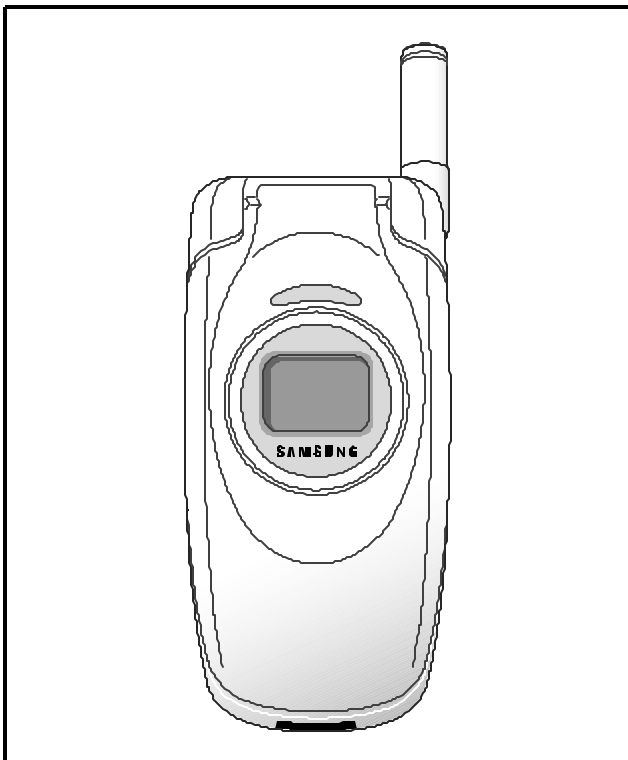


**SAMSUNG**

GSM TELEPHONE  
SGH-S300

# SERVICE Manual

GSM TELEPHONE



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1. Specification
2. Exploded Views and Parts List
3. Electrical Parts List
4. Block Diagrams
5. PCB Diagrams
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# 1. SGH-S300 Specification

## 1. GSM General Specification

	GSM 900 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	-

2. GSM TX power class

TX Power control level	GSM 900
5	33i 2 dBm
6	31i 2 dBm
7	29i 2 dBm
8	27i 2 dBm
9	25i 2 dBm
10	23i 2 dBm
11	21i 2 dBm
12	19i 2 dBm
13	17i 2 dBm
14	15i 2 dBm
15	13i 2 dBm
16	11i 3 dBm
17	9i 3dBm
18	7i 3 dBm
19	5i 3 dBm

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

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

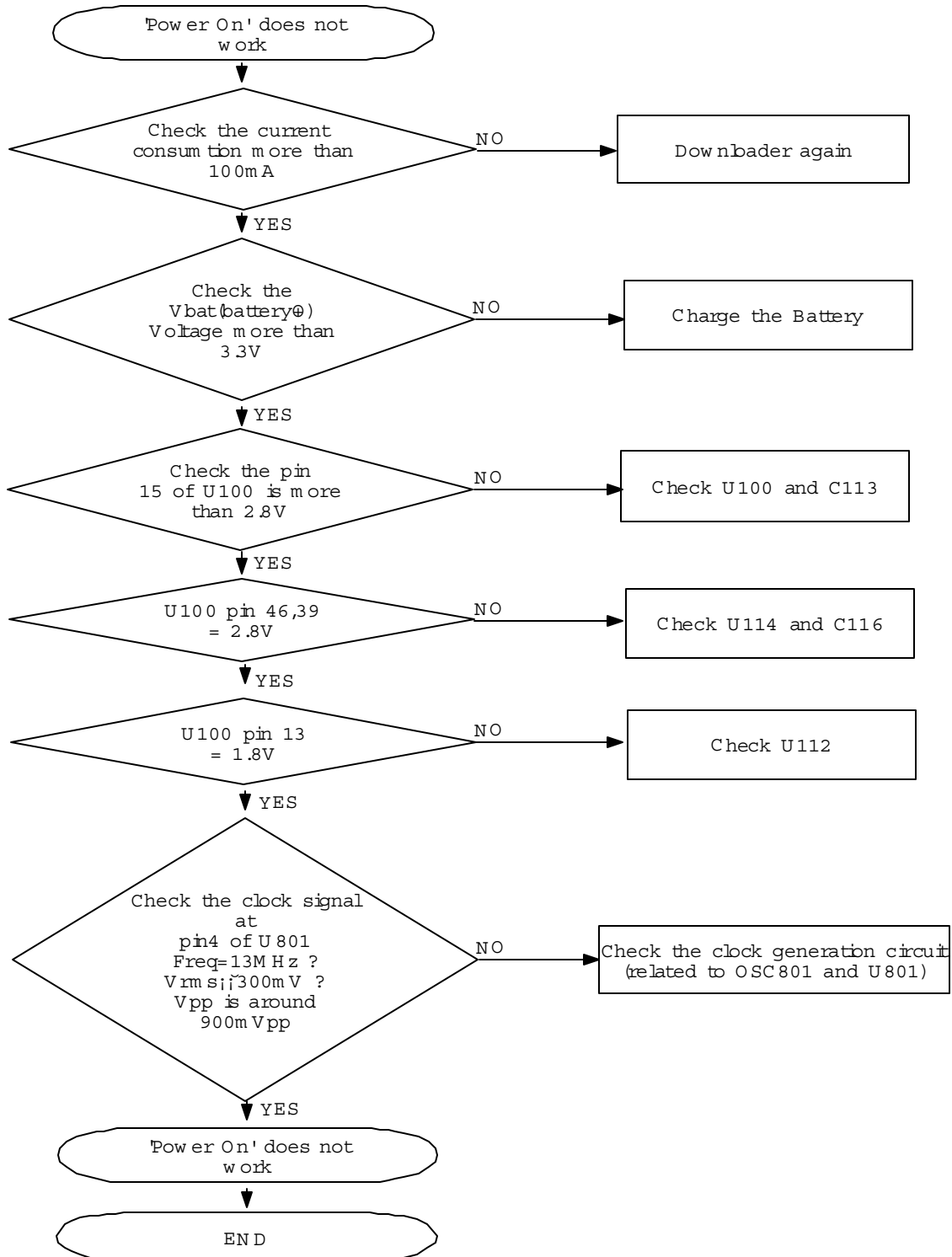
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## 6. SGH-S300 Flow Chart of Troubleshooting and Circuit Diagrams

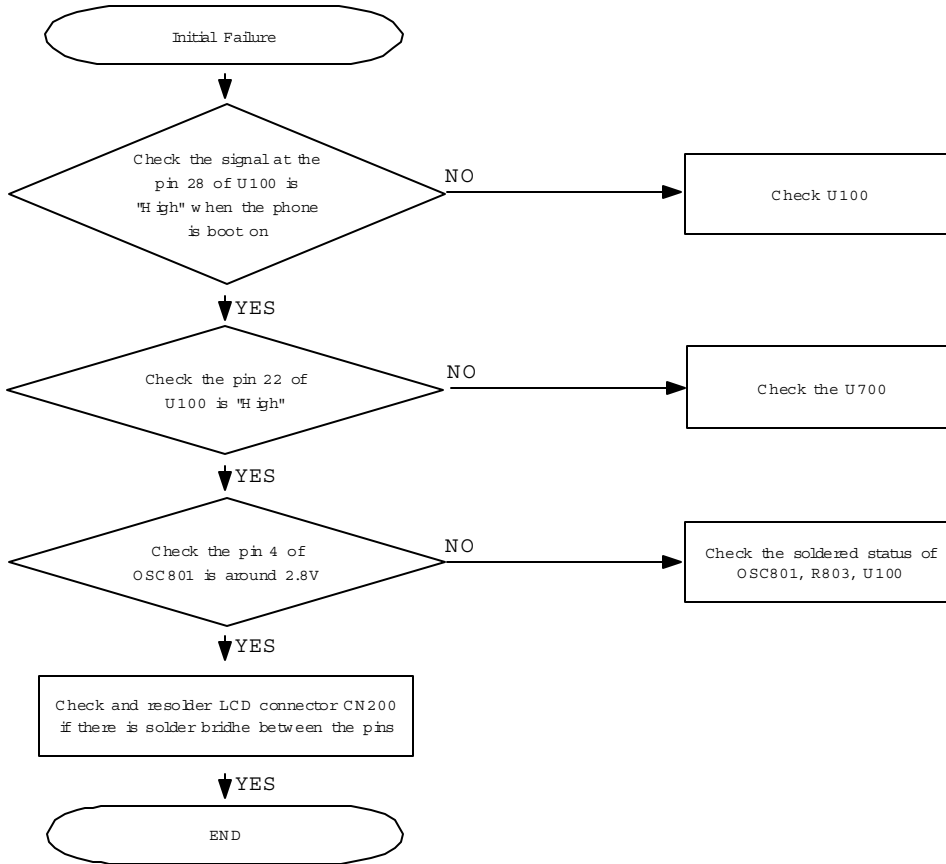
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### 1 Baseband

