Suga Electronics Limited

Model: SWBGFSA-0

WiFi/Bluetooth/GPS 3-in-1 Combo Module

User Guide

Version: 1.0

Jun 2014

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1. Hardware Installation

1.1 Mechanical Drawing

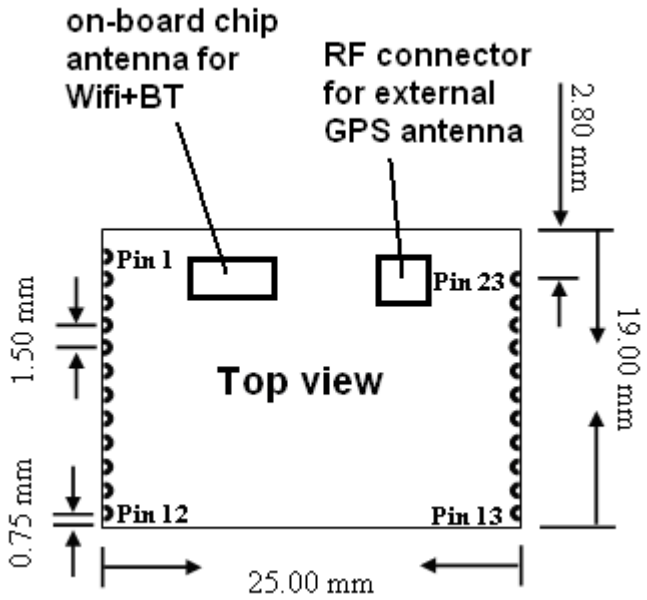

Figure1. Mechanical dimension

1.2 Pins Assignment

Please refer to the datasheet about the details of the pin assignment.

Pin#	definition	Description
1	ANT_WIFI_BT	WIFI/BT RF input/output port
2, 13, 23	GND	GND
14	VCC3.3V	3.3V power supply
3 ~ 8	SD_D[3:0], CMD, CLK	SDIO data pins.
9 ~ 12	PCM_X	PCM data pins
15 ~ 16	UART_TXD, RXD	UART data pins
17, 19	PMU_EN, LNA_EN	System enable pins
18	SYS_RST-	System reset pin
20~22	IRQ_X	Interrupt pins

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1.3 Hardware Installation Procedures

Example of Installation procedures:

1. Disconnect from any power supply.
2. Solder firmly the module onto the host system board.
3. For best performance, have the Wifi+BT chip antenna located as far away as possible from any metal.
4. Connect the GPS antenna to the module via coaxial cable to the GPS RF connector on the module.
5. For best performance, have the GPS antenna located as far away as possible from any metal and pointing upward to the sky.
6. Turn on the host unit and supply 3.3V+/-0.1V to the module.

