SAMSUNG

DUAL MODE(CDMA/AMPS) PORTABLE TELEPHONE SCH-A205

SERVICE *Manual*

DUAL MODE TELEPHONE

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1. General Instruction

The SCH-A205 cellular phone functions as both analog cellular phone working in AMPS(Advanced Mobile Phone Service) mode and Digital cellular phone working in CDMA(Code Division Multiple Access) mode.
CDMA type digital mode applies DSSS(Direct Sequential Spread Spectrum) mode which first came to be used in the military.
The DSSS reduces channel cross talk and allow to use one frequency channel by multiple users in the same specific area, resulting in increase of channel capacity to about ten times compared to that of analog mode currently used.

Soft/Sofer Handoff, Hard Handoff, and Dynamic RF Power Control technologies are combined into this phone to reduce the call drop while usage.

CDMA digital cellular network consists of MSO(Mobile Switching Office), BSC(Base Station Controller), BTS (Base Station Transmission System), and MS(Mobile Station). MS meets the specifications of the below :

- IS-95A : Mobile Station-Base Station Compatibility Standard for Dual-Mode Wideband Spread Spectrum Cellular System
- IS-96A : Speech Service Option 1 Standard for Dual-Mode Wideband Spread Spectrum Cellular System
- IS-98A : Standards for Dual-Mode Wideband Spread Spectrum Cellular Mobile System
- IS-126 : Mobile Station Loopback Service Options Standard

SCH-A205 is composed of main handset, one battery(800mAh), ear-microphone, and rapid DTC. Travel adaptor(or travel charger) and HFK is optional. Hands-Free Kit is designed to be operated in full-duplex mode taking turn-around delay between the phone and the system into account.

2. Specification

2-1 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	50ohm	50ohm
Tx Intermediate Freq.	130.38MHz	130.38MHz
Rx Intermediate Freq.	85.38MHz	85.38MHz
Tx Local Freq.	1st(260.76MHz) 2nd(FTX+130.38MHz)	1st(260.76MHz) 2nd(F_{TX}+130.38MHz)
Rx Local Freq	1st(FRX+85.38MHz) 2nd(170.76MHz)	1st(F_{RX}+85.38MHz) 2nd(170.76MHz)
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	3.75V	
Size and Weight	STD : 80mm X 43mm X 25.5mm, 85 g, 800 mA	

2-2 Digital Mode

Waveform Quality	0.944 or more
Time Reference	±1uS or less
Rx Sensitivity and Dynamic Range	-104dBm, FER=0.5% or less -25dBm, FER=0.5% or less
Maximum TX Output Power	23dBm(200mW)
TX Frequency Deviation	±300Hz or less
Occupied Band Width	1.32MHz
TX Conducted Spurious Emission	900KHz : -42dBc / 30KHz below 1.98MHz: -54dBc / 30KHz below
Minimum TX Power Control	below -50dBm
Open Loop Power Control	-25dBm: -57.0dBm ~ -38.5dBm -65dBm: -17.5dBm ~ + 1.5dBm -104dBm: +18.0dBm ~ +30.0dBm
Standby Output Power	below -61dBm
Colsed Loop TX Power Control Range	Test1: ±24dB or less Test2: 0mS ~ 2.5mS Test3: ±24dB or more Test4: ±24dB or more Test5: ±24dB or more

2-3 ANALOG MODE

TRANSMITTER

RF output power	0.6W (+2/-4dB)
Carrier ON/OFF conditions "ON" Condition "OFF" Condition	 within ±3dB of specification output (in 2mS) below -60dBm (in 2mS)
Compressor Compression Rate Attack Time Recovery Time Reference Input	 2:1 3mS 13.5mS Input level for producing a nominal ±2.9KHz peak freqency deviation of transmitted carrier
Preamphasis	6dB/OCT within 0.3 ~ 3KHz
Maximum Freqency Deviation F3 of G3 Supervisory Audio Tone Signaling Tone Wideband Data	 ±12KHz ±2KHz (±10%) ±8KHz (±10%) ±8KHz (±10%)
Post Deviation Limiter Filter 3.0 ~ 5.9KHz 5.9 ~ 6.1KHz 6.1 ~ 15KHz Over 15KHz	 above 40 LOG (F/3000) dB above 35 dB above 40 LOG (F/3000) dB above 28 dB
Spectrum Noise Suppression For all modulation f_0 +20KHz ~ f_0 +45KHz For modulation by voice and SAT f_0 +45KHz For modulation by WBD(without SAT) and ST (with SAT) f_0 +45KHz ~ f_0 +60KHz f_0 +60KHz ~ f_0 +90KHz f_0 +90KHz ~ $2f_0$	 above 26 dB above 63 +10 LOG (PY) dB above 45 dB above 65 dB above 63 +10 LOG (PY) dB (where f_0=carrier frequency PY=mean output power in watts)
Harmonic and conducted Spurious Emissions	below 43 + 10 LOG (PY) dB

RECEIVER

De-Emphasis	-6dB / OCT within 0.3 ~3KHz
Expander Expander Rate Attack Time Recovery Time Reference Input	1:2 within 3mS within 13.5mS output level to a 1000Hz tone from a carrier within ±2.9KHz peak frequency deviation
Sensitivity	12dB SINAD / -116dBm
Intermodulation Spurious Response Attenuation	avove 65dB
RSSI Range	above 60dB
Protection Against Spurious Response Interference	above 60dB
In Band Conducted Spurious Emission Transmit Band Receive Band	 below -60dBm below -80dBm
Out of Band Conducted Spurious Emissions	below -47dBm

Radiated Spurious Emission	
Frequency Range	Maximum Allowable EIRP
25 ~ 70 MHz	-45dBm
70 ~ 130MHz	-41dBm
130 ~ 174 MHz	-41 ~ -32dBm
174 ~ 260 MHz	-32dBm
260 ~ 470 MHz	-32 ~ -26dBm
470 ~ 1GHz	-21dBm

MSC Transmitter Frequency

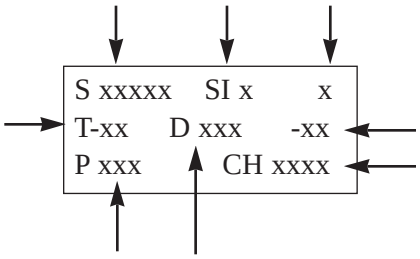
FA NO.	CH NO.	Center Frequency	FA NO.	CH NO.	Center Frequency
1	1011	824.64MHz	11	404	837.12MHz
2	29	825.87MHz	12	445	838.35MHz
3	70	827.10MHz	13	486	839.58MHz
4	111	828.33MHz	14	527	840.81MHz
5	152	829.56MHz	15	568	842.04MHz
6	193	830.79MHz	16	609	843.27MHz
7	234	832.02MHz	17	650	844.27MHz
8	275	833.25MHz	18	697	845.91MHz
9	316	834.48MHz	19	738	847.14MHz
10	363	835.89MHz	20	779	848.37MHz

MSC Receiver Frequency

FA NO.	CH NO.	Center Frequency	FA NO.	CH NO.	Center Frequency
1	1011	869.64MHz	11	404	882.12MHz
2	29	87.087MHz	12	445	883.35MHz
3	70	872.10MHz	13	486	884.58MHz
4	111	873.33MHz	14	527	885.81MHz
5	152	874.56MHz	15	568	887.04MHz
6	193	875.79MHz	16	609	888.27MHz
7	234	877.02MHz	17	650	889.27MHz
8	275	878.25MHz	18	697	890.91MHz
9	316	879.58MHz	19	738	892.14MHz
10	363	880.89MHz	20	779	893.37MHz

2-4 CDMA Debug Display Information (menu 9 000000 1)

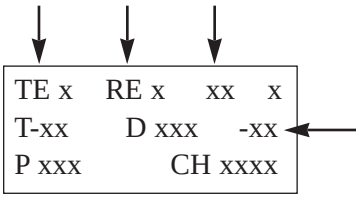
IN IDLE MODE



Sxxxxx : SID (System Identification) toggle
Nxxxxx : NID (Network Identification) toggle

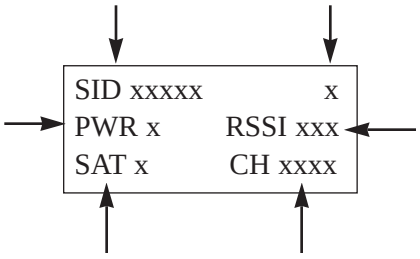
- SIx : Slot cycle index (lowest between the system and the phone will be used)
- Handset Status : 0-Acquisition
  1-Synchronization
  2-Paging(Idle)
  3-Traffic Initialization
  4-Traffic Mode
  5-Exit

IN CONVERSATION MODE



- T-xx : Tx adjust, Value ranges from +63~-63dB
- Dxxx : sector power in dBm
- -xx : Ec/Io
- Pxxx : PN offset
- CHxxxx : channel number
- TEx : Tx vocoder rate (8 is full rate, 1 is 1/8th rate)
  E : Echo canceler
- REx : Rx vocoder rate (8 is full rate, 1 is 1/8th rate)
- xx : Walsh code used in traffic channel

2-5 FM Debug Display Information (menu 9 000000 1)



- SIDxxxxx : FM Home System ID
- PWRx : Power Level 0~7
- SATx : Supervisory Audio Tone code (0~3)
- x (Using Frequency Band) : A Band or B Band
- RSSIxxx : RSSI value
- CHxxx : Using Channel

4. NAM Programming

NAM feature can be programmed as follows

1. Press **Menu+6+0** to enter the NAM programming mode, and enter the **service code.**
2. If you enter the NAM programming mode, each item shows the currently stored data
   Go to the next item by pressing the **OK** key
3. You can modify the data by entering a new data and store it by pressing the **OK** key
4. If you enter a wrong digit press the **CLR** key to delete the last digit.
   Press and hold the **CLR** key to delete all digits
5. To scroll items backwards or forwards without changing, push the **OK(scroll)** key to the up or down.
6. After finishing the NAM programming, press the **END** key to exit the NAM pragramming mode.

LCD Display	Key Input	Function
	Menu+6+0+ service code	Enter the NAM programming mode
NAM program 1:Setup NAM1 2:Setup NAM2	1	Chose 'Setup NAM1'
NAM1 Phone # 3003003000	New data or OK	Phone number is displayed. To change the phone number, enter the new one. Press the OK key to store it.
NAM1 Directory # 3003003000	New data or OK	Directory number is displayed. To change the directory number, enter the new one. Press the OK key to store it.
NAM1 Activate PRL No	OK	The roaming list is enabled or not. To change sytem selection operaiton push the OK(scroll) key to the right or left. Press the OK key to store it.
NAM1 Anlg HomeSID 32768	New data or OK	Analog home system ID, current status is displayed. To change the SID, enter the new one. Press the OK key to store it
NAM1 Dgtl HomeSID 32768	New data or OK	1st CDMA home system ID, current status is displayed. To change the SID, enter the new one. Press the OK key to store it
NAM1 More Prog.? No	OK	To program the more NAM item push the OK(scroll) key to the right or left. Press the OK key. If service code prompt is displayed, you have to enter the service code.

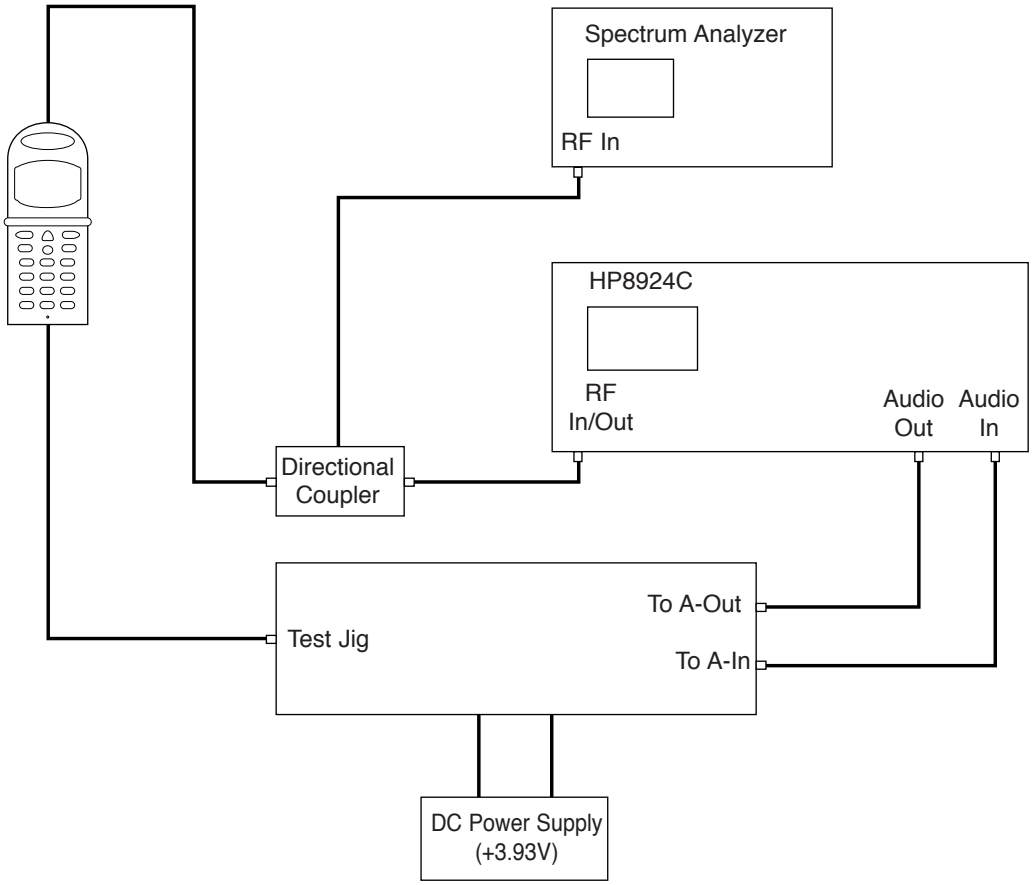
LCD Display	Key Input	Function
		More NAM programming mode
NAM program 1:General 2:Setup NAM1 3:Setup NAM2	1	Chose 'General'
General ESN B0000000	OK	Electronic Serial Number of the phone is displayed.
General CAIversion 3	OK	Common Air Interface version is displayed.
General VOC Select SO_EVRC_FORC	OK	To change Vocoder rate, push the OK(scroll) key to the right or left. Press the OK(scroll) key to store it
General SCM 00101010	OK	Station Class Mark is displayed.
General Service Code 626626	6-digit code OK	Service Programming Code is displayed.
General Lock Code 0000	4-digit code OK	Security(Menu+0) lock code is displayed. To changed the lock code, enter the new lock code. Press the OK key to store it.
General Slot Mode Yes	OK	Slot mode operation is enabled or not To change Slot mode opration, push the OK(scroll) key to the right or left. Press the OK key to store it.
General Slot Index 2	New data or OK	Slot Cycle Index The higher, the longer sleeping time To change Slot Cycle Index, enter the new data from 0 to 7 Press the OK key to store it.

