



IEEE 802.11 b/g/n Wireless USB Adapter

Product Specifications

Model: GWF-3M05

Version: 1.3

2010-12-27



1. Introduction

GWF-3M05 is Wireless USB Adapter supporting IEEE 802.11 b/g/n standards with 6-pin connector supporting USB 2.0 interface. This is a low cost compact Wireless USB Adapter designed in the product with embedded system for the wireless connectivity.

1.1 Scope:

GWF-3M05 Wireless USB Adapter 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
- Operates in 2.4GHz frequency bands. Power Management
- Antenna configuration: I-PEX receptacle for external antenna.

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 Antenna
Security	WPA/WP2, 64/128/152-bit WEP, WPS
Transmit Output Power (PK Power)	11b: 18±1.0dBm; 11g: 15±1.0dBm
	802.11n: (HT20), 14±1.0dBm, 802.11n: (HT40), 14±1.0dBm,
Receive Sensitivity (Typical)	11b: -84dBm @ 11Mbps; 11g: -68dBm @ 54Mbps.
	802.11n: (HT20), -66dBm@MSC7, (HT40), -62dBm@MSC7
Operating Voltage	5.0VDC ± 5% (or 3.3VDC ± 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
Antenna Impedance	50 ohm

2.2 Hardware Information

GWF-M05 is low power consumption and low-cost compact Wireless USB Adapter.

