

10. PARTS LIST

NO	SEC CODE	GEOMETRY	수량	DESCRIPTION	REFERENCE
1	0401-001110	SR1608_DIO	1	SDS511Q	D501
2	0404-001054	sot_143_v2	1	HSMS-2805-L31	D103
3	0405-001035	SR1608_DIO	2	1SV279-TPH3	D100 D101
4	0405-001067	SR1608_DIO	2	1SV281-TPH3	D203 D204
5	0406-001084	sop5_w210_P0.65	2	SMF05.TB	ZD506 ZD507
6	0407-000115	sot_323a	1	DAN202UT106	ZD505
7	0407-001002	EMD_3	1	DAN222TL	ZD500
8	0409-001020	SR1608_DIO	1	1SS381-TPH3	D205
9	0501-000162	sot_323a	1	2SA1576FRT106	Q402
10	0501-002202	sot_323a	1	MMBT2222AWT1	Q507
11	0504-000167	EMD_3	5	DTC114EE/TR	Q110 Q200 Q300
					Q403 Q511
12	0504-000168	EM3_a	3	DTC144EE/TR	Q501 Q502 Q510
13	0504-000172	EMD_3	1	DTA144EE/TR	Q400
14	0504-001016	EMD_3	1	DTA114EE-TL	Q103
15	0505-001165	Csop6_w264	3	SI3443DV-T1	Q503 Q505 Q509
16	0505-001462	Csop6_w190	1	SI1905DL	U302
17	0506-000107	um16_1	2	UMH2N	Q109 Q301
18	0506-000147	um16	1	UMT1N	Q107
19	0601-000273	SR1608_LED	12	CL-190YG-CD-T	LED500 LED501
					LED502 LED503
					LED504 LED505
					LED506 LED507
					LED509 LED510
					LED511 LED512
20	0801-002345	Csop5_w210_P0.65	1	TC7S04FU(TE85L)	U303
21	1009-001006	sc-74_v2	1	A3210ELH	U400
22	1103-001184	pgba8_w305h387_L	1	AT24C256-10UI-2.7-T.R	U501
23	1106-001326	pgba48_w650h850_L	1	KM616FU411DCFI-7	U401
24	1107-001181	pgba48_w900h800_L_1	1	AM29DL163CT90WCI	U402
25	1201-001248	sot_143g	1	MRFIC0916T1	U304
26	1201-001491	sm_RM913K_7pin_v2	1	RM912	U100
27	1201-001690	sm_RM913K_7pin_v2	1	RM913U	U102
28	1203-001285	sot23-5M	2	MIC5205-3.0BM5/TR	U103 U502
29	1204-001504	Cqfp48_w840h840_L06_2_v2	1	IFR3000-48TQFP-MT	U201
30	1204-001682	sm_BCC32_w440h440_L_v2	1	RFT3100-32BCCPF-MT	U101
31	1205-001860	pgba208_w1500h1500_L	1	MSM3100-208FBGA	U403
32	1205-001932	sm_MLF20_w400h400_v3	1	RF2461TR13	U200
33	1404-001165	ALL1005_RES	1	NTCCM10054DH103HC	TH500
34	1405-001019	R1608_CAP	1	VC060305A150R	D500
35	2007-000138	ALL1005_RES	11	100,5%	R312 R341 R342
					R442 R443 R444
					R445 R451 R512
					R535 R538
36	2007-000140	ALL1005_RES	11	1K,5%	R100 R222 R223
					R235 R242 R243
					R437 R450 R513
					R527 R554
37	2007-000141	ALL1005_RES	1	2.2K,5%	R500
38	2007-000143	ALL1005_RES	4	4.7K,5%	R106 R224 R234
					R308
39	2007-000147	ALL1005_RES	2	8.2K,5%	R220 R409
40	2007-000148	ALL1005_RES	17	10K,5%	R114 R115 R119
					R140 R213 R227
					R238 R239 R313

