

No	Descriptions	Count	Part Number	Part Name
1	Diode	1	1SS315(TPH3)	D402
2	Diode	4	1SV279-TPH3	D300 D302 D400 D401
3	Diode	7	SMF05.TB	U626 U627 ZD200 ZD500 ZD501 ZD502 ZD503
4	Diode	1	UMN1	D200
5	Diode	1	BAR63-02W-E6327	D3601
6	Transistor	3	2SA1576FTR106	Q101 Q402 Q450
7	Transistor	1	MMBT2222AWT1	Q501
8	Transistor	1	BFP540	Q300
9	Transistor	3	DTC114EE/TR	Q201 Q301 Q302
10	Transistor	3	DTC144EE/TR	Q202 Q404 Q420
11	Transistor	3	DTA144EE/TR	Q204 Q500 Q502
12	Transistor	1	SI3443DV-T1	Q200
13	Regulator	2	FDC6329L	U205 U208
14	Transistor	1	2SK2035	Q403
15	Transistor	4	UMC5NTL	Q100 Q203 Q401 U550
16	1608 size LED	10	SLSNNG102TS	LED500 LED501 LED502 LED503 LED504 LED505 LED506 LED507 LED508 LED509
17	1608 size LED	1	SML-310LT-T86	LED510
18	Gate	2	TC7S08FUTE85L	U303 U500
19	Gate	1	TC7S32FU	U405
20	Gate	1	TC7S04FU(TE85L)	U100
21	RF Switch	3	SW-437	U301 U307 U403
22	Analog Switch	1	MAX4642EUA	U107
23	Reed Switch	1	A3210ELH	U501
24	EEPROM	1	AT24C256-10U1-2.7-T.R	U101
25	SRAM(2M)	1	K6F2016U4D	U102
26	Flash Memory(32M+2M)	1	DS42553	U103
27	OP AMP	2	LMC7101ATM5	U406 U450
28	Power AMP	1	RM912	U404
29	OP AMP	1	TC75W56FU-TE12L	U108
30	Regulator	1	MIC5205_3.0	U206
31	Reset IC	1	MAX809	U622
32	Regulator	1	ILC7082AIM5_3.0	U203
33	Regulator	1	LP3985IBP_2.5	U200
34	Regulator	1	LP3985IBP_2.8	U202
35	Regulator	1	LP3985BP_3.0	U204
36	IFR3000	1	IFR3000	U302
37	RFT3100	1	RFT3100	U402
38	Mixer	1	NJG1557KB2	U305
39	PCS Down Converter	1	CMY212B	U300
40	MSM3100C	1	MSM3100C	U104
41	Down Converter	1	RF2366TR13	U304
42	Thermistor	1	NTH5G1M33B103J04TH	TH581

43	Resistor(1005 size)	19	100,5%	R200 R202 R205 R211 R213 R218 R219 R221 R225 R312 R322 R328 R501 R502 R503 R504 R505 R518 R222
44	Resistor(1005 size)	12	1K,5%	R106 R114 R115 R125 R128 R129 R138 R139 R140 R208 R226 R419
45	Resistor(1005 size)	5	2.2K,5%	R141 R143 R233 R239 R506
46	Resistor(1005 size)	1	6.2K,5%	R434
47	Resistor(1005 size)	1	8.2K,5%	R104 R121
48	Resistor(1005 size)	20	10K,5%	R110 R117 R120 R122 R126 R134 R136 R162 R190 R191 R192 R227 R231 R235 R314 R319 R412 R593 R610 R611
49	Resistor(1005 size)	1	12K,5%	R415
50	Resistor(1005 size)	1	15K,5%	R507
51	Resistor(1005 size)	2	22K,5%	R304 R435
52	Resistor(1005 size)	1	27K,5%	R203
53	Resistor(1005 size)	1	30K,5%	R146
54	Resistor(1005 size)	2	47K,5%	R209 R308
55	Resistor(1005 size)	3	56K,5%	R101 R232 R237
56	Resistor(1005 size)	2	68K,5%	R417 R441
57	Resistor(1005 size)	13	100K,5%	R108 R145 R151 R154 R201 R204 R206 R310 R325 R440 R500 R511 R512 R513 R514 R515 R516
58	Resistor(1005 size)	1	150K,5%	R443
59	Resistor(1005 size)	2	470K,5%	R207 R307
60	Resistor(1005 size)	1	510K,5%	R135
61	Resistor(1005 size)	4	10,5%	R323 R390 R428 R404
62	Resistor(1005 size)	1	1.5K,5%	R326
63	Resistor(1005 size)	1	470,5%	R223
64	Resistor(1005 size)	1	750,5%	R433
65	Resistor(1005 size)	1	82,5%	R302
66	Resistor(1005 size)	2	33,5%	R508 R509
67	Resistor(1005 size)	1	51,5%	R424
68	Resistor(1005 size)	1	120,5%	R301
69	Resistor(1005 size)	1	180,5%	R517
70	Resistor(1005 size)	1	1.2K,5%	R127
71	Resistor(1005 size)	1	18K,5%	R111
72	Resistor(1005 size)	2	180K,5%	R133 R137
73	Resistor(1005 size)	2	510,5%	R105 R147
74	Resistor(1005 size)	1	15,5%	R303
75	Resistor(1005 size)	2	12,5%	R156 R157
76	Resistor(1005 size)	1	20,5%	R305

