

DR7510-2
DR7810-2
Service Manual

2018-04 V01 version

COV//LUE

SHENZHEN COVALUE COMMUNICATIONS
CO.,LTD.

-----CONTENTS-----

GENERAL	2
RADIO OVERVIEW.....	3
REALIGNMENT	6
DISASSEMBLY FOR REPAIR	8
CIRCUIT DESCRIPTION	9
SCHEMATIC DIAGRAM	9
PCB.....	9
ADJUSTMENT	9
PART LIST	10
BLOCK DIAGRAM.....	23
PACKING.....	23
OPTION	23
SPECIFICATIONS	23

This product complies with the RoHs directive for the European market.

Disclaimer

While every precaution has taken in the preparation of this manual, our company assumes no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of the information contained herein. our company reserves the right to make changes to any products herein at any time for improvement purposes.

GENERAL

SCOPE OF THIS MANUAL

This manual applies to the service and maintenance of DR7510-2 and DR7810-2 radios, and is for the engineers and professional technicians that have been trained by our company. In this manual you can find all the information of product service.

ATTENTION

PERSONAL SAFETY

- ✧ Do not touch the antenna connector with your skin directly.
- ✧ Do not reverse the power polarities.
- ✧ DO NOT transmit until all RF connectors are verified secure and any open connectors are properly terminated.
- ✧ SHUT OFF and DO NOT operate this equipment near electrical blasting caps or in an explosive atmosphere.
- ✧ This equipment should be serviced by
- ✧

a qualified technician only.

- ✧ Change Components:
All the components used in repair service should be supplied by our company.
Other components of the same models available on the market are not surely able to use in this product and we do not guarantee the quality of the product using such components.

Service

- ✧ All our company products are subject to the service warranty.
- ✧ After-sales service will be provided, and the length of warranty is stated by our company. The radio and its accessories are all in the warranty. However, in one of the following cases, charge free service will be not available.
- ✧ No valid service warranty or original invoice.
- ✧ Malfunction caused by disassemble,

repair or reconstruct the radio by the users without permission.

- ✧ Wear and tear or any man-made sabotage such as mechanical damage, burning or water leaking.
- ✧ Product serial number has been damage or the product trademark is difficult to identify.

Beyond the warranty time, lifetime service is still available with paid. And we also provide service components to service stations and staff.

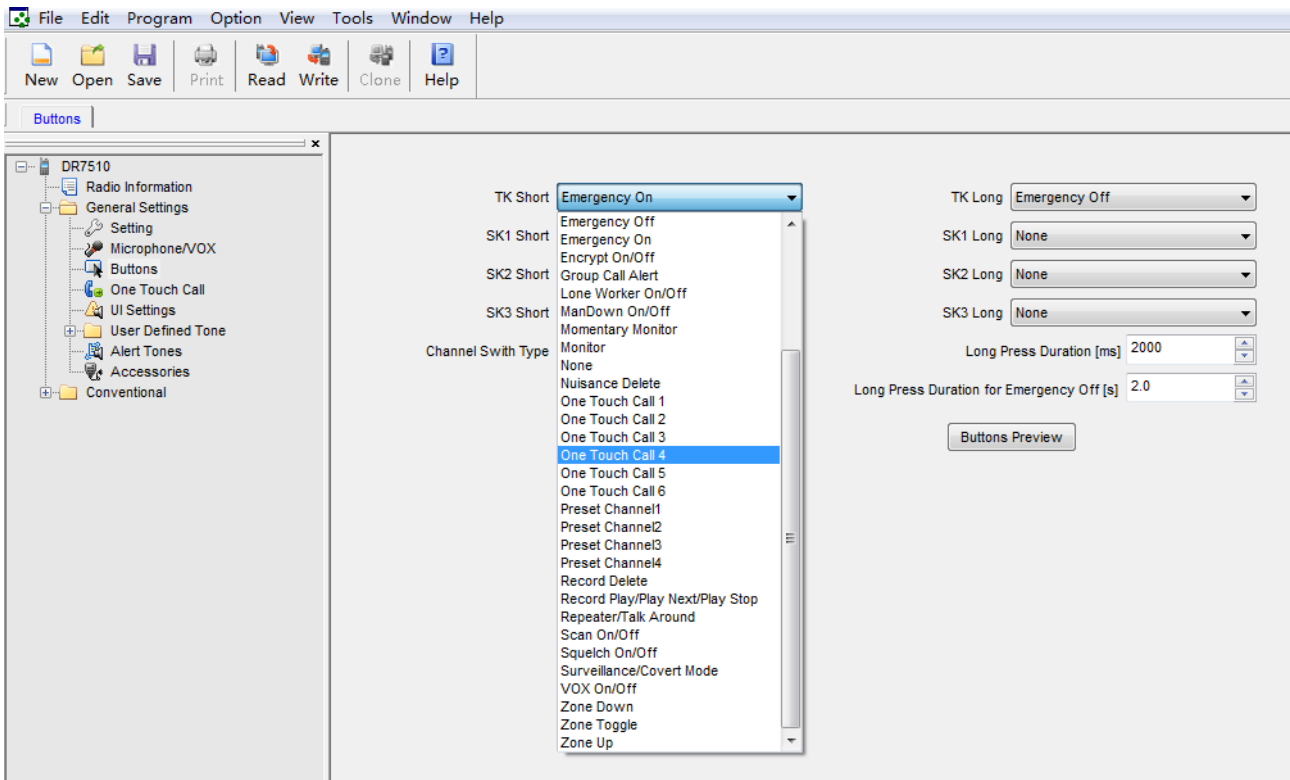
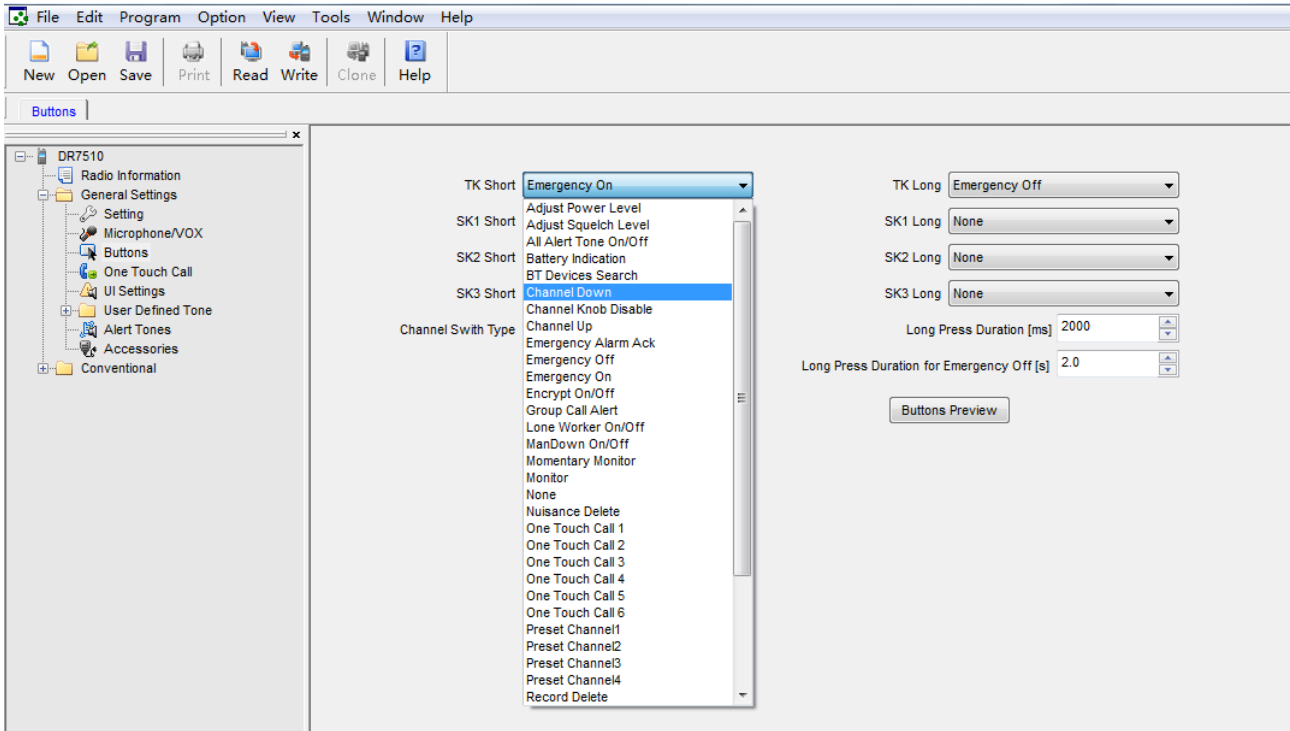
RADIO OVERVIEW

1. DR7510-2

1. PTT (PUSH-TO-TALK) Button
2. Side Button 1 (Programmable Button)
3. Side Button 2(Programmable Button)
4. Top Button (Programmable Button)
5. Channel Selector 1~16CH.
6. Power/Volume Knob
7. LED Indicator LED Indicates Status/Alert.
Green LED lights when a carrier is detected in the current channel.
Red LED lights during transmission.
Orange LED flashes when receiving the Radio ID 5-Tone signaling or 2-Tone signaling or MDC signaling.
Green LED flashes when scanning.
Red LED flashes when battery voltage too low.
8. Speaker/Microphone Jacks
Used for connect the optional speaker/microphone.
9. MIC Input
Please keep your mouth about 10 cm (3-4 inches) away from the microphone input to achieve the best voice quality. If the distance is too far or too close to the radio, it will affect the voice quality.

Programmable Button Function

The dealer can program the Side Button 1, Side Button 2 and the Top Button with the following Optional functions:



2. DR7810-2

1. **PTT (PUSH-TO-TALK) Button**
2. **Side Button 1** (Programmable Button)
3. **Side Button 2**(Programmable Button)
4. **MIC Input**
Please keep your mouth about 10 cm (3-4 inches) away from the microphone input to achieve the best voice quality.
5. **LCD**
6. **Key Pad**
7. **Top Button** (Programmable Button)
8. **Channel Selector**
Rotate to select channel 1~512.
9. **Power/Volume Knob**
Turn clockwise to switch on the radio.
Turn counterclockwise till a click is heard to switch off the radio. Rotate

to adjust the volume after turning on the radio.

10. LED Indicator

Green LED lights when a carrier is detected in the current channel.

Red LED lights during transmission.

Orange LED flashes when receiving the Radio ID 5-Tone signaling or 2-Tone signaling or MDC signaling.

Green LED flashes when scanning.

Red LED flashes when battery voltage too low.

11. Speaker/Microphone Jacks

Used for connect the optional speaker/microphone.

