SAMSUNG

GSM TELEPHONE
SGH-D428

SERVICE Manual

GSM TELEPHONE

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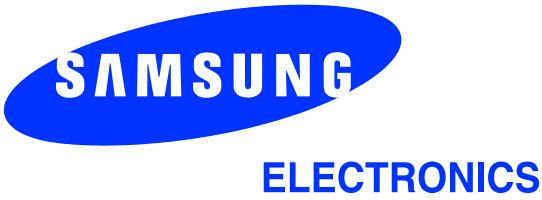

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Code No.: GH68-06337A

BASIC.

1. SGH-D428 Specification

1. GSM General Specification

	GSM900 Phase 1	EGSM 900 Phase 2	DCS1800 Phase 1	PCS1900
Freq. Band[MHz] Uplink/Downlink	890~915 935~960	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990
ARFCN range	1~124	0~124 & 975~1023	512~885	512~810
Tx/Rx spacing	45MHz	45MHz	95MHz	80MHz
Mod. Bit rate/ Bit Period	270.833kbps 3.692us	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	576.9us 4.615ms
Modulation	0.3GMSK	0.3GMSK	0.3GMSK	0.3GMSK
MS Power	33dBm~13dBm	33dBm~5dBm	30dBm~0dBm	30dBm~0dBm
Power Class	5pcl ~ 15pcl	5pcl ~ 19pcl	0pcl ~ 15pcl	0pcl ~ 15pcl
Sensitivity	-102dBm	-102dBm	-100dBm	-100dBm
TDMA Mux	8	8	8	8
Cell Radius	35Km	35Km	2Km	-

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2. GSM TX power class

TX Power control level	GSM900
5	33±2dBm
6	31±2dBm
7	29±2dBm
8	27±2dBm
9	25±2dBm
10	23±2dBm
11	21±2dBm
12	19±2dBm
13	17±2dBm
14	15±2dBm
15	13±2dBm
16	11±2dBm
17	9±2dBm
18	7±2dBm
19	5±2dBm

TX Power control level	DCS1800
0	30±3dBm
1	28±3dBm
2	26±3dBm
3	24±3dBm
4	22±3dBm
5	20±3dBm
6	18±3dBm
7	16±3dBm
8	14±3dBm
9	12±4dBm
10	10±4dBm
11	8±4dBm
12	6±4dBm
13	4±4dBm
14	2±5dBm
15	0±5dBm

TX Power control level	PCS1900
0	30±3dBm
1	28±3dBm
2	26±3dBm
3	24±3dBm
4	22±3dBm
5	20±3dBm
6	18±3dBm
7	16±3dBm
8	14±3dBm
9	12±4dBm
10	10±4dBm
11	8±4dBm
12	6±4dBm
13	4±4dBm
14	2±5dBm
15	0±5dBm

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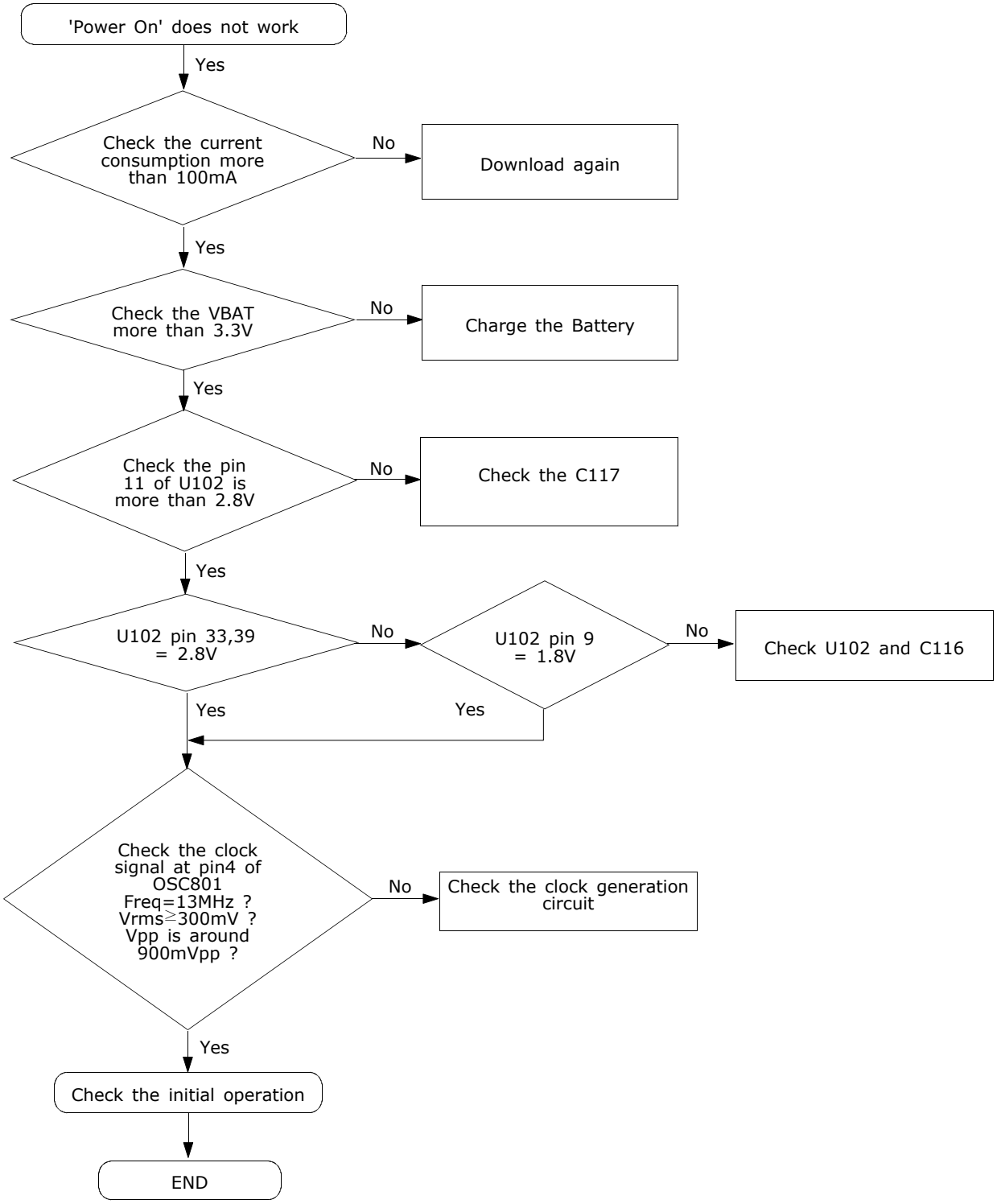
2. SGH-D428 Flow Chart of Troubleshooting

1.Baseband

1. Power ON



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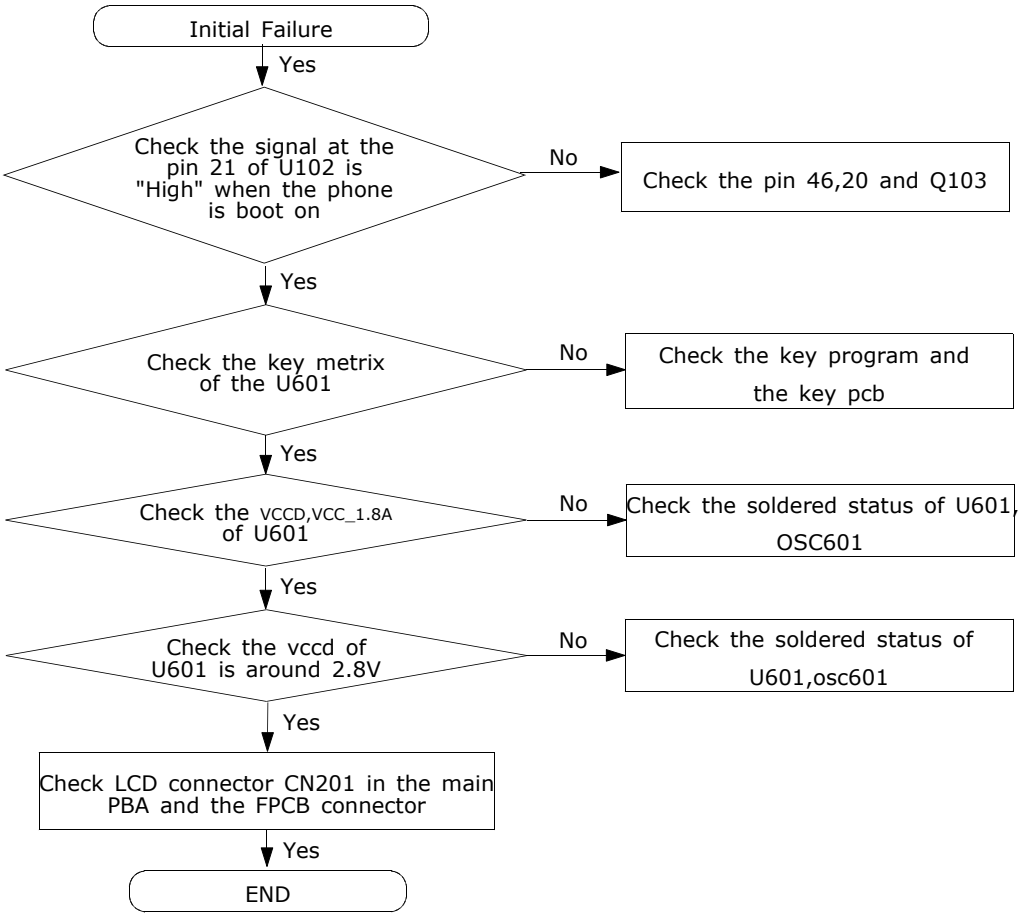
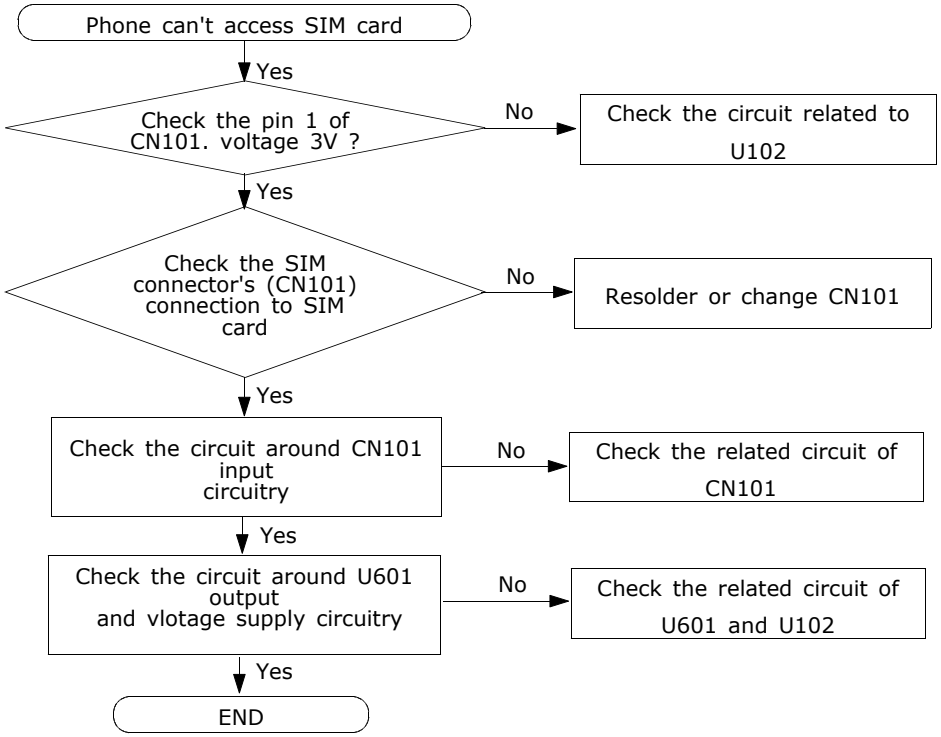
2. Initial



3. Sim Part



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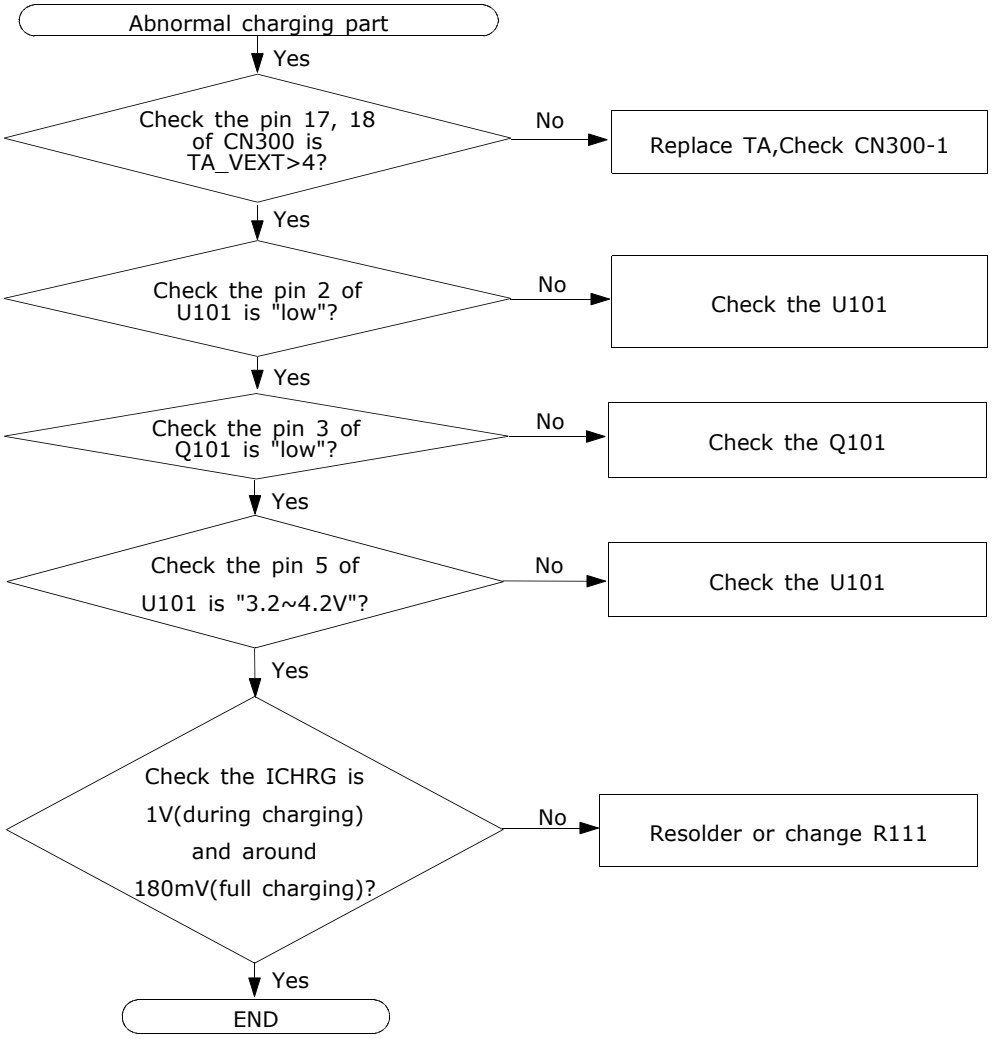
4. Charging Part



