

ATTACHMENT L – PARTS LIST / TUNE UP PROCEDURE

1. KEYPAD BOARD

No	Descriptions	COUNT	Part Number	Part Name
1	Diode	4	SMF05.TB	Z301 Z302 Z303 Z304
2	Transistor	1	MMBT2222AWT1	Q330
3	Transistor	1	2SA1579-R	Q310
4	Transistor	2	DTA144EE/TR	Q320 Q340
5	1608 size LED	6	CL-190YG-CD-T	LED1 LED2 LED3 LED4 LED5 LED6
6	1608 size LED	1	SML-310LT-T86	LED100
7	Gate	1	TC7S08FUTE85L	U320
8	EL Driver	1	D361A	U310
9	Reed Switch	1	A3210ELH	U330
10	Resistor(1005 size)	5	100,5%	R316 R332 R333 R334 R361
11	Resistor(1005 size)	1	2.2K,5%	R339
12	Resistor(1005 size)	1	15K,5%	R336
13	Resistor(1005 size)	8	100K,5%	R310 R311 R312 R313 R314 R315 R322 R331
14	Resistor(1005 size)	1	300K,5%	R321
15	Resistor(1005 size)	1	1M,5%	R325
16	Resistor(1005 size)	2	10,5%	R328 R329
17	Resistor(1005 size)	2	33,5%	R337 R338
18	Resistor(1005 size)	4	0,5%	R324 R355 R356 R359
19	Capacitor(1005 size)	1	C103K,10NF,16V	C322
20	Capacitor(1005 size)	1	C682K,6.8NF,25V	C340
21	Capacitor(1608 size)	4	C104Z,100NF,16V	C321 C338 C361 C362
22	Capacitor(1608 size)	4	C105Z,1UF,10V	C324 C325 C334 C335
23	Tantal(2012 size)	6	1UF/16V	C326 C327 C328 C333 C336 C337
24	Tantal(3518 size)	1	33UF/6.3V	C339
25	Inductor(1608 size)	1	W7786-A	L310
26	Switch(navigation)	1	HXW0768-010011	SW1
27	SIDE_key	1	MM9329-2700TB1	SIDE_KEY
28	Connector	1	AXK6F40535J	CN300
29	Earjack	1	EPJ1-5-A-D1	EAR1
30	Resistor(1005 size)	7	NC	R317 R323 R330 R353 R354 R357 R358
31	keypad4.0	16	keypad	0 1 2 3 4 5 6 7 8 9 CLR MENU POUND PWR/END SEND STAR
32	Testpoint	2	TP	MIC MIC+
33	WEB key	1	LS8	WEB
34	Speaker point	1	SDRH-1526L-032	SPK1
35	LCD	1	UG-12D-004X-DX	U300

2. MAIN BOARD

No	Descriptions	COUNT	Part Number	Part Name
1	Diode	1	1SS315(TPH3)	D560
2	Diode	4	1SV279-TPH3	D527 D528 D681 D682
3	Diode	1	SMF05.TB	ZD295
4	Diode	1	DAN202UT106	D110
5	Diode	1	UMN1	D200
6	Diode	1	RN731V	D629
7	Diode	2	BAR63-02W-E6327	D631 D683
8	Diode	2	HSMP-389F-TR	D657 D659
9	Transistor	3	2SA1576FRT106	Q101 Q560 Q595
10	Transistor	1	2SC4081BRT106	Q628
11	Transistor	1	MMBT2907A	Q110
12	Transistor	2	MMBT2222AWT1	Q120 Q130
13	Transistor	1	BFP540	Q601
14	Transistor	3	DTC114EE/TR	Q111 Q210 Q711
15	Transistor	3	DTC144EE/TR	Q221 Q510 Q565
16	Transistor	1	DTA144EE/TR	Q260
17	Transistor	1	SI6943DQ	U740
18	Transistor	1	SI3443DV-T1	Q220
19	Regulator	1	FDC6329L	U261
20	Transistor	4	UMC5NTL	Q100 Q250 U530 U550
21	Gate	1	TC7S08FUTE85L	U680
22	Gate	2	TC7S32FU	U142 U580
23	Gate	2	TC7S04FU(TE85L)	U140 U141
24	EEPROM	1	X84256BI-2.5	U131
25	MEMORY	1	KM616U4110CLZI-7L	U120
26	OP AMP	2	LMC7101ATM5	U560 U590
27	Power AMP	1	RM912	U540
28	LNA(CDMA/AMPS)	1	RF2361TR13	U630
29	OP AMP	1	TC75W56FU-TE12L	U170
30	Regulator	2	MIC5205-3.0BM5/TR	U251 U270
31	Reset IC	1	MAX809REUR-T	U221
32	Regulator	1	ILC7082AIM5-30	U260
33	Regulator	1	TPS76928DBVR	U220
34	Regulator	1	TPS76930DBVR	U250
35	IFR3000	1	IFR3000-48TQFP-MT	U600
36	RFT3100	1	RFT3100-32BCCPF-MT	U500
37	Down Converter	1	RF2466TR13	U640
38	MSM3100	1	MSM3100-208FBGA	U100
39	Thermistor	1	NTH5G1M33B103J04TH	TH581
40	Resistor(1005 size)	13	100,5%	R281 R282 R283 R284 R285 R286 R287 R289 R292 R643 R678 R705 R708
41	Resistor(1005 size)	13	1K,5%	L648 R125 R126 R132 R133 R184 R185 R186 R206 R211 R228 R270 R533
42	Resistor(1005 size)	4	2.2K,5%	R161 R163 R212 R274
43	Resistor(1005 size)	1	4.7K,5%	R124
44	Resistor(1005 size)	1	6.2K,5%	R558
45	Resistor(1005 size)	1	8.2K,5%	R105
46	Resistor(1005 size)	13	10K,5%	R101 R127 R128 R151 R153 R162 R201 R223 R271 R272 R512 R681 R682
47	Resistor(1005 size)	1	12K,5%	R510
48	Resistor(1005 size)	2	22K,5%	R561 R601
49	Resistor(1005 size)	1	27K,5%	R221
50	Resistor(1005 size)	1	30K,5%	R164
51	Resistor(1005 size)	2	47K,5%	R231 R675
52	Resistor(1005 size)	1	56K,5%	R273
53	Resistor(1005 size)	2	68K,5%	R509 R567
54	Resistor(1005 size)	12	100K,5%	R145 R171 R174