77	Resistor(1005 size)	1	3.9K,5%	R324
78	Resistor(1005 size)	1	75,5%	R493
79	Resistor(1005 size)	1	51,5%	R442
80	Resistor(1005 size)	1	1.1K,5%	R315
81	Resistor(1005 size)	2	100K,1%	R109 R436
82	Resistor(1005 size)	1	4.7K,1%	R438
83	Resistor(1005 size)	1	1.2K,1%	R229
84	Resistor(1005 size)	1	47K,1%	R230
85	Resistor(1005 size)	2	10K,1%	R426 R432
86	Resistor(1005 size)	1	100,1%	R112
87	Resistor(1005 size)	1	33K,1%	R439
88	Resistor(1005 size)	1	12K,1%	R416
89	Resistor(1005 size)	1	2.2K,1%	R437
90	Resistor(1005 size)	1	91K,1%	R107
91	Resistor(1005 size)	2	1.8K,1%	R317 R423
92	Resistor(1005 size)	29	0,5%	R100 R102 R123 R131 R142 R144 R150 R160 R193 R194 R215 R216 R300 R306 R311 R470 R495 R497 R519 R520 R521 R603 R604 R605 R606 R614 R616 R617 U624
93	Resistor(1005 size)	1	9.1K,1%	R228
94	Capacitor(1005 size)	36	C101J,100PF,50V	C123 C131 C200 C205 C207 C215 C216 C223 C231 C301 C309 C310 C311 C328 C335 C338 C339 C369 C371 C389 C406 C407 C408 C412 C426 C437 C438 C445 C446 C455 C459 C466 C471 C476 C477 C479
95	Capacitor(1005 size)	33	C103K,10NF,16V	C100 C102 C104 C106 C108 C110 C112 C1147 C116 C118 C121 C125 C128 C137 C139 C210 C213 C219 C227 C232 C300 C304 C307 C308 C329 C340 C375 C378 C379 C381 C385 C425 C473
96	Capacitor(1005 size)	2	10PF,50V	C327 C336
97	Capacitor(1005 size)	1	C120J,12PF,50V	C372
98	Capacitor(1005 size)	2	C151J,150PF,50V	C431 C453
99	Capacitor(1005 size)	2	C150J,15PF,50V	C393 U616
100	Capacitor(1005 size)	2	68PF,50V	C360 C363

101	Capacitor(1005 size)	37	C102K,1NF,50V	C230 C316 C319 C325 C326 C341 C343 C344 C347 C357 C358 C368 C370 C374 C376 C380 C382 C386 C390 C391 C392 C394 C395 C404 C406 C419 C424 C429 C447 C448 C457 C467 C470 C472 C483 C484 C502
102	Capacitor(1005 size)	4	C010C,1PF,50V	C317 C342 C350 C444
103	Capacitor(1005 size)	4	C222K,2.2NF,50V	C153 C218 C221 C397
104	Capacitor(1005 size)	1	C221K,220PF,50V	C315 C364 C366
105	Capacitor(1005 size)	2	C220J,22PF,50V	C348 C422
106	Capacitor(1005 size)	2	C270J,27PF,50V	C129 U617
107	Capacitor(1005 size)	1	C020C,2PF,50V	C323 C353
108	Capacitor(1005 size)	4	C391K,390PF,50V	C400 C401 C415 C416
109	Capacitor(1005 size)	5	C390J,39PF,50V	C356 C355 C359 C439 C443
110	Capacitor(1005 size)	1	C030C,3PF,50V	C351
111	Capacitor(1005 size)	1	C472K,4.7NF,25V	C195
112	Capacitor(1005 size)	4	C471K,470PF,50V	C201 C208 C225 C237
113	Capacitor(1005 size)	5	C470J,47PF,50V	C417 C418 C420 C421 C468
114	Capacitor(1005 size)	1	C040C,4PF,50V	C353
115	Capacitor(1005 size)	1	C562K,5.6NF,25V	C136
116	Capacitor(1005 size)	1	C560J,56PF,50V	C423
117	Capacitor(1005 size)	2	C820J,82PF,50V	C456 C464
118	Capacitor(1005 size)	2	C080D,8PF,50V	C346 C458
119	Capacitor(1608 size)	2	C123K,12NF,50V	C143 C145
120	Capacitor(1005 size)	6	C223Z,22NF,25V	C141 C144 C148 C150 C388 C474
121	Capacitor(1005 size)	1	C300J,30PF,50V	C428
122	Capacitor(1005 size)	1	C473K,47NF,16V	C469
123	Capacitor(2012 size)	1	2.2UF,16V	C228
124	Capacitor(2012 size)	1	C474K,470NF,16V	C430
125	Capacitor(1005 size)	2	C561K,560PF,50V	C236 C242
126	Capacitor(1005 size)	41	C104Z,100NF,16V	C101 C103 C105 C107 C109 C111 C113 C115 C117 C119 C120 C122 C126 C132 C134 C138 C140 C142 C146 C147 C149 C151 C154 C155 C157 C202 C204 C217 C220 C222 C313 C318 C349 C362 C377 C410 C413 C475 C478 C503 U560