Programmable Button Function

The dealer can program the Side Button 1, Side Button 2, Top Button and 'C' ("Cancel" short form), '<', '>', 'O' ("OK" short form) Keys with the following Optional functions:

None (No Function)	Talk Around
Back Light	Monitor Momentary/Call Cancel
Channel Up	Monitor/Call Cancel
Channel Down	Squelch Off Momentary/Call Cancel
Zone Up	Squelch Off/Call Cancel
Zone Down	Emergency Call
Display CH Frequency	Cancel Emergency Call
Display CH Alias	Radio Call
Display Mode Switch	Call1/Call2/Call3/Call4
OST	Menu Select/Enter
H/M/L Power Switch	Lone Work
Home Channel	VOX
Squelch Adjust	VOX Level
Lock Keyboard	Normal Record/Record Stop
Scan	Protected Record/Record Stop
Scan List Edit	Record play/Play Next/Play Stop
Noise Channel Delete	Record Delete
Zone0 Scan ADD/DEL	Surveillance
Voice Expander	Man-Down
Scrambler	

NOTE: 'O' Key can be assigned "main menu key" or "programmable button". When 'O' ("OK" short form) Key be assigned "programmable button", it can be programmed optional function above mentioned. When 'O' Key be assigned "main menu key", it is used to enter "Field Programming mode".

REALIGNMENT

Mode combinations

	Mode	Function	Operation
User Mode	User Mode	For normal use	Power on
	Field Programming Mode(only for DR7810-2)	Programming the basic information of the radio	Pressing "O" key enter(when "O" key be programmed main menu key)
PC Mode	Data Programming Mode	Reading and writing frequency data and other functions	Receive instructions from the PC
	Test Mode	Used to tune the radio using the PC.	Receive instructions from the PC
	Firmware Upgrading Mode	Upgrades the software when new features are added	Receive instructions from the PC

Normal User Mode:

You can enter Normal User Mode (conventional communication mode) by turning on the power switch. Users in the mode can use the defined function of the radio.

Field Programming Mode(only for DR7000-2):

You can enter the Field Programming Mode by pressing the “O” Key when “O” be assigned “Main menu key”.

Data programming mode:

Before leaving the factory, the radio has been set in factory. However, due to different requirements of users, functional parameters of the radio such as working frequency, channels, CTCSS/DCS and auto scanning, etc. should be set again. Therefore, the company has specially designed a set of DR-7510 and DR7810 programming software with friendly interface, convenient operation and visualized display for setting functional parameters of the radio. The programming software is DMR_CPS7800_Vx.xx.xx.

Steps for setting the functional parameters of the Radio by computer are as follows:

1. Install DR-6000 programming software on the computer.
2. As shown in the figure below, connect the radio to the computer through a USB programming cable (CPL-07).
3. Turn on the power of the computer.
4. Turn on the power of the Radio.
5. Click on DR-6000 icon to perform the program.
6. In the main menu of the programming software, click on [Read] to read the parameters of the radio into the computer; click on [Write] to write the parameters set in the computer into the radio.

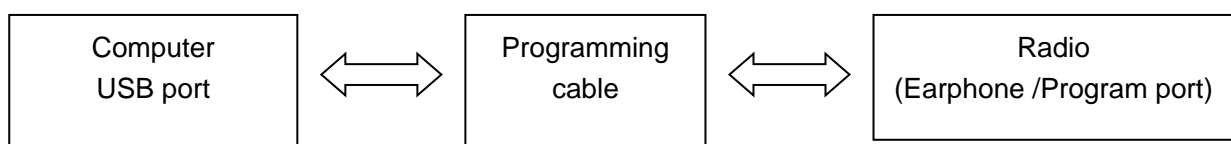


Figure 3-1

Caution:

1. Before editing for the first time, the data should be read from the Radio and properly backed up.
2. If the edited data cannot work normally after being written into the Radio, please open the backup data and rewrite them.
3. “Model Information” is the important information of the Radio and should not be altered.

Test Mode

According to Figure 3-1, connect the radio to the computer with the programming cable (CPL-07). The test software is DMR Tuner x.xx.

Warning:

Before entering the Test Mode, please first connect a high-frequency load of 50 ohm to the antenna port of the radio or connect the radio a certain test instrument.

With the DR-6000 Tuner Software, you can enter the adjustment status in Computer Test Mode to adjust the following parameters of the radio:

- | | |
|---------------------------------|------------------------------|
| 1) Frequency stability | 13) CTCSS(67.0Hz) deviation |
| 2) RF transmitting high power | 14) CTCSS(254.1Hz) deviation |
| 3) RF transmitting Middle power | 15) Battery warning level |
| 4) RF transmitting Low power | 16) RX Sensitivity |
| 5) Maximum TX voice deviation | 17) RX squelch 9 open level |
| 6) VOX1(Tight) | 18) RX squelch 9 close level |
| 7) VOX10 | 19) RX squelch 1 open level |
| 8) 2/5 tone deviation | 20) RX squelch 1 close level |
| 9) DTMF deviation | 21) RSSI(-120dBm) |
| 10) MSK deviation | 22) RSSI(-70dBm) |
| 11) DCS/LTR balance | 23) TX Low Voltage |
| 12) DCS deviation | |

Firmware Upgrading Mode

The radio is equipped with an internal FLASH ROM, it can be upgraded if required.

1. Connect the radio to the PC with a programming cable, then power on the radio.
2. Run computer programming software.
3. Select the right "com port" and suitable Baud Rate you connected and the upgrading firmware and then click on "E.P" to start downloading.
4. Turn off the radio and exit the programming software.

DISASSEMBLY FOR REPAIR**Installing/Removing the Battery Pack**

To install the battery, please place it into the groove on the top of the radio chassis about 5mm away from latch.

If the radio has the belt clip installed, you will have to press one side of the clip, to raise it and slide the battery in proper position.

Press the battery with your fingers and push the battery until you hear a latch click, the battery is now installed.

Removing the battery pack:

If you want to remove the battery from the radio, first press the battery latch located on the bottom of the radio, and then press down to slide the battery about 5mm to release the latch.

Notice:

- Do not short-circuit the battery terminals or dispose the battery in fire.
- Do not disassemble the battery case.

Installing/Removing Antenna, Channel Selector, Power/Volume Knob

Screw the antenna out of the connector at the top of the radio by holding the bottom of the antenna and turn it counter clockwise until apart.

Using a smooth tool or a tool protected with cloth to hold or prize up from the bottom of channel selector or volume knob until apart

Open the cover of the jack for external speaker/MIC, and then insert the plug of the external speaker or microphone into the jack on the radio. When inserting the accessory plug, make sure it is properly aligned (straight) to avoid internal damage to the connector in the radio.

Installing/Removing the Belt Clip

Use the 2 screws (M2.5x8.0) supplied with the radio and fix these screws on the holes in the radio clip and into the holes in the aluminum case. If you want to remove the clip from the radio, just unscrew them, and remove the clip, you can put the screws back to make sure you do not loose them.

the radio by a hexagon screwdriver.

Pry up the aluminum shell by peaking a straight screwdriver in the cross-slot at the bottom of the aluminum shell, and then pull out the surface shell after placing the aluminum shell inclined to the back; but please be careful not to snap off the cable of the speaker.

Installing/Removing the Chassis, PCB

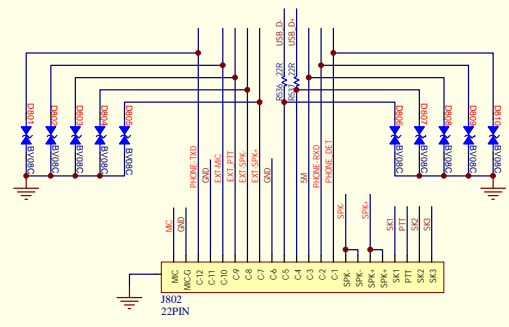
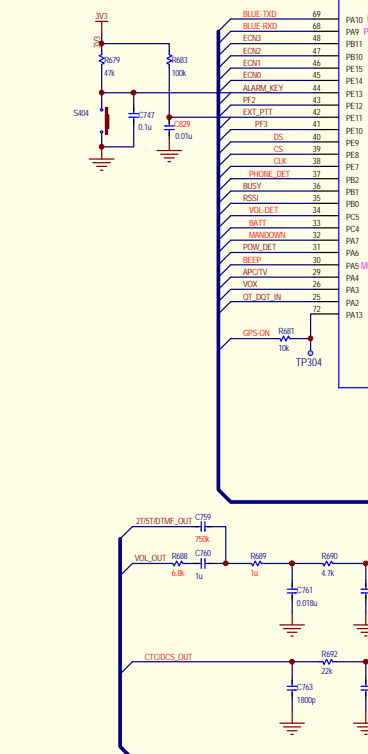
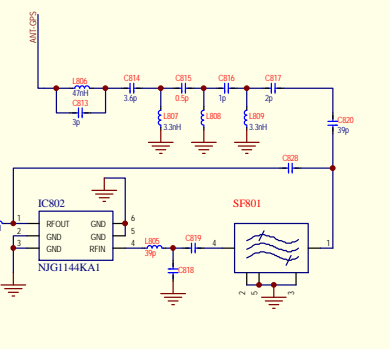
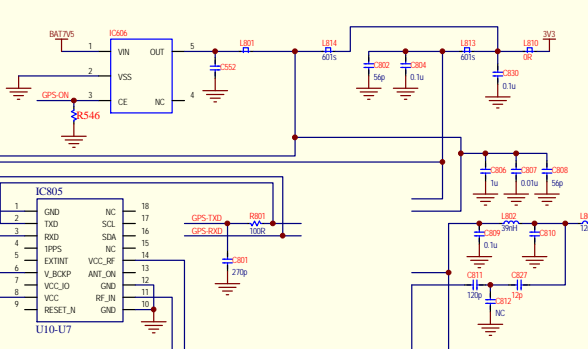
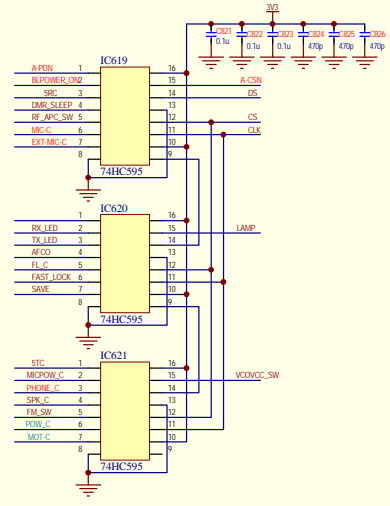
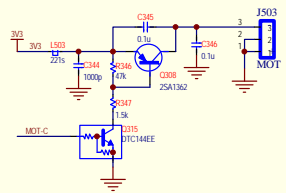
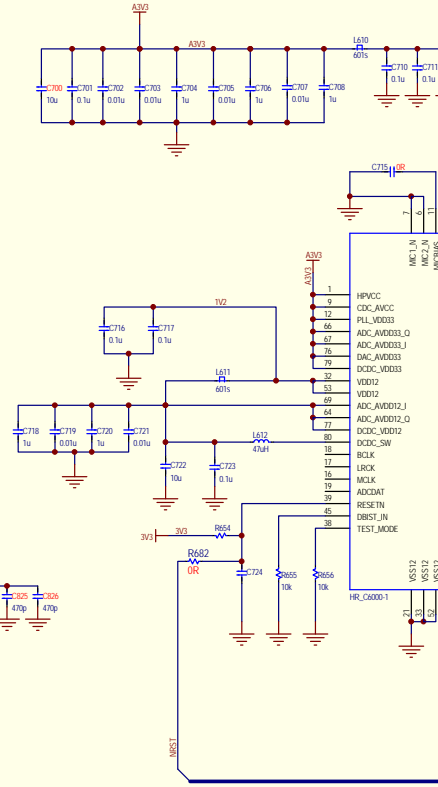
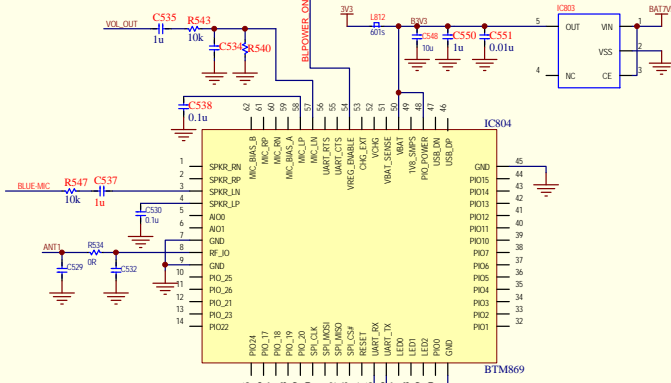
1. Screw off the two screws at the bottom of

