



SR_DEMO_A

Walkie Talkie Transceiver /Data transfer Module

Demo Board specification

V105

DEMO_A_1WU



DEMO_A_1WV



DEMO_A_D2WU



DEMO_A_0W5U



DEMO_A_2WU



DEMO_A_1W350





1 Outline

1) The demo board can be used for these module evaluation as below:

- ◆ SR_FRS_1WU: 1W/400M-480M
- ◆ SR_FRS_1WV: 1W/136M-174M
- ◆ SR_FRS_1W350: 1W/350M-390M
- ◆ SR_FRS_2WU: 2W/400M-480M
- ◆ SR_FRS_0W5U: 0.5W/400M-480M

DMR digital module:

- ◆ SR_DMR_2WU: 2W/400M-480M

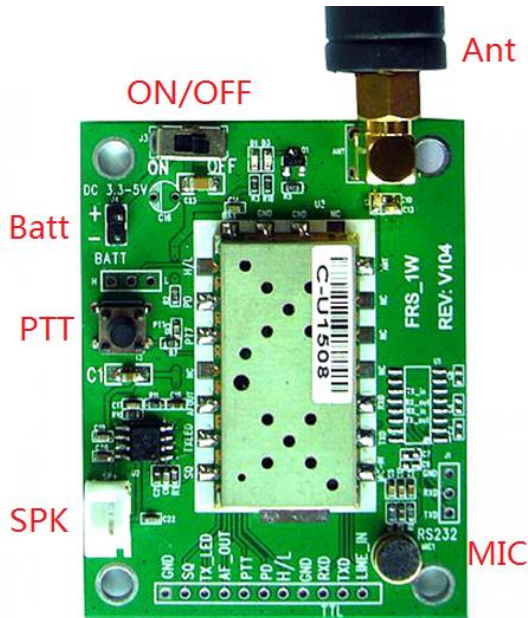
Please select the right demo board based on the module you used.

- 2) it is a full function Walkie Talkie Transceiver system; Only DC.5V power supply is needed. You may evaluate the voice talking and data transferring by the demo board; you needn't waste your time in search the components and sealing; it is convenient for you to evaluate our module quickly, and it is also effective for you to expedite the development;
- 3) The accessories of this demo board are as below:
One antenna;
We don't provide the battery and the speaker, because it can't be shipped.
- 4) We will provide you the technical support for both hardware and software , more than it, we can provide you the demo code for your reference;



2 The feature of the demo board

- 1) Voice intercom demo;
- 2) Data transfer demo;
- 3) We leave a group interface for customer development



3 About voice intercom demo

- 1) plug the speaker to the white outlet;
- 2) fix the antenna to the demo board;
- 3) Connect the DC power supply (or Battery) to the demo board, please pay attention to the power polarity; The DC power voltage could be 3.3V-5V, the recommend DC power is 4.0V;

The current capacity should be double of the transmit current.

- 4) After connect the power supply correctly, the power Led would turn on;
- 5) When press the PTT key, The red LED for transfer state indication would turn on; Now you may talk;
Release the PTT Key , Red LED would turn off, it into the receive state, you may receive the talking from opposite side ;