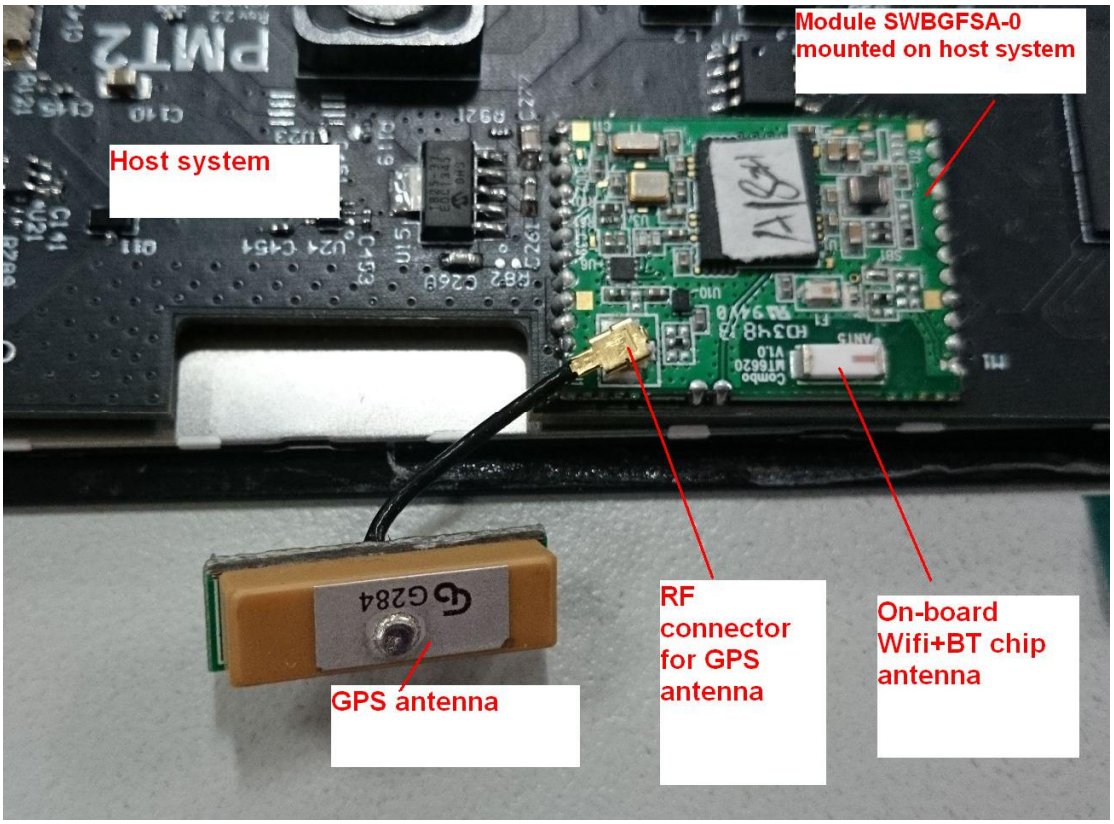

Figure 2. Example of module installation to the host system.

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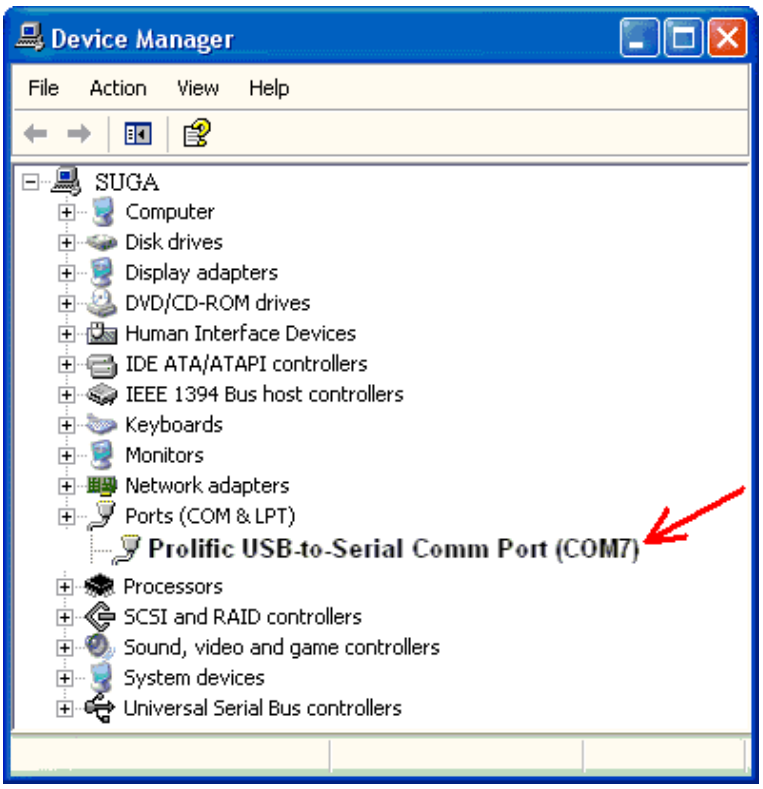
2. Software Installation

2.1 COM port check

Under Windows, run Device Manager. Check the physical COM port assignment. For example as in below picture, the COM port is COM7.



2.2 Software Configuration Tools

(1) Run "Lab Tool for WiFi **V1.30**" confiuguration tool. Check that the virtual COM port (WMT, BT, GPS) is same as those in below picture.

(2) Fill into the PHY port the correct physical COM port (COM7). Click Enable.

(3) Put the patch file "Patch_e3_20120405.bin" into any location in harddisk, e.g. ":\C".

(4) For BT/GPS, fill Virtual COM to be 31, click Open Port.

(5) Click Select > Select the patch file > Path. Wait until the log area reports successful.

(6) Click BT or GPS to enable BT or GPS.

(7) Read MAC address if necessary.