				R403 R420 R426
				R432 R436 R446
				R552 R556
41	2007-000149	ALL1005_RES	1 12K,5%	R231
42	2007-000152	ALL1005_RES	1 20K,5%	R411
43	2007-000153	ALL1005_RES	5 22K,5%	R103 R350 R351
				R537 R561
44	2007-000155	ALL1005_RES	2 27K,5%	R501 R502
45	2007-000157	ALL1005_RES	8 47K,5%	R142 R214 R400
				R441 R503 R530
				R568 R598
46	2007-000162	ALL1005_RES	11 100K,5%	R124 R141 R333
				R337 R338 R406
				R408 R524 R531
				R548 R565
47	2007-000168	ALL1005_RES	1 470K,5%	R435
48	2007-000170	ALL1005_RES	4 1M,5%	R345 R419 R422
				R528
49	2007-000172	ALL1005_RES	2 10,5%	R104 R228
50	2007-000174	ALL1005_RES	2 47,5%	R203 R302
51	2007-000566	ALL1005_RES	2 220K,5%	R108 R452
52	2007-000775	ALL1005_RES	2 33K,5%	R209 R230
53	2007-000932	ALL1005_RES	6 470,5%	R229 R517 R519
				R522 R523 R539
54	2007-001217	ALL1005_RES	2 82,5%	R310 R570
55	2007-001284	ALL1005_RES	1 4,7,5%	R545
56	2007-001288	ALL1005_RES	1 18,5%	R303
57	2007-001290	ALL1005_RES	1 24,5%	R109
58	2007-001298	ALL1005_RES	2 51,5%	R215 R221
59	2007-001301	ALL1005_RES	1 68,5%	R340
60	2007-001306	ALL1005_RES	13 150,5%	R504 R505 R506
				R507 R508 R509
				R510 R511 R514
				R566 R567 R574
				R575
61	2007-001311	ALL1005_RES	1 270,5%	R344
62	2007-001313	ALL1005_RES	2 330,5%	R123 R418
63	2007-001319	ALL1005_RES	4 1,2K,5%	R401 R404 R438
				R532
64	2007-001320	ALL1005_RES	1 1,8K,5%	R332
65	2007-001329	ALL1005_RES	1 7,5K,5%	R233
66	2007-002796	ALL1005_RES	1 510,5%	R112
67	2007-002797	ALL1005_RES	2 560,5%	R218 R219
68	2007-003030	ALL1005_RES	1 91,5%	R232
69	2007-007021	ALL1005_RES	1 75K,5%	R244
70	2007-007092	ALL1005_RES	1 1,1K,5%	R111
71	2007-007132	ALL1005_RES	1 15K,1%	R110
72	2007-007137	ALL1005_RES	1 1,2K,1%	R129
73	2007-007142	ALL1005_RES	1 10K,1%	R117
74	2007-007311	ALL1005_RES	2 22K,1%	R116 R122
75	2007-007316	ALL1005_RES	2 3,3K,1%	R427 R439
76	2007-007318	ALL1005_RES	6 1K,1%	R127 R429 R430
				R431 R434 R453
77	2007-007564	ALL1005_RES	1 510,1%	R125
78	2007-007588	ALL1005_RES	1 1,8K,1%	R320
79	2007-007771	ALL1005_RES	24 0,5%	R101 R102 R107
				R113 R118 R121
				R139 R201 R202
				R204 R205 R300

				R309 R316 R318
				R353 R354 R405
				R423 R520 R534
				R555 R560 R562
80	2007-007791	ALL1005_RES	1 9.1K,1%	R515
81	2007-007981	ALL1005_RES	2 180K,1%	R428 R440
82	2007-008117	ALL1005_RES	1 2.7K,5%	R516
83	2203-000233	ALL1005_CAP	59 C101J,100PF,50V	C109 C112 C113
				C120 C123 C132
				C144 C146 C155
				C161 C164 C183
				C212 C214 C219
				C222 C229 C230
				C236 C248 C251
				C252 C256 C275
				C303 C306 C307
				C312 C317 C318
				C319 C326 C329
				C335 C336 C337
				C339 C341 C351
				C360 C361 C362
				C363 C412 C445
				C503 C509 C510
				C574 C575 C576
				C577 C578 C579
				C580 C581 C582
				C583 C584
84	2203-000254	ALL1005_CAP	32 C103K,10NF,16V	C135 C208 C217
				C224 C238 C239
				C241 C242 C311
				C321 C401 C403
				C406 C420 C436
				C437 C438 C440
				C448 C504 C528
				C535 C537 C538
				C539 C542 C544
				C545 C549 C551
				C552 C559
85	2203-000278	ALL1005_CAP	6 C100D,10PF,50V	C157 C211 C225
				C333 C356 C417
86	2203-000300	ALL1005_CAP	2 C110J,11PF,50V	C220 C223
87	2203-000330	ALL1005_CAP	1 C120J,12PF,50V	C243
88	2203-000359	ALL1005_CAP	2 C151J,150PF,50V	C133 C139
89	2203-000386	ALL1005_CAP	2 C150J,15PF,50V	C265 C273
90	2203-000425	ALL1005_CAP	1 C180J,18PF,50V	C253
91	2203-000438	ALL1005_CAP	24 C102K,1NF,50V	C111 C115 C128
				C141 C148 C158
				C162 C171 C201
				C247 C249 C264
				C325 C346 C349
				C352 C404 C449
				C546 C547 C565
				C571 C572 C573
92	2203-000466	ALL1005_CAP	2 C010C,1PF,50V	C151 C245
93	2203-000585	ALL1005_CAP	2 C221K,220PF,50V	C278 C279
94	2203-000628	ALL1005_CAP	3 C220J,22PF,50V	C122 C131 C255
95	2203-000679	ALL1005_CAP	4 C270J,27PF,50V	C159 C160 C421
				C423
96	2203-000714	ALL1005_CAP	1 C332K,3.3NF,50V	C121