LCD Display	Key Input	Function
General Roundup Timer No	OK	Roundup Timer To change Slot mode opration, push the OK(scroll) key to the right or left. Press the OK key to store it.
NAM program 1:General 2:Setup NAM1 3:Setup NAM2	2	Chose 'Setup NAM1'
NAM1 Digital IMSI_MCC 454	New data or OK	IMSI Mobile Country Code, current code is displayed. To change the MCC, enter the new one. Pres the OK key to store it.
NAM1 Digital IMSI_MNC 05	New data or OK	IMSI Mobile Network Code, current code is displayed. To change the MNC, enter the one. Press the OK key to store it.
NAM1 Digital Phone # 8520000000	New data or OK	Phone number is displayed. To change the phone number, enter the new one. Press the OK key to store it.
NAM1 Digital Directory # 8520000000	New data or OK	Directory number is displayed. To change the directory number, enter the new one. Press the OK key to store it.
NAM1 Digital Pchn Sys A 283	New data or OK	Primary CDMA channel for system A To change the channel, enter the new one. Press the OK key to store it.
NAM1 Digital Pchn Sys B 384	New data or OK	Primary CDMA channel for system B To change the channel, enter the new one. Press the OK key to store it.
NAM1 Digital Schn Sys A 691	New data or OK	Secondary CDMA channel for system A To change the channel, enter the new one. Press the OK key to store it.
NAM1 Digital Schn Sys B 777	New data or OK	Secondary CDMA channel for system B To change the channel, enter the new one. Press the OK key to store it.

LCD Display	Key Input	Function
NAM1 Digital Home SID 01 10641	New data or OK	1st CDMA home system ID, current status is displayed. To change the SID, enter the new one. Press the OK key to store it
NAM1 Digital Home NID 01 65535	New data or OK	1st CDMA home network ID, current status is displayed. To change the NID, enter the new one. Press the OK key to store it
Repeated to the SID 20 and NID 20		
NAM1 Digital LockoutSID01 8103	New data or OK	1st lockout system ID, current status is displayed. To change the lockout SID, enter the new one. Press the OK key to store it.
Repeated to the lockout SID 10		
NAM1 Digital CDMA HomeSID Yes	OK	Autonomous registeration status indicator, current status is displayed. To change sytem selection operaiton push the OK(scroll) key to the right or left. Press the OK key to store it.
NAM1 Digital CDMA fSID Yes	OK	
NAM1 Digital CDMA fNID Yes	OK	
NAM1 Digital ACCOLC 0	OK	CDMA Access Overload Class, current status is displayed.
NAM program 1:General 2:Setup NAM1 3:Setup NAM2	Scroll and OK	You can programm the NAM2 by chosing 'Setup NAM2'.

5. Test Procedure

5-1 Configuration of Test

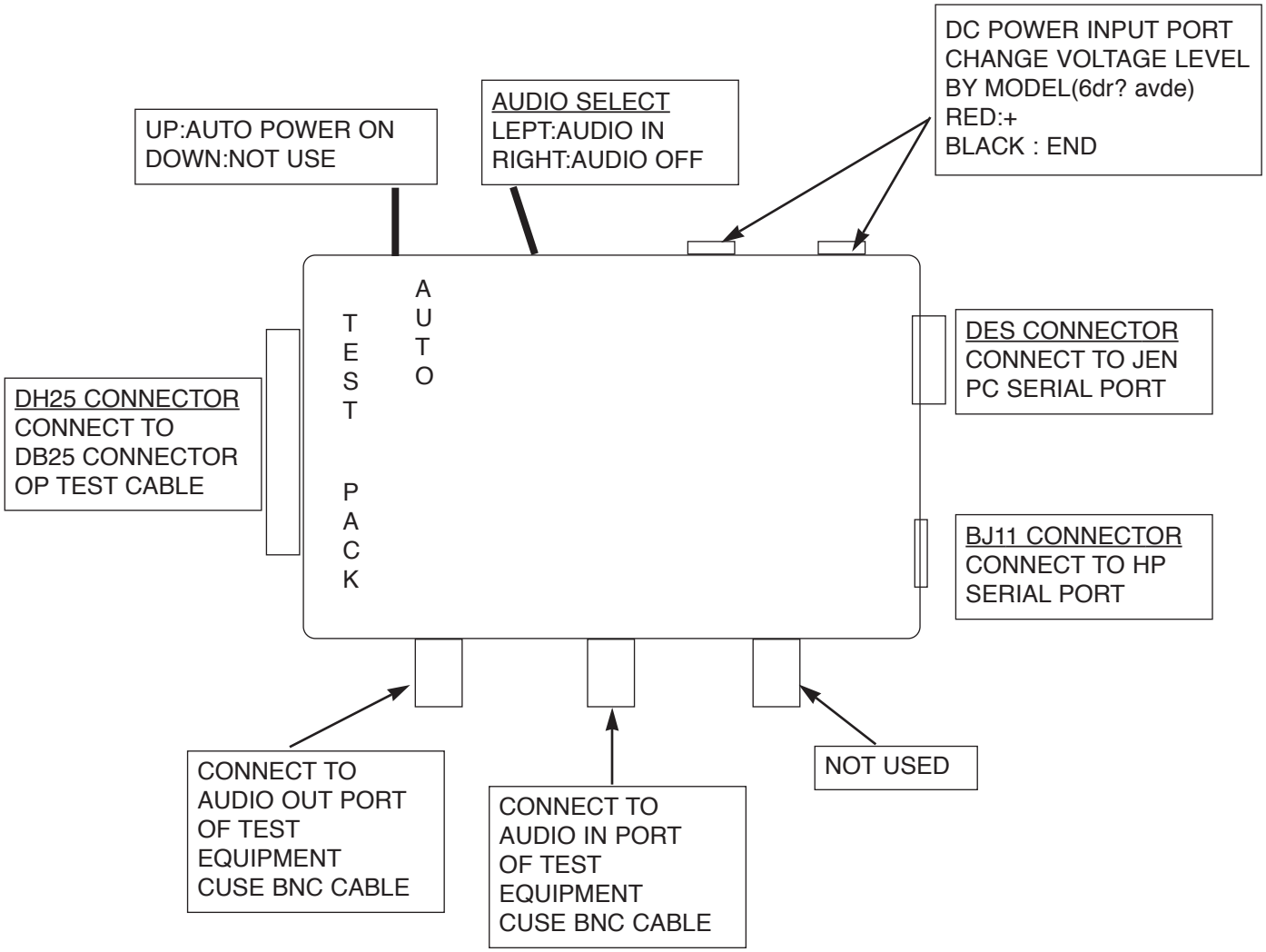


CAUTION : The test jig and data cable has a voltage drop of 0.18V at FM Max power output you'd for normal test condition.
(Nominal voltage of battery is 3.75V at cellular phone)

5-2 List of Equipment

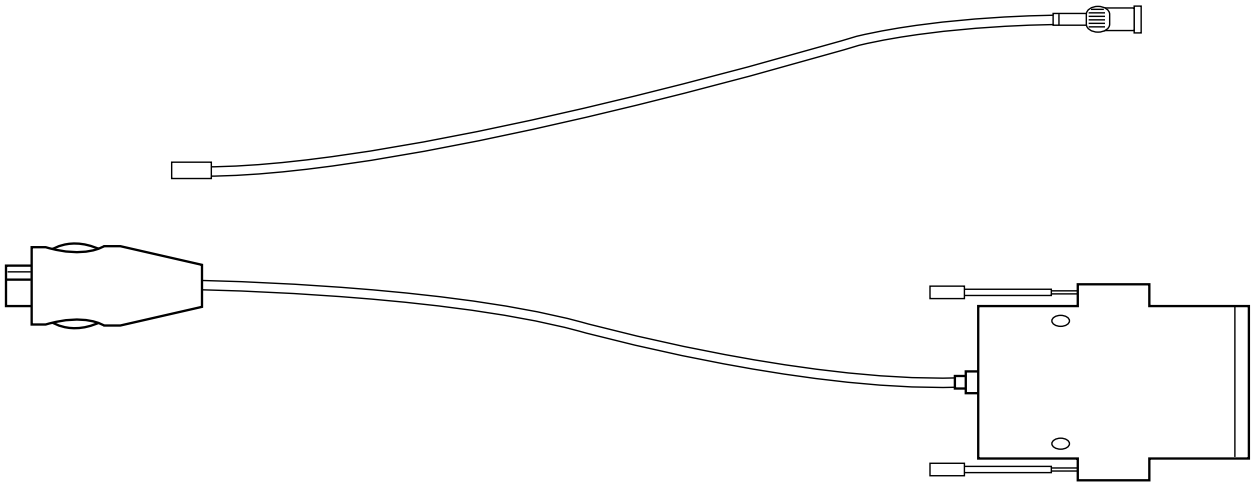
- DC Power Supply
- Test Jig
- Test Cable
- CDMA Mobile Station Test Set HP8924C, HP83236A, CMD-80, etc
- Spectrum Analyzer(include CDMA Test Mode) HP8596E

Test Jig



5-3 TEST CABLE DESCRIPTION FOR SCH-A205

1. TEST CABLE

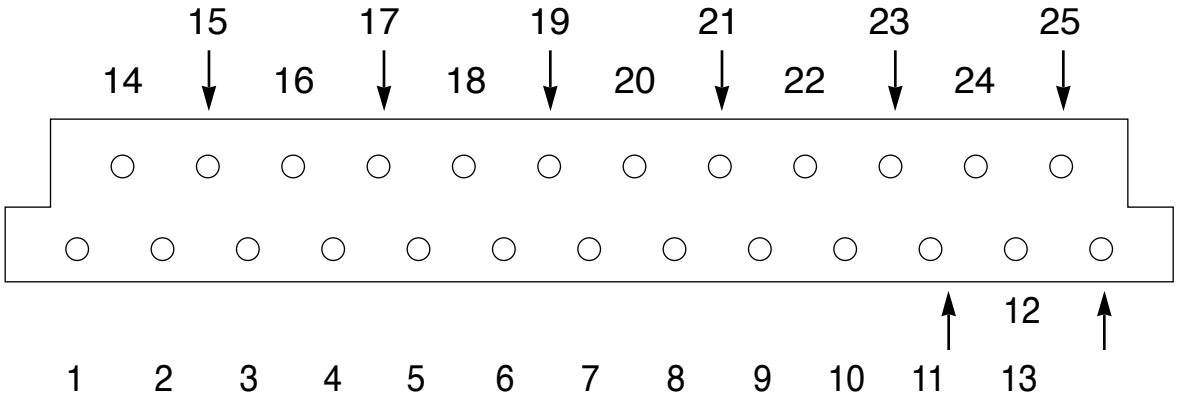


2. TEST CABLE CONNECTIONS

1	MHC 172
2	RF CABLE (1.4 dB Loss in 800MHz)
3	BNC CONNECTOR (RF)
4	PLUG CONNECT TO SCH-N100/N101/N105
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	DP_RX_DATA	21
DGND	2, 4, 6, 13, 19	HP_PWR	7
BATT	15, 16, 22	RI	
C_F	3, 20	CD	
TX_AUDIO	5	RTS	
DP_TX_DATA	7	CTS	
RX_AUDIO	1	DTR	



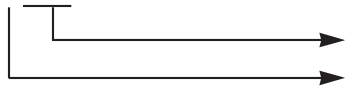
5-4 Test Procedure

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"

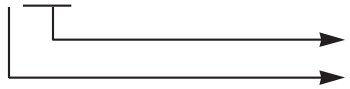
B. The command “0 1” is Suspend.

C. The command "21" is mode and channel change.
"10000" or "10001" : AMPS's Sytem A or Sytem B
"20363"



and Push the Navigation key to save.

C. The command "21" is mode and channel change.
"20363" : CDMA 363CH



and Push the Navigation key to save.

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

2. CDMA Channel Selection and Tx Power Output Level Control

2-1 CDMA

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

B. "0 1" : Suspend.

C. The command "21" is mode and channel change , press "OK" to save.
"20363"

D. To finish the Test Mode, You should enter the command "0 2",
and enter to Test Mode ("* 7 5 9 # 8 1 3 5 8 0").
"0 1" : Suspend.

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

F. "0 7" : Carrier On.

G. The command "73" is ON/OFF of Tx drive Amp.
In case of Tx PWR output bellow - 6dBm, set to "0".
In case of Tx PWR output above - 6dBm, set to "1".

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

I. "7 1 * * * " : Adjust RF power level.
"* * *" means AGC level and AGC level range is f rom 000 to 511.

2-2.AMPS(FM)

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

B. "0 1" : Suspend.

C. The command "21" is mode and channel change
"10000" or "10001" : AMPS's Sytem A and Sytem B
and Push the Navigation key to save.

D. To finish the Test Mode, You should enter the command "0 2",
and enter to Test Mode ("* 7 5 9 # 8 1 3 5 8 0").
"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. The command "73" is ON/OFF of Tx drive Amp. In case of AMPS, set to "1".

I. "7 2 * * * " : Output RF power level is set as power level 2
"* * *" means AGC level and AGC level range is f rom 0 to 511.