				R175 R202 R203 R207 R208 R222 R226 R564 R711
55	Resistor(1005 size)	1	150K,5%	R566
56	Resistor(1005 size)	2	470K,5%	R232 R673
57	Resistor(1005 size)	1	510K,5%	R152
58	Resistor(1005 size)	3	10,5%	R505 R689 R690
59	Resistor(1005 size)	1	1.5K,5%	R698
60	Resistor(1005 size)	1	470,5%	R290
61	Resistor(1005 size)	1	750,5%	R557
62	Resistor(1005 size)	1	51,5%	R519
63	Resistor(1005 size)	1	120,5%	R602
64	Resistor(1005 size)	1	820,5%	R628
65	Resistor(1005 size)	1	1.2K,5%	R131
66	Resistor(1005 size)	1	18K,5%	R122
67	Resistor(1005 size)	2	180K,5%	R150 R154
68	Resistor(1005 size)	2	510,5%	R111 R172
69	Resistor(1005 size)	1	15,5%	R603
70	Resistor(1005 size)	1	20,5%	C606
71	Resistor(1005 size)	1	3.9K,5%	R699
72	Resistor(1005 size)	1	51K,5%	R565
73	Resistor(1005 size)	1	390,5%	R633
74	Resistor(1005 size)	4	100K,1%	R103 R560 R592 R594
75	Resistor(1005 size)	1	15K,1%	R590
76	Resistor(1005 size)	2	4.7K,1%	R582 R596
77	Resistor(1005 size)	1	1.2K,1%	R296
78	Resistor(1005 size)	1	47K,1%	R297
79	Resistor(1005 size)	2	10K,1%	R529 R530
80	Resistor(1005 size)	2	100,1%	R121 R595
81	Resistor(1005 size)	1	33K,1%	R581
82	Resistor(1005 size)	1	12K,1%	R511
83	Resistor(1005 size)	1	20K,1%	R591
84	Resistor(1005 size)	1	2.2K,1%	R559
85	Resistor(1005 size)	1	200K,1%	R593
86	Resistor(1005 size)	1	91K,1%	R102
87	Resistor(1005 size)	4	1.8K,1%	R524 R660 R661 R683
88	Resistor(1005 size)	1	82K,1%	R597
89	Resistor(1005 size)	47	0,5%	L550 L570 L571 L575 L576 R104 R107 R108 R109 R113 R119 R120 R123 R134 R155 R156 R165 R173 R178 R180 R189 R253 R256 R262 R265 R277 R502 R503 R517 R518 R521 R523 R525 R538 R547 R631 R646 R667 R676 R677 R687 R694 R706 R709 R712 R724 R726
90	Resistor(1005 size)	1	9.1K,1%	R295
91	Capacitor(1005 size)	32	C101J,100PF,50V	C143 C281 C283 C284 C286 C287 C288 C290 C502 C508 C514 C519 C543 C548 C549 C553 C559 C563 C565 C573 C579 C591 C592 C634 C638 C642 C678 C691 C692 C693 C724 C736
92	Capacitor(1005 size)	1	C101J,100PF,50V	C604
93	Capacitor(1005 size)	37	C103K,10NF,16V	C100 C102 C104 C106 C108 C110 C112 C114 C116 C118 C120 C122 C124 C132 C134