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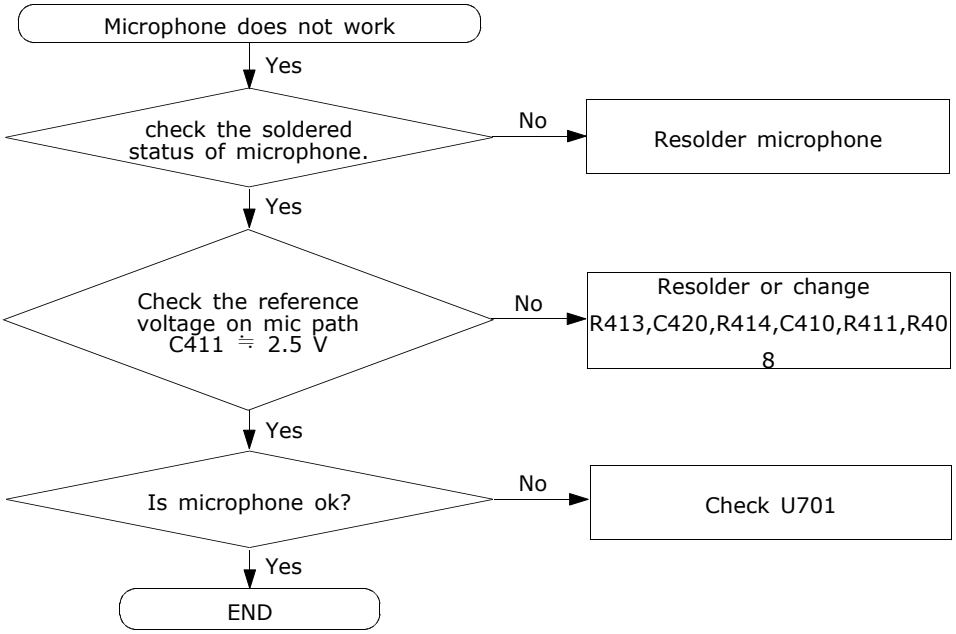
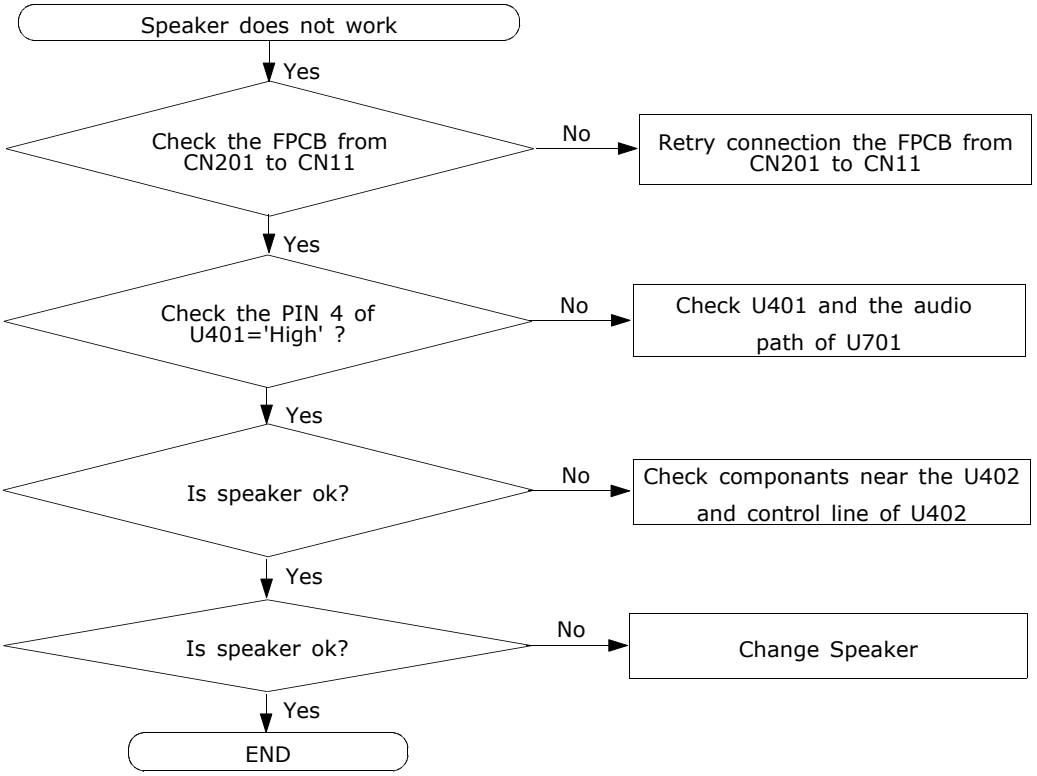
5. Microphone Part



6. Speaker Part



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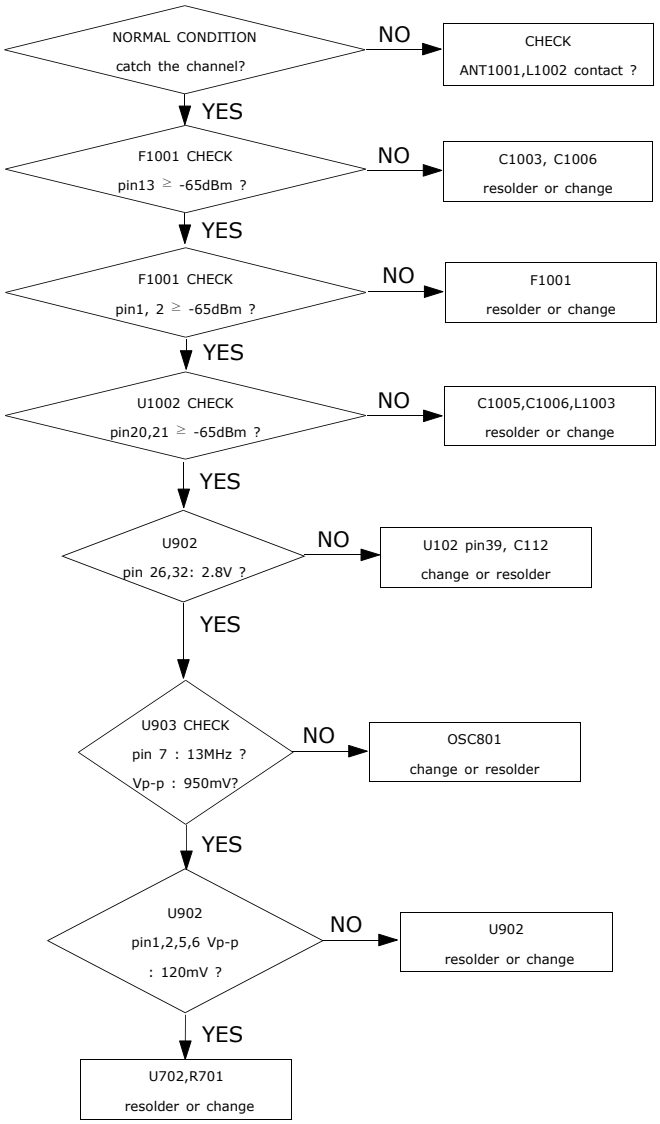
2.RF

1. EGSM RX

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



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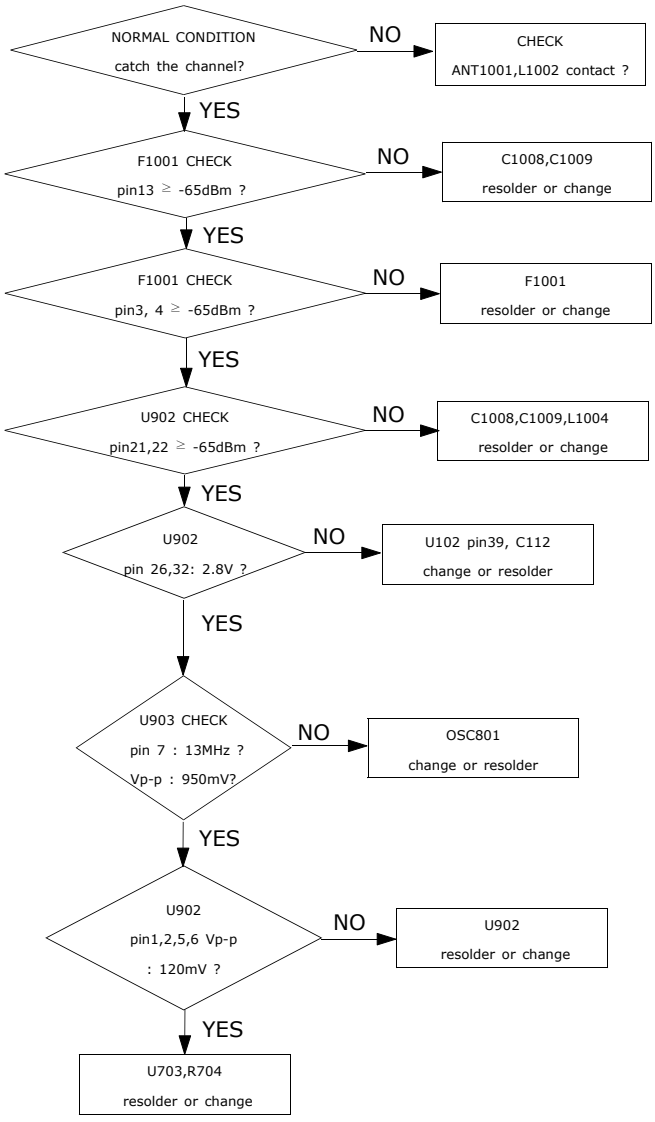
2. DCS RX

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



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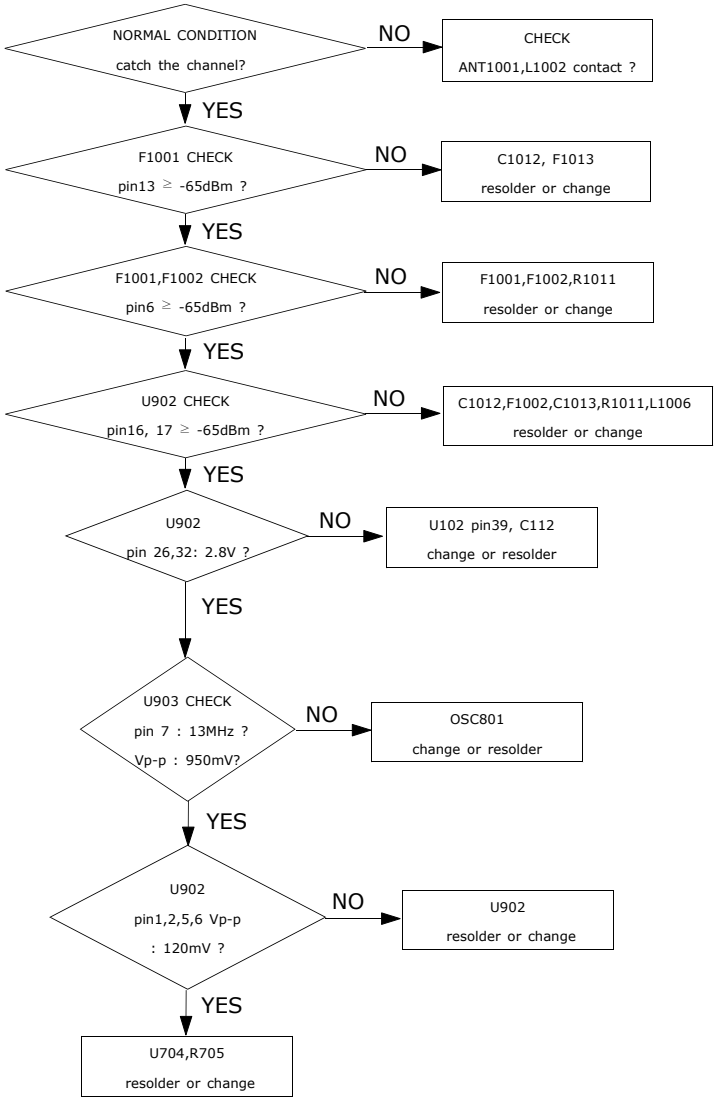
3. PCS RX