97	2203-000836	ALL1005_CAP	4	C391K,390PF,50V	C166 C167 C168
					C169
98	2203-000854	ALL1005_CAP	2	C390J,39PF,50V	C117 C143
99	2203-000870	ALL1005_CAP	1	C030C,3PF,50V	C258
100	2203-000885	ALL1005_CAP	2	C472K,4.7NF,25V	C102 C246
101	2203-000940	ALL1005_CAP	2	C471K,470PF,50V	C540 C556
102	2203-000995	ALL1005_CAP	2	C470J,47PF,50V	C119 C316
103	2203-001017	ALL1005_CAP	1	C040C,4PF,50V	C269
104	2203-001221	ALL1005_CAP	2	C821K,820PF,50V	C435 C443
105	2203-001239	ALL1005_CAP	3	C820J,82PF,50V	C150 C185 C277
106	2203-001259	ALL1005_CAP	1	C080D,8PF,50V	C129
107	2203-001383	ALL1005_CAP	1	C0R5C,0.5PF,50V	C163
108	2203-001402	SR1608_CAP	1	C224Z,220NF,16V	C334
109	2203-001405	ALL1005_CAP	1	C223Z,22NF,25V	C320
110	2203-001432	ALL1005_CAP	1	C473K,47NF,16V	C331
111	2203-001437	ALL1005_CAP	1	C050C,5PF,50V	C231
112	2203-001652	SR1608_CAP	1	CL10F474Z0NC	C153
113	2203-003054	ALL1005_CAP	3	C090C,9PF,50V	C149 C267 C268
114	2203-005052	ALL1005_CAP	2	C3R3C,3.3PF,50V	C206 C218
115	2203-005056	ALL1005_CAP	2	C6R8C,6.8PF,50V	C254 C261
116	2203-005061	ALL1005_CAP	48	C104Z,100NF,16V	522 C101 C110 C154
					C170 C228 C234
					C237 C250 C302
					C342 C347 C400
					C402 C405 C407
					C410 C411 C414
					C415 C416 C418
					C419 C425 C426
					C430 C431 C432
					C433 C439 C441
					C444 C455 C506
					C507 C523 C524
					C525 C526 C531
					C533 C534 C554
					C562 C564 C566
					C567 C569
117	2203-005065	SR1608_CAP	3	C105Z,1UF,10V	C429 C501 C530
118	2203-005171	SR2012_CAP	5	C105K,1UF16V	C516 C518 C520
					C521 C527
119	2203-005383	ALL1005_CAP	1	C070B,7PF,50V	C257
120	2203-005480	ALL1005_CAP	4	C333K,33NF,10V	C232 C244 C259
					C274
121	2203-005483	ALL1005_CAP	2	C683K,68NF,10V	C422 C514
122	2203-005509	ALL1005_CAP	1	C334Z,330NF,10V	C350
123	2404-001017	R2012_TAN_N	1	1UF/10V	C447
124	2404-001020	R3216_TAN	2	10UF/10V	C557 C558
125	2404-001086	R2012_TAN_N	13	4.7UF/6.3V	C106 C107 C114
					C136 C172 C338
					C502 C512 C513
					C515 C517 C519
					C563
126	2404-001092	R2012_TAN_N	1	220NF/20V	C313
127	2404-001105	R2012_TAN_N	4	10UF/6.3V	C442 C500 C532
					C560
128	2404-001151	tantaL_test20_v2	4	33UF/6.3V	C354 C511 C529
					C561
129	2703-000222	SR2012_IND	1	LK2125R56K-T	L200
130	2703-001043	SR2012_IND	1	0805CS-180XKBC	L227
131	2703-001126	SR2012_IND	2	0805CS-271XJBC	L204 L207