127	Capacitor(1608 size)	4	C105Z,1UF,10V	C191 C402 C405 C454
128	Capacitor(2012 size)	7	1UF,10V	C211 C212 C214 C209 C224 C226 C229
129	Capacitor(1608 size)	1	C104K,100NF,16V	C452
130	Capacitor(1005 size)	1	7PF,50V	C304
131	Capacitor(1005 size)	1	C050B,5PF,50V	C345
132	Capacitor(1005 size)	15	C030B,3PF,50V	C330 C333 C500 C501 C507 C508 C509 C510 C511 C512 C513 514 C515 C516 U609
133	Capacitor(1005 size)	3	C333K,33NF,10V	C302 C331 U567
134	Capacitor(1005 size)	1	C473K,47NF,10V	C480
135	Capacitor(1005 size)	1	C683K,68NF,10V	C124
136	Capacitor(1005 size)	3	220NF,10V	C504 C505 U506
137	Capacitor(2012 size)	4	C475K,4.7UF,6.3V	C203 C427 C450 U619
138	Tantal(2012 size)	1	1UF/10V	C322
139	Tantal(2012 size)	2	4.7UF/6.3V	C127 C130
140	Tantal(2012 size)	9	10UF/6.3V	C233 C234 C235 C241 C305 C320 C321 U625 C206
141	Tantal(3518 size)	1	33UF/6.3V	C152
142	Inductor(1608 size)	1	MLF1608DR15KT	L315
143	Inductor(1608 size)	2	0603CS-56NXJBC	L305 L308
144	Inductor(1608 size)	1	CIL10JIR0KNCM	L316
145	Inductor(1005 size)	2	CIL10JIR0KNCM	L302 L326
146	Inductor(1608 size)	2	0603HS-27NTJBC	L413 L414
147	Inductor(1608 size)	2	0603CS-33NXJBC	L310 L306
148	Inductor(1608 size)	1	0603CS-10NXJBC	L417
149	Inductor(1608 size)	2	0603HS-12NXJBC	L403 L404
150	Inductor(1005 size)	1	0603CS-22NXJBC	L317
151	Inductor(1005 size)	1	HK1005-1N5S-T	L328
152	Inductor(1005 size)	1	HK1005-1N8S-T	R422
153	Inductor(1608 size)	1	0603CS-22NXJBC	L330
154	Inductor(1005 size)	1	3.9NH/10%	L303
155	Inductor(1005 size)	1	LL1608-FS56NJ	L311
156	Inductor(1005 size)	1	LL1005-FH82NJ	L325
157	Inductor(1608 size)	1	0603CS-RIBXJBC	L323
158	Inductor(1005 size)	1	27H/10%	L318
159	Inductor(1608 size)	2	LQW1608AR18G00T1	L327 L329
160	Inductor(1005 size)	1	HK1005-12NK-T	L322
161	Inductor(1005 size)	1	8.2NH/5%	L319
162	Inductor(1608 size)	1	HK1608-R10J-T	L324
163	Inductor(1005 size)	1	LQG10A10NJ00	L415
164	Inductor(1608 size)	2	MLG1608BR10JT	L304 L419
165	Inductor(1608 size)	1	ELJRE68NJF3	L301
166	Inductor(1005 size)	3	LQG10A3N3S00	L309 L406 L408
167	Inductor(1005size)	1	LQG10A5N6S00	L320
168	Inductor(1005 size)	1	MLK1005S4N7ST	L306

