

## **4. Nam Programming**

# NAM Programming

---

NAM features can be programmed as follows:

**Notes:**

-If you enter the NAM program mode, each item shows the currently stored data. Go to the next item by pressing **STO**.

-You can modify the data by entering a new data.

-If you enter a wrong digit, press **CLR** to delete the last digit. Press and hold **CLR** to delete all digits.

-To scroll items backwards or forwards, press the VOLUME button on the left side of the phone.

## 4-1 General Setup

---

| LCD Display                              | Key in                     | Function                                                                                                                                                                                                               |
|------------------------------------------|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                          | <b>47*869#08#9</b>         | -selects NAM programming                                                                                                                                                                                               |
| NAM Program<br>1:General<br>2:Setup NAM1 | 1                          | -choose 'GENERAL.'                                                                                                                                                                                                     |
| ESN<br>9F031F77                          | Volume  ã                  | Electronic Serial Number of the phone.                                                                                                                                                                                 |
| CAI version<br>2                         | Volume  ã                  | The version of the Common Air Interface supported by the mobile.                                                                                                                                                       |
| SCM<br>01101010                          | Volume  ã                  | Station Class Mark displays the power class(bit 0~1), transmission (bit2), slotted (bit5), dual mode (bit6).                                                                                                           |
| Lock Code<br>0000                        | 4-digit code               | Four-digit number supplied by the user which enables STO electronic locking of the phone.                                                                                                                              |
| Slot Mode<br>Yes                         | * or #<br><b>STO</b>       | Enables slot mode.                                                                                                                                                                                                     |
| Slot Index<br>2                          | <b>0 - 7</b><br><b>STO</b> | Slot mode index.<br>Specifies the duration and frequency of times that the mobile checks the paging channel. The higher the value, the less often the mobile looks at the paging channel, and the more power is saved. |
| Pref NAM(1~4)...                         |                            | Preferred system selection for NAM(1~4).                                                                                                                                                                               |
| Digital pref                             | * or #<br><b>STO</b>       | Up to four NAMs are allowed for the phone. This lists one of the four NAMs and allows you to program both the FM and CDMA settings.                                                                                    |

## 4-2 Setting Up NAM1

| LCD Display                              | Key in                       | Function                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAM Program<br>1:General<br>2:Setup NAM1 | 2                            | -choose 'Setup NAM1.'                                                                                                                                                                                                                                                                                                                                                     |
| Setup NAM1<br>1:FM<br>2:CDMA             | 1                            | -choose 'FM.'                                                                                                                                                                                                                                                                                                                                                             |
| FM TEL NO.<br>1234567890                 | phone number<br><b>STO</b>   | FM phone number.                                                                                                                                                                                                                                                                                                                                                          |
| FM 1st Chn<br>333                        | channel number<br><b>STO</b> | 1st Paging Channel.<br>Suggested setting is 333 for the A carrier, 334 for the B carrier: ranges from 313to 333 for A and 334 to 354 for B.<br>Primary analog paging channel: setting depends on whether the service is provided by the A carrier or the B carrier.                                                                                                       |
| FM Home SID<br>4369                      | ID number<br><b>STO</b>      | FM Home System ID.<br>The Identification of the cellular system in which the mobile station subscribes for service.<br>Cellular Service provider.                                                                                                                                                                                                                         |
| FM Acq SID (1~6)<br>4                    | ID number<br><b>STO</b>      | FM Acquisition System ID.<br>Enables you to set the phone to acquire up to six SIDs in the analog mode. If you enter '0' for any SID, the program assumes that you have no more numbers to store. Default setting is 0: ranges from 0 to 32,767: up to six SIDs.                                                                                                          |
| FM LockSID (1~6)<br>0                    | ID number<br><b>STO</b>      | FM Lock System ID.<br>Enables you to specify up to six SIDs that the phone is prohibited from acquiring in analog mode. If you enter '0' for any SID, the program assumes that you have no more numbers to store. The user may be denied service when operating within the service areas of these systems. Default setting is 0: ranges from 0 to 32,767: up to six SIDs. |
| Auto Reg<br>Yes                          | * or #<br><b>STO</b>         | Enables autonomous registration.                                                                                                                                                                                                                                                                                                                                          |
| FM pref...<br>A only                     | * or #<br><b>STO</b>         | Preferred system selection.                                                                                                                                                                                                                                                                                                                                               |
| FM ACCOLC<br>0                           | * or #<br><b>STO</b>         | FM Access Overload Class.<br>This two-digit number specifies the level of priority assigned to the mobile for accessing the system.<br>Ranges from 0 to 15.                                                                                                                                                                                                               |