2.2.1 Block Diagram

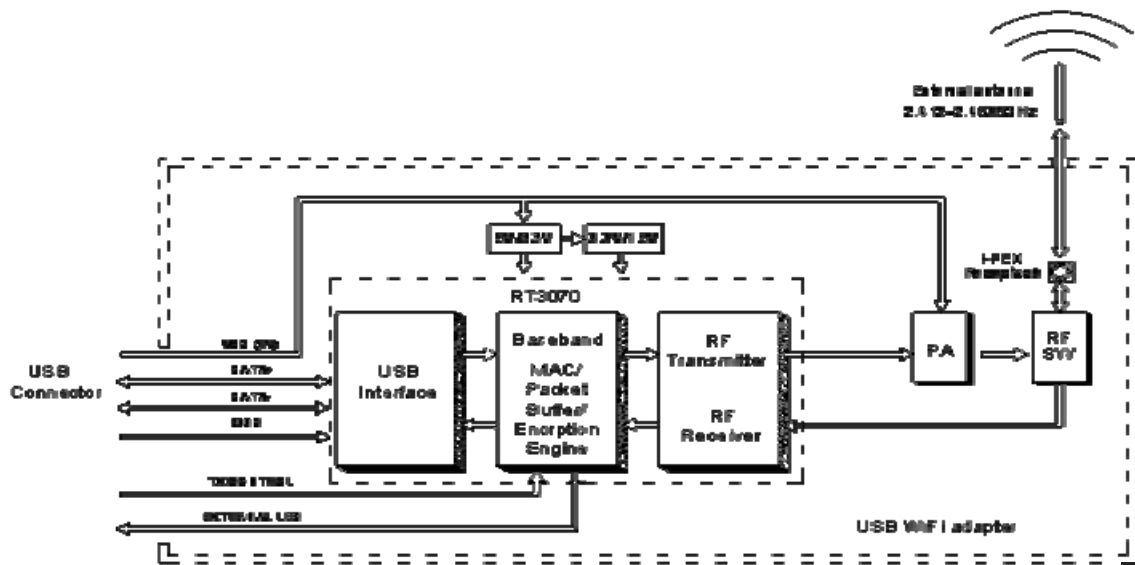


Figure 1: System Block Diagram of GWF-3M05 5.0V 1 ss A ap

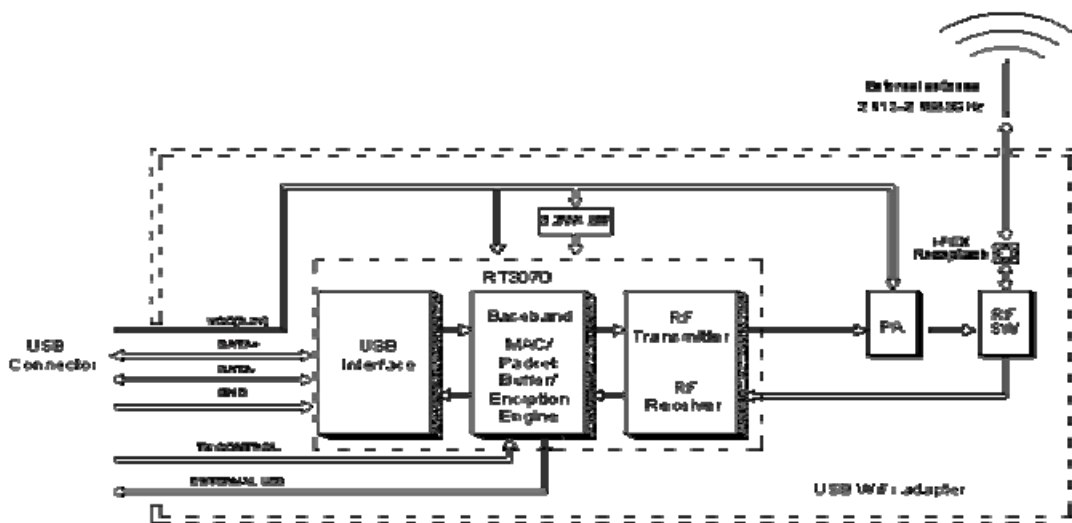


Figure 2: System Block Diagram of GWF-3M05 3.3V 1 ss A ap



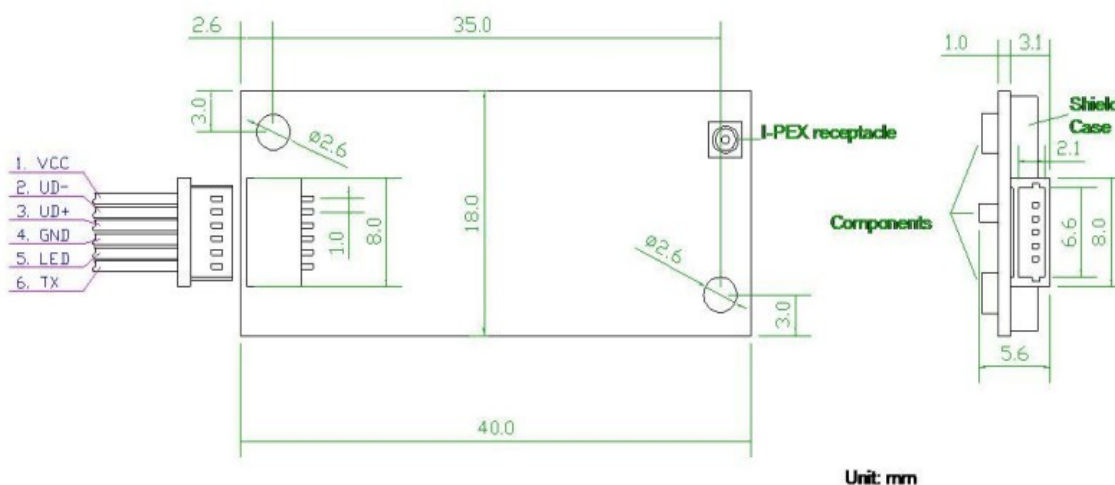
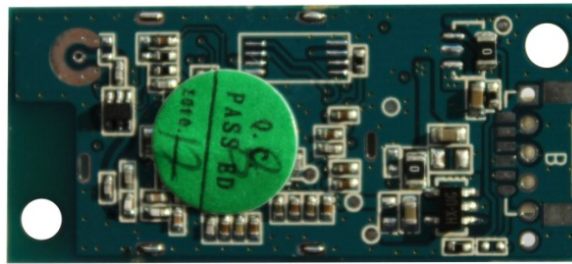
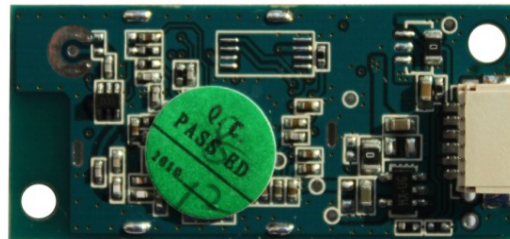
2.3 Software and system Information