4 How to set the parameter of the module

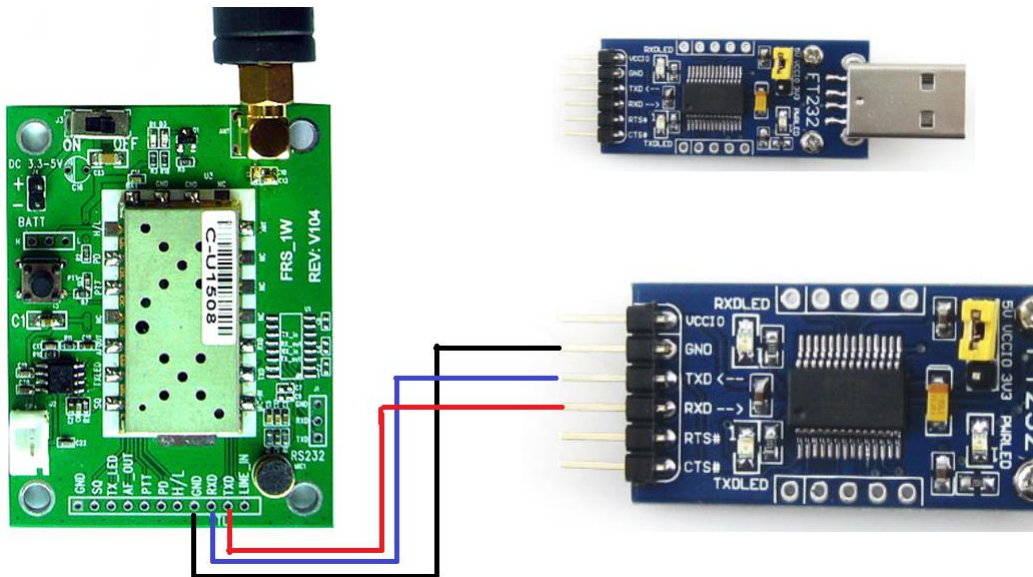
The setting command please refer 《serial communication protocol》, You may ask it from our company;

Special comment:

For we have two type module of analog and digital(DMR), The following spec. is just for our analog module.

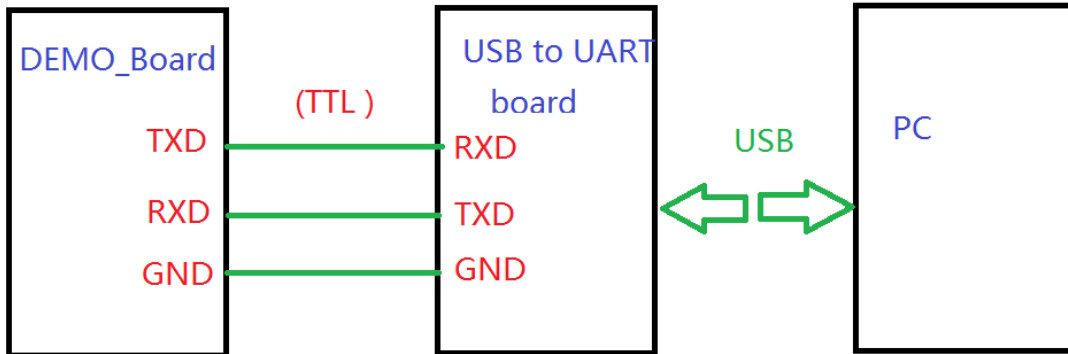
Because the DMR module has different BAUT and command, so, if you order the DMR module, please refer to the DMR spec. to operate it.

- 1) The serial port connection Schematic diagram.
 (just a sample for FRS_1WU module)



Please connect the demo board TXD,RXD , GND with the USB TO UART board
 Comment:

- We leave two UART interface for user,
- One is RS232 level, please add the MAX232 yourself;
- One is TTL level (3.0V), the sample is for TTL level.



3) PC COM port setting

Serial port; May be COM1,COM2.COM3.... etc.

Baut: 9600 only;

Parity: None

Data: 8

stop: 1

4) Frs module parameter setting:

(The command below is for analog module, not for DMR module)

Here is a example for **GROUP COMMAND** Setting:

AT+DMOSETGROUP=0,450.0500,450.0500,0,2,0,0

(An "Enter" must be added at the end of the command)

The parameter contents are as below in turn:

0: Narrow

450.0500: Transmit frequency (MHZ)

450.0500: Receive frequency (MHZ)

