



DUAL MODE(CDMA+AMPS) PORTABLE TELEPHONE SCH-850

SERVICE *Manual*

DUAL MODE TELEPHONE



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ELECTRONICS

1. Specification

1-1 General

ITEM	CDMA	AMPS
Tx Freq. range	824 ~ 849MHz	824 ~ 849MHz
Rx Freq. range	869 ~ 894MHz	869 ~ 894MHz
Channel Bandwidth	1.23MHz	30KHz
Channel Spacing	30KHz	30KHz
Number of Channel	832	832
Duplex Separation	45MHz	45MHz
Type of Emission	40K0F8W,40K0F1D	40K0F8W,40K0F1D
In/Output Impedance	50Ω	50Ω
Tx Intermediate Freq.	130.38MHz	130.38MHz
Rx Intermediate Freq.	85.38MHz	85.38MHz
Tx Local Freq.	1st (F _{TX} + 130.38MHz) 2nd (260.76MHz)	1st (F _{TX} + 130.38MHz) 2nd (260.76MHz)
Rx Local Freq	1st (170.76MHz) 2nd (F _{RX} + 85.38MHz)	1st (170.76MHz) 2nd (F _{RX} + 85.38MHz)
TCXO freq.	19.68MHz	19.68MHz
Freq. Stability	(F _{RX} - 45MHz) ± 300Hz	± 2.5ppm
Operating Temperature	-30°C ~ +60°C	-30°C ~ +60°C
Supply Voltage	3.6V	
Size and Weight	Slim : 88mm X 50mm X 23.5mm, 105 g, 500 mA STD : 88mm X 50mm X 25.7mm, 135 g, 1000 mA EXT : 88mm X 50mm X 27.5mm, 151 g, 1600 mA	

1-2 800MHz CDMA

1) General

Frequency Range

- Transmitter : 824 ~ 849 MHz
- Receiver : 869 ~ 894MHz

Channel Bandwidth : 1.23MHz

Channel Spacing : 30kHz

Number of Channels : 832

Duplex Separation : 45 MHz

Type of Emission : 40K0F8W,40K0F1D

Input/Output Impedance : 50 Ω

Intermediate Frequency

- Transmitter : 130.38MHz
- Receiver : 85.38MHz

Local Frequency

- Transmitter : 1st($F_{TX}+130.38\text{MHz}$), 2nd(260.76MHz)
- Receiver : 1st($F_{RX}+85.38\text{MHz}$), 2nd(170.76MHz)

TCXO Frequency : 19.68MHz

Frequency Stability : ($F_{RX}-45\text{MHz}$) \pm 300Hz

Operation Temperature : -30°C ~ 60°C

Supply Voltage : +3.6V

2) Transmitter

Waveform Quality :0.944 or more

Open Loop Power Control Range

- -25dBm : -57.5dBm ~ -38.5dBm
- -65dBm : -17.5dBm ~ +1.5dBm
- -104dBm : +18.0dBm ~ +30dBm

Minimum Tx Power Control : below -50dBm

Closed Loop Power Control Range : \pm 24dB

Maximum RF Output Power : 200mW(+23dBm)

Occupied Bandwidth : 1.23MHz

Conducted Spurious Emission @900 KHz : -42dBc/30kHz

@1.25 MHz : -54dBc/30kHz

3) Receiver

Rx Sensitivity and Dynamic Range : -104dBm, FER=0.5% or less
: -25dBm, FER=0.5% or less

Conducted Spurious Emission

- 869 ~ 894 MHz : <-81dBm
- 824 ~ 849 MHz : <-61dBm
- All Other Frequencies : <-47dBm

Single Tone Desensitization : lower than 1 %

Rx power level = -101dBm

Tone power level = -30dBm

Tone offset from carrier = ± 900 kHz

Intermodulation Spurious Response Attenuation : lower than 1 %

Rx power = -101dBm

Tone 1 power = -43dBm

Tone 2 power = -43dBm

Tone 1 offset from carrier = ± 900 kHz

Tone 2 offset from carrier = ± 1.700 MHz

1-3 800MHz AMPS

1) General

Frequency Range

- Transmitter : 824 ~ 849 MHz
- Receiver : 869 ~ 894 MHz

Channel Spacing : 30kHz

Number of Channels : 832

Duplex Spacing : 45MHz

Frequency Stability : ± 2.5 ppm(-30°C ~ 60°C, -22°F ~ 140°F)

Modulation/Demodulation

- Voice : PM
- Data : FM

Operating Temperature : -30°C ~ 60°C, -22°F ~ 140°F

Supply Voltage : 3.6V

2) Transmitter

RF output power : 0.6W(+2/-4dB)

Carrier ON/OFF conditions

“ON” Condition : within ± 3 dB of specification output(in 2 ms)

“OFF” Condition : below -60dBm(in 2ms)

Compressor

Compression Rate : 2 : 1

Attack Time : 3ms

Recovery Time : 13.5ms

Reference Input : input power level for producing a nominal ± 2.9 kHz
: peak frequency deviation of transmitted carrier

Preamphasis : 6dB/OCT within 0.3 ~ 3 kHz

Maximum Frequency Deviation

F3 of G3 : ± 12 kHz

Supervisory Audio Tone : ± 2 kHz($\pm 10\%$)

Signaling Tone : ± 8 kHz($\pm 10\%$)

Wideband Data : ± 8 kHz($\pm 10\%$)

Post Deviation Limiter Filter

3.0 ~ 5.9 kHz : above 40 LOG(F/3000)dB

5.9 ~ 6.1 kHz : above 35dB

6.1 ~ 15 kHz : above 40 LOG(F/3000)dB

Over 15 kHz : above 28 dB

Spectrum Noise Suppression

For all modulation

$f_0 + 20 \text{ kHz} \sim f_0 + 45 \text{ kHz}$: above 26dB

For modulation by voice and SAT

$f_0 + 45 \text{ kHz}$: above $63\text{dB} + 10\text{LOG}(\text{PY})\text{dB}$

For modulation by WBD(without SAT) and ST(with SAT)

$f_0 + 45 \text{ kHz} \sim f_0 + 60 \text{ kHz}$: above 45 dB

$f_0 + 60 \text{ kHz} \sim f_0 + 90 \text{ kHz}$: above 65 dB

$f_0 + 90 \text{ kHz} \sim 2 f_0$: above $63 \text{ dB} + 10 \text{ LOG}(\text{PY}) \text{ dB}$

(where f_0 = carrier frequency

PY=mean output power in watts)

Harmonic and conducted Spurious Emissions : below $43 + 10 \text{ LOG}(\text{PY}) \text{ dB}$

3) Receiver

De-emphasis : -6dB/OCT within 0.3 ~ 3 kHz

Expander

Expander Rate : 1 : 2

Attack time : within 3 ms

Recovery Time : within 13.5 ms

Reference input : output power level to a 1000Hz tone from a carrier within $\pm 2.9 \text{ kHz}$
peak frequency deviation

Sensitivity : 12 dB SINAD/-116dBm

Intermodulation Spurious Response Attenuation : above 65dB

RSSI Range : above 60dB

Protection Against Spurious Response Interference : above 60dB

In Band Conducted Spurious Emission

Transmit Band : below -60 dBm

Receive Band : below -80 dBm

Out of Band Conducted Spurious Emissions : below -47dBm

Radiated Spurious Emission

Frequency Range : Maximum Allowable EIRP

25 ~ 70MHz : -45dBm

70 ~ 130MHz : -41dBm

130 ~ 174 MHz : -41 ~ -32dBm

174 ~ 260 MHz : -32 dBm

260 ~ 470 MHz : -32 ~ -26 dBm

470 ~ 1G MHz : -21 dBm

2. Nam Programming

LCD Display	Key in	Function
	menu + 60,654321	-selects NAM programming
NAM program 1:Setup NAM1 2:Setup NAM2	1	-choose 'Setup NAM1'
NAM1 Phone # 1234567890	Phone number OK	-directory number -to change, enter new one. -store it.
NAM1 Directory # 1234567890	Phone number OK	-directory number -to change, enter new one. -store it.
NAM1 Activate PRL No	< or > OK	-PRL status -to activate PRL, press < or > -store it.
NAM1 Anlg HomeSID 4369	ID number OK	System ID for home, current ststus is displayed. -to change, enter new one. -store it.
NAM1 Dgtl HomeSID 4369	ID number OK	System ID for home, current ststus is displayed. -to change, enter new one. -store it.
NAM1 More Prog.? No	< or > OK	General NAM setup -to change, press < or > -store it

LCD Display	Key in	Function
NAM program 1. General 2. Setup NAM1 3. Setup NAM2	1	Choose ' General'
General ESN B0000000	OK	-Electronic Serial Number of the phone is displayed -Press OK , to view next status item.
General CAI version 3	OK	-Common Air Interface version is displayed -Press OK , to view next status item.
General VOC Select SO_VOICE_08K	< or > OK	-to change Vocoder rate, press < or > - store it
General SCM 01101010	OK	-Station Class Mark displays the power class, transmission, slotted class, dual mode. -Press OK , to view next status item.
General Service Code 654321	6-digit code OK	Service code, current ststus is displayed -to change, enter new code. -store it
General Lock Code 0000	4-digit code OK	Lock code, current ststus is displayed -to change, enter new code. -store it
General Slot Mode Yes	< or > OK	Slot mode. 'Yes' indicates the slot mode. -changes the status. -store it.
General Slot Index 2	0-7 OK	Slot mode index. The higher, the longer sleeping time -to change, enter new one. -store it.
General Roundup Timer No	< or > OK	Roundup Timer. -to change the status. -store it.

LCD Display	Key in	Function
NAM program 1. General 2. Setup NAM1 3. Setup NAM2	3	choose 'Setup NAM2'
NAM2 Digital IMSI_MCC 000	number OK	IMSI Mobile Country Code, current code is displayed. -to change, enter new one. -store it.
NAM2 Digital IMSI_MNC 00	number OK	IMSI Mobile Network Code, current code is displayed. -to change, enter new one. -store it.
NAM2 Digital Phone # 1234567890	Phone number OK	-Phone number -to change, enter new one. -store it.
NAM2 Digital Directory # 1234567890	Phone number OK	-directory number -to change, enter new one. -store it.
NAM2 Digital Home SID 01 1	Phone number OK	1st CDMA Home system ID, current status is displayed -to change, enter new one. -store it.
NAM2 Digital Home NID 01 65535	Phone number OK	1st CDMA Home Network ID, current status is displayed -to change, enter new one. -store it.
NAM2 Digital Home SID 02 1	Phone number OK	2nd CDMA Home system ID, current status is displayed -to change, enter new one. -store it.
NAM2 Digital Home NID 02 65535	Phone number OK	2nd CDMA Home Network ID, current status is displayed -to change, enter new one. -store it.
————— repeated to SID 20 & NID 20 —————		
NAM2 Digital Lockout SID01 0	ID number OK	1st lock system ID,current status is displayed. -to change, enter new one. -store it.