				C146 C292 C297 C522 C581 C622 C623 C633 C636 C637 C640 C660 C661 C663 C667 C668 C670 C674 C688 C689 C690 C725
94	Capacitor(1005 size)	1	C103K,10NF,16V	C603
95	Capacitor(1005 size)	1	C100D,10PF,50V	C631
96	Capacitor(1005 size)	2	C151J,150PF,50V	C540 C555
97	Capacitor(1005 size)	4	C150J,15PF,50V	C609 C629 C682 C685
98	Capacitor(1005 size)	2	C180J,18PF,50V	C624 C625
99	Capacitor(1005 size)	35	C102K,1NF,50V	C271 C275 C504 C509 C518 C521 C526 C535 C536 C558 C568 C580 C610 C628 C650 C654 C655 C664 C669 C671 C675 C679 C680 C681 C683 C684 C695 C702 C704 C711 C712 C730 C731 C732 L557
100	Capacitor(1005 size)	5	C010C,1PF,50V	C621 C703 C729 L533 L572
101	Capacitor(1005 size)	4	C222K,2.2NF,50V	C172 C291 C294 C686
102	Capacitor(1005 size)	1	C221K,220PF,50V	C697
103	Capacitor(1005 size)	2	C220J,22PF,50V	C533 C728
104	Capacitor(1005 size)	2	C270J,27PF,50V	C141 C142
105	Capacitor(1005 size)	1	C020C,2PF,50V	C705
106	Capacitor(1005 size)	3	C330J,33PF,50V	C277 C278 C279
107	Capacitor(1005 size)	4	C391K,390PF,50V	C510 C511 C515 C516
108	Capacitor(1005 size)	6	C390J,39PF,50V	C545 C546 C557 C708 C709 C710
109	Capacitor(1005 size)	2	C030C,3PF,50V	C639 C727
110	Capacitor(1005 size)	1	C472K,4.7NF,25V	C125
111	Capacitor(1005 size)	5	C471K,470PF,50V	C266 C282 C285 C289 C627
112	Capacitor(1005 size)	6	C470J,47PF,50V	C507 C530 C531 C560 C577 C583
113	Capacitor(1005 size)	2	C040C,4PF,50V	C648 C649
114	Capacitor(1005 size)	1	C562K,5.6NF,25V	C133
115	Capacitor(1005 size)	1	C560J,56PF,50V	C523
116	Capacitor(1005 size)	1	C060D,6PF,50V	C537
117	Capacitor(1005 size)	2	C820J,82PF,50V	C527 C529
118	Capacitor(1005 size)	2	C080D,8PF,50V	C528 C733
119	Capacitor(1005 size)	1	C0R5C,0.5PF,50V	C626
120	Capacitor(1608 size)	2	C123K,12NF,50V	C153 C154
121	Capacitor(1005 size)	8	C223Z,22NF,25V	C160 C162 C163 C164 C582 C630 C632 C677
122	Capacitor(1005 size)	1	C300J,30PF,50V	C544
123	Capacitor(1005 size)	1	C473K,47NF,16V	C561
124	Capacitor(2012 size)	1	C255Z,2.2UF,16V	C272
125	Capacitor(2012 size)	1	C474K,470NF,16V	C541
126	Capacitor(1005 size)	1	C561K,560PF,50V	C273
127	Capacitor(1005 size)	1	C6R8C,6.8PF,50V	C607
128	Capacitor(1005 size)	48	C104Z,100NF,16V	C101 C103 C105 C107 C109 C111 C113 C115 C117 C119 C126 C128 C135 C145 C151 C152 C155 C156 C166 C167 C168 C171 C202 C203 C205 C208 C221 C231 C254 C255 C262 C270 C293