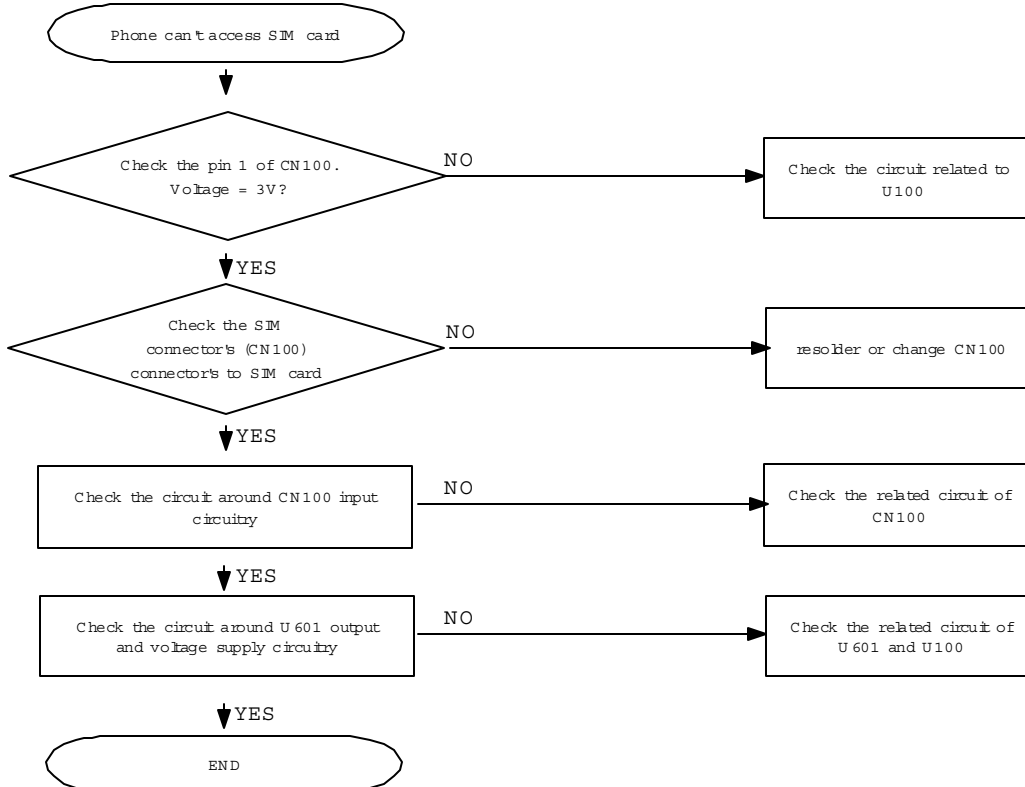
#### 1. Power ON



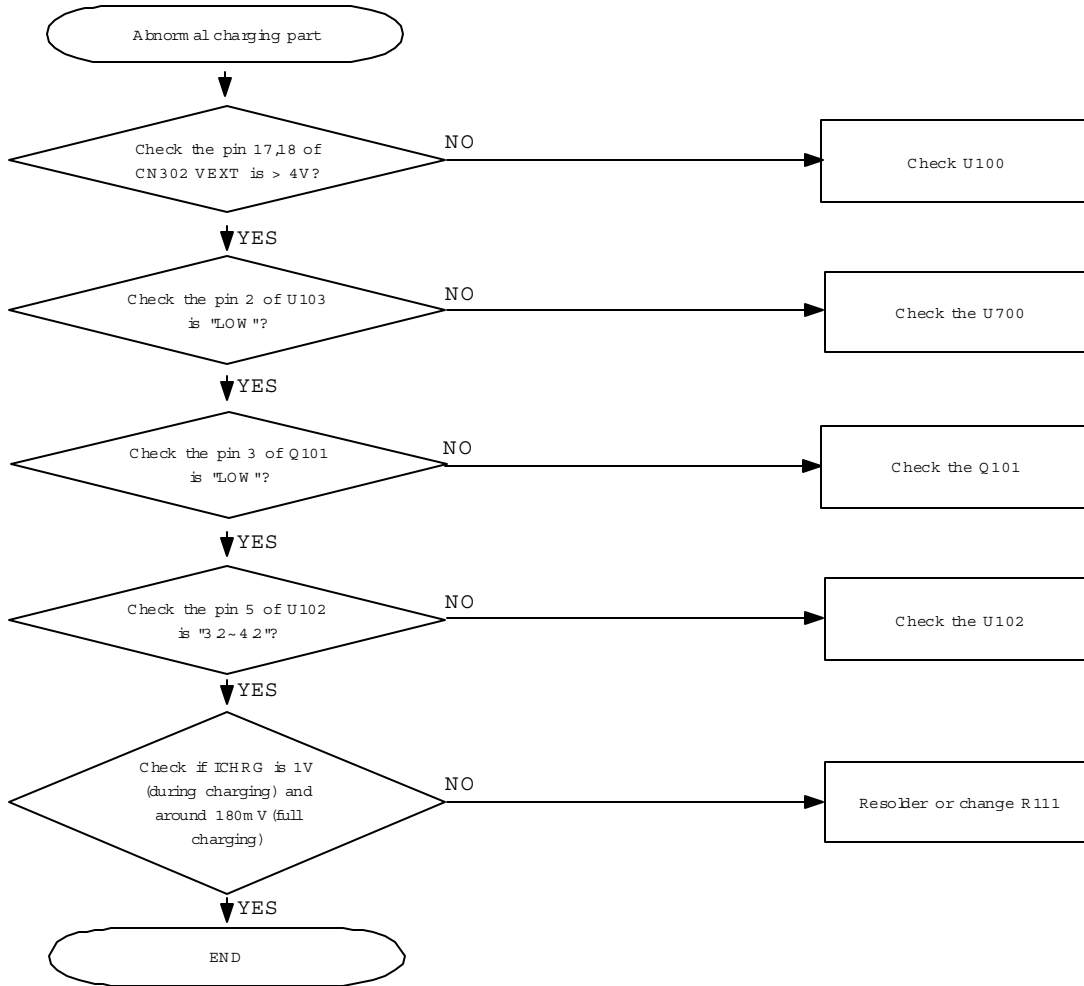
2. Initial



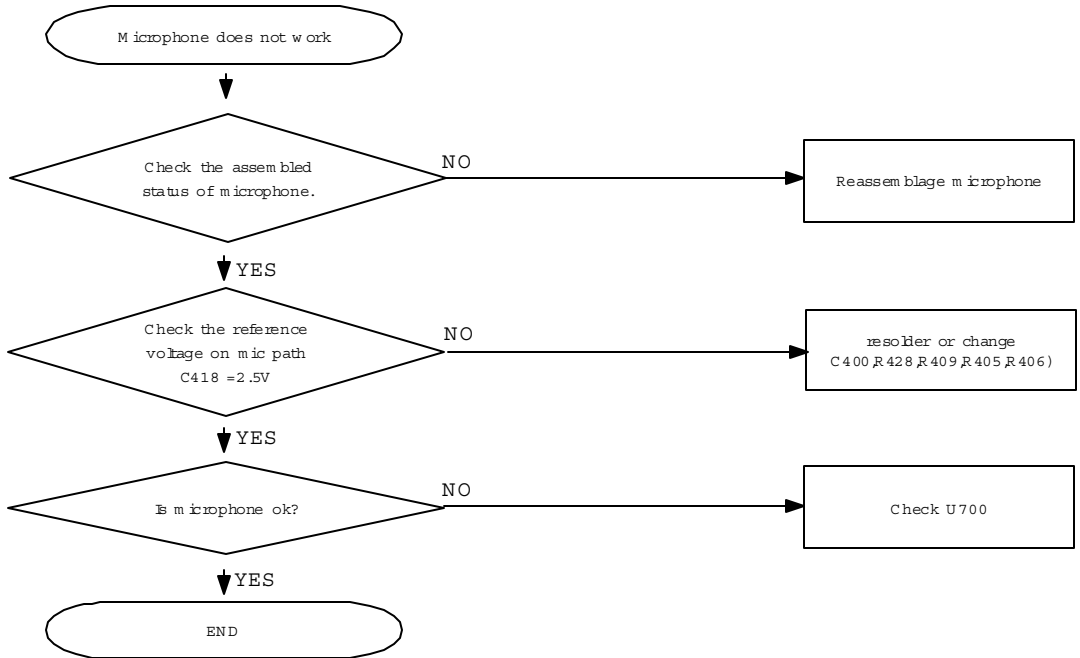
3. Sim Part



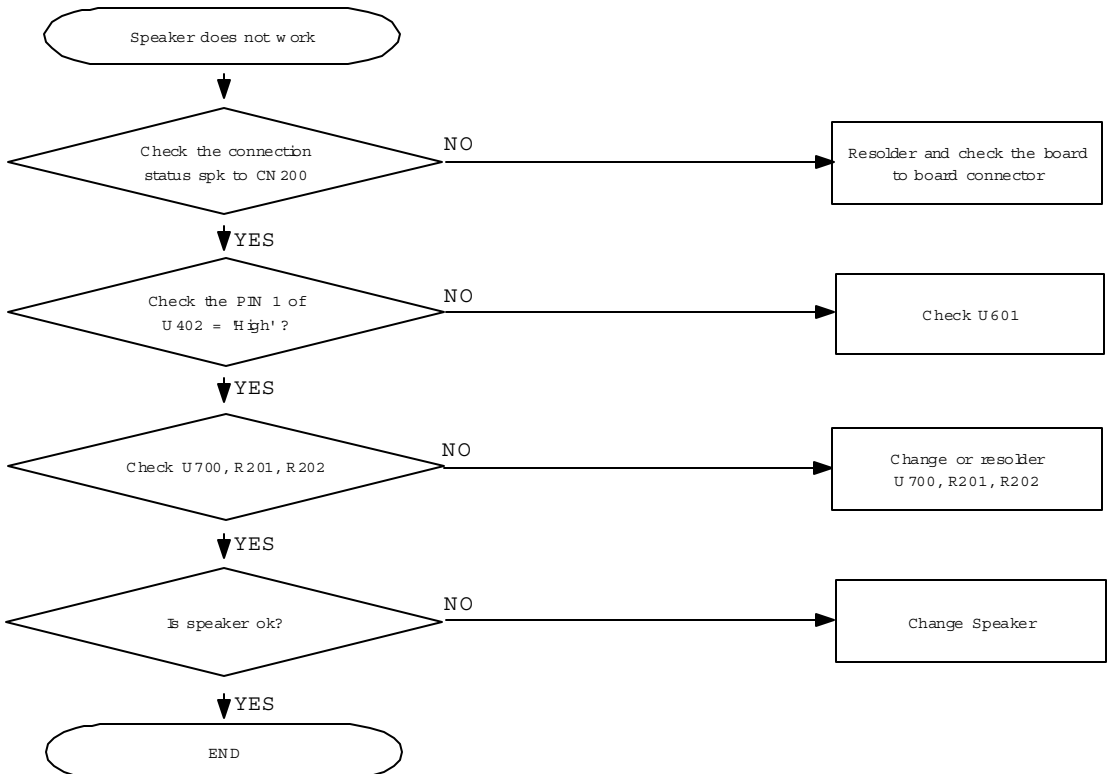
4. Charging Part



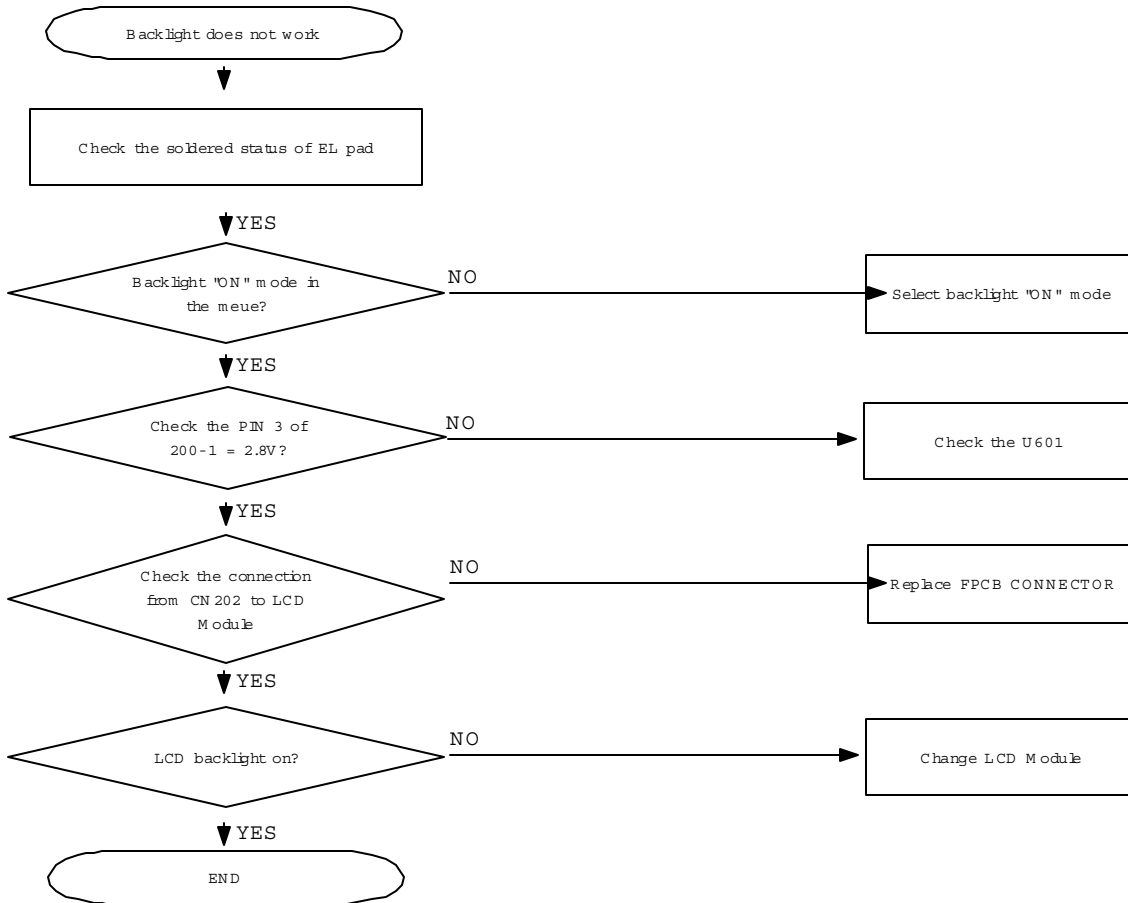
### 5. Microphone Part



### 6. Speaker Part

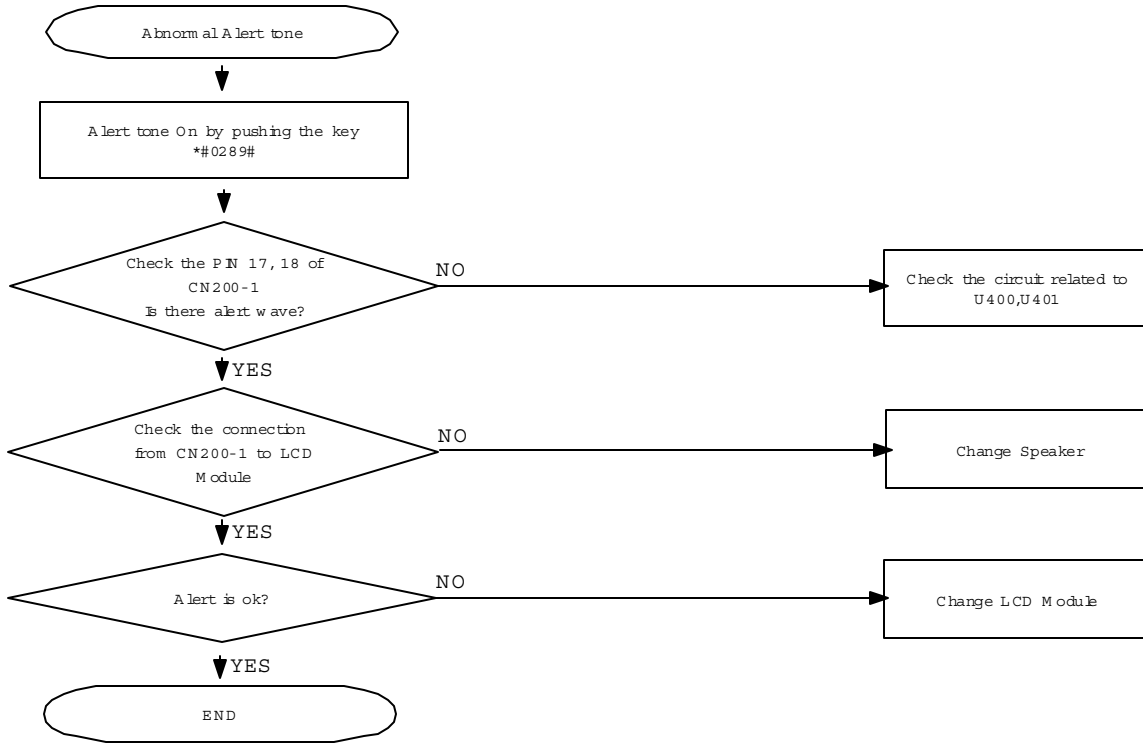


## 7. Back Light



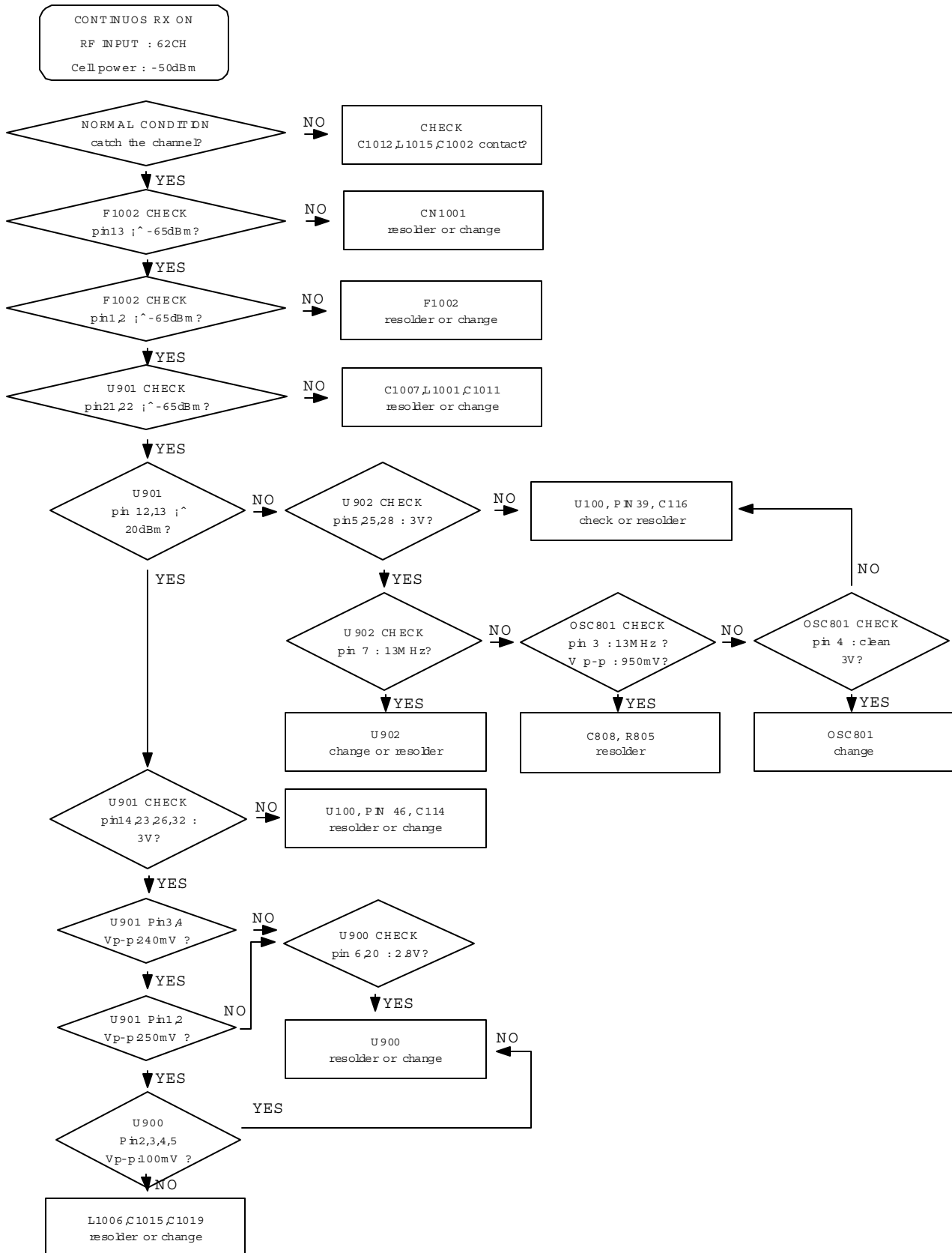


### 8 Alert Tone



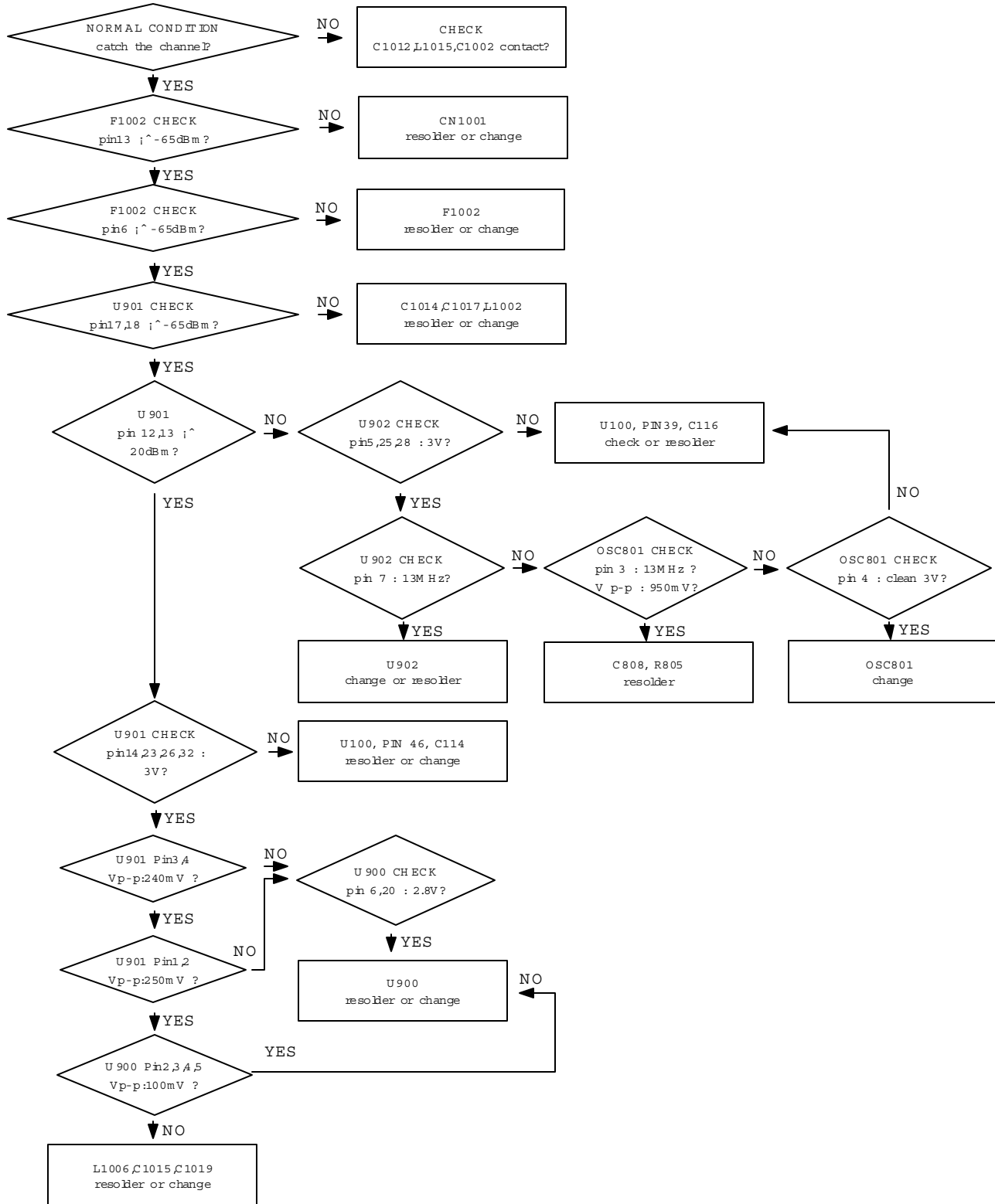
2RF

1. GSM Receiver