LCD Display	Key in	Function
NAM2 Digital Lockout SID02 0	ID number OK	2nd lock system ID,current status is displayed. -to change, enter new one. -store it.
----- repeated to Lockout SID10 -----		
NAM2 Digital CDMA Home SID Yes	< or > OK	CDMA Home system ID, current status is displayed -changes the status. -store it.
NAM2 Digital CDMA fSID Yes	< or > OK	CDMA foreign SID, current status is displayed. -changes the system. -store it.
NAM2 Digital CDMA fNID Yes	< or > OK	CDMA foreign NID, current status is displayed. -changes the system. -store it.
NAM2 Digital CDMA ACCOLC 6	class number OK	CDMA Access Overload Class, current status is displayed. -to change, enter new one. -store it.
NAM2 Analog Phone # 1234567890	Phone number OK	-Phone number -to change, enter new one. -store it.
NAM2 Analog Directory # 1234567890	Phone number OK	-directory number -to change, enter new one. -store it.
NAM2 Analog Home SID 1	Phone number OK	Analog Home system ID, current status is displayed -to change, enter new one. -store it.
NAM2 Analog Auto Reg Yes	< or > OK	Auto Registration, current status is displayed -changes the status. -store it.
NAM2 Analog ACCOLC 6	class number OK	Analog Access Overload Class, current status is displayed. -to change, enter new one. -store it

3. Test Commands & Test Procedure List

3-1 Test Command Table

To change the phone from normal mode to test mode, you should enter the following keys :
Press [*759#813580]

Command No	Command SW Name	Description
01(1F,0,0)	T_SUSPEND_I	Enter to test menu
02(3F,0,0)	T_RESTART_I	Escape from test menu
04(1D,0,1)	T_GET_MODE_I	Get mode CDMA/FM
07(81,0,0)	T_CARRIERON_I	Turn on the carrier
08(82,0,0)	T_CARRIEROFF_I	Turn off the carrier
09(83,4,0)	T_LOADSYN_I	Load the synthesizer for locking
10(84,1,0)	T_PWRLEVEL_I	Change RF power level
11(85,0,0)	T_RXMUTE_I	Mute rx audio
12(86,0,0)	T_RXUNMUTE_I	Unmute rx audio
13(87,0,0)	T_TXMUTE_I	Mute tx audio
14(88,0,0)	T_TXUNMUTE_I	Unmute tx audio
15(89,10)	T_VOC_ESEC_I	Echo Canceller On/Off
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(ST)
18(92,20)	T_LCD_CONTRAST_I	Tune LCD contrast
20(9E,3,0)	T_LNA_GAIN_WR_I	write LNA gain for IMD test
21(9C,5,0)	T_TEST_SYS_I	set test system & Channel
22(91,96,96)	T_SNDNAM_I1)	Display & Send NAM Information
23(95,3,4)	T_SNDVERSION_I1)	Display & Send Software Version
24(9F,7,8)	T_SNDESN_I1)	Display & return ESN
25(92,0,0)	T_BACKLIGHT_ON_I	Backlight on
26(93,0,0)	T_BACKLIGHT_OFF_I	Backlight off
27(96,0,0)	T_LAMP_ON_I	LAMP on
28(97,0,0)	T_LAMP_OFF_I	LAMP off
30(9D,15,0)	T_PLINE_I	Display and return production date
31(00,1,0)	T_AUTOANSWER_I	Enable Auto-answer mode
32(A0,1,0)	T_SATON_I*2)	Enable the transmission of SAT
33(A1,0,0)	T_SATOFF_I*	Disable the transmission of SAT
34(A2,0,0)	T_CDATA_I	Continuously send TX Control data
37(A5,3,0)	T_RXRAS_FLATNESS_I	Adjust CDMA RX RAS flatness.
38(A6,3,0)	T_VOC_ENC_OFFSET_I	Vocoder ENC offset
39(A7,3,0)	T_VOC_DEC_OFFSET_I	Vocoder DEC offset
40(A7,3,0)	T_VOC_CDMA_UNITY_GAIN_I	Vocoder CDMA unity gain
41(A9,3,0)	T_VOC_FM_HFRX_UPGAIN_I	Vocoder FM hfrx upgain
42(AA,1,0)	T_DTMFON_I2)	Turn on DTMF
43(AB,0,0)	T_DTMFOFF_I	Turn off DTMF
44(B0,0,0)	T_COMPANDORON_I	Turn on compandor
45(B1,0,0)	T_COMPANDOROF_I	Turn off compandor
46(B2,0,0)	T_FM_VCLINE_I*	Enter FM voice state
47(B3,3,0)	T_FM_AUD_GAIN_I	FM audio gain

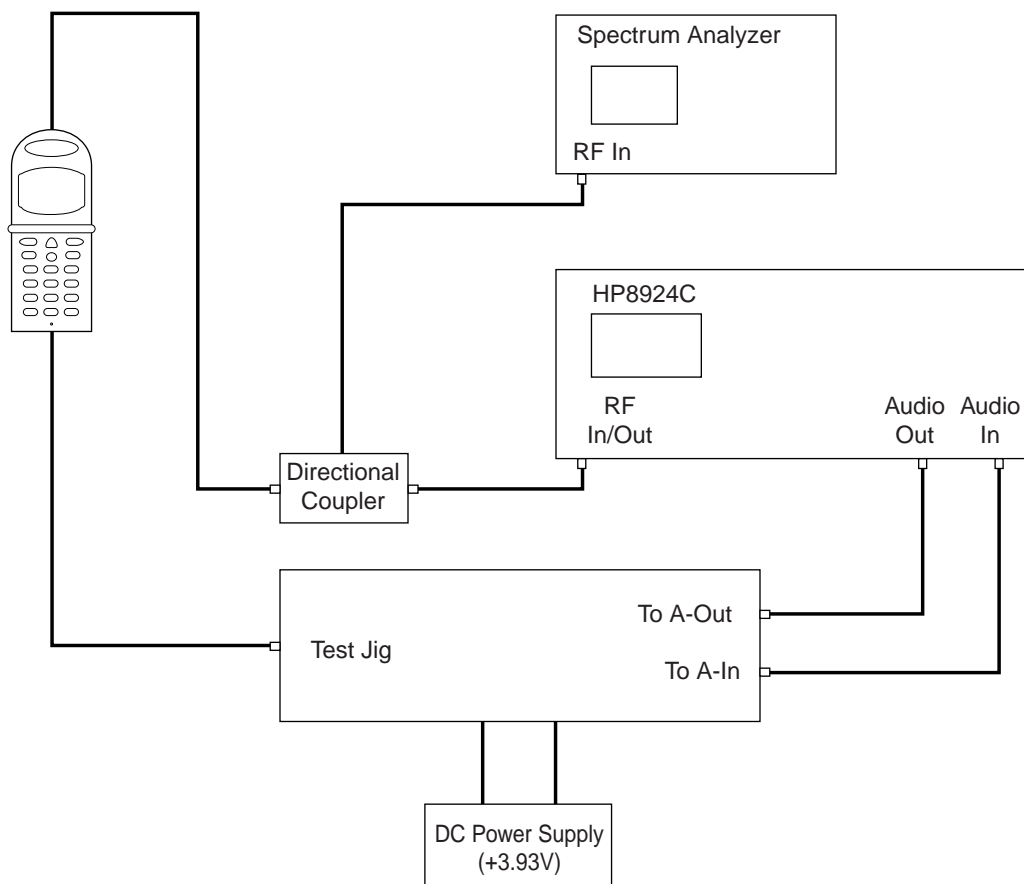
Command No	Command SW Name	Description
48(B4,0,0)	T_VIBRATOR_ON_I	Activate a vibrator
49(B5,0,0)	T_VIBRATOR_OFF_I	Inactivate a vibrator
50(B6,0,4)	T_BATT_TYPE_I	Battery Type
52(B9,0,8)	T_HW_VERSION_I	View HW version
53(BA,3,0)	T_CARRIER_I	Target Carrier option (Change banner)
54(BB,7,8)	T_VOC13K_I	Target Service option
55(AC,1,0)	T_EXT_AUDIO_I	External Audio Path On/Off
57(BC,0,0)	T_MIC_ON_I	Unmute MIC Path
58(BD,0,0)	T_MIC_OFF_I	mute MIC Path
59(BE,0,0)	T_ALLPATH_I	Tune on the all audio path
60(BF,3,0)	T_FM_TX_GAIN_I2)3)	AMPS Tx Audio Gain Control
61(C0,3,0)	T_FM_RX_GAIN_I2)3)	AMPS Rx Audio Gain Control
62(C1,3,0)	T_DTMF_VOL_TX_I2)3)	AMPS Tx DTMF Gain Control
63(C2,3,0)	T_TX_LIMITER_I2)3)	AMPS Tx Limiter Gain Control
64(C3,3,0)	T_FM_SAT_LEVEL_I2)3)	AMPS Tx SAT level Control
65(C4,3,0)	T_FM_FREQ_SGAIN_I2)3)	AMPS Tx Master Gain Control
66(C5,3,0)	T_FM_ST_GAIN_I2)3)	AMPS Tx ST Gain Control
67(C6,0,6)	T_READ_BATT_I1)	Saved Low battery value read
68(C8,0,3)	T_VBATT1_I3)	Set the low battery position in the standby
69(C9,0,3)	T_VBATT2_I3)	Set the low battery position in the talking
70(CA,3,0)	T_WRITE_BATT_I3)3)	write a BATT
71(D1,3,0)	T_CDMA_TXADJ_I2)	Sets tx_agc_adj for CDMA mode
72(D2,3,0)	T_FM_TXADJ_I2)	Sets tx_agc_adj for AMPS mode
73(D3,1,0)	T_SET_PA_R_I2)	Sets PA R1,R0 range bits
75(D5,0,3)	T_READ_RSSI_I3)	Read a RSSI
76(D6,3,0)	T_CDMA_CH_FLATNESS_BP_ON_I	Adjust CDMA TX low power RAS flatness
77(D7,0,3)	T_READ_TEMP_I	Read a TEMP
79(D9,1,0)	T_BUZZER_ON_I2)	Buzzer on
80(DA,0,0)	T_BUZZER_OFF_I	Buzzer off
81(E3,0,0)	T_VOC_PCMLPON_I	Turn on to play a PCM LOOP B ACK
82(E4,0,0)	T_VOC_PCMLPOFF_I	Turn off to play a PCM LOOP B ACK
83(E5,0,0)	T_BYPASS_ON_I	Set Low power mode
84(E6,0,0)	T_BYPASS_OFF_I	Set High power mode
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	FM loop back
88(EA,3,0)	T_TRK_ADJ_I3)	TRK LOCAL ADJUST
89(EB,3,0)	T_CDTRK_ADJ_I	CDMA TRK LOCAL ADJUST
90(F0,2,0)	T_FM_CH_FLATNESS_I	Adjust FM channel flatness
92(D4,5,0)	T_TXRAS_ADJ_I	CDMA TX high power RAS table(not adjustable)
93(F3,4,0)	T_RXRAS_ADJ_I	CDMA RX RAS table(not adjustable)
96(F6,4,0)	T_CH_FLATNESS_I	Adjust TX high power RAS
97(F2,4,0)	T_FM_TX_PWR_I	Adjust FM Power level 2 ~ 7
98(F8,3,0)	T_TXRAS_ADJ_BP_ON_I	CDMA TX low power RAS table(not adjustable)
99(FC,4,0)	T_SND_GAIN_I	Mic/Speaker Gain control

4. Test Procedure

4-1 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

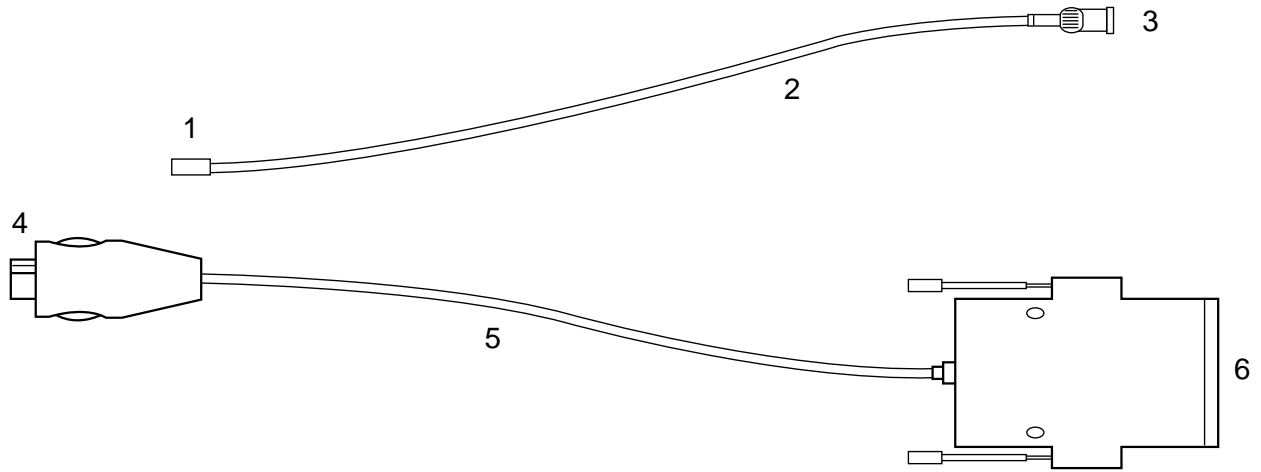
4-2 Configuration of Test



✱ CAUTION : The test jig and data cable has a voltage drop of 0.33V at FM Max power output, you'd better set the DC power supply to 3.93V for normal test condition. (Nominal voltage of battery is 3.6V at cellular phone)

4-3 Test Cable Description for SCH-850

1. Test Cable

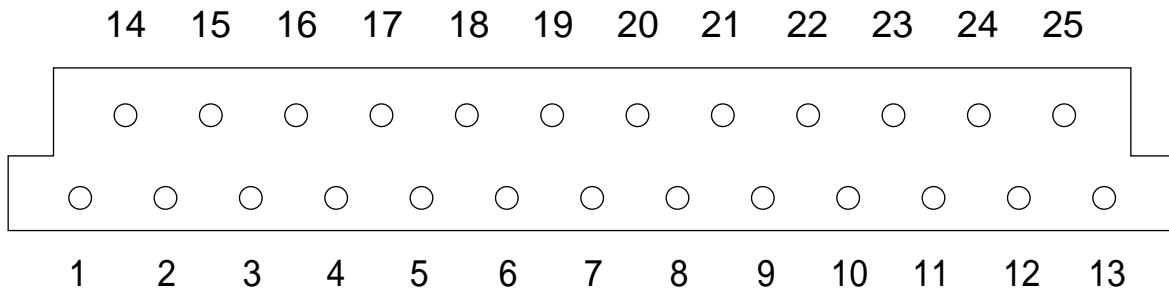


2. Test Cable Connections

1	MHC 172
2	RF CABLE 91.4db Loss for CDMA800 and AMPS)
3	BNC CONNECTOR (RF)
4	PLUG CONNECT TO SCH-850
5	DATA CABLE
6	Dsub 25PIN CONNECTOR (DATA)