132	2703-001180	ALL1005_IND	1	LL1005-F15NJ	L202
133	2703-001222	SR1608_IND	1	MLF1608DR15KT	L230
134	2703-001293	SR1608_IND	1	HK1608-82NJ-T	L113
135	2703-001408	ALL1005_IND	1	LL1005-F8N2K	L117
136	2703-001409	ALL1005_IND	1	LL1005-F12NK	L100
137	2703-001543	SR1608_IND	2	0603CS-33NXJBC	L105 L107
138	2703-001544	SR1608_IND	2	0603CS-39NXJBC	L221 L229
139	2703-001545	SR1608_IND	1	0603CS-47NXJBC	L228
140	2703-001595	ALL1005_IND	2	HK1005-47NJ-T	L216 L225
141	2703-001693	SR2012_IND	1	0805CS-331XKBC	L231
142	2703-001694	SR2012_IND	1	0805CS-391XKBC	L210
143	2703-001701	ALL1005_IND	1	HK1005-6N8K-T	L218
144	2703-001724	ALL1005_IND	3	LL1005-FH1N2S	L108 L220 L301
145	2703-001729	ALL1005_IND	1	LL1005-FH1N8S	L110
146	2703-001730	ALL1005_IND	1	LL1005-FH15NJ	L217
147	2703-001735	ALL1005_IND	1	HK1005-3N9K-T	L219
148	2703-001748	ALL1005_IND	3	LL1005-FH5N6S	L102 L201 L209
149	2703-001750	ALL1005_IND	1	LL1005-FH2N2S	L312
150	2703-001798	ALL1005_IND	1	HK1005-2N2S	L215
151	2703-001880	SR1608_IND	1	LL1608-FSR18J	L224
152	2703-001907	SR1608_IND	1	0603CS-27NXGBC	L109
153	2703-001943	ALL1005_IND	1	HK1005-10NJ-T	L115
154	2703-001949	ALL1005_IND	1	HK1005-4N7K-T	L106
155	2703-001954	ALL1005_IND	2	HK1005-2N7S-T	L321 U504
156	2703-002188	SR1608_IND	1	0603CS-30NXGBC	L226
157	2801-003856	sm_osc4_w620h085	1	MC-146(32.768KHz,20ppm)	OSC400
158	2809-001230	sm_osc4_w508h450	1	KT16-DCV30L-19.680M-T	X302
159	2904-001171	sm_filt_6_f6ce_1	1	D836LH	F100
160	2904-001173	sm_filt_6_f6ce_1	1	D881LH	F203
161	2904-001213	sm_filt_6_f6ce_1	1	B4135	F204
162	2904-001214	sm_filt_6_f6ce_1	1	B4138	F104
163	2904-001266	sm_filt_10_w700h500_A	1	B4929	F205
164	2909-001119	DFY0836-A	1	DFY0836H0881F	F101
165	3301-001105	R1608_MLF	1	BLM11A102SPT	L214
166	3301-001208	R1608_MLF	5	BLM11P600SPT	L310 L311 L501
					L504 L507
167	3301-001342	ALL1005_IND	3	ACZ1005M-152-T	L302 L303 L308
168	3710-001634	sm_con24_IFCON_3_v2	1	1000-0024-301	CN502
169	3722-001456	sm_earjack3_A_N_v3	1	EPJ1-5-A-D1	CN500
170	4709-001216	SLF-080ML	1	SLF-080ML	F102
171	915-rfopen1005	ALL1005_CAP	14	NC	C103 C118 C130
					C152 C156 C216
					C227 C235 C263
					C270 C272 C280
					C281 C330
172	IND-open1005	ALL1005_IND	1	NC	L104
173	IND-open2012	SR2012_IND	1	NC	L205
174	RES-open1005	ALL1005_RES	1	NC	R105
175	TESTPOINT-39	TP39	8	TP	RX TCK TDI TDO
					TMODE TMS TRST TX
176	TESTPOINT-59	TP59	11	TP	DP_RX_DATA
					DP_TX_DATA F_WE
					GND HP_PWR TCK_1
					TDI_1 TDO_1 TMS_1
					TRST_N1 VBATT
177	TESTPOINT-p79h47	testpoint_79h47	2	TP	TP1 TP2
178	khf-0.05-3216	R3216_RES	1	0.05,1%	R533
179	khf-B48589	sm_filt_10_w915h480	1	B4858	F202
180	khf-CL-195TY	SR1608_LED	1	CL-195TY	LED508