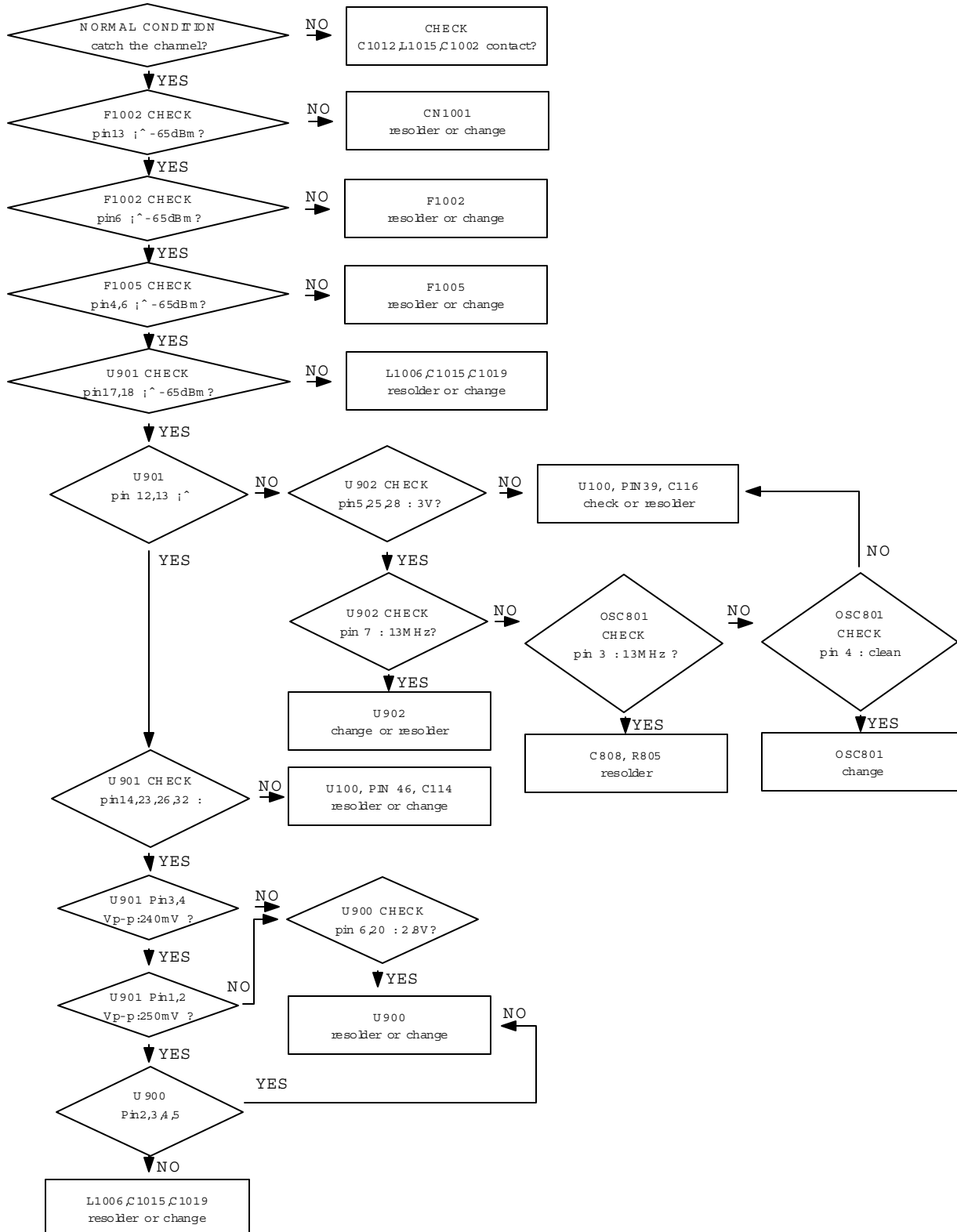
## 2. DCS Receiver

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

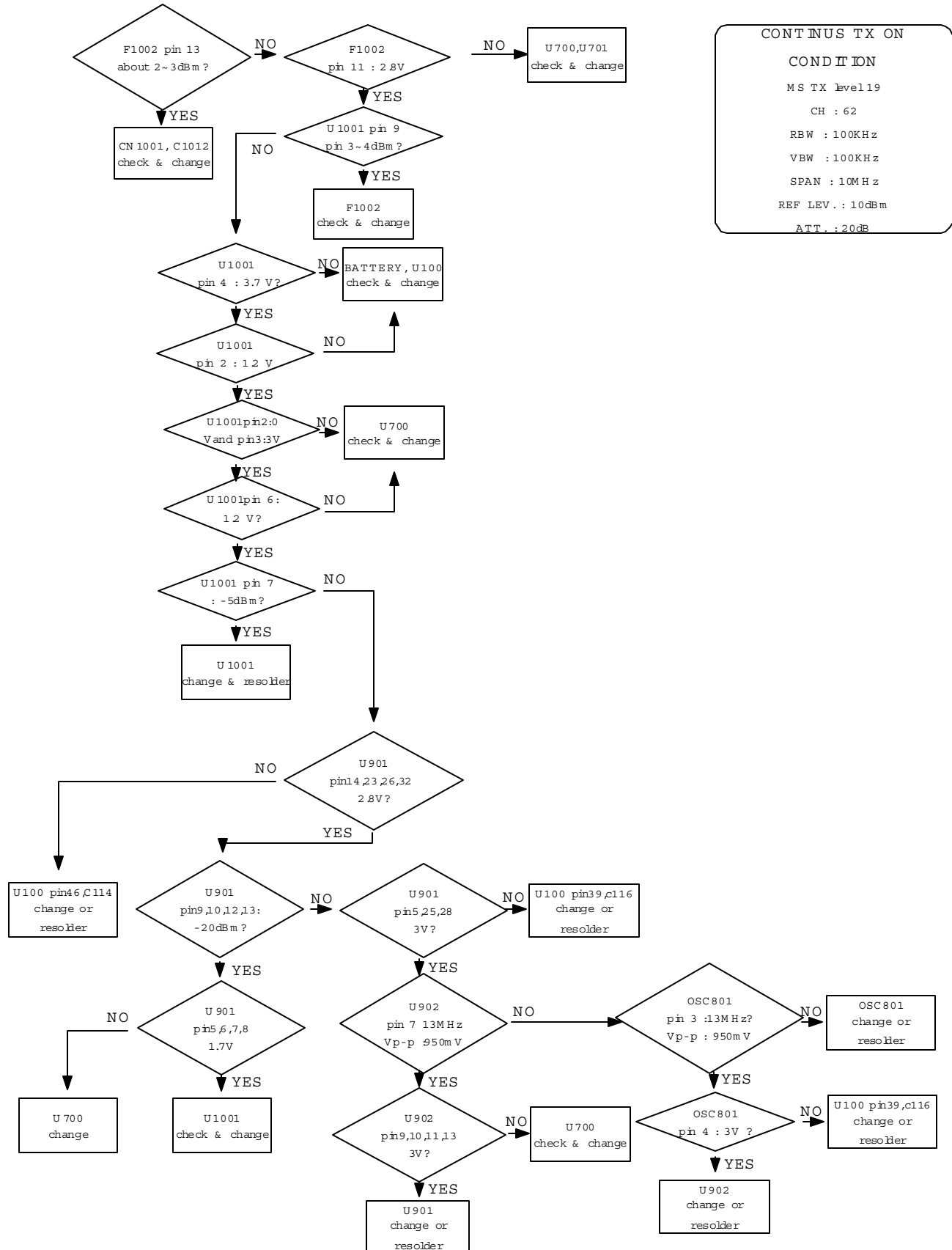


### 3. PCS Receiver

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

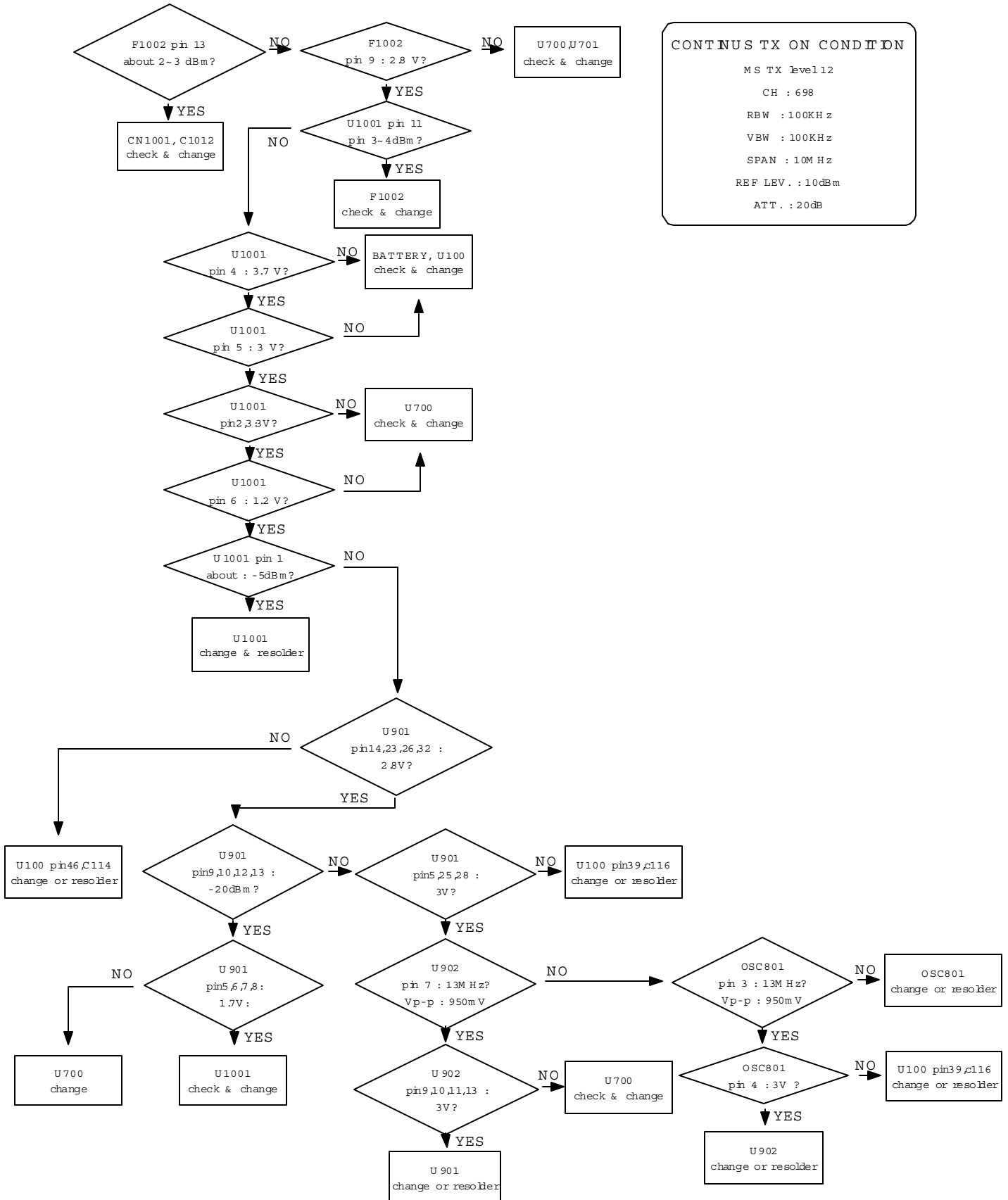


4. GSM Transmitter

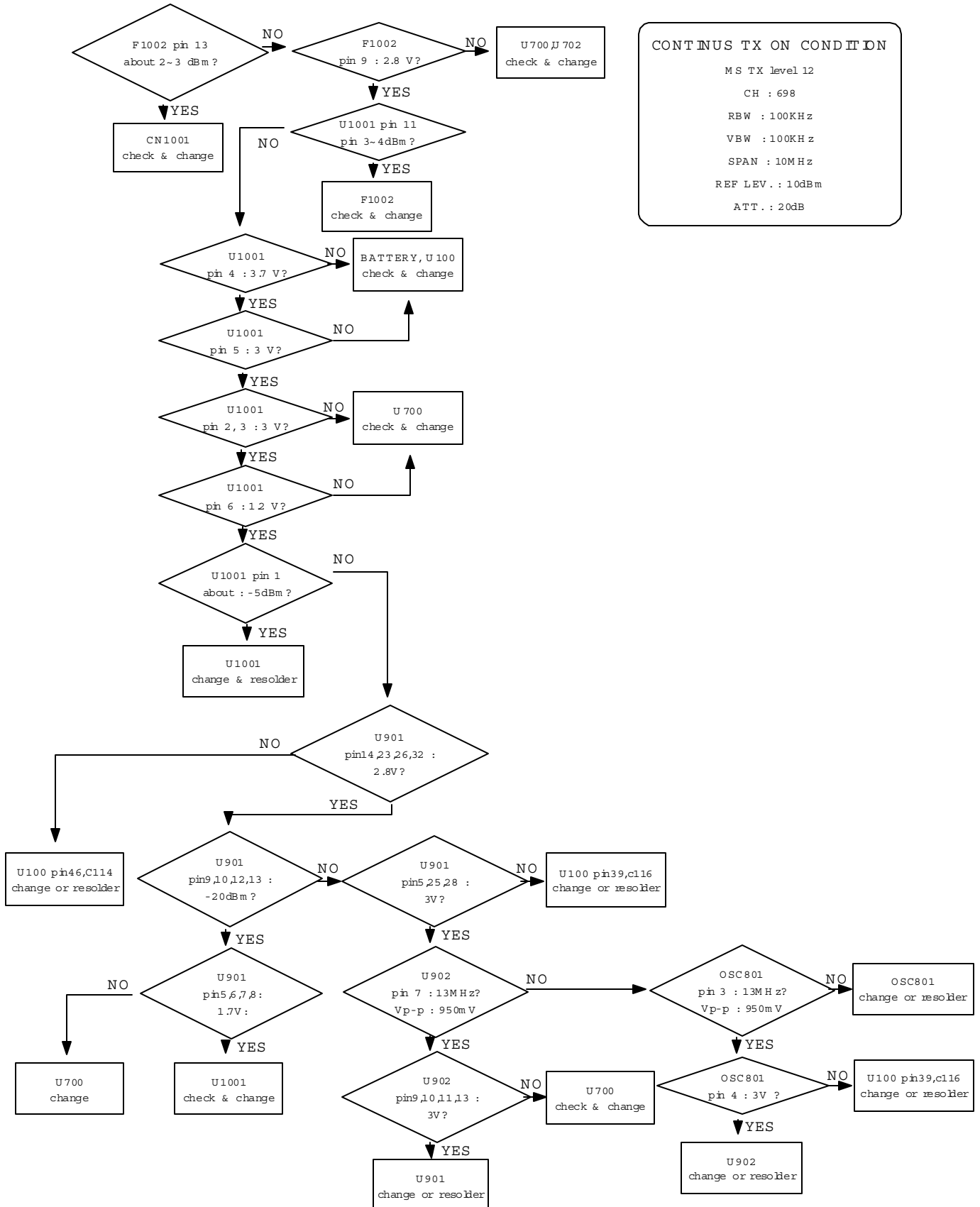


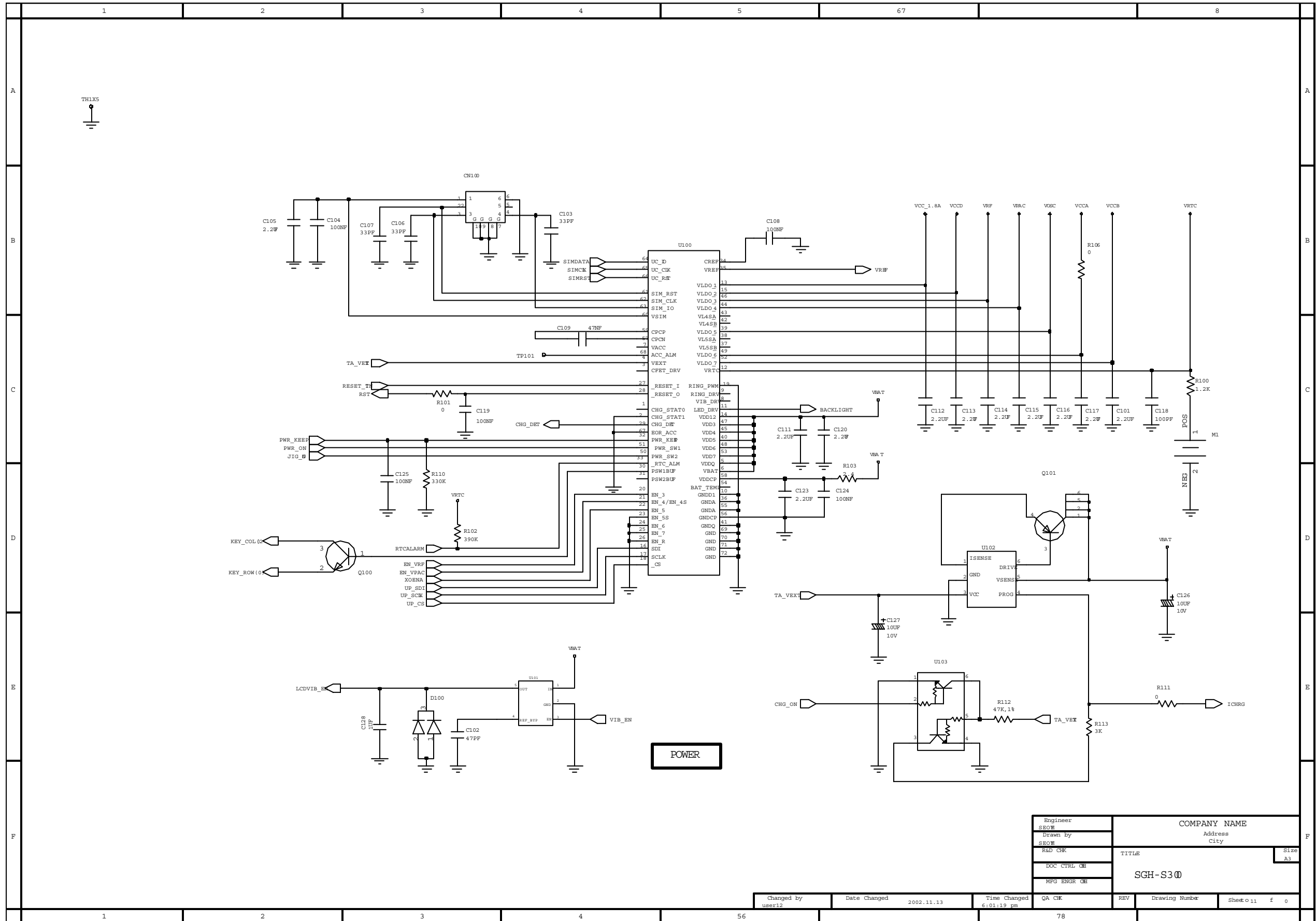
CONTINUS TX ON  
 CONDITION  
 MS TX level 19  
 CH : 62  
 RBW : 100KHz  
 VBW : 100KHz  
 SPAN : 10MHz  
 REF LEV. : 10dBm  
 ATT. : 20dB