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

DATA DESCRIPTION	Dsub CONN. PIN NO.	DATA DESCRIPTION	Dsub CONN. PIN NO.
V_F	12,21	DP_RX_DATA	8
DGND	2, 4, 6, 13, 19	HP_PWR	9
BATT	15, 16, 22	RI	10
C_F	3,20	CD	11
TX_AUDIO	5	RTS	14
DP_TX_DATA	7	CTS	17
RX_AUDIO	1	DTR	18



4. CONVERSION TABLE OF FREQUENCY vs CHANNEL

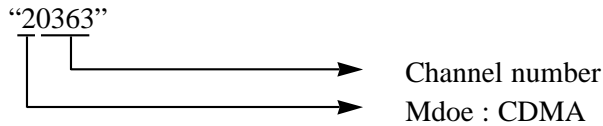
TYPE	CHANNEL	CONVERSION EQUATION	REMARK
TX 1 FREQUENCY	$1 \leq N \leq 799$	$F=0.03 \times N + 825.00$	N ; CH NUMBER F ; FREQUENCY (AMPS/CDMA)
	$990 \leq N \leq 1023$	$F=0.03 \times (N-1023) + 825.00$	
RX FREQUENCY	$1 \leq N \leq 799$	$F=0.03 \times N + 870.00$	
	$990 \leq N \leq 1023$	$F=0.03 \times (N-1023) + 870.00$	

4-4 Test Procedure

4-4-1 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 “21” is mode and channel change , press “OK” to save.
“10000” or “10001” : AMPS's Sytem A and Sytem B



C. The command “0 1” is Suspend.

D. To finish the Test Mode, You should enter the command “0 2”.

4-4-2 Channel Selection and Tx Power Output Level Control

1.AMPS(FM)

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

B. The command “21” is mode and channel change
“10000” or “10001” : AMPS's Sytem A and Sytem B

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

D. “0 1” : Suspend.

E. “4 6” : Vocoder initial to Analog mode.

F. “0 9 0 3 6 3 #” : Set to ‘0363’ channel.

G. “0 7” : Carrier On.

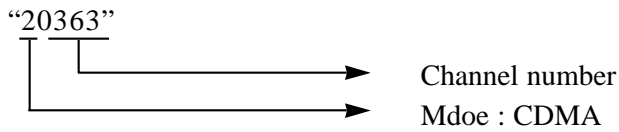
H. “9 7 * * * “ : Output RF power level is set as power level 2
“* * *” means AGC level and AGC level range is from 0 to 511.

I. “1 0 2” : RF Power level control, 2(0~7) means power level .

2. CDMA

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

B. The command “21” is mode and channel change , press “OK” to save.



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

D. “0 1” : Suspend.

E. “0 9 0 3 6 3 #” : Set to ‘0363’ channel.

F. “0 7” : Carrier On.

G. “3 4” : Spread spectrum to 1.23MHz band width.

H. “8 4” : High Power-mode On

I. “9 6 * * * “ : Output RF power level is set max power
“* * *” means AGC level and AGC level range is from 000 to 511.

4-5 Test Procedure

1. AMPS(FM)

TEST ITEMS	PROCEDURE														
1. PREPARATION	<p>Set test equipments up.</p> <p>Confirm that the phone is in the Analog Mode! (“10000” or “10001” at Test Command “2 0”.)</p> <p>“* 7 5 9 # 8 1 3 5 8 0” : Enter the Test Mode “0 1” : Suspend “4 6” : Initialize Vocoder in Analog mode If a wrong key would be selected, press “#”, and then enter new command. To exit the Test Mode at any time, just press [0 2].</p>														
2. RF POWER	<p>“0 1” : Suspend. “4 6” : Initialize Vocoder in Analog mode. “0 9 0 3 6 3 #” : Set channel to 363. “0 7” : Carrier On. “1 0 2” : RF Power level selection, “2” means one of the power levels (0~7).</p> <p>Measurement of the Power Output Levels</p> <table border="0" data-bbox="535 877 1006 1096"> <thead> <tr> <th style="text-align: center;"><u>Level</u></th> <th style="text-align: center;"><u>RF Power</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">0 ~ 2</td> <td style="text-align: center;">+ 27 dBm + 0.3/-4 dB</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">+ 23 dBm + 2/-4 dB</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">+ 19 dBm + 2/-4 dB</td> </tr> <tr> <td style="text-align: center;">5</td> <td style="text-align: center;">+ 15 dBm + 2/-4 dB</td> </tr> <tr> <td style="text-align: center;">6</td> <td style="text-align: center;">+ 12 dBm + 2/-4 dB</td> </tr> <tr> <td style="text-align: center;">7</td> <td style="text-align: center;">+ 9 dBm + 2/-4 dB</td> </tr> </tbody> </table> <p>“0 8” : Carrier off</p> <p>Note 1 : In case of using the antenna cable, compensation for th cable loss should be added (about 1.5dB).</p> <p>Note 2 : To prevent phones from being damaged, they must be measured only by calibrated test equipments.</p> <p>Warning ! Adjustments without calibrated equipments can cause phones to be heated e xcessively and would void the warranty.</p>	<u>Level</u>	<u>RF Power</u>	0 ~ 2	+ 27 dBm + 0.3/-4 dB	3	+ 23 dBm + 2/-4 dB	4	+ 19 dBm + 2/-4 dB	5	+ 15 dBm + 2/-4 dB	6	+ 12 dBm + 2/-4 dB	7	+ 9 dBm + 2/-4 dB
<u>Level</u>	<u>RF Power</u>														
0 ~ 2	+ 27 dBm + 0.3/-4 dB														
3	+ 23 dBm + 2/-4 dB														
4	+ 19 dBm + 2/-4 dB														
5	+ 15 dBm + 2/-4 dB														
6	+ 12 dBm + 2/-4 dB														
7	+ 9 dBm + 2/-4 dB														
3. TX FREQUENCY	<p>“0 1” : Suspend. “4 6” : Initialize Vocoder in Analog mode. “0 9 0 3 6 3 #” : Set channel to 363. “0 7” : Carrier On.</p> <p>Measure the TX frequency : 835.89 MHz ± 2.5ppm.</p>														
4. VOICE DEVIATION	<p>“0 1” : Suspend. “4 6” : Initialize Vocoder in Analog mode. “0 9 0 3 6 3 #” : Set channel to 363. “0 7” : Carrier On. “1 4” : TX Audio unmute.</p> <p>Set the audio generator output to 1kHz, 3.0Vrms.</p> <p>Measure the Tx voice deviation by using the HPF of 20Hz and the LPF of 99kHz (spec : less than ±12kHz).</p>														

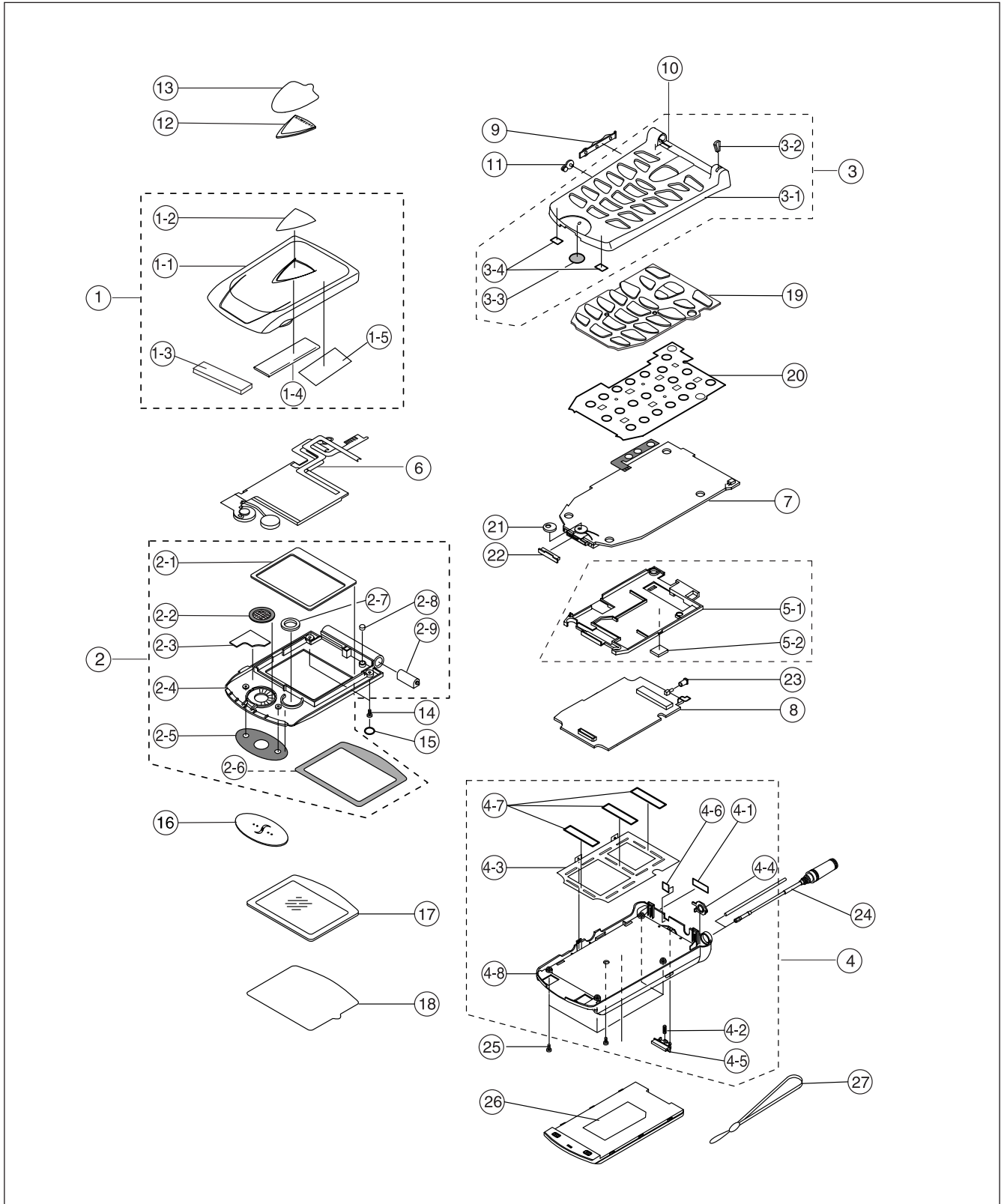
TEST ITEMS	PROCEDURE
5. ST DEVIATION	<p>“0 1” : Suspend. “4 6” : Initialize Vocoder in Analog mode. “0 9 0 3 6 3 #” : Set channel to 363. “0 7” : Carrier On. “1 6” : ST on. Measure the Tx ST deviation by using the HPF of 50Hz spec : 8kHz±10%). “1 7” : ST off.</p>
6. SAT DEVIATION	<p>“0 1” : Suspend. “4 6” : Initialize Vocoder in Analog mode. “0 9 0 3 6 3 #” : Set channel to 363. “0 7” : Carrier On. “3 2” : SAT on. Set the equipment as following. RF frequency : 880.89MHz Input RF level : -80dBm Modulation frequency : 6kHz Frequency deviation : 2kHz Measure the Tx SAT deviation by using the HPF of 50Hz and the LPF of 6kHz (spec : 2kHz ±10%). “3 3” : SAT off.</p>
7. WBD DEVIATION	<p>“0 1” : Suspend. “4 6” : Initialize Vocoder in Analog mode. “0 9 0 3 6 3 #” : Set channel to 363. “0 7” : Carrier On. “3 4” : WBD on. Measure the WBD deviation by using the HPF of 50Hz and the LPF of 20kHz (spec : 8kHz±10%).</p>
8. RX AUDIO	<p>“0 1” : Suspend. “4 6” : Initialize Vocoder in Analog mode. “0 9 0 3 6 3 #” : Set channel to 363. “0 7” : Carrier On. “1 2” : RX Audio unmute. Set the equipment as following. RF frequency : 880.89MHz Input RF level : -80dBm Modulation frequency : 1kHz Frequency deviation : ±8kHz Measure audio AC level.</p>