				C295 C296 C501 C513 C562 C564 C641 C656 C657 C658 C659 C665 C694 C698 C734
129	Capacitor(1608 size)	5	C105Z,1UF,10V	C161 C211 C505 C525 C737
130	Capacitor(1608 size)	1	C104K,100NF,16V	C556
131	Capacitor(1005 size)	4	C050B,5PF,50V	C620 C646 C652 C653
132	Capacitor(1005 size)	1	C3R3B,3.3PF,50V	C719
133	Capacitor(1005 size)	1	C030B,3PF,50V	C547
134	Capacitor(1005 size)	3	C333K,33NF,10V	C608 C644 C645
135	Capacitor(1005 size)	1	C473K,47NF,10V	C566
136	Capacitor(1005 size)	1	C683K,68NF,10V	C121
137	Capacitor(2012 size)	4	C475K,4.7UF,16V	C232 C233 C542 C552
138	Tantal(2012 size)	1	1UF/10V	C699
139	Tantal(2012 size)	1	4.7UF/6.3V	C635
140	Tantal(2012 size)	14	10UF/6.3V	C251 C252 C256 C261 C263 C265 C267 C274 C276 C687 C700 C701 C713 C714
141	Tantal(3518 size)	1	33UF/6.3V	C165
142	Inductor(1608 size)	4	MLF1608A1R8KT	L656 L657 L658 L659
143	Inductor(1608 size)	1	LK1608-R56K-T	L693
144	Inductor(1608 size)	1	MLF1608DR15KT	L628
145	Inductor(1608 size)	1	CIL10J1R0KNCM	L680
146	Inductor(1005 size)	2	LL1005-F4N7K	L537 L601
147	Inductor(1608 size)	2	0603HS-27NTJBC	L519 L520
148	Inductor(1608 size)	1	0603CS-33NXJBC	L621
149	Inductor(1608 size)	1	0603CS-10NXJBC	L546
150	Inductor(1608 size)	2	0603HS-12NXJBC	L531 L583
151	Inductor(1005 size)	1	LL1005-FH22NJ	L641
152	Inductor(1608 size)	1	0603CS-22NXJBC	L683
153	Inductor(1005 size)	1	LL1005-FH8N2J	L646
154	Inductor(1608 size)	2	0603CS-R27XJBC	L649 L652
155	Inductor(1608 size)	3	LQW1608AR18G00T1	L643 L681 L682
156	Inductor(1005 size)	1	LQG10A10NJ00	C571
157	Inductor(1608 size)	3	MLG1608BR10JT	L558 L603 L631
158	Inductor(1608 size)	2	CIL10J2R7K	L644 L645
159	Inductor(1608 size)	1	ELJRE12NJF2	L639
160	Inductor(1608 size)	2	ELJRE68NJF3	L689 L690
161	Inductor(1005 size)	2	LQG10A3N3S00	C532 C578
162	Inductor(1005 size)	1	LQG10A15NJ00	L640
163	Inductor(1005 size)	1	LQG10A3N9S00	L630
164	Inductor(1005 size)	1	LQG10A5N6S00	L688
165	Inductor(1005 size)	1	LQG10A5N6S00	L604
166	Inductor(1005 size)	2	MLK1005S4N7ST	L691 L692
167	Inductor(1608 size)	1	MLG1608B47NJT	L623
168	Inductor(1608 size)	1	MLG1608B27NJT, 27nH	L527
169	Inductor(1005 size)	1	LQG10A2N7S00	L629
170	Xtal Oscillator	1	MC-146(32.768KHz,20ppm)	OSC141
171	VC-TCXO	1	KT16-DCV30L-19.680M-T	U690
172	FM IF SAW Filter	1	SAFC85.380ME35X-TC11	F660
173	CDMA TX RF SAW Filter	1	D836LH	F540
174	CDMA RX RF SAW Filter	1	D881LH	F640
175	PCS IF SAW Filter	1	TMXL011	F630
176	PCS RX RF SAW Filter	1	B4135	F610
177	CDMA IF SAW FILTER	1	TMX-M300	F650
178	CDMA/AMPS Duplexer	1	DFY0836H0881F	F560
179	Buzer	1	TR-8030BT4S	BUZ110
180	Inductor(1608 size)	2	BLM11A102SPT	L636 L664
181	Inductor(2012 size)	2	BLM21P300SPT	L544 L551
182	Inductor(2012 size)	2	BLM21P221SG	L501 R501
183	Inductor(1005 size)	2	ACZ1005M-152-T	L210 L211
184	Antenna Connector	1	MHC-173	CN570
185	Bivrtator Connector	1	24-8005-502-100-867	CN5
186	Board to Board Connector	1	AXK5F40535P	CN100
187	Battery terminal	2	2000-9002-301	CN3 CN4
188	Antenna Contact point	1	SP-R916B	ANT570

189	PCS Isolator	1	SI-5R 1.880G	F520
190	CDMA Isolator	1	CE053R836DCB-TA2	F550
191	PCS Splitter	1	SLH-S170C	U710
192	CDMA Splitter	1	SLH-S100C	U720
193	Saparator	1	SLF-080ML	F570
194	PLL module	1	PO5252FC	U700
195	Resistor(1005 size)	29	NC	R106 R110 R112 R114 R115 R135 R136 R177 R181 R182 R183 R187 R190 R204 R224 R225 R227 R251 R255 R261 R288 R291 R546 R548 R639 R647 R674 R679 R725
196	Capacitor(1005 size)	26	NC	C123 C127 C129 C131 C180 C253 C257 C264 C503 C520 C524 C534 C538 C539 C550 C551 C570 C575 C576 C662 C672 C673 C676 C696 C717 C718
197	Capacitor(1608 size)	1	NC	C715
198	Capacitor(2012 size)	3	NC	C234 C572 C666
199	Antenna Contact point	1	SS-1809	ANT571
200	Test point	19	TP	D(0) EEPROM_CS GND LWR_N RAM_CS1_N RAM_CS2_N RD_N RESET ROM_CS1_N RY/_BY TCK TDI TDO TMODE TMS TP1 TP2 TRST_N V_MSMP
201	Test point	11	TP	T463 T464 T465 T466 T467 T468 T469 T470 T471 U555 U556
202	IF Connector	1	1010-0024-300	CN2
203	Transistor	1	2SK2035	Q564
204	Memory(32M)	1	AM29DL323D-UP	U110
205	PCS Down Converter	1	CMY212	U746
206	PCS Duplexer	1	DFX1880J1960P-2	F530
207	MEMORY	1	K6F2016U4D	U121
208	RF TX SAW Filter	1	LJ20C	F510
209	PCS Power AMP	1	CX77120	U520
210	RF Switch	2	SW-437	U510 U747
211	regulator	1	TPS76925DBVR	U230
212	J-tag contact point	1	TSM-107-02S-2DV	ICD 1
213	Inductor(1005 size)	5	NC	L532 L536 L549 L577 L578