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

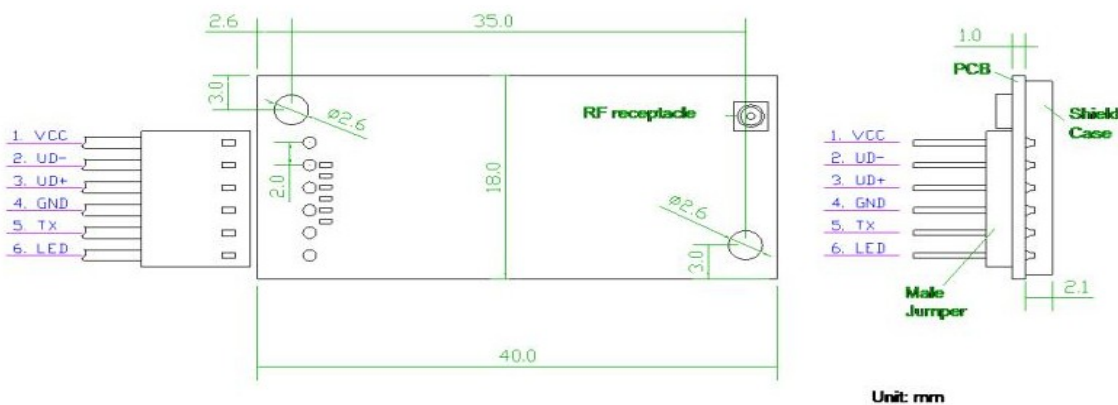
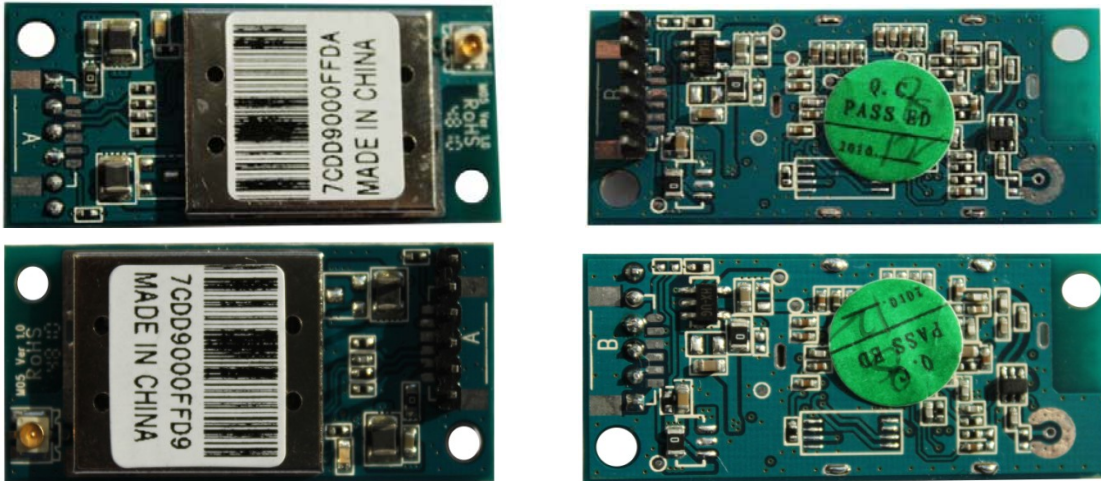
2.4 Mechanical Information

2.4.1 OUTLINE and USB Connection Information (40x18mm)

a). 6-pin 1.0 mm pitch connector.



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



(To be noted: For special application, the direction of the male jumper can be upside down mounted)

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

An external antenna via an I-PEX receptacle.

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-3M05-33-C, for 3.3+/-5%VDC, Soldered with 6 pin connector.

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-C, for 5.0+/-5%VDC, Soldered with 6 pin connector.

3. Agency Approval

Agency	Approval
FCC Part15	undergoing
CE	√
RoHS	√

4. Environment

4.1 Temperature

4.1.1 Operating Temperature

Continuous reliable operation in ambient temperature: 0°C to +50°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

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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PARTICULAR PURPOSE OR NON-INFRINGEMENT.

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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.

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 adapter complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This device must be installed and operated with a minimum distance of 20 cm between the radiator and user body.