF-3M05

Version: 1.5

2010-1-7

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
- 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,
Receive Sensitivity (Typical)	11b: -84dBm @ 11Mbps; 11g: -70dBm @ 54Mpbs.
	802.11n: (HT20), -66dBm@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

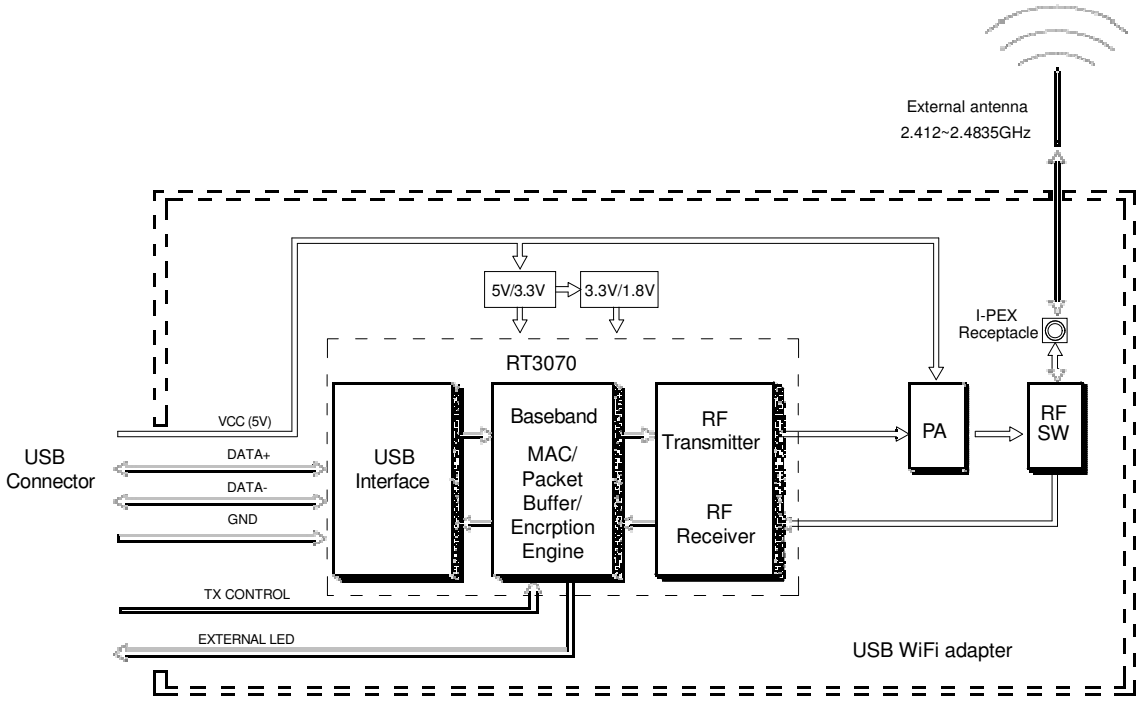


Figure 1: System Block Diagram of GWF-3M05 5.0V WLAN Module

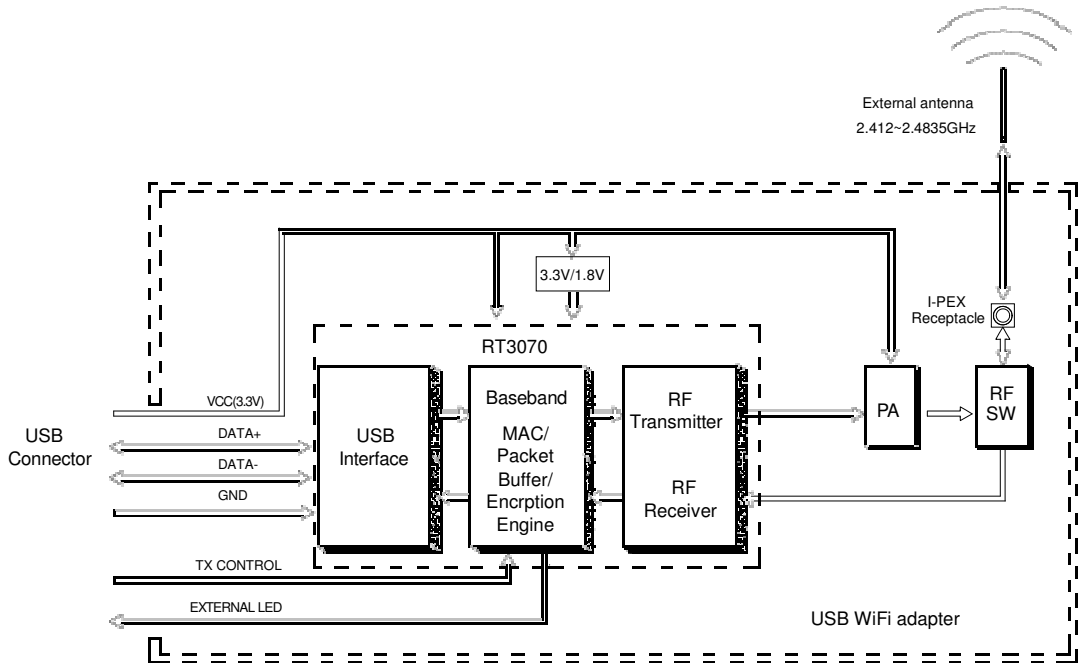


Figure 2: System Block Diagram of GWF-3M05 3.3V WLAN Module