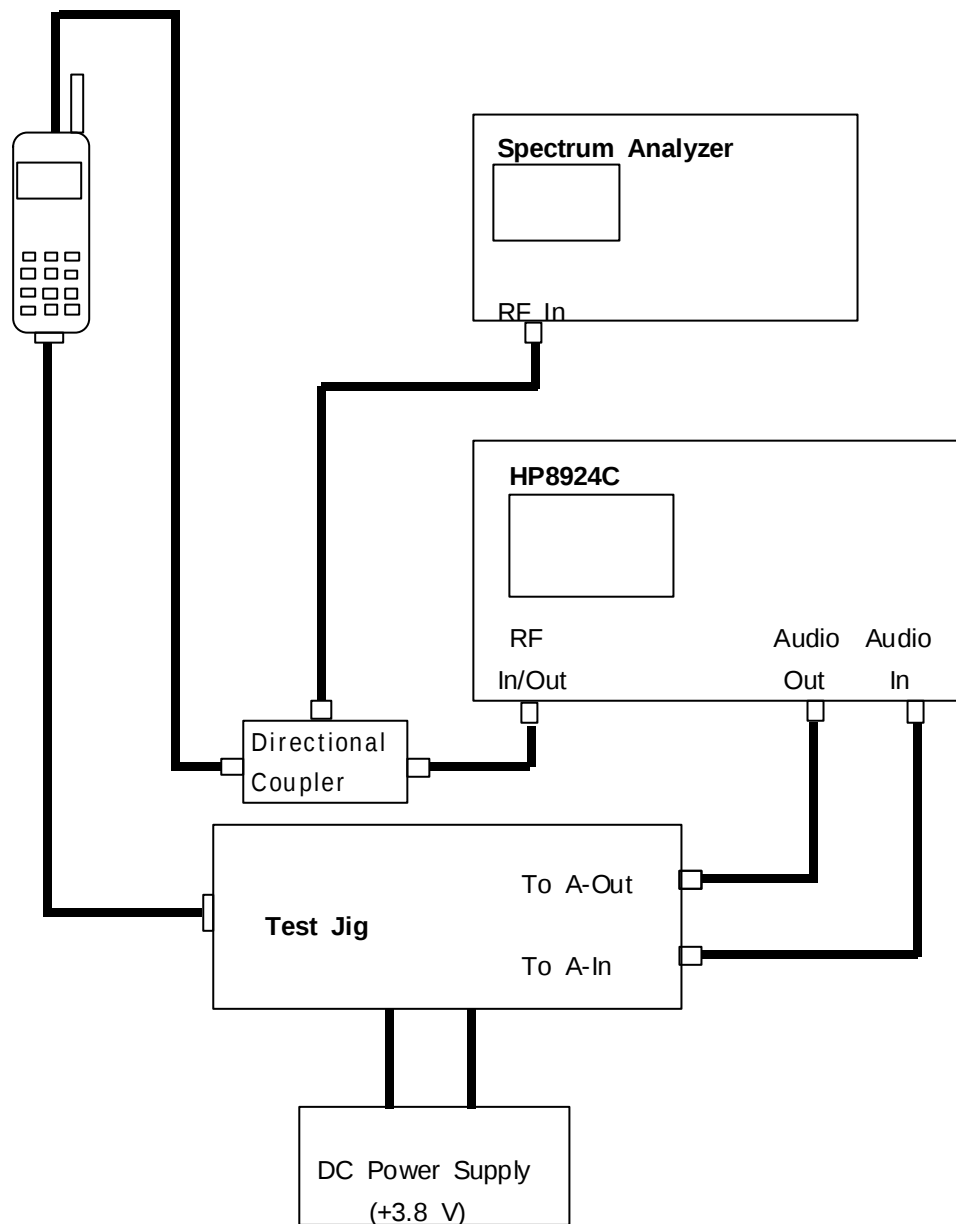
181	khf-LMX2331LSLBX	qfp24_w350h450_L_v4	1	LMX2331LSLBX	U300
182	khf-TP0205AD	Csop6_w190	1	TP0205AD	Q106
183	khf-TWL2213	Cqfp48_w840h840_L06_2_v2	1	TWL2213	U500
184	khf-UCVA2X603A	sm_osc8_w780h580	1	UCVA2X603A	OSC301
185	khf-open1005_IND	ALL1005_IND	2	NC	L112 L213
186	khf-open1608	SR1608_IND	1	NC	L211
187	rf-470NH-2012	SR2012_IND	2	0805CD471KTT	L206 L212
188	rf-ANTCON	dcon_pin3_w210h105	1	ANTCON	ANT
189	rf-B4943	sm_filt_10_w1140h530	1	B4943	F200
190	rf-DDDOM4_9x3.7	pad5_9x2_0_v3	2	KEYPAD	DOWN UP
191	rf-IFP-DUP-USPCSR	USPCS-1_v2	1	IFP-DUP-USPCSR	F103
192	rf-KEY-SLC	pad6_2h2_6_SLC	17	KEY-SLC	CLEAR CONFIRM K0
					K1 K2 K3 K4 K5 K6
					K7 K8 K9 K_SHAP
					K_STAR MENU
					PWR_END TALK
193	rf-MB_CON	sm_MBCON4	1	MB_CON	MOTOR2
194	rf-MHC-188	sm_switch4_w500h500_v2	1	MHC-188	CON100
195	rf-MIC-FPCB	sm_mic4_fpcb	1	MIC-FPCB	MIC400
196	rf-RF2460	sm_MLF20_w400h400_0_v2	1	RF2460	U202
197	rf-SLF-090ME-S	sm_filt_6_slf_1	1	SLF-090ME-S	F301
198	rf-SPKHA-13	sm_spk2_STHN270_v2	1	SPKHA-13	SPK
199	rf-UG-12B93-FLHTX-A	sm_lcd38_FLHTXA	1	UG-12B93-FLHTX-A	CN501
200	rf-open1005	ALL1005_RES	4	NC	C215 R447 R448
					R541

5. TUNE-UP PROCEDURE TEST PROCEDURE

List of Equipment

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

Configuration of Test



Change to Test Mode

A. To change the phone from Normal Mode to test Mode, You should enter the following keys.

"4 7 * 8 6 9 # 1 2 3 5"

B. The command '0 1'(Suspend) is entered to start test.

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

Channel Selection and Tx Power Output level Control

1. AMPS

A. You should change the phone from Normal Mode to AMPS Test mode

" 0 1 , 2 1 1 0 0 0 1 , 0 2 " ; AMPS System B

1 0 0 0 0 ; AMPS System A

B. The command '0 1'(Suspend) is entered to start test.

C. You should enter the following keys.

" 0 9 X X X X #, 0 7, 7 2 X X X "

- If you enter the command "0 9", You can select the channel

ex) 0 9 0 3 8 3 (under-bar means channel number)

- The command "0 7" means Carrier On (Carrier Off : '0 8')

- If you enter the command "7 2", You can control the power output level.

Following under-bar means AGC code. And you can control the power output level using [SEND] or [END] key.

ex) 7 2 3 0 0

D. After enter the command "9 7" and control the Tx Power Output Level to be each power level step using [SEND] or [END] key , press "OK" key to store Data in EEPROM.