2. CDMA

TEST ITEMS	PROCEDURE
1. PREPARANCE	<p>Set test equipments up.</p> <p>Confirm that the phone is in the CDMA Mode. ("2XXXX" at Test Command "0 2")</p> <p>"* 7 5 9 # 8 1 3 5 8 0" : Enter the Test Mode "0 1" : Suspend If you select a wrong key, press "#", then enter new command. To exit the Test Mode at any time, just press [0 2].</p>
2. FREQUENCY ACCURACY	<p>"0 1" : Suspend. "0 9 0 3 6 3 #" : Set channel to 363. "0 7" : Carrier On. "9 6" : You can read the number.(the code) and the push the # ► "7 1 2 6 0 #" : Set AGC level to the numer of reading(about 188). Measure the TX frequency : 835.89MHz±300Hz.</p>
3. OCCUPIED CDMA BANDWIDTH	<p>"0 1" : Suspend. "0 9 0 3 6 3 #" : Set channel to 363. "0 7" : Carrier On. "3 4" : Spread spectrum. "8 4" : High power mode "9 6" : You can read the number.(the code) and the push the # ► "7 1 2 6 0 #" : Set AGC level to the numer of reading(about 188). Measure the bandwidth (spec: 1.32MHz).</p>
4. LIMITATIONS ON EMISSIONS	<p>"0 1" : Suspend. "0 9 0 3 6 3 #" : Set channel to 363. "0 7" : Carrier On. "3 4" : Spread spectrum. "8 4" : High power mode "9 6" : You can read the number.(the code) and the push the # ► "7 1 2 6 0 #" : Set AGC level to the numer of reading(about 188).</p> <p>Measure the spurious at $F_c \pm 900\text{kHz}$, $F_c \pm 1.98\text{MHz}$, $2F_c$, $3F_c$, $1/2F_c$. spec : $F_c \pm 900\text{kHz}$ below 42dBc/30kHz $F_c \pm 1.98\text{MHz}$ below 54dBc/30kHz Outside Receive Band $43 + 10\log(\text{PY})$ PY: Mean Output Power in watts</p>
5. GATED POWER & TIME	<p>Set the service option 2. Set the data rate Eighth (1200bps). Registering: HHP → HP8924C. Call : HP8924C → HHP. Measure the Gated Power & Time. spec : Gated Power - at least 20dB Gated Time - Rising Time : below 6μs Falling Time : below 6μs Burst Time : below 1.25ms</p>

5. Exploded View & its Parts List

5-1 Main Set Exploded View



5-2 Main Set Parts List

NO	Level	SEC CODE	Description	Remark
1		GH75-00375A	MEA-FOLDER UPPER	BLACK
	1-1	GH72-00670A	PMO-FOLDER UPPER	SNA
	1-2	GH74-10772A	MPR-TAPE DECORATION	SNA
	1-3	GH74-00318A	MPR-SHIELD GASKET(B)	SNA
	1-4	GH74-00483A	MPR-SHIELD GASKET(C)	SNA
	1-5	GH74-00510A	MPR-TAPE SHIELD(D)	SNA
2		GH75-00376A	MEC-FOLDER LOWER	BLACK
	2-1	GH74-00319A	MPR-SPONGE LCD	SNA
	2-2	GH74-10777A	MPR-TAPE SPEAKER	SNA
	2-3	FG74-00322A	MPR-SPONGE EAR PIECE	SNA
	2-4	GH72-00671A	PMO-FOLDER LOWER	SNA
	2-5	GH74-00321A	MPR-TAPE EAR PIECE	SNA
	2-6	GH74-10775A	MPR-TAPE WINDOW LCD	SNA
	2-7	GH74-00304A	MPR-TAPE MOTOR	SNA
	2-8	GH70-00036A	ICT-MAGNETIC	SNA
2-9	GH75-00414A	MEC-HINGE ASSY	SNA	
3		GH75-00374A	MEC-FRONT COVER	BLACK
	3-1	GH72-00670A	PMO-FRONT COVER	SNA
	3-2	GH72-41801A	PMO-REFLECTOR LED	SNA
	3-3	GH74-00378A	MPR-FRONT GRILL	SNA
	3-4	GH74-00440A	MCT-FRONT GASKET	SNA
4		GH75-00377A	MEC-REAR COVER	BLACK
	4-1	GH68-30846A	LABEL(R)-QUALCOMM	SNA
	4-2	GH70-10516A	IPR-SPRING LOCKER	SNA
	4-3	GH71-00010A	NPR-GROUND PLATE	SNA
	4-4	GH71-00100A	NPR-BRACKET ANT	SNA
	4-5	GH72-00127A	PMO-BATT LOCKER	SNA
	4-6	GH72-00673A	PMO-REAR COVER	SNA
	4-7	GH74-00027A	MPR-SHIELD TAPE	SNA
	4-8	GH74-00377A	MPR-BUZZER GRILL	SNA
5		GH75-00394A	MEC-SHIELD COVER	
	5-1	GH72-00666A	PMO-SHIELD COVER	SNA
	5-2	GH74-00362A	MCT-SHIELD DUPLEX	SNA
6		GH96-00863A	ELA-GRAPHIC LCD	
7		GH92-00762A	PBA MAIN-LOGIC	
8		GH92-00828A	PBA MAIN-RF	
9		GH72-00487A	PMO-KNOB VOLUME	
10		GH72-00667A	PMO-HINGE DUMMY	
11		GH73-00217A	RMO-EAR JACK COVER	
12		GH72-00668A	PMO-DECORATION	
13		GH74-00084A	MPR-DECO BOHO VINYL	
14		6001-001300	SCREW-MACHINE	
15		GH74-00313A	MPR-SCREW CAP	
16		GH72-00672A	PMO-EAR PIECE	
17		GH72-00665A	PCT-WINDOW LCD	
18		GH72-10001A	PPR-TAPE WINDOW BOHO	
19		GH73-00216A	RMO-KEY PAD	
20		GH72-00489A	PPR-KEYPAD DOME	
21		GH73-00218A	RMO-HOLDER MIC	
22		GH73-40704A	RMO-CONNECTOR COVER	
23		GH73-40705A	RMO-MOBILE CAP	
24		GH42-00040A	ANTENNA	
25		6001-001140	SCREW-MACHINE	4PCS
26		GH43-00161A	BATTERY-STD	1000mAh
27		GH75-00223E	MEC-HANGER ROPE	BLACK

6. Electrical Parts List

SEC CODE	LOC NO.	DESCRIPTION	SPEC	REMARK
GH41-00066A		VOLUME KEY	SCH-8500,POLYIMIDE	
GH42-00040A		ANTENNA	SCH-8500,824~894/1850~1990Mhz	
GH43-00161A		BATTERY	3.6V,1000mAh,-,0.5C,3.6V	
GH44-00099A		DTC850	SCH-850/8500,AC/DC,12W,85/264V	
GH96-00783A		MIC	SPH-7100,KORA,MICROPHONE ASS'Y	
GH96-00863A		GRAPHIC LCD	SCH-850,GRAPHIC LCD,LCD ASS'Y	
GH41-00061A		PCB-RF	SCH-8500,FR-4,6L,0.8t,118 X 155	
GH41-00060A		PCB-LOGIC	SCH-8500,FR-4,-,0.8t,118 X 104mm	
0405-001035	D202	DIODE-VARACTOR	1SV279,15V,3nA,USC,TP	
0405-001035	D203	DIODE-VARACTOR	1SV279,15V,3nA,USC,TP	
0405-001035	D204	DIODE-VARACTOR	1SV279,15V,3nA,USC,TP	
0405-001035	D205	DIODE-VARACTOR	1SV279,15V,3nA,USC,TP	
0406-001005	D111	DIODE-TVS	SMF05,6/-/1mA,300,SOT-23	
0406-001084	D102	DIODE-TVS	SMF05,6/-/V,200W,-	
0406-001084	D105	DIODE-TVS	SMF05,6/-/V,200W,-	
0406-001084	D106	DIODE-TVS	SMF05,6/-/V,200W,-	
0406-001084	D107	DIODE-TVS	SMF05,6/-/V,200W,-	
0406-001084	D108	DIODE-TVS	SMF05,6/-/V,200W,-	
0406-001084	D109	DIODE-TVS	SMF05,6/-/V,200W,-	
0407-000115	D110	DIODE-ARRAY	DAN202U,80V,100mA,CA2-3,SC-70,	
0409-001016	D201	DIODE-PIN	BAR63-02W,50V,100mA,SCD-80,TP	
0501-000162	Q104	TR-SMALL SIGNAL	2SA1576,PNP,200MW,SOT-323,180-390	
0501-000218	Q103	TR-SMALL SIGNAL	2SC4081,NPN,200mW,UMT,TP,180-3	
0501-000218	Q151	TR-SMALL SIGNAL	2SC4081,NPN,200mW,UMT,TP,180-3	
0501-002202	Q102	TR-SMALL SIGNAL	MMBT2222AWT1,NPN,150mW,SOT-323	
0501-002202	Q111	TR-SMALL SIGNAL	MMBT2222AWT1,NPN,150mW,SOT-323	
0504-000167	Q150	TR-DIGITAL	RN1102,NPN,100MW,10K/10K,SSM,TP	
0504-000168	Q101	TR-DIGITAL	RN1104,NPN,100MW,47K/47K,SSM,TP	
0504-000168	Q152	TR-DIGITAL	RN1104,NPN,100MW,47K/47K,SSM,TP	
0504-000172	Q110	TR-DIGITAL	RN2104,PNP,100MW,47K/47K,SSM,TP	
0504-000172	Q153	TR-DIGITAL	RN2104,PNP,100MW,47K/47K,SSM,TP	
0504-000172	Q154	TR-DIGITAL	RN2104,PNP,100MW,47K/47K,SSM,TP	
0505-001037	U150	FET-SILICON	-,P,-12V,+,-2.5A,0.1ohm,1W,TSSO	
0505-001376	U151	FET-SILICON	FDC6329L,N/P,8V,2.5A,-,0.7W,SC-74	
0505-001376	U156	FET-SILICON	FDC6329L,N/P,8V,2.5A,-,0.7W,SC-74	
0505-001376	U157	FET-SILICON	FDC6329L,N/P,8V,2.5A,-,0.7W,SC-74	
0505-001376	U160	FET-SILICON	FDC6329L,N/P,8V,2.5A,-,0.7W,SC-74	
0601-000355	D101	LED	CHIP,RED,2.0x1.6mm,660nm	
0601-001343	LED100	LED	CHIP,Y-GRN,1.1X0.8MM,570NM	
0601-001343	LED101	LED	CHIP,Y-GRN,1.1X0.8MM,570NM	
0601-001343	LED102	LED	CHIP,Y-GRN,1.1X0.8MM,570NM	
0601-001343	LED103	LED	CHIP,Y-GRN,1.1X0.8MM,570NM	
0601-001343	LED104	LED	CHIP,Y-GRN,1.1X0.8MM,570NM	
0601-001343	LED105	LED	CHIP,Y-GRN,1.1X0.8MM,570NM	
0601-001343	LED106	LED	CHIP,Y-GRN,1.1X0.8MM,570NM	