0: Receive CTCSS

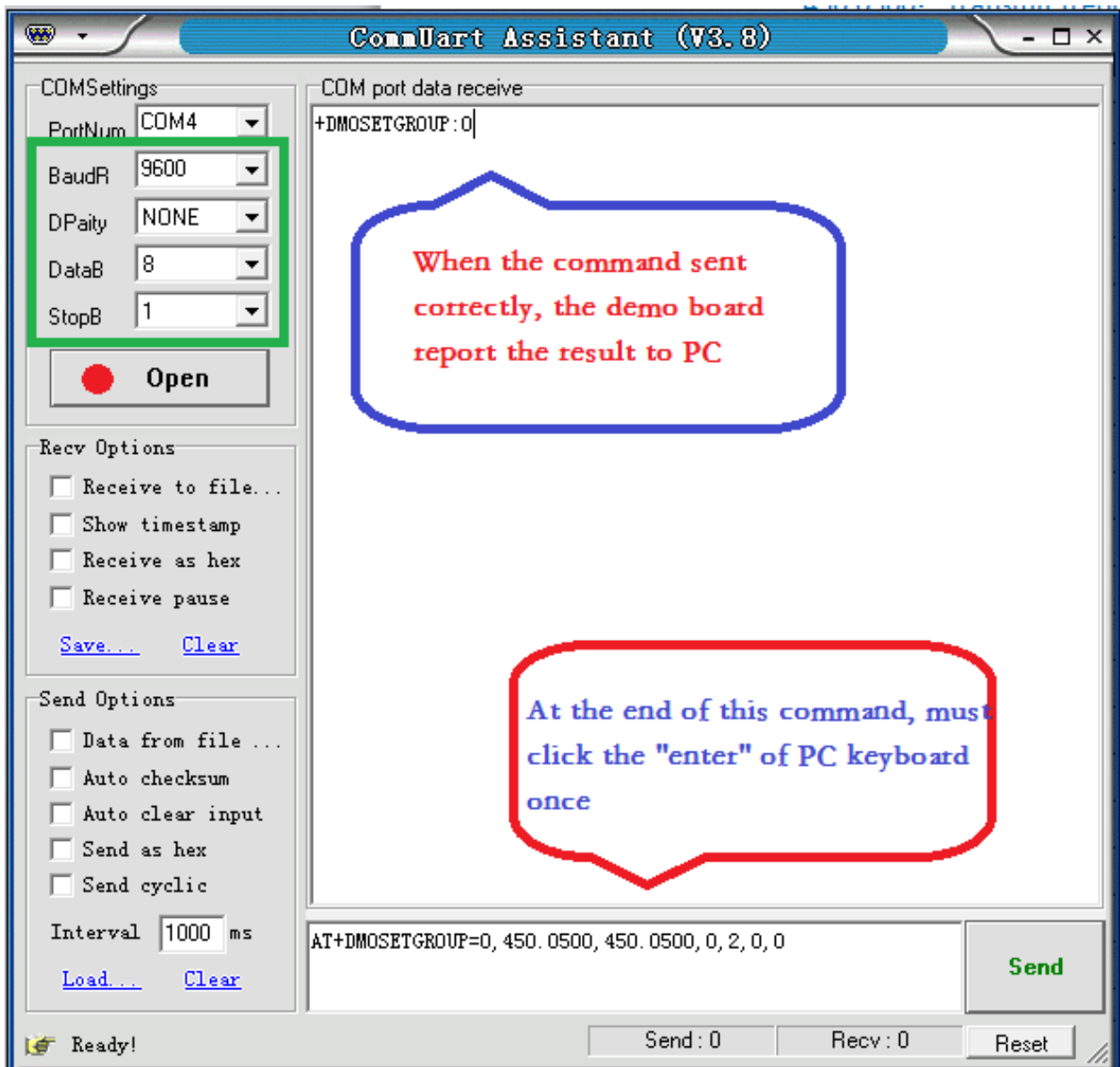
2: Squelch level

0: Transmit CTCSS

0: Rf output power and etc. :

Comment:

- 1) The Tx Frequency and Rx Frequency can be set alone.
- 2) The Tx CTCSS and Rx CTCSS can be set alone.
- 3) The parameter can't be kept because of this demo board without MCU.



At the end of the command, a “enter” must be done then click the “send”;
If the command is sent correctly, then the module returns
+DMOSETGROUP:0 to the receive area

The other parameter setting is same as the Group setting, Please refer
《UART communication protocol》