NAM PROGRAMMING

NAM features can be programmed as follows:

LCD Display	Key in	Function
=====		
GENERAL		
=====		
	menu+6+0+'000000'	-to enter NAM programming.
ESN 11264 000000 [ok] [akey]	iç	-Electronic Serial Number of the phone is displayed -select OK , to view next status item.
ESN 11264 000000 [ok] [akey]	jæ	-select to enter AKEY setting mode.
Press [AKEY] to continue AKEY: [quit][akey]	jæ	-select to enter akey setting mode.
AKEY: [quit][akey]	AKEY number jæ	-to change, enter new one (20 digits Akey and 6 digits checksum) -store it.
=====		
BASIC NAM 1 PROGRAMMING		
=====		
NAM 1 Phone Number 1234567890 [ok]	Phone number iç	-Mobile Phone Number is displayed -to change, enter new one. -store it.
NAM 1 Home SID 0 [ok]	ID number iç	-CDMA,PCS Home System ID is displayed -to change, enter new one. -store it.
NAM 1 NAME Empty [ok]	Name iç	-NAM 1 NAME is displayed -to change, enter new name. -store it.
BASIC NAM 1 PROGRAMMING IS COMPLETE [EXIT] [MORE]	iç jæ	-select to exit Basic NAM1 Programming. -select to continue additional NAM1 Programming.

 ADDITIONAL NAM 1 PROGRAMMING

Service Sec. Code 000000 [ok]	6-digits Code iç	-NAM Programing Security Code is displayed. -to change enter new one. -store it.
NAM 1 MOBILE COUNTRY CODE 000 [ok]	3-digits Code iç	-MOBILE COUNTRY CODE is displayed -to change enter new one. -store it.
NAM 1 NMSID 000000004062 [ok]	ID number iç	-NMSID (National Mobile Station Identity) is displayed (2 digits MNC and 10 digits MSIN) -to change enter new one. -store it.
NAM 1 True IMSI MCC -Inactive- [ok]	number iç	-True IMSI Mobile Country Code. -IS-95B feature, ignore it. -select [ok]
NAM 1 True IMSI NMSID -Inactive- [ok]	ID number iç	-True IMSI Mobile Country Code. -IS-95B feature, ignore it. -select [ok]
NAM 1 CDMA Directory # 0123456789 [ok]	number iç	-CDMA Directory Number is displayed. -to change, enter new one. -store it.
NAM 1 CDMA Home SID/NID 01=0/12345 [ok] [edit]	jà	-1st CDMA Home System ID and Network ID is displayed. -to change, select [edit]
NAM 1 CDMA Home SID 01 01=0/12345 0 [ok]	SID number iç	-1st CDMA Home System ID and Network ID is displayed. -to change SID number, enter new one. -store it
NAM 1 CDMA Home NID 01 12345 [ok]	NID number iç	-1st CDMA Home Network ID is displayed. -to change NID number, enter new one. -store it
NAM 1 CDMA Home SID/NID 02=0/12345 [ok] [edit]	jè	-2st CDMA Home System ID and Network ID is displayed. -to change, select [edit]
NAM 1 CDMA Home SID 01 02=0/12345 0 [ok]	SID number iç	-2st CDMA Home System ID and Network ID is displayed. -to change SID number, enter new one. -store it

NAM 1 CDMA Home NID 01 12345 [ok]	NID number iÇ	-2st CDMA Home Network ID is displayed. -to change NID number, enter new one. -store it.
----- repeat to SID 20 and NID 20 -----		
NAM 1 CDMA Primary CH A 1234 [ok]	CH number iÇ	-CDMA Primary Channel number is displayed -to change CH number, enter new one. -store it.
NAM 1 CDMA Second CH A 1234 [ok]	CH number iÇ	-CDMA Primary Channel number is displayed -to change CH number, enter new one. -store it.
NAM 1 CDMA Primary CH B 1234 [ok]	CH number iÇ	-CDMA Primary Channel number is displayed -to change CH number, enter new one. -store it.
NAM 1 CDMA Second CH B 1234 [ok]	CH number iÇ	-CDMA Primary Channel number is displayed -to change CH number, enter new one. -store it.
NAM 1 CDMA Home Sys Reg YES [ok]	ié or jè iÇ	-Indicator of whether phone is configured to receive calls when using a home SID,NID pair. -changes the status, select [ok] to the right. -store it.
NAM 1 CDMA Form SID Reg YES [ok]	ié or jè iÇ	-Indicator of whether phone is configured to receive calls as a foreign SID roamer. -changes the status, select [ok] to the right. -store it.
NAM 1 CDMA Form NID Reg YES [ok]	ié or jè iÇ	-Indicator of whether phone is configured to receive calls as a foreign NID roamer. -changes the status, select [ok] to the right. -store it.
NAM 1 AMPS Phone Number 1234567890	Phone number iÇ	-AMPS Mobile Phone Number is displayed -to change, enter new one. -store it.
NAM 1 AMPS Home SID 0	ID number iÇ	-AMPS Home System ID is displayed -to change, enter new one. -store it.
NAM 1 AMPS 1st Page CH 123 [ok]	CH number iÇ	-AMPS 1st Page Channel number is displayed -to change CH number, enter new one. -store it.