SEC CODE	LOC NO.	DESCRIPTION	SPEC	REMARK
0601-001343	LED107	LED	CHIP,Y-GRN,1.1X0.8MM,570NM	
0801-000794	U203	IC-CMOS LOGIC	7S08,AND GATE,SOT-25,5P,63MIL,	
0801-002345	U158	IC-CMOS LOGIC	7S04FU,INVERTER,SOP,5P,-,TP,	
0801-002403	U104	IC-CMOS LOGIC	74LCX08,AND GATE,TSSOP,14P,173	
1009-001006	SW101	HALL S/W	A3210ELH,SC-74A,3P,TP,5V,1MA	
1103-001147	U105	IC-EEPROM	24256,256KBIT,SOP,8P,150MIL,3V,10%	
1109-001138	U103	IC-ETC. MEMORY	84VD2219,4MX8 OR 2MX16BIT,BGA,77P	
1202-001022	U251	IC-VOLTAGE COMP.	75W56,SSOP,8P,110MIL,DUAL,7V,C	
1203-001767	U153	IC-VOLTAGE REGULATOR	2988,SOP,8P,118MIL,PLASTIC,3.0V	
1203-001850	U154	IC-VOLTAGE REGULATOR	7082,SOT-23,5P,-2.5/+3.5V,250mW	
1203-001850	U155	IC-VOLTAGE REGULATOR	7082,SOT-23,5P,-2.5/+3.5V,250mW	
1203-001850	U159	IC-VOLTAGE REGULATOR	7082,SOT-23,5P,-2.5/+3.5V,250mW	
1204-001375	U250	IC-ENCODER/DECODER	ST5092TQFPTR,QFP,44P,-,PLASTIC	
1204-001581	U201	IC-IF CIRCUIT	IFR3000-48BCCF-TR,BCC,48P,3.5V	
1204-001582	U202	IC-IF CIRCUIT	IFR3000-48BCCF-TR,BCC,48P,3.5V	
1205-001670	U101	IC-TRANSCEIVER	MSM3000,PBGA,196P,-,PLASTIC,3.5V	
1404-001040	TH201	THERMISTOR-NTC	10Kohm,5%,3650K,-,TP	
2007-000137	R259	R-CHIP	2Kohm,5%,1/16W,DA,TP,1005	
2007-000138	R109	R-CHIP	100ohm,5%,1/16W,DA,TP,1005	
2007-000138	R122	R-CHIP	100ohm,5%,1/16W,DA,TP,1005	
2007-000138	R124	R-CHIP	100ohm,5%,1/16W,DA,TP,1005	
2007-000138	R125	R-CHIP	100ohm,5%,1/16W,DA,TP,1005	
2007-000138	R128	R-CHIP	100ohm,5%,1/16W,DA,TP,1005	
2007-000138	R129	R-CHIP	100ohm,5%,1/16W,DA,TP,1005	
2007-000138	R131	R-CHIP	100ohm,5%,1/16W,DA,TP,1005	
2007-000138	R132	R-CHIP	100ohm,5%,1/16W,DA,TP,1005	
2007-000138	R149	R-CHIP	100ohm,5%,1/16W,DA,TP,1005	
2007-000138	R209	R-CHIP	100ohm,5%,1/16W,DA,TP,1005	
2007-000140	R148	R-CHIP	1Kohm,5%,1/16W,DA,TP,1005	
2007-000140	R169	R-CHIP	1Kohm,5%,1/16W,DA,TP,1005	
2007-000140	R180	R-CHIP	1Kohm,5%,1/16W,DA,TP,1005	
2007-000140	R252	R-CHIP	1Kohm,5%,1/16W,DA,TP,1005	
2007-000141	R152	R-CHIP	2.2Kohm,5%,1/16W,DA,TP,1005	
2007-000141	R153	R-CHIP	2.2Kohm,5%,1/16W,DA,TP,1005	
2007-000141	R159	R-CHIP	2.2Kohm,5%,1/16W,DA,TP,1005	
2007-000141	R190	R-CHIP	2.2Kohm,5%,1/16W,DA,TP,1005	
2007-000141	R192	R-CHIP	2.2Kohm,5%,1/16W,DA,TP,1005	
2007-000141	R251	R-CHIP	2.2Kohm,5%,1/16W,DA,TP,1005	
2007-000143	R110	R-CHIP	4.7Kohm,5%,1/16W,DA,TP,1005	
2007-000143	R126	R-CHIP	4.7Kohm,5%,1/16W,DA,TP,1005	
2007-000145	R261	R-CHIP	6.2Kohm,5%,1/16W,DA,TP,1005	
2007-000147	R142	R-CHIP	8.2Kohm,5%,1/16W,DA,TP,1005	
2007-000147	R205	R-CHIP	8.2Kohm,5%,1/16W,DA,TP,1005	
2007-000148	R112	R-CHIP	10Kohm,5%,1/16W,DA,TP,1005	
2007-000148	R115	R-CHIP	10Kohm,5%,1/16W,DA,TP,1005	
2007-000148	R120	R-CHIP	10Kohm,5%,1/16W,DA,TP,1005	
2007-000148	R138	R-CHIP	10Kohm,5%,1/16W,DA,TP,1005	
2007-000148	R165	R-CHIP	10Kohm,5%,1/16W,DA,TP,1005	
2007-000148	R206	R-CHIP	10Kohm,5%,1/16W,DA,TP,1005	

SEC CODE	LOC NO.	DESCRIPTION	SPEC	REMARK
2007-000148	R207	R-CHIP	10Kohm,5%,1/16W,DA,TP,1005	
2007-000148	R210	R-CHIP	10Kohm,5%,1/16W,DA,TP,1005	
2007-000148	R213	R-CHIP	10Kohm,5%,1/16W,DA,TP,1005	
2007-000148	R215	R-CHIP	10Kohm,5%,1/16W,DA,TP,1005	
2007-000148	R216	R-CHIP	10Kohm,5%,1/16W,DA,TP,1005	
2007-000148	R220	R-CHIP	10Kohm,5%,1/16W,DA,TP,1005	
2007-000148	R226	R-CHIP	10Kohm,5%,1/16W,DA,TP,1005	
2007-000148	R249	R-CHIP	10Kohm,5%,1/16W,DA,TP,1005	
2007-000148	R250	R-CHIP	10Kohm,5%,1/16W,DA,TP,1005	
2007-000151	R147	R-CHIP	15Kohm,5%,1/16W,DA,TP,1005	
2007-000152	R133	R-CHIP	20Kohm,5%,1/16W,DA,TP,1005	
2007-000152	R134	R-CHIP	20Kohm,5%,1/16W,DA,TP,1005	
2007-000152	R135	R-CHIP	20Kohm,5%,1/16W,DA,TP,1005	
2007-000152	R136	R-CHIP	20Kohm,5%,1/16W,DA,TP,1005	
2007-000152	R254	R-CHIP	20Kohm,5%,1/16W,DA,TP,1005	
2007-000153	R107	R-CHIP	22Kohm,5%,1/16W,DA,TP,1005	
2007-000153	R113	R-CHIP	22Kohm,5%,1/16W,DA,TP,1005	
2007-000153	R123	R-CHIP	22Kohm,5%,1/16W,DA,TP,1005	
2007-000153	R145	R-CHIP	22Kohm,5%,1/16W,DA,TP,1005	
2007-000153	R164	R-CHIP	22Kohm,5%,1/16W,DA,TP,1005	
2007-000153	R173	R-CHIP	22Kohm,5%,1/16W,DA,TP,1005	
2007-000153	R174	R-CHIP	22Kohm,5%,1/16W,DA,TP,1005	
2007-000153	R175	R-CHIP	22Kohm,5%,1/16W,DA,TP,1005	
2007-000153	R176	R-CHIP	22Kohm,5%,1/16W,DA,TP,1005	
2007-000153	R179	R-CHIP	22Kohm,5%,1/16W,DA,TP,1005	
2007-000154	R257	R-CHIP	24Kohm,5%,1/16W,DA,TP,1005	
2007-000156	R225	R-CHIP	30Kohm,5%,1/16W,DA,TP,1005	
2007-000157	R117	R-CHIP	47Kohm,5%,1/16W,DA,TP,1005	
2007-000157	R118	R-CHIP	47Kohm,5%,1/16W,DA,TP,1005	
2007-000159	R150	R-CHIP	56Kohm,5%,1/16W,DA,TP,1005	
2007-000159	R158	R-CHIP	56Kohm,5%,1/16W,DA,TP,1005	
2007-000159	R181	R-CHIP	56Kohm,5%,1/16W,DA,TP,1005	
2007-000159	R182	R-CHIP	56Kohm,5%,1/16W,DA,TP,1005	
2007-000159	R186	R-CHIP	56Kohm,5%,1/16W,DA,TP,1005	
2007-000162	R151	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005	
2007-000162	R154	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005	
2007-000162	R155	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005	
2007-000162	R156	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005	
2007-000162	R160	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005	
2007-000162	R162	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005	
2007-000162	R170	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005	
2007-000162	R183	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005	
2007-000162	R184	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005	
2007-000163	R256	R-CHIP	120Kohm,5%,1/16W,DA,TP,1005	
2007-000164	R253	R-CHIP	150Kohm,5%,1/16W,DA,TP,1005	
2007-000165	R157	R-CHIP	200Kohm,5%,1/16W,DA,TP,1005	
2007-000170	R262	R-CHIP	1Mohm,5%,1/16W,DA,TP,1005	
2007-000171	R168	R-CHIP	0ohm,5%,1/16W,DA,TP,1005	
2007-000171	R196	R-CHIP	0ohm,5%,1/16W,DA,TP,1005	

SEC CODE	LOC NO.	DESCRIPTION	SPEC	REMARK
2007-000171	R211	R-CHIP	0ohm,5%,1/16W,DA,TP,1005	
2007-000172	R230	R-CHIP	10ohm,5%,1/16W,DA,TP,1005	
2007-000172	R231	R-CHIP	10ohm,5%,1/16W,DA,TP,1005	
2007-000242	R166	R-CHIP	1.5Kohm,5%,1/16W,DA,TP,1005	
2007-000758	R161	R-CHIP	330Kohm,5%,1/16W,DA,TP,1005	
2007-000932	R114	R-CHIP	470ohm,5%,1/16W,DA,TP,1005	
2007-001119	R171	R-CHIP	680ohm,5%,1/16W,DA,TP,1005	
2007-001291	R266	R-CHIP	30ohm,5%,1/16W,DA,TP,1005	
2007-001305	R101	R-CHIP	120ohm,5%,1/16W,DA,TP,1005	
2007-001319	R221	R-CHIP	1.2Kohm,5%,1/16W,DA,TP,1005	
2007-001320	R219	R-CHIP	1.8Kohm,5%,1/16W,DA,TP,1005	
2007-001325	R106	R-CHIP	3.3Kohm,5%,1/16W,DA,TP,1005	
2007-001333	R255	R-CHIP	18Kohm,5%,1/16W,DA,TP,1005	
2007-003010	R104	R-CHIP	20OHM,5%,1/16W,DA,TP,1005	
2007-003010	R105	R-CHIP	20OHM,5%,1/16W,DA,TP,1005	
2007-003010	R258	R-CHIP	20OHM,5%,1/16W,DA,TP,1005	
2007-003019	R218	R-CHIP	430OHM,5%,1/16W,DA,TP,1005	
2007-007021	R202	R-CHIP	75KOHM,5%,1/16W,DA,TP,1005	
2007-007137	R227	R-CHIP	1.2Kohm,1%,1/16W,DA,TP,1005	
2007-007142	R127	R-CHIP	10Kohm,1%,1/16W,DA,TP,1005	
2007-007142	R187	R-CHIP	10Kohm,1%,1/16W,DA,TP,1005	
2007-007142	R191	R-CHIP	10Kohm,1%,1/16W,DA,TP,1005	
2007-007142	R193	R-CHIP	10Kohm,1%,1/16W,DA,TP,1005	
2007-007142	R194	R-CHIP	10Kohm,1%,1/16W,DA,TP,1005	
2007-007142	R214	R-CHIP	10Kohm,1%,1/16W,DA,TP,1005	
2007-007142	R217	R-CHIP	10Kohm,1%,1/16W,DA,TP,1005	
2007-007142	R222	R-CHIP	10Kohm,1%,1/16W,DA,TP,1005	
2007-007148	R143	R-CHIP	3.6KOHM,5%,1/16W,DA,TP,1005	
2007-007309	R223	R-CHIP	12Kohm,1%,1/16W,DA,TP,1005	
2007-007311	R102	R-CHIP	22Kohm,1%,1/16W,DA,TP,1005	
2007-007311	R201	R-CHIP	22Kohm,1%,1/16W,DA,TP,1005	
2007-007318	R103	R-CHIP	1Kohm,1%,1/16W,DA,TP,1005	
2007-007491	R224	R-CHIP	11.3Kohm,1%,1/16W,DA,TP,1005	
2007-007588	R208	R-CHIP	1.8Kohm,1%,1/16W,DA,TP,1005	
2203-000189	C258	C-CERAMIC,CHIP	100nF,+80-20%,25V,Y5V,TP,1608	
2203-000233	C109	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005	
2203-000233	C116	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005	
2203-000233	C117	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005	
2203-000233	C118	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005	
2203-000233	C201	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005	
2203-000233	C240	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005	
2203-000233	C244	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005	
2203-000233	C247	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005	
2203-000254	C101	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C103	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C105	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C107	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C108	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C120	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	