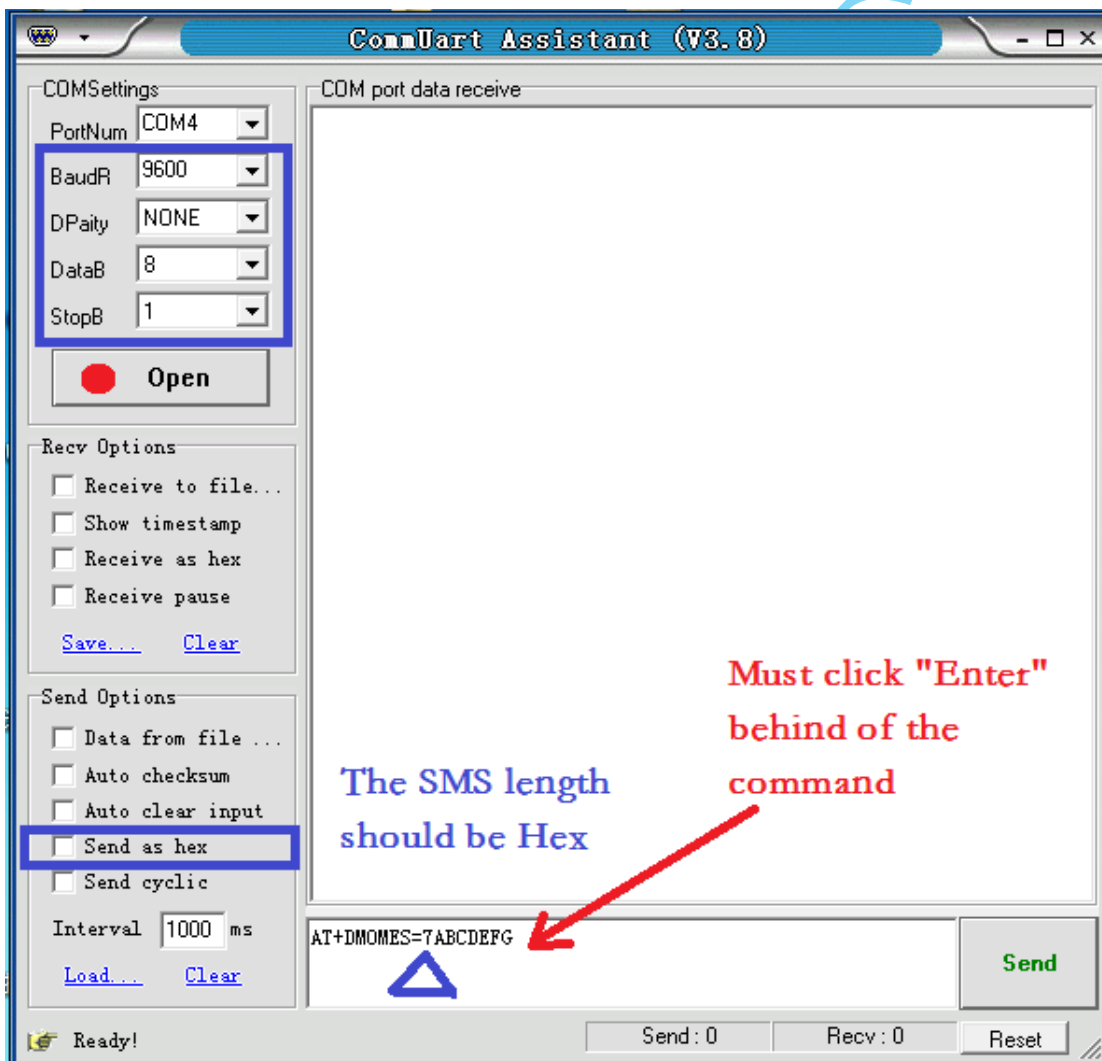


5) Short message / Data transfer

Prepare 2 sets PC, All the PC must connect the demo board correctly;
Suppose PC1 as the data transfer, and PC2 as the data receiver;

Transfer data by PC1:

- 1) Input the command with Text format (Don't check the "Send as hex")
AT+DMOMES=7ABCDEF8
(must click "Enter" key once from the keyboard)



Because the SMS length should be Hex, The command should be converted into HEX format, And modify the Length manually.



