

SAMSUNG

GSM TELEPHONE

SGH-X140

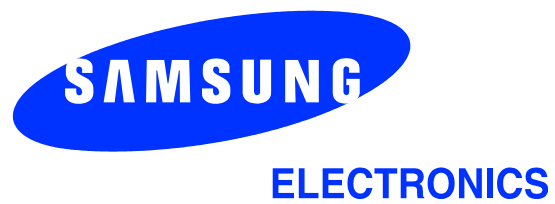
SERVICE *Manual*

GSM TELEPHONE



CONTENTS

1. Specification
2. Flow Chart of Troubleshooting
3. Exploded Views and Parts List
4. Electrical Parts List
5. PCB Diagrams
6. Block Diagrams



1. SGH-X140 Specification

1-1. GSM General Specification

	GSM900 Phase 1	EGSM 900 Phase 2	DCS1800 Phase 1
Freq. Band[MHz] Uplink/Downlink	890~915 935~960	880~915 925~960	1710~1785 1805~1880
ARFCN range	1~124	0~124 & 975~1023	512~885
Tx/Rx spacing	45MHz	45MHz	95MHz
Mod. Bit rate/ Bit Period	270.833kbps 3.692us	270.833kbps 3.692us	270.833kbps 3.692us
Time Slot Period/Frame Period	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms
Modulation	0.3GMSK	0.3GMSK	0.3GMSK
MS Power	33dBm~13dBm	33dBm~5dBm	30dBm~0dBm
Power Class	5pcl ~ 15pcl	5pcl ~ 19pcl	0pcl ~ 15pcl
Sensitivity	-102dBm	-102dBm	-100dBm
TDMA Mux	8	8	8
Cell Radius	35Km	35Km	2Km

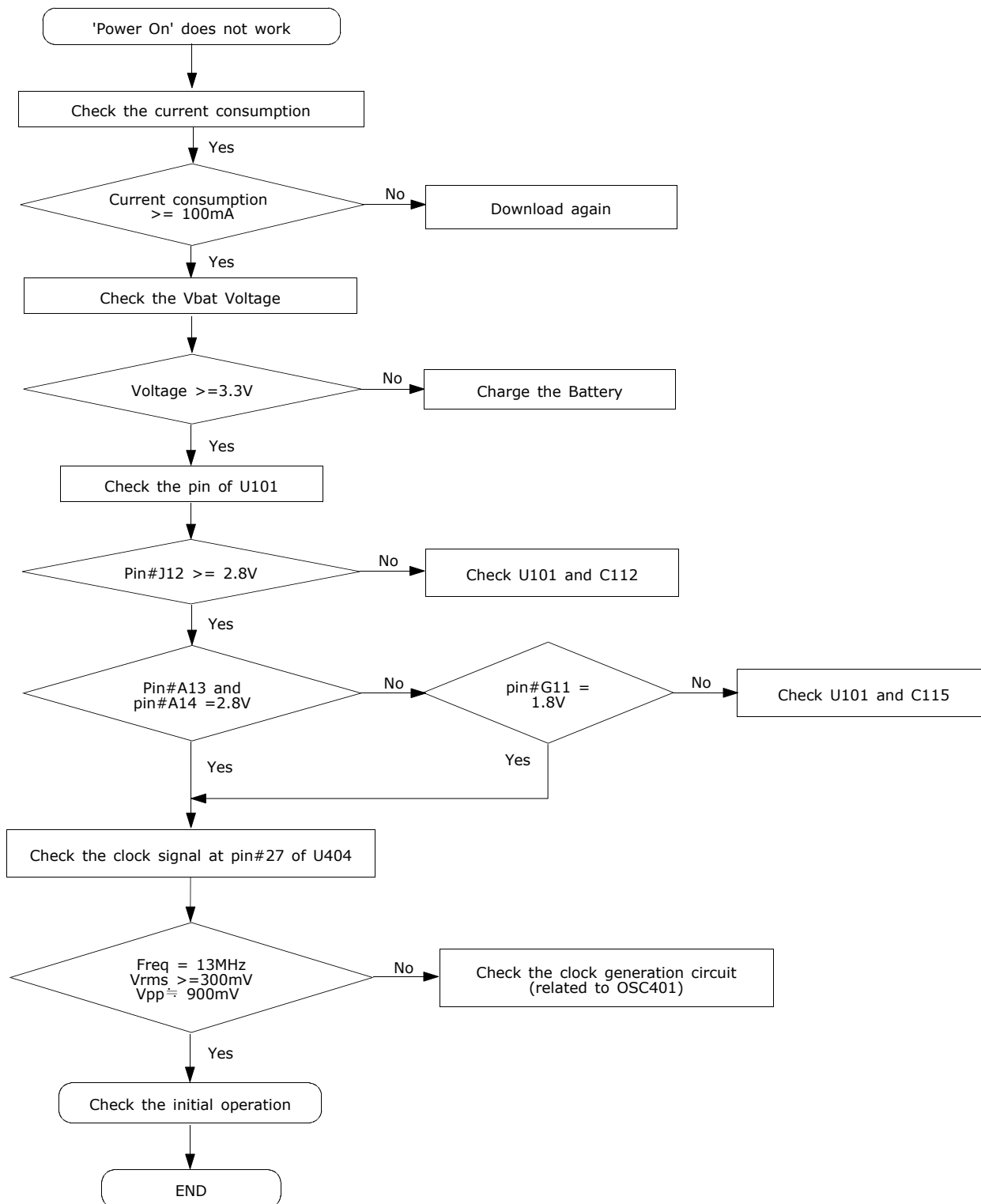
1-2. GSM TX power class

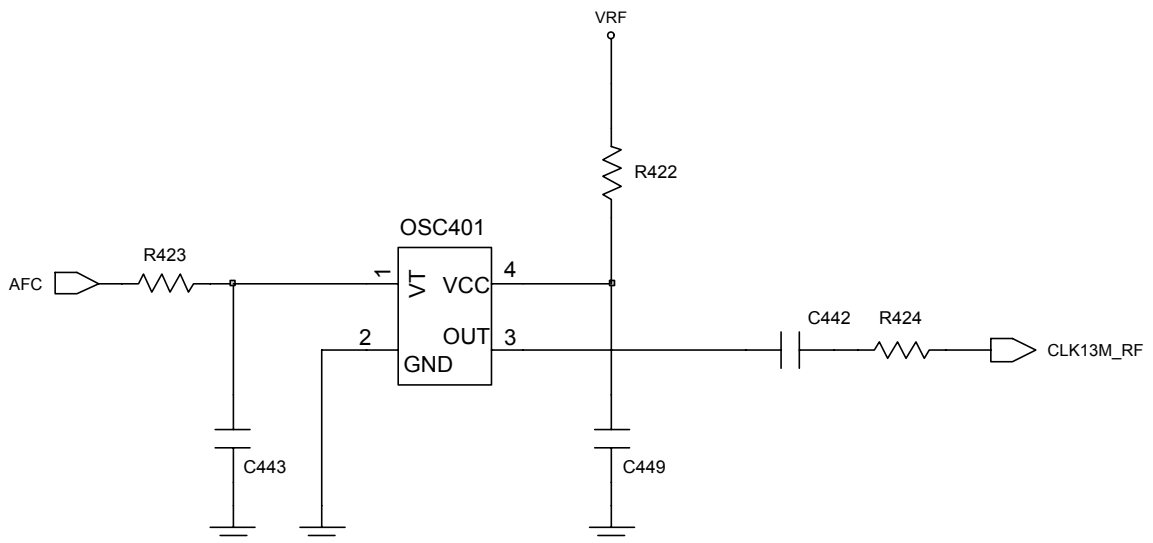
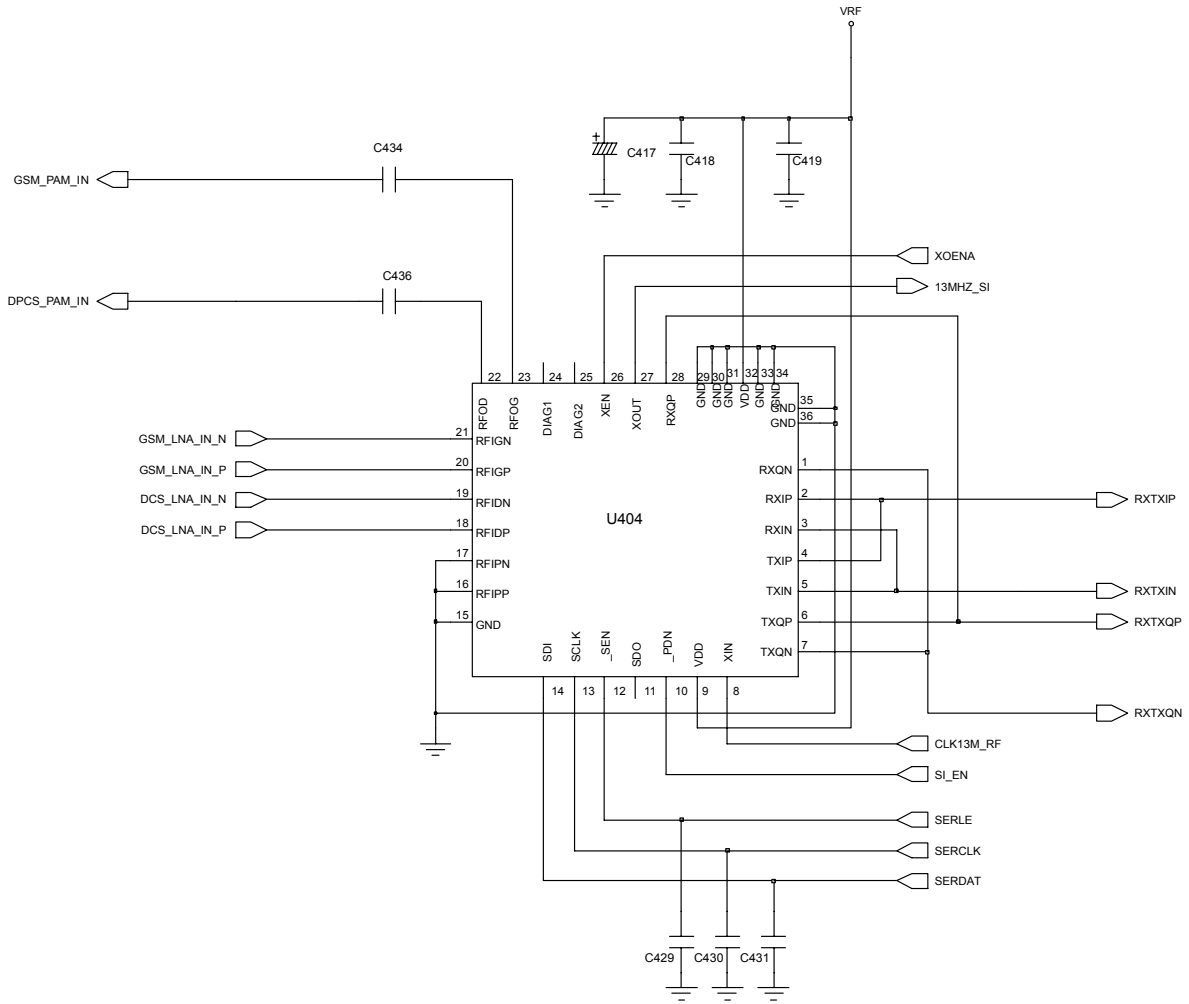
TX Power control level	GSM900	TX Power control level	DCS1800
5	33±2 dBm	0	30±3 dBm
6	31±2 dBm	1	28±3 dBm
7	29±2 dBm	2	26±3 dBm
8	27±2 dBm	3	24±3 dBm
9	25±2 dBm	4	22±3 dBm
10	23±2 dBm	5	20±3 dBm
11	21±2 dBm	6	18±3 dBm
12	19±2 dBm	7	16±3 dBm
13	17±2 dBm	8	14±3 dBm
14	15±2 dBm	9	12±4 dBm
15	13±2 dBm	10	10±4 dBm
16	11±3 dBm	11	8±4 dBm
17	9± 3dBm	12	6±4 dBm
18	7±3 dBm	13	4±4 dBm
19	5±3 dBm	14	2±5 dBm
		15	0±5 dBm