5. DCS Transmitter



6. PCS Transmitter

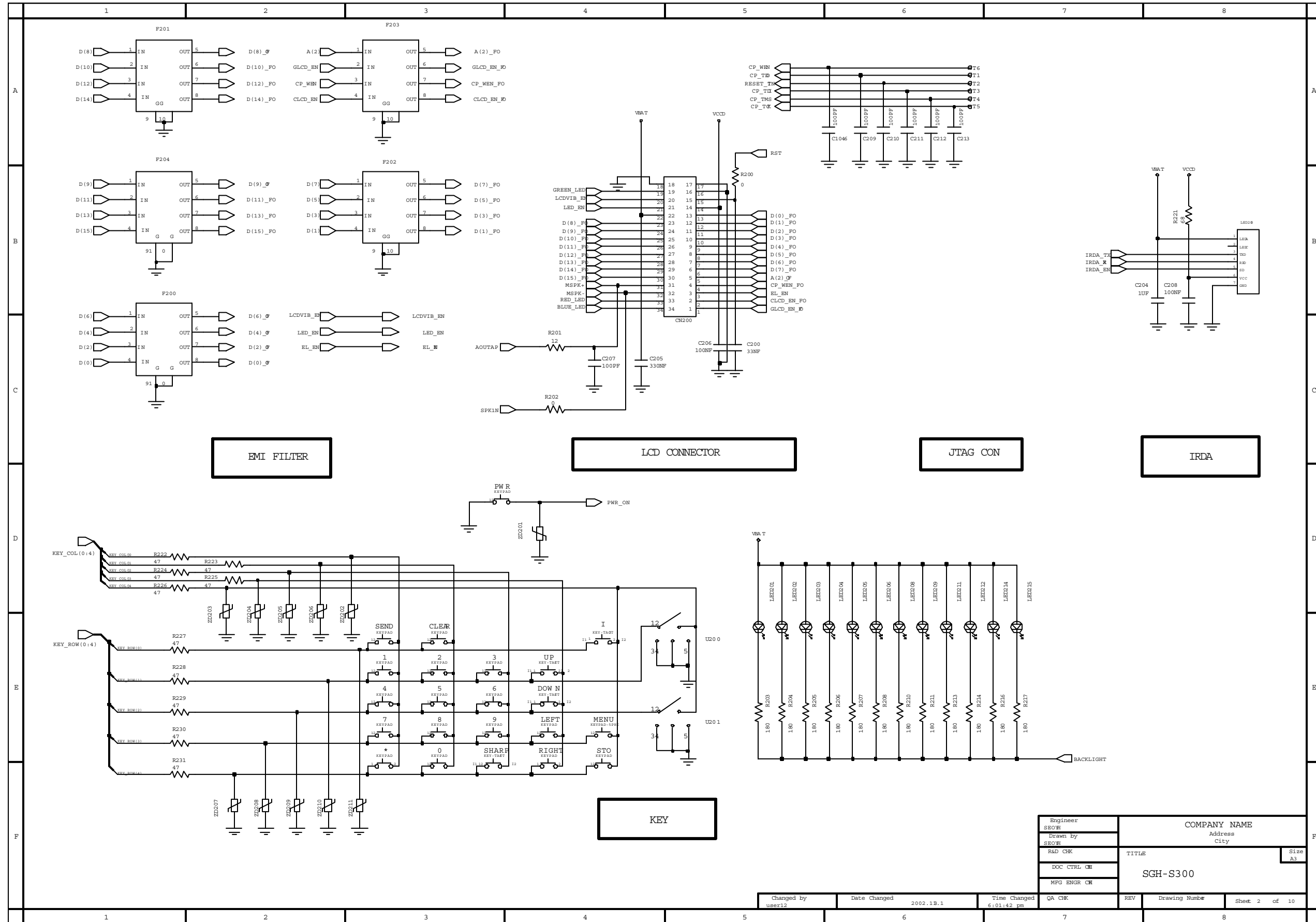


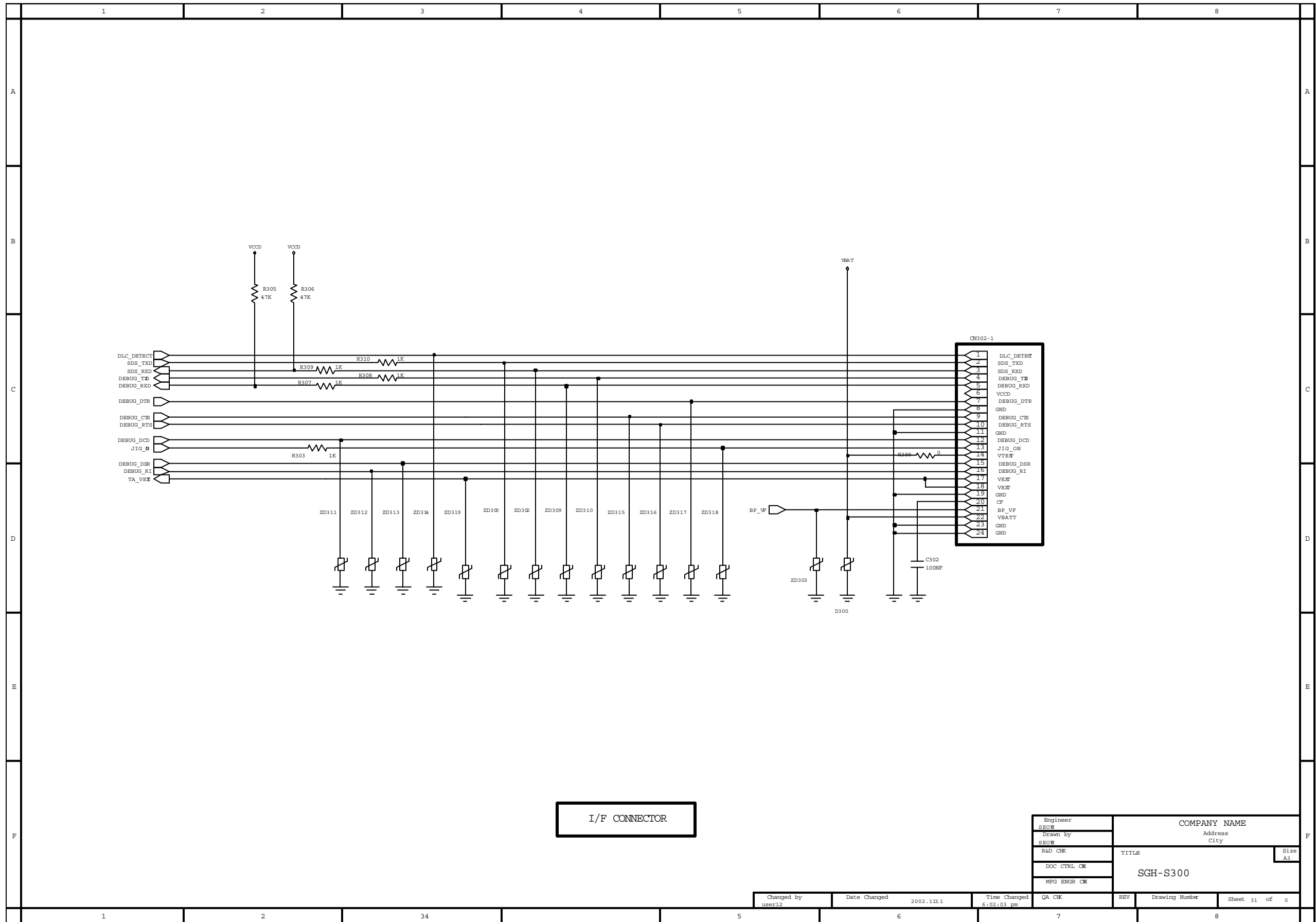


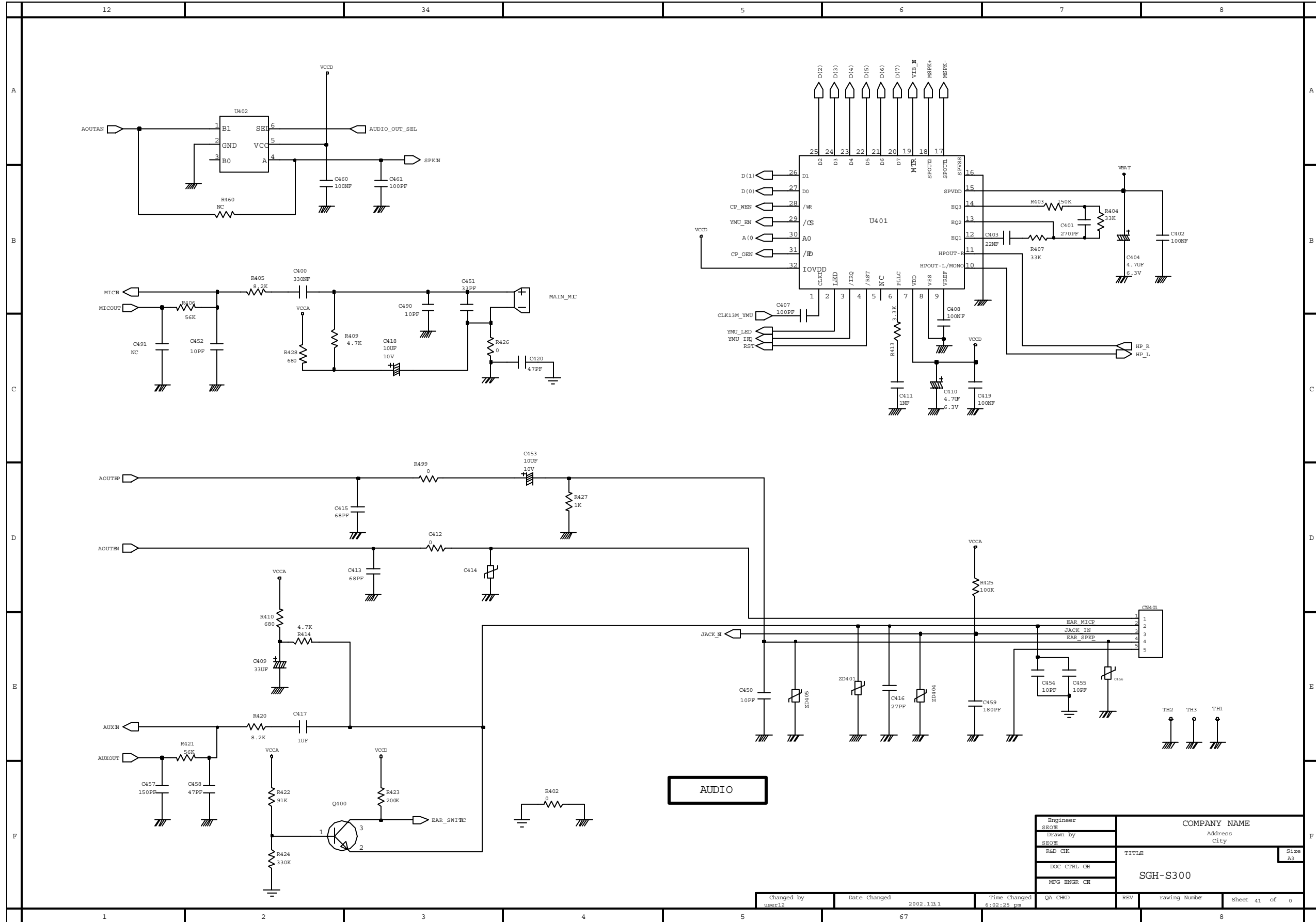
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Drawn by	SEOW	Address	
R&D CHK		City	
DOC CTRL CH		TITLE	SGH-S300
MFG ENGR CH			

Changed by	Date Changed	Time Changed	QA CHK	REV	Drawing Number	Sheet	of	f	0
user12	2002.11.13	6:01:19 pm				011			



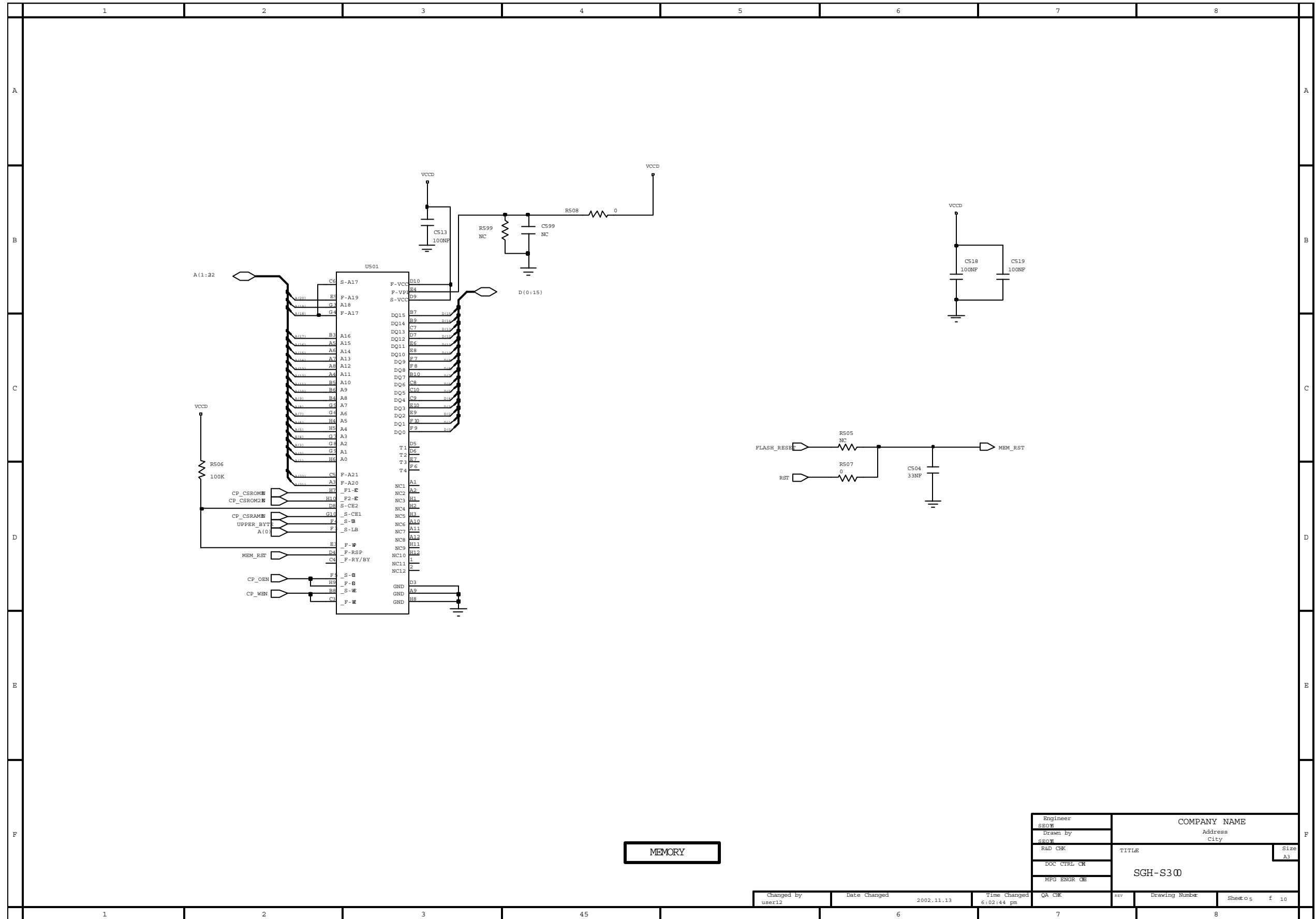






Engineer SEOW	COMPANY NAME	
Drawn by SEOW	Address	
RAD CHK	City	
DOC CTRL CH	TITLE	Size A3
MPG ENGR CH	SGH-S300	