SEC CODE	LOC NO.	DESCRIPTION	SPEC	REMARK
2203-000254	C128	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C133	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C158	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C166	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C167	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C203	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C205	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C209	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C211	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C213	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C215	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C217	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C219	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C223	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C234	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C253	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C263	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C298	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000386	C179	C-CERAMIC,CHIP	0.015nF,5%,50V,NPO,TP,1005	
2203-000386	C282	C-CERAMIC,CHIP	0.015nF,5%,50V,NPO,TP,1005	
2203-000386	C283	C-CERAMIC,CHIP	0.015nF,5%,50V,NPO,TP,1005	
2203-000386	C284	C-CERAMIC,CHIP	0.015nF,5%,50V,NPO,TP,1005	
2203-000386	C285	C-CERAMIC,CHIP	0.015nF,5%,50V,NPO,TP,1005	
2203-000386	C286	C-CERAMIC,CHIP	0.015nF,5%,50V,NPO,TP,1005	
2203-000386	C287	C-CERAMIC,CHIP	0.015nF,5%,50V,NPO,TP,1005	
2203-000386	C288	C-CERAMIC,CHIP	0.015nF,5%,50V,NPO,TP,1005	
2203-000386	C289	C-CERAMIC,CHIP	0.015nF,5%,50V,NPO,TP,1005	
2203-000386	C290	C-CERAMIC,CHIP	0.015nF,5%,50V,NPO,TP,1005	
2203-000386	C291	C-CERAMIC,CHIP	0.015nF,5%,50V,NPO,TP,1005	
2203-000386	C292	C-CERAMIC,CHIP	0.015nF,5%,50V,NPO,TP,1005	
2203-000386	C293	C-CERAMIC,CHIP	0.015nF,5%,50V,NPO,TP,1005	
2203-000386	C295	C-CERAMIC,CHIP	0.015nF,5%,50V,NPO,TP,1005	
2203-000425	C202	C-CERAMIC,CHIP	0.018nF,5%,50V,NPO,TP,1005	
2203-000438	C151	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C174	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C175	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C176	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C177	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C178	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C180	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C204	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C206	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C210	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C212	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C214	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C216	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C218	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C220	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C222	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	

SEC CODE	LOC NO.	DESCRIPTION	SPEC	REMARK
2203-000438	C224	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C226	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C227	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C233	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C235	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C237	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C238	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C239	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C265	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C299	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000489	C236	C-CERAMIC,CHIP	2.2nF,10%,50V,X7R,TP,1005,-	
2203-000628	C231	C-CERAMIC,CHIP	0.022nF,5%,50V,NP0,TP,1005	
2203-000628	C232	C-CERAMIC,CHIP	0.022nF,5%,50V,NP0,TP,1005	
2203-000679	C143	C-CERAMIC,CHIP	0.027nF,5%,50V,NP0,TP,1005	
2203-000679	C144	C-CERAMIC,CHIP	0.027nF,5%,50V,NP0,TP,1005	
2203-000812	C207	C-CERAMIC,CHIP	0.033nF,5%,50V,NP0,TP,1005	
2203-000836	C243	C-CERAMIC,CHIP	390pF,10%,50V,X7R,TP,1005,-	
2203-000885	C228	C-CERAMIC,CHIP	4.7nF,10%,25V,X7R,TP,1005,-	
2203-000885	C229	C-CERAMIC,CHIP	4.7nF,10%,25V,X7R,TP,1005,-	
2203-000940	C121	C-CERAMIC,CHIP	470pF,10%,50V,X7R,TP,1005,-	
2203-000940	C122	C-CERAMIC,CHIP	470pF,10%,50V,X7R,TP,1005,-	
2203-000940	C129	C-CERAMIC,CHIP	470pF,10%,50V,X7R,TP,1005,-	
2203-001124	C255	C-CERAMIC,CHIP	680pF,10%,50V,X7R,TP,1005,-	
2203-001178	C242	C-CERAMIC,CHIP	0.006nF,0.5pF,50V,NP0,TP,1005	
2203-001210	C123	C-CERAMIC,CHIP	8.2nF,10%,16V,X7R,TP,1005,-	
2203-001210	C124	C-CERAMIC,CHIP	8.2nF,10%,16V,X7R,TP,1005,-	
2203-001210	C125	C-CERAMIC,CHIP	8.2nF,10%,16V,X7R,TP,1005,-	
2203-001210	C126	C-CERAMIC,CHIP	8.2nF,10%,16V,X7R,TP,1005,-	
2203-001405	C260	C-CERAMIC,CHIP	22nF,+80-20%,25V,Y5V,TP,1005	
2203-001416	C112	C-CERAMIC,CHIP	33nF,10%,16V,Y5V,TP,1005,1.0mm	
2203-001432	C110	C-CERAMIC,CHIP	47nF,10%,16V,Y5V,TP,1005	
2203-001432	C248	C-CERAMIC,CHIP	47nF,10%,16V,Y5V,TP,1005	
2203-001724	C157	C-CERAMIC,CHIP	4700NF,+80-20%,16V,Y5V,TP,3216	
2203-001724	C160	C-CERAMIC,CHIP	4700NF,+80-20%,16V,Y5V,TP,3216	
2203-001724	C161	C-CERAMIC,CHIP	4700NF,+80-20%,16V,Y5V,TP,3216	
2203-002494	C251	C-CERAMIC,CHIP	470nF,10%,16V,X7R,TP,2012	
2203-002525	C184	C-CERAMIC,CHIP	0.56nF,10%,50V,X7R,TP,1005	
2203-002525	C185	C-CERAMIC,CHIP	0.56nF,10%,50V,X7R,TP,1005	
2203-002525	C186	C-CERAMIC,CHIP	0.56nF,10%,50V,X7R,TP,1005	
2203-002525	C187	C-CERAMIC,CHIP	0.56nF,10%,50V,X7R,TP,1005	
2203-005061	C102	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005	
2203-005061	C104	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005	
2203-005061	C106	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005	
2203-005061	C113	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005	
2203-005061	C119	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005	
2203-005061	C132	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005	
2203-005061	C155	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005	
2203-005061	C245	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005	
2203-005061	C246	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005	

SEC CODE	LOC NO.	DESCRIPTION	SPEC	REMARK
2203-005061	C254	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005	
2203-005061	C256	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005	
2203-005061	C259	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005	
2203-005061	C266	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005	
2203-005061	C267	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005	
2203-005061	C269	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005	
2203-005061	C273	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005	
2203-005061	C301	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005	
2203-005065	C156	C-CERAMIC,CHIP	1000nF,+80-20%,10V,Y5V,TP,1608	
2203-005065	C159	C-CERAMIC,CHIP	1000nF,+80-20%,10V,Y5V,TP,1608	
2203-005065	C168	C-CERAMIC,CHIP	1000nF,+80-20%,10V,Y5V,TP,1608	
2203-005138	C270	C-CERAMIC,CHIP	1.8nF,10%,50V,X7R,TP,1005,-	
2203-005138	C271	C-CERAMIC,CHIP	1.8nF,10%,50V,X7R,TP,1005,-	
2203-005138	C272	C-CERAMIC,CHIP	1.8nF,10%,50V,X7R,TP,1005,-	
2203-005496	C208	C-CERAMIC,CHIP	220nF,+80-20%,10V,Y5V,TP,1005	
2203-005496	C230	C-CERAMIC,CHIP	220nF,+80-20%,10V,Y5V,TP,1005	
2404-001017	C131	C-TA,CHIP	1uF,20%,10V,GP,TP,2012,2,0	
2404-001086	C162	C-TA,CHIP	4.7uF,20%,6.3V,GP,TP,2012,-	
2404-001088	C153	C-TA,CHIP	2.2uF,20%,6.3V,GP,TP,2012,-	
2404-001088	C241	C-TA,CHIP	2.2uF,20%,6.3V,GP,TP,2012,-	
2404-001088	C252	C-TA,CHIP	2.2uF,20%,6.3V,GP,TP,2012,-	
2404-001088	C264	C-TA,CHIP	2.2uF,20%,6.3V,GP,TP,2012,-	
2404-001100	C150	C-TA,CHIP	33uF,20%,6.3V,GP,TP,3719,-	
2404-001100	C257	C-TA,CHIP	33uF,20%,6.3V,GP,TP,3719,-	
2703-000300	L203	INDUCTOR-SMD	1uH,10%,0.8x1.6x0.8mm	
2703-000300	L204	INDUCTOR-SMD	1uH,10%,0.8x1.6x0.8mm	
2703-000300	L211	INDUCTOR-SMD	1uH,10%,0.8x1.6x0.8mm	
2703-001512	L208	INDUCTOR-SMD	27nH,5%,1.8x1.12x1.02mm	
2703-001914	L205	INDUCTOR-SMD	180nH,2%,1.6x0.8x0.8mm	
2703-001914	L207	INDUCTOR-SMD	180nH,2%,1.6x0.8x0.8mm	
2703-001915	L206	INDUCTOR-SMD	22nH,2%,1.6x0.8x0.8mm	
2801-003747	OSC102	CRYSTAL-SMD	.032768MHZ,30PPM,28-ACM,9PF,50OHM	
2802-001104	OSC101	RESONATOR-CERAMIC	27MHZ,0.5%,TP,2.5X2X1.2	
3002-001094	AU101	BUZZER-MAGNETIC	93dB,3.6V,90mA (MAX),2630Hz,TP	
3301-001105	L201	CORE-FERRITE	AB,1.6x0.8x0.8mm,-,-	
3301-001105	L202	CORE-FERRITE	AB,1.6x0.8x0.8mm,-,-	
3301-001105	L209	CORE-FERRITE	AB,1.6x0.8x0.8mm,-,-	
3301-001105	L210	CORE-FERRITE	AB,1.6x0.8x0.8mm,-,-	
3301-001105	L212	CORE-FERRITE	AB,1.6x0.8x0.8mm,-,-	
3708-001295	CN400	CONNECTOR-FPC/FC/PIC	22P,0.5mm,SMD-A,SN	
3710-001510	J401	CONNECTOR-SOCKET	18P,1R,0.5MM,SMD-A,AUF	
3711-004367	CN401	CONNECTOR-HEADER	BOX,40P,2R,0.5MM,SMD-S,AUF	
3722-001172	J200	JACK-AC POWER	2P,2.6PI,AU,BLK,NO	
GH71-00002A	GD101	GROUNDING TERMINAL	SCH-510,C1720,T0.1,-	
GH71-00002A	GD102	GROUNDING TERMINAL	SCH-510,C1720,T0.1,-	
GH71-00002A	GD103	GROUNDING TERMINAL	SCH-510,C1720,T0.1,-	
GH71-00002A	GD104	GROUNDING TERMINAL	SCH-510,C1720,T0.1,-	
GH71-00002A	GD105	GROUNDING TERMINAL	SCH-510,C1720,T0.1,-	
GH71-00002A	GD106	GROUNDING TERMINAL	SCH-510,C1720,T0.1,-	