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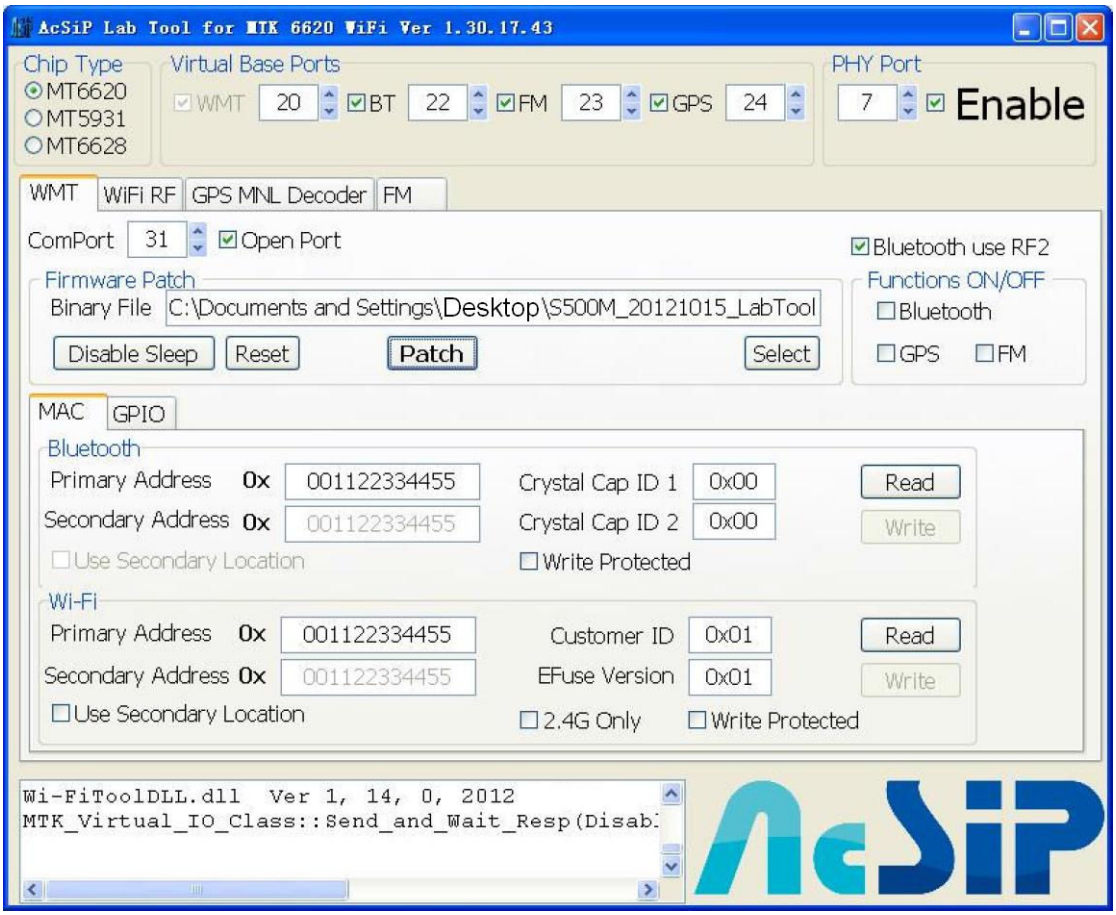