LEVEL	LCD Display	TX OUPUT POWER	STORE
2	TXpwr[02]	+26dBm +2 /-4dB	OK
3	TXpwr[03]	+24dBm +2 /-4dB	OK
4	TXpwr[04]	+20dBm +2 /-4dB	OK
5	TXpwr[05]	+16dBm +2 /-4dB	OK
6	TXpwr[06]	+12dBm +2 /-4dB	OK
7	TXpwr[07]	+ 8dBm +2 /-4dB	OK

2. CDMA

A. You should change the phone from Normal Mode to PCS Test mode

" 0 1 , 2 1 2 0 3 6 3 , 0 2 "

B. The command "0 1"(Suspend) is entered to start test.

C. You should enter the following keys.

" 0 9 X X X X #, 0 7, 3 4, 7 1 X X X # "

- If you enter the command "0 9", You can select the channel

ex) 0 9 0 3 6 3 (under-bar means channel number)

- The command "0 7 "means Carrier On (Carrier Off : "0 8 ")

- If you enter the command "3 4", You can spread the carrier.

- If you enter the command "7 1", You can control the power output level.

Following under-bar means AGC code. And you can control the power output level using [SEND] or [END] Keys.

ex) 7 1 3 0 0

D. After enter the command "9 2" and control the Tx Power Output Level to be each power level step (TX RAS) using [SEND] or [END] key , press "OK" key to store Data in EEPROM.

3. PCS

A. You should change the phone from Normal Mode to PCS Test mode

" 0 1 , 2 1 3 0 6 0 0 , 0 2 "

B. The command "0 1"(Suspend) is entered to start test.

C. You should enter the following keys.

" 0 9 X X X X #, 0 7, 3 4, 7 1 X X X # "

- If you enter the command "0 9", You can select the channel

ex) 0 9 0 6 0 0 (under-bar means channel number)

- The command "0 7 "means Carrier On (Carrier Off : "0 8 ")

- If you enter the command "3 4", You can spread the carrier.

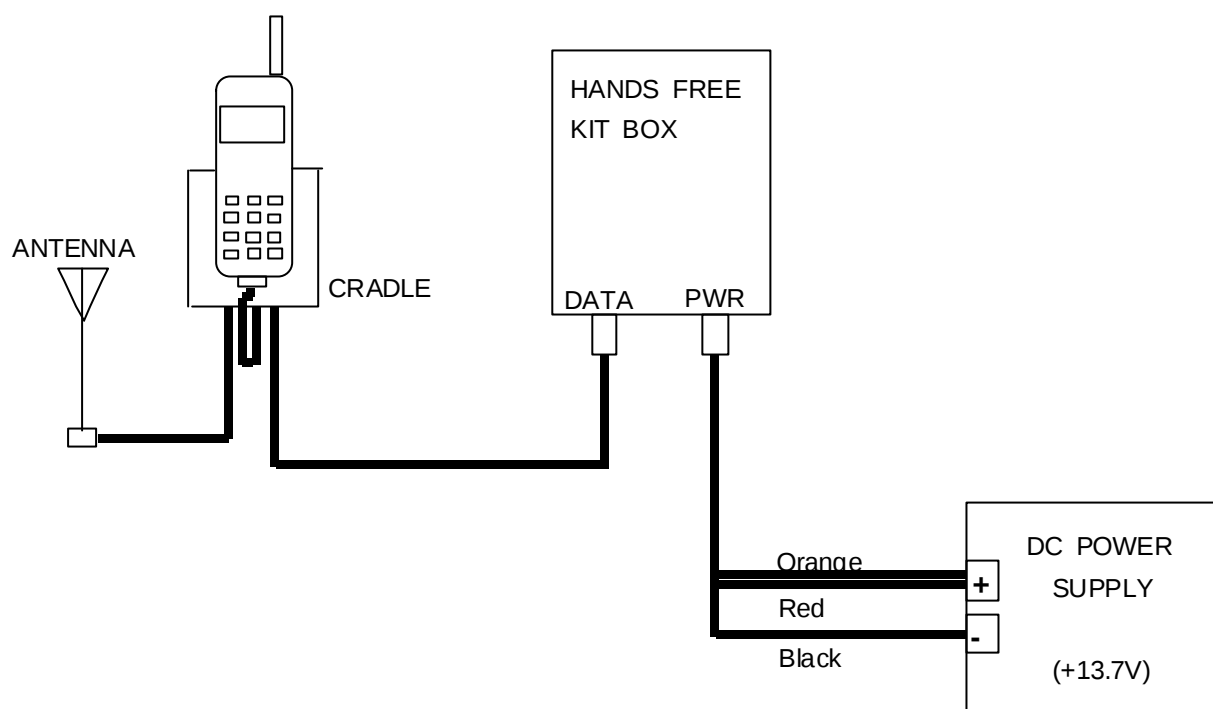
- If you enter the command "7 1", You can control the power output level.