2. SGH-X140 Flow Chart of Troubleshooting

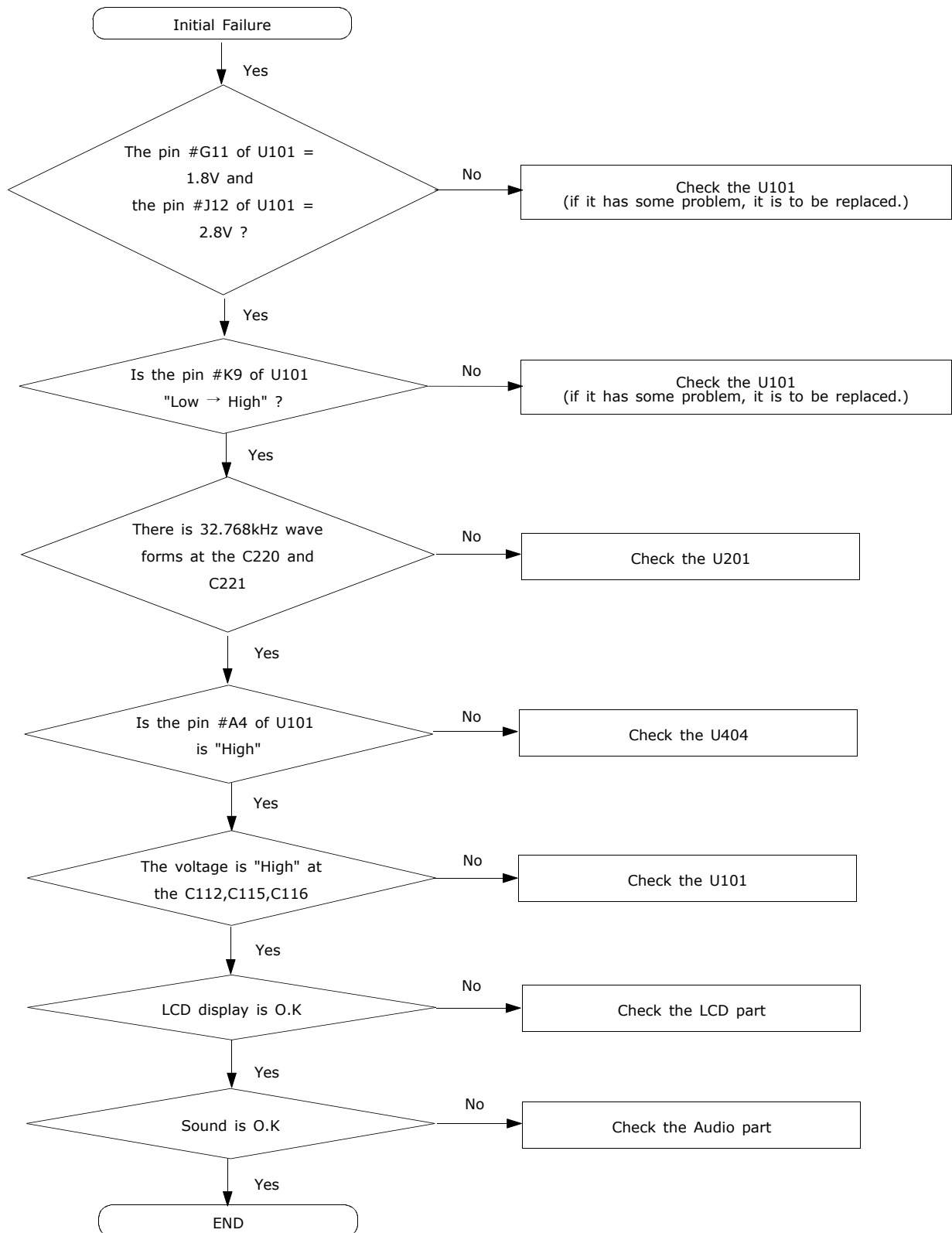
2-1.Baseband

2-1-1. Power ON

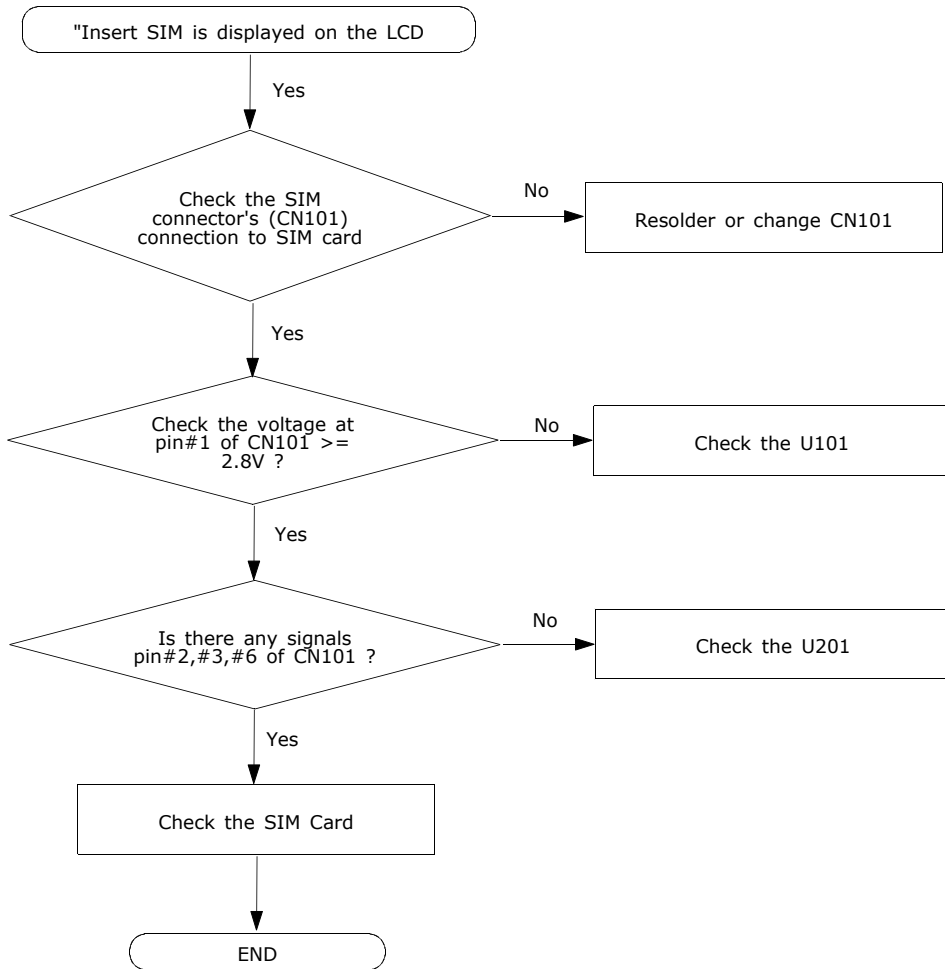




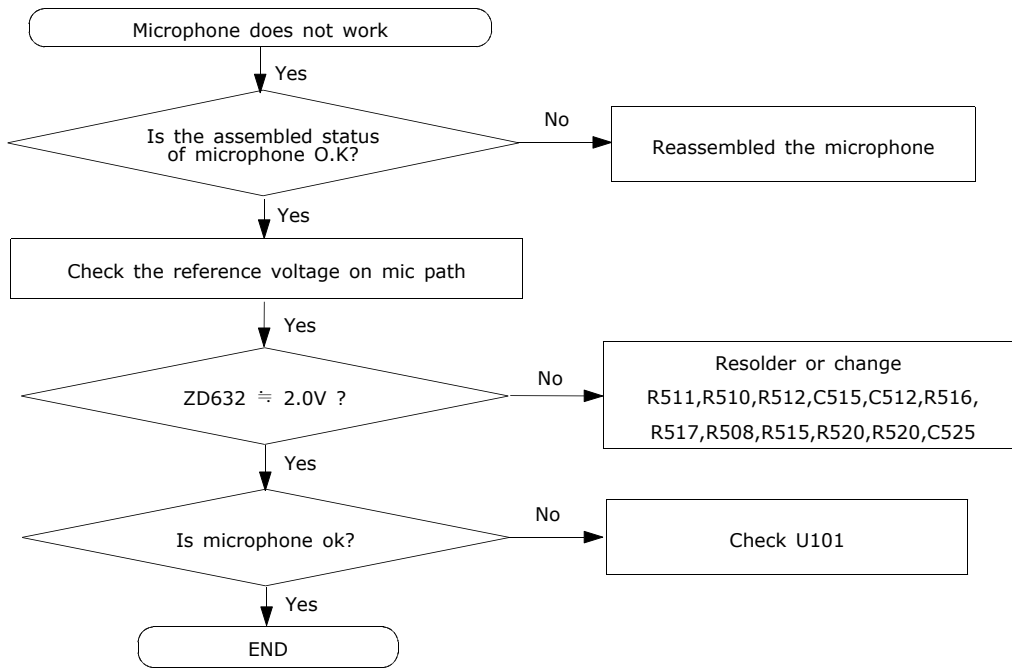
2-1-2. Initial



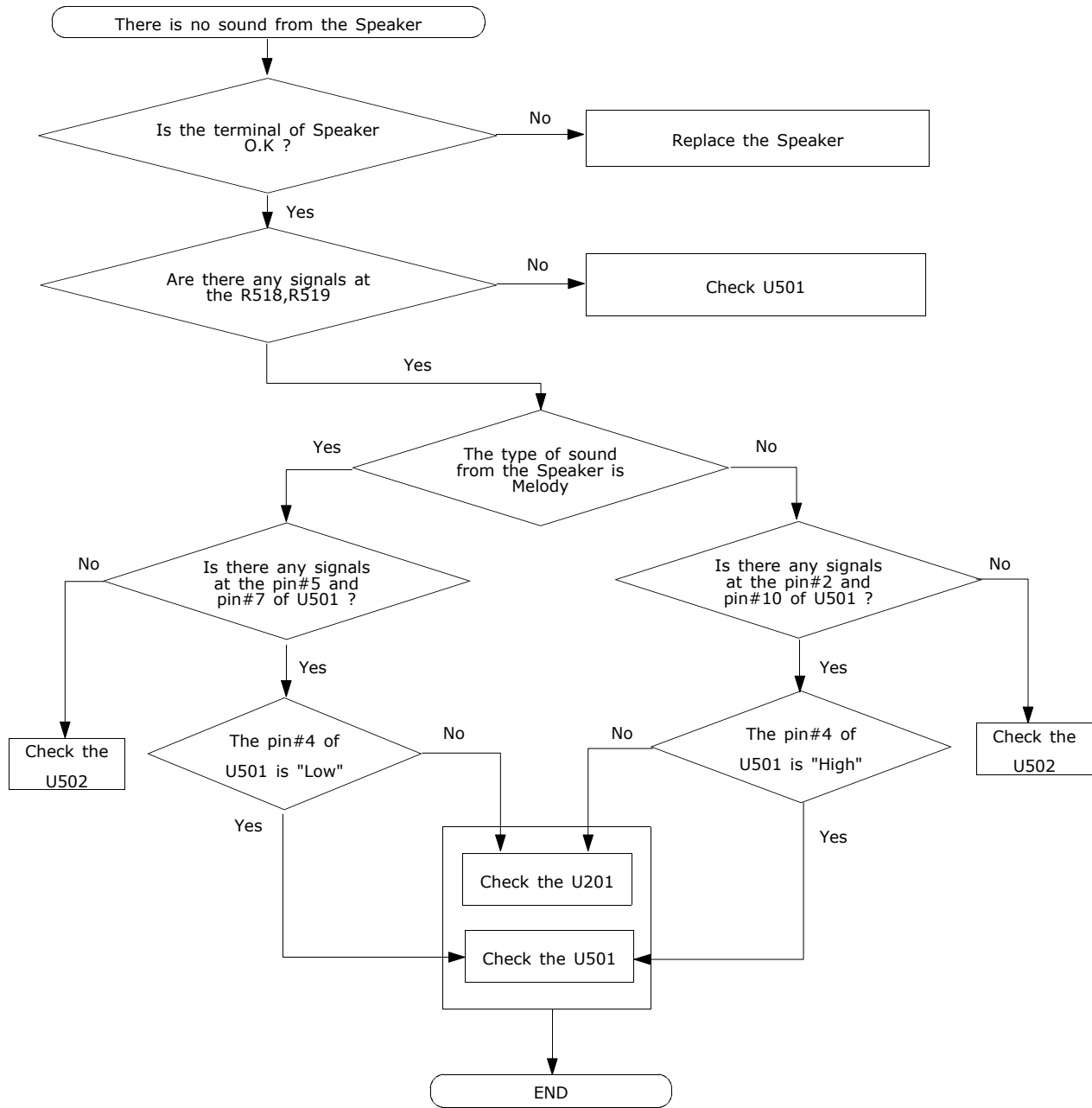
2-1-3. Sim Part

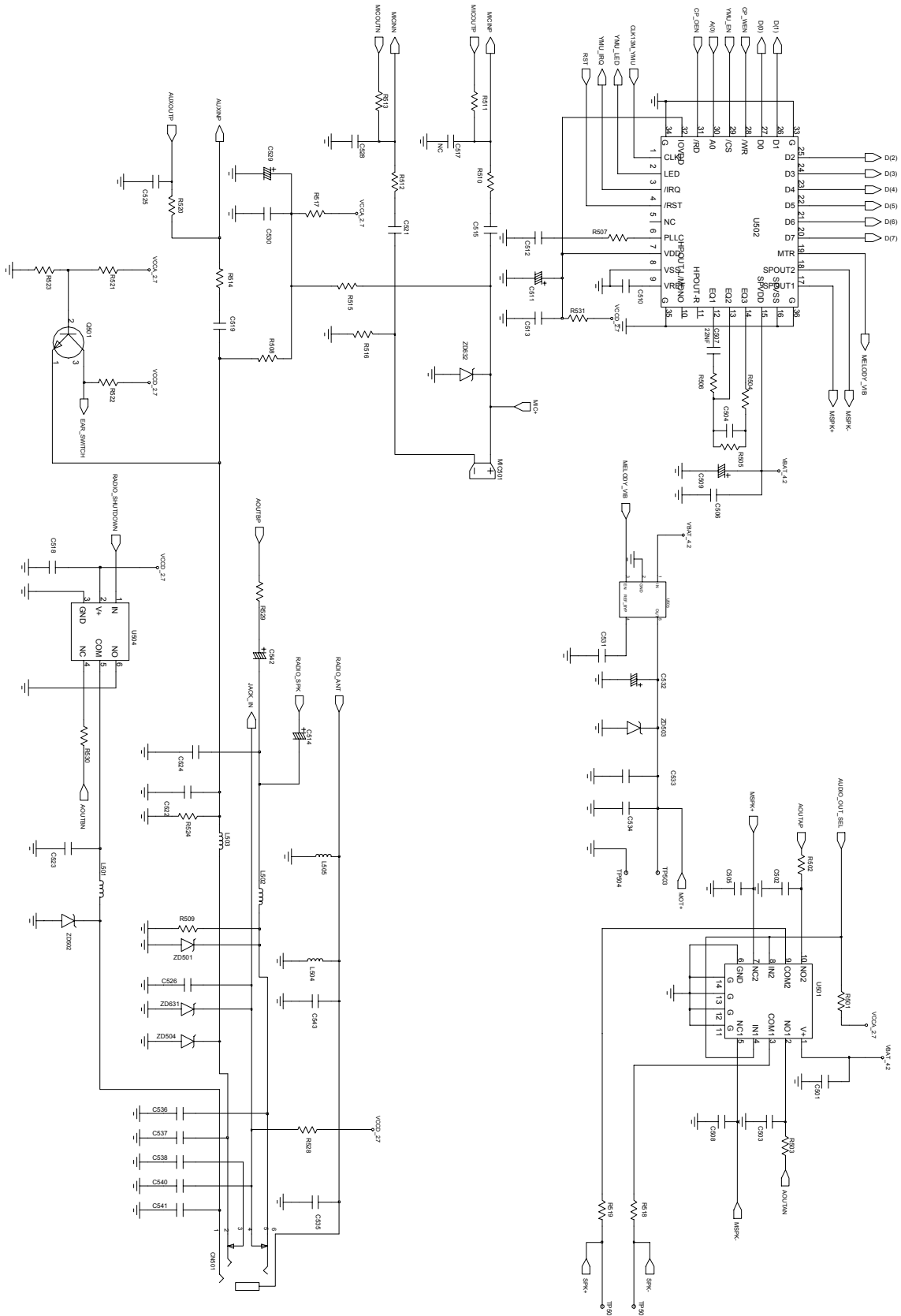


2-1-4. Microphone Part



2-1-5. Speaker Part

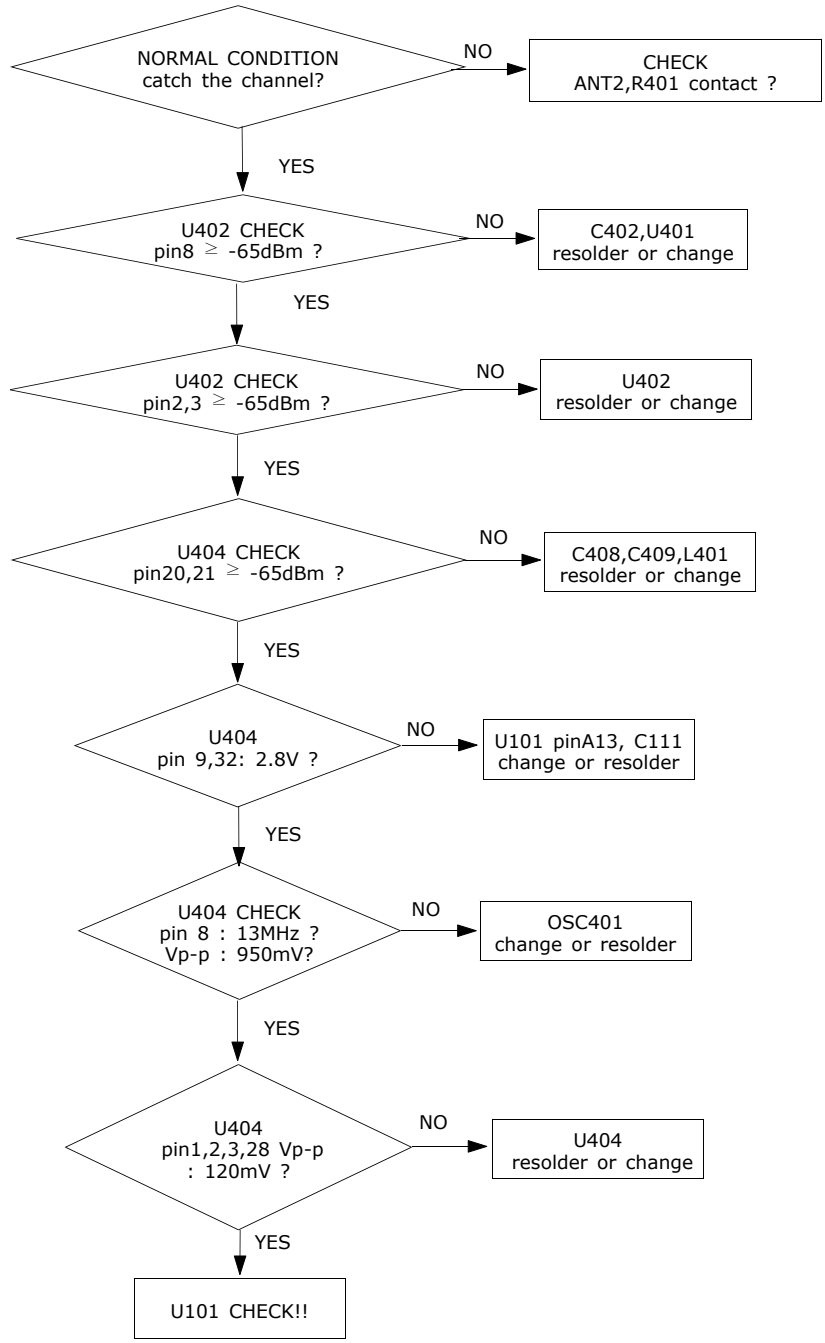




2-2.RF