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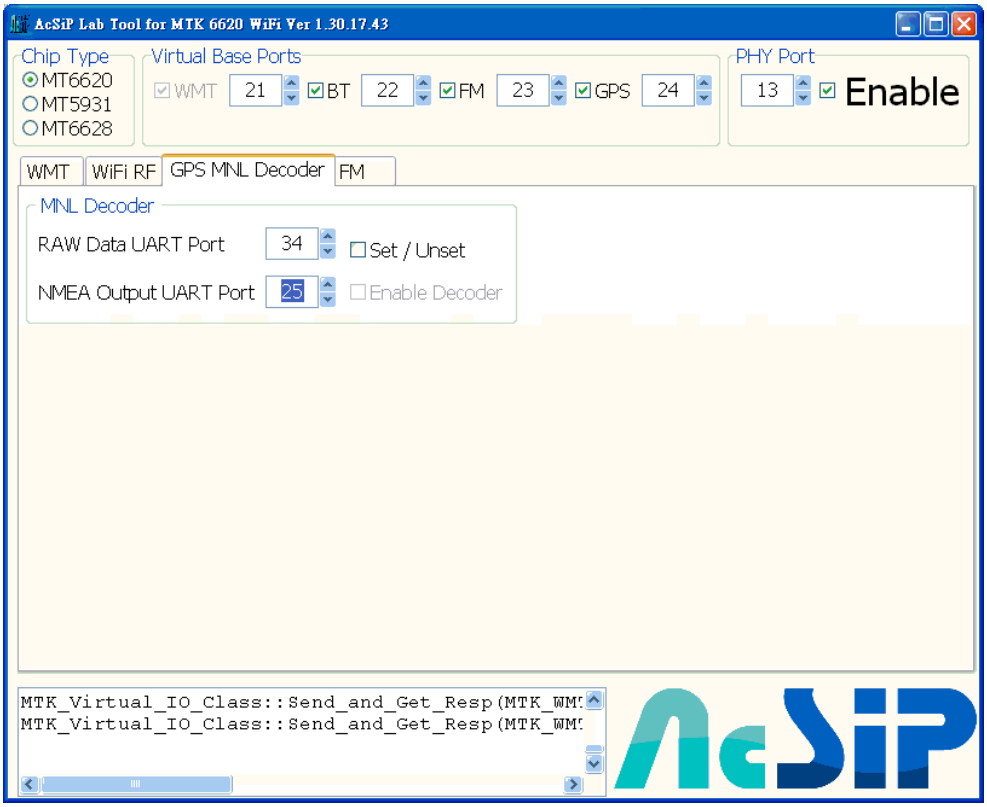
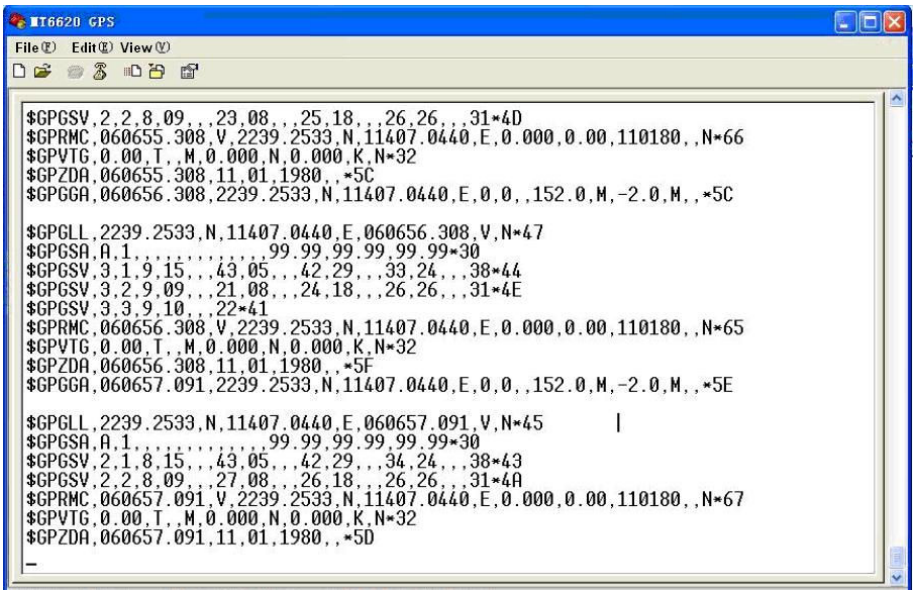
2.3 Configuration for GPS

(1) Create a hyper-terminal under Windows. Select COM35. Configure 115200-8-N-1 to view GPS data.

(2) Open “GPS MNL Decoder”. Select Set/Unset, Enable/Disable to enable/disable the GPS decoder.

(3) Wait a few seconds. GPS data will be given out to the hyper-terminal.