2.3 Software and system Information

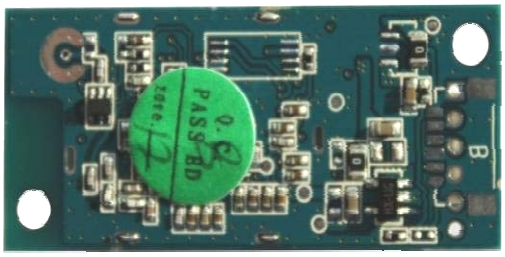
Operation System	CPU Supplier	Driver
Linux 2.4/2.6	ARM, MIPSII	Available
Windows 2000/XP/Vista	X86 Platform	Available
Windows CE 5.0/6.0	ARM, MIPSII	Available
Mac OS X 10.3/10.4/10.5/10.6	N/A	Available

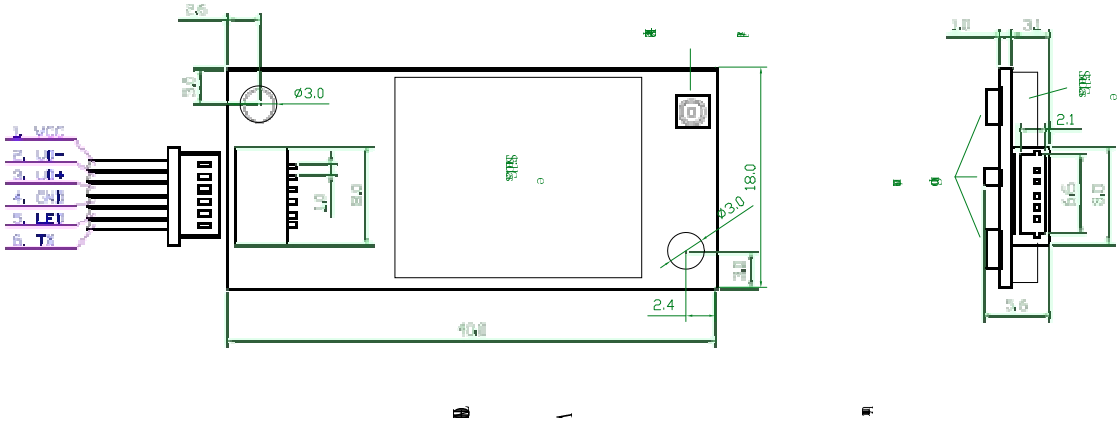
2.4 Mechanical Information

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

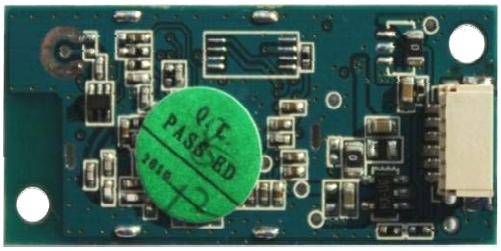
a). 6-pin 1.0 mm pitch connector.