Following under-bar means AGC code. And you can control the power output level using [SEND] or [END] Keys.

ex) 7 1 3 0 0

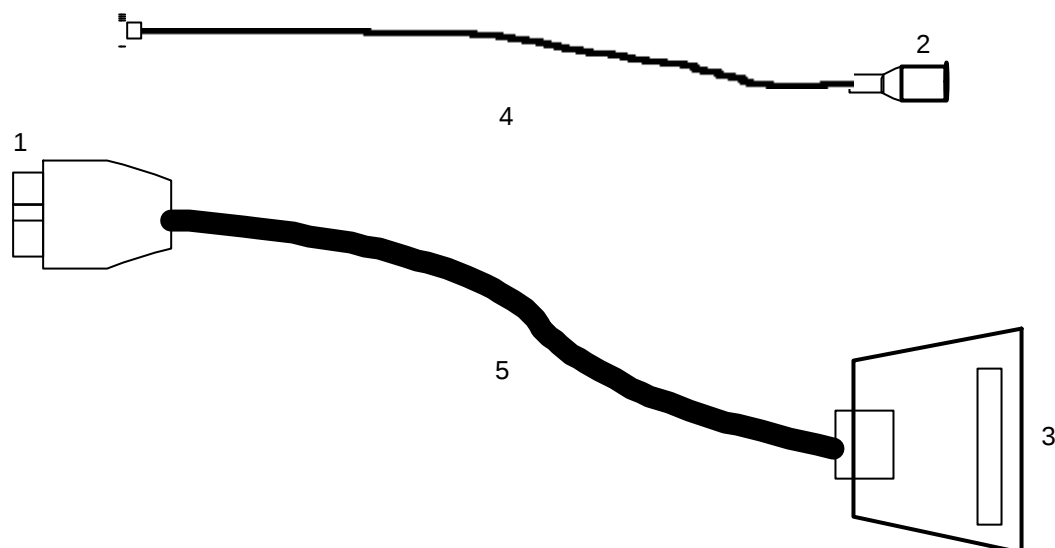
D. After enter the command "9 0" and control the Tx Power Output Level to be each power level step (TX RAS) using [SEND] or [END] key , press "OK" key to store Data in EEPROM.

Configuration of Test (Hands-Free)



TEST CABLE DESCRIPTION FOR SPH-N170

1. TEST CABLE

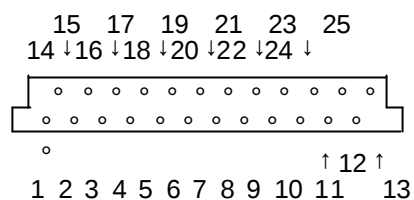


2. TEST CABLE CONNECTIONS

1	PLUG CONNECT TO SPH-N170
2	BNC CONNECTOR (RF)
3	Dsub 25PIN CONNECTOR (DATA)
4	RF CABLE
5	DATA CABLE

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

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



4. CONVERSION TABLE OF FREQUENCY vs CHANNEL

- CDMA, AMPS

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

- PCS

T Y P E	CHANNEL	CONVERSION EQUATION	REMARK
TX FREQUENCY	$1 \leq N \leq 1175$	$F = 0.05 \times N + 1850$	N ; CH NUMBER F ; FREQUENCY
RX FREQUENCY	$1 \leq N \leq 1175$	$F = 0.05 \times N + 1930$	

TEST PROCEDURE

1. AMPS MODE

TEST ITEM	STEP	PROCEDURE
1. PREPARE	a	Connect the test equipment
	b	Enter the test mode: press [4 7 * 8 6 9 # 1 2 3 5] Select AMPS mode: Press in test mode [2 1 1 0 0 0 1] ; System B 1 0 0 0 0 ; System A
	c	If you press a wrong key, press [#] key and then enter new command.
	d	To exit the test mode at any time : press [0 2]
2. RF POWER	a	Set the channel 383 : Press [0 9 0 3 8 3 #] (Ch number must be 4 digits)
	b	Turn the carrier on, and set the power level 2 : press [0 1, 0 7, 1 0 2 #]
	c	Measure the RF Power Output : + 26 dBm +2/ -4 dB Note 1 : In case of using the antenna cable, must compensate for the cable loss(ex : 1.5dB). Note 2 : To prevent from damaging the hhp, must measure by calibrated test equipment. Warning ! Adjustments without calibrated equipment can result in excessive heat and will void the warranty.
	d	Power level control mode is [1 0 X] Adjust power level by using [SEND] or [END]key, and store. : press [9 7]
	e	Then measure the power output for each level by pressing [OK] or [▲] at every step .
	f	Then turn carrier off : press [0 8]
3. TX FREQUENCY	a	Set the channel 383 : press [0 9 0 3 8 3 #]
	b	Turn the carrier on : press [0 1, 0 7]
	c	Measure the tx frequency : 836.490MHz $\pm$ 2.5ppm ($\pm$ 2090Hz)
	d	Turn the carrier off : press [0 8]