169	Inductor(1608 size)	1	MLG1608B27NJT	L416
170	Inductor(1005size)	1	MLK1005S6N8DT	L321
171	Xtal Oscillator	1	MC-146(32.768MHz,20ppm)	OSC100
172	VC-TCXO	1	VCTCXO-208C	OSC300
173	CDMA TX RF SAW Filter	1	D836LH	F405
174	CDMA RX RF SAW Filter	1	D881LH	F304
175	PCS IF SAW Filter	1	TMXL011	F301
176	PCS RX RF Filter	2	B4135	F300
177	CDMA Duplexer	1	EFSD836MB	F404
178	Inductor(1608 size)	1	BLM11A102SPT	L300
179	Inductor(2012 size)	2	BLM21P300SPT	L402 L412
180	Inductor(2012 size)	2	BLM21P221SG	L400 L401
181	Inductor(1005 size)	2	ACZ1005M-152-T	L200 L201
182	SIDE_Key	1	MM9329-2700TB1	SIDE_KEY
183	Antenna Connector	1	CRS5001-1003	P400
184	Board to Board Connector	1	AXK6F24345J	CN500
185	CDMA Isolator	1	CE053R836DCB-TA2	F403
186	PCS Splitter	1	SLH-S170C	L331
187	CDMA Splitter	1	SLH-S100C	L332
188	Saparator	1	SLF-080ML	F402
189	PLL Module	1	PO5252FA	U306
190	FBAR	1	HPMD7903	F401
191	PCS Power AMP	1	RI23110P	U401
192	PCS TX RX SAW Filter	1	855833	F400
193	IF Connector	1	MQ190_SAB_24P	CN200
194	FM IF SAW Filter	1	SAFC85380MA15X	F303
195	CDMA IF SAW Filter	1	TMXP337	F302
196	Inductor(1608 size)	1	170NH	L307
197	Inductor(2012 size)	1	680NH	L314
198	Inductor(1608 size)	2	220NH	L313 L307
199	Ear jack	1	EPJ1-5-A-D1	EAR500
200	Antenna Contact point	1	SP-R5200	ANT571
201	KEY PAD	22	Key pad	0 1 2 3 4 5 6 7 8 9 OK MENU SEND END CLR POUND STAR "Œ UP DOWN RIGHT LEFT
202	SIDE KEY	1	Side key	SIDE_KEY
203	Speaker point	1		SPK
204	Bivrtor Connector	1	Bivrtor	VIB
205	LCD	2	KS0741-09 KS0723-16	LCD1 LCD2
206	LCD IC	2	D361 LM4890MM	IC 1 IC 2
207	Inductor(1608 size)	1	82nH	L312
208	Capacitor(1005 size)	1	5.6pF	C352

NAM features can be programmed as follows:

LCD Display	Key in	Function
	menu+8+2+0+'000000'	-to enter NAM programming.
	END	- Exit NAM Programing
PHONE #		
Phone Number		-Mobile Phone Number is displayed
3003003000		-to change, enter new one
[ok]		-store it.
GENERAL		
ESN	←	-Electronic Serial Number of the phone is displayed
B0000000		-select OK , to view next status item.
[ok]		
CAI Version		-Comon Air Interface of the phone is displayed
4		-select OK , to view next status item
[ok]		
SCM		-Station Class Mark of the phone is displayed
01101010	→	-select OK , to view next status item
[ok]		
Lock Code		-Mobile Lock Code is displayed
3000		-to change, enter new one
[ok]		-store it.
Slot Mode		-Mobile Slot Mode is displayed
YES		-to change, enter new one
[ok]		-store it.
Slot Index		-SLOT CYCLE INDEX is displayed
2		-to change, enter new one.
[ok]		-store it.
Service Option		-Home/Roam origination service option.
32768		-to change, enter new one(Not support 8K voice service option)
[ok]		-store it.

NAM	
IMS1 – MCC	-Mobile Country Code is displayed
310	-to change, enter new one
[ok]	-store it.
IMS1 – MNC	-Mobile Network Code is displayed
00	-to change, enter new one
[ok]	-store it.
CDMA ACCOLC	-Show the Access Overload Class
0	-Access Overload Class is the last digit of phone number
[ok]	-select OK , to view next status item.
CDMA Home Sys Reg	-Indicator of whether phone is configured to
YES	receive calls when using a home SID,NID pair.
[ok]	-changes the status, select [ok] to store it.
CDMA Forn SID	-Indicator of whether phone is configured to
YES	receive calls as a foreign SID roamer.
[ok]	-changes the status, select [ok] to store it.
CDMA Forn NID	-Indicator of whether phone is configured to
YES	receive calls as a foreign NID roamer.
[ok]	-changes the status, select [ok] to store it.
HOME SID	-Home System ID is displayed.
0	-to change SID number, enter new one.
[ok]	-store it
NID	-Home Network ID is displayed.
65535	-to change NID number, enter new one.
[ok]	-store it.