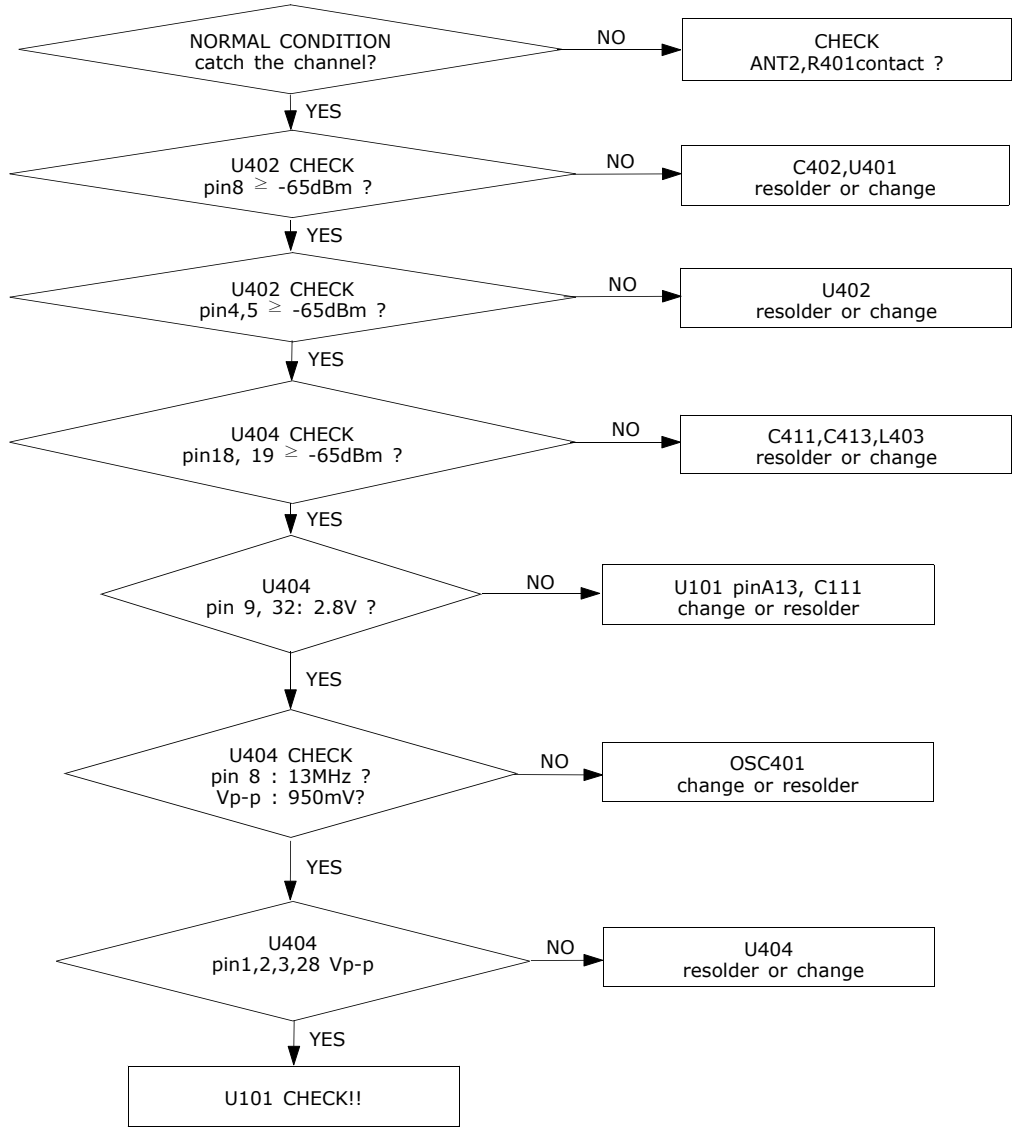
2-2-1. EGSM RX

CONTINUOUS RX ON
RF INPUT : 62CH
AMP : -50dBm

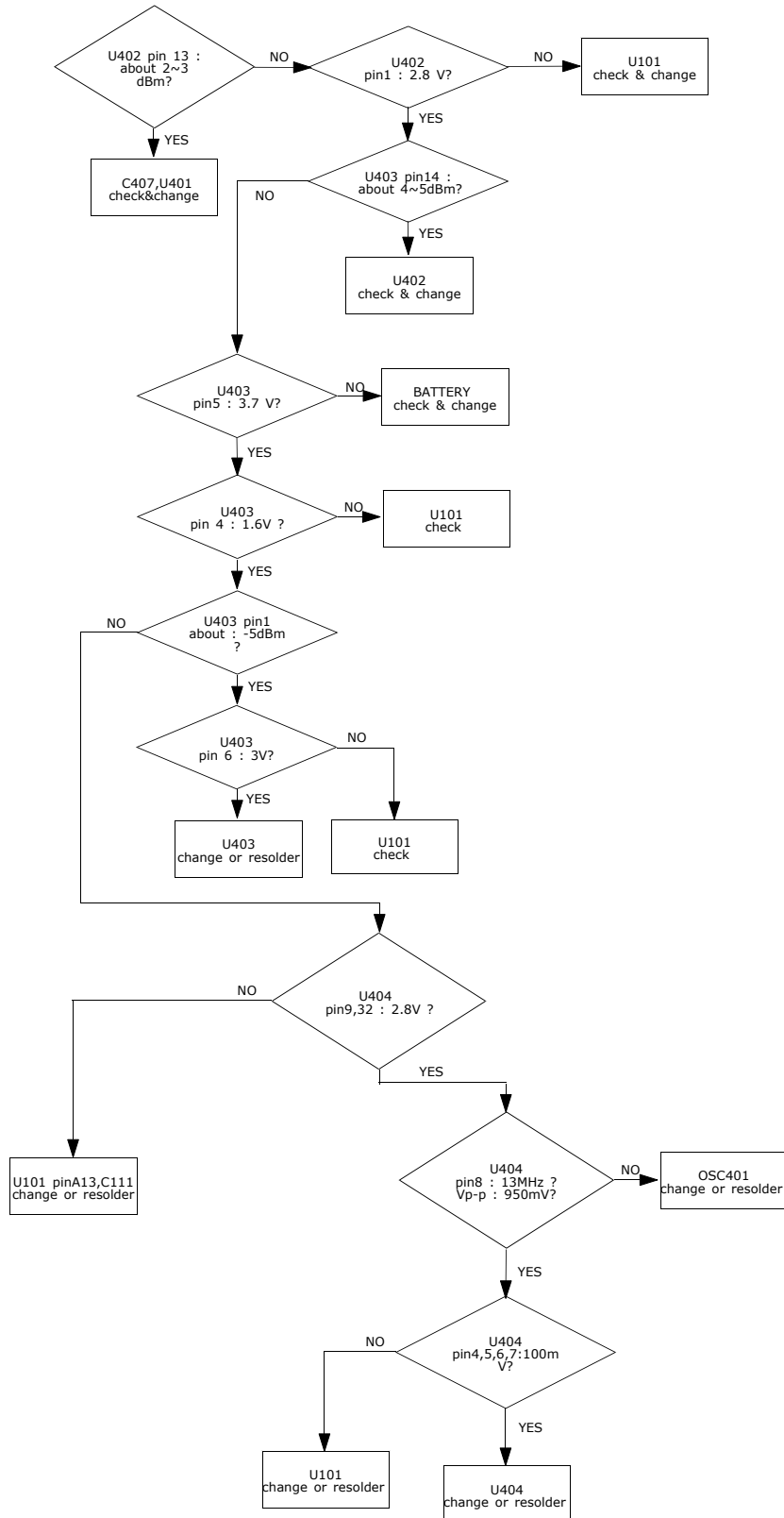


2-2-2. DCS RX

CONTINUOUS RX ON
RF INPUT : 698CH
AMP : -50dBm

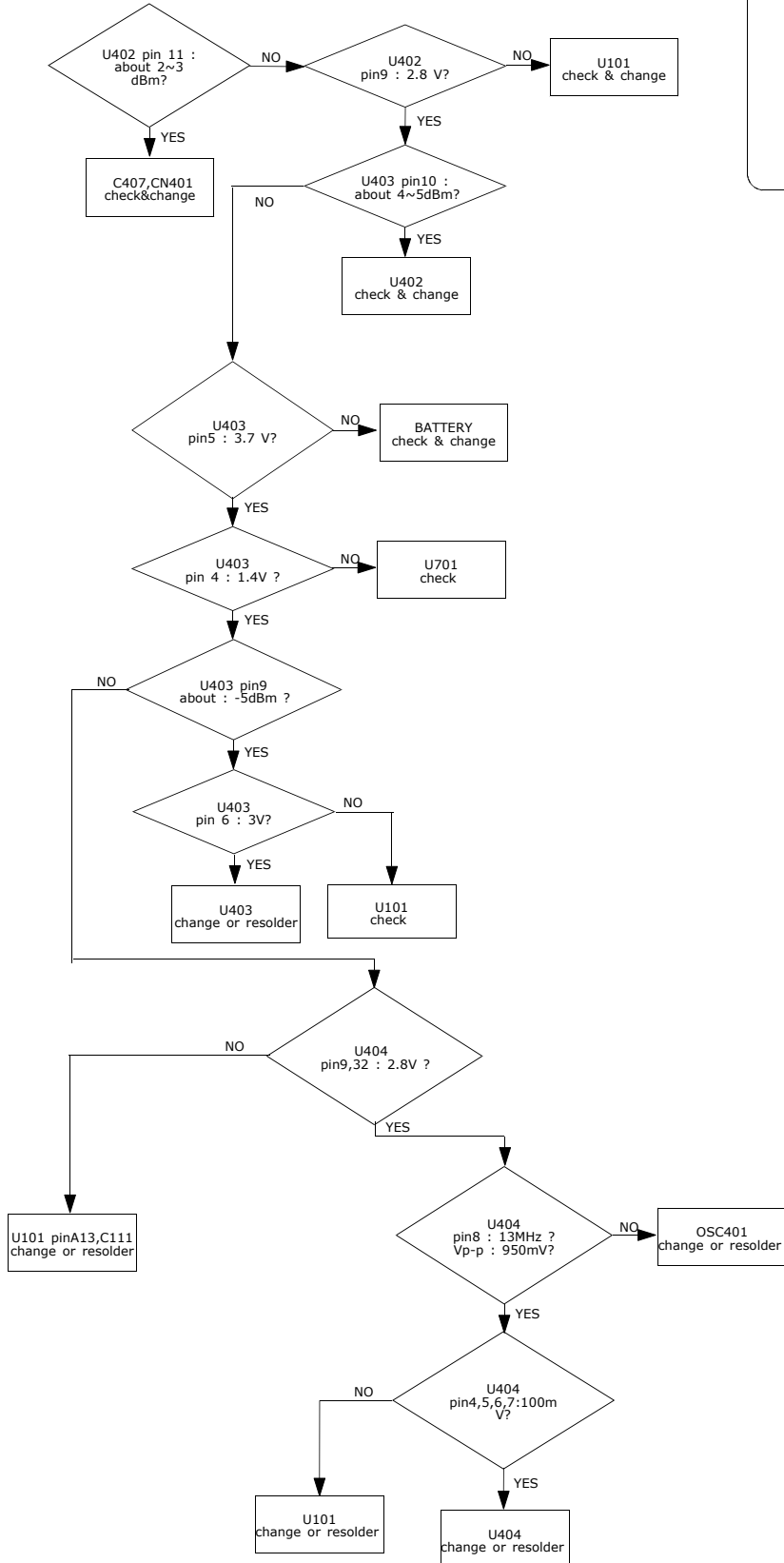


2-2-3. EGSM TX

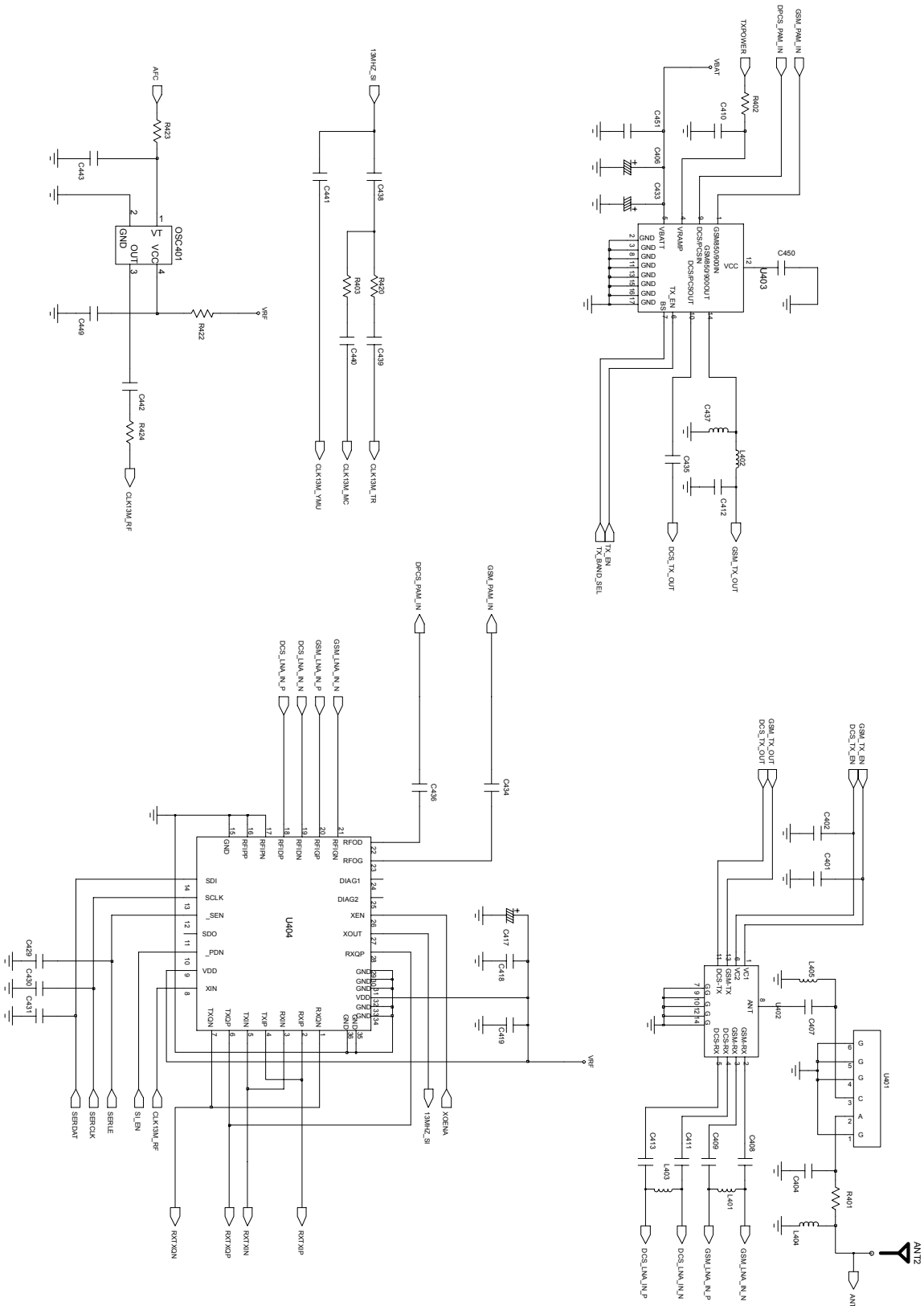


CONTINUOUS TX ON CONDITION
 TX POWER DAC: 600 CODE APPLIED
 CH : 62
 RBW : 100KHz
 VBW : 100KHz
 SPAN : 10MHz
