

11. Stand alone Test

11.1 Introduction

This manual explains how to examine the status of RX and TX of G5200/W5200 model.

A. Tx Test

TX test- this is to see if the transmitter of G5200/W5200 is activating normally

B. Rx Test

RX test- this is to see if the receiver of G5200/W5200 is activating normally.

11.2 Setting Method

A. COM port

- a. Move your mouse on the "Connect" button, then click the right button of the mouse and select "Com setting".
- b. In the "Dialog Menu", select the values as explained below.
 - Port : select a correct COM
 - Baudrate : 38400
 - Leave the rest as default values

B. Tx

1. Selecting Channel

- Select one of GSM or DCS Band and input appropriate channel.

2. Selecting APC

- a. Select either Power level or Scaling Factor.
- b. Power level
 - Input appropriate value GSM (between 5~19) or DCS (between 0~15)
- c. Scaling Factor
 - A 'Ramp Factor' appears on the screen.
 - You may adjust the shape of the Ramp or directly input the values.

C. Rx

1. Selecting Channel

- Select one of GSM or DCS Band and input appropriate channel.

2. Gain Control Index (0~ 26) and RSSI level

- See if the value of RSSI is close to -16dBm when setting the value between 0 ~ 26 in Gain Control Index.
- Normal phone should indicate the value of RSSI close to -16dBm.

11.3 Means of Test

- a. Select a COM port
- b. Set the values in Tx or Rx
- c. After setting them all above, press Start button of Signal.

12. Auto Calibration

12.1 Overview

AutoCal (Auto Calibration) is the PC side calibration tool that perform Rx and Tx calibration with Agilent 8960 or other equipment. AutoCal generate calibration data by communicating with phone and measuring equipment and write it into calibration data block of flash memory in GSM phone.

12.2 Requirements

- Microsoft Windows98/ME
- AutoCal.exe
- GSM phone
- Agilent 8960 (or other equipment)

12.3 Menu and settings

- **Edit → Ramp** : Show reference power ramp window. Reference ramp is used in APC procedure. You can open or save reference ramp data and edit it on notepad.

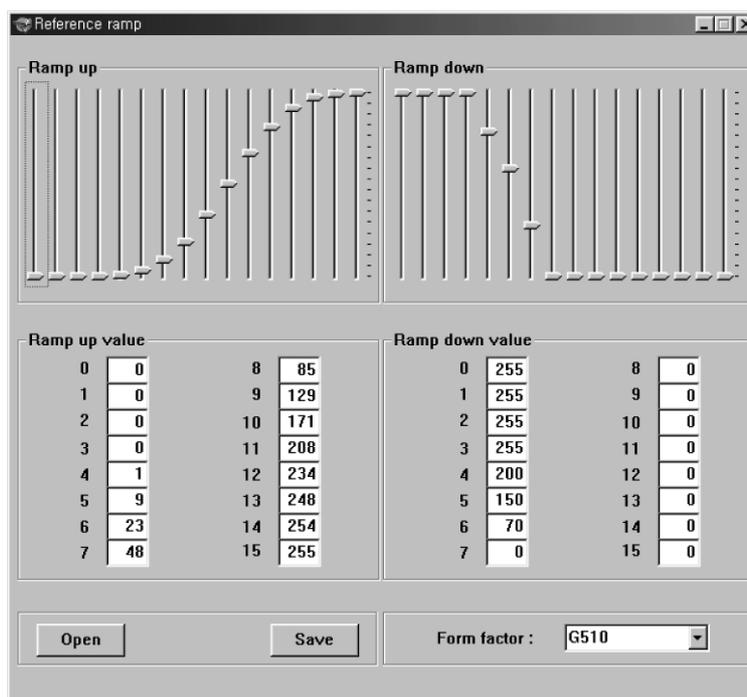


Figure 12-1. Reference ramp window.

- **Edit → Make bin & write** : Make binary file from measured calibration data and write to the phone. The name of binaryfile is cal.bin by default. You can change it at Option → Settings → Bin files tab.
- **Edit → Make bin as** : Make binary file as the other name.
- **Edit- → Make RF & BB bin** : Make RF(AGC, APC) bin and BB(ADC) bin separately.