5. Test Commands & Test Procedure List

Test Command Table

To change the phone from normal mode to test mode, you should enter the following keys :

Press [47*869#1235]

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
03	T_SAVE_VAL_I	Save values in EEPROM only in auto test
04(1D,0,1)	T_GET_MODE_I	Get mode PCS/CDMA/FM
05	T_SET_MODE_I	Set mode PCS/CDMA/FM
06	T_WRITE_NV_I	Write the EEPROM item
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	T_VOC_ESEC_I	Echo Cancellor
16(8F,0,0)	T_STON_I	turn on ST
17(90,0,0)	T_STOFF_I	turn off ST
18	T_LCD_CONTRAST_I	LCD contrast ADJ
19	T_INDEX_DECR_I	index dn key
20	T_LNA_GAIN_WR_I	write LNA gain for IMD test
21	T_TEST_SYS_I	Set TEST_SYS
22(91,96,96)	T_SNDNAM_I	Send NAM Information
23(95,3,4)	T_SNDVERSION_I	Send Software Version
24(9F,7,8)	T_SNDESN_I	Send 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
29	T_REBUILD_I	Rebuilding EEPROM
30(9D,15,0)	T_PLINE_	Product line information

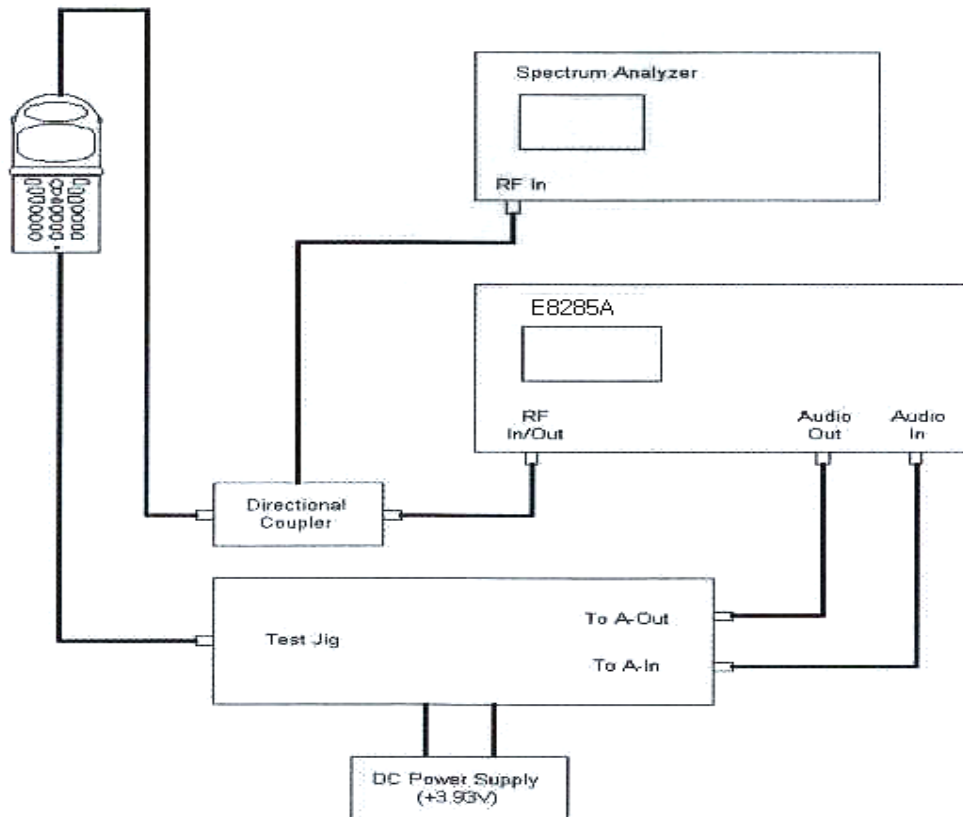
Command No	Command SW Name	Description
31	T_MRU2_TABLE_I	MRU reset
32(A0,1,0)	T_SATON_I	Turn on SAT
33(A1,0,0)	T_SATOFF_I	Turn off SAT
34(A2,0,0)	T_CDATA_I	Continuously send TX Control data
35	T_VOLUME_UP_I	Electric Volume Up
36	T_VOLUME_DOWN_I	Electric Volume Down
38	T_VOC_ENC_OFFSET_I	Vocoder ENC offset
39	T_VOC_DEC_OFFSET_I	Vocoder DEC offset
40(A7,3,0)	T_VOC_CDMA_UNITY_GAIN_I	Vocoder CDMA unity gain
41	T_VOC_FM_HFRX_UPGAIN_I	Vocoder FM hfrx upgain
42(AA,1,0)	T_DTMFON_I	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
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
51	T_FM_TEMPComp_I	FM Temp Compensation
52(B9,0,8)	T_CDMA_TEMPComp_I	CDMA Temp Compensation
53	T_PCS_TEMPComp_I	PCS Temp Compensation
54	T_VOC13K_I	Target Service option
55(AC,1,0)	T_SET_EXT_AUDIO_I	External Audio Path On/Off
56	T_LOOPBACK_I	Loop Back Service On
57(BC,0,0)	T_MIC_ON_I	mute MIC Path
58(BD,0,0)	T_MIC_OFF_I	Unmute MIC Path
59(BE,0,0)	T_ALLPATH_I	Tune on the all audio path
60(BF,3,0)	T_FM_CHAN_FLAT_I	FM Channel Flatness
61(C0,3,0)	T_FM_RX_GAIN_I	FM Rx Audio Gain Control
62(C1,3,0)	T_DTMF_VOL_TX_I	FM Tx DTMF Gain Control
63(C2,3,0)	T_TX_LIMITER_I	FM Tx Limiter Gain Control
64(C3,3,0)	T_FM_SAT_LEVEL_I	FM Tx SAT level Control