Screw off the 4 screws M2X3 on the keyboard PCB by a cross screwdriver. and take out the FPC from the socket ,then screw the 5 especially screws M2X3 from main PCB. (Only for DR7000-2).

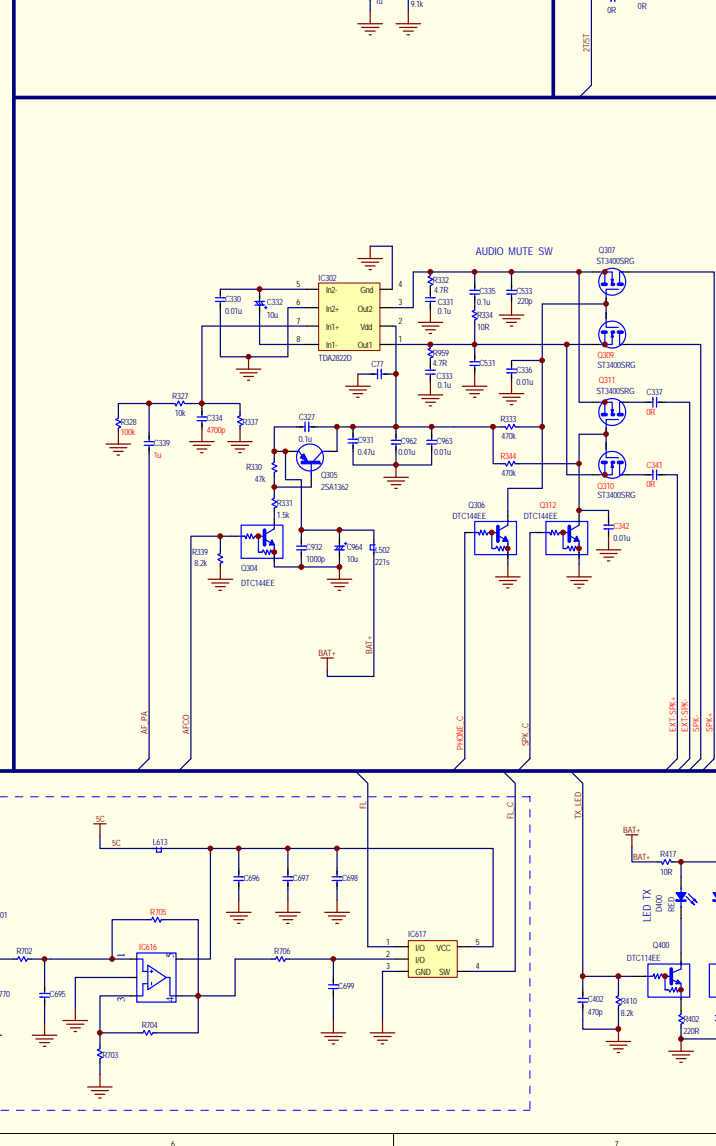
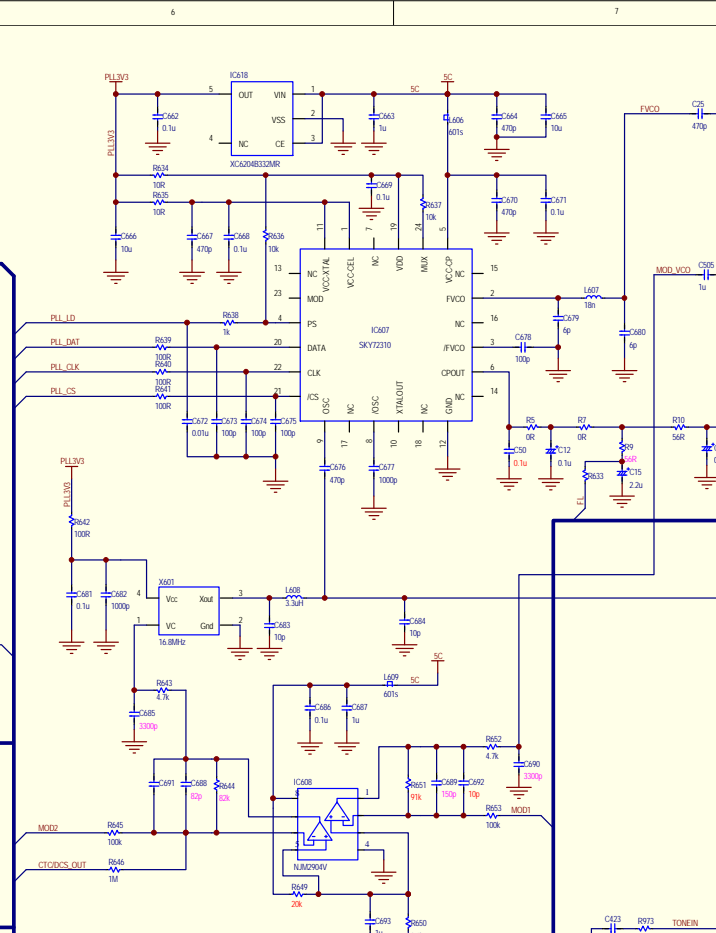
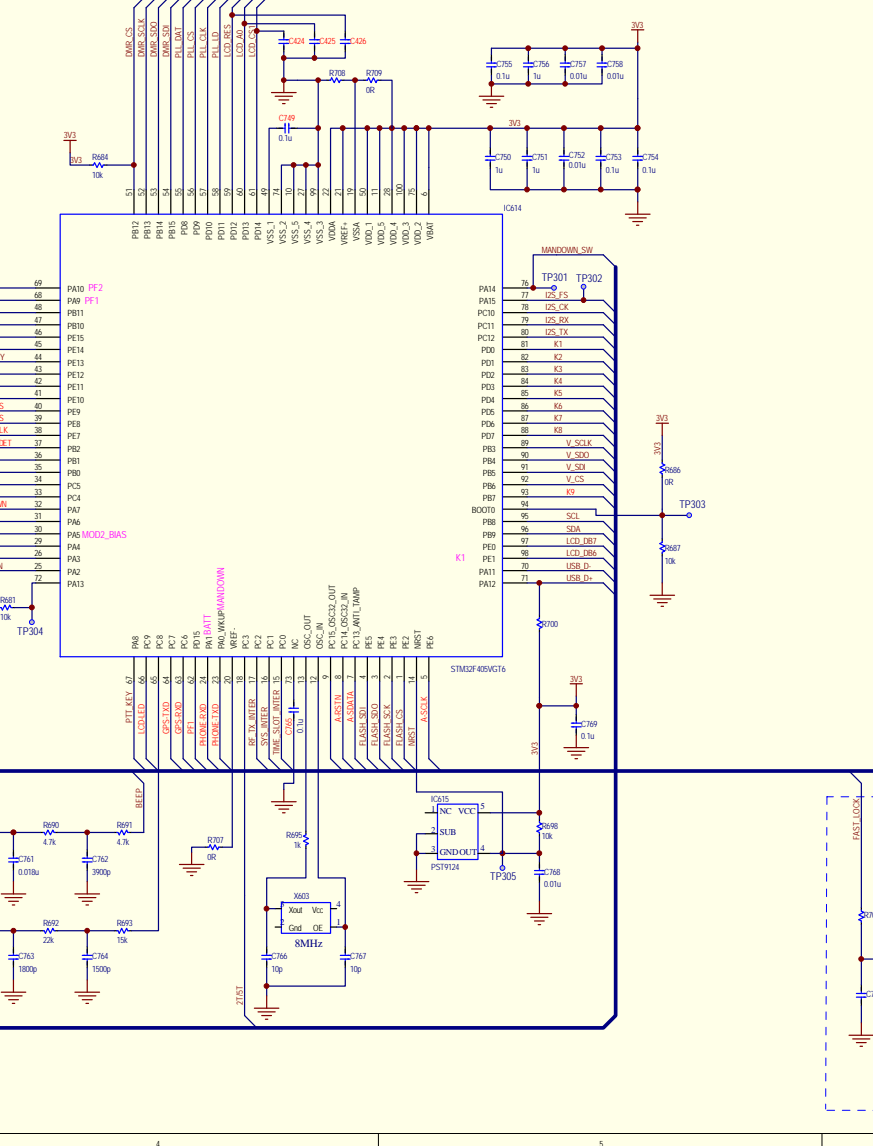
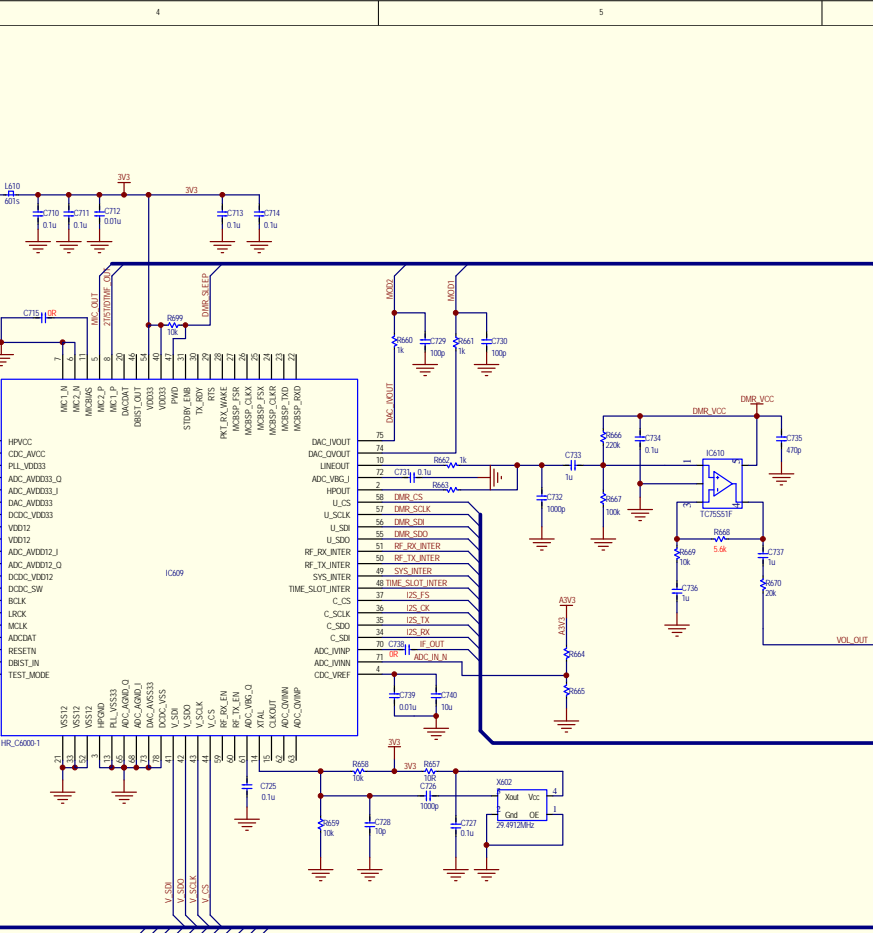
3. Screw off the 6 screws on the PCB by a cross screwdriver.
4. Unsolder the endpoints of the antenna , PTT key board and speaker by an electric iron, then remove the main board.