J. "1 0 2" : RF Power level control, 2(0~7) means power level .

3. CDMA

TEST ITEMS	PROCEDURE
1. PREPARANCE	Set test equipments up. "* 7 5 9 # 8 1 3 5 8 0" : Enter the Test Mode "0 1" : Suspend "0 4" : Current Mode Check Conf irm that the phone is in the "CDMA Mode". (If not CDMA Mode, Use Test Command "21""2XXXX" and Push the Navigation Key to "OK", and enter "0 2" to restart) If you select a wrong key, press "#", then enter new command. To exit the Test Mode at any time, just press [0 2].
2. FREQUENCY ACCURACY	"0 1" : Suspend. "0 9 0 3 6 3 #" : Set channel to 363. "0 7" : Carrier On. "7 3" : ON/OFF of Tx drive Amp. In case of Tx PWR output bellow - 6dBm, set to "0". In case of Tx PWR output above - 6dBm, set to "1". "7 1 3 6 0 #" : Set AGC level. Measure the TX f requency : 835.89MHz°æ300Hz.
3. OCCUPIED CDMA BANDWIDTH	"0 1" : Suspend. "0 9 0 3 6 3 #" : Set channel to 363. "0 7" : Carrier On. "3 4" : Spread spectrum. "7 3" : ON/OFF of Tx drive Amp. In case of Tx PWR output bellow - 6dBm, set to "0". In case of Tx PWR output above - 6dBm, set to "1". "7 1 X X X #" : Enter AGC Code(XXX) to adjust RF Output Power. Measure the bandwidth (spec: 1.32MHz).
4. LIMITATIONS ON EMISSIONS	"0 1" : Suspend. "0 9 0 3 6 3 #" : Set channel to 363. "0 7" : Carrier On. "7 3" : ON/OFF of Tx drive Amp. In case of Tx PWR output bellow - 6dBm, set to "0". In case of Tx PWR output above - 6dBm, set to "1". "3 4" : Spread spectrum. "7 1 X X X #" : Enter AGC Code(XXX) to adjust RF Output Power. Measure the spurious at FC ±900kHz, FC ±1.98MHz, 2FC, 3FC, 1/2FC. spec: FC ±900kHz below 42dBc/30kHz FC ±1.98MHz below 54dBc/30kHz Outside Receive Band 43+10log (PY) PY: Mean Output Power in watts.

TEST ITEMS	PROCEDURE
5. GATED POWER & TIME	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 1.25μs

4. AMPS(FM)

TEST ITEMS	PROCEDURE
1. PREPARATION	Set test equipments up. "* 7 5 9 # 8 1 3 5 8 0" : Enter the Test Mode "0 1" : Suspend "0 4" : Current Mode Check Confirm that the phone is in the "AMPS Mode". (If not AMPS Mode, Use Test Command "21", "10000" or "10001" and Enter "0 2" to restart) "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". "731" : Drive Amp "ON".
2. RF POWER	"0 1" : Suspend. "4 6" : Initialize Vocoder in Analog mode. "0 9 0 3 6 3 #" : Set channel to 363. "0 7" : Carrier On. "731" : Drive Amp "ON". "1 0 2" : RF Power level selection, "2" means one of the power levels (0~7). Measurement of the Power Output Levels Level — RF Power 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 "0 8" : Carrier off Note 1 : In case of using the antenna cable, compensation for the cable loss should be added (about 1.5dB). Note 2 : To prevent phones from being damaged, they must be measured only by calibrated test equipments. Warning ! Adjustments without calibrated equipments can cause phones to be heated excessively and would void the warranty.
3. TX FREQUENCY	"0 1" : Suspend. "4 6" : Initialize Vocoder in Analog mode. "0 9 0 3 6 3 #" : Set channel to 363. "0 7" : Carrier On. "731" : Drive Amp "ON". Measure the TX frequency : 835.89 MHz ±.5ppm.

TEST ITEMS	PROCEDURE
4. VOICE DEVIATION	"0 1" : Suspend. "4 6" : Initialize Vocoder in Analog mode. "0 9 0 3 6 3 #" : Set channel to 363. "0 7" : Carrier On. "731" : Drive Amp "ON". "1 4" : TX Audio unmute. Set the audio generator output to 1kHz, 1.0Vrms. Measure the Tx voice deviation by using the HPF of 20Hz and the LPF of 99kHz (spec : less than ±12kHz).
5. ST DEVIATION	"0 1" : Suspend. "4 6" : Initialize Vocoder in Analog mode. "0 9 0 3 6 3 #" : Set channel to 363. "0 7" : Carrier On. "731" : Drive Amp "ON". "1 6" : ST on. Measure the Tx ST deviation by using the HPF of 50Hz (spec : 8kHz ±10%). "1 7" : ST off.
6. SAT DEVIATION	"0 1" : Suspend. "4 6" : Initialize Vocoder in Analog mode. "0 9 0 3 6 3 #" : Set channel to 363. "0 7" : Carrier On. "731" : Drive Amp "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.

TEST ITEMS	PROCEDURE
7. WBD DEVIATION	"0 1" : Suspend. "4 6" : Initialize Vocoder in Analog mode. "0 9 0 3 6 3 #" : Set channel to 363. "0 7" : Carrier On. "731" : Drive Amp "ON". "3 4" : WBD on. Measure the WBD deviation by using the HPF of 50Hz and the LPF of 20kHz (spec : 8kHz ±10%).
8. RX AUDIO	"0 1" : Suspend. "4 6" : Initialize Vocoder in Analog mode. "0 9 0 3 6 3 #" : Set channel to 363. "0 7" : Carrier On. "731" : Drive Amp "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.

5-5 Test Command Table

1. Test Command table

To changed the phone from the normal mode to the 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 the 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(89,1,0)	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(92,2,0,63)	T_LCD_CONTRAST_I	Tune LCD contrast
19(93,0,0,0)	T_INDEX_DECR_I	Index dn key
20(9E,3,0,511)	T_LNA_GAIN_WR_I	write LNA gain for IMD test
21(9C,5,0,31175)	T_TEST_SYS_I	set test system & Channel
22(91,96,96)	T_SNDNAM_I[1)]	Display & Send NAM Information
23(95,3,4)	T_SNDVERSION_I[1)]	Display & Send Software Version
24(9F,7,8)	T_SNDESN_I[1)]	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_DATASVC_ON_I	Enable CD pin for the data service
28(97,0,0)	T_DATASVC_OFF_I	Disable CD pin for the data service
30(9D,15,0)	T_PLINE_I	Display and return production date
31(00,1,0,1)	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(A5,3,0,511)	T_CDMA_PDM1_I	set PDM1 value for CDMA TX
38(A6,0,0,0)	T_PA_R0_ON_I	PA_RO ON
39(A7,0,0,0)	T_PA_R0_OFF_I	PA_RO OFF
40(A8,4,0,1023)	T_VOC_CDMA_UNITY_GAIN_I	Vocoder CDMA unity gain
41(A9,3,0,255)	T_VOC_FM_HFRX_UPGAIN_I	Vocoder fm hfrx upgain
42(AA,1,0)	T_DTMFON_I[2)]	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

Command No	Command SW Name	Description
46(B2,0,0)	T_FM_VCLINE_I*	Enter FM voice state
47(B3,3,0)	T_FM_AUD_GAIN_I	FM audio gain
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
53(BA,3,0,255)	T_CARRIER_I	Target Carrier option (Change banner)
54(BB,7,8,0)	T_SNDPINFO_I	Procuct information
55(AC,1,0)	T_EXT_AUDIO_I	External Audio Path On/Off
56(AD,0,0,0)	T_LOOP_BACK_I	Loop Back Service On
60(BF,3,0)	T_FM_TX_GAIN_I[2)3)]	AMPS Tx Audio Gain Control
61(C0,3,0)	T_FM_RX_GAIN_I[2)3)]	AMPS Rx Audio Gain Control
62(C1,3,0)	T_DTMF_VOL_TX_I[2)3)]	AMPS Tx DTMF Gain Control
63(C2,3,0)	T_TX_LIMITER_I[2)3)]	AMPS Tx Limiter Gain Control
64(C3,3,0)	T_FM_SAT_LEVEL_I[2)3)]	AMPS Tx SAT level Control
65(C4,3,0)	T_FM_FREQ_SGAIN_I[2)3)]	AMPS Tx Master Gain Control
66(C5,3,0)	T_FM_ST_GAIN_I[2)3)]	AMPS Tx ST Gain Control
67(C6,0,6)	T_READ_BATT_I[1)]	Saved Low battery value read
68(C8,0,3)	T_VBATT1_I[3)]	Set the low battey position in the standby
69(C9,0,3)	T_VBATT2_I[3)]	Set the low battey position in the talking
70(CA,3,0)	T_WRITE_BATT_I[3)3)]	write a BATT
71(D1,3,0)	T_CDMA_TXADJ_I[2)]	Sets tx_agc_adj for CDMA mode
72(D2,3,0)	T_FM_TXADJ_I[2)]	Sets tx_agc_adj for AMPS mode
73(D3,1,0,3)	T_SET_PA_R_I	Set PA R1, R0 range bits
75(D5,0,3)	T_READ_RSSI_I[3)]	Read a RSSI
76(D6,0,3,255)	T_READ_PWR_DET_I	read a POWER DETECTOR
77(D7,0,3)	T_READ_TEMP_I	Read a TEMP
78(D8,0,3,255)	T_RXRAS_AUTO_I	Adjust RXRAS using the HP8924C
79(D9,1,0)	T_BUZZER_ON_I[2)]	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 BACK
82(E4,0,0)	T_VOC_PCMLPOFF_I	Turn off to play a PCM LOOP BACK
87(E9,0,0)	T_FM_LOOP_TEST_I	FM loop back
88(EA,3,0)	T_TRK_ADJ_I[3)]	TRK LOCAL ADJUST
89(EB,3,0)	T_CDTRK_ADJ_I	CDMA TRK LOCAL ADJUST
91(F1,1,1,1)	T_SVC_LED_I	SVC_LED indicator enable or not
92(D4,5,0)	T_TXRAS_ADJ_I	CDMA TX high power RAS table(adjustable)
93(F3,4,0)	T_RXRAS_ADJ_I	CDMA RX RAS table(not adjustable)
94(F4, 4, 0,1023)	T_MAXP_LIMIT_I	Tx MAX Power Limit Adjust
95(F5, 4, 0,1023)	T_SW_CHANFLAT_I	Tx MAX Power Limit Adjust with CH compensation
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
99(FC,4,0)	T_SND_GAIN_I	Mic/Speaker Gain control

2. CONVERSION TABLE OF FREQUENCY vs CHANNEL

T Y P E	CHANNEL	CONVERSION EQUATION	REMARK
TX FREQUENCY	1 ≤ N ≤ 799 991 ≤ N ≤ 1023	F=0.03 X N + 825.00 F=0.03 X (N- 1023) + 825.00	N ; CH NUMBER F ; FREQUENCY
RX FREQUENCY	1 ≤ N ≤ 799 991 ≤ N ≤ 1023	F=0.03 X N + 870.00 F=0.03 X (N- 1023) + 870.00	

6. Electrical Parts List

Ref.	SEC Code	Description	Spec
		GH41-00140A	PCB-SCHA205 SCH-A205,FR-4,8L,REV.07,0.8T,118X138,-,-,-,-
C101	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C102	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C103	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C104	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C105	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C106	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C107	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C108	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C109	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C110	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C111	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C112	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C113	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C114	2203-000995	C-CERAMIC,CHIP	0.047nF,5%,50V,NP0,TP,1005
C115	2203-000995	C-CERAMIC,CHIP	0.047nF,5%,50V,NP0,TP,1005
C116	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C120	2404-001100	C-TA,CHIP	33uF,20%,6.3V,GP,TP,3719,-
C121	2404-001100	C-TA,CHIP	33uF,20%,6.3V,GP,TP,3719,-
C122	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C123	2404-001100	C-TA,CHIP	33uF,20%,6.3V,GP,TP,3719,-
C124	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C126	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C127	2404-001105	C-TA,CHIP	10UF,20%,6.3V,GP,TP,2012
C128	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C129	2203-005480	C-CERAMIC,CHIP	33nF,10%,10V,X7R,TP,1005,-
C130	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C131	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C140	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C142	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C143	2203-000940	C-CERAMIC,CHIP	470pF,10%,50V,X7R,TP,1005,-
C144	2203-000940	C-CERAMIC,CHIP	470pF,10%,50V,X7R,TP,1005,-
C145	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C146	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C147	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C148	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C151	2203-001405	C-CERAMIC,CHIP	22nF,+80-20%,25V,Y5V,TP,1005
C154	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C155	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C157	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C158	2203-001210	C-CERAMIC,CHIP	8.2nF,10%,16V,X7R,TP,1005,-
C159	2203-001210	C-CERAMIC,CHIP	8.2nF,10%,16V,X7R,TP,1005,-
C160	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C161	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C162	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005

Ref.	SEC Code	Description	Spec
C163	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C164	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C165	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C180	2203-001153	C-CERAMIC,CHIP	0.068nF,5%,50V,NP0,TP,1005
C181	2203-001153	C-CERAMIC,CHIP	0.068nF,5%,50V,NP0,TP,1005
C182	2203-001153	C-CERAMIC,CHIP	0.068nF,5%,50V,NP0,TP,1005
C183	2203-001153	C-CERAMIC,CHIP	0.068nF,5%,50V,NP0,TP,1005
C184	2203-001153	C-CERAMIC,CHIP	0.068nF,5%,50V,NP0,TP,1005
C185	2203-001153	C-CERAMIC,CHIP	0.068nF,5%,50V,NP0,TP,1005
C186	2203-001153	C-CERAMIC,CHIP	0.068nF,5%,50V,NP0,TP,1005
C187	2203-001153	C-CERAMIC,CHIP	0.068nF,5%,50V,NP0,TP,1005
C188	2203-001153	C-CERAMIC,CHIP	0.068nF,5%,50V,NP0,TP,1005
C189	2203-001153	C-CERAMIC,CHIP	0.068nF,5%,50V,NP0,TP,1005
C190	2203-001153	C-CERAMIC,CHIP	0.068nF,5%,50V,NP0,TP,1005
C191	2203-001153	C-CERAMIC,CHIP	0.068nF,5%,50V,NP0,TP,1005
C192	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C193	2203-001153	C-CERAMIC,CHIP	0.068nF,5%,50V,NP0,TP,1005
C194	2203-001153	C-CERAMIC,CHIP	0.068nF,5%,50V,NP0,TP,1005
C196	2203-000854	C-CERAMIC,CHIP	0.039nF,5%,50V,NP0,TP,1005
C197	2203-000359	C-CERAMIC,CHIP	0.15nF,5%,50V,NP0,TP,1005
C200	2404-001105	C-TA,CHIP	10UF,20%,6.3V,GP,TP,2012
C201	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C202	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C205	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C206	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C210	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C220	2203-005065	C-CERAMIC,CHIP	1000nF,+80-20%,10V,Y5V,TP,1608
C230	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C231	2203-000489	C-CERAMIC,CHIP	2.2nF,10%,50V,X7R,TP,1005,-
C250	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C252	2404-001105	C-TA,CHIP	10UF,20%,6.3V,GP,TP,2012
C260	2203-005148	C-CERAMIC,CHIP	100nF,10%,16V,X7R,TP,1608,-
C263	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C270	2404-001100	C-TA,CHIP	33uF,20%,6.3V,GP,TP,3719,-
C271	2203-000995	C-CERAMIC,CHIP	0.047nF,5%,50V,NP0,TP,1005
C272	2203-000995	C-CERAMIC,CHIP	0.047nF,5%,50V,NP0,TP,1005
C273	2203-005065	C-CERAMIC,CHIP	1000nF,+80-20%,10V,Y5V,TP,1608
C274	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C275	2203-005065	C-CERAMIC,CHIP	1000nF,+80-20%,10V,Y5V,TP,1608
C280	2203-000489	C-CERAMIC,CHIP	2.2nF,10%,50V,X7R,TP,1005,-
C281	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C282	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C284	2203-005065	C-CERAMIC,CHIP	1000nF,+80-20%,10V,Y5V,TP,1608
C286	2203-000812	C-CERAMIC,CHIP	0.033nF,5%,50V,NP0,TP,1005
C287	2203-005065	C-CERAMIC,CHIP	1000nF,+80-20%,10V,Y5V,TP,1608
C288	2203-000812	C-CERAMIC,CHIP	0.033nF,5%,50V,NP0,TP,1005
C289	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C290	2203-000940	C-CERAMIC,CHIP	470pF,10%,50V,X7R,TP,1005,-