| LCD Display                  | Key in                       | Function                                                                                                                                                                                                                                                                                              |
|------------------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Setup NAM1<br>1:FM<br>2:CDMA | 2                            | -choose 'CDMA.'                                                                                                                                                                                                                                                                                       |
| IMSI MCC<br>000              | number<br><b>STO</b>         | International Mobile Station Identity Mobile Country Code.                                                                                                                                                                                                                                            |
| IMSI MNC<br>00               | number<br><b>STO</b>         | International Mobile Station Identity Mobile Network Code.                                                                                                                                                                                                                                            |
| CDMA TEL NO.<br>987654321    | phone number<br><b>STO</b>   | CDMA phone number.                                                                                                                                                                                                                                                                                    |
| CDMA pref...<br>A only       | * or #<br><b>STO</b>         | Preferred system selection.                                                                                                                                                                                                                                                                           |
| CDMA ACCOLC<br>0             | class number<br><b>STO</b>   | CDMA Access Overload Class.<br>This two-digit number specifies the level of priority assigned to the mobile for accessing the system.<br>Ranges from 0 to 15.                                                                                                                                         |
| Pchn Sys A<br>779            | channel number<br><b>STO</b> | Primary CDMA channel for the A carrier.<br>Ranges from 0 to 1,023. 0 indicates no channel.                                                                                                                                                                                                            |
| Pchn Sys B<br>779            | channel number<br><b>STO</b> | Primary CDMA channel for the B carrier.<br>Ranges from 0 to 1,023. 0 indicates no channel.                                                                                                                                                                                                            |
| Schn Sys A<br>738            | channel number<br><b>STO</b> | Secondary CDMA channel for the A carrier.<br>Suggested setting is 0: ranges from 0 to 1,023.                                                                                                                                                                                                          |
| Schn Sys B<br>738            | channel number<br><b>STO</b> | Secondary CDMA channel for the B carrier.<br>Suggested setting is 0: ranges from 0 to 1,023.                                                                                                                                                                                                          |
| CD Acq SID (1-6)<br>0        | ID number<br><b>STO</b>      | CDMA Acquisition System ID.<br>Enables you to set the phone to acquire up to six SIDs in the CDMA mode. If you enter '0' for any SID, the program assumes that you have no more numbers to store. Default setting is 0: ranges from 0 to 32,767: up to six SIDs.                                      |
| CD lockSID (1-6)<br>0        | ID number<br><b>STO</b>      | CDMA Lock System ID.<br>Enable you to specify up to six SIDs that the phone will be prohibited from acquiring in CDMA mode. If all six SIDs are set to zero, no lock restrictions will be in effect and the phone can acquire all SIDs. Default setting is 0: ranges from 0 to 32,767 up to six SIDs. |
| CDMA HomeSID<br>Yes          | * or #<br><b>STO</b>         | CDMA Home System ID.<br>Enables the phone to allow mobile terminated calls while in the home system. Controls the types of registration allowed for the phone.                                                                                                                                        |

| LCD Display      | Key in               | Function                                                                                                                                                                                                                                                                                                      |
|------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CDMA fSID<br>Yes | * or #<br><b>STO</b> | CDMA foreign System ID.<br>Enables the phone to allow mobile terminated calls while in a foreign system. Controls the types of registration allowed for the phone.                                                                                                                                            |
| CDMA fNID<br>Yes | * or #<br><b>STO</b> | CDMA foreign Network ID.<br>Enables the phone to allow mobile terminated calls while in a foreign system and foreign network ID. Controls the types of registration allowed for the phone.                                                                                                                    |
| SID #1<br>2222   | number<br><b>STO</b> | System Identification Number.<br>Controls how the phone acquires different systems. Determines the roaming status for the mobile. All SIDs range from 0 to 32,767: a 0 setting for the SID signifies that it is not active.                                                                                   |
| NID #1<br>1      | number<br><b>STO</b> | Network Identification Number.<br>Controls how the phone acquires different systems, and is set and specified in conjunction with each SID (e.g., SID #1, NID #1).<br>Determines the roaming status for the mobile. All SIDs range from 0 to 65,535: a 0 setting for one NID signifies that it is not active. |
| SID #2<br>2222   | number<br><b>STO</b> | See SID #1.                                                                                                                                                                                                                                                                                                   |
| NID #2<br>2      | number<br><b>STO</b> | See NID #1.                                                                                                                                                                                                                                                                                                   |
| SID #3<br>2222   | number<br><b>STO</b> | See SID #1.                                                                                                                                                                                                                                                                                                   |
| NID #3<br>3      | number<br><b>STO</b> | See NID #1.                                                                                                                                                                                                                                                                                                   |
| SID #4<br>2222   | number<br><b>STO</b> | See SID #1.                                                                                                                                                                                                                                                                                                   |
| NID #4<br>65535  | number<br><b>STO</b> | See NID #1.                                                                                                                                                                                                                                                                                                   |
| SID #5<br>0      | number<br><b>STO</b> | See SID #1.                                                                                                                                                                                                                                                                                                   |
| NID #5<br>0      | number<br><b>STO</b> | See NID #1.                                                                                                                                                                                                                                                                                                   |

## 4-3 Setting Up NAM2

| LCD Display                                 | Key in   | Function                       |
|---------------------------------------------|----------|--------------------------------|
| NAM Program<br>1:General<br>2:Setup NAM1    | Volume ã | -NAM program menu is displayed |
| NAM Program<br>3:Setup NAM2<br>4:Setup NAM3 | 3        | -choose 'Setup NAM2'           |