 REF LEV. : 10dBm
 ATT. : 20dB

2-2-4. DCS TX

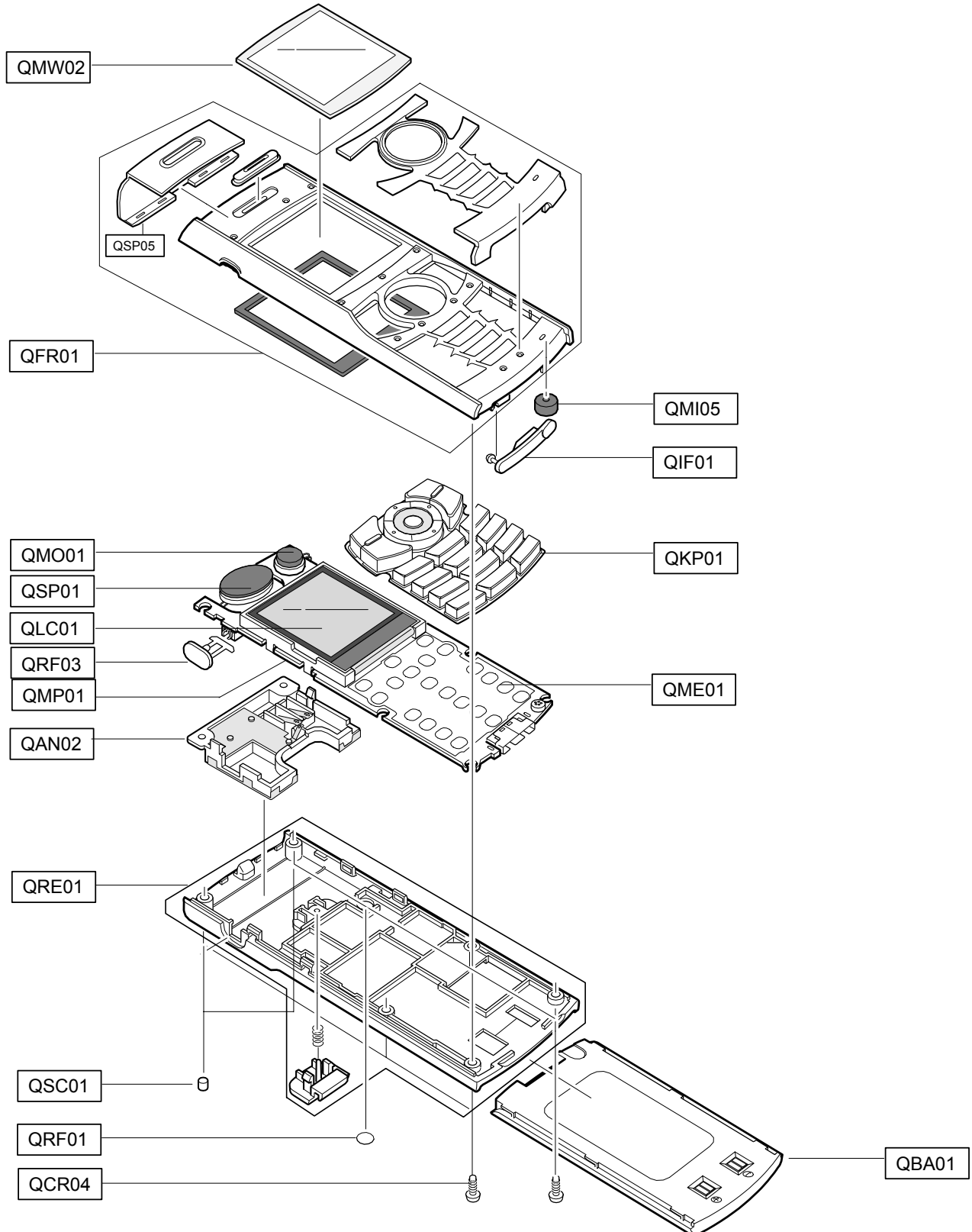


CONTINUOUS TX ON CONDITION
 CH : 698CH(DCS)
 TX POWER CODE: 520 CODE Applied
 RBW : 100KHz
 VBW : 100KHz
 SPAN : 10MHz
 REF LEV. : 10dBm
 ATT. : 20dB



3. SGH-X140 Exploded View and Parts List

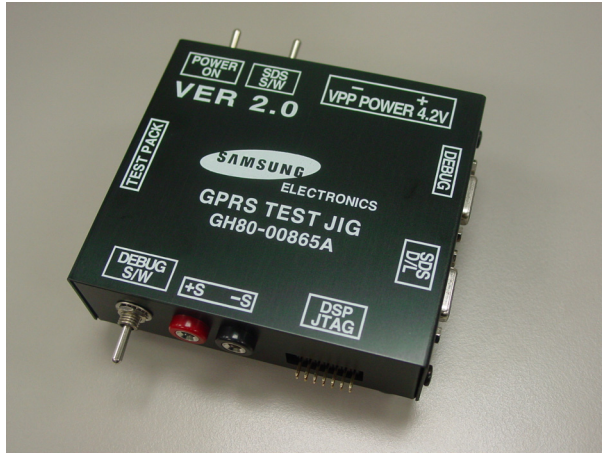
3-1. Cellular phone Exploded View



3-2. Cellular phone Parts list