Changed by user12	Date Changed 2002.11.1	Time Changed 6:02:25 pm	QA CHD	REV	rawing Number	Sheet 41 of 0
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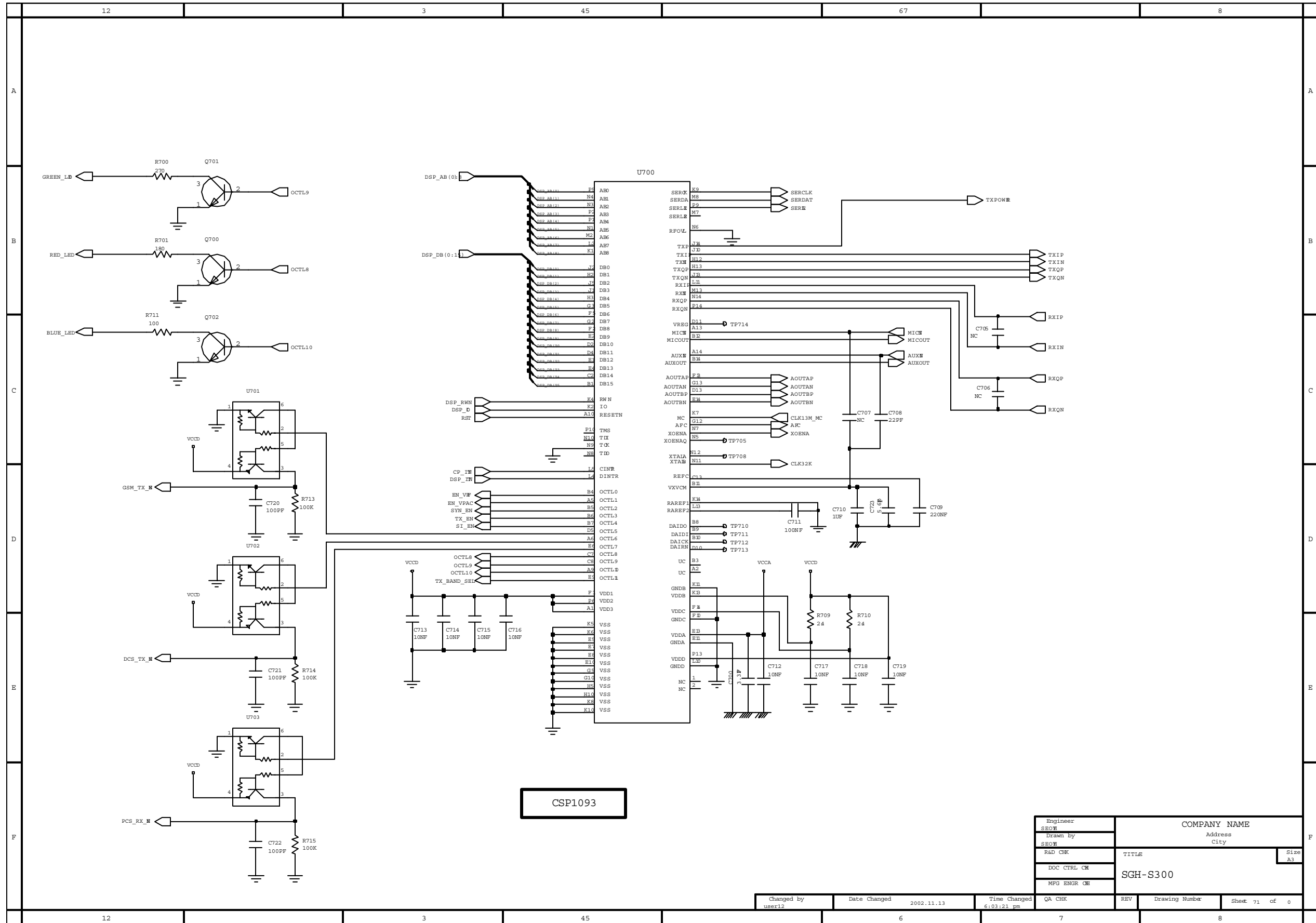


MEMORY

Engineer S.EOM	COMPANY NAME	
Drawn by S.EOM	Address City	
R&D CHK	TITLE	Size A3
DOC CTRL CH	SGH-S300	
MFG ENGR CH		

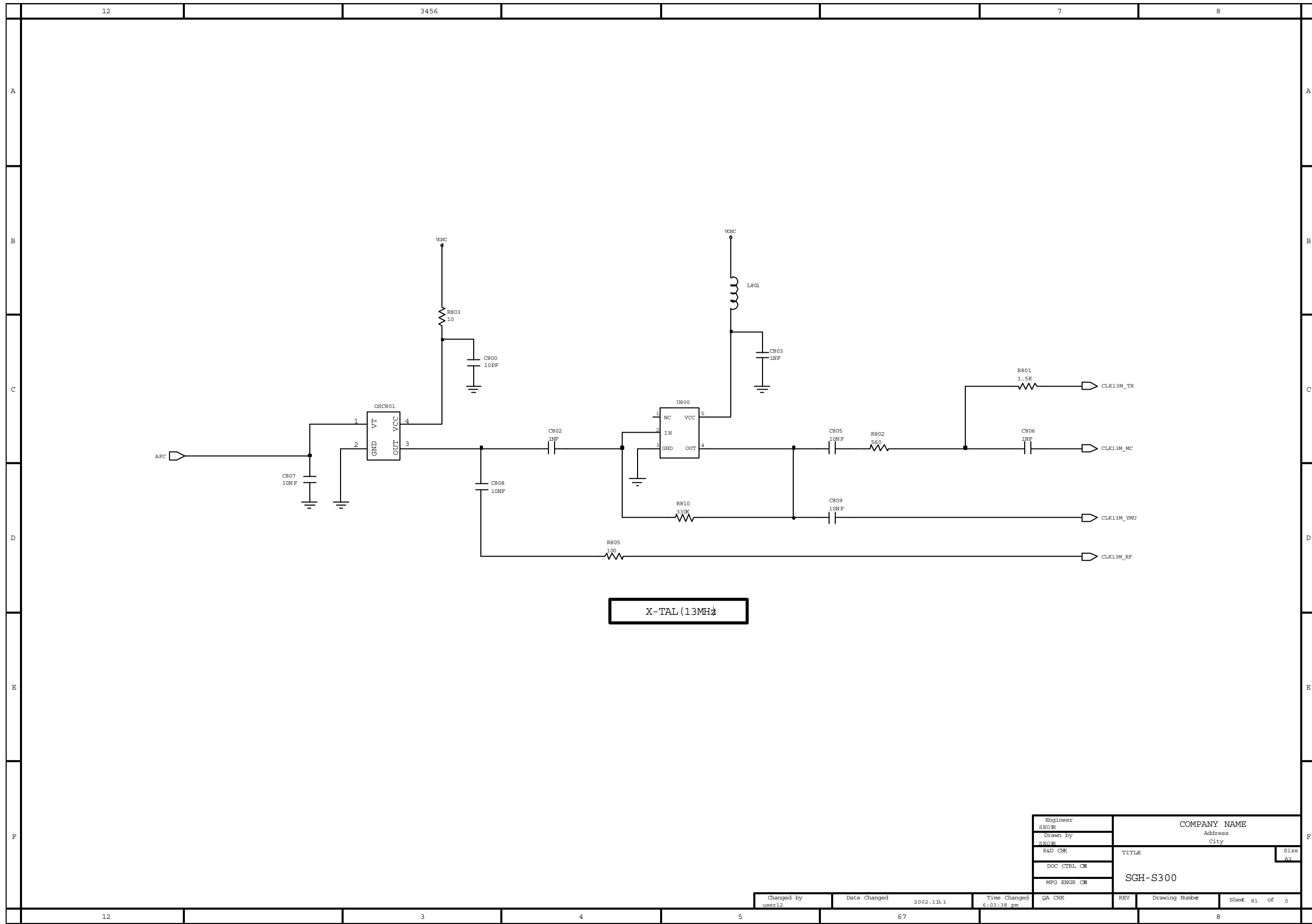
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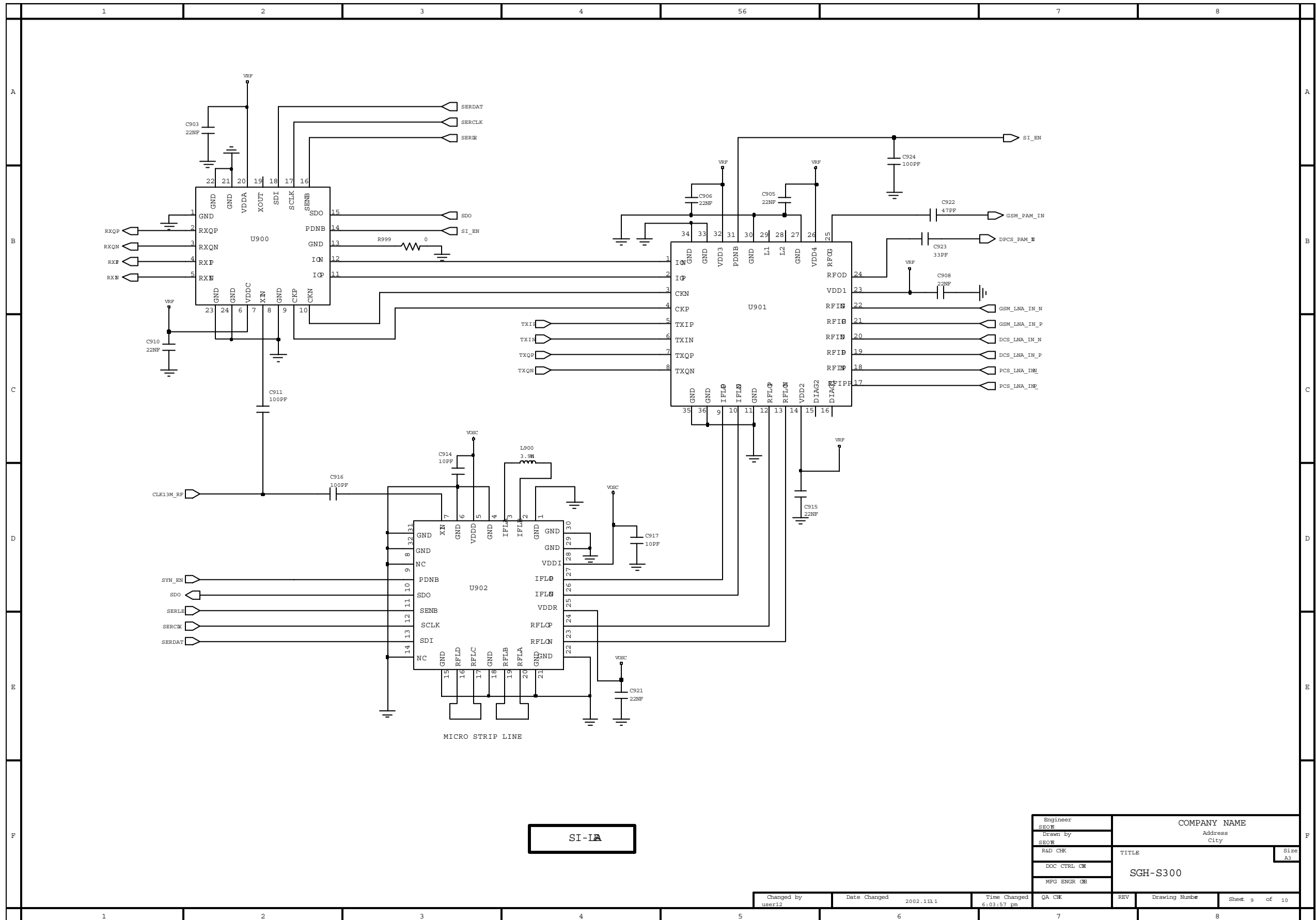
Engineer g808	COMPANY NAME	
Drawn by SEON	Address City	
R&D CHK	TITLE	Size A3
DOC CTRL CH	SGH-S300	
MFG ENGR CH		

Changed by user12	Date Changed 2002.11.13	Time Changed 6:03:21 pm	QA CHK	REV	Drawing Number	Sheet 71 of 0
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Engineer SROH	COMPANY NAME	
Drawn by SROH	Address	
R&D CHK	City	
DOC CTRL CH	TITLE	Size A3
MFG ENGR CH	SGH-S300	
QA CHK	REV	Drawing Number
		Sheet 81 of 0

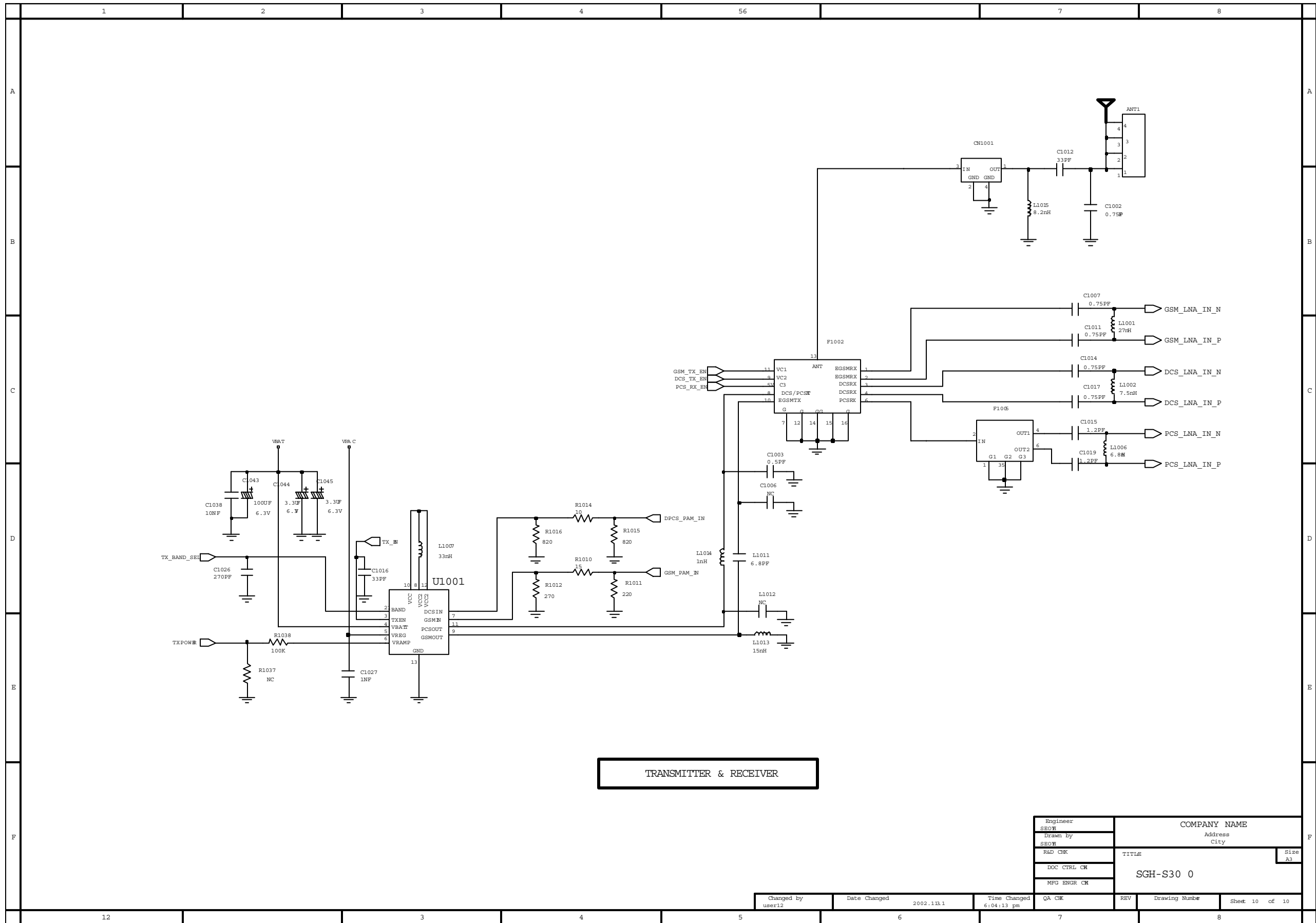
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Engineer	COMPANY NAME		
Drawn By	Address		Size
SEW	City		A3
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DOC CTRL CH	SGH-S300		
MFG ENGR CH			