2) Check the item of serial tool “Send as HEX”

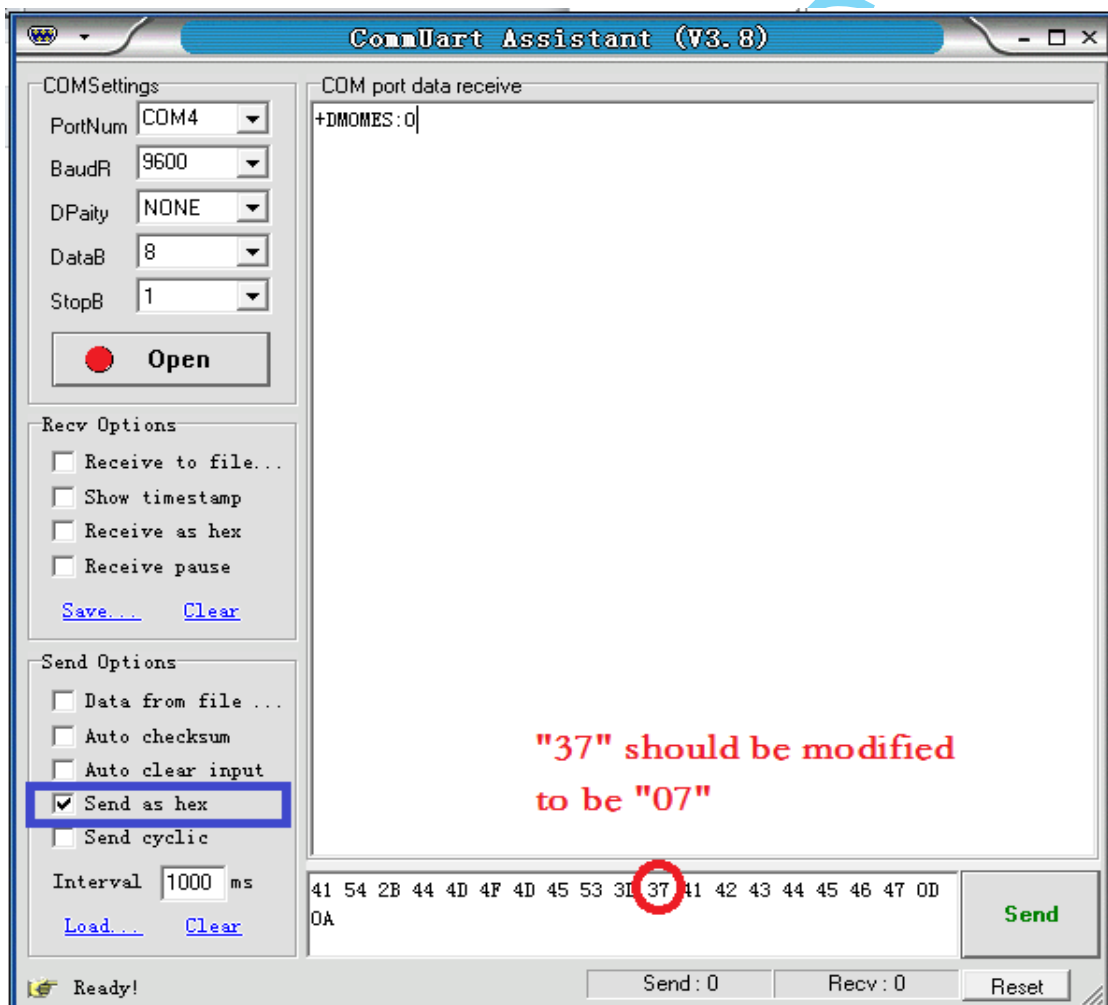
Now the command of text format is converted to HEX format automatically;

41 54 2B 44 4D 4F 4D 45 53 3D 37 41 42 43 44 45 46 47 0D 0A

The “37” Should be modified to be “07” manually , because the Length Byte is Hex;

The right command should be:

41 54 2B 44 4D 4F 4D 45 53 3D 07 41 42 43 44 45 46 47 0D 0A



3) Click “Send”

4) Once the message is sent correctly by module, The module would report the transfer results to PC, that is , the contents as below would be displayed on PC1.