Ref.	SEC Code	Description	Spec
C291	2203-000940	C-CERAMIC,CHIP	470pF,10%,50V,X7R,TP,1005,-
C301	2203-000940	C-CERAMIC,CHIP	470pF,10%,50V,X7R,TP,1005,-
C302	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C303	2203-000330	C-CERAMIC,CHIP	0.012nF,5%,50V,NP0,TP,1005
C304	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C305	2203-000330	C-CERAMIC,CHIP	0.012nF,5%,50V,NP0,TP,1005
C306	2203-001405	C-CERAMIC,CHIP	22nF,+80-20%,25V,Y5V,TP,1005
C307	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C308	2203-001432	C-CERAMIC,CHIP	47nF,+80-20%,16V,Y5V,TP,1005
C311	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C312	2404-001105	C-TA,CHIP	10UF,20%,6.3V,GP,TP,2012
C313	2203-000359	C-CERAMIC,CHIP	0.15nF,5%,50V,NP0,TP,1005
C314	2203-005480	C-CERAMIC,CHIP	33nF,10%,10V,X7R,TP,1005,-
C315	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C316	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C317	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C318	2203-005393	C-CERAMIC,CHIP	0.005nF,0.1pF,50V,NP0,TP,1005
C319	2203-005480	C-CERAMIC,CHIP	33nF,10%,10V,X7R,TP,1005,-
C320	2203-001405	C-CERAMIC,CHIP	22nF,+80-20%,25V,Y5V,TP,1005
C321	2203-005444	C-CERAMIC,CHIP	0.003nF,0.1pF,50V,NP0,TP,1005
C322	2203-005393	C-CERAMIC,CHIP	0.005nF,0.1pF,50V,NP0,TP,1005
C323	2203-001178	C-CERAMIC,CHIP	0.006nF,0.5pF,50V,NP0,TP,1005
C324	2203-001178	C-CERAMIC,CHIP	0.006nF,0.5pF,50V,NP0,TP,1005
C325	2203-001259	C-CERAMIC,CHIP	0.008nF,0.5pF,50V,NP0,TP,1005
C326	2203-001259	C-CERAMIC,CHIP	0.008nF,0.5pF,50V,NP0,TP,1005
C327	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C328	2203-000330	C-CERAMIC,CHIP	0.012nF,5%,50V,NP0,TP,1005
C329	2203-000330	C-CERAMIC,CHIP	0.012nF,5%,50V,NP0,TP,1005
C330	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C331	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C332	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C333	2203-001405	C-CERAMIC,CHIP	22nF,+80-20%,25V,Y5V,TP,1005
C334	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C335	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C336	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C337	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C338	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C339	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C340	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C341	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C342	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C343	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C344	2404-001105	C-TA,CHIP	10UF,20%,6.3V,GP,TP,2012
C345	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C346	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C348	2203-005393	C-CERAMIC,CHIP	0.005nF,0.1pF,50V,NP0,TP,1005
C349	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C350	2203-000940	C-CERAMIC,CHIP	470pF,10%,50V,X7R,TP,1005,-

Ref.	SEC Code	Description	Spec
C351	2203-000585	C-CERAMIC,CHIP	220pF,10%,50V,X7R,TP,1005,-
C352	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C355	2404-001105	C-TA,CHIP	10UF,20%,6.3V,GP,TP,2012
C356	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C357	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C359	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C360	2404-001105	C-TA,CHIP	10UF,20%,6.3V,GP,TP,2012
C361	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C362	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C363	2203-005483	C-CERAMIC,CHIP	68nF,10%,10V,X5R,TP,1005,-
C364	2404-001095	C-TA,CHIP	470nF,20%,20V,GP,TP,2012,-
C365	2203-001432	C-CERAMIC,CHIP	47nF,+80-20%,16V,Y5V,TP,1005
C366	2203-005480	C-CERAMIC,CHIP	33nF,10%,10V,X7R,TP,1005,-
C369	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C370	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C371	2203-005480	C-CERAMIC,CHIP	33nF,10%,10V,X7R,TP,1005,-
C372	2404-001086	C-TA,CHIP	4.7uF,20%,6.3V,GP,TP,2012,-
C373	2203-000885	C-CERAMIC,CHIP	4.7nF,10%,25V,X7R,TP,1005,-
C374	2203-000311	C-CERAMIC,CHIP	0.12nF,5%,50V,NP0,TP,1005
C375	2203-003054	C-CERAMIC,CHIP	0.009nF,0.25pF,50V,NP0,TP,1005
C376	2203-000311	C-CERAMIC,CHIP	0.12nF,5%,50V,NP0,TP,1005
C377	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C378	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C379	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C380	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C381	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C382	2203-000585	C-CERAMIC,CHIP	220pF,10%,50V,X7R,TP,1005,-
C383	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C384	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C394	2404-001105	C-TA,CHIP	10UF,20%,6.3V,GP,TP,2012
C395	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C398	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C399	2404-001105	C-TA,CHIP	10UF,20%,6.3V,GP,TP,2012
C402	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C403	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C404	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C405	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C406	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C407	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C408	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C409	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C410	2203-001405	C-CERAMIC,CHIP	22nF,+80-20%,25V,Y5V,TP,1005
C411	2203-002987	C-CERAMIC,CHIP	0.062nF,5%,50V,NP0,TP,1005
C412	2203-002987	C-CERAMIC,CHIP	0.062nF,5%,50V,NP0,TP,1005
C413	2203-003054	C-CERAMIC,CHIP	0.009nF,0.25pF,50V,NP0,TP,1005
C414	2203-000940	C-CERAMIC,CHIP	470pF,10%,50V,X7R,TP,1005,-
C416	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C417	2203-005065	C-CERAMIC,CHIP	1000nF,+80-20%,10V,Y5V,TP,1608

Ref.	SEC Code	Description	Spec
C418	2203-001405	C-CERAMIC,CHIP	22nF,+80-20%,25V,Y5V,TP,1005
C420	2203-001405	C-CERAMIC,CHIP	22nF,+80-20%,25V,Y5V,TP,1005
C421	2203-001405	C-CERAMIC,CHIP	22nF,+80-20%,25V,Y5V,TP,1005
C422	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C431	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C432	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C433	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C441	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C442	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C443	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C444	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C445	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C446	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C447	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C448	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C449	2203-000696	C-CERAMIC,CHIP	0.002nF,0.25pF,50V,NP0,TP,1005
C450	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C452	2203-005288	C-CERAMIC,CHIP	0.001nF,0.1pF,50V,NP0,TP,1005
C453	2203-001178	C-CERAMIC,CHIP	0.006nF,0.5pF,50V,NP0,TP,1005
C454	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C455	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C457	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C459	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C460	2203-005065	C-CERAMIC,CHIP	1000nF,+80-20%,10V,Y5V,TP,1608
C461	2203-000359	C-CERAMIC,CHIP	0.15nF,5%,50V,NP0,TP,1005
C462	2203-005444	C-CERAMIC,CHIP	0.003nF,0.1pF,50V,NP0,TP,1005
C463	2203-000359	C-CERAMIC,CHIP	0.15nF,5%,50V,NP0,TP,1005
C464	2203-000359	C-CERAMIC,CHIP	0.15nF,5%,50V,NP0,TP,1005
C465	2203-005065	C-CERAMIC,CHIP	1000nF,+80-20%,10V,Y5V,TP,1608
C466	2203-002668	C-CERAMIC,CHIP	0.0005nF,0.1pF,50V,NP0,TP,1005
C467	2203-000359	C-CERAMIC,CHIP	0.15nF,5%,50V,NP0,TP,1005
C470	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C471	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C472	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C473	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C474	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C475	2203-001432	C-CERAMIC,CHIP	47nF,+80-20%,16V,Y5V,TP,1005
C476	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C477	2203-000696	C-CERAMIC,CHIP	0.002nF,0.25pF,50V,NP0,TP,1005
C479	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C481	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C482	2203-001405	C-CERAMIC,CHIP	22nF,+80-20%,25V,Y5V,TP,1005
C483	2203-000438	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
C484	2203-000359	C-CERAMIC,CHIP	0.15nF,5%,50V,NP0,TP,1005
C485	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C492	2203-001432	C-CERAMIC,CHIP	47nF,+80-20%,16V,Y5V,TP,1005
C493	2404-001105	C-TA,CHIP	10UF,20%,6.3V,GP,TP,2012
C494	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005

Ref.	SEC Code	Description	Spec
C495	2203-000254	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
C496	2203-000233	C-CERAMIC,CHIP	0.1nF,5%,50V,NP0,TP,1005
C50	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
C501	2404-001105	C-TA,CHIP	10UF,20%,6.3V,GP,TP,2012
C502	2203-001385	C-CERAMIC,CHIP	0.0015nF,0.25pF,50V,NP0,TP,1005
C506	2404-001105	C-TA,CHIP	10UF,20%,6.3V,GP,TP,2012
C51	2203-005061	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
D240	0407-000115	DIODE-ARRAY	DAN202U,80V,100mA,CA2-3,SC-70,
D301	0409-000108	DIODE-PIN	RN731V,50V,50mA,SOD-323,TP
D302	0409-001016	DIODE-PIN	BAR63-02W,50V,100mA,SCD-80,TP
D380	0405-001035	DIODE-VARACTOR	1SV279,15V,3nA,USC,TP
D381	0405-001035	DIODE-VARACTOR	1SV279,15V,3nA,USC,TP
D401	0405-001035	DIODE-VARACTOR	1SV279,15V,3nA,USC,TP
D402	0405-001035	DIODE-VARACTOR	1SV279,15V,3nA,USC,TP
F301	2909-001124	FILTER-DUPLEXER	881.5MHz,836.5MHz,4/2.5dB,TP,824-849MHz/50dB,869-894MHz/35dB
F320	2904-001136	FILTER-SAW	881.5MHz,25MHz,+-12.5MHz/1.6dB,TP,+-12.5MHz/3.5,0-779MHz/50dB
F330	2904-001287	FILTER-SAW	85.38MHz,1.26MHz,+-0.3MHz/0.7dB,TP,+-0MHz/12dB,+-0.9MHz/33dB
F340	2904-001253	FILTER-SAW	85.38MHz,0.03MHz,+-0.01MHz/1.5dB,TP,+-0MHz/5dB,85.32-85.44MHz/25dB
F401	3301-001342	CORE-FERRITE BEAD	AB,1.5KOHM,1X0.5X0.5MM,100MA,TP,M,1.4OHM
F402	3301-001342	CORE-FERRITE BEAD	AB,1.5KOHM,1X0.5X0.5MM,100MA,TP,M,1.4OHM
F403	3301-001342	CORE-FERRITE BEAD	AB,1.5KOHM,1X0.5X0.5MM,100MA,TP,M,1.4OHM
F443	3301-001342	CORE-FERRITE BEAD	AB,1.5KOHM,1X0.5X0.5MM,100MA,TP,M,1.4OHM
F444	3301-001342	CORE-FERRITE BEAD	AB,1.5KOHM,1X0.5X0.5MM,100MA,TP,M,1.4OHM
F445	2904-001171	FILTER-SAW	836.5MHz,25MHz,+-12.5MHz/2dB,TP,+-12.5MHz/3.5dB
F446	2904-001172	FILTER-SAW	836.5MHz,25MHz,+-12.5MHz/1.5,TP,+-12.5MHz/2.5dB
F448	4709-001201	FREQ-ISOLATOR	824-849MHz,13dB,0.65dB,1.5
J100	3710-001559	CONNECTOR-SOCKET	24P,2R,0.5mm,SMD-S,AUF
J110	3711-004382	CONNECTOR-HEADER	BOX,24P,2R,0.5MM,SMD-S,AUF
J200	3710-001634	CONNECTOR-SOCKET	24P,1R,0.5mm,SMD-A,AUF
J210	3722-001456	JACK-PHONE	2P,2.6PI,AUF,BLK,-
J501	3705-001239	CONNECTOR-COAXIAL	-,JACK,50mohm,50ohm,0.3dB
L280	3301-001342	CORE-FERRITE BEAD	AB,1.5KOHM,1X0.5X0.5MM,100MA,TP,M,1.4OHM
L281	3301-001342	CORE-FERRITE BEAD	AB,1.5KOHM,1X0.5X0.5MM,100MA,TP,M,1.4OHM
L301	2703-001222	INDUCTOR-SMD	150nH,10%,1.6x0.8x0.8mm
L302	2703-001748	INDUCTOR-SMD	5.6nH,0.3nH,1.0x0.5x0.5mm
L303	2703-001172	INDUCTOR-SMD	100nH,5%,1.6x0.8x0.8mm
L310	2703-001173	INDUCTOR-SMD	12nH,5%,1.6x0.8x0.8mm
L312	2703-001730	INDUCTOR-SMD	15nH,5%,1x0.5x0.5mm
L313	2703-001726	INDUCTOR-SMD	27nH,5%,1x0.5x0.5mm
L320	2703-001733	INDUCTOR-SMD	8.2nH,5%,1x0.5x0.5mm
L321	2703-001913	INDUCTOR-SMD	220nH,5,1.8x1.12x1.02mm
L322	2703-000301	INDUCTOR-SMD	2.7uH,10%,0.8x1.6x0.8mm
L323	2703-000301	INDUCTOR-SMD	2.7uH,10%,0.8x1.6x0.8mm
L324	2703-000301	INDUCTOR-SMD	2.7uH,10%,0.8x1.6x0.8mm
L325	3301-001105	CORE-FERRITE	AB,1.6x0.8x0.8mm,-,-
L331	2703-001913	INDUCTOR-SMD	220nH,5,1.8x1.12x1.02mm
L332	2703-001913	INDUCTOR-SMD	220nH,5,1.8x1.12x1.02mm
L334	3301-001105	CORE-FERRITE	AB,1.6x0.8x0.8mm,-,-