Location NO.		Description	SEC CODE	Remark
QMW02		LCD WINDOW	GH72-18145A	
QFR01		FRONT COVER	GH75-05839A	
	QSP05	SPK DECO	GH75-05827A	
QMO01		MOTOR DC	GH31-00137A	
QSP01		SPEAKER	3001-001677	
QLC01		LCD	GH07-00555A	
QMP01		MAIN PBA	GH92-01984A	
QAN02		ANTENNA	GH42-00520A	
QRE01		REAR COVER	GH75-05840A	
QRF03		EARJACK COVER	GH72-18144A	
QCR04		SCREW MACHINE	6001-001479	
QRF01		RF SHEET	GH74-13093A	
QSC01		SCREW COVER	GH72-20329A	
QMI05		MIC HOLDER	GH73-03844A	
QIF01		IF COVER	GH72-18131A	
QKP01		KEYPAD	GH75-05879A	
QME01		UNIT METAL DOME	GH59-01935A	
QBA01		BATTERY	GH43-01665A	

3-3. Test Jig (GH80-00865A)



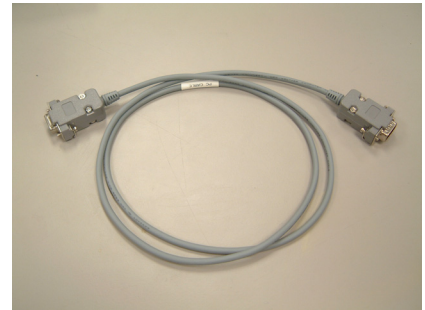
3-3-1. RF Test Cable
(GH39-00283A)



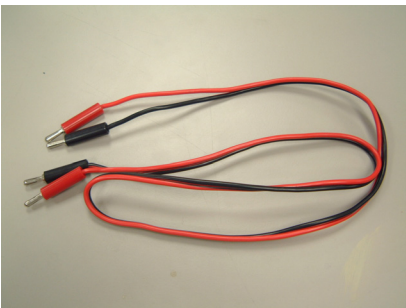
3-3-2. Test Cable
(GH39-00127A)



3-3-3. Serial Cable



3-3-4. Power Supply Cable



3-3-5. DATA CABLE
(GH39-00305A)