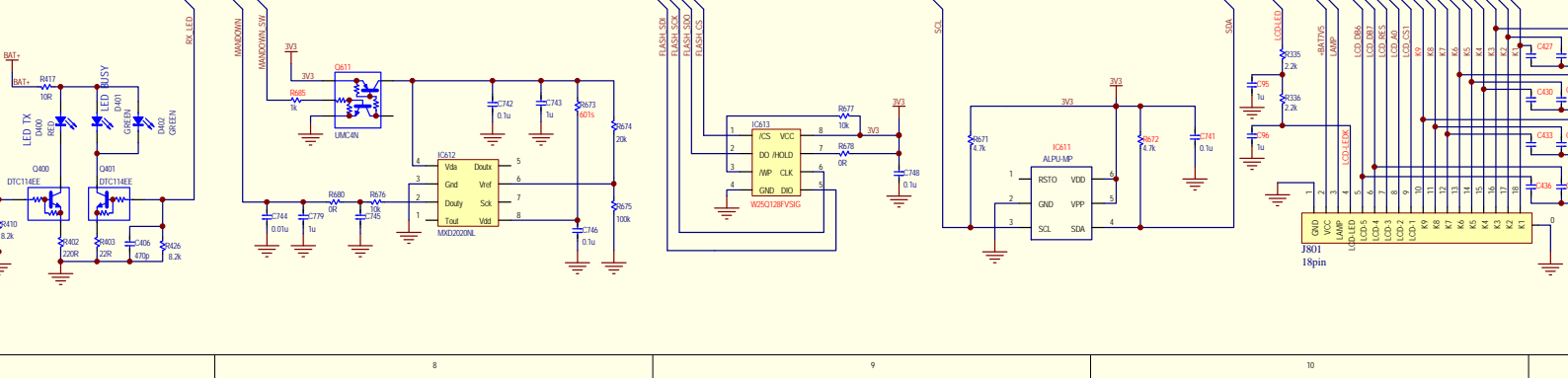
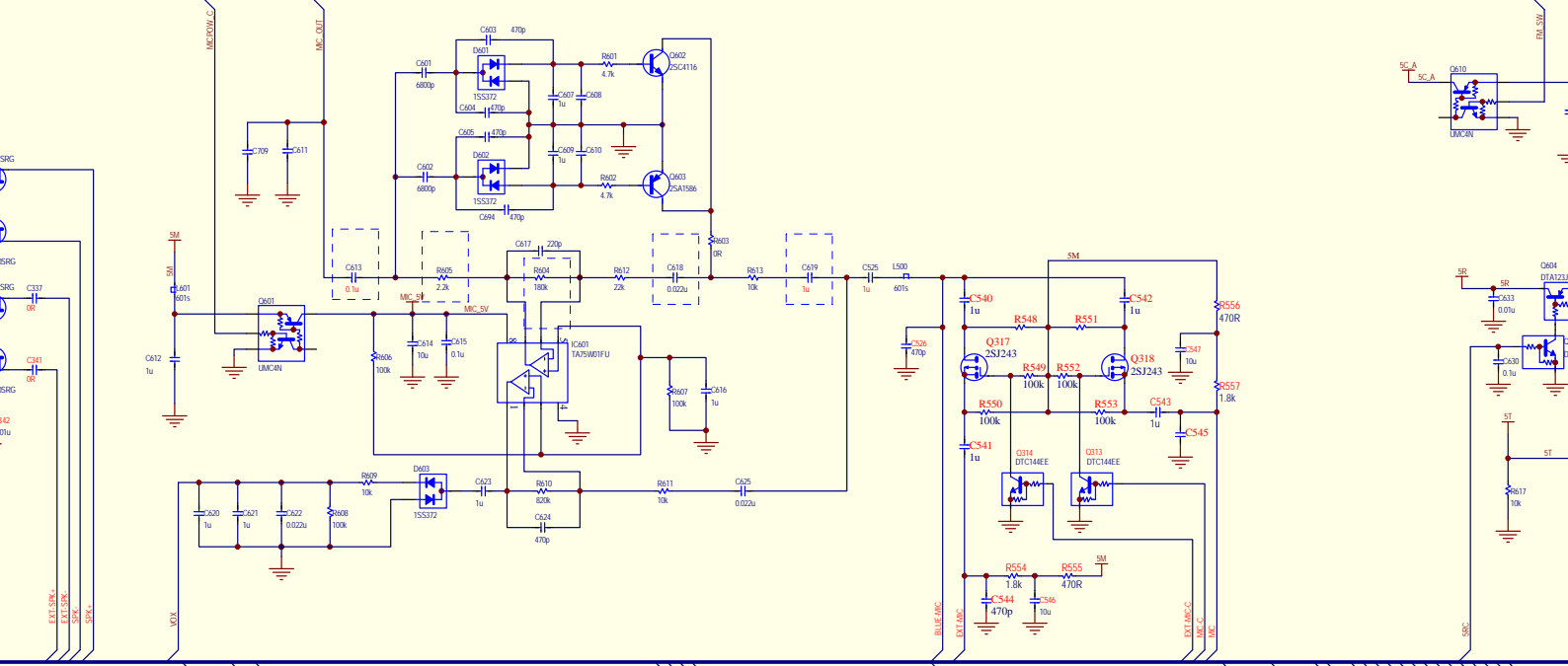
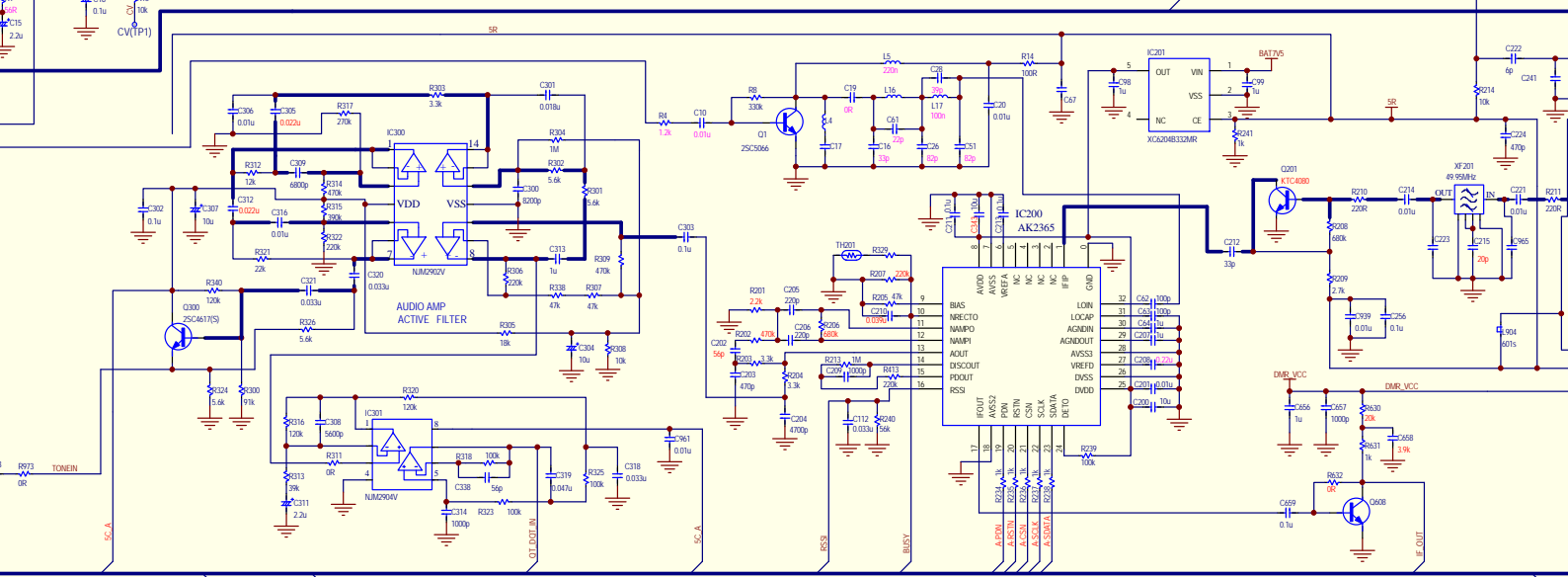
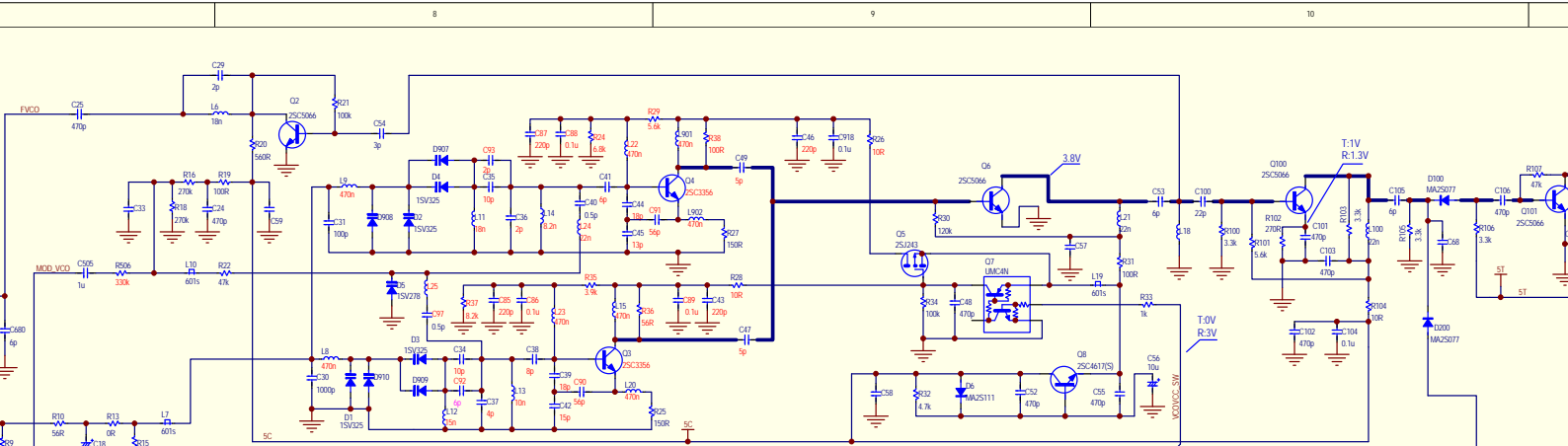
After the disassembly above, you can carry out corresponding reparation and debugging according to the actual malfunction