CONTINUOUS RX ON
RF INPUT : 660CH
AMP : -50dBm



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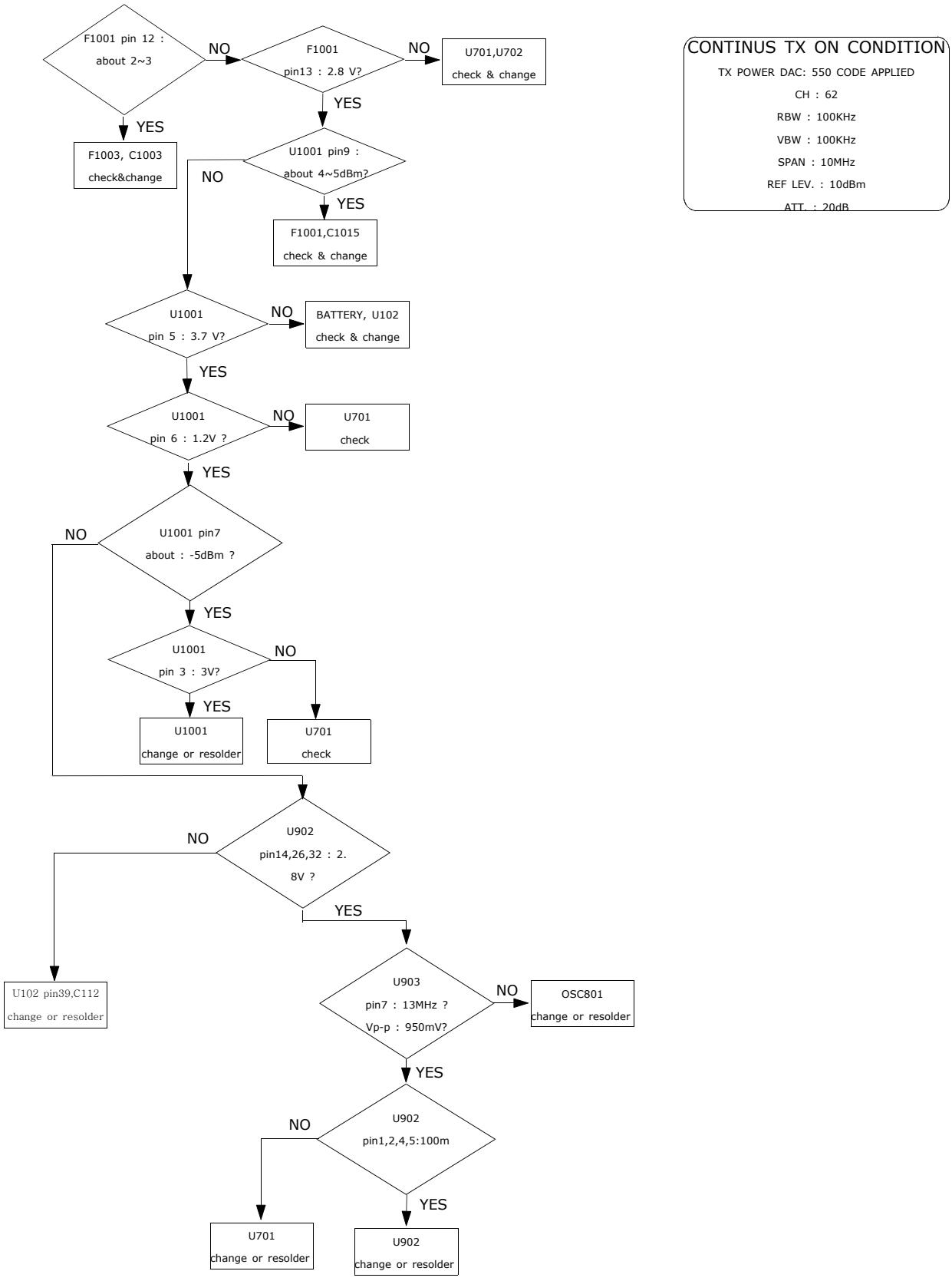
4. EGSM TX



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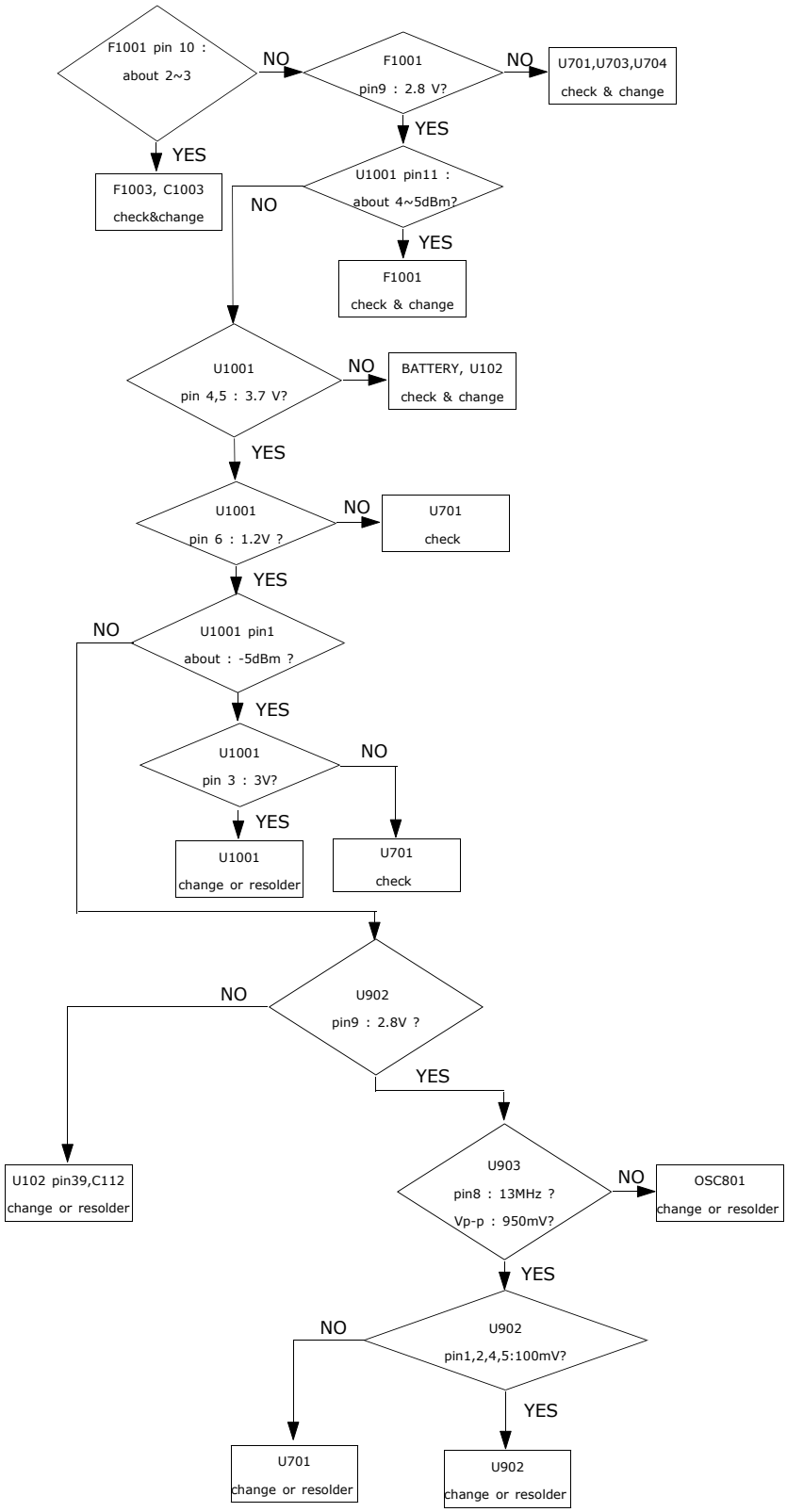
5. DCS/PCS TX



CONTINUOUS TX ON CONDITION
CH : 698CH(DCS),660CH(PCS)
TX POWER CODE: 350 CODE Aplied
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB

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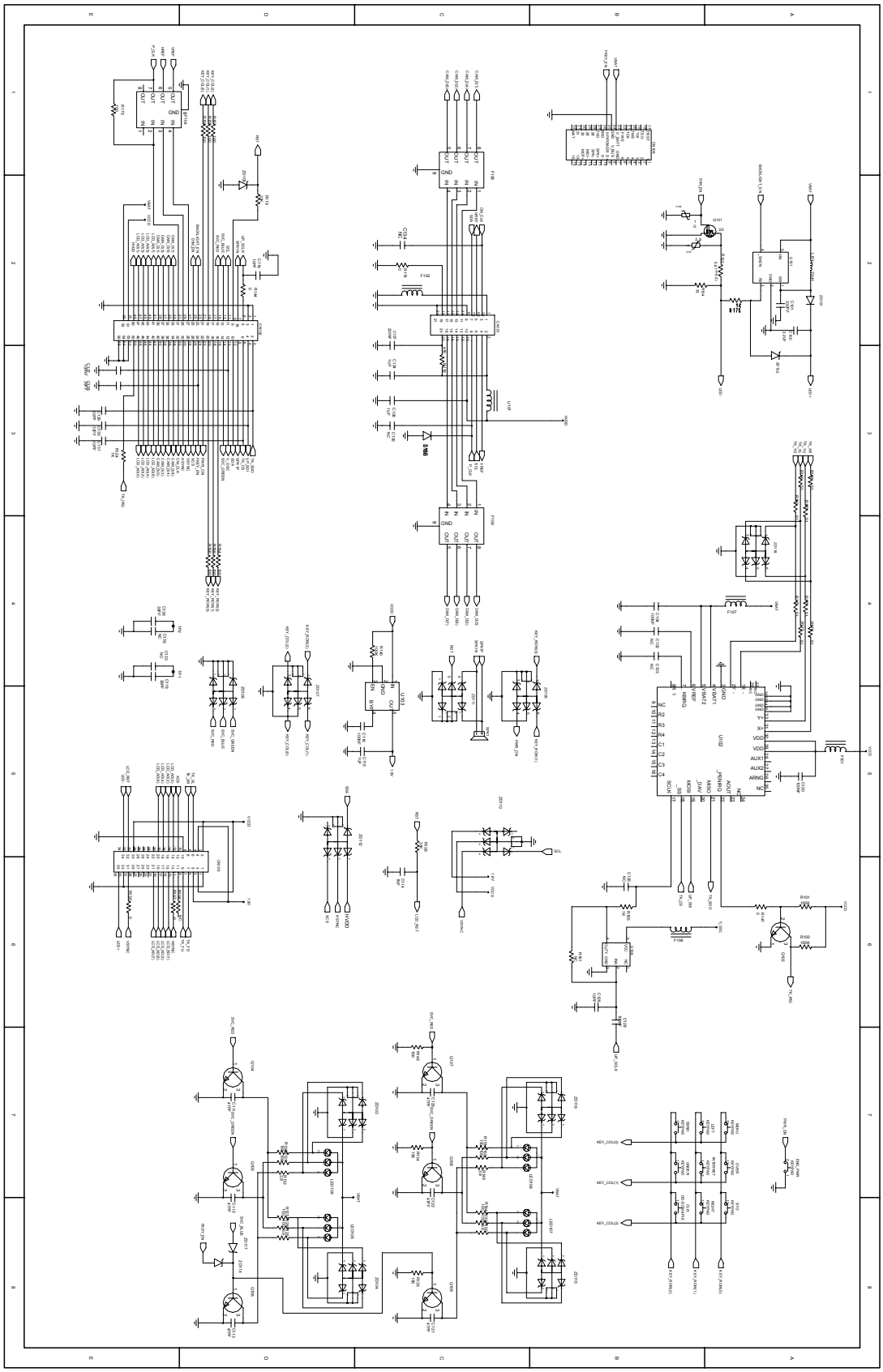

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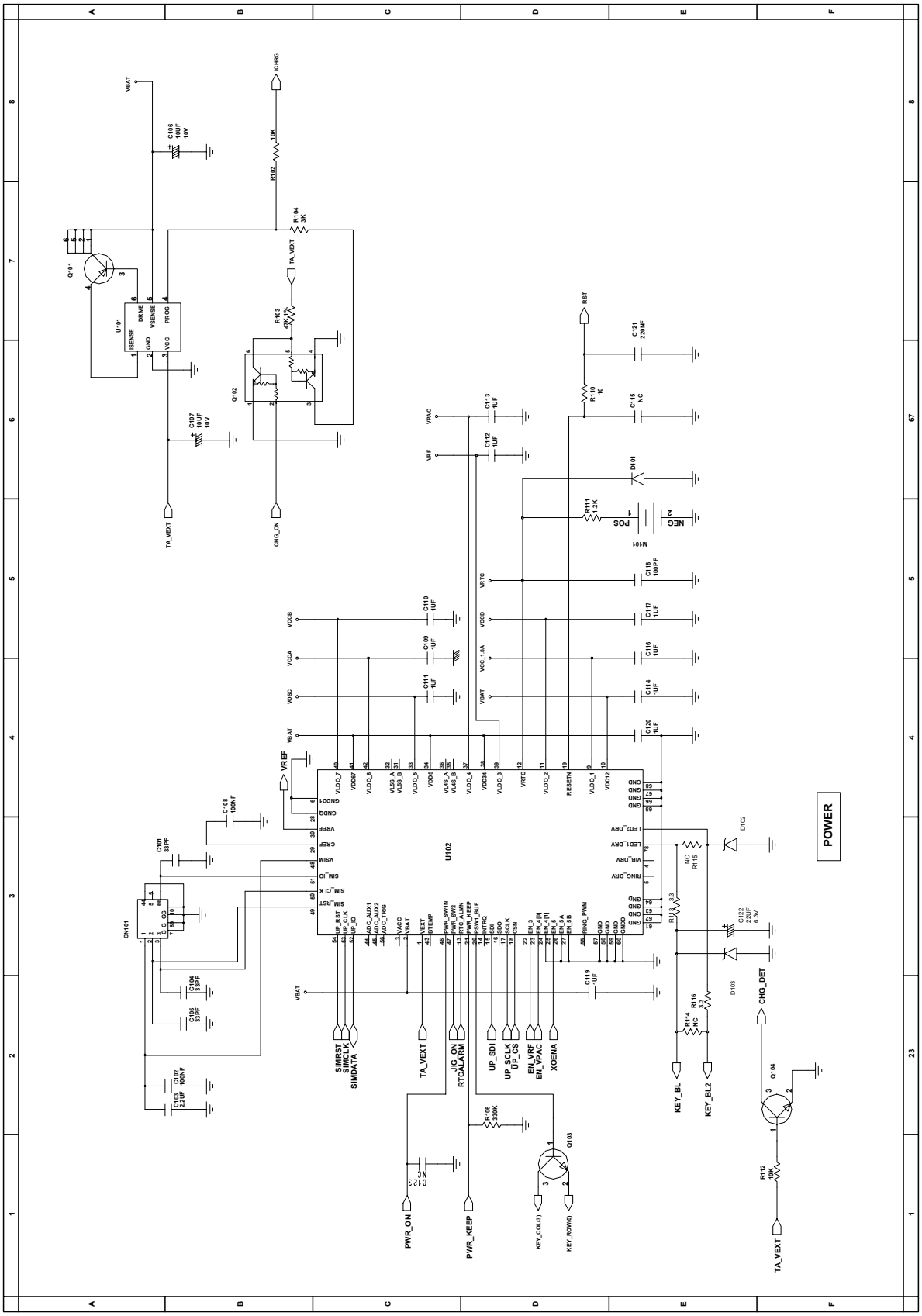