Ref.	SEC Code	Description	Spec
L335	3301-001105	CORE-FERRITE	AB,1.6x0.8x0.8mm,-,-
L336	2703-000213	INDUCTOR-SMD	470nH,10%,0.8x1.6x0.8mm
L370	3301-001105	CORE-FERRITE	AB,1.6x0.8x0.8mm,-,-
L371	2703-001172	INDUCTOR-SMD	100nH,5%,1.6x0.8x0.8mm
L372	2703-001732	INDUCTOR-SMD	56nH,5%,1.8x1.12x1.02mm
L401	2703-000300	INDUCTOR-SMD	1uH,10%,0.8x1.6x0.8mm
L402	2703-000300	INDUCTOR-SMD	1uH,10%,0.8x1.6x0.8mm
L403	2703-001907	INDUCTOR-SMD	27nH,2%,1.8x1.12x1.02mm
L441	2703-001409	INDUCTOR-SMD	12nH,10%,1x0.5x0.5mm
L442	2703-001701	INDUCTOR-SMD	6.8nH,10%,1.0x0.5x0.5mm
L443	2703-001701	INDUCTOR-SMD	6.8nH,10%,1.0x0.5x0.5mm
L444	2703-001733	INDUCTOR-SMD	8.2nH,5%,1x0.5x0.5mm
L449	2703-001952	INDUCTOR-SMD	8.2nH,5%,1.0x0.5x0.5mm
L450	2703-001180	INDUCTOR-SMD	15nH,5%,1x0.5x0.5mm
L501	2703-001409	INDUCTOR-SMD	12nH,10%,1x0.5x0.5mm
L502	2203-001385	C-CERAMIC,CHIP	0.0015nF,0.25pF,50V,NP0,TP,1005
Q110	0501-000676	TR-SMALL SIGNAL	2SA1774-R,PNP,150mW,EM3,TP,180
Q111	0501-000676	TR-SMALL SIGNAL	2SA1774-R,PNP,150mW,EM3,TP,180
Q120	0505-001165	FET-SILICON	SI3443DV,P,-20V,+-3.5mA,65mohm
Q121	0501-000218	TR-SMALL SIGNAL	2SC4081,NPN,200mW,UMT,TP,180-3
Q122	0504-000168	TR-DIGITAL	RN1104,NPN,100MW,47K/47K,SSM,TP
Q220	0501-000462	TR-SMALL SIGNAL	MMBT2907A,PNP,350mW,SOT-23,TP,100-300
Q221	0504-000167	TR-DIGITAL	RN1102,NPN,100MW,10K/10K,SSM,TP
Q222	0501-002202	TR-SMALL SIGNAL	MMBT2222AWT1,NPN,150mW,SOT-323
Q240	0501-002202	TR-SMALL SIGNAL	MMBT2222AWT1,NPN,150mW,SOT-323
Q241	0504-001084	TR-DIGITAL	-,NPN,200mW,2.2K,SOT-323,TP
Q301	0501-000218	TR-SMALL SIGNAL	2SC4081,NPN,200mW,UMT,TP,180-3
Q380	0506-001004	TR-ARRAY	UMC5N,NPN/PNP,2,50V,-,-100mA,3
Q390	0506-001004	TR-ARRAY	UMC5N,NPN/PNP,2,50V,-,-100mA,3
Q441	0505-001423	FET-SILICON	FDG6323L,N/P,-,-,-,0.3W,SC70-6
Q442	0505-001484	FET-SILICON	2SK2035,N,20V,100mA,8ohm,0.1W,SC-90
Q444	1001-001145	IC-ANALOG SWITCH	MAX4599EXT,-,SC70,6P,49MIL,SINGLE,5.5V,-40to+85C
Q445	0501-002182	TR-SMALL SIGNAL	AT32032,NPN,200mW,SOT-323,TP,7
Q481	0505-001484	FET-SILICON	2SK2035,N,20V,100mA,8ohm,0.1W,SC-90
Q483	0501-000162	TR-SMALL SIGNAL	2SA1576,PNP,200MW,SOT-323,TP,180-390
R100	2007-007771	R-CHIP	0OHM,5%,1/16W,DA,TP,1005
R102	2007-000162	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005
R103	2007-000162	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005
R104	2007-000162	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005
R105	2007-001156	R-CHIP	750ohm,5%,1/16W,DA,TP,1005
R106	2007-000148	R-CHIP	10Kohm,5%,1/16W,DA,TP,1005
R109	2007-000162	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005
R121	2007-000157	R-CHIP	47Kohm,5%,1/16W,DA,TP,1005
R122	2007-000162	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005
R123	2007-000141	R-CHIP	2.2Kohm,5%,1/16W,DA,TP,1005
R124	2007-000162	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005
R125	2007-000162	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005
R126	2007-000162	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005

Ref.	SEC Code	Description	Spec
R127	2007-000143	R-CHIP	4.7Kohm,5%,1/16W,DA,TP,1005
R128	2007-000162	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005
R140	2007-000138	R-CHIP	100ohm,5%,1/16W,DA,TP,1005
R141	2007-000162	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005
R142	2007-000138	R-CHIP	100ohm,5%,1/16W,DA,TP,1005
R143	2007-000138	R-CHIP	100ohm,5%,1/16W,DA,TP,1005
R144	2007-000932	R-CHIP	470ohm,5%,1/16W,DA,TP,1005
R145	2007-000138	R-CHIP	100ohm,5%,1/16W,DA,TP,1005
R146	2007-000138	R-CHIP	100ohm,5%,1/16W,DA,TP,1005
R147	2007-000138	R-CHIP	100ohm,5%,1/16W,DA,TP,1005
R148	2007-000138	R-CHIP	100ohm,5%,1/16W,DA,TP,1005
R149	2007-000162	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005
R150	2007-007771	R-CHIP	0OHM,5%,1/16W,DA,TP,1005
R151	2007-007771	R-CHIP	0OHM,5%,1/16W,DA,TP,1005
R152	2007-000159	R-CHIP	56Kohm,5%,1/16W,DA,TP,1005
R153	2007-000152	R-CHIP	20Kohm,5%,1/16W,DA,TP,1005
R154	2007-000143	R-CHIP	4.7Kohm,5%,1/16W,DA,TP,1005
R155	2007-000143	R-CHIP	4.7Kohm,5%,1/16W,DA,TP,1005
R157	2007-001325	R-CHIP	3.3Kohm,5%,1/16W,DA,TP,1005
R158	2007-000152	R-CHIP	20Kohm,5%,1/16W,DA,TP,1005
R159	2007-000152	R-CHIP	20Kohm,5%,1/16W,DA,TP,1005
R160	2007-000932	R-CHIP	470ohm,5%,1/16W,DA,TP,1005
R161	2007-000932	R-CHIP	470ohm,5%,1/16W,DA,TP,1005
R162	2007-000932	R-CHIP	470ohm,5%,1/16W,DA,TP,1005
R163	2007-000932	R-CHIP	470ohm,5%,1/16W,DA,TP,1005
R164	2007-000932	R-CHIP	470ohm,5%,1/16W,DA,TP,1005
R165	2007-000932	R-CHIP	470ohm,5%,1/16W,DA,TP,1005
R166	2007-000932	R-CHIP	470ohm,5%,1/16W,DA,TP,1005
R167	2007-000932	R-CHIP	470ohm,5%,1/16W,DA,TP,1005
R168	2007-000932	R-CHIP	470ohm,5%,1/16W,DA,TP,1005
R169	2007-000932	R-CHIP	470ohm,5%,1/16W,DA,TP,1005
R170	2007-000932	R-CHIP	470ohm,5%,1/16W,DA,TP,1005
R180	2007-000137	R-CHIP	2Kohm,5%,1/16W,DA,TP,1005
R181	2007-000137	R-CHIP	2Kohm,5%,1/16W,DA,TP,1005
R182	2007-000137	R-CHIP	2Kohm,5%,1/16W,DA,TP,1005
R183	2007-000137	R-CHIP	2Kohm,5%,1/16W,DA,TP,1005
R184	2007-000137	R-CHIP	2Kohm,5%,1/16W,DA,TP,1005
R185	2007-000137	R-CHIP	2Kohm,5%,1/16W,DA,TP,1005
R186	2007-000137	R-CHIP	2Kohm,5%,1/16W,DA,TP,1005
R187	2007-000137	R-CHIP	2Kohm,5%,1/16W,DA,TP,1005
R188	2007-000137	R-CHIP	2Kohm,5%,1/16W,DA,TP,1005
R189	2007-000162	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005
R190	2007-000137	R-CHIP	2Kohm,5%,1/16W,DA,TP,1005
R191	2007-000137	R-CHIP	2Kohm,5%,1/16W,DA,TP,1005
R192	2007-000137	R-CHIP	2Kohm,5%,1/16W,DA,TP,1005
R200	2007-000148	R-CHIP	10Kohm,5%,1/16W,DA,TP,1005
R201	2007-000162	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005
R202	2007-000162	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005

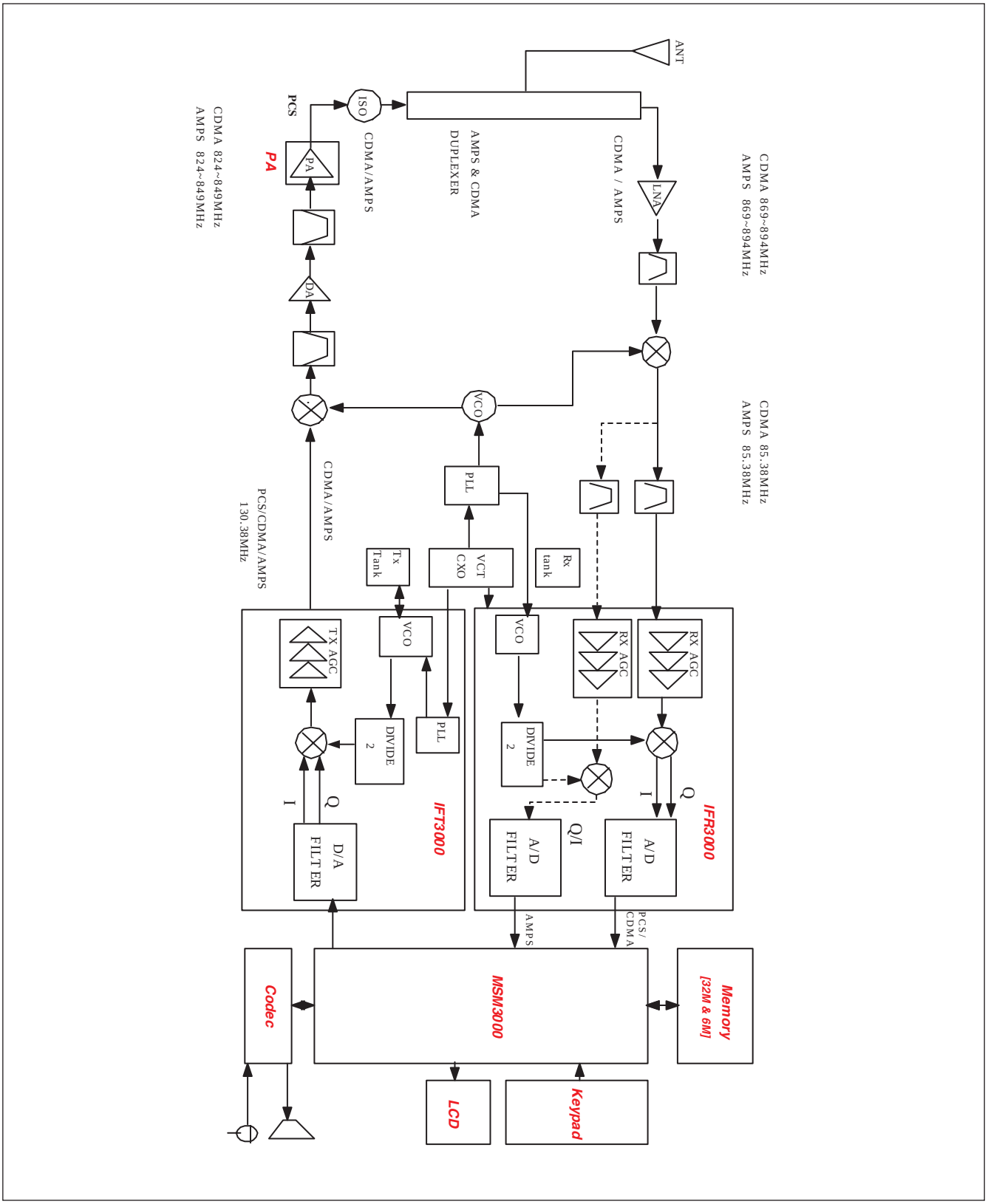
Ref.	SEC Code	Description	Spec
R220	2007-007001	R-CHIP	3.9KOHM,5%,1/16W,DA,TP,1005
R221	2007-000140	R-CHIP	1Kohm,5%,1/16W,DA,TP,1005
R223	2007-001325	R-CHIP	3.3Kohm,5%,1/16W,DA,TP,1005
R224	2007-001294	R-CHIP	36ohm,5%,1/16W,DA,TP,1005
R225	2007-001294	R-CHIP	36ohm,5%,1/16W,DA,TP,1005
R230	2007-000566	R-CHIP	220Kohm,5%,1/16W,DA,TP,1005
R231	2007-000141	R-CHIP	2.2Kohm,5%,1/16W,DA,TP,1005
R232	2007-000162	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005
R233	2007-000162	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005
R240	2007-002970	R-CHIP	56OHM,5%,1/16W,DA,TP,1005
R252	2007-007771	R-CHIP	0OHM,5%,1/16W,DA,TP,1005
R260	2007-000141	R-CHIP	2.2Kohm,5%,1/16W,DA,TP,1005
R261	2007-007771	R-CHIP	0OHM,5%,1/16W,DA,TP,1005
R262	2007-007771	R-CHIP	0OHM,5%,1/16W,DA,TP,1005
R263	2007-000758	R-CHIP	330Kohm,5%,1/16W,DA,TP,1005
R264	2007-000153	R-CHIP	22Kohm,5%,1/16W,DA,TP,1005
R270	2007-007771	R-CHIP	0OHM,5%,1/16W,DA,TP,1005
R273	2007-007771	R-CHIP	0OHM,5%,1/16W,DA,TP,1005
R280	2007-000138	R-CHIP	100ohm,5%,1/16W,DA,TP,1005
R281	2007-000138	R-CHIP	100ohm,5%,1/16W,DA,TP,1005
R301	2007-002796	R-CHIP	510ohm,5%,1/16W,DA,TP,1005
R310	2007-007771	R-CHIP	0OHM,5%,1/16W,DA,TP,1005
R311	2007-003019	R-CHIP	430OHM,5%,1/16W,DA,TP,1005
R312	2007-000140	R-CHIP	1Kohm,5%,1/16W,DA,TP,1005
R324	2007-000140	R-CHIP	1Kohm,5%,1/16W,DA,TP,1005
R330	2007-000140	R-CHIP	1Kohm,5%,1/16W,DA,TP,1005
R341	2007-000140	R-CHIP	1Kohm,5%,1/16W,DA,TP,1005
R342	2007-000775	R-CHIP	33Kohm,5%,1/16W,DA,TP,1005
R343	2007-007771	R-CHIP	0OHM,5%,1/16W,DA,TP,1005
R344	2007-000170	R-CHIP	1Mohm,5%,1/16W,DA,TP,1005
R350	2007-000173	R-CHIP	22ohm,5%,1/16W,DA,TP,1005
R360	2007-001288	R-CHIP	18ohm,5%,1/16W,DA,TP,1005
R361	2007-000138	R-CHIP	100ohm,5%,1/16W,DA,TP,1005
R362	2007-001288	R-CHIP	18ohm,5%,1/16W,DA,TP,1005
R370	2007-000173	R-CHIP	22ohm,5%,1/16W,DA,TP,1005
R371	2007-000138	R-CHIP	100ohm,5%,1/16W,DA,TP,1005
R372	2007-007771	R-CHIP	0OHM,5%,1/16W,DA,TP,1005
R373	2007-001317	R-CHIP	910ohm,5%,1/16W,DA,TP,1005
R374	2007-007771	R-CHIP	0OHM,5%,1/16W,DA,TP,1005
R375	2007-000148	R-CHIP	10Kohm,5%,1/16W,DA,TP,1005
R376	2007-000148	R-CHIP	10Kohm,5%,1/16W,DA,TP,1005
R377	2007-000140	R-CHIP	1Kohm,5%,1/16W,DA,TP,1005
R378	2007-003019	R-CHIP	430OHM,5%,1/16W,DA,TP,1005
R380	2007-000172	R-CHIP	10ohm,5%,1/16W,DA,TP,1005
R381	2007-000172	R-CHIP	10ohm,5%,1/16W,DA,TP,1005
R391	2007-000143	R-CHIP	4.7Kohm,5%,1/16W,DA,TP,1005
R401	2007-007107	R-CHIP	100Kohm,1%,1/16W,DA,TP,1005
R402	2007-002796	R-CHIP	510ohm,5%,1/16W,DA,TP,1005