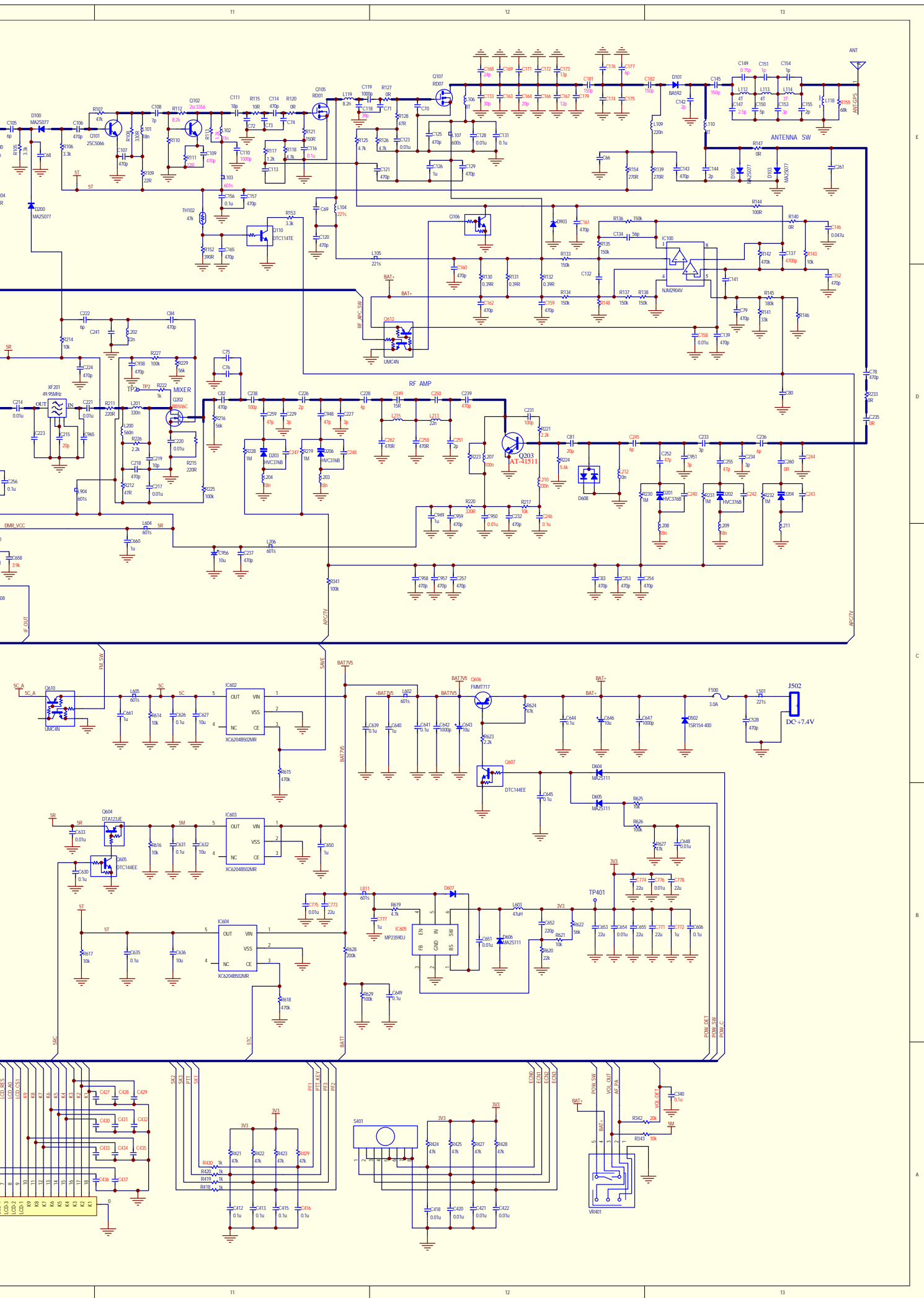
CIRCUIT DESCRIPTION**SCHEMATIC DIAGRAM****PCB****ADJUSTMENT**