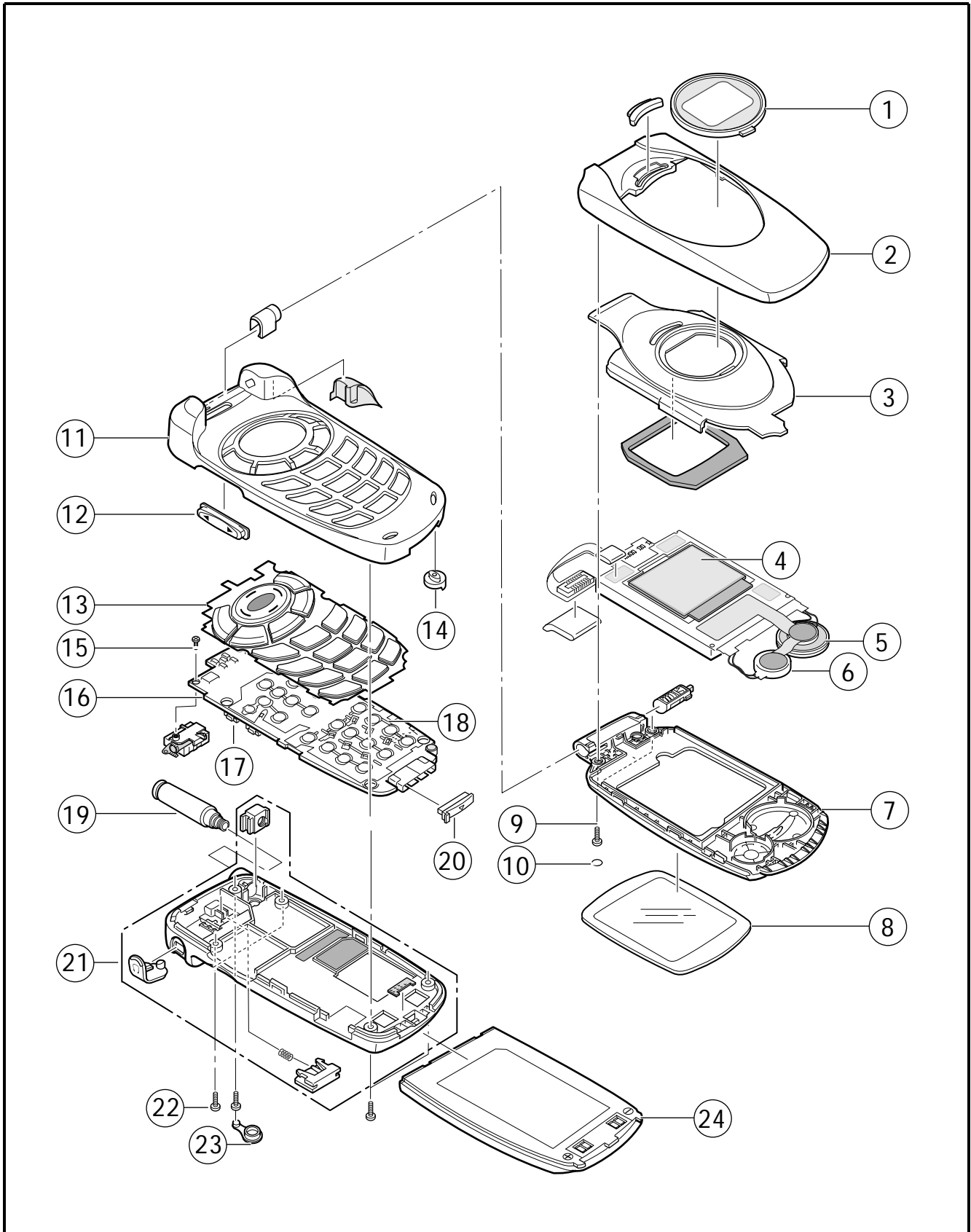
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user12	2002.11.11	6:03:57 pm				





## 2. SGH-S300 Exploded View and its Parts list

### 1. Cellular phone Exploded View



2. Cellular phone Parts list

NO	Description	SEC CODE	REMARK
1	DUAL WINDOW LCD	GH72-05886A	
2	FOLDER UPPER	GH75-02422A	
3	FOLDER DUMMY	GH75-02341A	
4	LCD	GH07-00230A	
5	SPEAKER	3001-001341	
6	MOTOR	3101-001315	
7	FOLDER LOWER	GH75-02423A	
8	WINDOW LCD	GH72-05887A	
9	SCREW	6001-000464	
10	SCREW CAP	GH68-02948A	
11	FRONT COVER	GH75-02421A	
12	VOLME KEY	GH75-02677A	
13	KEYPAD	GH75-02424A	
14	M IC	GH59-00574A	
15	SCREW	6001-001530	
16	MAIN PBA	GH92-01377A	
17	EAR JACK FPCB	GH59-00612A	
18	DOME SHEET	GH59-00605A	
19	ANTENNA	GH42-00250A	
20	CONNECTOR COVER	GH73-01536A	
21	REAR COVER	GH75-02425A	
22	SCREW	6001-001478	
23	RF TEST JACK COVER	GH73-01535A	
24	BATTERY	GH43-00718A	800M AH
		GH43-00739A	600M AH

3. Test Jig (GH80-00865A)



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



3-2. Test Cable  
(GH00-00127A)



3-3. Serial Cable



3-4. Power Supply Cable



3-5. DATA CABLE  
(GH39-00159A)



3-6. TA  
(GH44-00184A)



### 3. SGH-S300 MAN Electrical Parts List

Level	SEC Code	Design LOC	Descriptions	
2	GH71-00734A	ANT1	NPR-CONTACT ANT	-,SCH-A475,PBS,4.7X2.5XT.01,-,-,-,-,-,GLD
2	2203-002677	C1002	C-CERAMIC,CHIP	0.75pF,0.1pF,50V,CH,TP,1005,-
2	2203-002668	C1003	C-CERAMIC,CHIP	0.0005nF,0.1pF,50V,NP0,TP,1005
2	2203-002677	C1007	C-CERAMIC,CHIP	0.75pF,0.1pF,50V,CH,TP,1005,-
2	2203-001598	C101	C-CERAMIC,CHIP	2200nF,+80-20%,16V,Y5V,TP,2012
2	2203-002677	C1011	C-CERAMIC,CHIP	0.75pF,0.1pF,50V,CH,TP,1005,-
2	2203-000812	C1012	C-CERAMIC,CHIP	0.033NF,5%,50V,C0G,TP,1005
2	2203-002677	C1014	C-CERAMIC,CHIP	0.75pF,0.1pF,50V,CH,TP,1005,-
2	2203-005234	C1015	C-CERAMIC,CHIP	0.0012nF,0.25pF,50V,NP0,TP,1005
2	2203-000812	C1016	C-CERAMIC,CHIP	0.033NF,5%,50V,C0G,TP,1005
2	2203-002677	C1017	C-CERAMIC,CHIP	0.75pF,0.1pF,50V,CH,TP,1005,-
2	2203-005234	C1019	C-CERAMIC,CHIP	0.0012nF,0.25pF,50V,NP0,TP,1005
2	2203-000995	C102	C-CERAMIC,CHIP	0.047NF,5%,50V,C0G,TP,1005
2	2203-000654	C1026	C-CERAMIC,CHIP	270pF,10%,50V,X7R,TP,1005,-
2	2203-000438	C1027	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,1005,-
2	2203-000812	C103	C-CERAMIC,CHIP	0.033NF,5%,50V,C0G,TP,1005
2	2203-000254	C1038	C-CERAMIC,CHIP	10nF,10%,16V,X7R,TP,1005,-
2	2203-005061	C104	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
2	2404-001134	C1043	C-TA,CHIP	100UF,20%,6.3V,LZ,TP,4028
2	2404-001087	C1044	C-TA,CHIP	3.3UF,20%,6.3V,GP,TP,2012
2	2404-001087	C1045	C-TA,CHIP	3.3UF,20%,6.3V,GP,TP,2012
2	2203-000233	C1046	C-CERAMIC,CHIP	0.1NF,5%,50V,C0G,TP,1005
2	2203-001598	C105	C-CERAMIC,CHIP	2200nF,+80-20%,16V,Y5V,TP,2012
2	2203-000812	C106	C-CERAMIC,CHIP	0.033NF,5%,50V,C0G,TP,1005
2	2203-000812	C107	C-CERAMIC,CHIP	0.033NF,5%,50V,C0G,TP,1005
2	2203-005061	C108	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
2	2203-005481	C109	C-CERAMIC,CHIP	47nF,10%,10V,X7R,TP,1005,-
2	2203-001598	C111	C-CERAMIC,CHIP	2200nF,+80-20%,16V,Y5V,TP,2012
2	2203-001598	C112	C-CERAMIC,CHIP	2200nF,+80-20%,16V,Y5V,TP,2012
2	2203-001598	C113	C-CERAMIC,CHIP	2200nF,+80-20%,16V,Y5V,TP,2012
2	2203-001598	C114	C-CERAMIC,CHIP	2200nF,+80-20%,16V,Y5V,TP,2012
2	2203-001598	C115	C-CERAMIC,CHIP	2200nF,+80-20%,16V,Y5V,TP,2012
2	2203-001598	C116	C-CERAMIC,CHIP	2200nF,+80-20%,16V,Y5V,TP,2012
2	2203-001598	C117	C-CERAMIC,CHIP	2200nF,+80-20%,16V,Y5V,TP,2012
2	2203-000233	C118	C-CERAMIC,CHIP	0.1NF,5%,50V,C0G,TP,1005
2	2203-005061	C119	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
2	2203-001598	C120	C-CERAMIC,CHIP	2200nF,+80-20%,16V,Y5V,TP,2012
2	2203-001598	C123	C-CERAMIC,CHIP	2200nF,+80-20%,16V,Y5V,TP,2012
2	2203-005061	C124	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
2	2203-005061	C125	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
2	2404-001268	C126	C-TA,CHIP	10UF,20%,10V,-,TP,2.2X1.25X1.0
2	2404-001268	C127	C-TA,CHIP	10UF,20%,10V,-,TP,2.2X1.25X1.0
2	2203-005065	C128	C-CERAMIC,CHIP	1000nF,+80-20%,10V,Y5V,TP,1608
2	2203-005480	C200	C-CERAMIC,CHIP	33nF,10%,10V,X7R,TP,1005,-
2	2203-005065	C204	C-CERAMIC,CHIP	1000nF,+80-20%,10V,Y5V,TP,1608
2	2203-005509	C205	C-CERAMIC,CHIP	330nF,+80-20%,10V,Y5V,TP,1005
2	2203-005061	C206	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005
2	2203-000233	C207	C-CERAMIC,CHIP	0.1NF,5%,50V,C0G,TP,1005
2	2203-005061	C208	C-CERAMIC,CHIP	100nF,+80-20%,16V,Y5V,TP,1005

Level	SEC Code	Design LOC	Descriptions	
2	2203-000233	C209	C-CERAMIC,CHIP	0.1NF,5% ,50V,COG,TP,1005
2	2203-000233	C210	C-CERAMIC,CHIP	0.1NF,5% ,50V,COG,TP,1005
2	2203-000233	C211	C-CERAMIC,CHIP	0.1NF,5% ,50V,COG,TP,1005
2	2203-000233	C212	C-CERAMIC,CHIP	0.1NF,5% ,50V,COG,TP,1005
2	2203-000233	C213	C-CERAMIC,CHIP	0.1NF,5% ,50V,COG,TP,1005
2	2203-005061	C302	C-CERAMIC,CHIP	100nF,+80-20% ,16V,Y5V,TP,1005
2	2203-005509	C400	C-CERAMIC,CHIP	330nF,+80-20% ,10V,Y5V,TP,1005
2	2203-000654	C401	C-CERAMIC,CHIP	270pF,10% ,50V,X7R,TP,1005,-
2	2203-005061	C402	C-CERAMIC,CHIP	100nF,+80-20% ,16V,Y5V,TP,1005
2	2203-001405	C403	C-CERAMIC,CHIP	22nF,+80-20% ,25V,Y5V,TP,1005
2	2404-001086	C404	C-TA,CHIP	4.7uF,20% ,6.3V,GP,TP,2012,-
2	2203-000233	C407	C-CERAMIC,CHIP	0.1NF,5% ,50V,COG,TP,1005
2	2203-005061	C408	C-CERAMIC,CHIP	100nF,+80-20% ,16V,Y5V,TP,1005
2	2404-001151	C409	C-TA,CHIP	33UF,20% ,6.3V,LZ,TP,3216
2	2404-001086	C410	C-TA,CHIP	4.7uF,20% ,6.3V,GP,TP,2012,-
2	2203-000438	C411	C-CERAMIC,CHIP	1nF,10% ,50V,X7R,TP,1005,-
2	2007-000070	C412	R-CHIP	0ohm ,5% ,1/16W,DA,TP,1608
2	2203-001153	C413	C-CERAMIC,CHIP	0.068nF,5% ,50V,NP0,TP,1005
2	1405-001082	C414	VARISTOR	5.6V,20A,1x0.5x0.6mm ,TP
2	2203-001153	C415	C-CERAMIC,CHIP	0.068nF,5% ,50V,NP0,TP,1005
2	2203-000679	C416	C-CERAMIC,CHIP	0.027NF,5% ,50V,COG,TP,1005
2	2203-005065	C417	C-CERAMIC,CHIP	1000nF,+80-20% ,10V,Y5V,TP,1608
2	2404-001268	C418	C-TA,CHIP	10UF,20% ,10V,-,TP,2.2X1.25X1.0
2	2203-005061	C419	C-CERAMIC,CHIP	100nF,+80-20% ,16V,Y5V,TP,1005
2	2203-000995	C420	C-CERAMIC,CHIP	0.047NF,5% ,50V,COG,TP,1005
2	2203-000278	C450	C-CERAMIC,CHIP	0.01NF,0.5PF,50V,COG,TP,1005
2	2203-000812	C451	C-CERAMIC,CHIP	0.033NF,5% ,50V,COG,TP,1005
2	2203-000278	C452	C-CERAMIC,CHIP	0.01NF,0.5PF,50V,COG,TP,1005
2	2404-001268	C453	C-TA,CHIP	10UF,20% ,10V,-,TP,2.2X1.25X1.0
2	2203-000278	C455	C-CERAMIC,CHIP	0.01NF,0.5PF,50V,COG,TP,1005
2	1405-001082	C456	VARISTOR	5.6V,20A,1x0.5x0.6mm ,TP
2	2203-000359	C457	C-CERAMIC,CHIP	0.15NF,5% ,50V,COG,TP,1005
2	2203-000995	C458	C-CERAMIC,CHIP	0.047NF,5% ,50V,COG,TP,1005
2	2203-005061	C460	C-CERAMIC,CHIP	100nF,+80-20% ,16V,Y5V,TP,1005
2	2203-000233	C461	C-CERAMIC,CHIP	0.1NF,5% ,50V,COG,TP,1005
2	2203-000278	C490	C-CERAMIC,CHIP	0.01NF,0.5PF,50V,COG,TP,1005
2	2203-005480	C504	C-CERAMIC,CHIP	33nF,10% ,10V,X7R,TP,1005,-
2	2203-005061	C513	C-CERAMIC,CHIP	100nF,+80-20% ,16V,Y5V,TP,1005
2	2203-005061	C518	C-CERAMIC,CHIP	100nF,+80-20% ,16V,Y5V,TP,1005
2	2203-005061	C519	C-CERAMIC,CHIP	100nF,+80-20% ,16V,Y5V,TP,1005
2	2203-000254	C600	C-CERAMIC,CHIP	10nF,10% ,16V,X7R,TP,1005,-
2	2203-005496	C601	C-CERAMIC,CHIP	220nF,+80-20% ,10V,Y5V,TP,1005
2	2203-005496	C602	C-CERAMIC,CHIP	220nF,+80-20% ,10V,Y5V,TP,1005
2	2203-000254	C603	C-CERAMIC,CHIP	10nF,10% ,16V,X7R,TP,1005,-
2	2203-000254	C604	C-CERAMIC,CHIP	10nF,10% ,16V,X7R,TP,1005,-
2	2203-000254	C605	C-CERAMIC,CHIP	10nF,10% ,16V,X7R,TP,1005,-
2	2203-000254	C606	C-CERAMIC,CHIP	10nF,10% ,16V,X7R,TP,1005,-
2	2203-000254	C607	C-CERAMIC,CHIP	10nF,10% ,16V,X7R,TP,1005,-
2	2203-000254	C608	C-CERAMIC,CHIP	10nF,10% ,16V,X7R,TP,1005,-