TEST ITEM	STEP	PROCEDURE
4. VOICE DEVIATION	a	Set the channel 383 : [0 9 0 3 8 3 #]
	b	Send the RF power, and set TX audio unmute :press [0 1, 0 7, 4 6, 1 4]
	c	Set the power level 2 :press [1 0 2 #]
	d	Set the audio generator output to 1kHz, 3.0Vrms Measure the TX voice deviation by using the HPF of 20Hz and the LPF of 99kHz. (spec : $\pm 12\text{kHz}$ less)
	e	To adjust the peak deviation, () Press [6 3] and use the [SEND] or [END] key () Store the peak deviation : press [OK]
	f	Set the audio generator output to 1kHz, 100mVrms.
	g	Measure the TX voice deviation by using the HPF of 50Hz and the LPF of 15kHz. (spec : $\pm 2.9\text{ kHz } \pm 10\%$)
	h	To adjust the compressor off deviation : press [45], and use [SEND] or [END] key. (spec : $\pm 2.9\text{ kHz } \pm 0.2\text{ kHz}$)
	i	Store the compressor off deviation : press [OK]
	j	To adjust the compressor on deviation : press [44], and use [SEND] or [END] key. (spec ; $\pm 2.9\text{ kHz } \pm 0.2\text{ kHz}$)
	k	Store the compressor on deviation : press [OK]
	l	Turn the carrier off, and TX mute : [0 8, 1 3]
5. ST DEVIATION	a	Set the channel 383 : press [0 9 0 3 8 3 #]
	b	Turn the carrier on, and set the power level 2 : press [0 1, 0 7, 1 0 2 #]
	c	Set ST : press [4 6, 1 6]
	d	Measure the TX ST deviation by using the HPF of 20Hz and the LPF of 15kHz. (spec : $\pm 8\text{ kHz } 10\%$)
	e	To adjust the deviation ; press [66], and use [SEND] or [END] key.
	f	Store the deviation code in EEPROM : press [OK]
	g	Turn the ST and the carrier off : press [1 7, 0 8]

TEST ITEM	STEP	PROCEDURE
6. SAT DEVIATION	a	Set the channel 383 : [0 9 0 3 8 3 #]
	b	Turn the carrier on, and set the power level 2 : press [0 1, 0 7, 1 0 2 #]
	c	Set the Voice State and SAT on : press [4 6, 3 2 1 #]
	d	Measure the TX SAT deviation by using the HPF of 20 Hz and the BPF of 6 kHz. (spec : $\pm 2\text{kHz}$ $\pm 10\%$)
	e	To adjust the deviation within specification : press [64], and use [SEND] or [END] key.
	f	Store the deviation code in EEPROM: press [OK]
	g	Turn the SAT and the carrier off : press [3 3, 0 8]
7. WBD DEVIATION	a	Set the channel and carrier on press : [0 1, 0 9 0 3 8 3 #, 0 7, 1 0 2 #, 4 6]
	b	WBD on : [3 4]
	c	Measure the WBD deviation by using the HPF of 20 Hz and the LPF of 99 kHz. (spec : $\pm 8\text{ kHz}$ $\pm 10\%$)
	d	To adjust the WBD deviation : press [6 5], and use [SEND] or [END] key.
	e	Store the deviation code in EEPROM : press [OK]
	f	Turn the carrier off : press [0 8]
8. R,TX AUDIO	a	Set the Suspend State : press [0 1]
	b	Set the R,TX audio Gain : press [9 9]
	c	Use [SEND] or [END] key.
	d	Store on audio level :press [OK]
	e	Finish the test and exit test mode : press [0 2]

2. CDMA MODE

TEST ITEM	STEP	PROCEDURE
1. PREPARE	a b c d	Connect the test equipment Enter the test mode: press [4 7 * 8 6 9 # 1 2 3 5] Select AMPS mode: Press in test mode [2 1 2 0 3 6 3] If you press a wrong key, press [#] key and then enter new command. To exit the test mode at any time : press [0 2]
2. FREQUENCY ACCURACY	a b c d e	Set the channel 363 : press [0 9 0 3 6 3] Turn the carrier on and set the power level. : press [0 7, 7 1 X X X] Measure the frequency accuracy (spec: $\pm 300\text{Hz}$) To adjust the Frequency Accuracy : press [8 9] and use [SEND] or [END] key. Store the Frequency Accuracy in EEPROM: Press [OK]
3. OCCUPIED CDMA BAND WIDTH	a b c	Set the channel 363 : press [0 9 0 3 6 3] Turn the carrier on and set the power level. : press [0 7, 3 4, 7 1 X X X] Measure the Band Width. (spec: 1.23MHz)
4. LIMITATIONS ON EMISSIONS	a b c	Set the channel 363 : press [0 9 0 3 6 3] Turn the carrier on and set the power level. : press [0 7, 3 4, 7 1 X X X] 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 $43+10\log$ (PY) PY: Mean output power in watts
5. GATED POWER & TIME	a b c d e	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 7us Falling Time: below 7us Burst Time: below 1.247ms

3. PCS MODE

TEST ITEM	STEP	PROCEDURE
1. PREPARE	a b c d	Connect the test equipment Enter the test mode: press [4 7 * 8 6 9 # 1 2 3 5] Select AMPS mode: Press in test mode [2 1 3 0 6 0 0] If you press a wrong key, press [#] key and then enter new command. To exit the test mode at any time : press [0 2]
2. OCCUPIED CDMA BAND WIDTH	a b c	Set the channel 600 : press [0 9 0 6 0 0] Turn the carrier on and set the power level. : press [0 7, 3 4, 7 1 X X X] Measure the Band Width. (spec: 1.23MHz)
3. LIMITATIONS ON EMISSIONS	a b c	Set the channel 600 : press [0 9 0 6 0 0] Turn the carrier on and set the power level. : press [0 7, 3 4, 7 1 X X X] 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 $43+10\log(PY)$ PY: Mean output power in watts
4. GATED POWER & TIME	a b c d e	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 7us Falling Time: below 7us Burst Time: below 1.247ms