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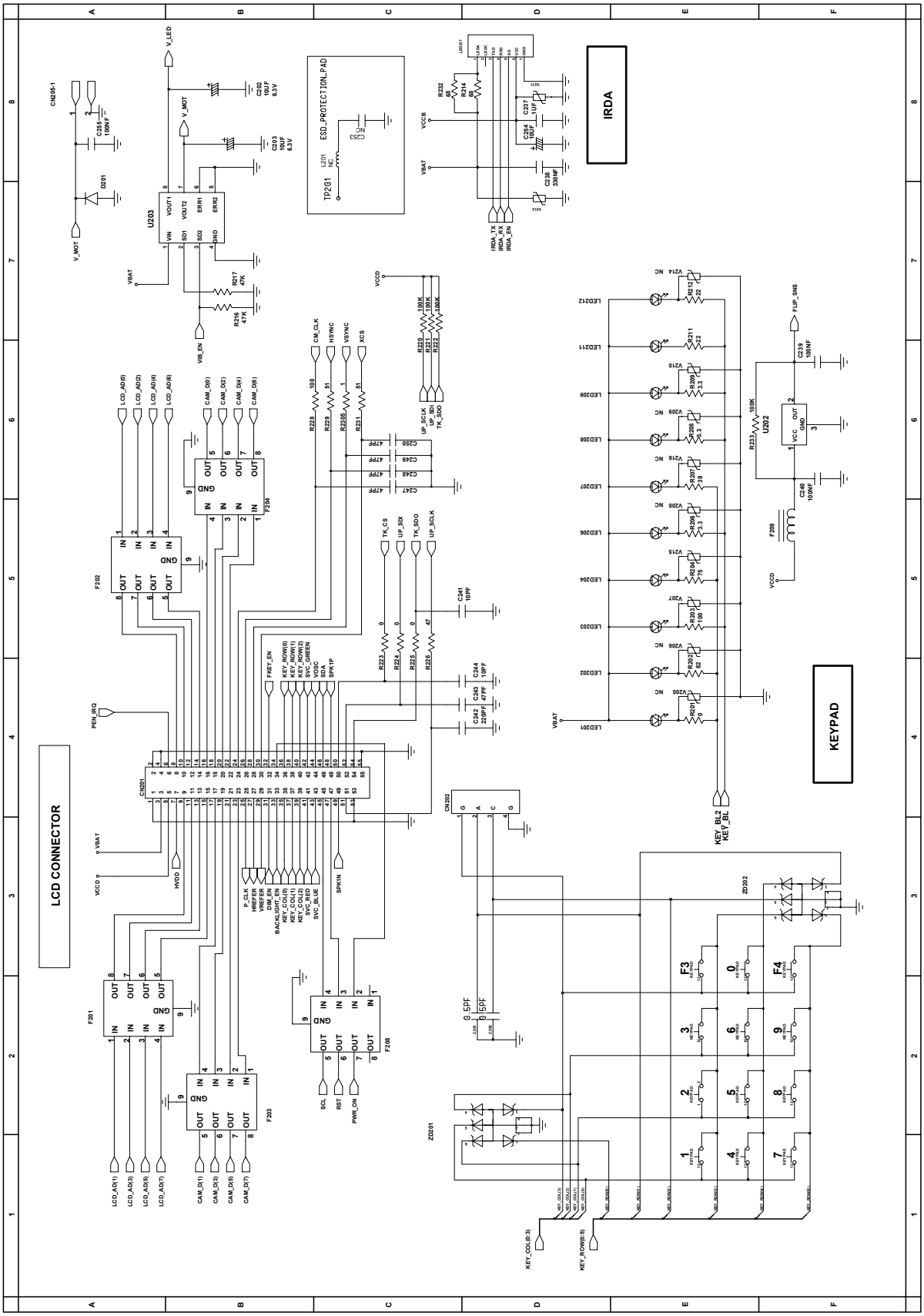

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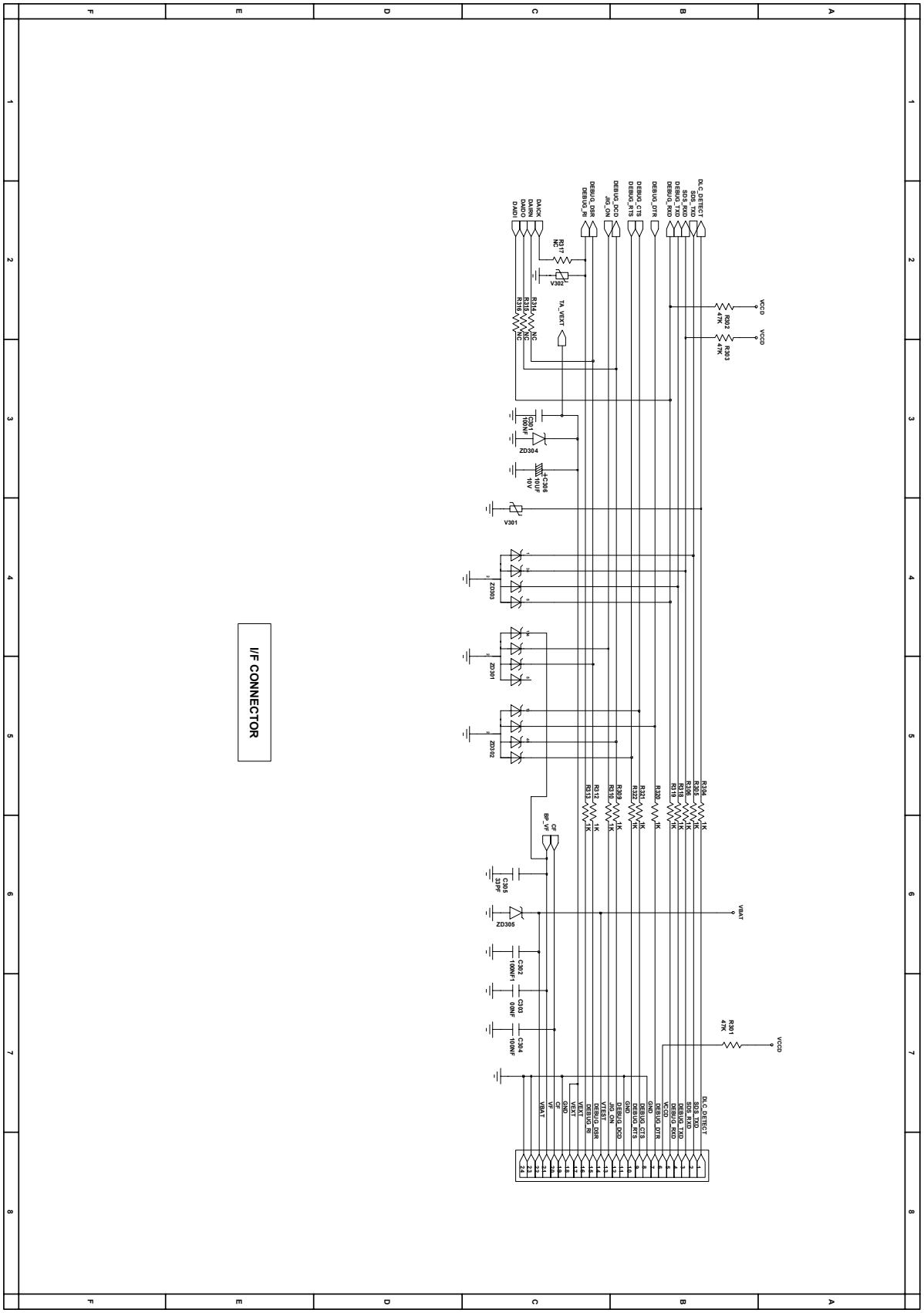

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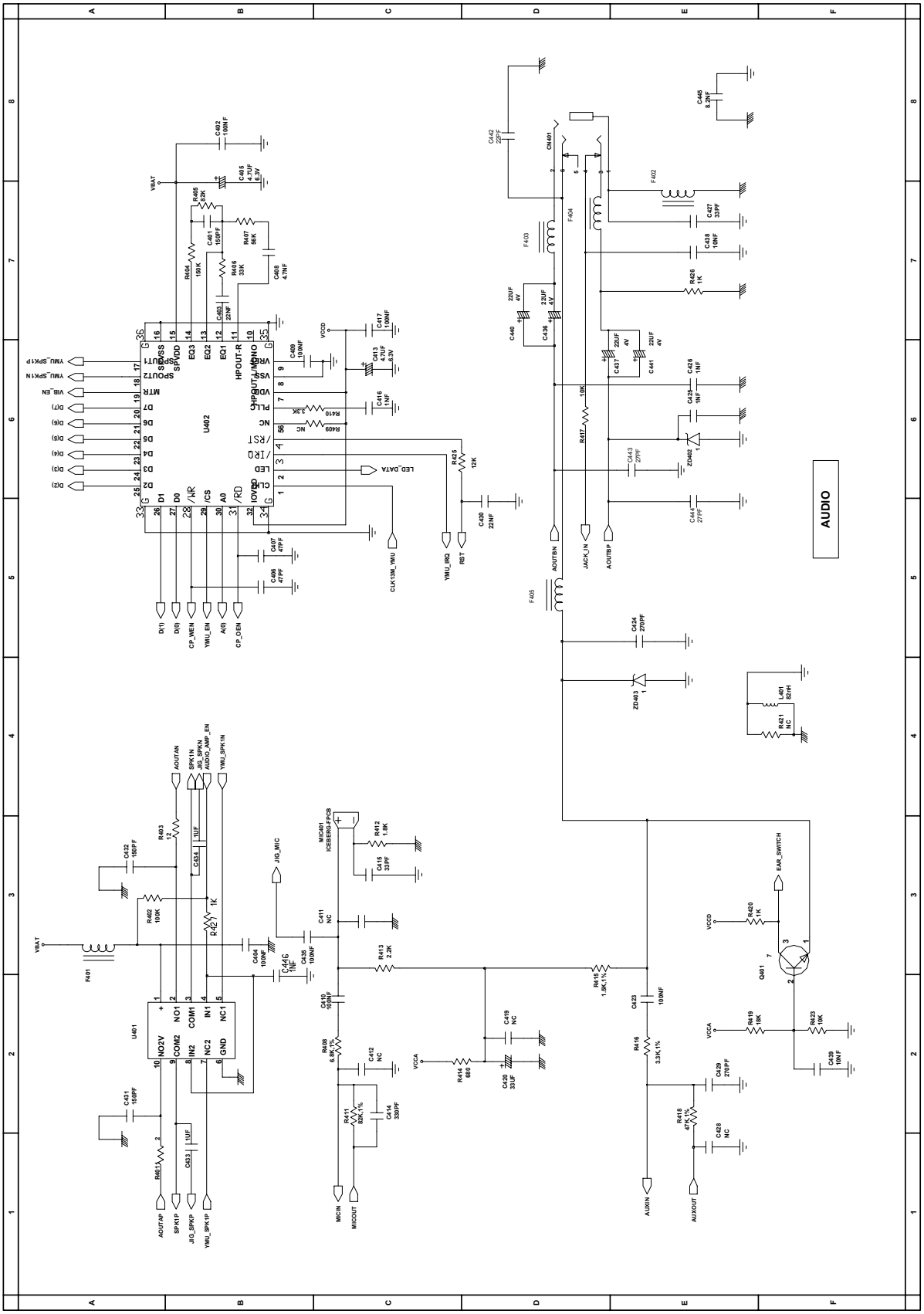

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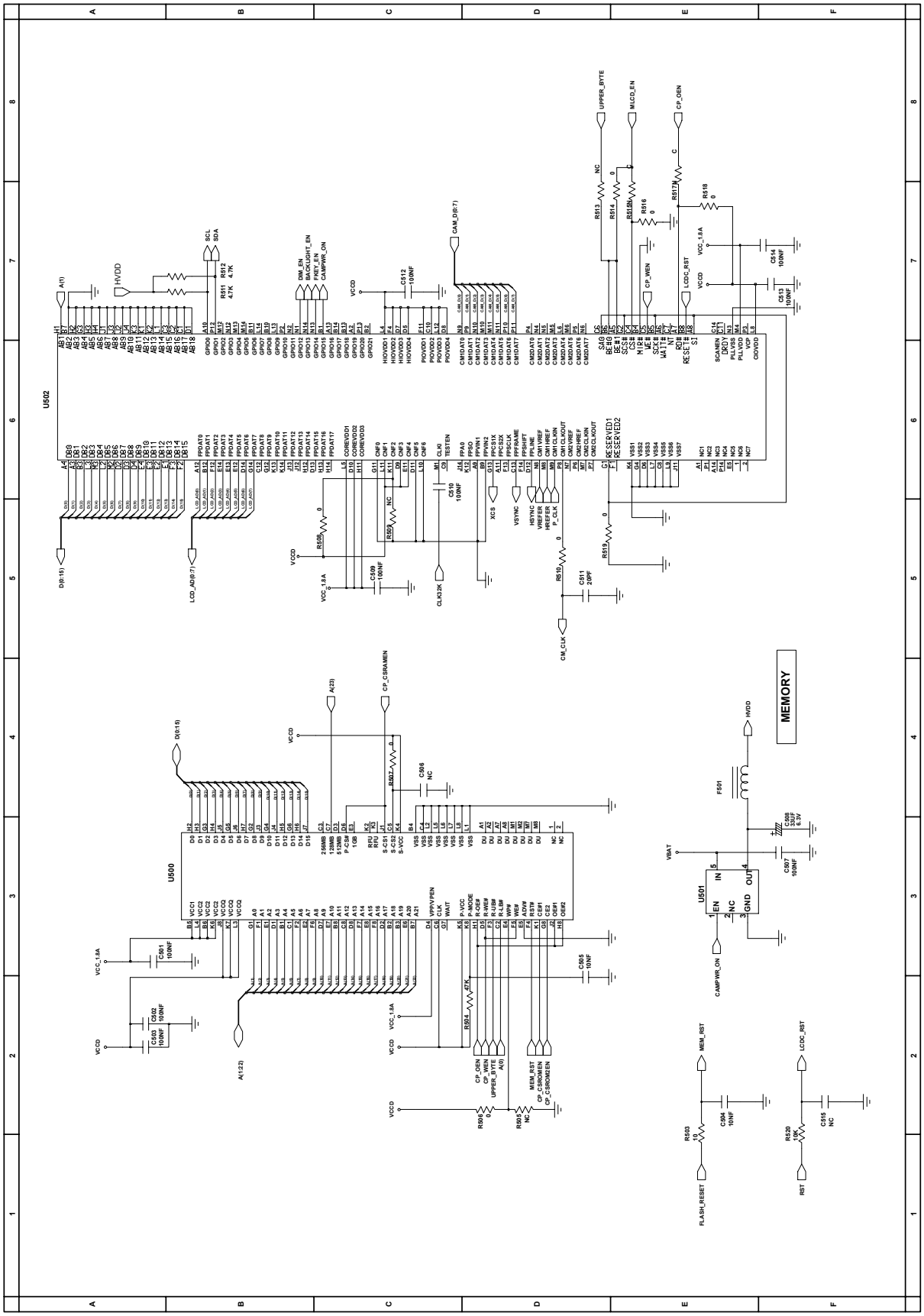