Level	SEC Code	Design LOC	Descriptions	
2	2203-001405	C611	C-CERAMIC,CHIP	22nF,+80-20% ,25V,Y5V,TP,1005
2	2203-005061	C612	C-CERAMIC,CHIP	100nF,+80-20% ,16V,Y5V,TP,1005
2	2203-005061	C613	C-CERAMIC,CHIP	100nF,+80-20% ,16V,Y5V,TP,1005
2	2203-000233	C614	C-CERAMIC,CHIP	0.1nF,5% ,50V,C0G,TP,1005
2	2203-000628	C615	C-CERAMIC,CHIP	0.022nF,5% ,50V,C0G,TP,1005
2	2203-000628	C616	C-CERAMIC,CHIP	0.022nF,5% ,50V,C0G,TP,1005
2	2203-000679	C617	C-CERAMIC,CHIP	0.027nF,5% ,50V,C0G,TP,1005
2	2203-005482	C618	C-CERAMIC,CHIP	100nF,10% ,10V,X5R,TP,1005,-
2	2203-000995	C619	C-CERAMIC,CHIP	0.047nF,5% ,50V,C0G,TP,1005
2	2203-000233	C620	C-CERAMIC,CHIP	0.1nF,5% ,50V,C0G,TP,1005
2	2203-005052	C700	C-CERAMIC,CHIP	0.0033nF,0.25pF,50V,NP0,TP,1005
2	2203-000628	C708	C-CERAMIC,CHIP	0.022nF,5% ,50V,C0G,TP,1005
2	2203-005496	C709	C-CERAMIC,CHIP	220nF,+80-20% ,10V,Y5V,TP,1005
2	2203-005065	C710	C-CERAMIC,CHIP	1000nF,+80-20% ,10V,Y5V,TP,1608
2	2203-005061	C711	C-CERAMIC,CHIP	100nF,+80-20% ,16V,Y5V,TP,1005
2	2203-000254	C712	C-CERAMIC,CHIP	10nF,10% ,16V,X7R,TP,1005,-
2	2203-000254	C713	C-CERAMIC,CHIP	10nF,10% ,16V,X7R,TP,1005,-
2	2203-000254	C714	C-CERAMIC,CHIP	10nF,10% ,16V,X7R,TP,1005,-
2	2203-000254	C716	C-CERAMIC,CHIP	10nF,10% ,16V,X7R,TP,1005,-
2	2203-000254	C717	C-CERAMIC,CHIP	10nF,10% ,16V,X7R,TP,1005,-
2	2203-000254	C718	C-CERAMIC,CHIP	10nF,10% ,16V,X7R,TP,1005,-
2	2203-000233	C720	C-CERAMIC,CHIP	0.1nF,5% ,50V,C0G,TP,1005
2	2203-000233	C721	C-CERAMIC,CHIP	0.1nF,5% ,50V,C0G,TP,1005
2	2203-000233	C722	C-CERAMIC,CHIP	0.1nF,5% ,50V,C0G,TP,1005
2	2203-005450	C723	C-CERAMIC,CHIP	0.0056nF,0.1pF,50V,NP0,TP,1005
2	2203-000278	C800	C-CERAMIC,CHIP	0.01nF,0.5pF,50V,C0G,TP,1005
2	2203-000438	C802	C-CERAMIC,CHIP	1nF,10% ,50V,X7R,TP,1005,-
2	2203-000438	C803	C-CERAMIC,CHIP	1nF,10% ,50V,X7R,TP,1005,-
2	2203-000254	C805	C-CERAMIC,CHIP	10nF,10% ,16V,X7R,TP,1005,-
2	2203-000438	C806	C-CERAMIC,CHIP	1nF,10% ,50V,X7R,TP,1005,-
2	2203-000254	C807	C-CERAMIC,CHIP	10nF,10% ,16V,X7R,TP,1005,-
2	2203-000254	C808	C-CERAMIC,CHIP	10nF,10% ,16V,X7R,TP,1005,-
2	2203-000254	C809	C-CERAMIC,CHIP	10nF,10% ,16V,X7R,TP,1005,-
2	2203-001405	C903	C-CERAMIC,CHIP	22nF,+80-20% ,25V,Y5V,TP,1005
2	2203-001405	C905	C-CERAMIC,CHIP	22nF,+80-20% ,25V,Y5V,TP,1005
2	2203-001405	C906	C-CERAMIC,CHIP	22nF,+80-20% ,25V,Y5V,TP,1005
2	2203-001405	C908	C-CERAMIC,CHIP	22nF,+80-20% ,25V,Y5V,TP,1005
2	2203-001405	C910	C-CERAMIC,CHIP	22nF,+80-20% ,25V,Y5V,TP,1005
2	2203-000233	C911	C-CERAMIC,CHIP	0.1nF,5% ,50V,C0G,TP,1005
2	2203-000278	C914	C-CERAMIC,CHIP	0.01nF,0.5pF,50V,C0G,TP,1005
2	2203-001405	C915	C-CERAMIC,CHIP	22nF,+80-20% ,25V,Y5V,TP,1005
2	2203-000233	C916	C-CERAMIC,CHIP	0.1nF,5% ,50V,C0G,TP,1005
2	2203-000278	C917	C-CERAMIC,CHIP	0.01nF,0.5pF,50V,C0G,TP,1005
2	2203-001405	C921	C-CERAMIC,CHIP	22nF,+80-20% ,25V,Y5V,TP,1005
2	2203-000995	C922	C-CERAMIC,CHIP	0.047nF,5% ,50V,C0G,TP,1005
2	2203-000812	C923	C-CERAMIC,CHIP	0.033nF,5% ,50V,C0G,TP,1005
2	2203-000233	C924	C-CERAMIC,CHIP	0.1nF,5% ,50V,C0G,TP,1005
2	3709-001244	CN100	CONNECTOR-CARD EDGE	6P,2MM,-,AU

Level	SEC Code	Design LOC	Descriptions	
2	3705-001226	CN1001	CONNECTOR-COAXIAL	MCX,JACK,75MOHM,50OHM,0.45DB
2	3711-005078	CN200	CONNECTOR-HEADER	BOX,34P,2R,0.4MM,SMD-S,AU,BLK
2	3710-001816	CN302	CONNECTOR-SOCKET	18P,1R,0.5MM,ANGLE,AU
2	0407-000115	D100	DDDE-ARRAY	DAN202U,80V,100mA,CA2-3,SC-70,
2	1405-001018	D300	VARISTOR	14V,-,1.6x0.8mm,TP
2	2909-001191	F1002	FILTER-DUPLEXER	942.5MHZ,897.5MHZ,1.14/3.43DB,TP,-,-
2	2904-001410	F1005	FILTER-SAW	1.96GHZ,-,1930-1990MHZ/2.4DB,TP,1930-1990
2	2901-001193	F200	FILTER-EMI SMD	25V,0.1A,-,35pF,3.2x1.6x0.75MM,TP
2	2901-001193	F201	FILTER-EMI SMD	25V,0.1A,-,35pF,3.2x1.6x0.75MM,TP
2	2901-001193	F202	FILTER-EMI SMD	25V,0.1A,-,35pF,3.2x1.6x0.75MM,TP
2	2901-001193	F203	FILTER-EMI SMD	25V,0.1A,-,35pF,3.2x1.6x0.75MM,TP
2	2901-001193	F204	FILTER-EMI SMD	25V,0.1A,-,35pF,3.2x1.6x0.75MM,TP
2	2703-001907	L1001	INDUCTOR-SMD	27nH,2%,1.8x1.12x1.02mm
2	2703-002165	L1002	INDUCTOR-SMD	7.5nH,5%,1.6x1.12x1.02mm
2	2703-002547	L1006	INDUCTOR-SMD	6.8nH,0.2nH,1.6x0.8x0.8mm
2	2703-001543	L1007	INDUCTOR-SMD	33nH,5%,1.8x1.12x1.02mm
2	2203-005056	L1011	C-CERAMIC,CHIP	0.0068nF,0.25pF,50V,NP0,TP,1005
2	2703-001180	L1013	INDUCTOR-SMD	15nH,5%,1x0.5x0.5mm
2	2703-001992	L1014	INDUCTOR-SMD	1nH,0.3nH,1.0x0.5x0.5mm
2	2703-001733	L1015	INDUCTOR-SMD	8.2nH,5%,1x0.5x0.5mm
2	3301-001105	L801	CORE-FERRITE	AB,1.6x0.8x0.8mm,-,-
2	2703-001751	L900	INDUCTOR-SMD	3.9nH,0.3nH,1.0x0.5x0.5mm
2	0604-001261	LED200	PHOTO-IRDA	115.2KB/S,875NM,500MW,30DEG,TP
2	0601-001547	LED201	LED	CHIP,BLUE,1.1X0.8MM,468NM
2	0601-001547	LED202	LED	CHIP,BLUE,1.1X0.8MM,468NM
2	0601-001547	LED203	LED	CHIP,BLUE,1.1X0.8MM,468NM
2	0601-001547	LED204	LED	CHIP,BLUE,1.1X0.8MM,468NM
2	0601-001547	LED205	LED	CHIP,BLUE,1.1X0.8MM,468NM
2	0601-001547	LED206	LED	CHIP,BLUE,1.1X0.8MM,468NM
2	0601-001547	LED208	LED	CHIP,BLUE,1.1X0.8MM,468NM
2	0601-001547	LED209	LED	CHIP,BLUE,1.1X0.8MM,468NM
2	0601-001547	LED211	LED	CHIP,BLUE,1.1X0.8MM,468NM
2	0601-001547	LED212	LED	CHIP,BLUE,1.1X0.8MM,468NM
2	0601-001547	LED214	LED	CHIP,BLUE,1.1X0.8MM,468NM
2	0601-001547	LED215	LED	CHIP,BLUE,1.1X0.8MM,468NM
2	4302-001130	M1	BATTERY-LI(2ND)	3V,0.1MAH,-,-,3.1V,-
2	2801-003747	OSC 601	CRYSTAL-SMD	.032768MHZ,30PPM,28-ACM,9PF,50OHM,TP
2	2809-001260	OSC 801	OSCILLATOR-VCTCXO	13MHZ,3PPM,10KOHM//10PF,TP,3V,-
2	0504-001113	Q100	TR-DIGITAL	DTC144EM,NPN,150MW,47K/47K,VM T3,TP
2	0502-001201	Q101	TR-POWER	ZXT13P20DE6,PNP,1100MW,SOT-23-6,TP,300-9
2	0504-000168	Q400	TR-DIGITAL	RN1104,NPN,100MW,47K/47K,SSM,TP
2	0504-000167	Q700	TR-DIGITAL	RN1102,NPN,100MW,10K/10K,SSM,TP
2	0504-000167	Q701	TR-DIGITAL	RN1102,NPN,100MW,10K/10K,SSM,TP
2	0504-000167	Q702	TR-DIGITAL	RN1102,NPN,100MW,10K/10K,SSM,TP
2	2007-001319	R100	R-CHIP	1.2Kohm,5%,1/16W,DA,TP,1005
2	2007-007771	R101	R-CHIP	0OHM,5%,1/16W,DA,TP,1005
2	2007-002965	R1010	R-CHIP	150OHM,5%,1/16W,DA,TP,1005
2	2007-000139	R1011	R-CHIP	220ohm,5%,1/16W,DA,TP,1005
2	2007-001311	R1012	R-CHIP	270ohm,5%,1/16W,DA,TP,1005



Level	SEC Code	Design LOC	Descriptions	
2	2007-000172	R1014	R-CHIP	10ohm ,5% ,1/16W ,DA,TP,1005
2	2007-001316	R1015	R-CHIP	820ohm ,5% ,1/16W ,DA,TP,1005
2	2007-001316	R1016	R-CHIP	820ohm ,5% ,1/16W ,DA,TP,1005
2	2007-000167	R102	R-CHIP	390Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-007200	R103	R-CHIP	2.40HM ,5% ,1/16W ,DA,TP,1005
2	2007-000162	R1038	R-CHIP	100Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-007771	R106	R-CHIP	00HM ,5% ,1/16W ,DA,TP,1005
2	2007-000758	R110	R-CHIP	330Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-007771	R111	R-CHIP	00HM ,5% ,1/16W ,DA,TP,1005
2	2007-007139	R112	R-CHIP	47Kohm ,1% ,1/16W ,DA,TP,1005
2	2007-001323	R113	R-CHIP	3Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-007771	R200	R-CHIP	00HM ,5% ,1/16W ,DA,TP,1005
2	2007-003001	R201	R-CHIP	120HM ,5% ,1/16W ,DA,TP,1005
2	2007-007771	R202	R-CHIP	00HM ,5% ,1/16W ,DA,TP,1005
2	2007-001307	R203	R-CHIP	180ohm ,5% ,1/16W ,DA,TP,1005
2	2007-001307	R204	R-CHIP	180ohm ,5% ,1/16W ,DA,TP,1005
2	2007-001307	R205	R-CHIP	180ohm ,5% ,1/16W ,DA,TP,1005
2	2007-001307	R206	R-CHIP	180ohm ,5% ,1/16W ,DA,TP,1005
2	2007-001307	R207	R-CHIP	180ohm ,5% ,1/16W ,DA,TP,1005
2	2007-001307	R208	R-CHIP	180ohm ,5% ,1/16W ,DA,TP,1005
2	2007-001307	R210	R-CHIP	180ohm ,5% ,1/16W ,DA,TP,1005
2	2007-001307	R211	R-CHIP	180ohm ,5% ,1/16W ,DA,TP,1005
2	2007-001307	R213	R-CHIP	180ohm ,5% ,1/16W ,DA,TP,1005
2	2007-001307	R214	R-CHIP	180ohm ,5% ,1/16W ,DA,TP,1005
2	2007-001307	R216	R-CHIP	180ohm ,5% ,1/16W ,DA,TP,1005
2	2007-001307	R217	R-CHIP	180ohm ,5% ,1/16W ,DA,TP,1005
2	2007-001301	R221	R-CHIP	68ohm ,5% ,1/16W ,DA,TP,1005
2	2007-000174	R222	R-CHIP	47ohm ,5% ,1/16W ,DA,TP,1005
2	2007-000174	R223	R-CHIP	47ohm ,5% ,1/16W ,DA,TP,1005
2	2007-000174	R224	R-CHIP	47ohm ,5% ,1/16W ,DA,TP,1005
2	2007-000174	R225	R-CHIP	47ohm ,5% ,1/16W ,DA,TP,1005
2	2007-000174	R226	R-CHIP	47ohm ,5% ,1/16W ,DA,TP,1005
2	2007-000174	R227	R-CHIP	47ohm ,5% ,1/16W ,DA,TP,1005
2	2007-000174	R228	R-CHIP	47ohm ,5% ,1/16W ,DA,TP,1005
2	2007-000174	R229	R-CHIP	47ohm ,5% ,1/16W ,DA,TP,1005
2	2007-000174	R230	R-CHIP	47ohm ,5% ,1/16W ,DA,TP,1005
2	2007-000174	R231	R-CHIP	47ohm ,5% ,1/16W ,DA,TP,1005
2	2007-000140	R303	R-CHIP	1Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-000157	R305	R-CHIP	47Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-000157	R306	R-CHIP	47Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-000140	R307	R-CHIP	1Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-000140	R308	R-CHIP	1Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-000140	R309	R-CHIP	1Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-000140	R310	R-CHIP	1Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-007771	R399	R-CHIP	00HM ,5% ,1/16W ,DA,TP,1005
2	2007-007771	R402	R-CHIP	00HM ,5% ,1/16W ,DA,TP,1005
2	2007-000164	R403	R-CHIP	150Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-000775	R404	R-CHIP	33Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-000147	R405	R-CHIP	8.2Kohm ,5% ,1/16W ,DA,TP,1005