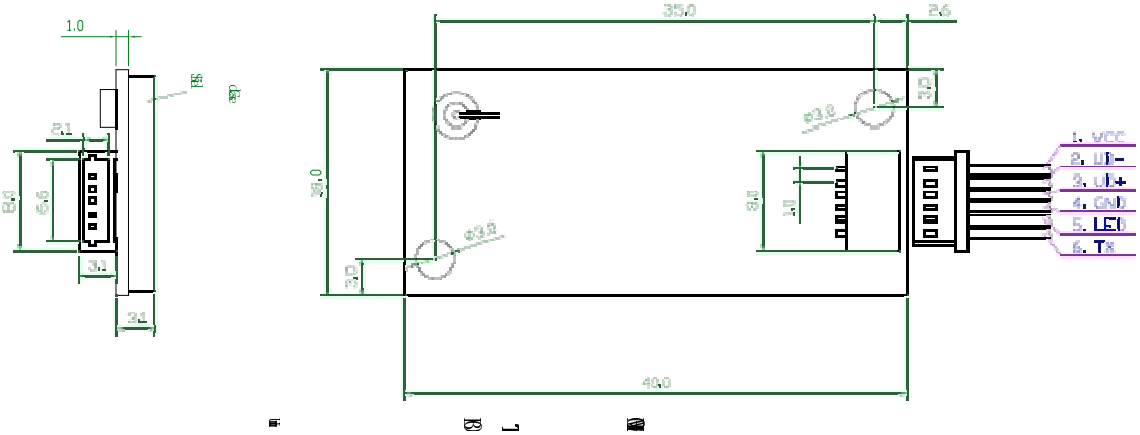
Model: GWF-3M05-50-CT; GWF-3M05-33-CT





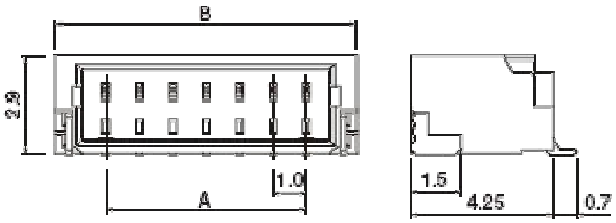
Model: GWF-3M05-50-CB; GWF-3M05-33-CB

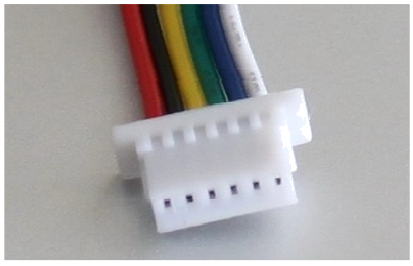




Connector information:

Side entry type

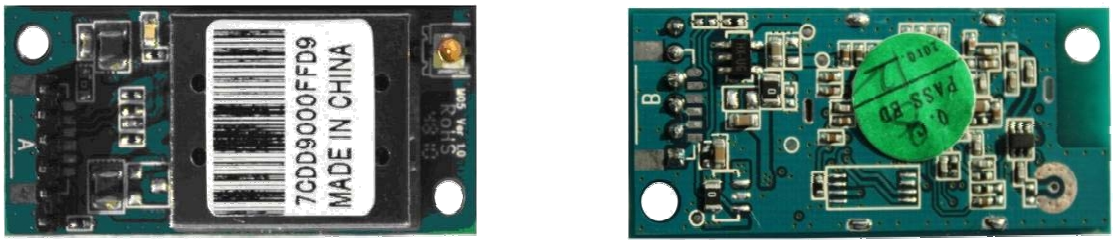


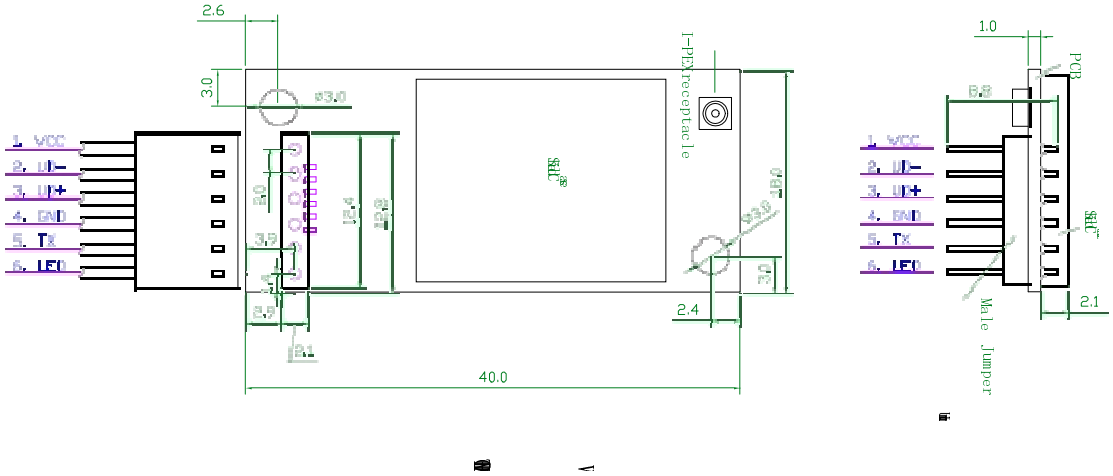


The profile of the 6-pin connector

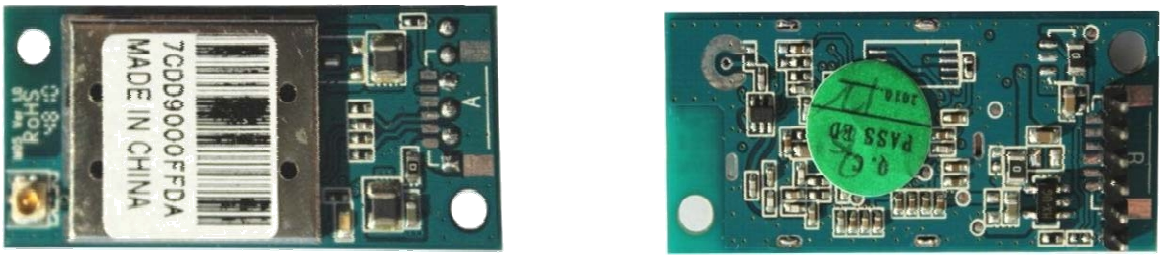
b). 6-pin 2.0 mm pitch male jumper.

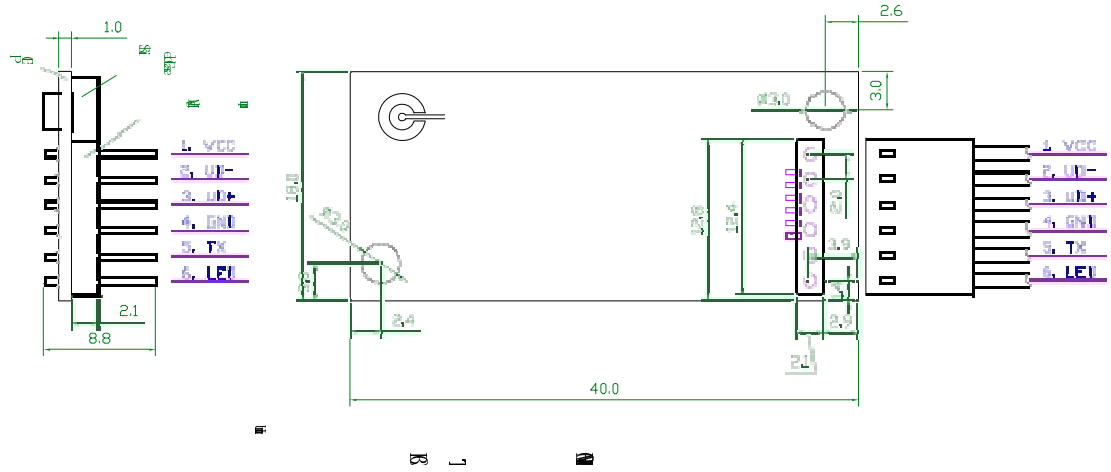
Model: GWF-3M05-50-T; GWF-3M05-33-T





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





(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)

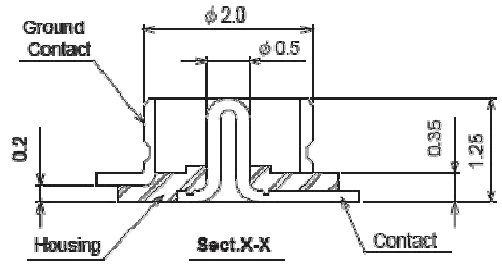
2.4.2 Pin definition:

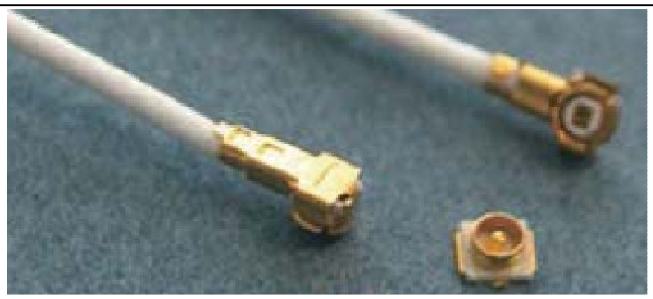
Pin	6-pin 1.0mm pitch connector	6-pin 2.0mm pitch male jumper
1	VCC (3.3 VDC or 5.0VDC)	VCC (3.3 VDC or 5.0VDC)
2	UD- (USB data-)	UD- (USB data-)
3	UD+ (USB data+)	UD+ (USB data+)
4	GND (Ground)	GND (Ground)
5	LED (Wireless TX status)	TX (RF ON/OFF control)
6	TX (RF ON/OFF control)	LED (Wireless TX status)

The TX (RF ON/OFF control) is low level activated to OFF.

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	√
CE	√
RoHS	√

4. Environment

4.1 Temperature

4.1.1 Operating Temperature

Continuous reliable operation in ambient temperature: 0ºC to +50ºC.

4.1.2 Storage Temperature

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

4.2 Humidity

4.2.1 Operating Humidity Conditions

The product is 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 is not damaged or degraded when kept in the relative humidity range from 20% to 80%.

5 Disclaimer

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