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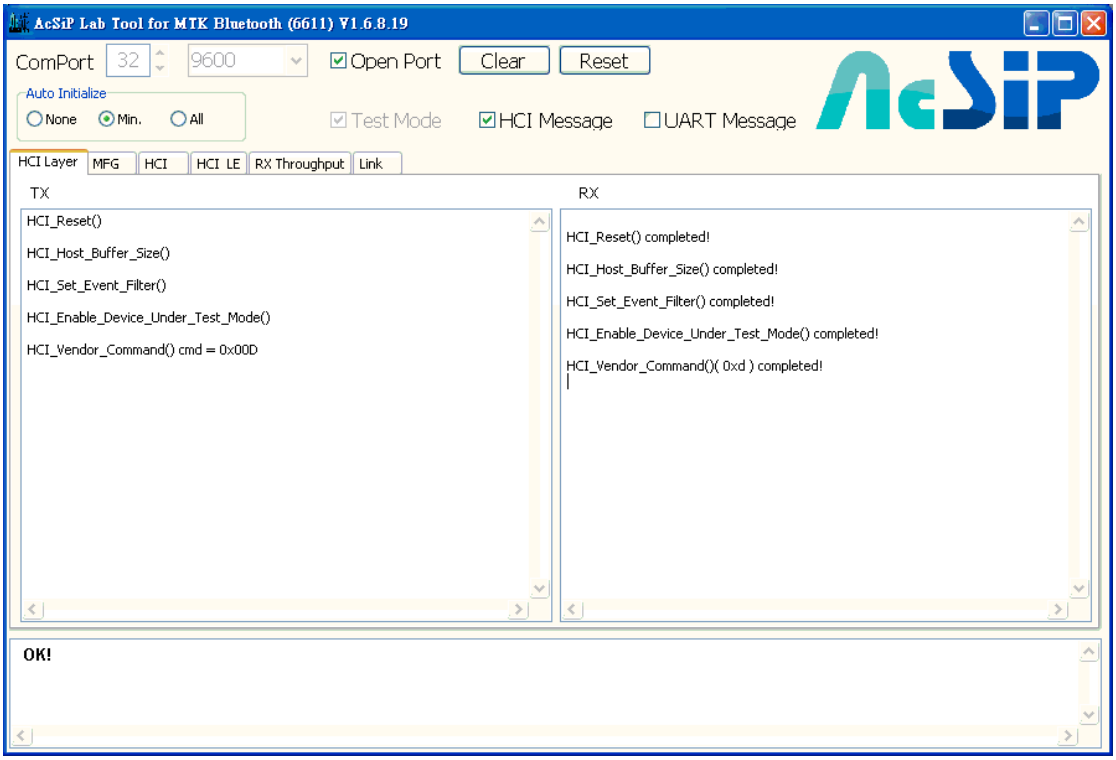
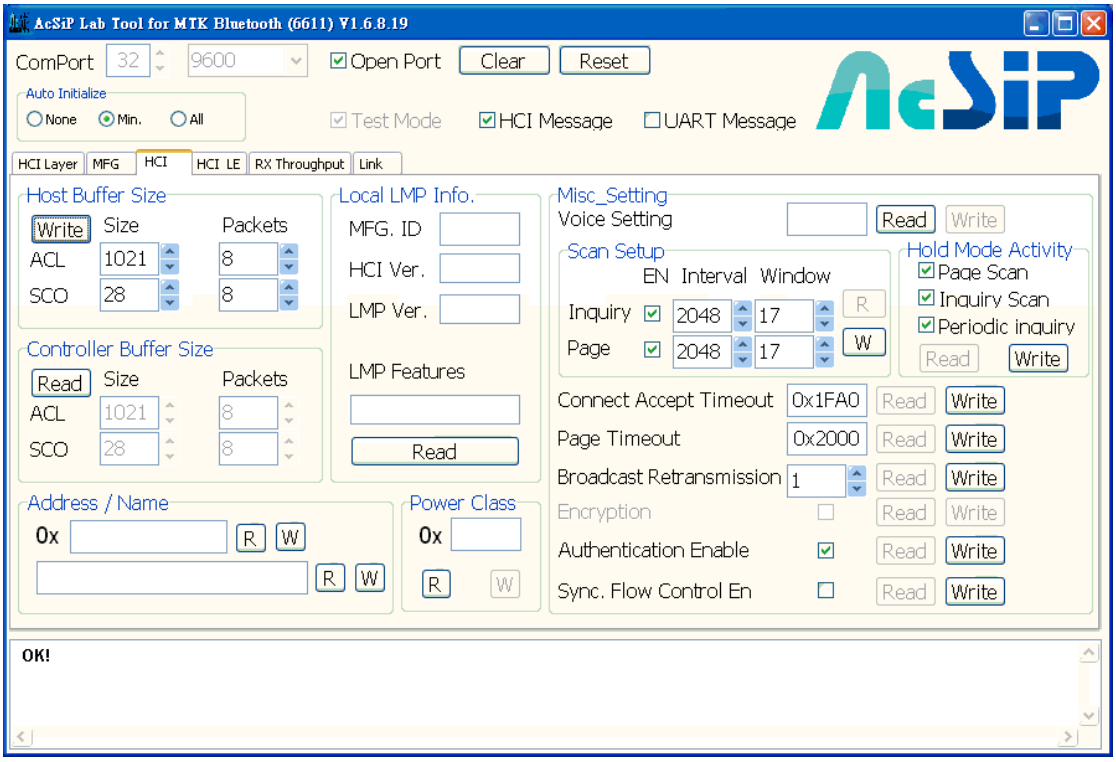
2.4 Configuration for BT

(1) Open “Lab Tool for Bluetooth **V1.6**”.

(2) Fill in 32 to COM port. Select Open.

(3) Configure BT package type, modulation, channel, etc.