NAM 1 AMPS Auto-Reg YES [ok]	; or ;	-AMPS autonomous registration status indicator. -changes the status, select [ok] to the right. -store it.
NAM 1 ORIG SVC OPT 12345 [ok]	;	-Home/Roam origination service option. -Not support 8K voice service option.
NAM 1 Access Overld Class 2 [ok]	;	-Show the Access Overload Class -Access Overload Class is the last digit of phone number
NAM 2 Settings [ok] [edit]	; ;	-If you want to edit NAM2 programming, select [edit] -If you select [ok], you can edit the following 2 items- PHONE MODEL & SCI -NAM 2 setting is the same as NAM 1
PHONE MODEL 123 ABCDE [ok]	Phone number ;	-PHONE MODEL is displayed -to change, enter new one. -store it
SLOT CYCLE INDEX 2	Index	-SLOT CYCLE INDEX is displayed -to change, enter new one. -store it and exit NAM Programing

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 [*759#813580]

Command No	Command SW Name	Description
01(1F,0,0)	T_SUSPEND_I	Enter to test menu
02(3F,0,0)	T_RESTART_I	Escape from test menu
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_I	Product line information
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

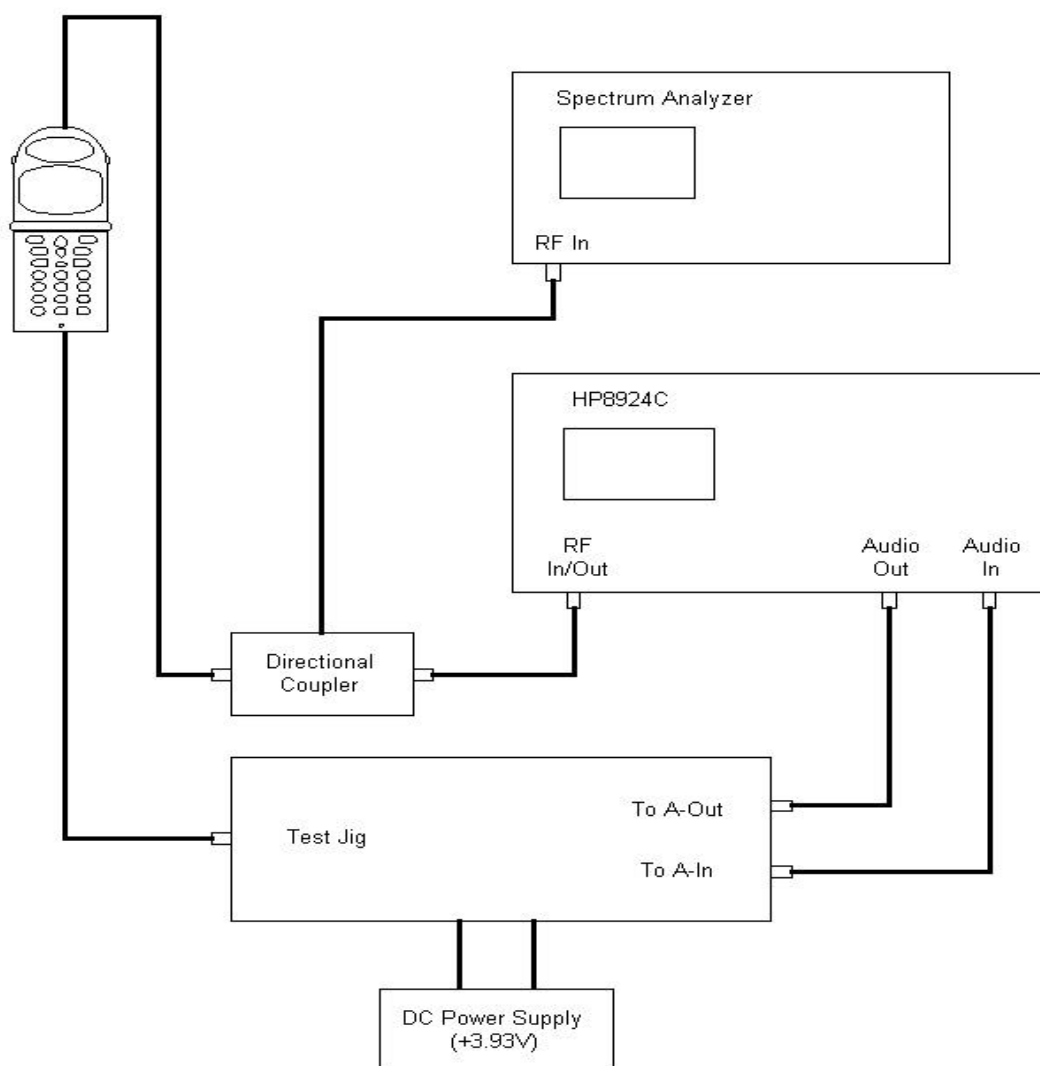
Command No	Command SW Name	Description
45(B1,0,0)	T_COMPANDOROF_I	Turn off compandor
46(B2,0,0)	T_FM_VCLINE_I	Enter FM voice state
47(B3,3,0)	T_FM_AUD_GAIN_I	FM audio gain
48(B4,0,0)	T_VIBRATOR_ON_I	Activate a vibrator
49(B5,0,0)	T_VIBRATOR_OFF_I	Inactivate a vibrator
50(B6,0,4)	T_BATT_TYPE_I	Battery 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
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 battey position in the standby
69(C9,0,3)	T_VBATT2_I	Set the low battey 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	T_DETECT_CHARGER_I	detect the battery is now charging
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	Tturn 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