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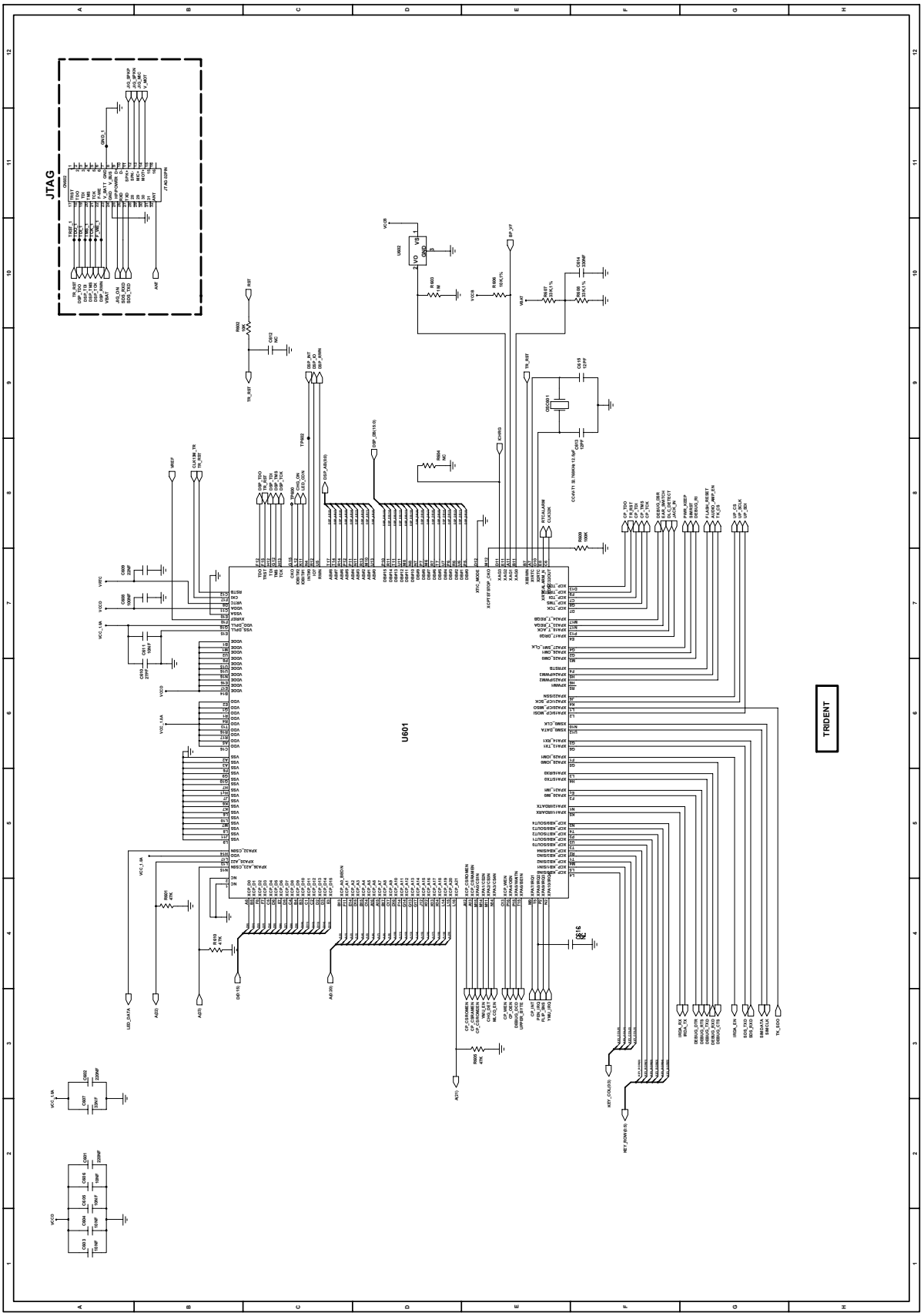

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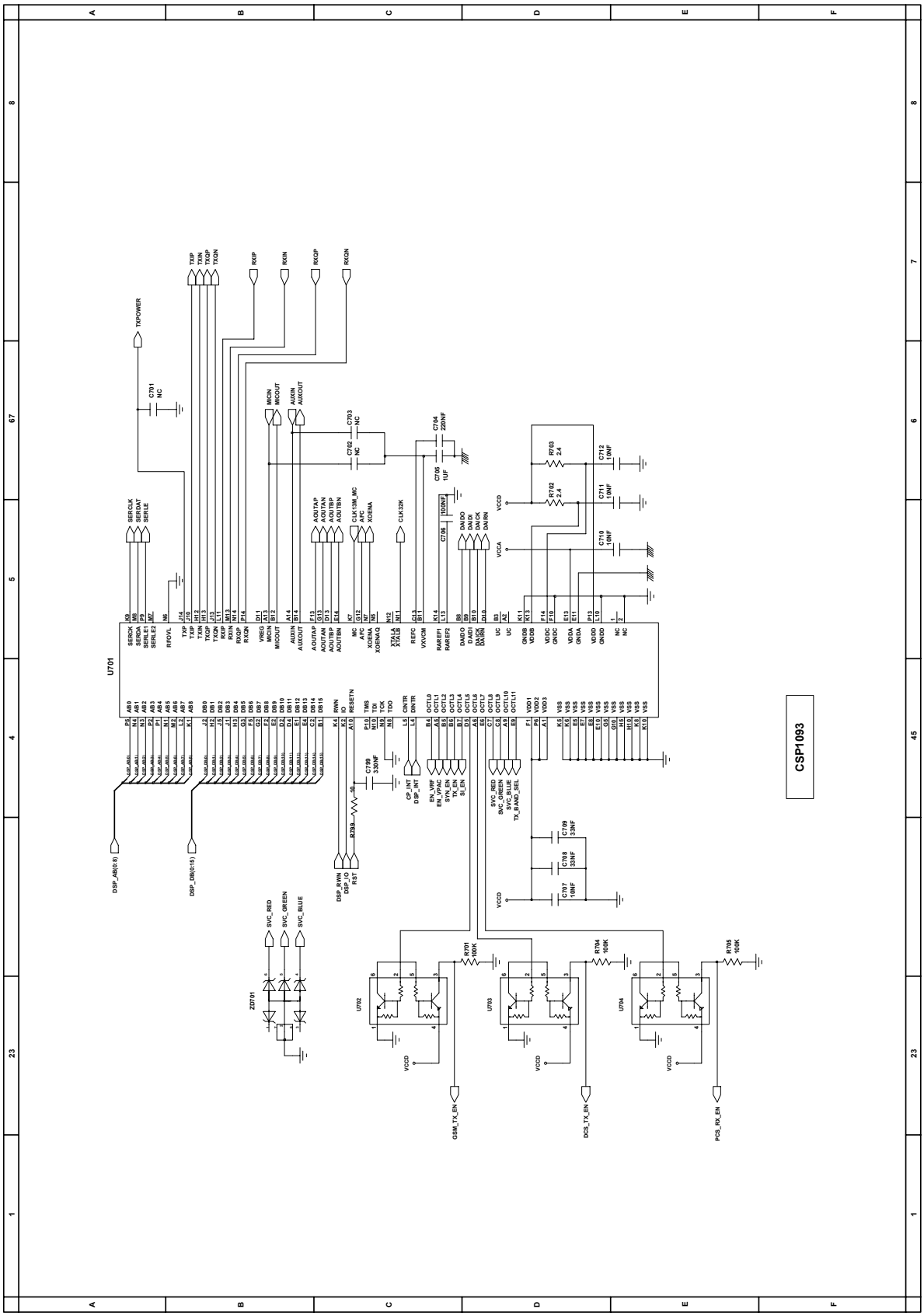

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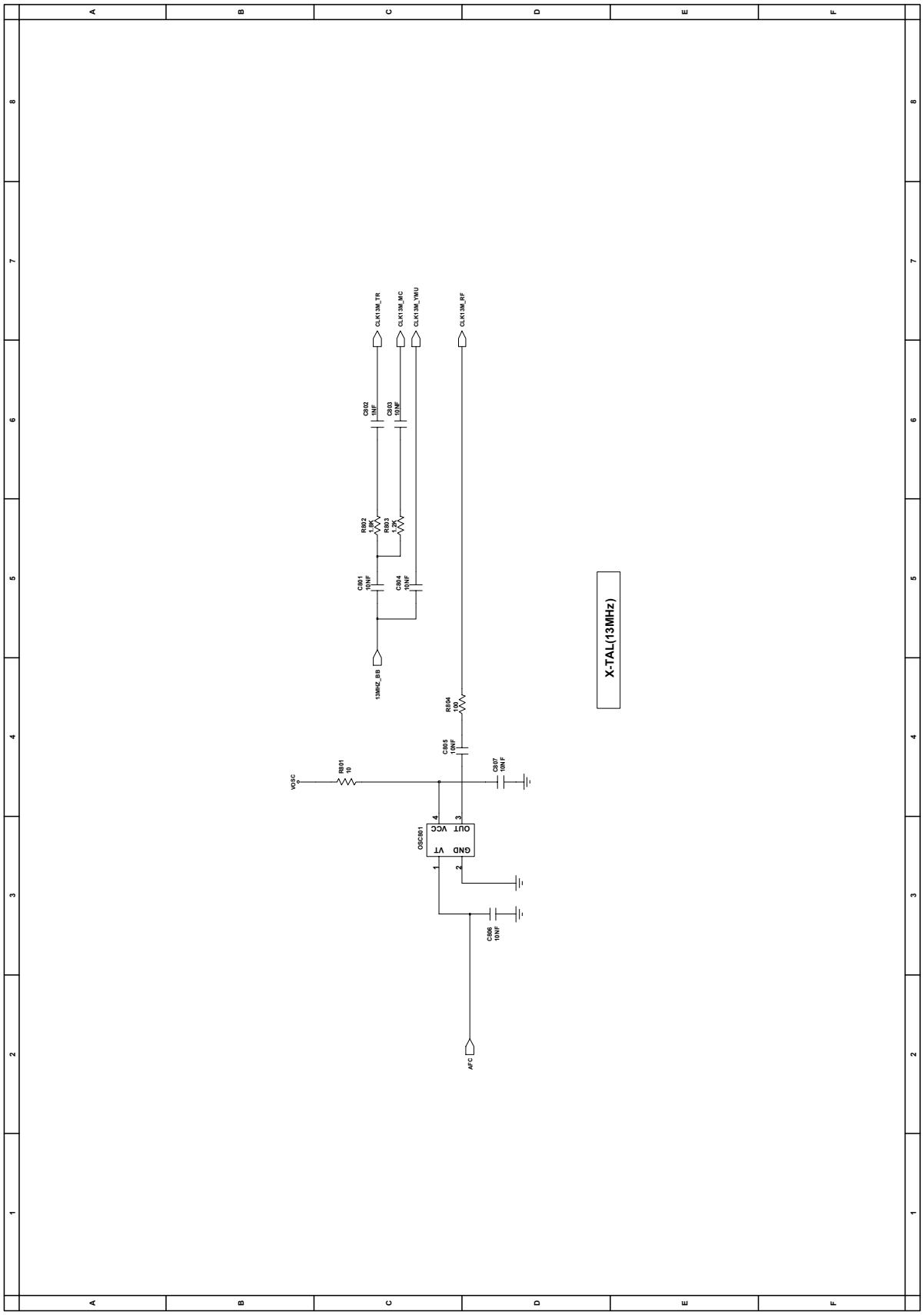

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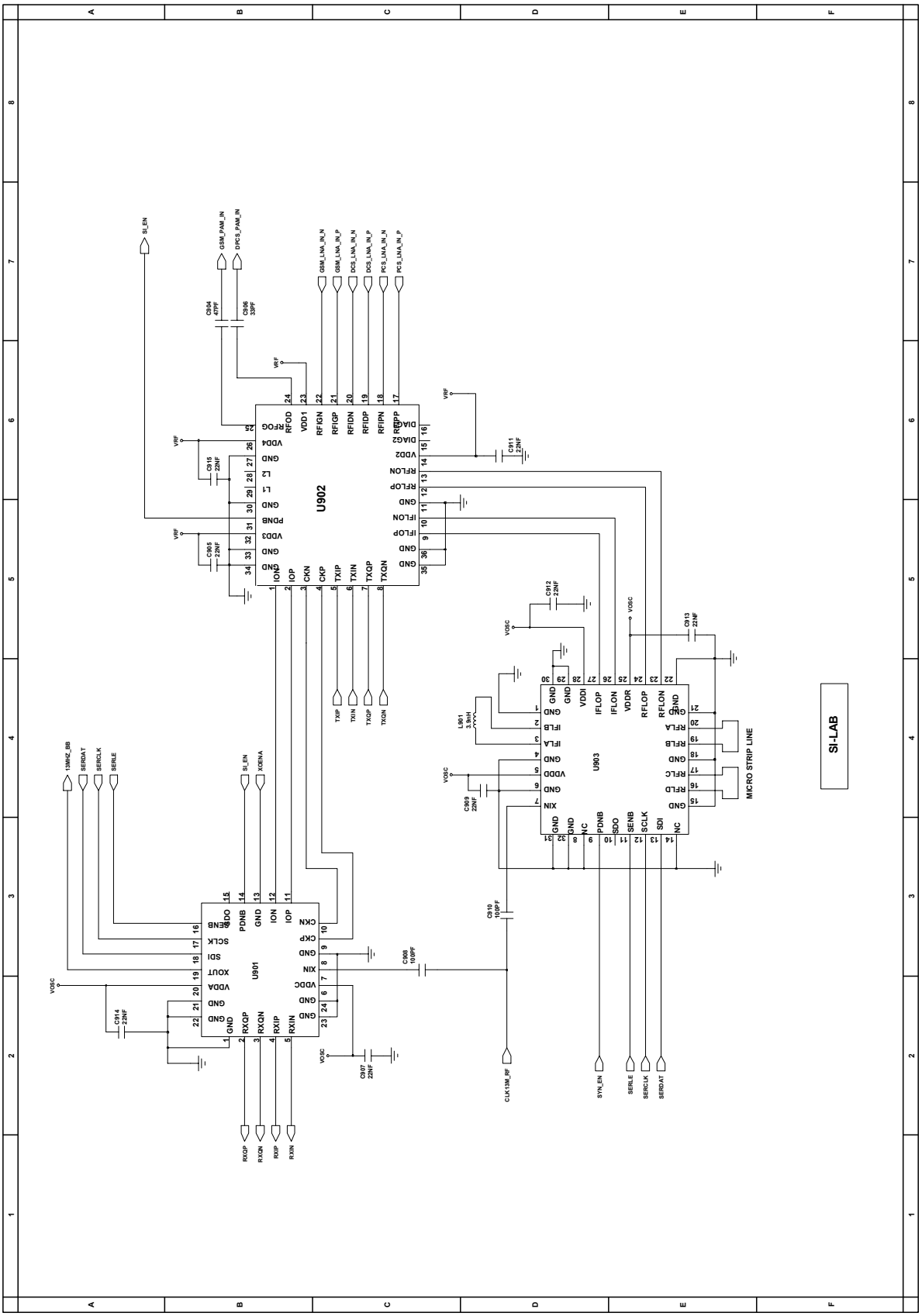