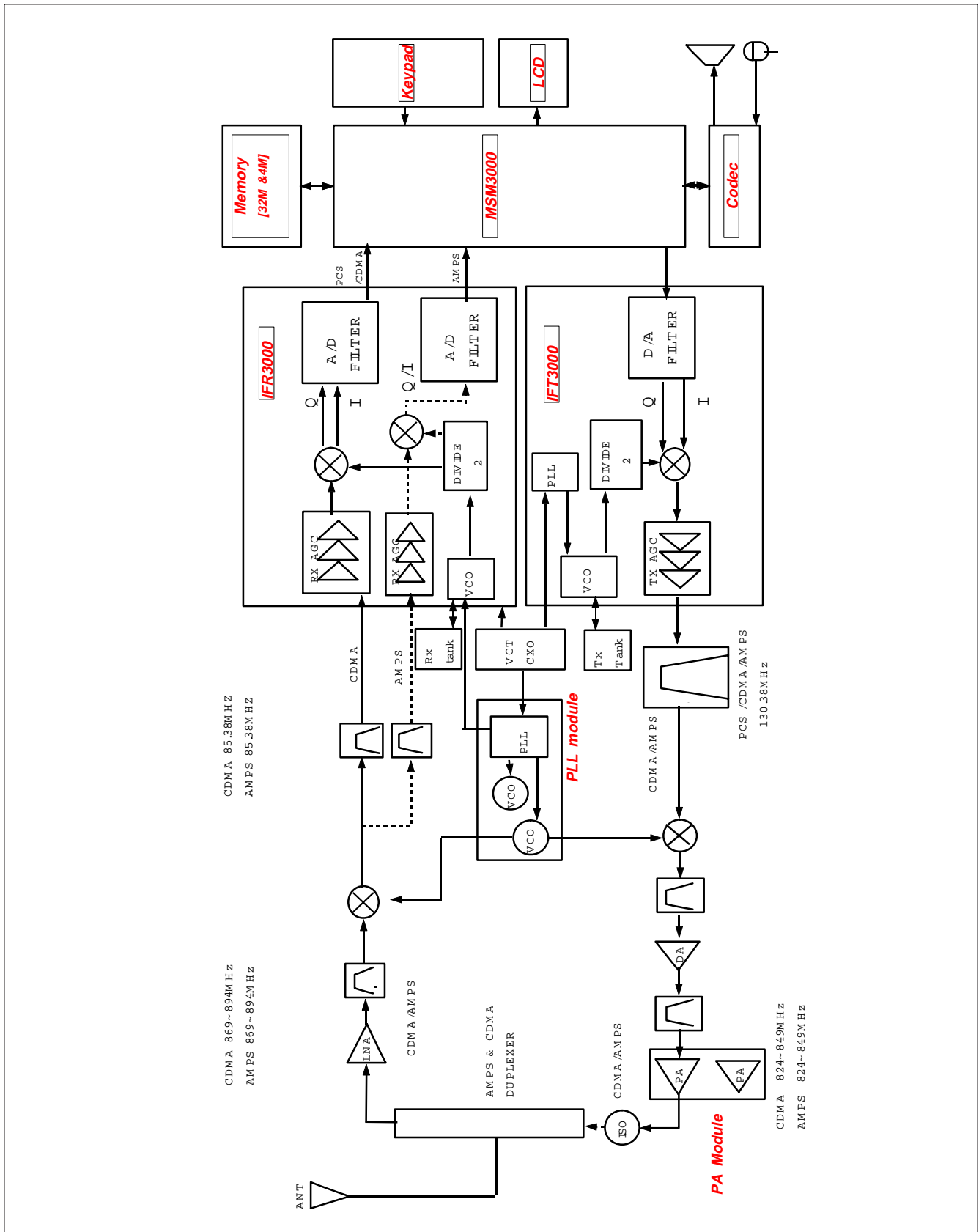
SEC CODE	LOC NO.	DESCRIPTION	SPEC	REMARK
GH71-00002A	GD107	GROUNDING TERMINAL	SCH-510,C1720,T0.1,-	
GH71-00002A	GD108	GROUNDING TERMINAL	SCH-510,C1720,T0.1,-	
GH71-00002A	GD109	GROUNDING TERMINAL	SCH-510,C1720,T0.1,-	
GH71-00002A	GD110	GROUNDING TERMINAL	SCH-510,C1720,T0.1,-	
GH71-00002A	GD111	GROUNDING TERMINAL	SCH-510,C1720,T0.1,-	
GH71-00002A	GD112	GROUNDING TERMINAL	SCH-510,C1720,T0.1,-	
0404-001093	D402	DIODE-SCHOTTKY	HSMS-282C,1V,30mA,SOT-323,TP	
0409-001001	D301	DIODE-PIN	BAR63-03W,50V,100mA,SOT-23,TP	
0409-001025	D401	DIODE-PIN	HSMP-389F,100V,1000mA,SOT-323,TP	
0409-001025	D302	DIODE-PIN	HSMP-389F,100V,1000mA,SOT-323,TP	
0409-001025	D303	DIODE-PIN	HSMP-389F,100V,1000mA,SOT-323,TP	
0501-000218	Q302	TR-SMALL SIGNAL	2SC4081,NPN,200mW,UMT,TP,180-3	
0504-000167	Q303	TR-DIGITAL	RN1102,NPN,100MW,10K/10K,SSM,TP	
0505-001376	U417	FET-SILICON	FDC6329L,N/P,8V,2.5A,-,0.7W,SC-74	
0505-001408	U408	FET-SILICON	FDC6306,P,-20V,-1.9A,0.16ohm,1W	
0505-001408	U416	FET-SILICON	FDC6306,P,-20V,-1.9A,0.16ohm,1W	
0506-001004	U402	TR-ARRAY	UMC5N,NPN/PNP,2,50V,-,-,100mA,3	
0803-003010	U405	IC-TTL	4W53,MUX/DEMUX,SOP,8P,110MIL,S	
1201-001175	U404	IC-PREAMP	01037,SOP,6P,59MIL,SINGLE,-,PL	
1201-001348	U415	IC-OP AMP	821,SOT23-5,5P,63MIL,SINGLE,-,	
1201-001517	U302	IC-RF AMP	2361,SOT23-5,5P,-,SINGLE,20dB,6V	
1201-001518	U409	IC-POWER AMP	QCPM9804,14P,TRIPLE,24dB,4.5V,2.5W	
1204-001013	U403	IC-MODULATOR	UPC8106T,SOT-23,6P,59MIL,6V,280MW	
1205-001773	U303	IC-MIXER	RF2466,MLP,16P,4V,TP,CDMA/FM MIXER	
2007-000070	F301	R-CHIP	0ohm,5%,1/16W,DA,TP,1608	
2007-000138	R310	R-CHIP	100ohm,5%,1/16W,DA,TP,1005	
2007-000138	R322	R-CHIP	100ohm,5%,1/16W,DA,TP,1005	
2007-000141	R456	R-CHIP	2.2Kohm,5%,1/16W,DA,TP,1005	
2007-000142	R314	R-CHIP	2.7Kohm,5%,1/16W,DA,TP,1005	
2007-000143	R315	R-CHIP	4.7Kohm,5%,1/16W,DA,TP,1005	
2007-000159	R457	R-CHIP	56Kohm,5%,1/16W,DA,TP,1005	
2007-000169	R429	R-CHIP	510Kohm,5%,1/16W,DA,TP,1005	
2007-000172	R333	R-CHIP	10ohm,5%,1/16W,DA,TP,1005	
2007-000174	R323	R-CHIP	47ohm,5%,1/16W,DA,TP,1005	
2007-000242	R328	R-CHIP	1.5Kohm,5%,1/16W,DA,TP,1005	
2007-000899	R455	R-CHIP	430Kohm,5%,1/16W,DA,TP,1005	
2007-000982	R410	R-CHIP	5.6Kohm,5%,1/16W,DA,TP,1005	
2007-001298	R432	R-CHIP	51ohm,5%,1/16W,DA,TP,1005	
2007-001317	R417	R-CHIP	910ohm,5%,1/16W,DA,TP,1005	
2007-001320	R434	R-CHIP	1.8Kohm,5%,1/16W,DA,TP,1005	
2007-007001	R329	R-CHIP	3.9KOHM,5%,1/16W,DA,TP,1005	
2007-007001	R416	R-CHIP	3.9KOHM,5%,1/16W,DA,TP,1005	
2007-007014	R427	R-CHIP	51KOHM,5%,1/16W,DA,TP,1005	
2007-007107	R317	R-CHIP	100Kohm,1%,1/16W,DA,TP,1005	
2007-007107	R443	R-CHIP	100Kohm,1%,1/16W,DA,TP,1005	
2007-007137	R332	R-CHIP	1.2Kohm,1%,1/16W,DA,TP,1005	
2007-007139	R412	R-CHIP	47Kohm,1%,1/16W,DA,TP,1005	
2007-007142	R411	R-CHIP	10Kohm,1%,1/16W,DA,TP,1005	
2007-007142	R424	R-CHIP	10Kohm,1%,1/16W,DA,TP,1005	

SEC CODE	LOC NO.	DESCRIPTION	SPEC	REMARK
2007-007142	R426	R-CHIP	10Kohm,1%,1/16W,DA,TP,1005	
2007-007142	R447	R-CHIP	10Kohm,1%,1/16W,DA,TP,1005	
2007-007142	R458	R-CHIP	10Kohm,1%,1/16W,DA,TP,1005	
2007-007319	R316	R-CHIP	390ohm,1%,1/16W,DA,TP,1005	
2007-007588	R319	R-CHIP	1.8Kohm,1%,1/16W,DA,TP,1005	
2007-007588	R320	R-CHIP	1.8Kohm,1%,1/16W,DA,TP,1005	
2007-007771	R307	R-CHIP	0OHM,5%,1/16W,DA,TP,1005	
2007-007771	R309	R-CHIP	0OHM,5%,1/16W,DA,TP,1005	
2007-007771	R312	R-CHIP	0OHM,5%,1/16W,DA,TP,1005	
2007-007771	R318	R-CHIP	0OHM,5%,1/16W,DA,TP,1005	
2007-007771	R321	R-CHIP	0OHM,5%,1/16W,DA,TP,1005	
2007-007771	R326	R-CHIP	0OHM,5%,1/16W,DA,TP,1005	
2007-007771	R402	R-CHIP	0OHM,5%,1/16W,DA,TP,1005	
2007-007771	R425	R-CHIP	0OHM,5%,1/16W,DA,TP,1005	
2007-007771	R428	R-CHIP	0OHM,5%,1/16W,DA,TP,1005	
2203-000233	C312	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005	
2203-000233	C316	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005	
2203-000233	C369	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005	
2203-000233	C370	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005	
2203-000233	C373	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005	
2203-000233	C421	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005	
2203-000233	C431	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005	
2203-000233	C465	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005	
2203-000254	C314	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C315	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C338	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C339	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C349	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C350	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C351	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C353	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C355	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C372	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C374	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C377	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C402	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C416	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C429	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C437	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C448	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C451	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C460	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000254	C464	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-	
2203-000278	C341	C-CERAMIC,CHIP	0.01nF,0.5pF,50V,NP0,TP,1005	
2203-000330	C318	C-CERAMIC,CHIP	0.012nF,5%,50V,NP0,TP,1005	
2203-000330	C430	C-CERAMIC,CHIP	0.012nF,5%,50V,NP0,TP,1005	
2203-000438	C317	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C322	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C335	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	

SEC CODE	LOC NO.	DESCRIPTION	SPEC	REMARK
2203-000438	C336	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C361	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C371	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C405	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C427	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C436	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C446	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000438	C462	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-	
2203-000696	C362	C-CERAMIC,CHIP	0.002nF,0.25pF,50V,NP0,TP,1005	
2203-000812	C441	C-CERAMIC,CHIP	0.033nF,5%,50V,NP0,TP,1005	
2203-000812	C450	C-CERAMIC,CHIP	0.033nF,5%,50V,NP0,TP,1005	
2203-000854	C323	C-CERAMIC,CHIP	0.039nF,5%,50V,NP0,TP,1005	
2203-000995	C438	C-CERAMIC,CHIP	0.047nF,5%,50V,NP0,TP,1005	
2203-000995	C461	C-CERAMIC,CHIP	0.047nF,5%,50V,NP0,TP,1005	
2203-001017	C313	C-CERAMIC,CHIP	0.004nF,0.25pF,50V,NP0,TP,1005	
2203-001416	C311	C-CERAMIC,CHIP	33nF,10%,16V,Y5V,TP,1005,1.0mm	
2203-001416	C320	C-CERAMIC,CHIP	33nF,10%,16V,Y5V,TP,1005,1.0mm	
2203-001416	C334	C-CERAMIC,CHIP	33nF,10%,16V,Y5V,TP,1005,1.0mm	
2203-001437	C340	C-CERAMIC,CHIP	5pF,0.25pF,50V,X7R,TP,1005,1.0	
2203-002525	C466	C-CERAMIC,CHIP	0.56nF,10%,50V,X7R,TP,1005	
2203-002968	C401	C-CERAMIC,CHIP	0.051nF,5%,50V,NP0,TP,1005	
2203-002968	C409	C-CERAMIC,CHIP	0.051nF,5%,50V,NP0,TP,1005	
2203-002968	C412	C-CERAMIC,CHIP	0.051nF,5%,50V,NP0,TP,1005	
2203-002968	C422	C-CERAMIC,CHIP	0.051nF,5%,50V,NP0,TP,1005	
2203-002968	C432	C-CERAMIC,CHIP	0.051nF,5%,50V,NP0,TP,1005	
2203-005061	C352	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005	
2203-005061	C356	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005	
2203-005061	C363	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005	
2203-005061	C368	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005	
2203-005061	C439	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005	
2203-005061	C440	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005	
2203-005281	C404	C-CERAMIC,CHIP	0.0015nF,0.1pF,50V,NP0,TP,1005	
2203-005288	C419	C-CERAMIC,CHIP	0.001nF,0.1pF,50V,NP0,TP,1005	
2203-005288	C454	C-CERAMIC,CHIP	0.001nF,0.1pF,50V,NP0,TP,1005	
2203-005393	C328	C-CERAMIC,CHIP	0.005nF,0.1pF,50V,NP0,TP,1005	
2203-005444	C321	C-CERAMIC,CHIP	0.003nF,0.1pF,50V,NP0,TP,1005	
2203-005481	C463	C-CERAMIC,CHIP	47nF,10%,10V,X7R,TP,1005,-	
2203-005651	C301	C-CERAMIC,CHIP	0.0007nF,0.1pF,50V,NP0,TP,1005	
2404-001017	C367	C-TA,CHIP	1uF,20%,10V,GP,TP,2012,2,0	
2404-001064	C357	C-TA,CHIP	10uF,20%,6.3V,GP,TP,2012,-	
2404-001064	C358	C-TA,CHIP	10uF,20%,6.3V,GP,TP,2012,-	
2404-001064	C375	C-TA,CHIP	10uF,20%,6.3V,GP,TP,2012,-	
2404-001064	C449	C-TA,CHIP	10uF,20%,6.3V,GP,TP,2012,-	
2404-001086	C327	C-TA,CHIP	4.7uF,20%,6.3V,GP,TP,2012,-	
2703-000190	L326	INDUCTOR-SMD	330nH,10%,0.8x1.6x0.8mm	
2703-000213	L330	INDUCTOR-SMD	470nH,10%,0.8x1.6x0.8mm	
2703-000301	L321	INDUCTOR-SMD	2.7uH,10%,0.8x1.6x0.8mm	
2703-000301	L325	INDUCTOR-SMD	2.7uH,10%,0.8x1.6x0.8mm	
2703-000310	L331	INDUCTOR-SMD	1.8uH,10%,0.8x1.6x0.8mm	