Ref.	SEC Code	Description	Spec
R403	2007-000147	R-CHIP	8.2Kohm,5%,1/16W,DA,TP,1005
R404	2007-002796	R-CHIP	510ohm,5%,1/16W,DA,TP,1005
R405	2007-007771	R-CHIP	0OHM,5%,1/16W,DA,TP,1005
R406	2007-003023	R-CHIP	62KOHM,5%,1/16W,DA,TP,1005
R407	2007-000147	R-CHIP	8.2Kohm,5%,1/16W,DA,TP,1005
R408	2007-007139	R-CHIP	47Kohm,1%,1/16W,DA,TP,1005
R409	2007-000148	R-CHIP	10Kohm,5%,1/16W,DA,TP,1005
R410	2007-000148	R-CHIP	10Kohm,5%,1/16W,DA,TP,1005
R411	2007-007309	R-CHIP	12Kohm,1%,1/16W,DA,TP,1005
R412	2007-001311	R-CHIP	270ohm,5%,1/16W,DA,TP,1005
R414	2007-007697	R-CHIP	2.4Kohm,1%,1/16W,DA,TP,1005
R415	2007-007136	R-CHIP	4.7Kohm,1%,1/16W,DA,TP,1005
R416	2007-007308	R-CHIP	33Kohm,1%,1/16W,DA,TP,1005
R417	2007-007791	R-CHIP	9.1KOHM,1%,1/16W,DA,TP,1005
R418	2007-007137	R-CHIP	1.2Kohm,1%,1/16W,DA,TP,1005
R419	2007-007529	R-CHIP	91Kohm,1%,1/16W,DA,TP,1005
R420	2007-007107	R-CHIP	100Kohm,1%,1/16W,DA,TP,1005
R443	2007-000138	R-CHIP	100ohm,5%,1/16W,DA,TP,1005
R444	2007-000173	R-CHIP	22ohm,5%,1/16W,DA,TP,1005
R445	2007-000162	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005
R446	2007-000149	R-CHIP	12Kohm,5%,1/16W,DA,TP,1005
R447	2007-000140	R-CHIP	1Kohm,5%,1/16W,DA,TP,1005
R448	2007-001298	R-CHIP	51ohm,5%,1/16W,DA,TP,1005
R449	2007-000140	R-CHIP	1Kohm,5%,1/16W,DA,TP,1005
R450	2007-000148	R-CHIP	10Kohm,5%,1/16W,DA,TP,1005
R451	2007-000162	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005
R452	2007-000162	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005
R453	2007-000157	R-CHIP	47Kohm,5%,1/16W,DA,TP,1005
R454	2007-007588	R-CHIP	1.8Kohm,1%,1/16W,DA,TP,1005
R455	2007-000162	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005
R456	2007-007318	R-CHIP	1Kohm,1%,1/16W,DA,TP,1005
R457	2007-003022	R-CHIP	62OHM,5%,1/16W,DA,TP,1005
R458	2007-000159	R-CHIP	56Kohm,5%,1/16W,DA,TP,1005
R459	2703-001737	INDUCTOR-SMD	2.7nH,0.3nH,1x0.5x0.5mm
R460	2007-000162	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005
R481	2007-007334	R-CHIP	200Kohm,1%,1/16W,DA,TP,1005
R482	2007-000140	R-CHIP	1Kohm,5%,1/16W,DA,TP,1005
R483	2007-007135	R-CHIP	18Kohm,1%,1/16W,DA,TP,1005
R484	2007-007334	R-CHIP	200Kohm,1%,1/16W,DA,TP,1005
R486	2007-007142	R-CHIP	10Kohm,1%,1/16W,DA,TP,1005
R489	2007-000162	R-CHIP	100Kohm,5%,1/16W,DA,TP,1005
R490	2007-007107	R-CHIP	100Kohm,1%,1/16W,DA,TP,1005
TH401	1404-001152	THERMISTOR-NTC	10KOHM,5%,3380K,1MW/C,TP
U100	1205-001883	IC-TRANSCEIVER	MSM3000,BGA,196P,-,PLASTIC,4.6V,-,-40to+85C,TR,-
U110	1109-001153	IC-ETC. MEMORY	1349,2Mx16Bit,CSP,72P,-,90nS,3.3V,-,PLASTIC
U111	0801-002345	IC-CMOS LOGIC	7S04,INVERTER,SOT-353,5P,49MIL,SINGLE,TP,PLASTIC
U112	0801-000796	IC-CMOS LOGIC	7S32,OR GATE,SOT-353,5P,63MIL,SINGLE,TP,PLASTIC
U113	0801-000796	IC-CMOS LOGIC	7S32,OR GATE,SOT-353,5P,63MIL,SINGLE,TP,PLASTIC

Ref.	SEC Code	Description	Spec
U114	1106-001347	IC-SRAM	62S2048,256Kx8Bit,CSP,36P,-,70nS,3V,10%,PLASTIC
U120	1203-001908	IC-VOLTAGE REGULATOR	76928,SOT-23,5P,-,PLASTIC,2.716/2.884V
U121	1203-001835	IC-RESET	3470,SOT23,5P,-,PLASTIC,0.99/1.01V,300mW
U150	0801-002345	IC-CMOS LOGIC	7S04,INVERTER,SOT-353,5P,49MIL,SINGLE,TP,PLASTIC
U200	1204-001678	IC-AUDIO PROCESSOR	TWL1103PBSR,QFP,32P,196MIL,PLASTIC
U210	1103-001184	IC-EEPROM	24C256,32Kx8Bit,dBGA,8P,92MIL,-,2.7V,-,PLASTIC
U230	1202-001022	IC-VOLTAGE COMP.	75W56,SSOP,8P,110MIL,DUAL,7V,C
U250	1203-001910	IC-VOLTAGE REGULATOR	76930,SOT-23,5P,70MIL,PLASTC,2.910/3.090,437mW
U310	1201-001517	IC-RF AMP	2361,SOT23-5,5P,-,SINGLE,20dB,PLASTIC
U330	1205-001773	IC-MIXER	RF2466,MLP,-,PLASTIC,4V,-,-45to+85C,CDMA/FM MIXER
U340	1204-001581	IC-IF CIRCUIT	IFR3000-48BCCF-TR,BCC,48P,-,PLASTIC,3.5V,TR,RX
U350	2806-001227	OSCILLATOR-VCO	967.5MHz,-,-,TP,2.7V,7mA
U370	1209-001282	IC-PLL/SYNTHESISER	S1M8821,QFN,24P,-,PLASTIC,5.5V,-,-40to+85C,TR
U380	2809-001245	OSCILLATOR-VCTCXO	19.68MHz,1ppm,10Kohm/10pF,TP,2.8V,-
U390	1203-001285	IC-SWITCH VOL. REG.	5205,SOT-23,5P,150MIL,PLASTIC,
U391	1203-001910	IC-VOLTAGE REGULATOR	76930,SOT-23,5P,70MIL,PLASTC,2.910/3.090,437mW
U401	1204-001582	IC-IF CIRCUIT	IFT3000-48BCCF-TR,BCC,48P,-,PLASTIC,3.5V
U402	1001-001145	IC-ANALOG SWITCH	MAX4599EXT,-,SC70,6P,49MIL,SINGLE,5.5V,-40to+85C
U441	1205-001770	IC-MIXER	RF2638TR13,SOP,8P,118MIL,PLASTIC,3V,75mW,-30TO+80C
U442	1201-001514	IC-MMIC AMP	MGA-72543,SOT-343,4P,51MIL,SINGLE,13dB,PLASTIC
U443	1201-001491	IC-POWER AMP	912,LCC,7P,226MIL,SINGLE,28dB,PLASTIC,4.2V
U445	1209-001350	IC-DETECTOR	AD8314ARM-REEL7,SOP,8P,118MIL,PLASTIC,5.5V,12mW
U481	1201-001348	IC-OP AMP	821,SOT23-5,5P,63MIL,SINGLE,-,
U482	1201-001348	IC-OP AMP	821,SOT23-5,5P,63MIL,SINGLE,-,
U491	1203-001285	IC-SWITCH VOL. REG.	5205,SOT-23,5P,150MIL,PLASTIC,
X100	2801-003856	CRYSTAL-SMD	0.032786MHz,20ppm,28-ACP,7pF,65kohm,TP
X110	2802-001104	RESONATOR-CERAMIC	27MHZ,0.5%,TP,2.5X2X1.2
ZD160	0406-001084	DIODE-TVS	SMF05,6/-/-V,200W,-
ZD161	0406-001084	DIODE-TVS	SMF05,6/-/-V,200W,-
ZD162	0406-001084	DIODE-TVS	SMF05,6/-/-V,200W,-
ZD163	0406-001084	DIODE-TVS	SMF05,6/-/-V,200W,-
ZD180	0406-001084	DIODE-TVS	SMF05,6/-/-V,200W,-
ZD181	0406-001084	DIODE-TVS	SMF05,6/-/-V,200W,-
ZD200	0406-001084	DIODE-TVS	SMF05,6/-/-V,200W,-
ZD210	0406-001084	DIODE-TVS	SMF05,6/-/-V,200W,-
ZD220	0406-001084	DIODE-TVS	SMF05,6/-/-V,200W,-