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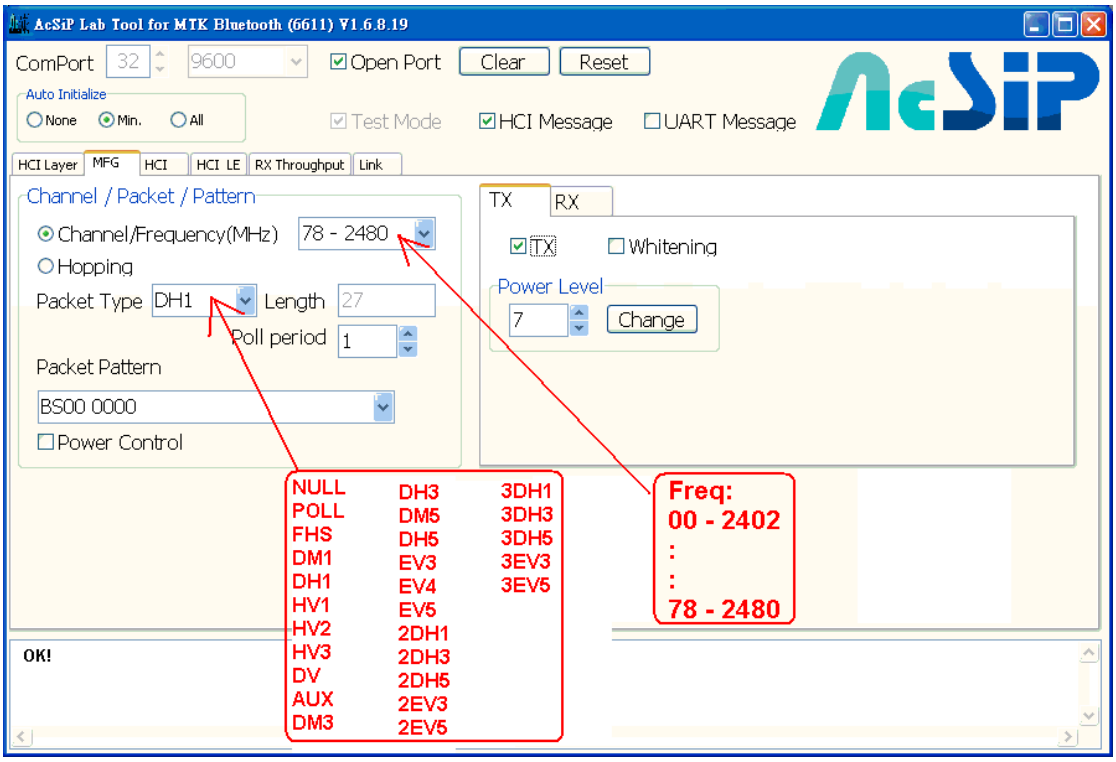

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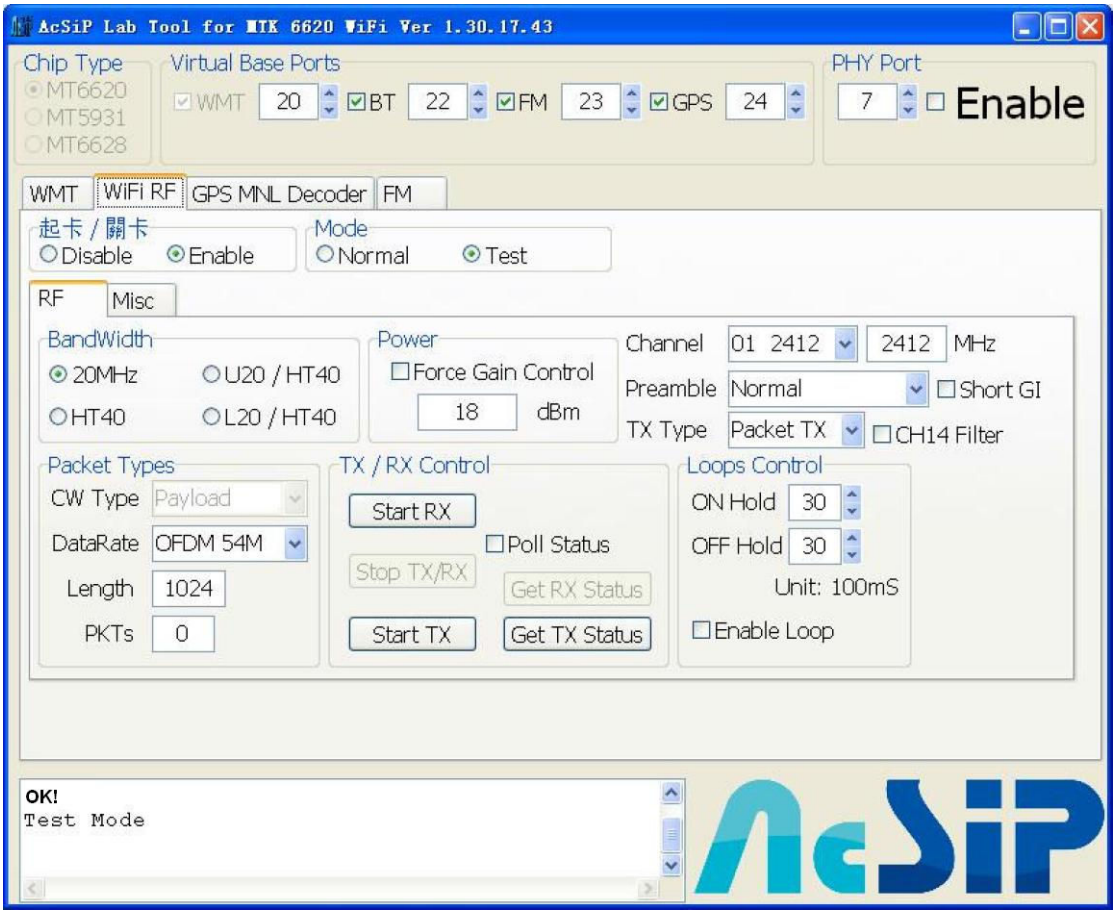
2.5 Configuration for Wifi