3-3-6. TA
(GH44-00701A)



4. SGH-X140 MAIN Electrical Parts List

SEC Code	Design LOC
2203-001072	C101
2203-001072	C102
2203-005061	C103
2203-006324	C104
2203-006324	C105
2203-005061	C106
2203-000812	C107
2203-000812	C108
2203-000812	C109
2203-000233	C110
2203-001598	C111
2203-001598	C112
2203-001652	C113
2203-001072	C114
2203-006257	C115
2203-001598	C116
2203-005061	C117
2203-005061	C118
2203-005061	C119
2203-006093	C120
2203-006257	C122
2404-001268	C123
2203-005061	C127
2203-000254	C201
2203-000254	C202
2203-000254	C203
2203-000254	C204
2203-000254	C205
2203-000254	C206
2203-000254	C207
2203-000254	C208
2203-005496	C209
2203-005496	C210
2203-000679	C211
2203-005061	C214
2203-001072	C215
2203-001072	C216
2203-005061	C217
2203-005061	C218
2203-005480	C219

Design LOC	SEC Code
0601-001094	LED634
0601-001094	LED635
0601-001094	LED636
4302-001130	M101
3003-001107	MIC501
2801-003747	OSC201
2809-001264	OSC401
2801-004189	OSC701
0504-001113	Q102
0501-000225	Q501
0504-001012	Q701
2007-001319	R101
2007-000171	R102
2007-000138	R103
2007-000171	R105
2007-008263	R107
2007-000148	R109
2007-000153	R110
2007-007107	R111
2007-007107	R112
2007-000138	R113
2007-000157	R115
2007-007142	R116
2007-007100	R205
2007-000162	R206
2007-000157	R207
2007-007142	R208
2007-000171	R210
2007-007308	R211
2007-007308	R212
2007-000171	R213
2007-000148	R214
2007-000157	R215
2007-000171	R217
2007-000157	R218
2007-000157	R219
2007-000162	R220
2007-000171	R221
2007-000143	R223
2007-003025	R303

SEC Code	Design LOC
2203-000628	C220
2203-000628	C221
2203-005061	C222
2203-005061	C223
2203-000254	C230
2203-005061	C231
2203-006053	C233
2203-006090	C302
2203-006307	C303
2203-000233	C401
2203-000233	C402
2203-005288	C405
2404-001397	C406
2203-000628	C407
2203-005288	C408
2203-005288	C409
2203-000425	C410
2203-005288	C411
2203-001383	C412
2203-005288	C413
2404-001281	C417
2203-000254	C418
2203-000254	C419
2203-000233	C429
2203-000233	C430
2203-000233	C431
2404-001281	C433
2203-000995	C434
2203-000628	C435
2203-000812	C436
2703-001938	C437
2203-000254	C438
2203-000425	C439
2203-000233	C440
2203-000254	C441
2203-000254	C442
2203-000254	C443
2203-000254	C449
2203-005061	C450
2203-000233	C451

Design LOC	SEC Code
2007-000140	R305
2007-000171	R401
2007-000155	R402
2007-002797	R403
2007-000141	R420
2007-003001	R422
2007-000148	R423
2007-000138	R424
2007-000162	R501
2007-001292	R502
2007-001292	R503
2007-000164	R504
2007-000775	R505
2007-000775	R506
2007-001325	R507
2007-001320	R508
2007-007142	R509
2007-000148	R510
2007-000159	R511
2007-000148	R512
2007-000159	R513
2007-000148	R514
2007-000141	R515
2007-000140	R516
2007-001119	R517
2007-008542	R518
2007-008542	R519
2007-000159	R520
2007-001333	R521
2007-000140	R522
2007-000148	R523
2007-000162	R528
2007-008044	R529
2007-008044	R530
2007-008531	R531
2007-001306	R601
2007-001306	R602
2007-001306	R603
2007-001306	R606
2007-001306	R607

SEC Code	Design LOC
2203-005482	C501
2203-000233	C502
2203-000233	C503
2203-000654	C504
2203-000233	C505
2203-005061	C506
2203-001405	C507
2203-000233	C508
2404-001086	C509
2203-005061	C510
2404-001339	C511
2203-000438	C512
2203-005061	C513
2404-001151	C514
2203-005509	C515
2203-005061	C518
2203-005065	C519
2203-005509	C521
2203-006120	C522
2203-005806	C523
2203-005806	C524
2203-000233	C525
2203-006121	C526
2404-001274	C529
2203-000278	C530
2203-006053	C531
2404-001268	C532
2203-006053	C533
2203-000679	C534
2203-000438	C536
2203-000438	C537
2203-000438	C538
2203-000438	C540
2203-000438	C541
2404-001281	C542
2203-000995	C543
2404-001397	C602
2203-006324	C603
2203-006053	C605
2203-000438	C701

Design LOC	SEC Code
2007-001306	R608
2007-000157	R609
2007-000140	R617
2007-000140	R618
2007-000140	R619
2007-000140	R620
2007-000140	R621
2007-000140	R622
2007-000140	R623
2007-000140	R624
2007-000140	R625
2007-000140	R627
2007-000140	R628
2007-000140	R629
2007-001306	R631
2007-001306	R632
2007-001306	R633
2007-001306	R634
2007-001306	R635
2007-001306	R636
2007-000173	R637
2007-000173	R638
2007-000173	R639
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2007-000173	R643
2007-000173	R645
2007-000173	R646
2007-000173	R647
2007-000173	R648
2007-000157	R649
2007-008531	R701
2007-007135	R702
2007-000148	R703
2007-000162	R704
2007-008531	R705
2007-000174	R706
2007-000775	R707
2007-008516	R708

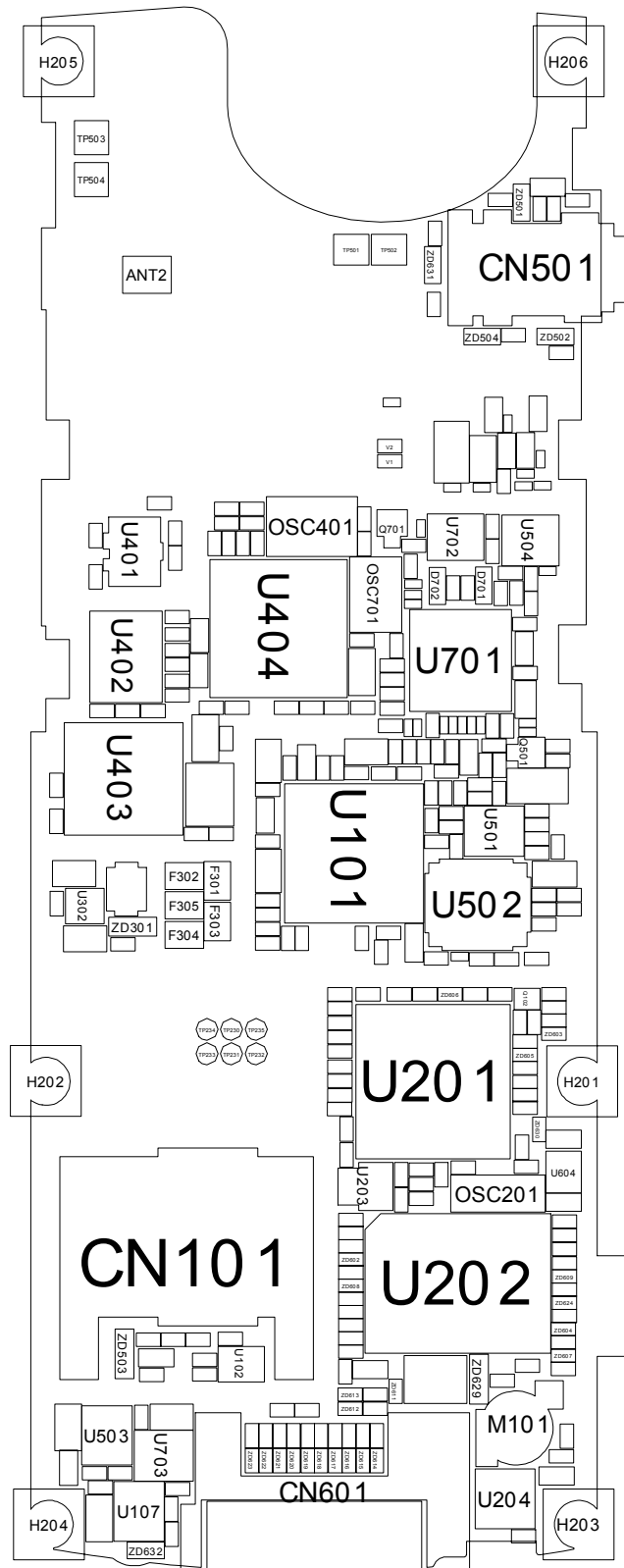
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2203-000995	C703
2203-006194	C704
2404-001225	C705
2203-005061	C706
2203-001598	C707
2203-000885	C708
2203-005512	C709
2203-000254	C710
2203-006093	C711
2203-006194	C712
2203-005509	C713
2203-006194	C714
2203-006194	C715
2203-006093	C716
2203-006194	C717
2203-006647	C718
2203-006647	C719
2203-006647	C720
2203-006194	C721
2203-000438	C722
2203-000278	C723
2203-005050	C724
2203-006137	C725
2203-006137	C726
2203-000438	C727
3709-001335	CN101
3722-002249	CN501
3710-002017	CN601
0405-001067	D701
0405-001067	D702
2901-001317	F301
2901-001317	F302
2901-001317	F303
2901-001317	F304
2901-001317	F305
2703-002767	L301
2703-001512	L401
2703-001751	L402
2703-002759	L403