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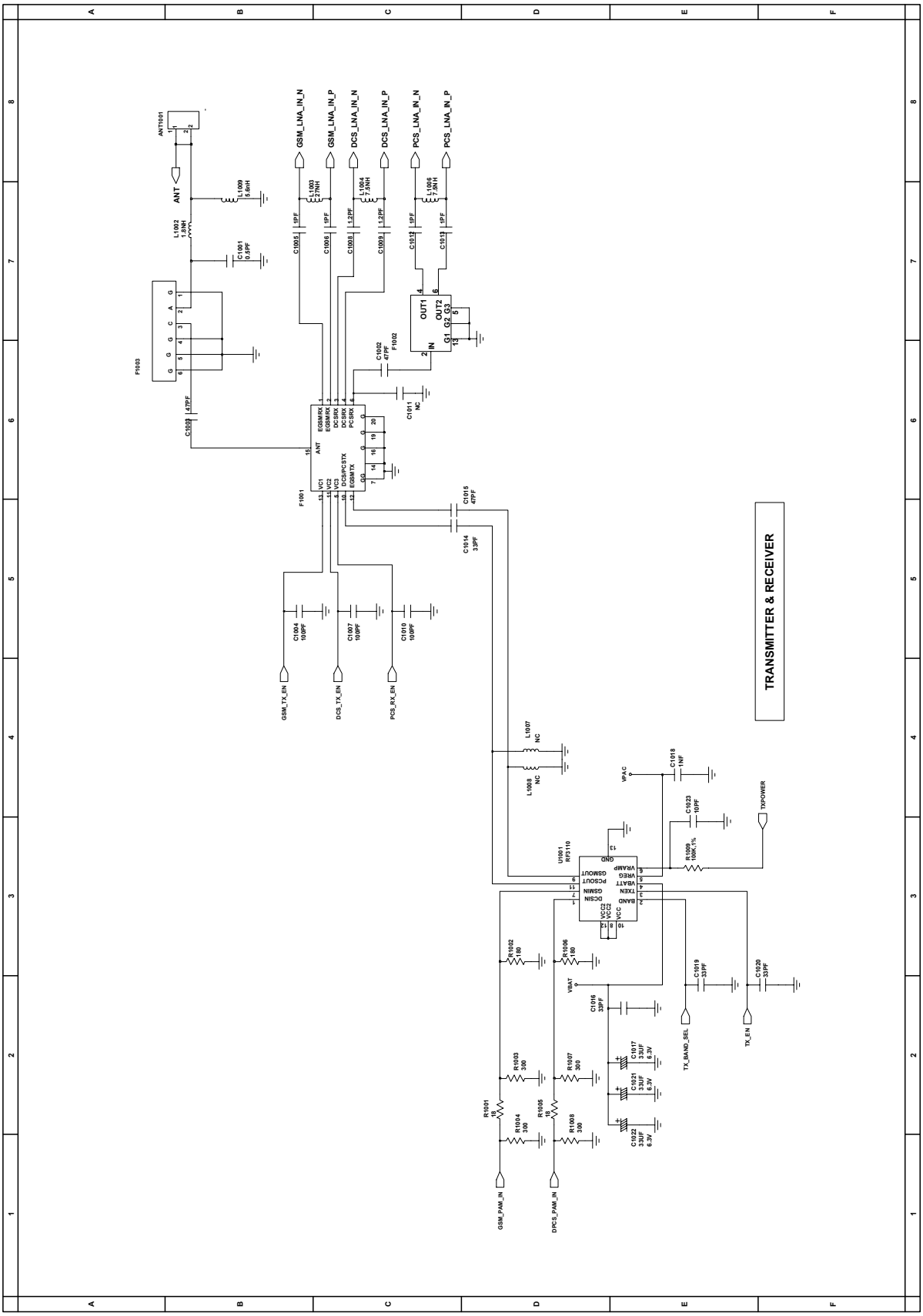

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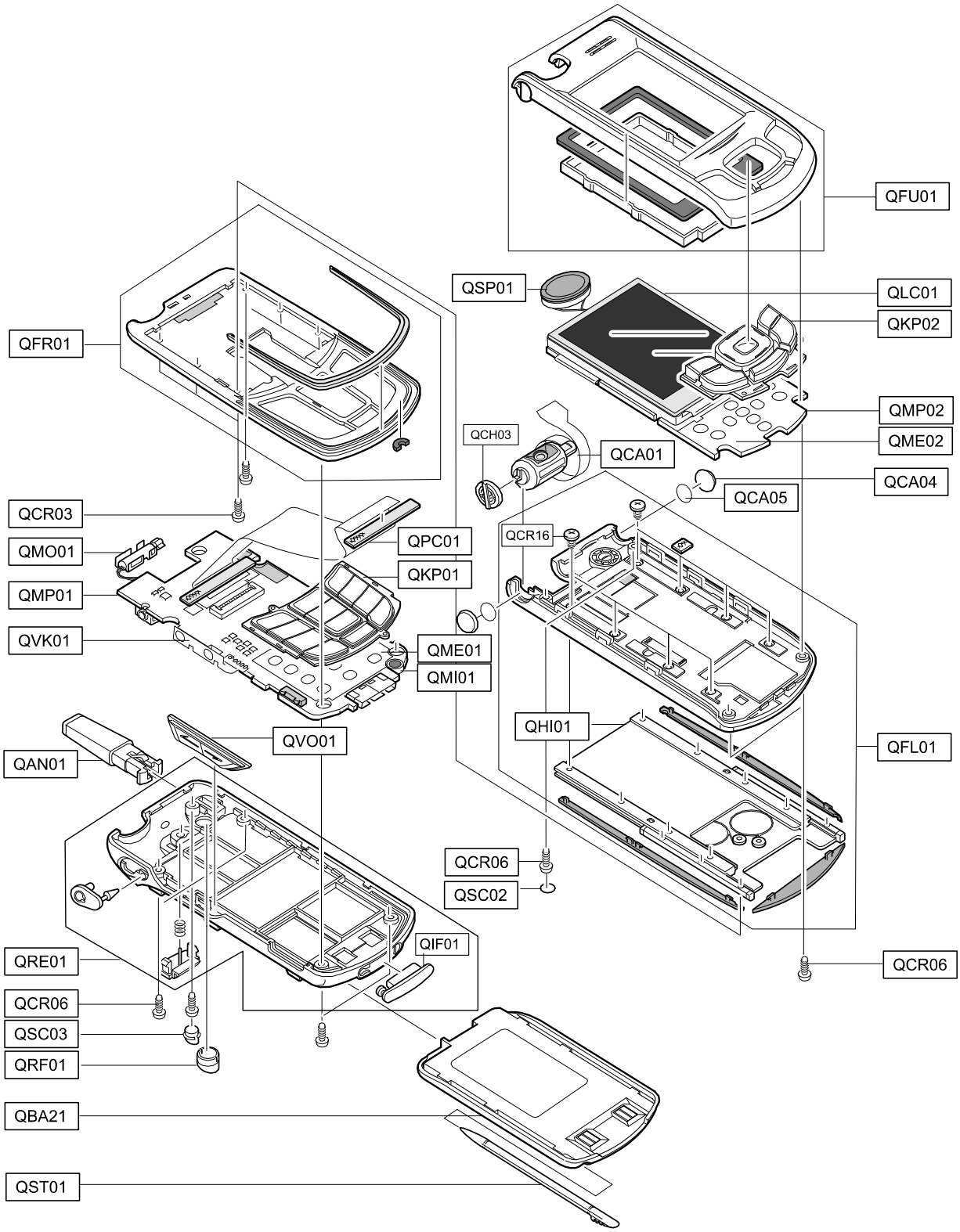
3. SGH-D428 Exploded View and its Parts list

1. Cellular phone Exploded View



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2. Cellular phone Parts list

Location NO.		Description	SEC CODE	Remark
QCR06		SCREW	6001-001155	
QBA21		BATTERY	GH43-01391A	
QRF01		RF COVER	GH72-12560A	
QSC03		SCREW HOLD COVER	GH73-03392A	
QVO01		VOLKEY ASSY	GH75-04340A	
QST01		STYLUS PEN	GH75-04341A	
QMP01		PBA MAIN	GH82-00847A	Hong Kong
QMP01		PBA MAIN	GH92-01835A	China
QMI01		MICROPHONE ASSY	GH30-00078A	
QVK01		UNIT SIDE KEY FPCB	GH59-00948A	
QME01		UNIT-METAL DOME	GH59-01453A	
QSP01		SPEAKER	3001-001560	
QCR06		SCREW	6001-001155	
QCR03		SCREW	6001-001811	
QLC01		LCD	GH07-00565A	
QMO01		MOTOR DC	GH31-00052A	
QPC01		PCB 55PIN FPCB	GH41-00629A	
QCA01		UNIT CAMERA	GH59-01465A	
QCA04		SIDE DECO	GH71-04444A	
QSC02		HINGE SCREW CAP	GH74-03847A	
QCA05		SIDE DECO COVER	GH74-11770A	
QCH03		CAMERA HINGE	GH75-03936A	
QFU01		SLIDER UPPER ASSY	GH75-04336A	
QFR01		FRONT COVER ASSY	GH75-04338A	
QKP01		KEYPAD MAIN	GH75-04342A	
QKP02		MENU KEY ASSY	GH75-04343A	
QFL01		S/LOWER ASSY	GH75-04626A	
	QCR16	SCREW	6001-001823	
	QHI01	HINGE ASSY	GH75-04143A	
QMP02		PBA LCD	GH92-01892A	
QME02		UNIT METAL DOME	GH59-01449A	
QAN01		ANTENNA	GH42-00428A	
QRE01		REAR COVER	GH75-04339A	
	QIF01	IF COVER	GH72-12562A	

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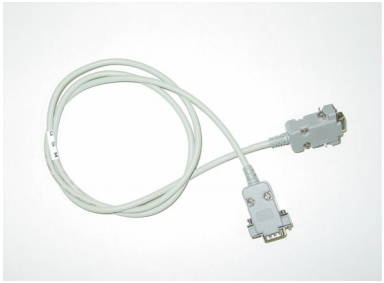
3. Test Jig (GH80-00865A)

3-1. RF Test Cable
(GH39-00090A)

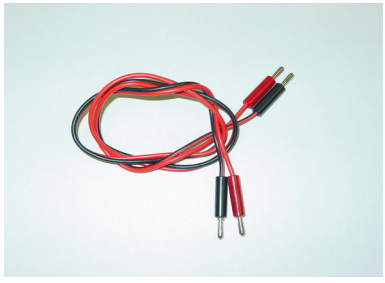
3-2. Test Cable
(GH39-00127A)

3-3. Serial Cable



3-4. Power Supply Cable

3-5. DATA CABLE
(GH39-00201C)



3-6. TA
(GH44-00483A):China

3-7. TA
(GH44-00770A):Hong Kong

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4. SGH-D428 MAIN Electrical Parts List

1.Main Parts List

SEC CODE	Design LOC
0403-001387	ZD305
0403-001427	ZD304
0404-001172	D101,D201
0406-001084	ZD301,D302,D303
0406-001150	D102,D103,ZD402,ZD403
0406-001190	ZD201,ZD202,ZD701
0501-000225	Q401
0502-001201	Q101
0504-001042	U702,U703,U704
0504-001113	Q103,Q104
0506-001052	Q102
0601-001790	LED201,LED202,LED203,LED204
0601-001790	LED206,LED207,LED208,LED209
0601-001790	LED211,LED212
0604-001261	LED217
0904-001784	U502
1001-001183	U401
1009-001010	U202
1109-001281	U500
1201-001889	U1001
1203-002127	U101
1203-002542	U203
1203-002851	U501
1203-002902	U102
1204-001984	U701
1204-002138	U402
1205-002185	U901
1205-002268	U902
1209-001219	U602
1209-001434	U903
1405-001019	V301,V302
1405-001082	V207,V210,V211,V212,V215
2007-000138	R203,R804
2007-000140	R304,R305,R306,R309,R310
2007-000140	R312,R313,R318,R319,R320
2007-000140	R321,R322,R420,R426,R427