(1) Click Enable/Disable to enable/disable Wifi.

(2) Confirm that the log area reported successful.

(3) Configure desired channel, mode, etc.



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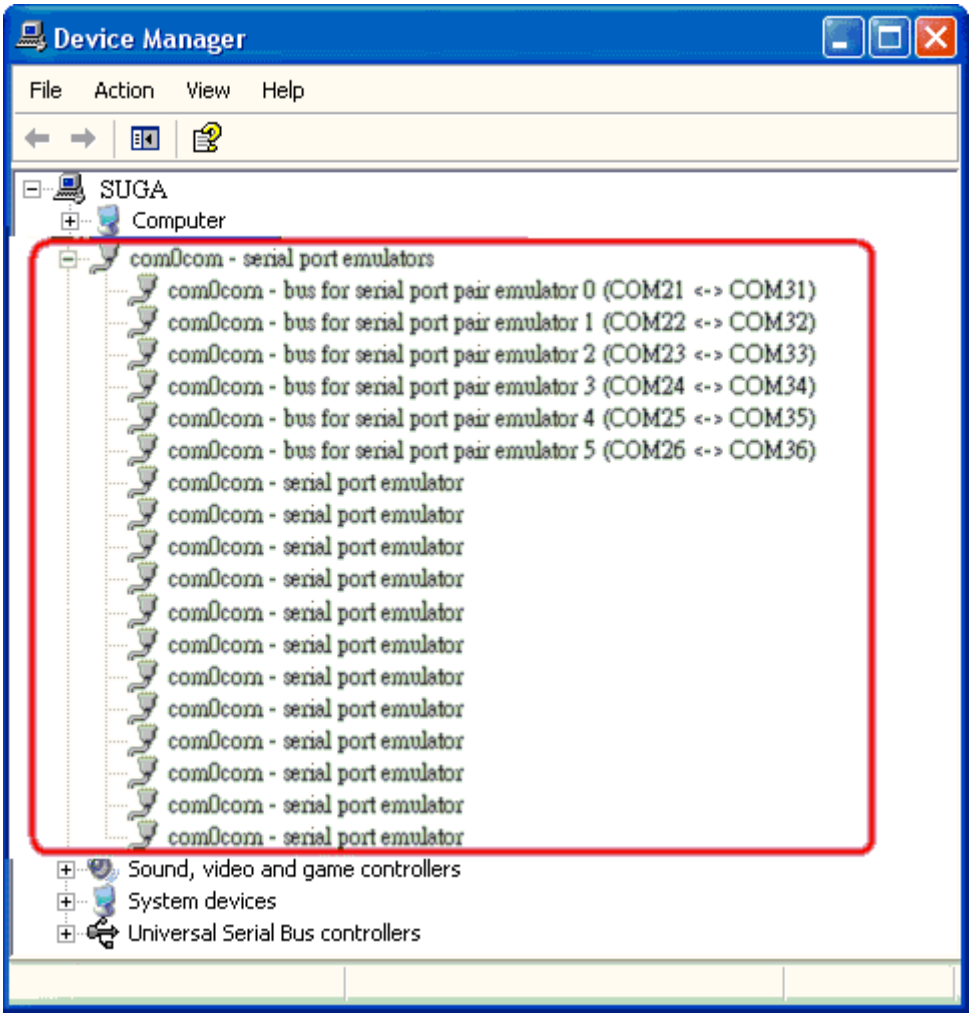
3. Trouble-shooting

In case the software configuration has any problem, please check below settings.