- **Connection → Connect to phone** : Connect to the phone which you want to measure. This procedure checks whether the PC is connected to “Ag8960” or not. If not connected to “Ag8960” try to connect to “Ag8960”. After that it performs sync. procedure with phone. If the sync. procedure is successful state column on statusbar changed to SETUP else you should disconnect phone and try it again from the beginning. All measurement is performed at state SETUP
- **Connection → Disconnect phone** : Disconnect phone.
- **Connection → Port setting** : Show COM port setting dialog you can change port number, baud rate etc.
- **Connection → Connect to Ag8960** : Connect to Agilent 8960.
- **Connection → Disconnect Ag8960** : Disconnect Agilent 8960.
- **Option → Settings → Gpib state** : Show current primary Gpib state.
- **Option → Settings → MPL** : Set max Tx power level used in APC procedure.
- **Option → Settings → CL** : Set cable loss value.
- **Option- → Settings → Bin file** : Set default binary file name.

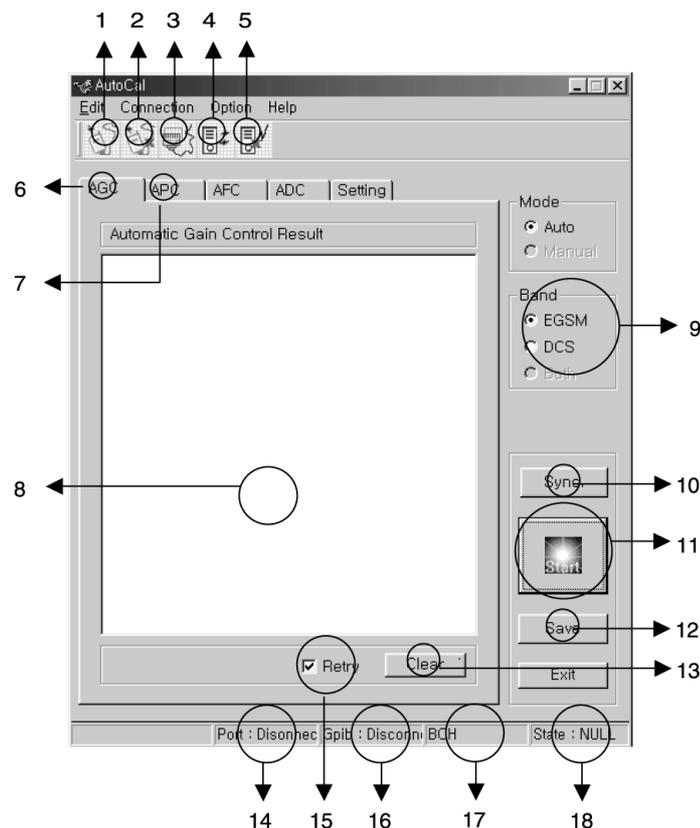


Figure 12-2. Buttons and status bar

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|----------------------|-------------------------|-----------------------------|
| 1. Connect to phone | 8. Result window | 14. Port connection state |
| 2. Disconnect phone | 9. Band setting | 15. Retry button |
| 3. Port setting | 10. Sync. Button | 16. Ag8960 connection state |
| 4. Connect to Ag8960 | (button 2 + button 1) | 17. Informations. |
| 5. Disconnect Ag8960 | 11. Start measure | 18. Current state. |
| 6. AGC tab | 12. Save result | |
| 7. APC tab | 13. Clear result window | |

12.4 AGC

This procedure is for Rx calibration.

In this procedure, We can get RSSI correction value. Set band EGSM and press Start button the result window will show correction values per every power level and gain code and the same measure is performed per every frequency.

12.5 APC

This procedure is for Tx calibration.

In this procedure you can get proper scale factor value and measured power level.

12.6 ADC

This procedure is for battery calibration.

You can get mainBatteryConfigTable and temperatureConfigTable

12.7 Setting

Select automatic calibration item. If you uncheck one item calibration will stop from the unchecked item. This is useful when you want to process only one item.

12.8 How to do calibration

- A. Connect cable between phone and serial port of PC.
- B. Connect Ag8960 equipment and phone.
- C. Set correct port and baud rate.
- D. Press "Connect to phone" button so that the state change to SETUP.
- E. Set band to EGSM.
- F. Select AGC tab.
- G. Press Start button. AutoCal process all calibration procedure
 - i. AGC EGSM
 - ii. AGC DCS
 - iii. APC EGSM
 - iv. APC DCS
 - v. ADC
- H. After finished all measurement. The state is return to SETUP.
- I. Select Edit → Make bin & write then cal.bin file will be generated and then the calibration data will be written into phone.