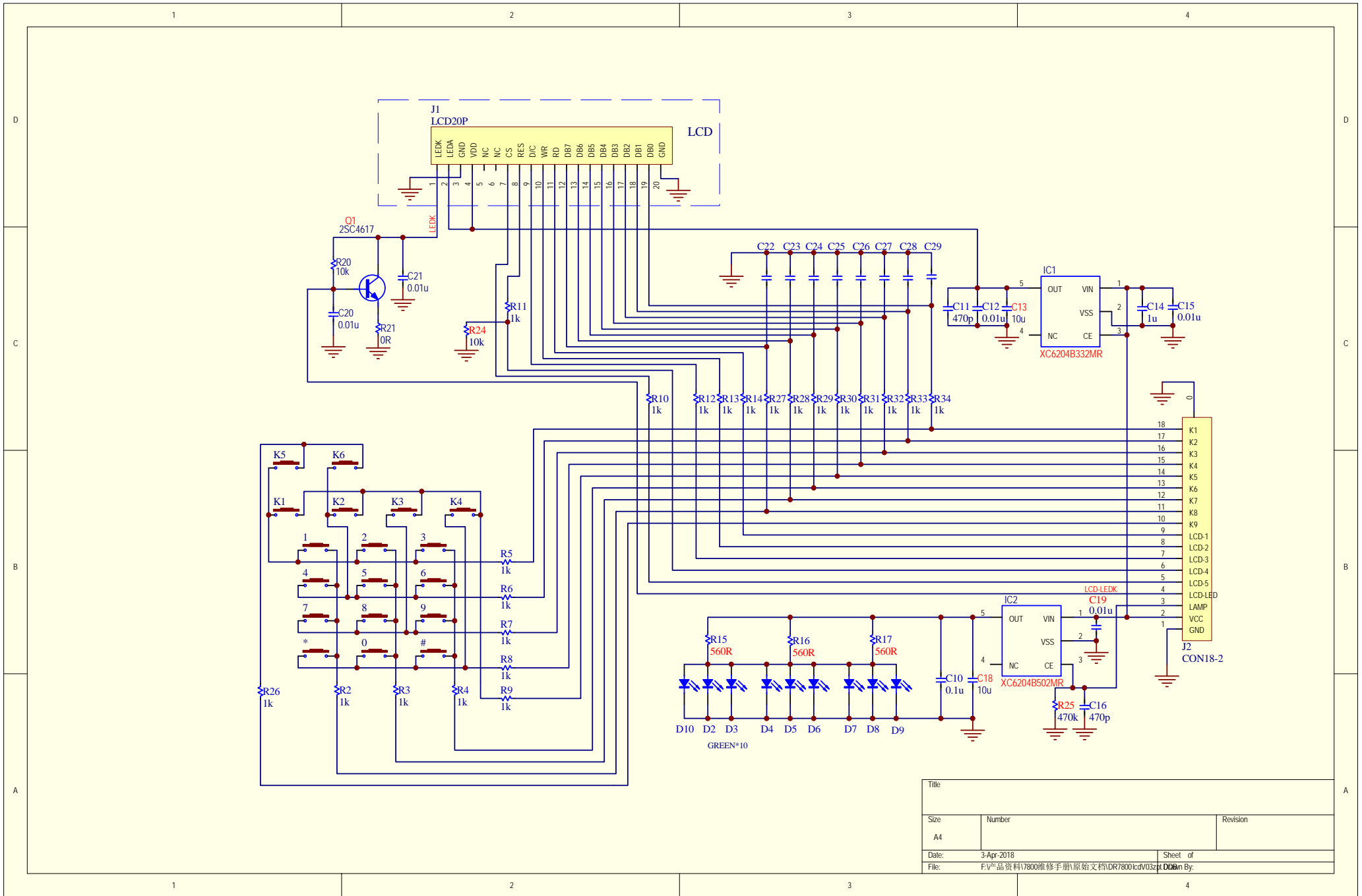


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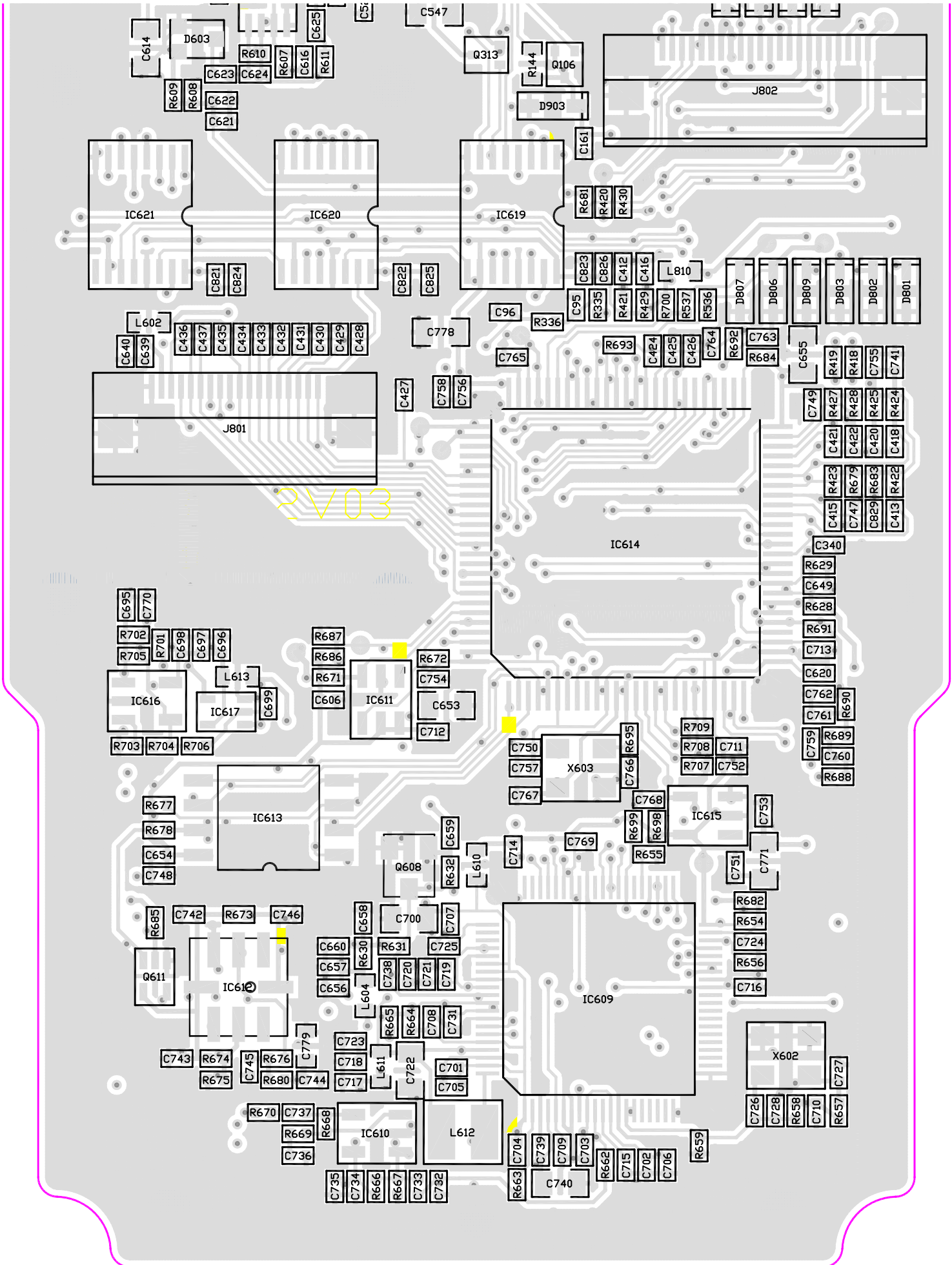


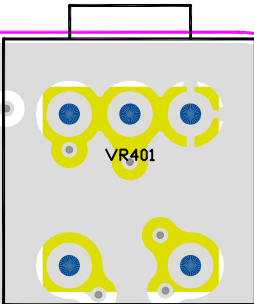
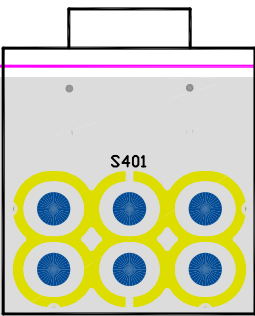
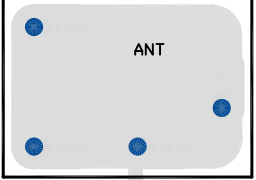


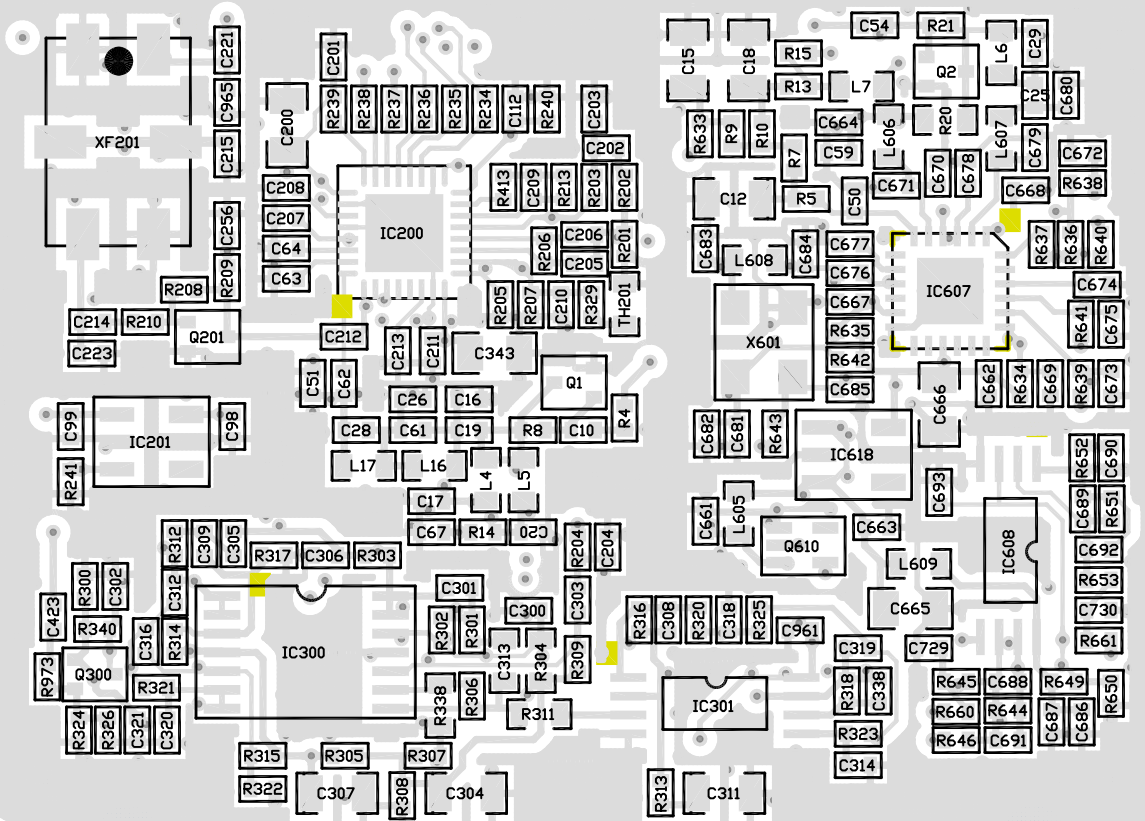
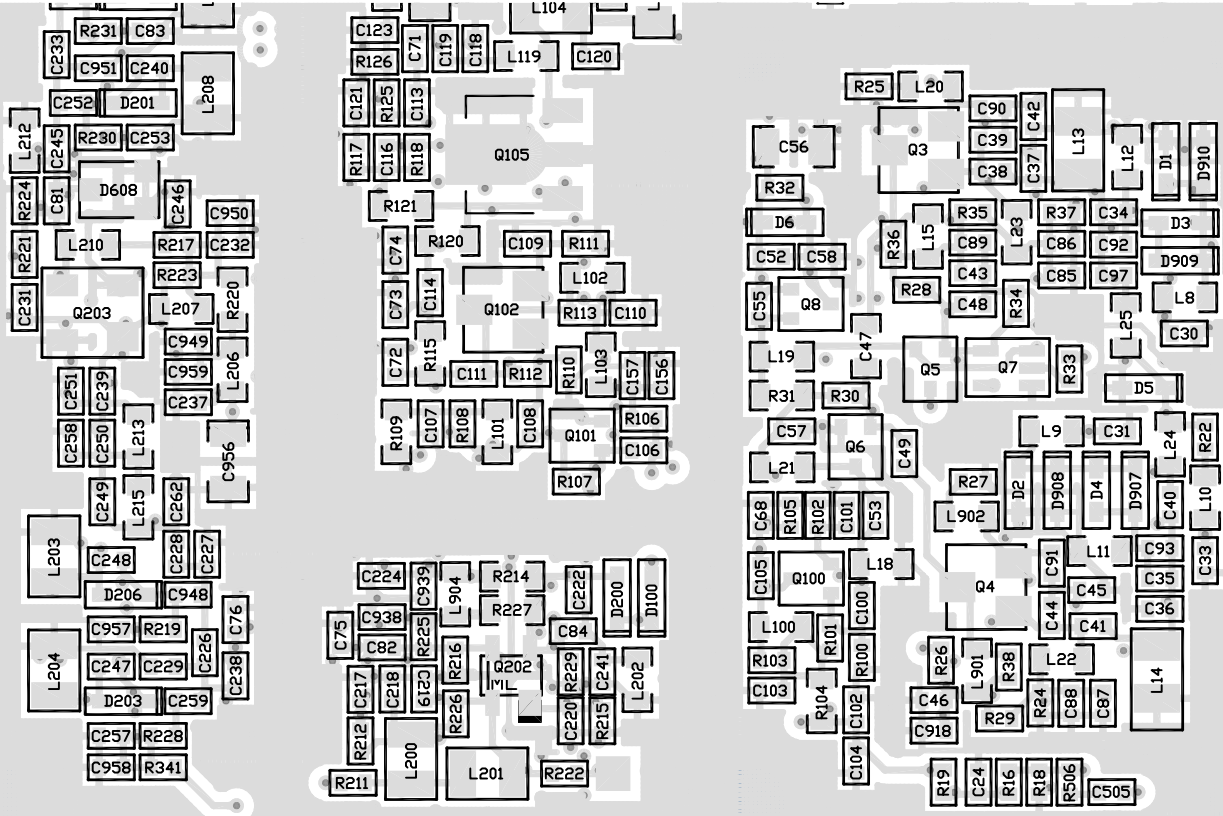