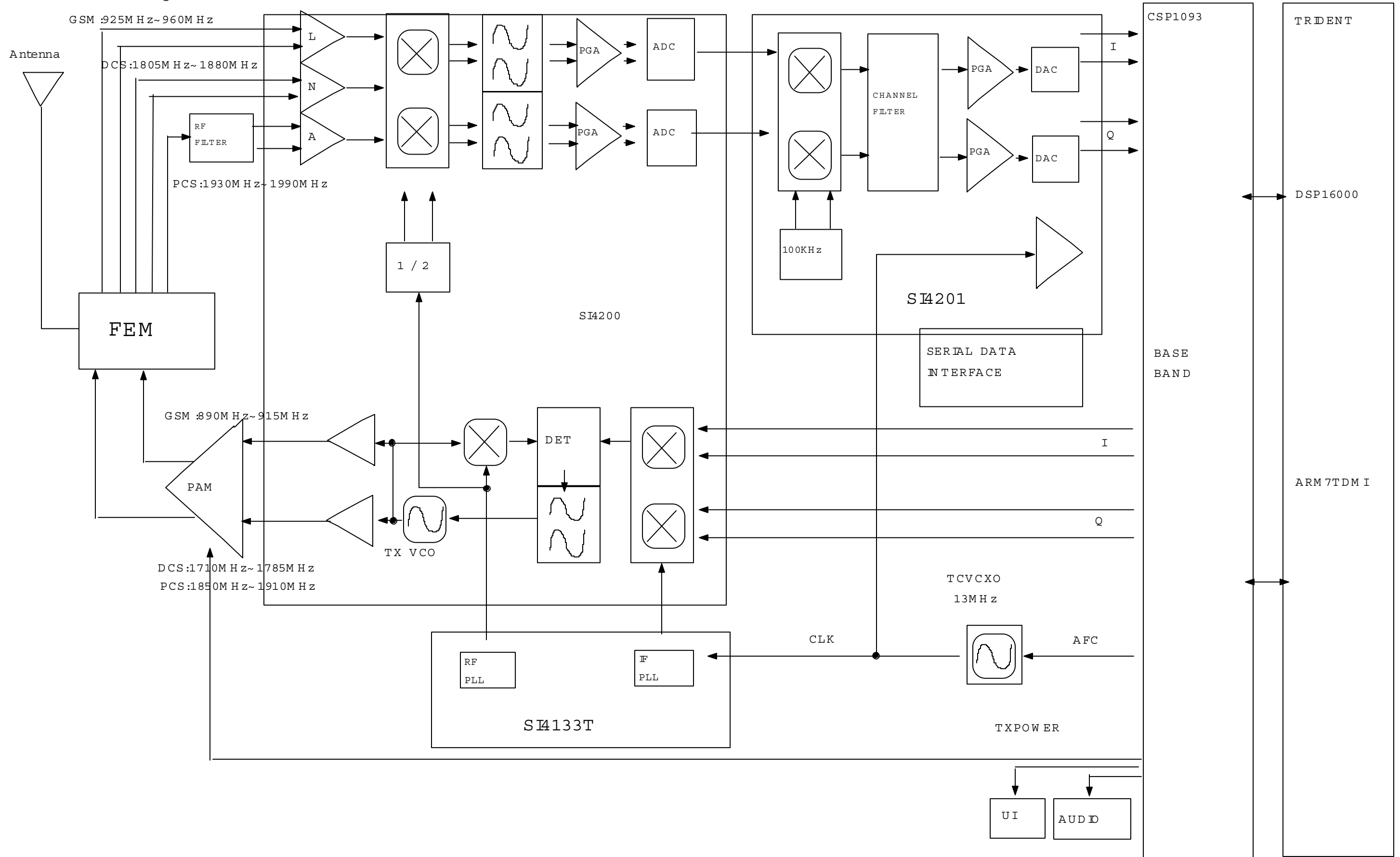
Level	SEC Code	Design IOC	Descriptions	
2	2007-000159	R406	R-CHIP	56Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-000775	R407	R-CHIP	33Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-000143	R409	R-CHIP	4.7Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-001119	R410	R-CHIP	680ohm ,5% ,1/16W ,DA,TP,1005
2	2007-001325	R413	R-CHIP	3.3Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-000143	R414	R-CHIP	4.7Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-000147	R420	R-CHIP	8.2Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-000159	R421	R-CHIP	56Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-001244	R422	R-CHIP	91Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-000165	R423	R-CHIP	200Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-000758	R424	R-CHIP	330Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-007771	R426	R-CHIP	00HM ,5% ,1/16W ,DA,TP,1005
2	2007-000140	R427	R-CHIP	1Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-001119	R428	R-CHIP	680ohm ,5% ,1/16W ,DA,TP,1005
2	2007-007771	R499	R-CHIP	00HM ,5% ,1/16W ,DA,TP,1005
2	2007-000162	R506	R-CHIP	100Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-007771	R507	R-CHIP	00HM ,5% ,1/16W ,DA,TP,1005
2	2007-007771	R508	R-CHIP	00HM ,5% ,1/16W ,DA,TP,1005
2	2007-007771	R606	R-CHIP	00HM ,5% ,1/16W ,DA,TP,1005
2	2007-000157	R608	R-CHIP	47Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-000157	R609	R-CHIP	47Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-000170	R610	R-CHIP	1Mohm ,5% ,1/16W ,DA,TP,1005
2	2007-007142	R611	R-CHIP	10Kohm ,1% ,1/16W ,DA,TP,1005
2	2007-007573	R612	R-CHIP	330Kohm ,1% ,1/16W ,DA,TP,1005
2	2007-007573	R613	R-CHIP	330Kohm ,1% ,1/16W ,DA,TP,1005
2	2007-000162	R615	R-CHIP	100Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-001311	R700	R-CHIP	270ohm ,5% ,1/16W ,DA,TP,1005
2	2007-001307	R701	R-CHIP	180ohm ,5% ,1/16W ,DA,TP,1005
2	2007-007200	R709	R-CHIP	2.40HM ,5% ,1/16W ,DA,TP,1005
2	2007-007200	R710	R-CHIP	2.40HM ,5% ,1/16W ,DA,TP,1005
2	2007-000138	R711	R-CHIP	100ohm ,5% ,1/16W ,DA,TP,1005
2	2007-000162	R713	R-CHIP	100Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-000162	R714	R-CHIP	100Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-000162	R715	R-CHIP	100Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-000242	R801	R-CHIP	1.5Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-002797	R802	R-CHIP	560ohm ,5% ,1/16W ,DA,TP,1005
2	2007-000172	R803	R-CHIP	10ohm ,5% ,1/16W ,DA,TP,1005
2	2007-000138	R805	R-CHIP	100ohm ,5% ,1/16W ,DA,TP,1005
2	2007-000758	R810	R-CHIP	330Kohm ,5% ,1/16W ,DA,TP,1005
2	2007-007771	R999	R-CHIP	00HM ,5% ,1/16W ,DA,TP,1005
2	1203-002568	U100	IC-VOLTAGE REGULATOR	PSC2006,M LCC ,68P,10X10MM,PLASTIC,1.8/2.5V
2	1201-001889	U1001	IC-POWER AMP	3110,SMD-MODULE,40P,10X10MM ,DUAL,35DB,-,-
2	1203-001720	U101	IC-VOLTAGE REGULATOR	5219,SOT-23,5P,63MIL,PLASTIC,2.91/3.09V,-,-
2	1203-002127	U102	IC-BATTERY	1734,SOT-23,6P,150MIL,PLASTIC,4.7/5.3V,-,0to+
2	0506-001052	U103	TR-ARRAY	UMH9N,NPN,2,150MW ,SC-88,TP,68-
2	3404-001152	U200	SW ITCH-TACT	12V DC,20mA,160gf,4.5x4.0x2.3mm ,SPST
2	3404-001152	U201	SW ITCH-TACT	12V DC,20mA,160gf,4.5x4.0x2.3mm ,SPST

SGH-S300 Electrical Parts List

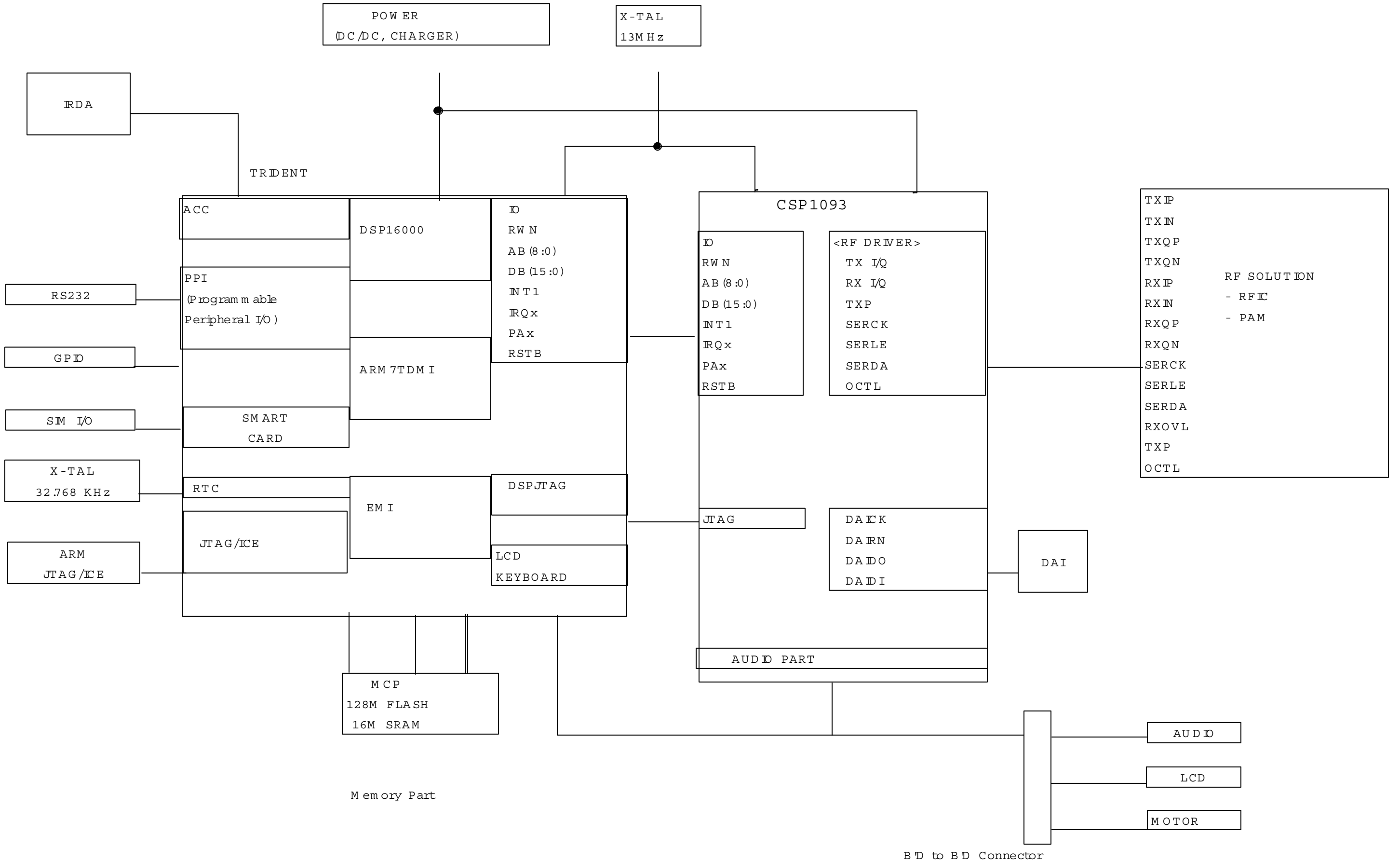
Level	SEC Code	Design LOC	Descriptions	
2	1204-001960	U401	C-MELODY	YMU762 MA-3,QFN,32P,6.2X5.2MM,PLASTIC,4.5
2	1001-001155	U402	C-ANALOG MULTIPLEX	NC7SB3157P6X,CMOS,SC70,6P,49MIL,-.5.5V,-40 to +85C,PLASTIC,180mW,300ohm,-,-,1uA,TP
2	1109-001242	U501	C-ETC. MEMORY	LRS1395,4M X16/4M X16/1M X16BIT,CSP,72P,11X8MM,70NS,3V,10%,PLASTIC,-20TO+85C,50UA,C
2	GH09-00020A	U601	C M COM -SGHS100	TR09WQTEB17N2B-DT,SGH-S100,-,-,-,144KX16BIT,-,-,FSBGAC,TR,-,-,-40TO+85
2	1209-001219	U602	C-SENSOR	LM60C,SOT-23,3P,115MIL,PLASTIC
2	1009-001010	U603	C-HALL EFFECT S/W	A3212ELH-SAMSUNG,SC-59A,3P,82MIL,TP,BICMOS,PLASTIC,3.5V,2MA,-40TO+85C,-,-,-,340K
2	1204-001984	U700	C-SIGNAL PROCESSOR	CSP1093CR1-RT10-DB,FSBGA,108P,8X8MM,PLASTIC,3.3V,1W,-40TO+85C,TP,GSM2+ CONVERSD
2	0504-001042	U701	TR-DIGITAL	BCR10PN,NPN/PNP,250mW,10K/10K,
2	0504-001042	U702	TR-DIGITAL	BCR10PN,NPN/PNP,250mW,10K/10K,
2	0504-001042	U703	TR-DIGITAL	BCR10PN,NPN/PNP,250mW,10K/10K,
2	0801-002345	U800	C-CMOS LOGIC	7S04,INVERTER,SOT-353,5P,49MIL,SINGLE,TP,PLASTIC,-,-,0.26V,-40TO+85C,200MW,4.2V,
2	1205-002185	U900	C-INTERFACE	S4201-BM,MILP,20P,4X4MM,-,3V,-,-20TO+85C,TP,UNIVERSAL BASEBAND
2	1205-002268	U901	C-TRANSCEMER	S4200F,MILP,32P,5X5MM,-,3V,-,-20TO+85C,TP,TRI-BAND TRANSCEMER
2	1209-001434	U902	C-PLL/SYNTHESIZER	S4133T-BM,MILP,28P,5X5MM,-,3V,-,-20TO+85C,
2	1405-001108	ZD 201	VARISTOR	14V,20A,1X0.5X0.6MM,TP
2	1405-001108	ZD 202	VARISTOR	14V,20A,1X0.5X0.6MM,TP
2	1405-001108	ZD 203	VARISTOR	14V,20A,1X0.5X0.6MM,TP
2	1405-001108	ZD 204	VARISTOR	14V,20A,1X0.5X0.6MM,TP
2	1405-001108	ZD 205	VARISTOR	14V,20A,1X0.5X0.6MM,TP
2	1405-001108	ZD 206	VARISTOR	14V,20A,1X0.5X0.6MM,TP
2	1405-001108	ZD 207	VARISTOR	14V,20A,1X0.5X0.6MM,TP
2	1405-001108	ZD 208	VARISTOR	14V,20A,1X0.5X0.6MM,TP
2	1405-001108	ZD 209	VARISTOR	14V,20A,1X0.5X0.6MM,TP
2	1405-001108	ZD 210	VARISTOR	14V,20A,1X0.5X0.6MM,TP
2	1405-001108	ZD 211	VARISTOR	14V,20A,1X0.5X0.6MM,TP
2	1405-001082	ZD 300	VARISTOR	5.6V,20A,1x0.5x0.6mm,TP
2	1405-001082	ZD 302	VARISTOR	5.6V,20A,1x0.5x0.6mm,TP
2	1405-001082	ZD 303	VARISTOR	5.6V,20A,1x0.5x0.6mm,TP
2	1405-001082	ZD 309	VARISTOR	5.6V,20A,1x0.5x0.6mm,TP
2	1405-001082	ZD 310	VARISTOR	5.6V,20A,1x0.5x0.6mm,TP
2	1405-001082	ZD 311	VARISTOR	5.6V,20A,1x0.5x0.6mm,TP
2	1405-001082	ZD 312	VARISTOR	5.6V,20A,1x0.5x0.6mm,TP
2	1405-001082	ZD 313	VARISTOR	5.6V,20A,1x0.5x0.6mm,TP
2	1405-001082	ZD 314	VARISTOR	5.6V,20A,1x0.5x0.6mm,TP
2	1405-001082	ZD 315	VARISTOR	5.6V,20A,1x0.5x0.6mm,TP
2	1405-001082	ZD 316	VARISTOR	5.6V,20A,1x0.5x0.6mm,TP
2	1405-001082	ZD 317	VARISTOR	5.6V,20A,1x0.5x0.6mm,TP
2	1405-001082	ZD 318	VARISTOR	5.6V,20A,1x0.5x0.6mm,TP
2	1405-001018	ZD 319	VARISTOR	14V,-,1.6x0.8mm,TP
2	1405-001082	ZD 401	VARISTOR	5.6V,20A,1x0.5x0.6mm,TP
2	1405-001082	ZD 404	VARISTOR	5.6V,20A,1x0.5x0.6mm,TP
2	1405-001082	ZD 405	VARISTOR	5.6V,20A,1x0.5x0.6mm,TP
2	GH41-00338A		PCB-SGHS300 MAN	SGH-S300,FR4,8L,0,1.0T,100X155MM,-,3ARRAY,

# 4. SGH-S300 Block Diagrams

## 1. RF Solution Block Diagram



2. Base Band Solution Bbck Diagram

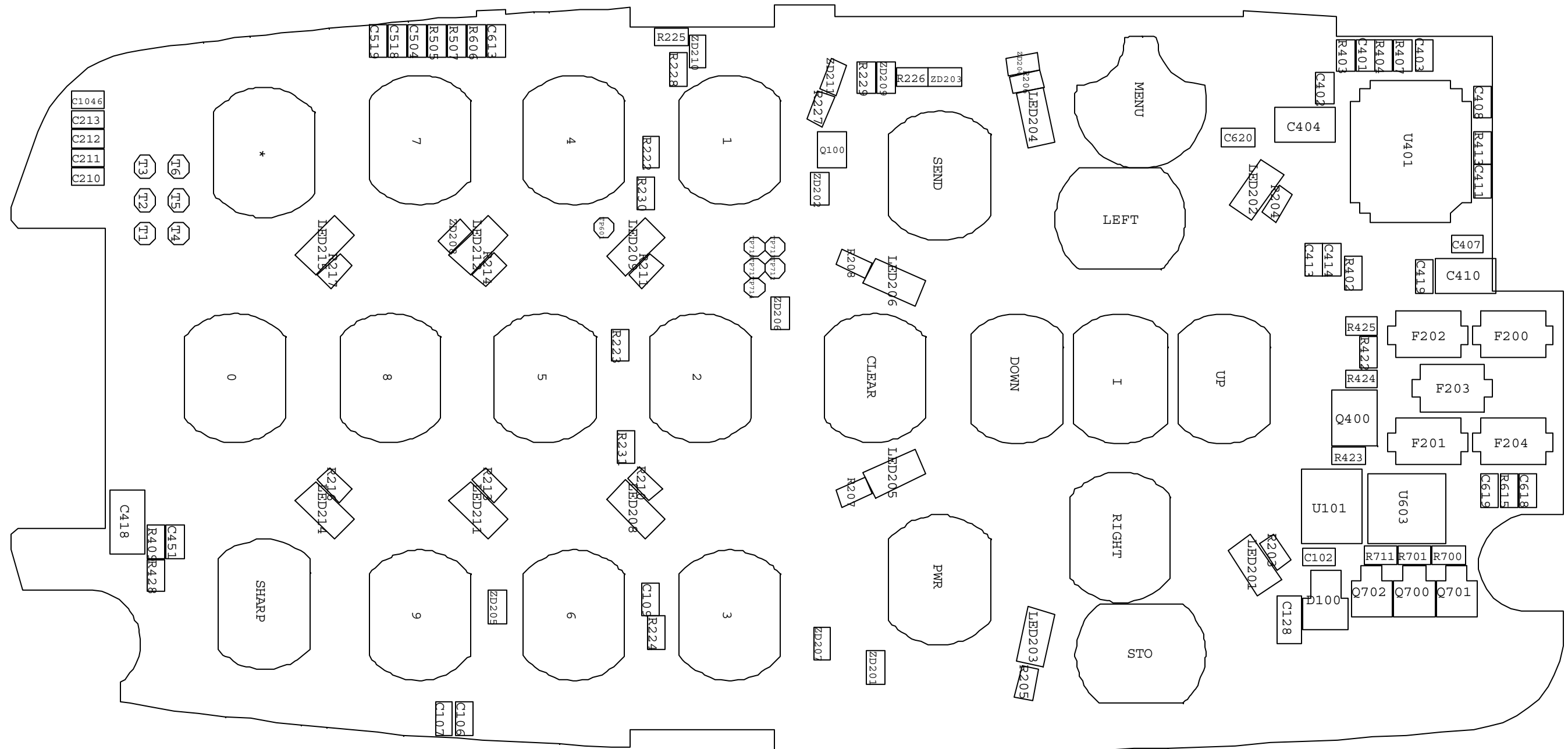


# 5. SGH-S300 PCB Diagrams

## 1. Main PCB Top Diagram



2. Main PCB Bottom Diagram





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