Command No	Command SW Name	Description
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 cetting 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 HP8924C, HP83236A, CMD-80, etc
- Spectrum Analyzer(include CDMA Test Mode) HP8596E

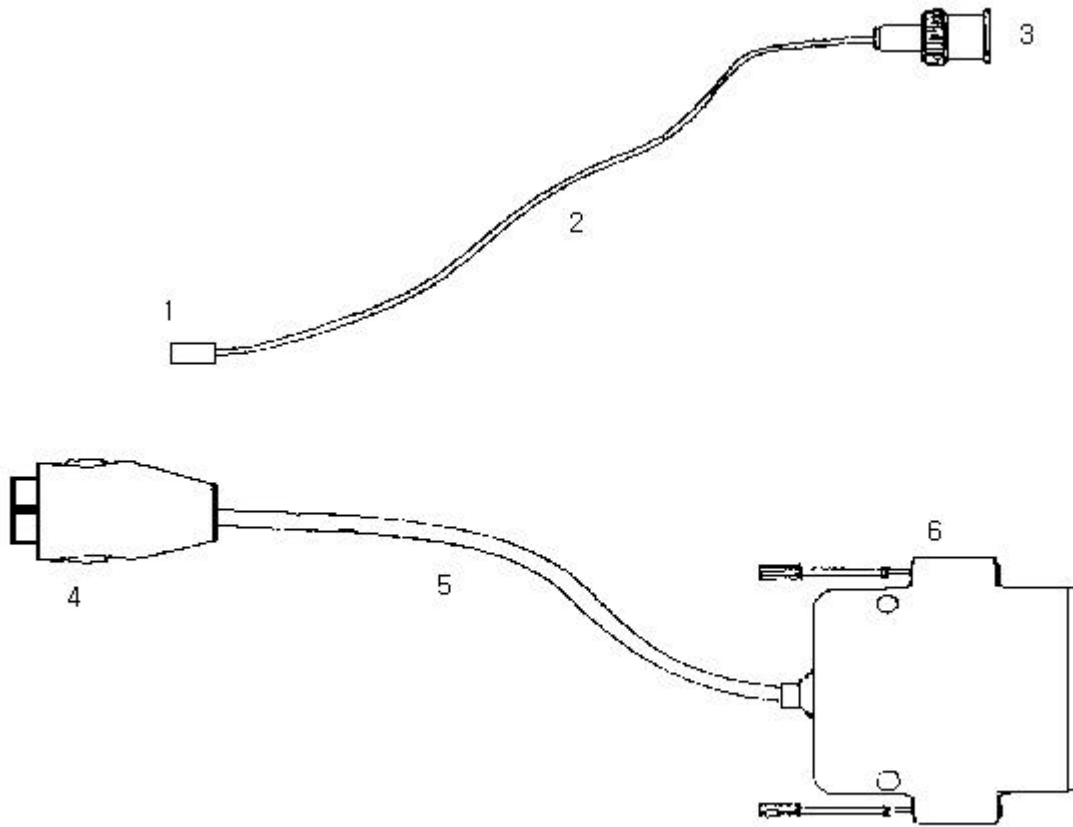
Configuration of Test



ⓘ 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-T300

1. TEST CABLE

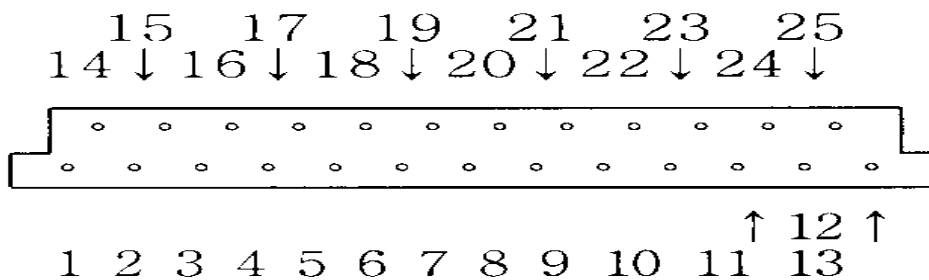


2. TEST CABLE CONNECTIONS

1	MHC 172
2	RF CABLE (1.4dB Loss for CDMA800 and AMPS, 2.1dB Loss for PCS)
3	BNC CONNECTOR (RF)
4	PLUG CONNECT TO SCH-T300
5	DATA CABLE
6	Dsub 25PIN CONNECTOR (DATA)

