

10. ENGINEERING MODE

A. About Engineering Mode

Engineering mode is designed to allow a service man/engineer to view and test the basic functions provided by a handset.

B. Access Codes

The key sequence for switching the engineering mode on is 2945##. Pressing END will switch back to non-engineering mode operation.

C. Key Operation

Use Up and Down key to select a menu and press 'select' key to progress the test. Pressing 'back' key will switch back to the original test menu.

10.1 BB Test [MENU 1]

Baseband Test

A. LCD [1-1]

This menu is to test the LCD contrast.

- **Contrast Value [1-1-1]** : Change this value by up and down key.

B. Backlight [1-2]

This menu is to test the LCD Backlight and Keypad Backlight.

- **Backlight On [1-2-1]** : LCD Backlight and Keypad Backlight light on at the same time.
- **Backlight Off [1-2-2]** : LCD Backlight and Keypad Backlight light off at the same time.
- **Backlight value [1-2-3]** : This controls brightness of Backlight. When entering into the

menu, the present backlight-value in the phone is displayed. Use Left/Right key to adjust the level of brightness. The value of the brightness set at last will be saved in the NVRAM.

C. Buzzer [1-3]

This menu is to test the melody sound.

- **Melody on [1-3-1]** : Melody sound is played through the speaker.
- **Melody off [1-3-1]** : Melody sound is off.

D. Vibrator [1-4]

This menu is to test the vibration mode.

- **Vibrator On [1-4-1]** : Vibration mode is on.
- **Vibrator Off [1-4-2]** : Vibration mode is off.

E. ADC (Analog to Digital Converter) [1-5]

This displays the value of each ADC.

- **MVBAT ADC (Main Voltage Battery ADC) [1-5-1]**
- **AUX ADC (Auxiliary ADC) [1-5-2]**
- **TEMPER ADC (Temperature ADC) [1-5-3]**

F. BATTERY [1-6]

- **Bat Cal [1-6-1] :**

This displays the value of Battery Calibration.

The following menus are displayed in order;

BAT_LEV_4V, BAT_LEV_3_LIMIT, BAT_LEV_2_LIMIT, BAT_LEV_1_LIMIT, BAT_IDLE_LIMIT,
BAT_INCALL_LIMIT, SHUT_DOWN_VOLTAGE, BAT_RECHARGE_LMT

- **TEMP Cal [1-6-2] :**

This displays the value of Temperature Calibration.

The following menus are displayed in order; TEMP_HIGH_LIMIT,

TEMP_HIGH_RECHARGE_LMT, TEMP_LOW_RECHARGE_LMT, TEMP_LOW_LIMIT

G. Audio [1-7]

This is a menu for setting the control register of Voiceband Baseband Codec chip.

Although the actual value can be written over, it returns to default value after switching off and on the phone.

- **VbControl1 [1-7-1] :** VbControl1 bit Register Value Setting
- **VbControl2 [1-7-2] :** VbControl2 bit Register Value Setting
- **VbControl3 [1-7-3] :** VbControl3 bit Register Value Setting
- **VbControl4 [1-7-4] :** VbControl4 bit Register Value Setting
- **VbControl5 [1-7-5] :** VbControl5 bit Register Value Setting
- **VbControl6 [1-7-6] :** VbControl6 bit Register Value Setting

H. DAI (Digital Audio Interface) [1-8]

This menu is to set the Digital Audio Interface Mode for Speech Transcoder and Acoustic testing.

- **DAI AUDIO [1-8-1] :** DAI audio mode
- **DAI UPLINK [1-8-2] :** Speech encoder test
- **DAI DOWNLINK [1-8-3] :** Speech decoder test
- **DAI OFF [1-8-4] :** DAI mode off

10.2 RF Test [MENU 2]

Radio Frequency Test

A. SAR Test [2-1]

This menu is to test the Specific Absorption Rate.

- **SAR Test On [2-1-1]** : Phone continuously process TX only. Call-setup equipment is not required.
- **SAR Test Off [2-1-2]** : TX process off

10.3 MF Mode [MENU 3]

This manufacturing mode is designed to do the baseband test automatically. Selecting this menu will process the test automatically, and phone displays the previous menu after completing the test.

A. All auto test [3-1]

LCD, LED, Backlight, Vibrator, Buzzer, and Key Pad are tested in order for a certain time.

B. Backlight [3-2]

LCD Backlight and LED Backlight are on for about 1.5 seconds at the same time, then off.

C. Buzzer [3-3]

This menu is to test the volume of Melody. It rings in the following sequence.
Volume1 . Volume2 . Volume3 .Volume0 (mute) . Volume4 . Volume5

D. Vibrator [3-4]

Vibrator is on for about 1.5 seconds.

E. LCD [3-5]

Main LCD screen resolution tests horizontally and vertically one by one and fills the screen.

F. Key pad [3-6]

When a pop-up message shows 'Press Any Key', you may press any keys including side keys, but not [Soft2 Key]. If the key is working properly, name of the key is displayed on the screen. Test will be completed in 15 minutes automatically and the screen displays the previous one.

10. ENGINEERING MODE

10.4 Trace option [MENU 4]

This is NOT a necessary menu to be used by neither engineers nor users.

10.5 Call Timer [MENU 5]

A. All calls [5-1]

This displays total conversation time. User cannot reset this value.

B. Reset settings [5-2]

This resets total conversation time to this, [00:00:00].

10.6 Fact. Reset [MENU 6]

This Factory Reset menu is to format data block in the flash memory and this procedure set up the default value in data block.

10.7 S/W version [MENU 7]

This displays software version stored in the phone.

Attention

- Fact. Reset (i.e.Factory Reset) should be only used during the Manufacturing process.
- Servicemen should NOT progress this menu, otherwise some of valuable data such as Setting value, RF Calibration data, etc. cannot be restored again.