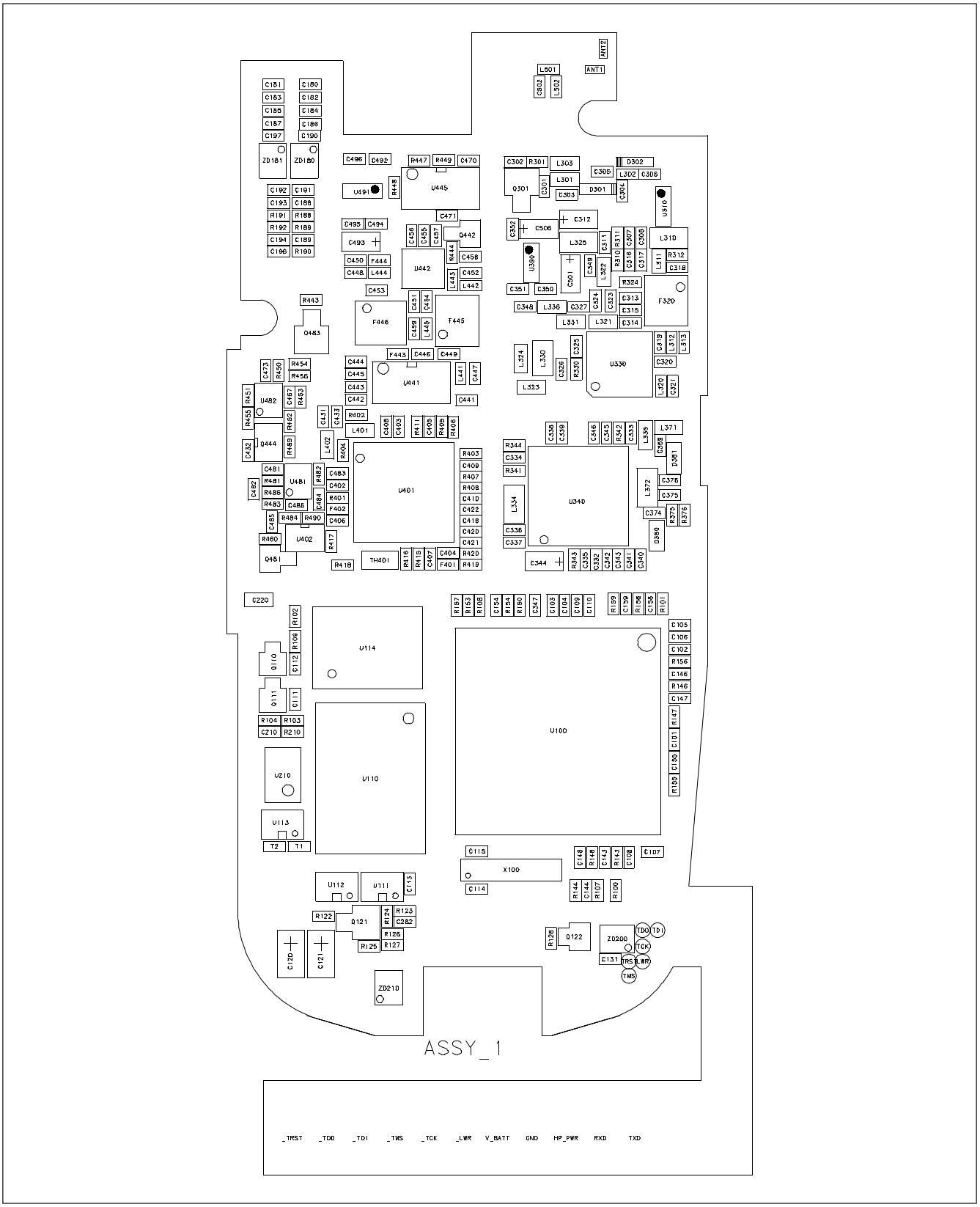
7. Block Diagram

7-1 **Main** (with EVRC option) **Block Diagram**

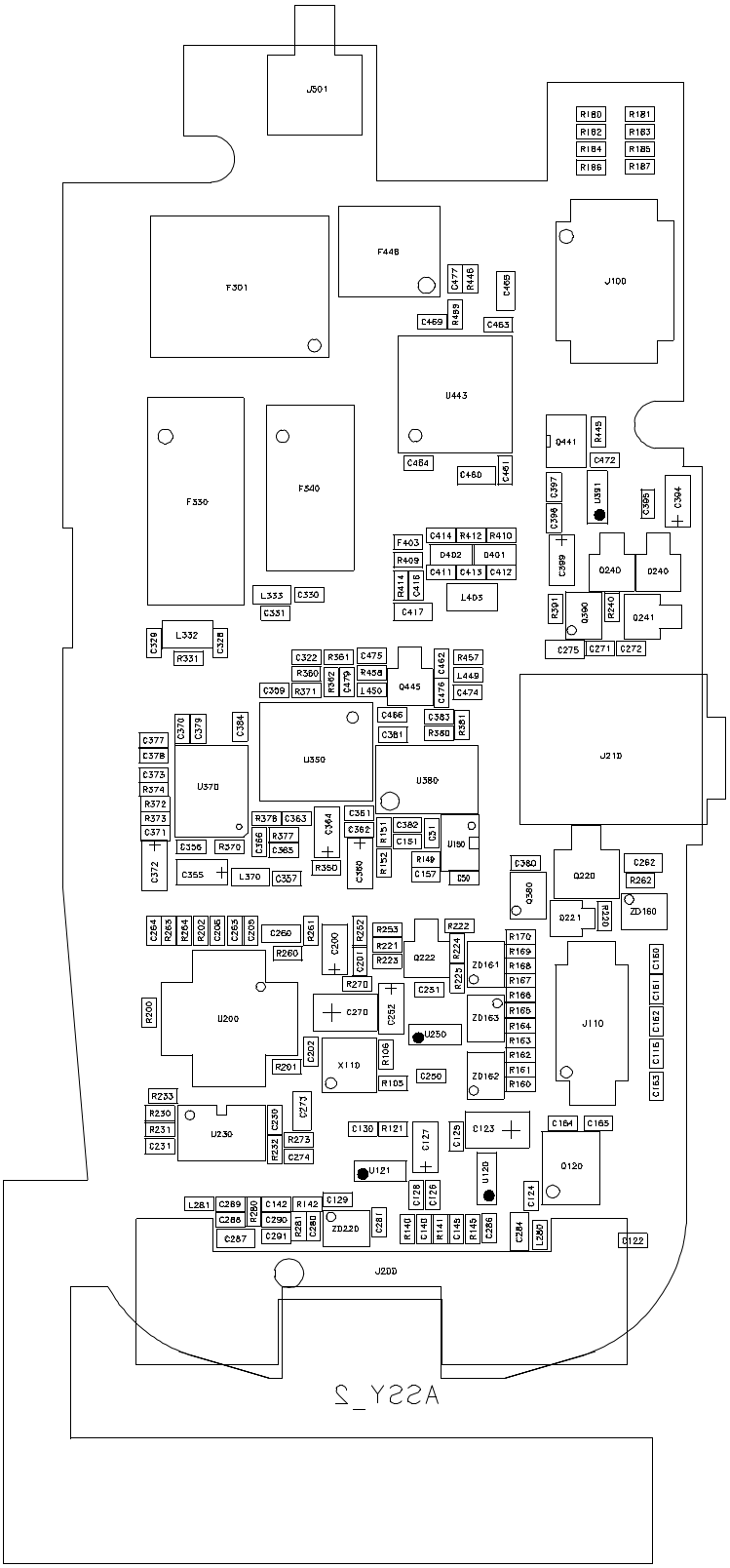


8. PCB Diagram

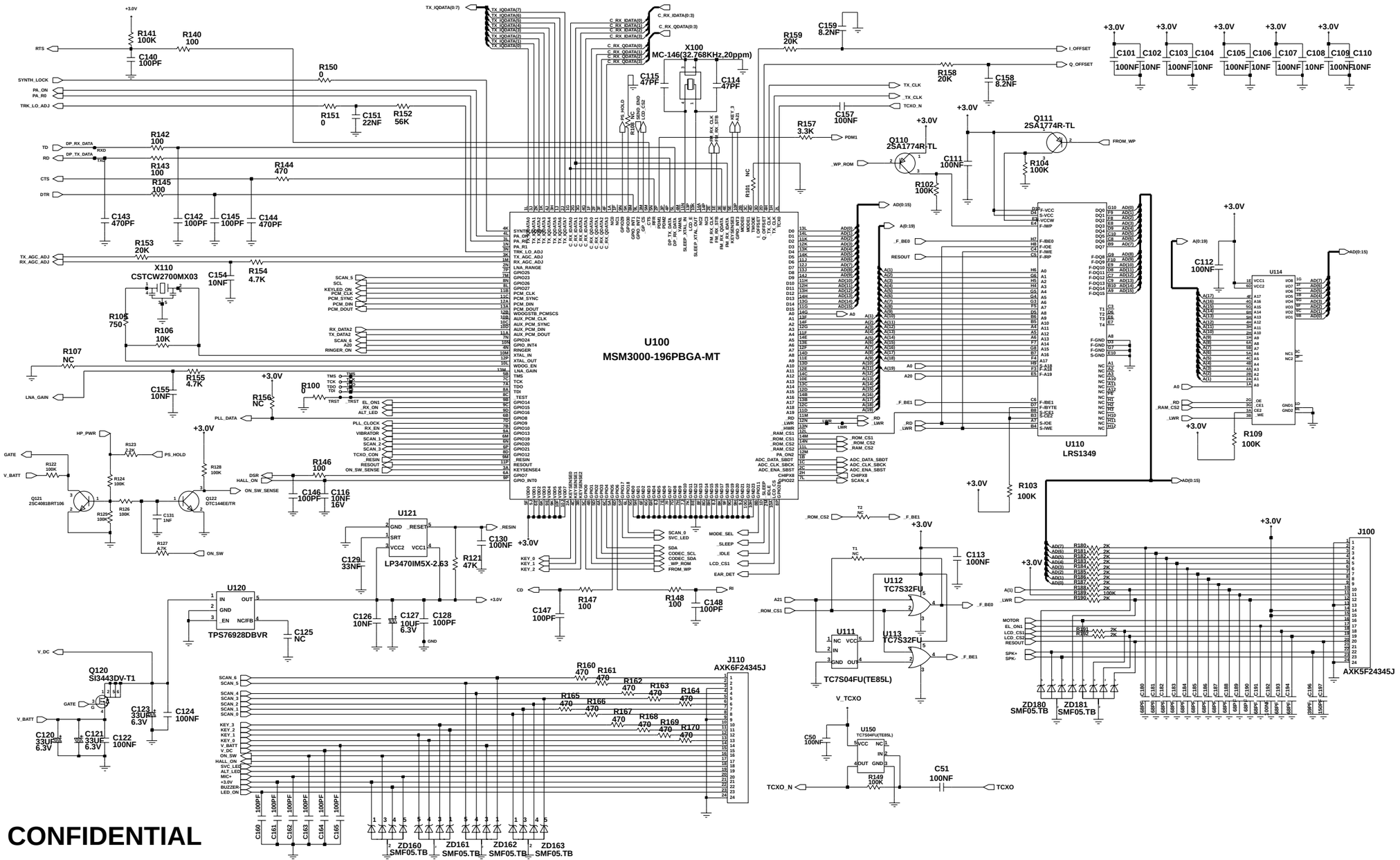
8-1 Top View



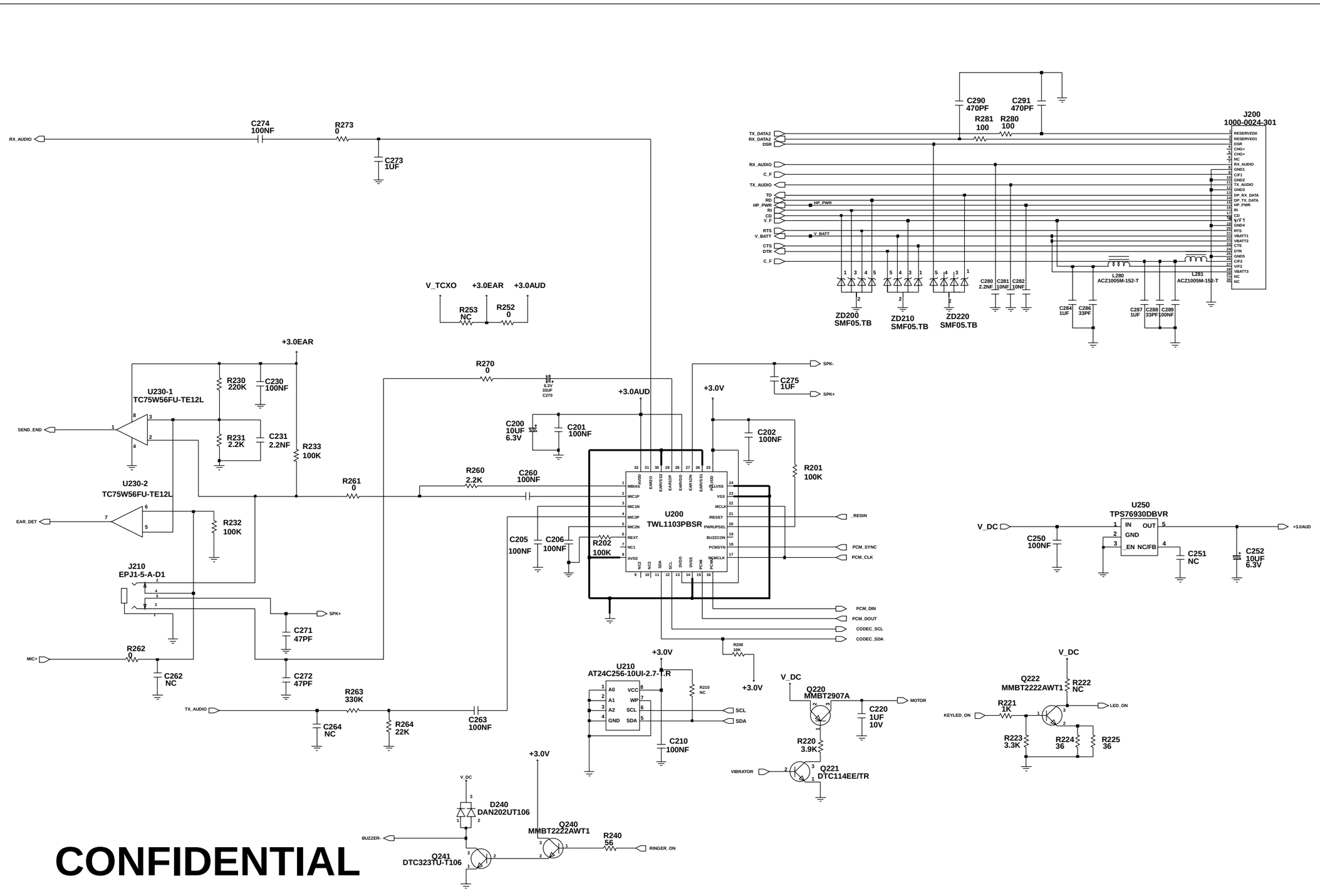
8-2 Bottom View



9-1 Logic Circuit Diagram (1)



9-2 Logic Circuit Diagram (2)



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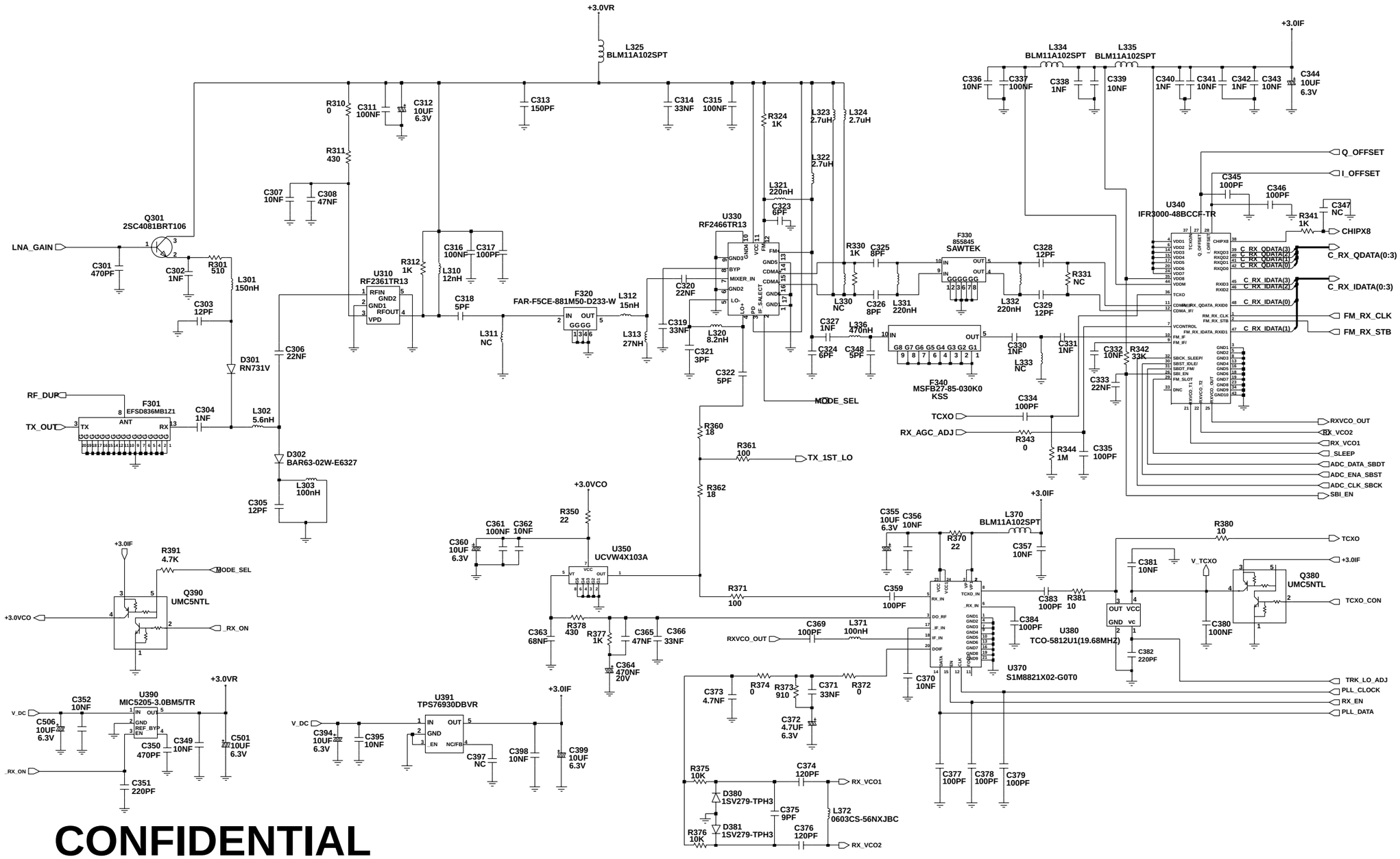
9-3 Receiver Circuit Diagram