The NAM2 setup program is the same as '4-2. Setting Up NAM1'

## 4-4 Setting Up NAM3

| LCD Display                                 | Key in   | Function                       |
|---------------------------------------------|----------|--------------------------------|
| NAM Program<br>1:General<br>2:Setup NAM1    | Volume ã | -NAM program menu is displayed |
| NAM Program<br>3:Setup NAM2<br>4:Setup NAM3 | 4        | -choose 'Setup NAM3'           |

The NAM3 setup program is the same as '4-2. Setting Up NAM1'

## 4-5 Setting Up NAM4

| LCD Display                              | Key in   | Function                       |
|------------------------------------------|----------|--------------------------------|
| NAM Program<br>1:General<br>2:Setup NAM1 | Volume ã | -NAM program menu is displayed |
| NAM Program<br>5:Setup NAM4              | 5        | -choose 'Setup NAM4'           |

The NAM4 setup program is the same as '4-2. Setting Up NAM1'

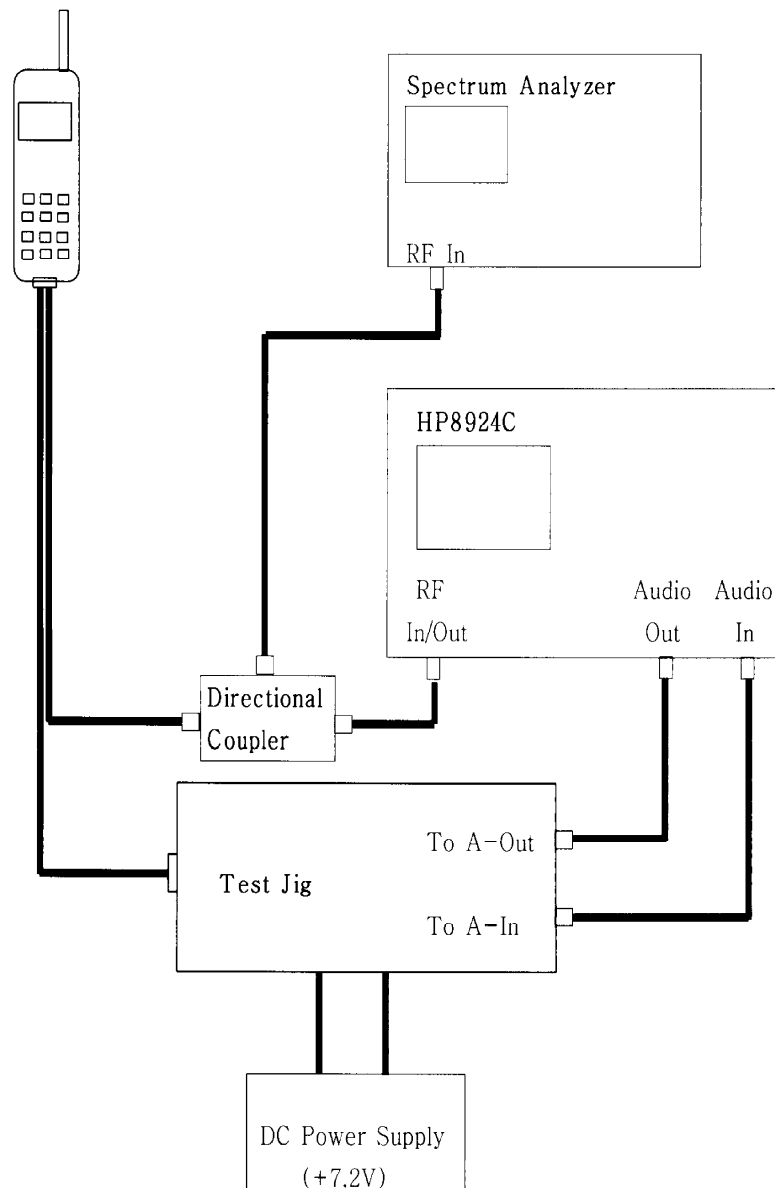
## **6. Test Procedure**

### **Test Command List**

## List of Equipment

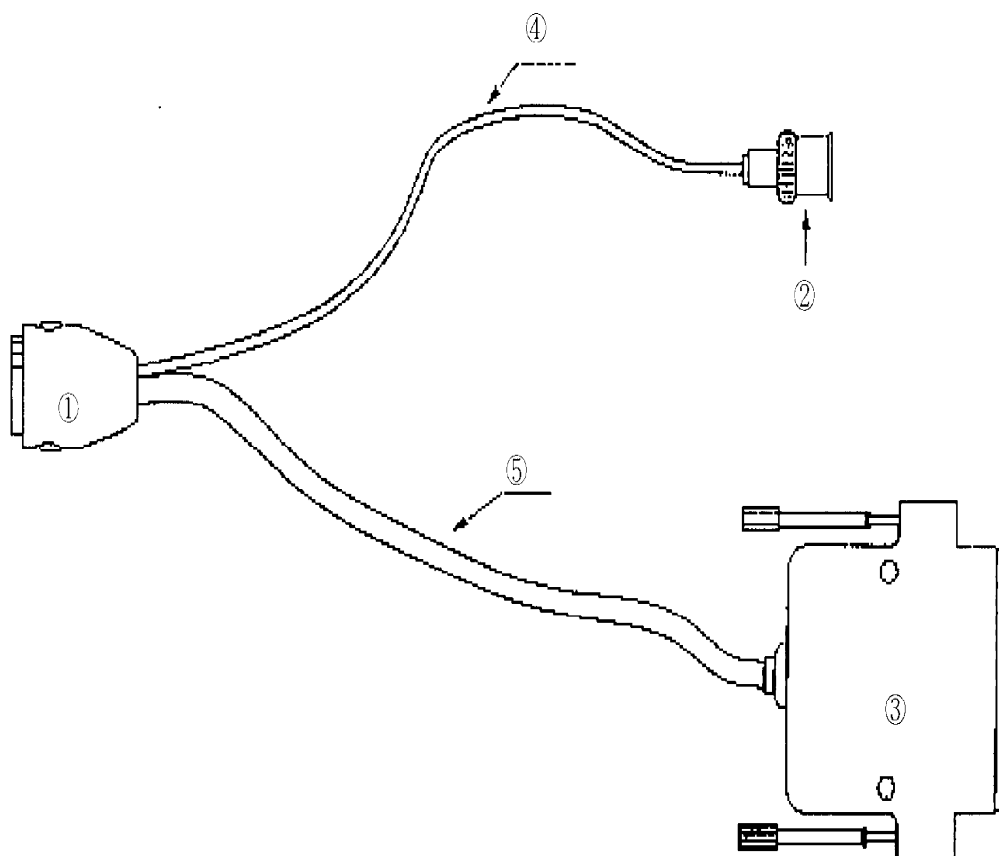
- DC Power Supply
- Test Jig
- Test Cable
- CDMA Mobile Station Test Set HP8924C, HP83236A, CMD-80, etc
- Spectrum Analyzer(include CDMA Test Mode) HP8596E

## Configuration of Test



# TEST CABLE DESCRIPTION FOR SCH-370

## 1. TEST CABLE

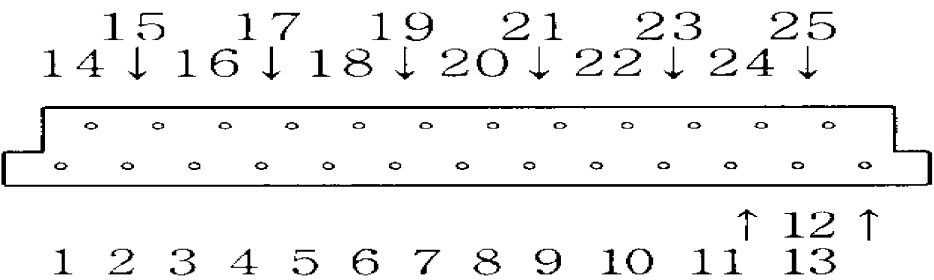


## 2. TEST CABLE CONNECTIONS

|   |                             |
|---|-----------------------------|
| 1 | PLUG CONNECT TO SCH-370     |
| 2 | BNC CONNECTOR (RF)          |
| 3 | Dsub 25PIN CONNECTOR (DATA) |
| 4 | RF CABLE                    |
| 5 | DATA CABLE                  |

3. Dsub 25 PIN CONNECTOR PIN DESCRIPTION (TEST CABLE 1, BACK SIDE)

| DATA DESCRIPTION | Dsub CONN. PIN NO. |