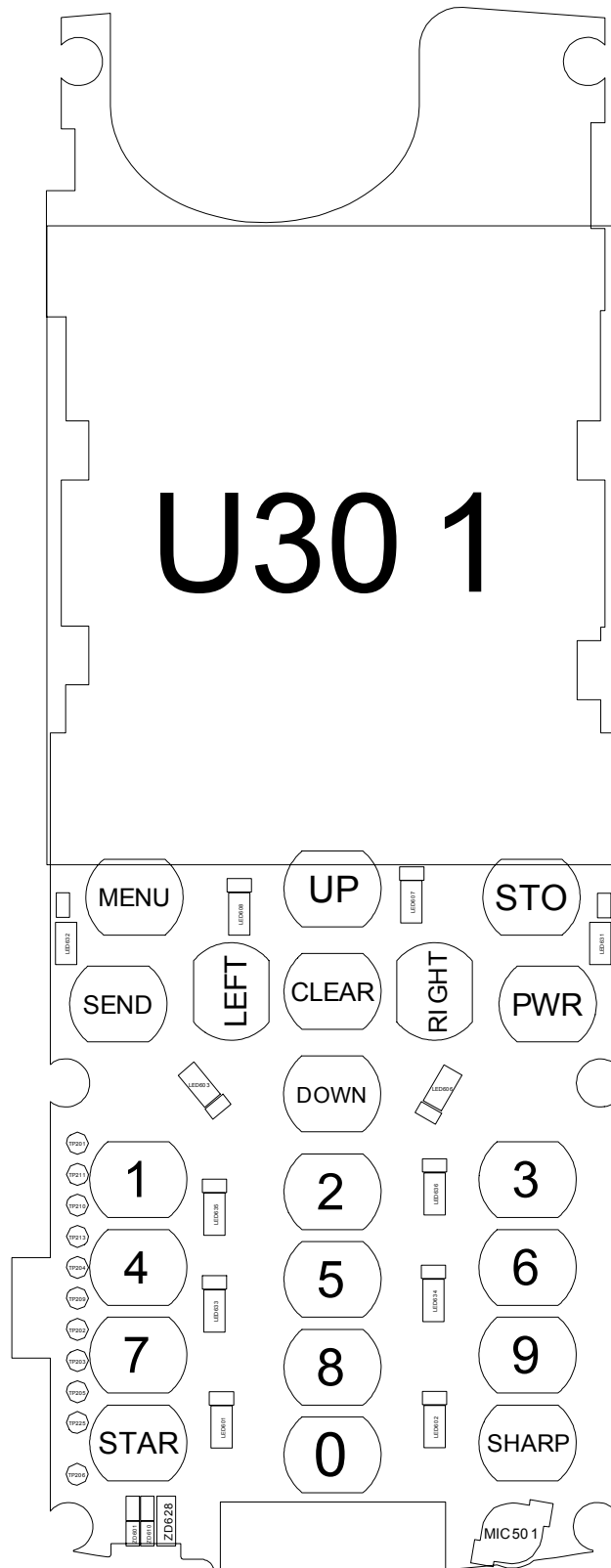
Design LOC	SEC Code
2007-008055	R709
2007-008542	R710
1203-003304	U101
0801-000796	U102
1203-003389	U107
GH09-00029A	U201
1109-001274	U202
1209-001219	U203
GH09-00022A	U204
1203-003443	U302
3705-001358	U401
2909-001225	U402
1201-002177	U403
1205-002433	U404
1001-001261	U501
1204-002161	U502
1203-001256	U503
1001-001152	U504
1203-003105	U604
1204-002023	U701
1201-001951	U702
1203-002054	U703
1405-001082	V1
1405-001082	V2
0403-001446	ZD301
0406-001150	ZD501
0406-001150	ZD502
0403-001387	ZD503
0406-001150	ZD504
1405-001082	ZD601
1405-001082	ZD602
1405-001082	ZD603
1405-001082	ZD604
1405-001082	ZD605
1405-001082	ZD606
1405-001082	ZD607
1405-001082	ZD608
1405-001082	ZD609
1405-001082	ZD610
1405-001082	ZD611

SEC Code	Design LOC
2703-002308	L405
2703-001235	L501
2703-001235	L502
2703-001235	L503
2703-001881	L504
2703-001235	L505
2703-001673	L701
2703-001723	L702
2703-001723	L703
0601-001094	LED601
0601-001094	LED602
0601-001094	LED603
0601-001094	LED606
0601-001094	LED607
0601-001094	LED608
0601-001094	LED631
0601-001094	LED632
0601-001094	LED633

Design LOC	SEC Code
1405-001082	ZD612
1405-001082	ZD613
1405-001082	ZD614
1405-001082	ZD615
1405-001082	ZD616
1405-001082	ZD617
1405-001082	ZD618
1405-001082	ZD619
1405-001082	ZD620
1405-001082	ZD621
1405-001082	ZD622
1405-001082	ZD623
1405-001082	ZD624
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1405-001082	ZD630
0406-001150	ZD631
0406-001150	ZD632

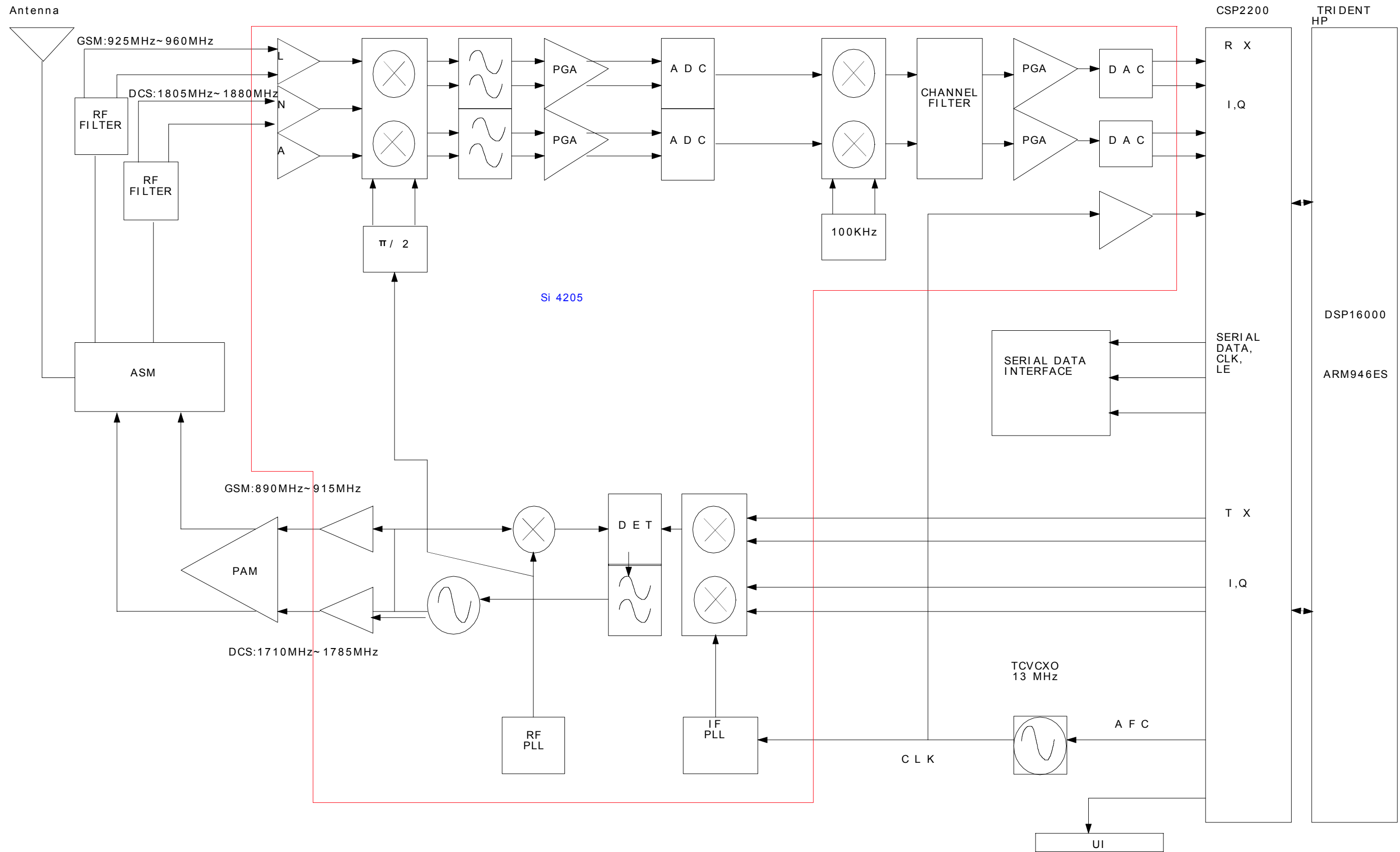
5. SGH-X140 PCB Diagrams





6. SGH-X140 Block Diagrams

6-1. RF Solution Block Diagram



6-2. Base Band Solution Block Diagram