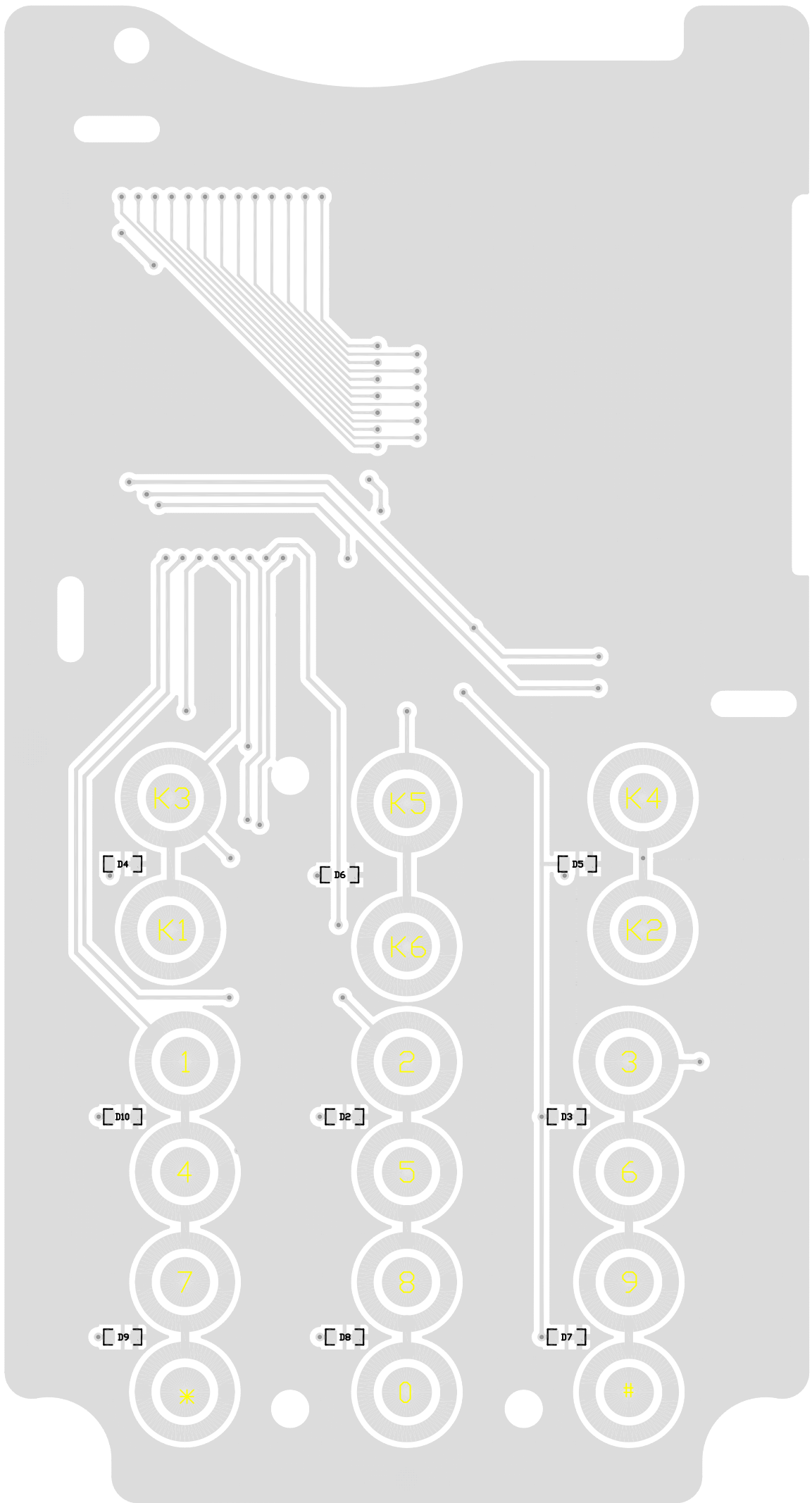


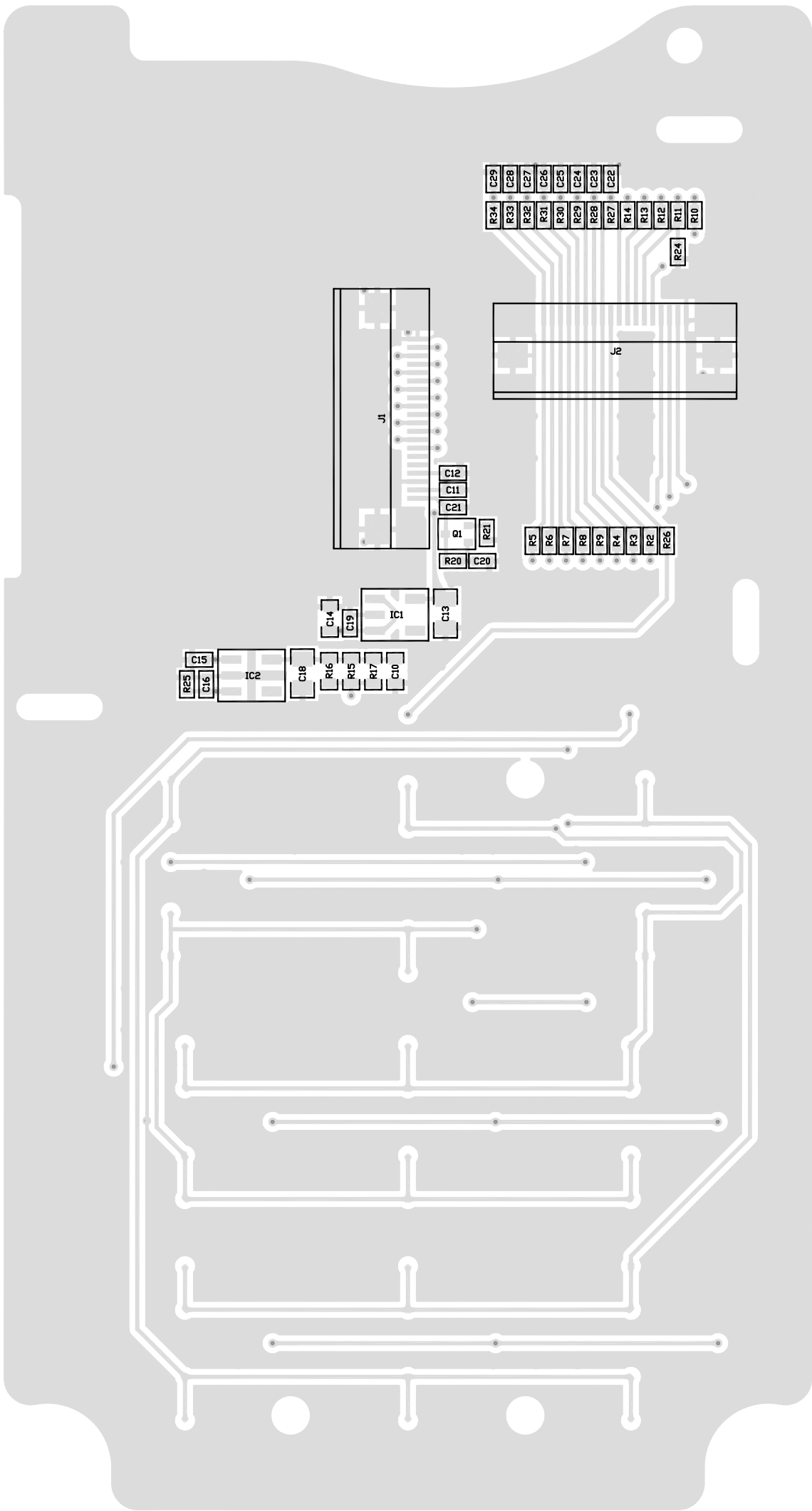
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PART LIST

DR7810-2(PLUS) part list					文件编号:TP-DR7800-2
					版本:03A
No.	Parts No.	Description	Component Name/Specification	Qty.	Ref. No.
1					
2	702DR7810201	DR7810U UNIT			
3	701DR7810201	DR7810U1 p or table two-way radio		1	
4	402-DR7800-E01	DR7800 User manual		1	
5	71200CT01001	CT-01 radio ring		1	
6	70700CP03001	CP-03 rapid charger		1	
7	7104048160322	DR7800-U1 GPS antenna		1	
8	7110CLP01001	CLP-01 clip		1	
9	709CA01US001	CA-01US adapt or		1	
10	7060CB02A001	CB-03 Li-ion battery 2000 mAh		1	
11	201-DR7800-016A	DR7800 ear phone cover	black TPU	1	
12	701DR7800201	DR7800U1 p or table two-way radio			
13	602DR7800201	DR7800U1 PCBA			
14		RESIST or			
15	1090400050001	0402CHIP R 0Ω	RC0402JR-070R	20	C19 C235 C260 C423 C715 C738 R5 R7 R13 R140 R233 R603 R632 R678 R680 R682 R686 R707 R709 R973
16	1090410050001	0402CHIP R 10Ω	RC0402JR-0710R	5	R26 R28 R634 R635 R657
17	1090415050001	0402CHIP R 15Ω	RC0402JR-0715R	1	C249
18	1090422050001	0402CHIP R 22Ω	RC0402JR-0722R	3	R111 R536 R537
19	1090447050001	0402CHIP R 47Ω	RC0402JR-0747R	1	R212
20	1090456050001	0402CHIP R 56Ω	RC0402JR-0756R	3	R9 R10 R36
21	1090410150001	0402CHIP R 100Ω	RC0402JR-07100R	8	R14 R19 R38 R639 R640 R641 R642 R801
22	1090415150001	0402CHIP R 150Ω	RC0402JR-07150R	2	R25 R27
23	1090422150001	0402CHIP R 220Ω	RC0402JR-07220R	3	R210 R211 R215
24	1090427150001	0402CHIP R 270Ω	RC0402JR-07270R	1	R102
25	1090433150001	0402CHIP R 330Ω	RC0402JR-07330R	1	R108
26	1090439150001	0402CHIP R 390Ω	RC0402JR-07390R	1	R152
27	1090447150001	0402CHIP R 470Ω	RC0402JR-07470R	4	C258 C262 R555 R556

28	1090410250001	0402CHIP R 1kΩ	RC0402JR-071K	20	R33 R222 R234 R235 R236 R237 R238 R241 R418 R419 R631 R638 R660 R661 R662 R695 R420 R430 R685
29	1090412250001	0402CHIP R 1.2kΩ	RC0402JR-071K2	3	R4 R113 R117
30	1090415250001	0402CHIP R 1.5kΩ	RC0402JR-071K5	2	R331 R347
31	1090418250001	0402CHIP R 1.8kΩ	RC0402JR-071K8	2	R554 R557
32	1090422250001	0402CHIP R 2.2kΩ	RC0402JR-072K2	7	R201 R221 R226 R335 R336 R605 R623
33	1090427250001	0402CHIP R 2.7kΩ	RC0402JR-072K7	1	R209
34	1090433250001	0402CHIP R 3.3kΩ	RC0402JR-073K3	8	R100 R103 R105 R106 R153 R203 R204 R303
35	1090439250001	0402CHIP R 3.9kΩ	RC0402JR-073K9	2	R35 C658
36	1090447250001	0402CHIP R 4.7kΩ	RC0402JR-074K7	13	R32 R118 R125 R126 R601 R602 R619 R643 R652 R671 R672 R690 R691
37	1090456250001	0402CHIP R 5.6kΩ	RC0402JR-075K6	8	R29 R101 R224 R301 R302 R324 R326 R668
38	1090468250001	0402CHIP R 6.8kΩ	RC0402JR-076K8	2	R24 R688
39	1090482250001	0402CHIP R 8.2kΩ	RC0402JR-078K2	5	R37 R112 R339 R410 R426
40	1090491250001	0402CHIP R 9.1kΩ	RC0402JR-079K1	1	R650
41	1090410350001	0402CHIP R 10kΩ	RC0402JR-0710K	30	R15 R143 R217 R308 R327 R343 R609 R611 R613 R614 R616 R617 R621 R625 R636 R637 R655 R656 R658 R659 R669 R677 R684 R687 R698 R699 R681 R543 R547 R676
42	1090412350001	0402CHIP R 12kΩ	RC0402JR-0712K	1	R312
43	1090415350001	0402CHIP R 15kΩ	RC0402JR-0715K	1	R693
44	1090418350001	0402CHIP R 18kΩ	RC0402JR-0718K	1	R305
45	1090420350001	0402CHIP R 20kΩ	RC0402JR-0720K	5	R342 R630 R649 R670 R674
46	1090422350001	0402CHIP R 22kΩ	RC0402JR-0722K	4	R321 R612 R620 R692
47	1090433350001	0402CHIP R 33kΩ	RC0402JR-0733K	1	R141
48	1090439350001	0402CHIP R 39kΩ	RC0402JR-0739K	1	R313
49	1090447350001	0402CHIP R 47kΩ	RC0402JR-0747K	17	R22 R107 R205 R307 R330 R421 R429 R624 R627 R422 R423 R424 R425 R427 R428 R679