Command No	Command SW Name	Description
65(C4,3,0)	T_FM_FREQ_SGAIN_I	FM Tx Master Gain Control
66(C5,3,0)	T_FM_ST_GAIN_I	FM Tx ST Gain Control
67(C6,0,6)	T_READ_BATT_I	Saved Low battery value read
68(C8,0,3)	T_VBATT1_I	Set the low battery position in the standby
69(C9,0,3)	T_VBATT2_I	Set the low battery position in the talking
70(CA,3,0)	T_WRITE_BATT_I	write a BATT
71(D1,3,0)	T_CDMA_TXADJ_I	Sets tx_agc_adj for CDMA mode
72(D2,3,0)	T_FM_TXADJ_I	Sets tx_agc_adj for FM mode
73(D3,1,0,1)	T_DM_SEL_I	Dm_mode_select
74	T_OFF_PA_RO	off TX power AMP ctrl R0
75(D5,0,3)	T_READ_RSSI_I	Read a RSSI
76	T_PCS_RSSI_I	Adjust RXRAS in PCS
77(D7,0,3)	T_READ_TEMP_I	Read a Thermister
78	T_RXRAS_AUTO_I	Adjust RXRAS from HP8924C
79(D9,1,0)	T_BUZZER_ON_I	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
83	T_TX_PWR_LIMIT_I	CDMA/PCS tx pwr limit
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_I	TRK LOCAL ADJUST
89(EB,3,0)	T_CDTRK_ADJ_I	CDMA TRK LOCAL ADJUST
90(F0,2,0)	T_PCS_TXRAS_ADJ_I	PCS TX RAS adj = TX RAS offset array
91	T_PCS_RXRAS_ADJ_I	PCS RX RAS adj = RX RAS offset array
92(D4,5,0)	T_TXRAS_ADJ_I	TX RAS adj = TX RAS offset array
93(F3,4,0)	T_RXRAS_ADJ_I	RX RAS adj = RX RAS offset array
94	T_LNARAS_ADJ_I	LNA RAS adj = LNA RAS offset array
95	T_PCS_CH_FLATNESS_I	PCS channel flatness
96(F6,4,0)	T_CH_FLATNESS_I	TX Pwr : 23dBm
97(F2,4,0)	T_FM_TX_PWR_I	setting the volume for Power level 2 ~ 7
98	T_PCM_FORMAT_I	filter setting mode
99(FC,4,0)	T_SND_VOC_CAL_I	Mic/Speaker Gain control
100	T_MAX_I	Compensated value for Most cha PWR = NULL!

List of Equipment

- DC Power Supply
- Test Jig
- Test Cable
- CDMA Mobile Station Test Set E8285A, CMD-80, etc
- Spectrum Analyzer(include CDMA Test Mode) 8596E

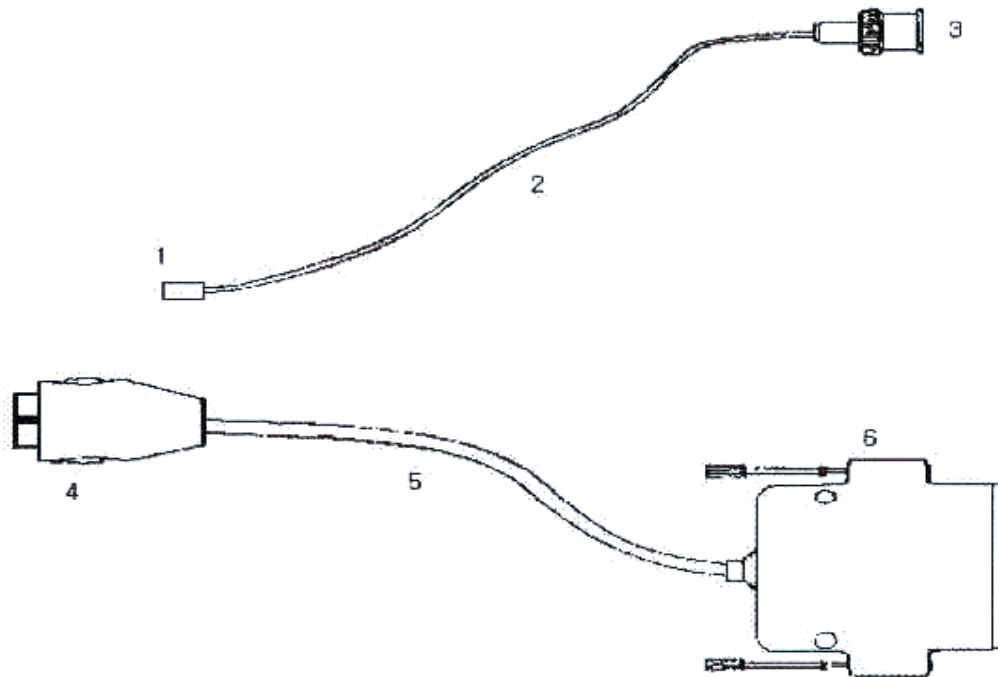
Configuration of Test



CAUTION : The test jig and data cable has a voltage drop of 0.18V 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 3.75V at cellular phone)