|------------------|--------------------|
| Vcc              | 4,5,6              |
| GND              | 13,23,24,25        |
| PW ON/OFF        | 7                  |
| TX AUDIO         | 10                 |
| TX DATA          | 22                 |
| RX AUDIO         | 12                 |
| RX DATA          | 21                 |
| RSSI             | 8                  |



4. CONVERSION TABLE OF FREQUENCY vs CHANNEL

| T Y P E         | CHANNEL                       | CONVERSION EQUATION                                                   | REMARK                         |
|-----------------|-------------------------------|-----------------------------------------------------------------------|--------------------------------|
| TX<br>FREQUENCY | 1 ; N ; 799<br>990 ; N ; 1023 | $F = 0.03 \times N + 825.00$<br>$F = 0.03 \times (N - 1023) + 825.00$ | N ; CH NUMBER<br>F ; FREQUENCY |
| RX<br>FREQUENCY | 1 ; N ; 799<br>990 ; N ; 1023 | $F = 0.03 \times N + 870.00$<br>$F = 0.03 \times (N - 1023) + 870.00$ |                                |

## Change to Test Mode

A. To change the phone's state from Normal Mode to Test Mode, You should enter the following keys.

" \* 7 5 9 # 8 1 3 5 8 0 "

B. The command "0 1" is Suspend.

C. To finish the Test Mode, You should enter the command "0 2".

**\* Note :** Make sure to change to "Digital only" or "Analog only" mode in NAM1, EST MODE. (Refer to 4. NAM Programming)

## Channel Selection and Tx Power Output Level Control

### 1. Digital Mode (CDMA)

A. Enter to Test Mode ( \* 7 5 9 # 8 1 3 5 8 0 ).

B. "0 1" : Suspend.

C. "0 9 0 3 6 3 #" : Set to '0363' channel.

D. "0 7" : Carrier On.

E. "3 4" : Spread spectrum to 1.23MHz band width.

F. "7 1 2 3 0 #" : Output RF power level setting.

"230" means AGC level and AGC level range is from 0 to 511.