SEC CODE	Design LOC
2007-000141	R413
2007-000143	R511,R512
2007-000148	R423,R520,R602,R102,R112,R417
2007-000149	R425
2007-000157	R216,R217,R301,R302,R303
2007-000157	R504,R601,R605,R610
2007-000159	R407
2007-000161	R405
2007-000162	R220,R221,R222,R233,R402
2007-000162	R609,R701,R704,R705
2007-000164	R404
2007-000170	R603
2007-000171	R201,R223,R224,R225,R506
2007-000171	R507,R508,R510,R514,R516
2007-000171	R518,R519
2007-000172	R110,R503,R799,R801
2007-000173	R211,R212
2007-000174	R226
2007-000758	R106
2007-000775	R406
2007-001119	R414
2007-001217	R202
2007-001288	R1001,R1005
2007-001295	R207
2007-001301	R214,R232
2007-001307	R1002,R1006
2007-001319	R111,R803
2007-001320	R802
2007-001323	R104
2007-001325	R410
2007-001333	R419
2007-003001	R401,R403
2007-007008	R1003,R1004,R1007,R1008
2007-007009	R204
2007-007107	R1009
2007-007139	R103,R418

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SEC CODE	Design LOC
2007-007142	R606
2007-007197	R113,R116,R206,R208,R209
2007-007200	R702,R703
2007-007308	R607,R608
2007-007313	R408
2007-007316	R416
2007-007528	R415
2007-007590	R411
2007-008045	R228
2007-008549	R412
2007-008806	R229,R230
2007-008806	R231
2203-000233	C1004,C1007,C1010,C118
2203-000233	C908,C910
2203-000254	C438,C439,C504,C505,C603
2203-000254	C604,C605,C606,C611,C707
2203-000254	C710,C711,C712,C801,C803
2203-000254	C804,C805,C806,C807
2203-000278	C1023,C241,C244
2203-000330	C613,C615
2203-000359	C401,C431,C432
2203-000438	C1018,C416,C425,C426,C446
2203-000438	C802
2203-000550	C511
2203-000585	C242
2203-000628	C442
2203-000654	C424,C429
2203-000679	C443,C444
2203-000679	C610
2203-000812	C101,C1014,C1016,C1019
2203-000812	C1020,C104,C105,C305
2203-000812	C427,C906
2203-000885	C408
2203-000995	C1002,C1003,C1015,C243
2203-000995	C406,C407,C904
2203-001210	C445
2203-001405	C403,C430,C609,C905,907

SEC CODE	Design LOC
2203-001405	C909,C911,C912,C913,C914
2203-001405	C915
2203-001598	C103
2203-002443	C414
2203-002668	C1001,C251,C252
2203-005061	C102,C239,C240,C255,C301
2203-005061	C302,C303,C304,C402,C404
2203-005061	C409,C417,C501,C502,C503
2203-005061	C507,C509,C510,C512,C513
2203-005061	C514,C608,C706
2203-005065	C705
2203-005148	C410,C423
2203-005234	C1008,C1009
2203-005288	C1005,C1006,C1012,C1013
2203-005480	C607,C708,C709
2203-005482	C108,C435
2203-005496	C121,C601,C602,C704
2203-005509	C238,C614,C799
2203-005682	C415
2203-006053	C109,C110,C111,C112,C113
2203-006053	C114,C116,C117,C119,C120
2203-006093	C237,C433,C434
2203-006556	C247,C248,C249,C250
2404-001086	C405,C413
2404-001105	C202,C203
2404-001225	C254
2404-001268	C106,C107,C306
2404-001305	C1017,C1021,C1022,C420
2404-001305	C508
2404-001375	C436,C437,C440,C441
2703-001729	L1002
2703-001751	L901
2703-002281	L1009
2703-002309	L401
2703-002484	L1004,L1006
2703-002485	L1003
2801-003747	OSC601

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SEC CODE	Design LOC
2809-001264	OSC801
2901-001260	F201,F202,F203,F204,F208
2904-001410	F1002
2909-001191	F1001
3301-001342	F209,F401,F402,F403,F404
3301-001342	F405,F501
3705-001255	F1003
3708-001982	CN201
3709-001187	CN101
3710-001105	CN205
3710-001673	CN300
3722-001880	CN401
4302-001130	M101
GH09-00025A	U601
GH71-01052A	ANT1001

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2.LCD Parts List

SEC CODE	Design LOC
0403-001446	ZD102
0404-001110	ZD114,ZD117
0404-001172	D100,ZD101
0406-001150	ZD105
0406-001190	ZD103,ZD104,ZD107,ZD108
0406-001190	ZD109,ZD111,ZD115,ZD116
0406-001190	ZD118
0406-001197	ZD110,ZD112
0504-001088	Q102
0504-001113	Q104,Q105,Q106,Q107,Q108
0504-001113	Q109
0505-001518	Q101
0601-001966	LED105,LED106,LED107,LED108
0801-002896	U106
1003-001760	U102
1203-002633	U101
1203-002690	U103
1405-001082	V107,V108
2007-000138	R128,R131,R152,R153,R175
2007-000140	R124,R165,R176
2007-000151	R134,R135,R148
2007-000157	R118
2007-000162	R101,R102,R140
2007-000171	F102,R137,R139,R144,R147
2007-000171	R174
2007-000775	R119,R138
2007-001292	R104
2007-001306	R127,R130,R151,R164
2007-007192	R103
2007-007195	R129,R132,R149,R150
2007-008045	R154,R155,R156,R157,R158
2007-008045	R159
2007-008806	R166,R167,R168,R169,R170
2007-008806	R171,R172,R173
2203-000278	C119,C126,C129,C130,C131
2203-000438	C114

SEC CODE	Design LOC
2203-000854	C138
2203-000995	C111,C112,C113,C121,C122
2203-000995	C123
2203-001598	C100
2203-002443	C101
2203-005061	C128,C137
2203-005482	C104,C116,C120
2203-005496	C107
2203-006053	C115
2203-006093	C108,C124
2703-002339	L101
2901-001260	F104,F108,F109
3301-001342	F101,F106,F107,U107
3708-001852	CN101
3708-001949	CN105
3708-001982	CN102

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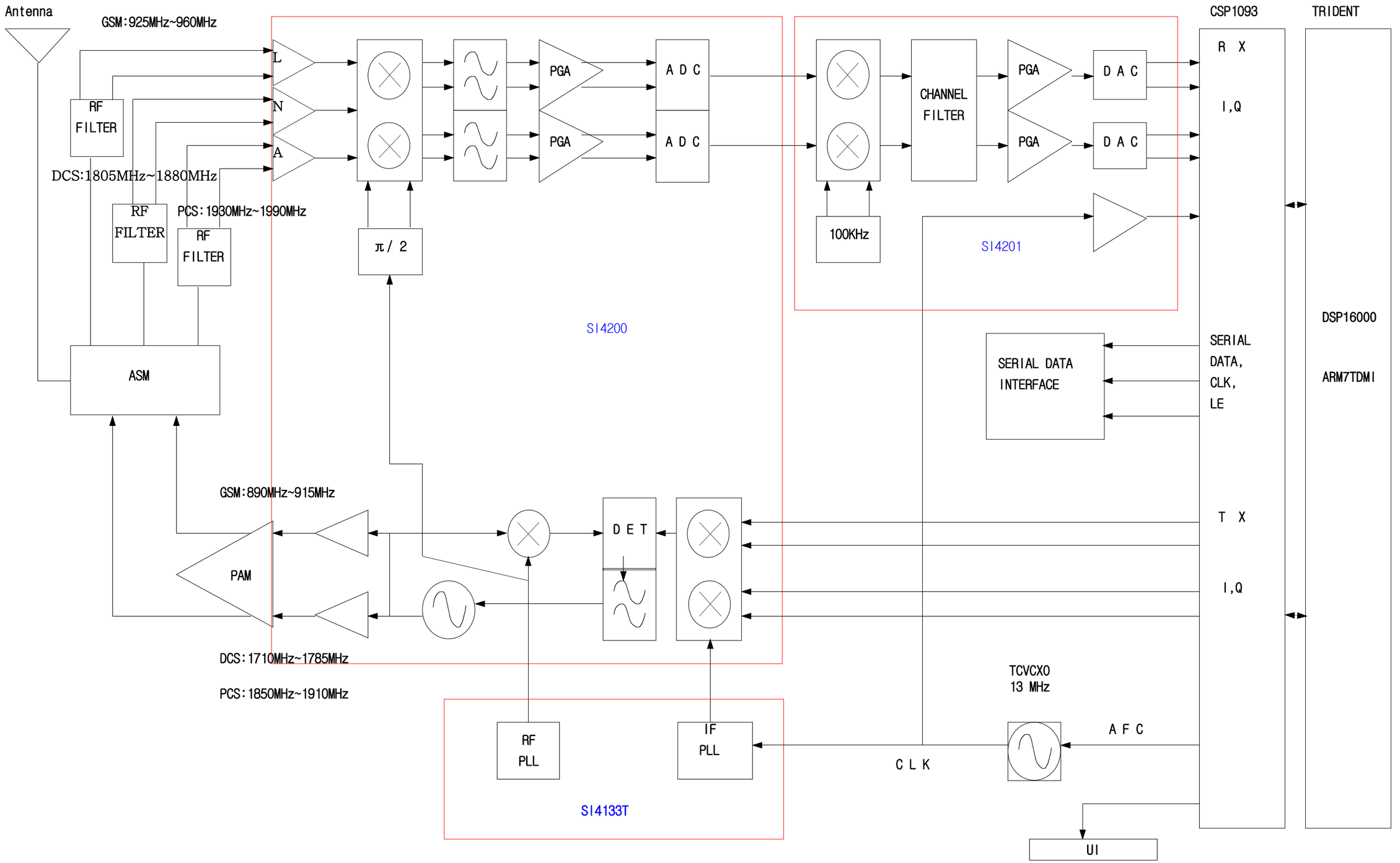
5. SGH-D428 Block Diagrams

1. RF Solution Block Diagram



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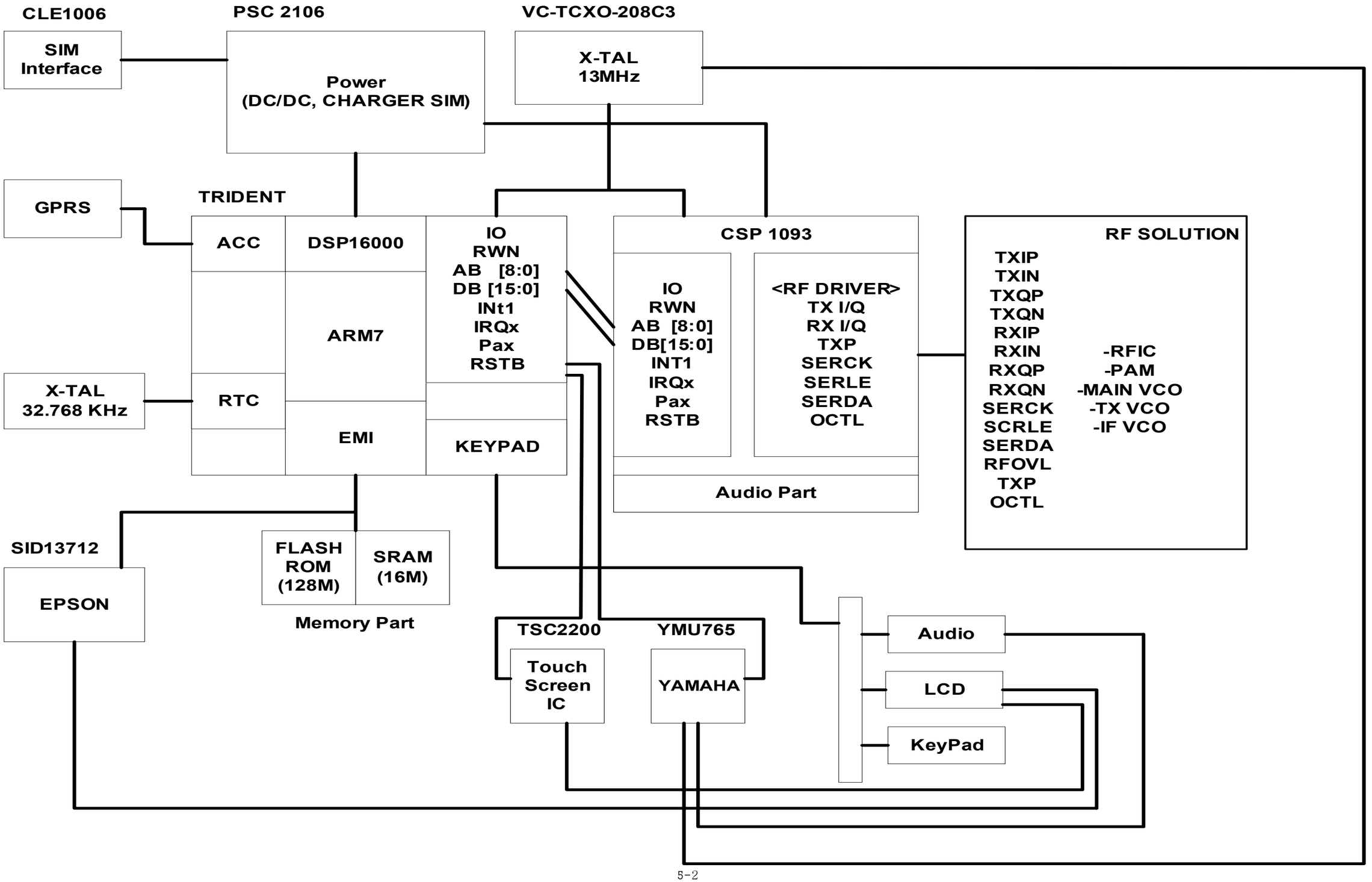
2. Base Band Solution Block Diagram