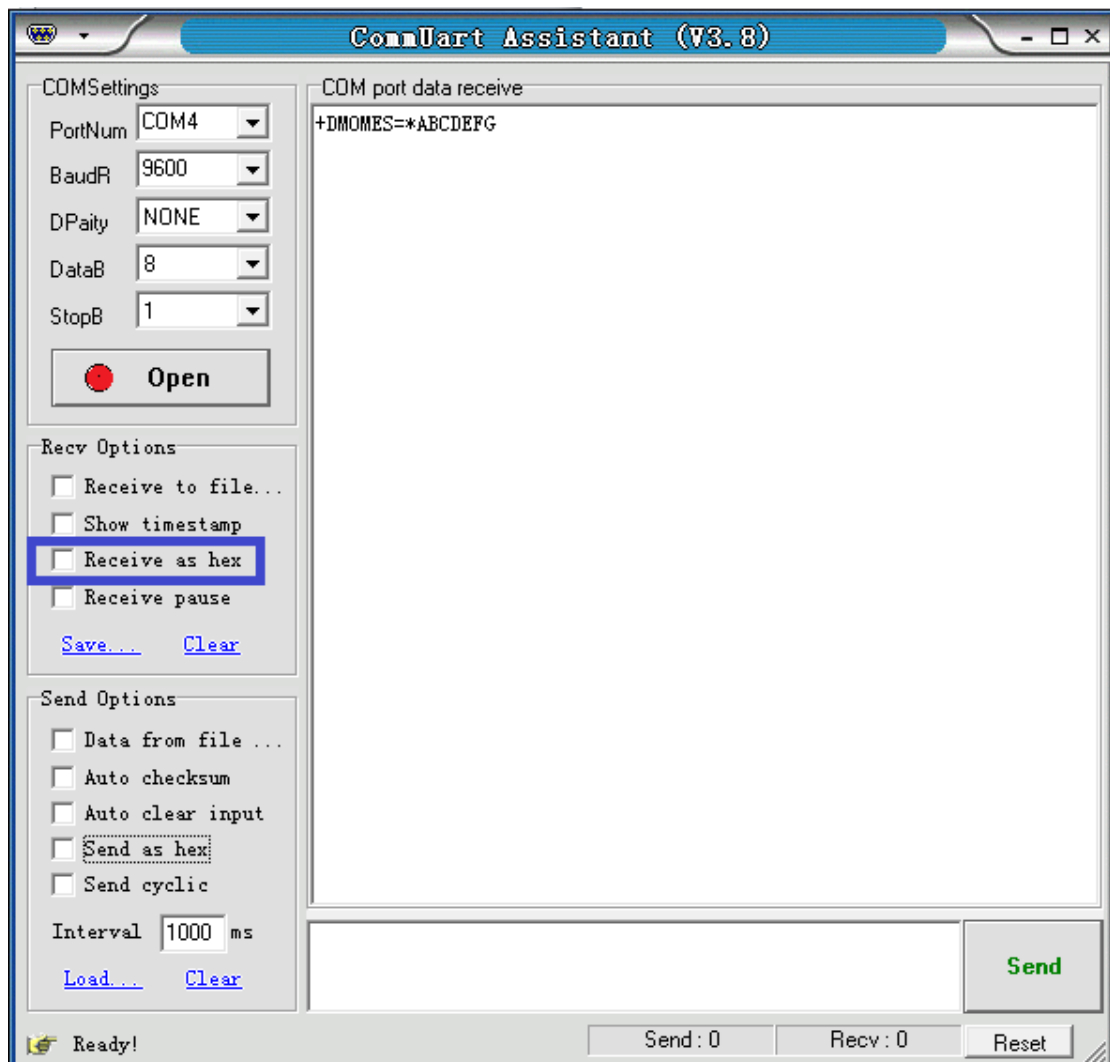
+ DMOMES: 0



Receive data by PC2:

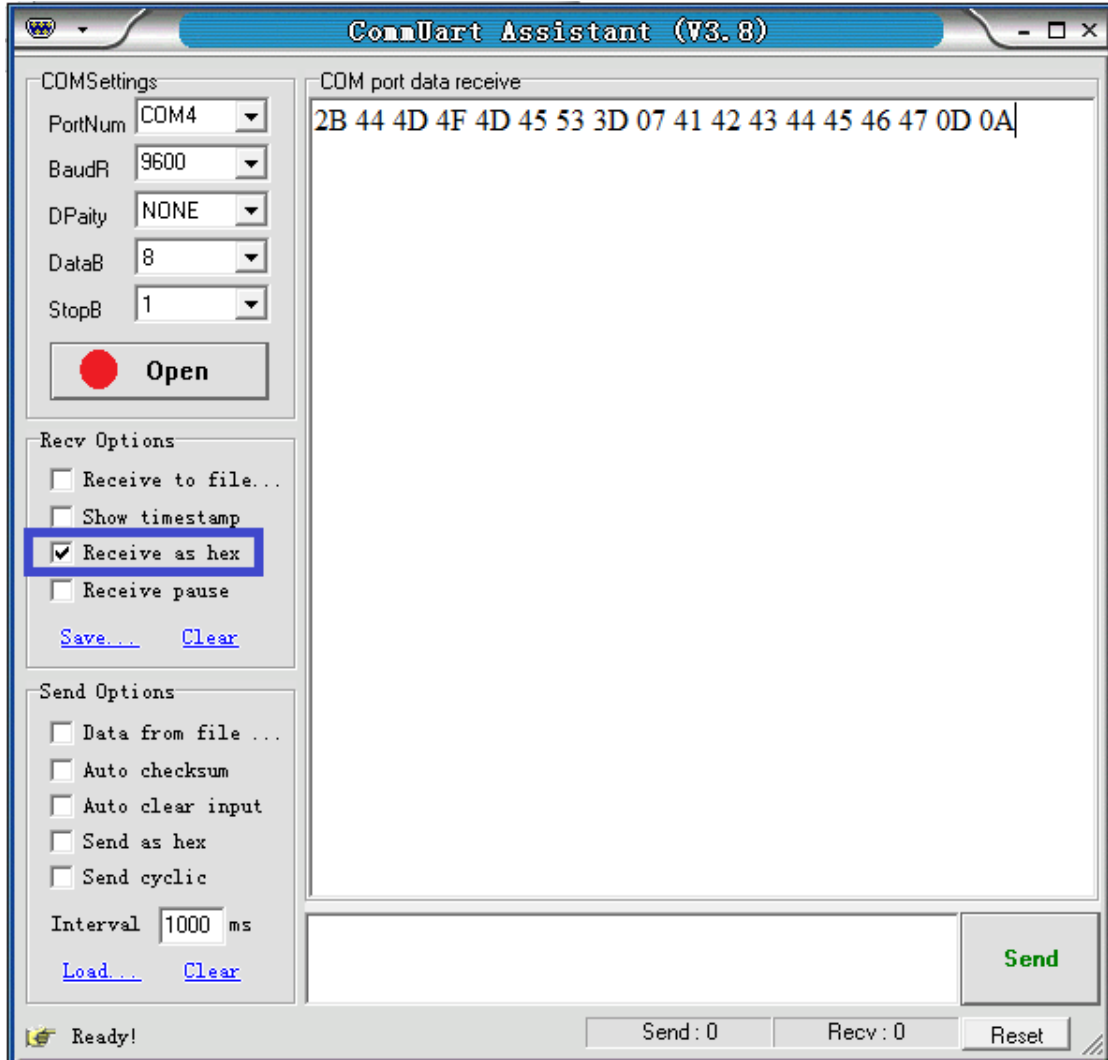
Once received a message /data , The receive area would display as below:

- 1) When not check “Receive as HEX” , The display contents would be:
+DMOMES=*ABCDEF





- 2) When check “Receive as HEX” , The display contents would be:
2B 44 4D 4F 4D 45 53 3D 07 41 42 43 44 45 46 47 0D 0A





5. Comment

- 1) The default frequency of the demo board
(*Not for DMR module*)
UHF : 450.050MHZ (for both Tx and Rx)
VHF: 150.050MHZ (for both Tx and Rx)
The default CTCSS is 0;
- 2) For the all parameter you set, it couldn't be kept once power off;
- 3) About the antenna we sent to you
For 1W UHF module, The antenna central frequency is 450M + - 5M;
For 1W VHF module, The antenna central frequency is 150M + - 5M;

The antenna central frequency must be same with the module working frequency, otherwise, it would seriously affect the transmit power and the receive sensitivity;

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- 1) the demo board is subject to be upgrade without notice.
So the board you ordered may be have some difference with the spec.