## 2. Analog Mode ( FM )

- A. Enter to Test Mode ( \* 7 5 9 # 8 1 3 5 8 0 ).
- B. "0 1" : Suspend.
- C. "4 6" : Vocoder initial to Analog mode.
- D. "0 9 0 3 6 3 #" : Set to '0363' channel.
- E. "0 7" : Carrier On.
- F. "7 2 2 3 0 #" : Output RF power level setting.  
"230" means AGC level and AGC level range is from 0 to 511.
- G. "1 0 2" : RF Power level control, 2(0~7) means power level .

## Analog Mode(FM)

| TEST ITEM       | PROCEDURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |                 |       |                    |   |                    |   |                    |   |                    |   |                    |   |                   |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------|-------|--------------------|---|--------------------|---|--------------------|---|--------------------|---|--------------------|---|-------------------|
| 1. PREPARE      | <p>Setup the test equipment.</p> <p>Make sure to check the "Analog Only" in NAM 1</p> <p>"* 7 5 9 # 8 1 3 5 8 0 " : Enter to Test Mode</p> <p>"0 1" : Suspend</p> <p>"4 6" : Vocoder initial to Analog mode</p> <p>If you press a wrong key, press "#", then enter new command.</p> <p>To exit the Test Mode at any time : press [0 2].</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |              |                 |       |                    |   |                    |   |                    |   |                    |   |                    |   |                   |
| 2. RF POWER     | <p>"0 1" : Suspend.</p> <p>"4 6" : Vocoder initial to Analog mode.</p> <p>"0 9 0 3 6 3 #" : Set to '0363' channel.</p> <p>"0 7" : Carrier On.</p> <p>"1 0 2" : RF Power level control, 2(0~7) means power level .</p> <p>Measure the Power Output</p> <table><thead><tr><th><u>Level</u></th><th><u>RF Power</u></th></tr></thead><tbody><tr><td>0 ~ 2</td><td>+ 28 dBm +2/ -4 dB</td></tr><tr><td>3</td><td>+ 24 dBm +2/ -4 dB</td></tr><tr><td>4</td><td>+ 20 dBm +2/ -4 dB</td></tr><tr><td>5</td><td>+ 16 dBm +2/ -4 dB</td></tr><tr><td>6</td><td>+ 12 dBm +2/ -4 dB</td></tr><tr><td>7</td><td>+ 8 dBm +2/ -4 dB</td></tr></tbody></table> <p>"0 8" : Carrier off.</p> <p>Note 1 : In case of using the antenna cable, you must compensate for the cable loss (bout 0.8dB).</p> <p>Note 2 : To prevent from damaging the hhp, you must measure by calibrated test equipment.</p> <p>Warning !</p> <p>Adjustments without calibrated equipment can lead to excessive heat and will void the warranty.</p> | <u>Level</u> | <u>RF Power</u> | 0 ~ 2 | + 28 dBm +2/ -4 dB | 3 | + 24 dBm +2/ -4 dB | 4 | + 20 dBm +2/ -4 dB | 5 | + 16 dBm +2/ -4 dB | 6 | + 12 dBm +2/ -4 dB | 7 | + 8 dBm +2/ -4 dB |
| <u>Level</u>    | <u>RF Power</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |                 |       |                    |   |                    |   |                    |   |                    |   |                    |   |                   |
| 0 ~ 2           | + 28 dBm +2/ -4 dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |              |                 |       |                    |   |                    |   |                    |   |                    |   |                    |   |                   |
| 3               | + 24 dBm +2/ -4 dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |              |                 |       |                    |   |                    |   |                    |   |                    |   |                    |   |                   |
| 4               | + 20 dBm +2/ -4 dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |              |                 |       |                    |   |                    |   |                    |   |                    |   |                    |   |                   |
| 5               | + 16 dBm +2/ -4 dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |              |                 |       |                    |   |                    |   |                    |   |                    |   |                    |   |                   |
| 6               | + 12 dBm +2/ -4 dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |              |                 |       |                    |   |                    |   |                    |   |                    |   |                    |   |                   |
| 7               | + 8 dBm +2/ -4 dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |                 |       |                    |   |                    |   |                    |   |                    |   |                    |   |                   |
| 3. TX FREQUENCY | <p>"0 1" : Suspend.</p> <p>"4 6" : Vocoder initial to Analog mode.</p> <p>"0 9 0 3 6 3 #" : Set to '0363' channel.</p> <p>"0 7" : Carrier On.</p> <p>Measure the TX frequency : 835.89 MHz ;<math>\pm</math>2.5ppm.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |                 |       |                    |   |                    |   |                    |   |                    |   |                    |   |                   |