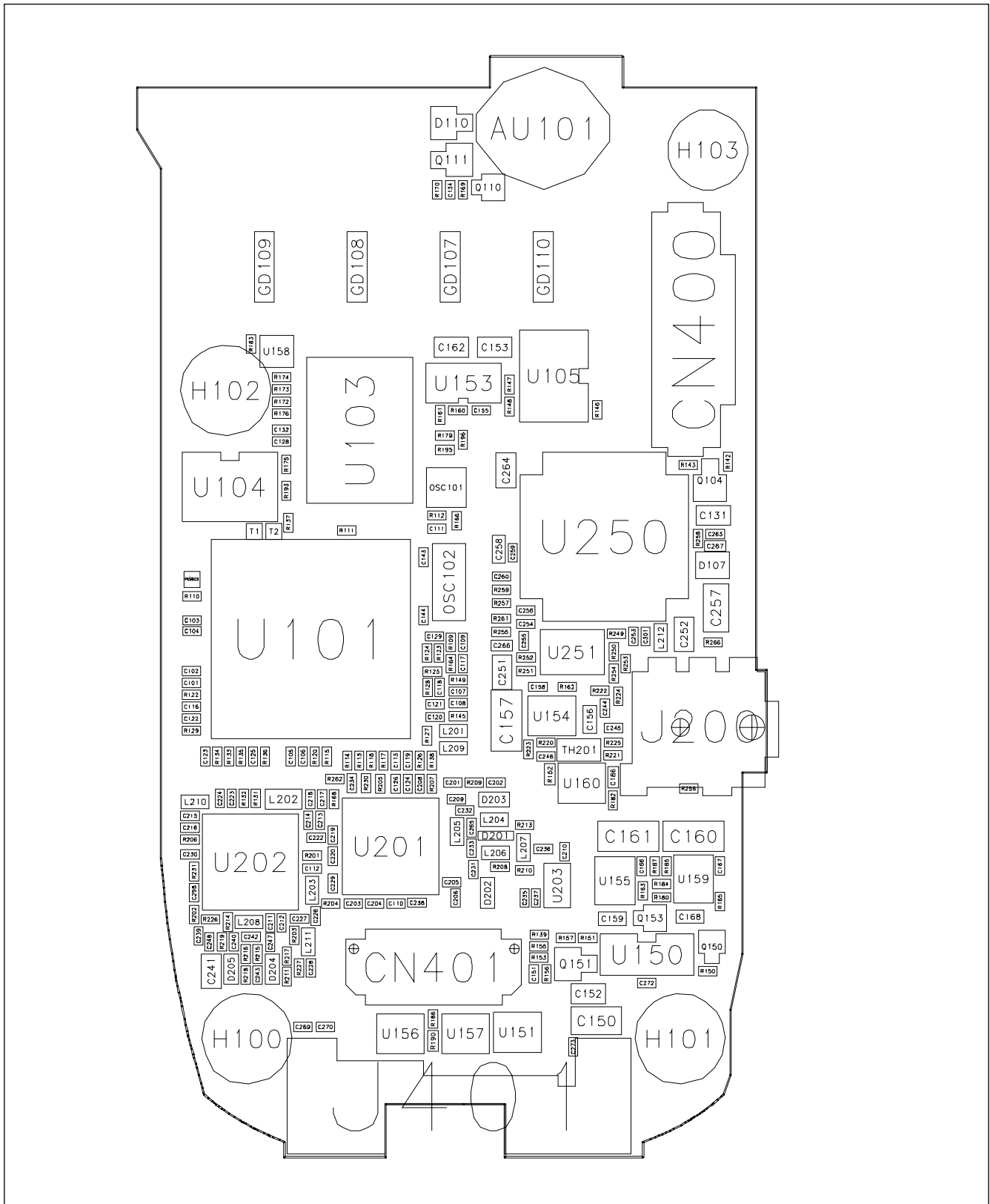
SEC CODE	LOC NO.	DESCRIPTION	SPEC	REMARK
2703-000310	L333	INDUCTOR-SMD	1.8uH,10%,0.8x1.6x0.8mm	
2703-001165	L301	INDUCTOR-SMD	4.7nH,10%,1.6x0.8X0.8mm	
2703-001180	L406	INDUCTOR-SMD	15nH,5%,1x0.5x0.5mm	
2703-001409	L311	INDUCTOR-SMD	12nH,10%,1x0.5x0.5mm	
2703-001595	L416	INDUCTOR-SMD	47nH,5%,1.0x0.5x0.5mm	
2703-001595	L417	INDUCTOR-SMD	47nH,5%,1.0x0.5x0.5mm	
2703-001673	L332	INDUCTOR-SMD	120nH,5%,1.8x1.12x1.02mm	
2703-001694	L320	INDUCTOR-SMD	390nH,10%,2.29x1.73x1.52mm	
2703-001726	L313	INDUCTOR-SMD	27nH,5%,1x0.5x0.5mm	
2703-001726	L316	INDUCTOR-SMD	27nH,5%,1x0.5x0.5mm	
2703-001730	L310	INDUCTOR-SMD	15nH,5%,1x0.5x0.5mm	
2703-001730	L419	INDUCTOR-SMD	15nH,5%,1x0.5x0.5mm	
2703-001733	L314	INDUCTOR-SMD	8.2nH,5%,1x0.5x0.5mm	
2703-001868	L401	INDUCTOR-SMD	82NH,5%,1005	
2703-001868	L408	INDUCTOR-SMD	82NH,5%,1005	
2703-001914	L324	INDUCTOR-SMD	180nH,2%,1.6x0.8x0.8mm	
2703-001916	L402	INDUCTOR-SMD	100nH,2%,1.6x0.8x0.8mm	
2703-001918	L322	INDUCTOR-SMD	150nH,2%,1.6x0.8x0.8mm	
2703-001920	L412	INDUCTOR-SMD	2.2uH,20%,3.2x2.5x2.0mm	
2809-001228	U307	OSCILLATOR-VCTCXO	19.68MHZ,2PPM,-,TP,2.8V,2MA	
2904-001123	F401	FILTER-SAW	130.38MHz,2.847MHz,-,TP,+4.95M	
2904-001136	F306	FILTER-SAW	881.5MHz,25MHz,+/-25MHz/0.9dB,T	
2904-001138	F402	FILTER-SAW	836.50MHz,-,849MHz/1dB,TP,849M	
2904-001138	F404	FILTER-SAW	836.50MHz,-,849MHz/1dB,TP,849M	
2904-001148	F310	FILTER-SAW	85.380MHz,13KHz,1.5dB,TP,+/-60K	
2904-001193	F309	FILTER-SAW	85.38MHz,1.8MHz,0.3MHz/0.	
2909-001082	F305	FILTER-DUPLEXER	881.5MHZ,836.5MHZ,3.8/2DB	
3301-001105	L306	CORE-FERRITE	AB,1.6x0.8x0.8mm,-,-	
3301-001105	L323	CORE-FERRITE	AB,1.6x0.8x0.8mm,-,-	
3301-001105	L334	CORE-FERRITE	AB,1.6x0.8x0.8mm,-,-	
3301-001105	L335	CORE-FERRITE	AB,1.6x0.8x0.8mm,-,-	
3301-001105	L413	CORE-FERRITE	AB,1.6x0.8x0.8mm,-,-	
3301-001105	L414	CORE-FERRITE	AB,1.6x0.8x0.8mm,-,-	
3301-001105	L418	CORE-FERRITE	AB,1.6x0.8x0.8mm,-,-	
3301-001105	L421	CORE-FERRITE	AB,1.6x0.8x0.8mm,-,-	
3301-001120	L424	CORE-FERRITE BEAD	AB,2.0x1.25x0.9mm,-,-	
3705-001163	J1	CONNECTOR-COAXIAL	SMC,JACK,100mohm,50ohm,0.5dB	
3710-001535	CN401	CONNECTOR-SOCKET	40P,2R,0.5MM,SMD-S,AUF	
4709-001080	U304	RF POWER SPLITTER	2WAY,955-979MHz,12dB,-,TP	
4709-001201	F407	FREQ-ISOLATOR	824-849MHz,13dB,0.65dB,1.5	
4719-001047	U306	MODULE	PLL MODULE,1720-1780MHz,510MHz	
GH71-00163A	F303	NPR-DUPLEX CAN	SCH-850,C1720S,0.2,-	

7. Block Diagram

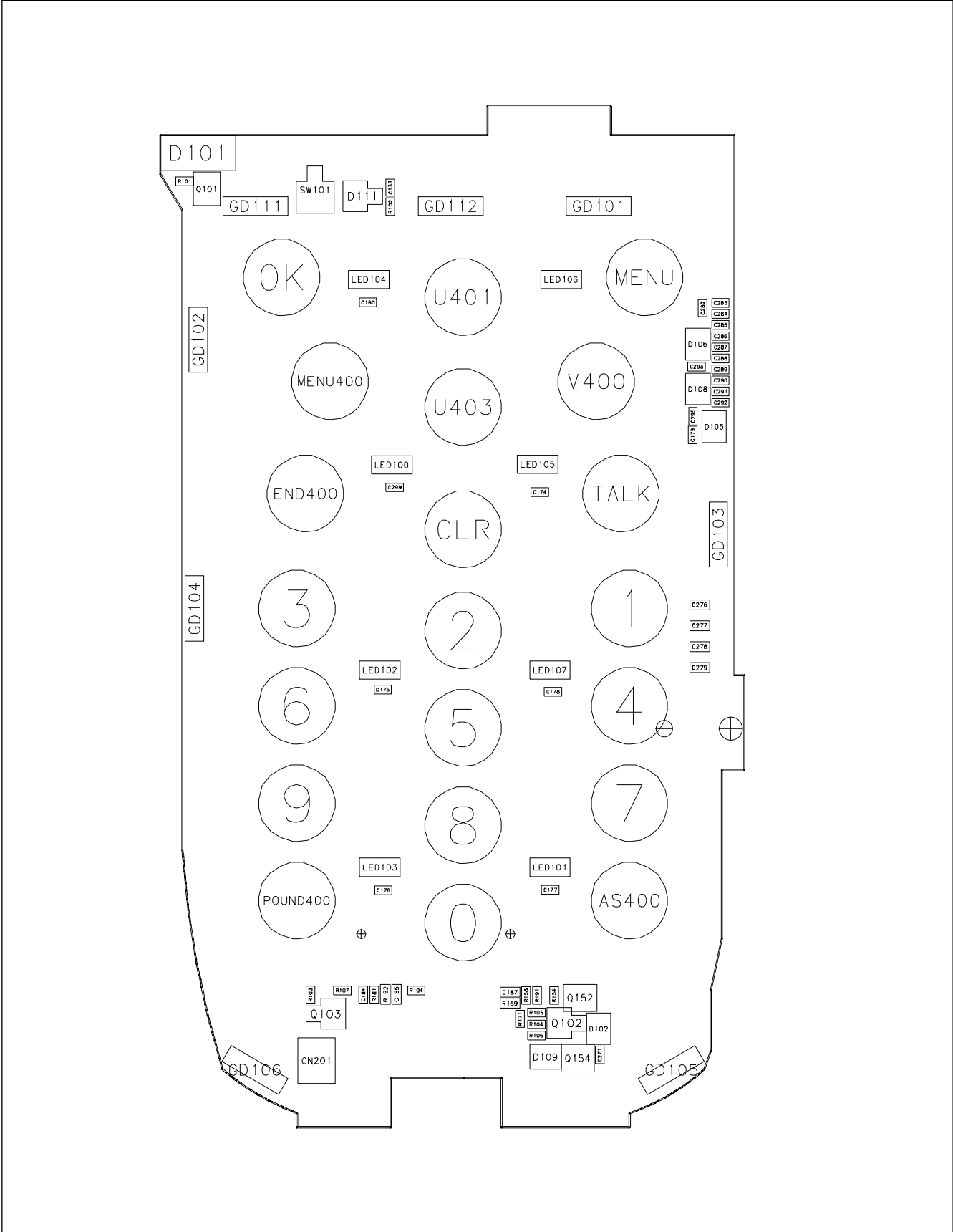


8. PCB Diagram

8-1 Logic Top View



8-2 Logic Bottom View



8-3 RF Bottom View