TEST CABLE DESCRIPTION FOR SCH-A330

1.TEST CABLE

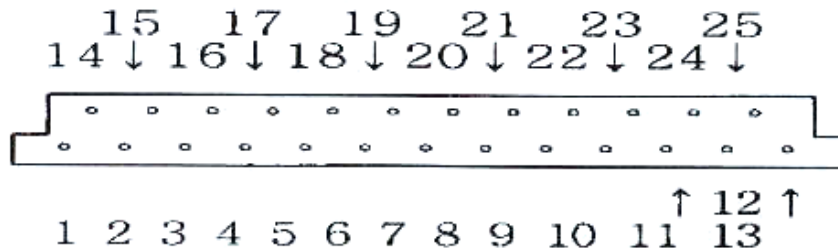


2.TEST CABLE CONNECTIONS

1	MHC172
2	RF CABLE(2.2dB Loss for CDMA800 and AMPS, 3.7dB Loss for PCS)
3	BNC ONNECTOR(RF)
4	PLUG ONNECT O SCH-A330
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	18	DP-RX_DATA	13
GND	8,10,12,19	HP_PWR	15
BATT	21,22	RI	16
C_F	9	CD	17
TX_AUDIO	11	RTS	20
DP_TX_DATA	14	CTS	23
RX_AUDIO	7	DTR	24



4. CONVERSION TABLE OF FREQUENCY vs CHANNEL

T Y P E	C H A N N E L	C O N V E R S I O N E Q U A T I O N	R E M A R K
TX 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	$1 \leq N \leq 799$	$F=0.03 \times N + 870.00$	N ; CH NUMBER F ; FREQUENCY (AMPS/CDMA)
	$990 \leq N \leq 1023$	$F=0.03 \times (N-1023) + 870.00$	
TX FREQUENCY	$0 \leq N \leq 1199$	$F=0.05 \times N + 1850.00$	N ; CH NUMBER F ; FREQUENCY (PCS)
	$0 \leq N \leq 1199$	$F=0.05 \times N + 1930.00$	

Change to Test Mode

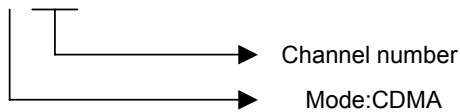
A. To change the phone's state from Normal Mode to Test Mode, You should enter the following keys.

: Press [47*869#1235]

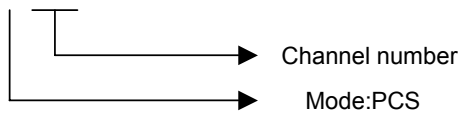
B. The command "21" is mode and channel change.

"10000" or "10001" : AMPS's Sytem A or Sytem B

"20384"



"30600"



and Push the " *" key to save.

C. The command "0 1" is Suspend.

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

Channel Selection and Tx Power Output Level Control

1. AMPS(FM)

A. Enter to Test Mode [47*869#1235]

B.The command "21" is mode and channel change

"10000" or "10001" : AMPS's Sytem A or Sytem B

and Push the " *" key to save.

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. "9 7 * * * " : Output RF power level is set as power level 2

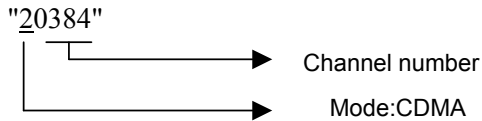
"* * *" means AGC level and AGC level range is from 0 to 511.

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

2. CDMA

A. Enter to Test Mode [47*869#1235]

B. The command "21" is mode and channel change



Push the " *" key to save.

C. "0 1" : Suspend.

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

E. "0 9 0 3 8 4 #" : Set to '0384' channel.

F. "0 7" : Carrier On.

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

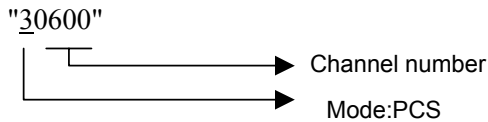
H. "9 2 _ _ _" : Adjust RF power level.

"* * *" means AGC level and AGC level range is from 000 to 511.**2. PCS**

3.PCS

A. Enter to Test Mode [47*869#1235]

B. The command "21" is mode and channel change



Push the " *" key to save.