| ITEM                                            |                 | PROCEDURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Spectrum<br>Noise<br>Suppression<br>(Broadband) | 4 . SAT<br>+ST  | "0 1" : Suspend.<br>"4 6" : Vocoder initial to Analog mode.<br>"0 9 0 3 6 3 #" : Set to '0363' channel.<br>"0 7" : Carrier On.<br>"3 2" : SAT On<br>"1 6" : ST on<br>Set the equipment as below. * SPEC<br>RF frequency : 880.89 MHz 20~45KHz : 26dB<br>Input Rf level : - 80 dBm 45~60KHz : 45dB<br>Modulation frequency : 6 KHz 60~90KHz : 65dB<br>Frequency deviation : 2 KHz 90~2f0 : 63+10logPY dB<br>Measure the restraint of sideband energy produced at discrete frequency<br>separations from the carrier.                                                             |
|                                                 | 5 . SAT<br>+WBD | "0 1" : Suspend.<br>"4 6" : Vocoder initial to Analog mode.<br>"0 9 0 3 6 3 #" : Set to '0363' channel.<br>"0 7" : Carrier On.<br>"3 2" : SAT On<br>"3 4" : WBD on<br>Set the equipment as below. * SPEC<br>RF frequency : 880.89 MHz 20~45KHz : 26dB<br>Input Rf level : - 80 dBm 45~60KHz : 45dB<br>Modulation frequency : 6 KHz 60~90KHz : 65dB<br>Frequency deviation : 2 KHz 90~2f0 : 63+10logPY dB<br>Measure the restraint of sideband energy produced at discrete frequency<br>separations from the carrier.                                                            |
|                                                 | 6.VOICE<br>+SAT | "0 1" : Suspend.<br>"4 6" : Vocoder initial to Analog mode.<br>"0 9 0 3 6 3 #" : Set to '0363' channel.<br>"0 7" : Carrier On.<br>"3 2" : SAT On<br>"1 4" : TX Audio unmute.<br>"4 5" : Compressor Off<br>Set the equipment as below. * SPEC<br>RF frequency : 880.89 MHz 20~45KHz : 26dB<br>Input Rf level : - 80 dBm 45KHz~2f0 : 63+10logPY dB<br>Modulation frequency : 6 KHz<br>Frequency deviation : 2 KHz<br>Set the audio generator output to 1KHz, 3.0Vrms.<br>Measure the restraint of sideband energy produced at discrete frequency<br>separations from the carrier. |

## Digital Mode(CDMA)

| TEST ITEM                         | PROCEDURE                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. PREPARE                        | Setup the test equipment.<br>Make sure to check the "Digital Only" in NAM 1<br>"* 7 5 9 # 8 1 3 5 8 0 " : Enter to Test Mode<br>"0 1" : Suspend<br>If you press a wrong key, press "#", then enter new command.<br>To exit the Test Mode at any time : press [0 2].                                                                                                                              |
| 2. FREQUENCY<br>ACCURACY          | "0 1" : Suspend.<br>"0 9 0 3 6 3 #" : Set to '0363' channel.<br>"0 7" : Carrier On.<br>"7 1 2 6 0 #" : Set AGC level 260.<br>Measure the TX frequency : 835.89 MHz $\pm$ 300Hz.                                                                                                                                                                                                                  |
| 3. OCCUPIED<br>CDMA<br>BAND WIDTH | "0 1" : Suspend.<br>"0 9 0 3 6 3 #" : Set to '0363' channel.<br>"0 7" : Carrier On.<br>"3 4" : Spread spectrum.<br>"7 1 2 6 0 #" : Set AGC level 260.<br>Measure the band width (spec: 1.32MHz).                                                                                                                                                                                                 |
| 4. LIMITATIONS<br>ON EMISSIONS    | "0 1" : Suspend.<br>"0 9 0 3 6 3 #" : Set to '0363' channel.<br>"0 7" : Carrier On.<br>"3 4" : Spread spectrum.<br>"7 1 2 6 0 #" : Set AGC level 260.<br>Measure the spurious at FC $\pm$ 900KHz, FC $\pm$ 1.98MHz, 2FC,<br>3FC, 1/2FC.<br>spec: FC $\pm$ 900KHz below 42dBc/30KHz<br>FC $\pm$ 1.98MHz below 54dBc/30KHz<br>Outside Receive Band 43+10log (PY)<br>PY: Mean Output Power in watts |
| 5. GATED POWER<br>& TIME          | Set the service option: 2.<br>Set the data rate: Eighth (1200bps).<br>Registering: HHP --> HP8924C.<br>Call : HP8924C --> HHP.<br>Measure the Gated Power & Time.<br>spec: Gated Power at least 20dB<br>Gated Time - Rising Time: below 6us<br>Falling Time: below 6us<br>Burst Time: below 1.25ms                                                                                               |