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

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



4. CONVERSION TABLE OF FREQUENCY vs CHANNEL

T Y P E	CHANNEL	CONVERSION EQUATION	REMARK
TX FREQUENCY	1 1023 990 1023	F=0.03 1023 N + 825.00 F=0.03 1023 (N-1023) + 825.00	N ; CH NUMBER F ; FREQUENCY
RX FREQUENCY	1 1023 990 1023	F=0.03 1023 N + 870.00 F=0.03 1023 (N-1023) + 870.00	(AMPS/CDMA)
TX FREQUENCY	0 1199	F=0.05 1199 N + 1850.00	N ; CH NUMBER F ; FREQUENCY
RX FREQUENCY	0 1199	F=0.05 1199 N + 1930.00	(PCS)

Change to Test Mode

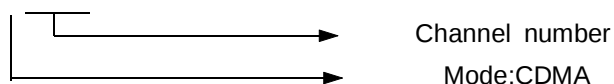
A. To change the phone's state from Normal Mode to Test Mode, You should enter the following keys.

: Press [menu 3 0]

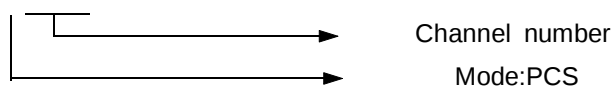
B. The command "21" is mode and channel change.

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

"20384"



"30600"



and Push the Navigation 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 [menu 3 0]

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

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

and Push the Navigation 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 255.

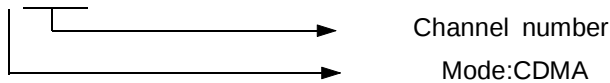
H. "1 0 2" : RF Power level control, 2(0~7) means power level .

2. CDMA

A. Enter to Test Mode [menu 3 0]

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

"20384"



Push the Navigation 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.

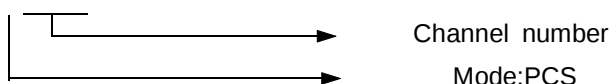
"* * *" means AGC level and AGC level range is from 000 to 511.

3. PCS

A. Enter to Test Mode [menu 3 0]

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

"30600"



Push the Navigation 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. " menu 3 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".														
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 <table> <tr> <th>Level</th><th>RF Power</th></tr> <tr> <td>0 ~ 2</td><td>+ 26.8 dBm + 0.2/-4 dB</td></tr> <tr> <td>3</td><td>+ 23 dBm +2/-4 dB</td></tr> <tr> <td>4</td><td>+ 20 dBm +2/-4 dB</td></tr> <tr> <td>5</td><td>+ 16 dBm +2/-4 dB</td></tr> <tr> <td>6</td><td>+ 12 dBm +2/-4 dB</td></tr> <tr> <td>7</td><td>+ 8 dBm +2/-4 dB</td></tr> </table> Note 1 : In case of using the antenna cable, compensation for the cable loss should be added (about 0.2dB). 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.	Level	RF Power	0 ~ 2	+ 26.8 dBm + 0.2/-4 dB	3	+ 23 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
Level	RF Power														
0 ~ 2	+ 26.8 dBm + 0.2/-4 dB														
3	+ 23 dBm +2/-4 dB														
4	+ 20 dBm +2/-4 dB														
5	+ 16 dBm +2/-4 dB														
6	+ 12 dBm +2/-4 dB														
7	+ 8 dBm +2/-4 dB														
3. TX FREQUENCY	"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 ± 2.5ppm.														

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. "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 ± 12 kHz).
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" : Suspend. "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. CDMA

TEST ITEMS	PROCEDURE
1. PREPARANCE	Set test equipments up. " menu 3 0 " : 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""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 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 $F_{ci} \pm 900\text{kHz}$, $F_{ci} \pm 1.98\text{MHz}$, $2F_c$, $3F_c$, $1/2F_c$. spec: $F_{ci} \pm 900\text{kHz}$ below 42dBc/30kHz $F_{ci} \pm 1.98\text{MHz}$ below 54dBc/30kHz Outside Receive Band $-43+10\log(PY)$ PY: Mean Output Power in watts
5. GATED POWER & TIME	Set the service option 2. Set the data rate Eighth (1200bps). Registering: HHP $\rightarrow$ HP8924C. Call : HP8924C $\rightarrow$ 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

3. PCS

TEST ITEMS	PROCEDURE
1. PREPARANCE	Set test equipments up. " menu 3 0 " : 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 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 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 $F_{ci} \pm 1.25\text{MHz}$ spec: $F_{ci} \pm 1.25\text{MHz}$ below 42dBc/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 68Á Falling Time : below 68Á Burst Time : below 1.2478Á