C. "0 1" : Suspend.

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

E. "0 9 0 6 0 0 #" : Set to '0600' channel

F. "0 7" : Carrier On.

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

H. "9 0 * * *" : Adjust RF power level.

"* * *" means AGC level and AGC level range is from 000 to 511.

1. AMPS(FM)

TEST ITEMS	PROCEDURE
1. PREPARATION	Set test equipments up. " 47*869#1235 " : 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".
2.RF POWER	"0 1": Suspend. "4 6" : Initialize Vocoder in Analog mode. "0 9 0 3 6 3 #" : Set channel to 363. "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 + 26 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 Note 1 : In case of using the antenna cable, compensation for the cable loss should be added (about 1.4dB). 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.

TEST ITEMS	PROCEDURE
3.TX FREQUENCY	"0 1" : Suspend. "4 6" : Initialize Vocoder in Analog mode. "0 9 0 3 6 3 #" : Set channel to 363. Measure the TX frequency : 835.89 MHz $\pm$ 2.5ppm.
4.VOICE DEVIATION	"0 1" : Suspend. "4 6" : Initialize Vocoder in Analog mode. "0 9 0 3 6 3 #" : Set channel to 363. "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 $\pm$ 12kHz).
5.ST DEVIATION	"0 1" : Suspend. "4 6" : Initialize Vocoder in Analog mode. "0 9 0 3 6 3 #" : Set channel to 363. "1 6" : ST on. Measure the Tx ST deviation by using the HPF of 50Hz (spec : 8kHz $\pm$ 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. "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 $\pm$ 10%). "3 3" : SAT off.

TEST ITEMS	PROCEDURE
7. WBD DEVIATION	"0 1" : Supemd. "4 6" : Initialize Vocoder in Analog mode. "0 9 0 3 6 3 #" : Set channel to 363. "3 4" : WBD on. Measure the WBD deviation by using the HPF of 50Hz and the LPF of 20kHz (spec : 8KHz $\pm$ 10%).
8.RX AUDIO	"0 1" : Suspend. "4 6" : Initialize Vocoder in Analog mode. "0 9 0 3 6 3 #" : Set channel to 363. "1 2" : RX Audio unmute. Set the equipment as following. RF frequency : 880.89MHz Input RF level : -80dBm Modulation frequency : 1kHz Frequency deviation : $\pm$ 8kHz Measure audio AC level.

2.AMPS

TEST ITEMS	PROCEDURE
1.PREPARANCE	Set test equipments up. "47*869#1235 " : Enter the Test Mode" "0 1" : Suspend "0 4" : Current Mode Check Confirm that the phone is in the "CDMA Mode". (If not CDMA Mode, Use Test Command"21" "XXXX" and Push the "*" 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 8 4#": Set channel to 384. "0 7":Carrier On. "3 4":Spread spectrum. "7 1 3 6 0 #": Set AGC level. Measure the TX frequency: 835.89MHz $\pm$ 300Hz.
3. OCCUPIED CDMA BANDWIDTH	0 1": Suspend "0 9 0 3 8 4 #": Set channel to 384. "0 7": Carrier On. "3 4": Spread spectrum. "7 1 X X X #": Enter AGC Code(XXX)to adjust RF Output Power. Measure the bandwidth (spec:1.23MHz).
4. LIMITATIONS ON EMISSIONS	"0 1": Suspend "0 9 0 3 8 4 #": Set channel to 384. "0 7": Carrier On. "3 4":Spread spectrum. "7 1 X X X #": Enter AGC Code(XXX) to adjust RF Output Power. 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

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 GatedTime – Rising Time : below 6 μ s FallingTime:below 6 μ s BurstTime:below1.247ms

3.PCS

TEST ITEMS	PROCEDURE
1.PREPARANCE	Set test equipments up. "47*869#1235" : Enter the Test Mode "0 1" : Suspend "0 4" : Current Mode Check Confirm that the phone is in the "PCS Mode". (If not PCS Mode,Use Test Command "21" "3XXXX" and Push the "*" 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 6 0 0 #" : Set channel to 600. "0 7" : Carrier On. "3 4" : Spread spectrum. "7 1 3 6 0 #" : Set AGC level. Measure the TX frequency : 1880.00MHz 300Hz.
3.OCCUPIED CDMA BANDWIDTH	"0 1" : Suspend. "0 9 0 6 0 0 #" : Set channel to 600. "0 7" : Carrier On. "3 4" : Spread spectrum. "7 1 X X X #" : Enter AGC Code(XXX) to adjust RF Output Power. Measure the bandwidth (spec : 1.23MHz).
4.LIMITATIONS ON EMISSIONS	"0 1" : Suspend. "0 9 0 6 0 0 #" : Set channel to 600. "0 7" : Carrier On. "3 4" : Spread spectrum. "7 1 X X X #" :Enter AGC Code(XXX) to adjust RF Output Power. Measure the spurious at Fc 1.25MHz spec: Fc 1.25MHz below42dBc/30kHz

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 1.247μS
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