## SCH370 TEST COMMAND TABLE

| Command No.<br>(OP,AB,RB) | Signal. Name                 | Description                                                                       |
|---------------------------|------------------------------|-----------------------------------------------------------------------------------|
| 01(1F,0,0)                | T_SUSPEND_I                  | Terminate the normal mode, enter to the test mode.                                |
| 02(3F,0,0)                | T_RESTART_I                  | Terminate the test mode, enter to the normal mode.                                |
| 03(FD,0,0)                | T_SAVE_VAL_I                 | Save value in EEPROM. (Only for Auto test)                                        |
| 04(1D,0,1)                | T_GET_MODE_I                 | Get mode(CDMA or FM)<br>Return value '0' is FM mode, '1' is CDMA mode.            |
| 05(1C,1,0)                | T_SET_MODE_I                 | Set mode to CDMA or FM. (Only for Auto test)<br>'0' is FM mode, '1' is CDMA mode. |
| 06(1E,0,0)                | T_WRITE_NV_I                 | Write an EEPROM item (one of the NV items)                                        |
| 07(81,0,0)                | T_CARRIERON_I                | Turn the carrier on.                                                              |
| 08(82,0,0)                | T_CARRIEROFF_I               | Turn the carrier off                                                              |
| 09(83,4,0)                | T_LOADSYN_I <sup>2)</sup>    | Set the synthesizer to the channel specified by ch_data.                          |
| 10(84,1,0)                | T_PWRLEVEL_I <sup>3)</sup>   | Set the RF power attenuation to the value specified                               |
| 11(85,0,0)                | T_RXMUTE_I                   | Mute the receive-audio signal.                                                    |
| 12(86,0,0)                | T_RXUNMUTE_I                 | Unmute the receive-audio signal.                                                  |
| 13(87,0,0)                | T_TXMUTE_I                   | Mute the transmit-audio signal.                                                   |
| 14(88,0,0)                | T_TXUNMUTE_I                 | Unmute the transmit-audio signal.                                                 |
| 16(8F,0,0)                | T_STON_I                     | Transmit a continuous Signaling Tone(ST).                                         |
| 17(90,0,0)                | T_STOFF_I                    | Stop transmit a continuous Signaling Tone.                                        |
| 22(91,96,96)              | T_SNDNAM_I <sup>1)</sup>     | Display and send NAM information.                                                 |
| 23(95,3,4)                | T_SNDVERSION_I <sup>1)</sup> | Display and return s/w version .                                                  |
| 24(9F,7,8)                | T_SNDESN_I <sup>1)</sup>     | Display and return ESN .                                                          |
| 25(92,0,0)                | T_BACKLIGHT_ON_I             | Turn on the backlight                                                             |
| 26(93,0,0)                | T_BACKLIGHT_OFF_I            | Turn off the backlight                                                            |
| 27(96,0,0)                | T_LAMP_ON_I                  | Turn on the LAMP                                                                  |
| 28(97,0,0)                | T_LAMP_OFF_I                 | Turn off the LAMP                                                                 |
| 29(9A,5,0)                | T_REBUILD_I                  | Rebuild EEPROM                                                                    |
| 30(9D,16,0)               | T_PLINE_I                    | Display and return production date                                                |
| 32(A0,1,0)                | T_SATON_I* <sup>2)</sup>     | Enable the transmission of SAT.                                                   |
| 33(A1,0,0)                | T_SATOFF_I*                  | Disable the transmission of SAT.                                                  |
| 34(A2,0,0)                | T_CDATA_I                    | Transmit continuous 5-word Reverse CTL CH message.                                |