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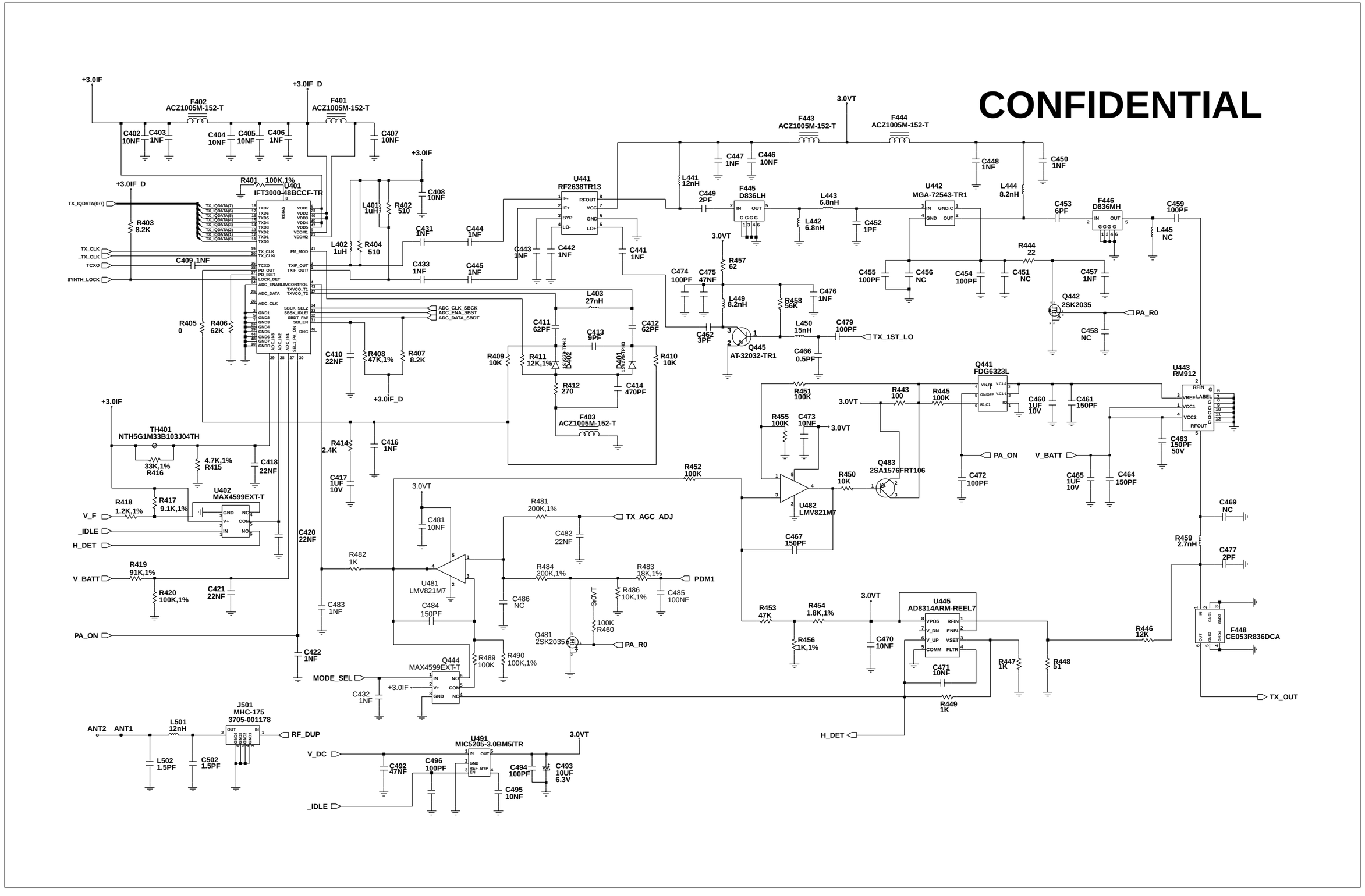
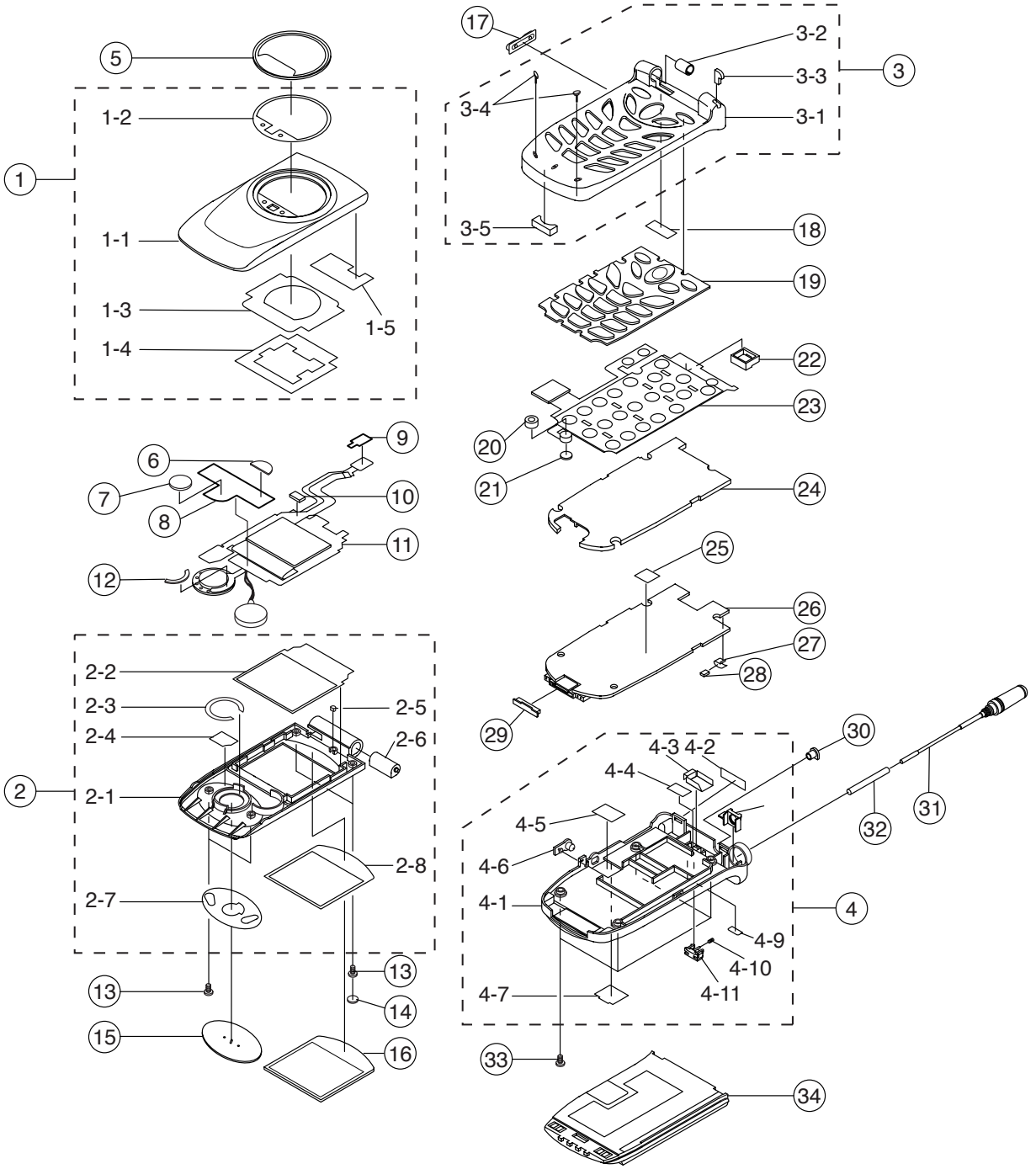
9-4 Transmitter Circuit Diagram



10. Exploded View & Its Parts Lists



SCH-A205 Handset Main

NO		DESCRIPTION	SEC CODE	COLOR	Q'TY	SVC	REMARKS
1		MEC-FOLDER UPPER	GH75-00980B	SILVER		SA	
	1-1	MPR-TAPE WATCH WINDOW	GH74-00307A		1	SA	
	1-2	PMO-FOLDER UPPER	GH72-01915B		1	SNA	
	1-3	MPR-MASKING SHEET UPPER	GH74-00635A		1	SNA	
	1-4	MPR-SPONGE WATCH WINDOW	GH74-00308A		1	SA	
	1-5	MPR-SPONGE WATCH	GH74-00632A		1	SA	
2		MEC-FOLDER LOWER	GH75-00981B	SILVER		SA	
	2-1	MPR-SPEAKER TAPE	GH74-01124A		1	SA	
	2-2	MPR-SPONGE MAIN LCD	GH74-00309A		1	SA	
	2-3	MPR-TAPE COIL	GH74-00721A		1	SNA	
	2-4	ICT-MAGNETIC	GH70-00039A		1	SNA	
	2-5	MEC-HINGE ASSY	GH75-00367A		1	SNA	
	2-6	PMO-FOLDER LOWER	GH72-01916B		1	SNA	
	2-7	MPR-TAPE SPEAKER COVER	GH74-01125A		1	SNA	
	2-8	MPR-TAPE MAIN WINDOW	GH74-00310A		1	SA	
3		MEC-FRONT COVER	GH75-00982B	SILVER		SA	
	3-1	RMO-DAMPER	GH73-00625A		2	SNA	
	3-2	PMO-HINGE DUMMY	GH72-01707A		1	SA	
	3-3	PMO-REFLECTOR LED	GH72-00642A		1	SNA	
	3-4	PMO-FRONT COVER	GH72-01913B		1	SNA	
	3-5	MPR-I/F DUMMY	GH73-00265A		1	SNA	
4		MEC-REAR COVER	GH75-00983B	SILVER		SA	
	4-1	NPR-BRACKET ANT	GH71-00096A		1	SA	
	4-2	LABEL(R)-QUALCOMM	GH68-00973A		1	SNA	
	4-3	NPR-SHIELD FINGER	GH71-00228A		1	SNA	
	4-4	MPR-FINGER SHEET	GH74-00578A		1	SNA	
	4-5	MPR-TAPE IN EARPHONE	GH74-00584A		1	SNA	
	4-6	RMO-EARPHONE COVER	GH73-00204C		1	SA	
	4-7	PMO-REAR COVER	GH72-01914B		1	SNA	
	4-8	MPR-TAPE EARPHONE	GH74-00409C		1	SNA	
	4-9	MPR-TAPE MOBILE	GH74-00410D		1	SNA	
	4-10	SPRING-LOCKER	GH61-00008A		1	SNA	
	4-11	PMO-LOCKER BATT	GH72-02213B		1	SNA	
5		PMO-WATCH WINDOW	GH72-02212B		1	SA	

NO		DESCRIPTION	SEC CODE	COLOR	Q'TY	SVC	REMARKS
6		MPR-SPONGE VIBRATOR	GH74-00412A		1	SA	
7		MPR-SPONGE SPEAKER	GH74-00413A		1	SA	
8		MPR-SHIELD TAPE LOWER	GH74-00576A		1	SNA	
9		MPR-SHIELD CONNECTOR	GH74-00577A		1	SNA	
10		MPR-SPONGE FOLDER GND	GH74-00589A		1	SNA	
11		LCD	GH07-00047A		1	SA	
12		MPR-SPEAKER MASK SHEET	GH74-00979A		1	SNA	
13		SCREW	6001-001402		4	SA	MACHINE,BH,M1.4,L3
14		MPR-SCREW CAP	GH74-00611C	SILVER	2	SA	
15		PMO-SPEAKER COVER	GH72-01917B		1	SA	
16		PCT-WINDOW LCD	GH72-00602D		1	SA	
17		PMO-KEY VOLUME	GH72-00940A		1	SA	
18		MPR-DUMMY SHEET	GH74-00587A		1	SNA	
19		RMO-KEYPAD	GH73-00527B		1	SA	
20		RMO-HOLDER MIC	GH73-00529A		1	SA	
21		MPR-SPONGE CMIC	GH74-00445A		1	SA	
22		RMO-HOLDER BUZZER	GH73-00206A		1	SA	
23		KEY PBA	GH59-00145A		1	SA	
24		PMO-SHIELD COVER	GH72-00747B		1	SA	
25		MPR-SPONGE IFR	GH74-00608A		1	SNA	
26		MAIN PBA	GH92-00962A		1	SA	
27		NPR-CONTACT ANT	GH71-00095A		1	SA	
28		MPR-ANT SPONGE	GH74-01005A		1	SNA	
29		RMO-CONNECTOR COVER	GH73-00202C		1	SA	
30		RMO-MOBILE CAP	GH73-00203B	SILVER	1	SA	
31		ANTENNA	GH42-00086A		1	SA	
32		ANTENNA TUBE					
33		SCREW	6001-000464		4	SA	MACHINE,BH,M1.4,L4
34		BATTERY	GH43-00196F		1	SA	