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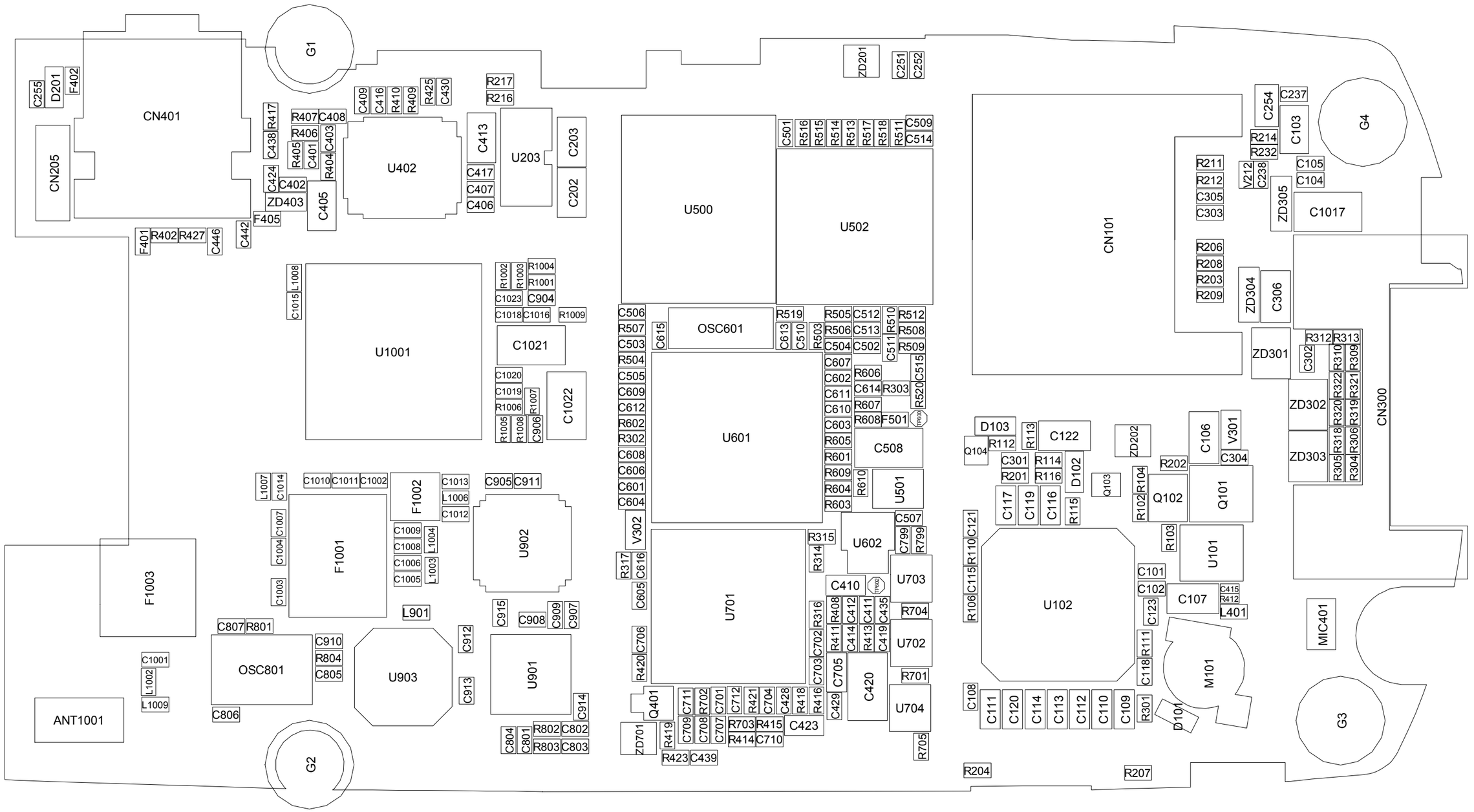
6. SGH-D428 PCB Diagrams

1.Main



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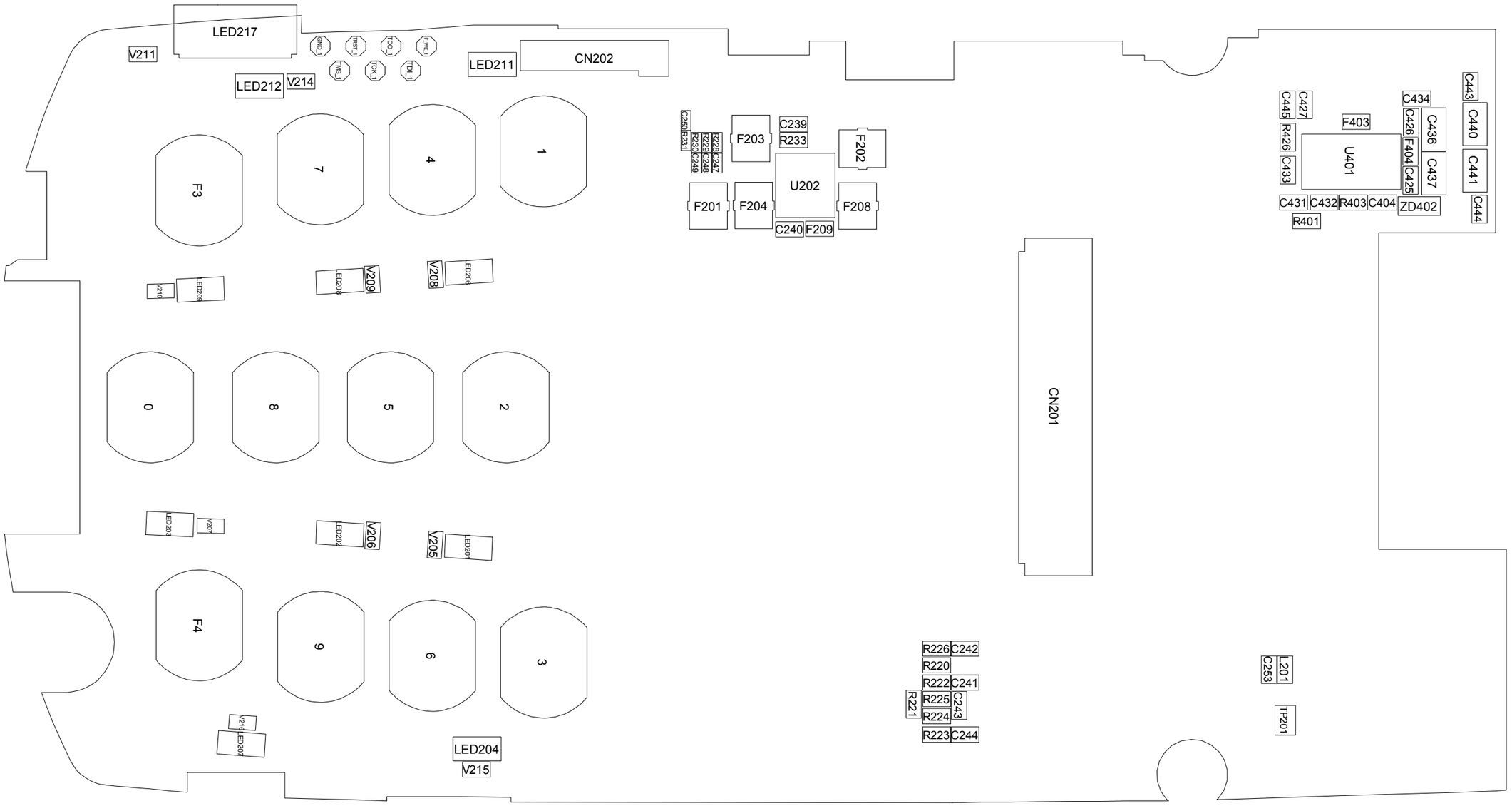

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2. LCD

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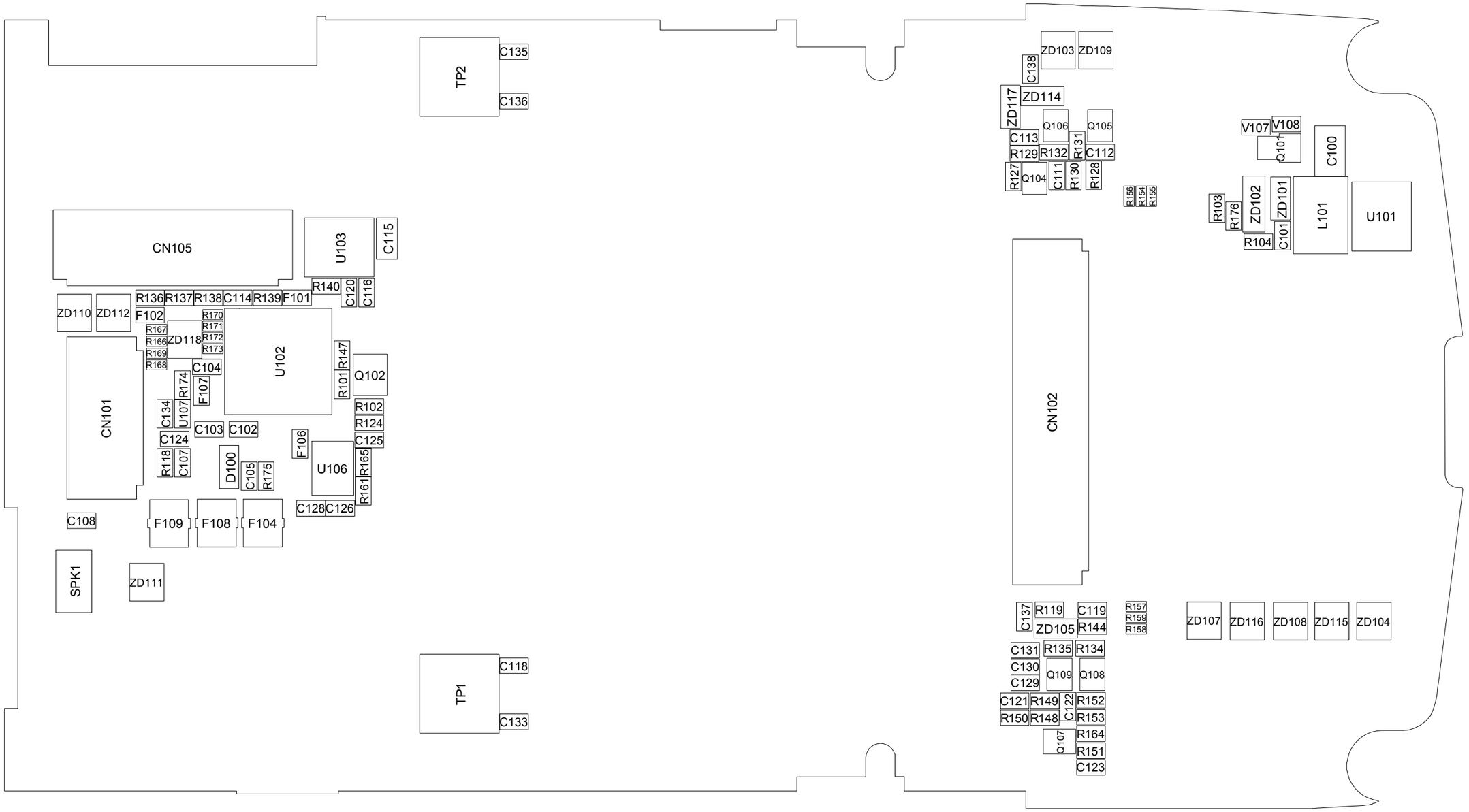

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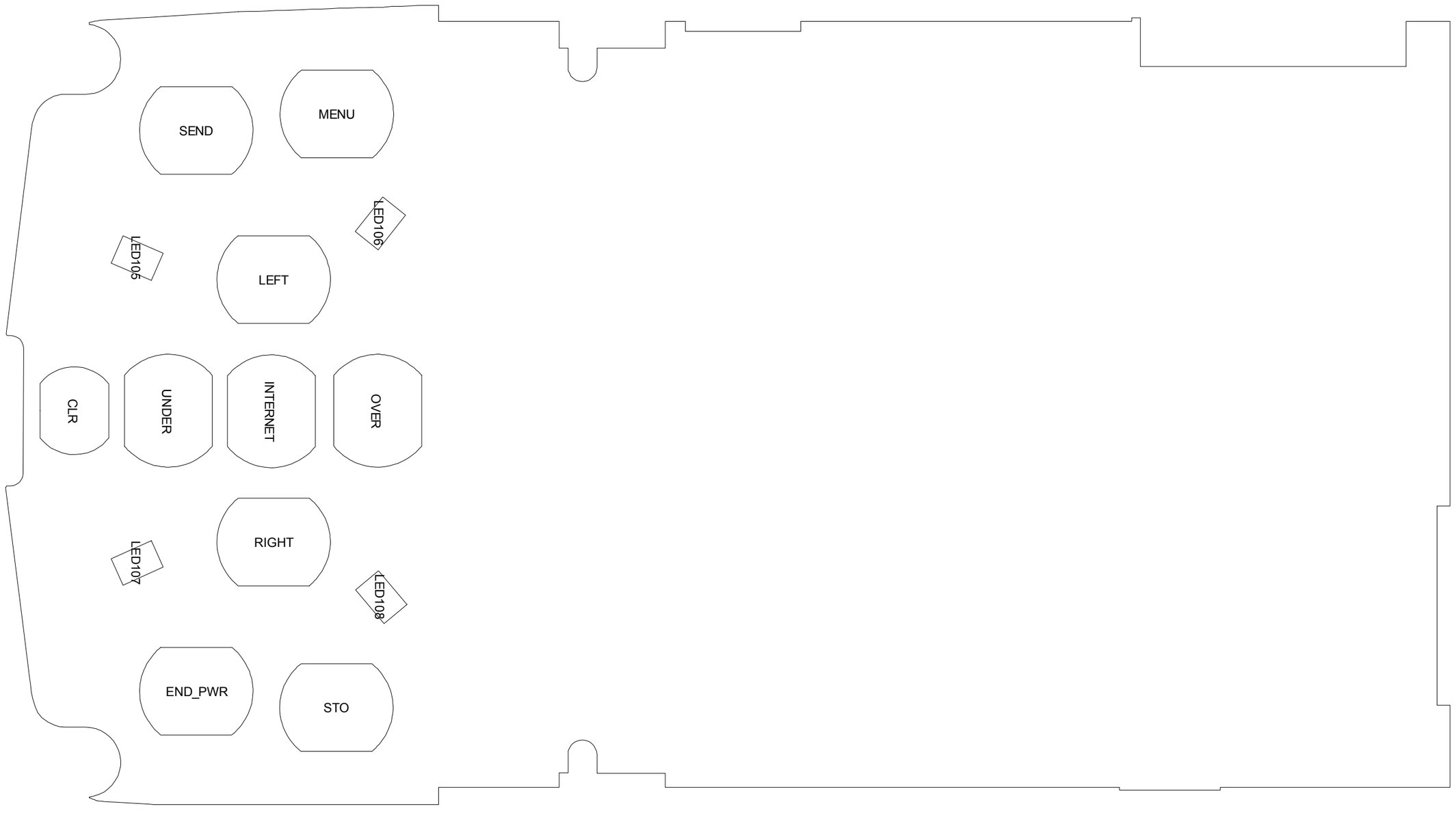

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