| Command No.<br>(OP,AB,RB) | Signal. Name                      | Description                                            |
|---------------------------|-----------------------------------|--------------------------------------------------------|
| 35(A3,3,0)                | T_VOLUME_UP_I                     | Increase value of the last command (Only for autotest) |
| 36(A4,3,0)                | T_VOLUME_DOWN_I                   | Decrease value of the last command (Only for autotest) |
| 42(AA,1,0)                | T_DTMFON_I <sup>2)</sup>          | Activate dtmf generator with keycode.                  |
| 43(AB,0,0)                | T_DTMFOFF_I                       | Deactivate DTMF generator.                             |
| 44(B0,0,0)                | T_COMPANDORON_I                   | Enable the compressor and expandor.                    |
| 45(B1,0,0)                | T_COMPANDOROF_I                   | Diabie the compressor and expandor.                    |
| 46(B2,0,0)                | T_FM_VCLINE_I*                    | Enter Analog voice channel state.                      |
| 48(B4,0,0)                | T_VIBRATOR_ON_I                   | Active A Vibrator.                                     |
| 49(B5,0,0)                | T_VIBRATOR_OFF_I                  | Inactive A Vibrator.                                   |
| 57(BC,0,0)                | T_MIC_ON_I                        | Mic path on                                            |
| 58(BD,0,0)                | T_MIC_OFF_I                       | Mic path off                                           |
| 59(BE,0,0)                | T_ALLPATH_I                       | Set Rx Path, TX Path Unmute to Earpiece                |
| 60(BF,3,0)                | T_FM_TX_GAIN_I <sup>2)3)</sup>    | FM Tx Audio Gain Control                               |
| 61(C0,3,0)                | T_FM_RX_GAIN_I <sup>2)3)</sup>    | FM Rx Audio Gain Control                               |
| 62(C1,3,0)                | T_DTMF_VOL_TX_I <sup>2)3)</sup>   | FM Tx DTMF Gain control                                |
| 63(C2,3,0)                | T_TX_LIMITER_I <sup>2)3)</sup>    | FM Tx Limiter Gain Control                             |
| 64(C3,3,0)                | T_FM_SAT_LEVEL_I <sup>2)3)</sup>  | FM Tx SAT level Control                                |
| 65(C4,3,0)                | T_FM_FREQ_SGAIN_I <sup>2)3)</sup> | FM Tx Master Gain Control                              |
| 66(C5,3,0)                | T_FM_ST_GAIN_I <sup>2)3)</sup>    | FM TX ST Gain Control                                  |
| 67(C6,3,6)                | T_READ_BATT_I <sup>1)</sup>       | Reads low batt. Value in Standby, or Talk mode.        |
| 68(C8,0,3)                | T_VBATT1_I <sup>3)</sup>          | Set the low battery position in the standby.           |
| 69(C9,0,3)                | T_VBATT2_I <sup>3)</sup>          | Set the low battery position in the talking            |
| 70(CA,3,0)                | T_WRITE_BATT_I <sup>3)3)</sup>    | Write low battery Level Value to NVM                   |
| 71(D1,3,0)                | T_CDMA_TXADJ_I <sup>2)</sup>      | Change pdm TX AGC in CDMA                              |
| 72(D2,3,0)                | T_FM_TXADJ_I <sup>2)</sup>        | Change pdm TX AGC in FM                                |
| 73(D3,1,0)                | T_SET_PA_R_I <sup>2)</sup>        | Set PA R1,R0 in CDMA                                   |
| 74(D4,4,0)                | T_TXRAS_ADJ_I                     | Set CDMA TX RAS TABLE 1~16                             |
| 75(D5,0,3)                | T_READ_RSSI_I <sup>3)</sup>       | Read a RSSI                                            |
| 76(D6,3,0)                | T_WRITE_RSSI_I <sup>3)</sup>      | Writes RSSI value.                                     |
| 77(D7,0,3)                | T_READ_TEMP_I                     | Read Temp                                              |
| 78(D8,0,3)                | T_READ_HDET_I                     | Read High Detect                                       |
| 79(D9,1,0)                | T_BUZZER_ON_I <sup>2)</sup>       | Buzzer On at DTMF 0 key                                |
| 80(DA,0,0)                | T_BUZZER_OFF_I                    | Buzzer off                                             |

| Command No.<br>(OP,AB,RB) | Signal. Name                 | Description                             |
|---------------------------|------------------------------|-----------------------------------------|
| 81(E3,0,0)                | T_VOC_PCMLPON_I              | Play a PCM LOOP BACK                    |
| 82(E4,0,0)                | T_VOC_PCMLPOFF_I             | Play off a PCM LOOP BACK                |
| 85(E7,0,0)                | T_SPEAKER_ON_I               | Turn on the speaker path                |
| 86(E8,0,0)                | T_SPEAKER_OFF_I              | Turn off the speaker path               |
| 87(E9,0,0)                | T_FM_LOOP_TEST_I             | Play a PCM FM loopback                  |
| 88(EA,0,0)                | T_TRK_ADJ_I <sup>3)</sup>    | FM TRK_LO_ADJ control                   |
| 89(EB,0,0)                | T_CD_TRK_ADJ_I <sup>3)</sup> | CDMA TRK_LO_ADJ control                 |
| 90(F0,4,0)                | T_HW_CHANFLAT_T              | H/W Channel Flatness                    |
| 91(F1,4,0)                | T_SW_CHANFLAT_T              | S/W Channel Flatness                    |
| 92(F2,4,0)                | T_FM_TX_PWR_I                | Set FM PWR LEVEL 2~7                    |
| 93(F3,4,0)                | T_CH_FLATNESS_I              | Set 22dBm Channel Declination 10POINT . |

- 1) ==> The AB (Input Argument Byte Number) values of these commands are used only in the manual test. In automatic test mode, the AB is regarded as 0.
- 2) ==> You can assign the value for these commands. If the AB value is assigned without argument, the test is achieved with the value stored in EEPROM.
- 3) ==> After you get a desired test value by performing these commands, if you want to save the value in EEPROM, use T-SAVE-VAL-I command to store the test value into the corresponding position.

\* OP : Operation Command Number

AB : Input Argument Byte Number

RB : Return Byte Number

\* SAT 32,33 is not Operating in MSM2 CHIP test

\* 46 command must required in rx, tx path test at FM mode