(1) Under Windows, run Device Manager. Check the correct Physical COM port. Different computer has different COM port.

(2) Check that Virtual COM installation is correct.



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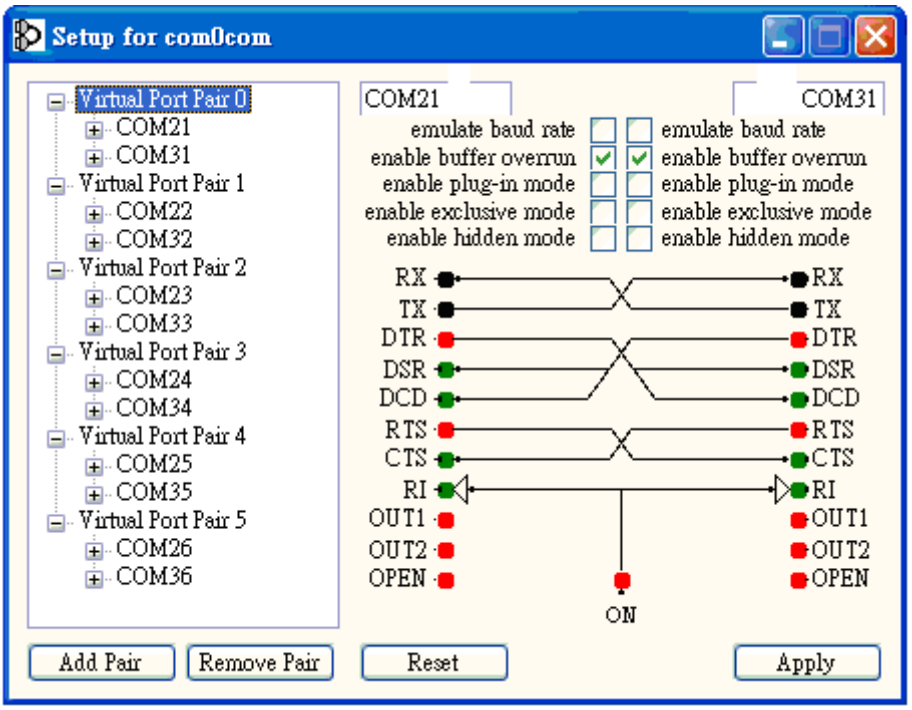
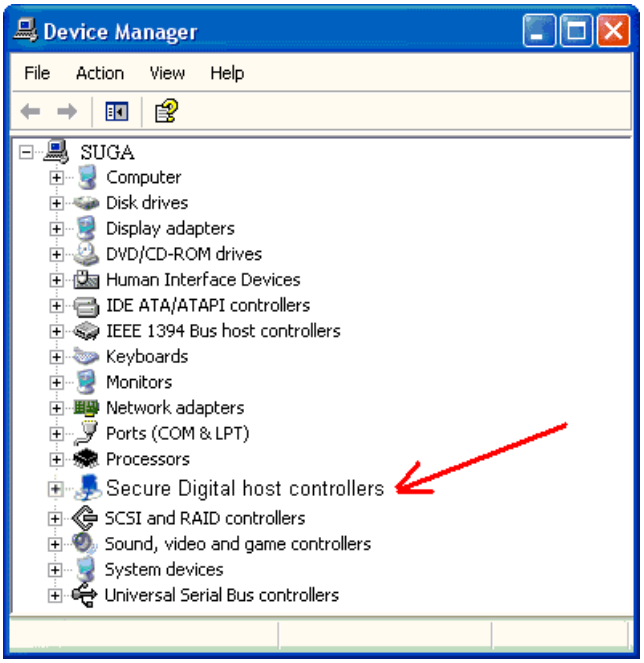
(3) Check that there are 6 Virtual COM pairs installed as in below pictures.



(4) Check that the Secure Digital Host Controllers is installed correctly.



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5. Device Labelling

The host device containing this module must either:
(1). Make the module label visible so that the FCC ID is visible in the end construction.
(2). Label the end product with the FCC ID of the module. For example, ”Contain FCC ID: VZFSWBGFSA0”.

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6. FCC Information

FCC caution:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

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

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.

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