					R346
50	1090456350001	0402CHIP R 56kΩ	RC0402JR-0756K	4	R216 R229 R240 R622
51	1090482350001	0402CHIP R 82kΩ	RC0402JR-0782K	1	R644
52	1090491350001	0402CHIP R 91kΩ	RC0402JR-0791K	2	R300 R651
53	1090410450001	0402CHIP R 100kΩ	RC0402JR-07100K	23	R21 R34 R225 R239 R318 R323 R325 R328 R341 R549 R550 R552 R553 R606 R607 R608 R626 R629 R645 R653 R667 R683 R675
54	1090412450001	0402CHIP R 120kΩ	RC0402JR-07120K	4	R30 R316 R320 R340
55	1090415420001	0402CHIP R 150kΩ	RC0402DR-07150K	6	R133 R134 R135 R136 R137 R138
56	1090418450001	0402CHIP R 180kΩ	RC0402JR-07180K	2	R145 R604
57	1090420450001	0402CHIP R 200kΩ	RC0402JR-07200K	1	R628
58	1090422450001	0402CHIP R 220kΩ	RC0402JR-07220K	5	R207 R306 R322 R413 R666
59	1090427450001	0402CHIP R 270kΩ	RC0402JR-07270K	3	R16 R18 R317
60	1090433450001	0402CHIP R 330kΩ	RC0402JR-07330K	2	R8 R506
61	1090439450001	0402CHIP R 390kΩ	RC0402JR-07390K	1	R315
62	1090447450001	0402CHIP R 470kΩ	RC0402JR-07470K	8	R142 R202 R309 R314 R333 R344 R615 R618
63	1090468450001	0402CHIP R 680kΩ	RC0402JR-07680K	2	R206 R208
64	1090475450001	0402CHIP R 750kΩ	RC0402JR-07750K	1	C759
65	1090482450001	0402CHIP R 820kΩ	RC0402JR-07820K	1	R610
66	1090410550001	0402CHIP R 1MΩ	RC0402JR-071M0	7	R213 R219 R228 R230 R231 R232 R646
67					
68	1090600050001	0603CHIP R 0Ω	RC0603JR-070R	5	R120 R147 R311 L810 R534
69	109064R750001	0603CHIP R 4.7Ω	RC0603JR-074R7	2	R332 R959
70	1090610050001	0603CHIP R 10Ω	RC0603JR-0710R	4	R104 R115 R334 R417
71	1090622050001	0603CHIP R 22Ω	RC0603JR-0722R	2	R109 R403
72	1090647050001	0603CHIP R 47Ω	RC0603JR-0747R	1	R128
73	1090610150001	0603CHIP R 100Ω	RC0603JR-07100R	2	R31 R144
74	1090615150001	0603CHIP R 150Ω	RC0603JR-07150R	1	R121
75	1090622150001	0603CHIP R 220Ω	RC0603JR-07220R	1	R402
76	1090627150001	0603CHIP R 270Ω	RC0603JR-07270R	2	R139 R154
77	1090633150001	0603CHIP R 330Ω	RC0603JR-07330R	1	R220
78	1090656150001	0603CHIP R 560Ω	RC0603JR-07560R	1	R20
79	1090610350001	0603CHIP R 10kΩ	RC0603JR-0710K	1	R214

80	1090647350001	0603CHIP R 47kΩ	RC0603JR-0747K	1	R338
81	1090668350001	0603CHIP R 68kΩ	RC0603JR-0768K	1	R155
82	1090610450001	0603CHIP R 100kΩ	RC0603JR-07100K	1	R227
83	1090610550001	0603CHIP R 1MΩ	RC0603JR-071M	1	R304
84					
85	1090700050001	0805CHIP R 0Ω	RC0805JR-070R	3	R127 C337 C341
86					
87	10910R3950001	1206CHIP R 0.39Ω	RC1206JR-07R39	3	R130 R131 R132
88					
89	1190647350001	Thermist or 47kΩ	NCP18WB473J03RB	1	TH102
90					
91		CAPACITOR			
92	112043P500091	0402CHIP C 0.5pF	GRM1555C1HR50BZ01D	3	C40 C97 C815
93	1120431P00091	0402CHIP C 1pF	GRM1555C1H1R0BZ01D	1	C816
94	1120432P00091	0402CHIP C 2pF	GRM1555C1H2R0BZ01D	6	C29 C36 C93 C226 C251 C817
95	1120433P00091	0402CHIP C 3pF	GRM1555C1H3R0BZ01D	7	C54 C227 C229 C233 C234 C951 C813
96	1120433P60091	0402CHIP C 3.6pF	GRM1555C1H3R5BZ01D	1	C814
97	1120434P00091	0402CHIP C 4pF	GRM1555C1H4R0BZ01D	2	C37 C228
98	1120435P00091	0402CHIP C 5pF	GRM1555C1H5R0BZ01D	1	C49
99	1120436P00091	0402CHIP C 6pF	GRM1555C1H6R0BZ01D	10	C41 C53 C92 C105 C177 C222 C236 C245 C679 C680
100	1120437P00091	0402CHIP C 7pF	GRM1555C1H7R0BZ01D	1	C108
101	1120438P00091	0402CHIP C 8pF	GRM1555C1H8R0BZ01D	1	C38
102	1120431005091	0402CHIP C 10pF	GRM1555C1H100JZ01D	9	C34 C35 C219 C683 C684 C692 C728 C766 C767
103	1120431205091	0402CHIP C 12pF	GRM1555C1H120JZ01D	2	C167 C827
104	1120431305091	0402CHIP C 13pF	GRM1555C1H130JZ01D	2	C45 C173
105	1120431505091	0402CHIP C 15pF	GRM1555C1H150JZ01D	1	C42
106	1120431805091	0402CHIP C 18pF	GRM1555C1H180JZ01D	3	C39 C44 C111
107	1120432005091	0402CHIP C 20pF	GRM1555C1H200JZ01D	3	C81 C164 C215
108	1120432205091	0402CHIP C 22pF	GRM1555C1H220JZ01D	2	C61 C100
109	1120432405091	0402CHIP C 24pF	GRM1555C1H240JZ01D	1	C168
110	1120433005091	0402CHIP C 30pF	GRM1555C1H300JZ01D	1	C133
111	1120433305091	0402CHIP C 33pF	GRM1555C1H330JZ01D	2	C16 C212
112	1120433905091	0402CHIP C 39pF	GRM1555C1H390JZ01D	3	C28 C118 C820
113	1120434705091	0402CHIP C 47pF	GRM1555C1H470JZ01D	4	C252 C255 C259 C948
114	1120435605091	0402CHIP C 56pF	GRM1555C1H560JZ01D	7	C90 C91 C134 C202 C338 C802 C808
115	1120438205091	0402CHIP C 82pF	GRM1555C1H820JZ01D	3	C26 C51 C688

116	1120431015091	0402CHIP C 100pF	GRM1555C1H101JZ01D	11	C31 C62 C63 C231 C238 C673 C674 C675 C678 C729 C730
117	1120431215091	0402CHIP C 120pF	GRM1555C1H121JZ01D	1	C811
118	1120431515091	0402CHIP C 150pF	GRM1555C1H151JZ01D	3	C181 C182 C689
119	1120432216091	0402CHIP C 220pF	GRM155R71H221KA01D	9	C43 C46 C85 C87 C205 C206 C533 C617 C652
120	1120432715091	0402CHIP C 270pF	GRM1555C1H271JZ01D	1	C801
121	1120434716091	0402CHIP C 470pF	GRM155R71H471KA01D	61	C24 C25 C48 C52 C55 C78 C79 C82 C83 C84 C101 C102 C103 C106 C107 C109 C114 C120 C121 C125 C129 C139 C143 C152 C157 C159 C160 C162 C165 C203 C218 C224 C232 C237 C239 C253 C254 C257 C402 C406 C526 C528 C544 C603 C604 C605 C624 C664 C667 C670 C676 C694 C735 C824 C825 C826 C938 C957 C958 C959 C161
122	1120431026091	0402CHIP C 1000pF	GRM155R71H102KA01D	14	C30 C110 C119 C209 C314 C642 C647 C657 C677 C682 C726 C732 C932 C344
123	1120431526091	0402CHIP C 1500pF	GRM155R71H152KA01D	1	C764
124	1120431826091	0402CHIP C 1800pF	GRM155R71H182KA01D	1	C763
125	1120433326091	0402CHIP C 3300pF	GRM155R71H332KA01D	2	C685 C690
126	1120433926091	0402CHIP C 3900pF	GRM155R71H392KA01D	1	C762
127	1120434726091	0402CHIP C 4700pF	GRM155R71H472KA01D	3	C137 C204 C334
128	1120435626091	0402CHIP C 5600pF	GRM155R71H562KA01D	1	C308
129	1120436826091	0402CHIP C 6800pF	GRM155R71H682KA01D	3	C309 C601 C602
130	1120438226091	0402CHIP C 8200pF	GRM155R71H822KA01D	1	C300
131	1120431036071	0402CHIP C 0.01µF	GRM155R71E103KA01D	47	C10 C20 C123 C128 C158 C201 C214 C217 C220 C221 C306 C316 C330 C336 C342 C633 C648 C651 C654 C672 C702 C703 C705 C707 C712 C719 C721 C739 C752 C757 C758 C768 C775 C776 C939 C950

					C961 C962 C963 C418 C420 C421 C422 C829 C551 C744 C807
132	1120431836071	0402CHIP C 0.018μF	GRM155R71E183KA01D	2	C301 C761
133	1120432236071	0402CHIP C0.022μF	GRM155R71E223KA12D	5	C305 C312 C618 C622 C625
134	1120433336051	0402CHIP C0.033μF	GRM155R71C333KA01D	4	C112 C318 C320 C321
135	1120433936051	0402CHIP C0.039μF	GRM155R71C393KA01D	1	C210
136	1120434736051	0402CHIP C0.047μF	GRM155R71C473KA01D	2	C146 C319
137	1120431046031	0402CHIP C 0.1μF	GRM155R61A104KA01D	73	C50 C86 C88 C89 C104 C116 C131 C156 C211 C213 C246 C256 C302 C303 C327 C340 C412 C416 C606 C613 C615 C626 C630 C631 C635 C639 C641 C644 C645 C649 C659 C662 C668 C669 C671 C681 C686 C701 C710 C711 C713 C714 C716 C717 C723 C725 C727 C731 C734 C741 C748 C753 C754 C755 C765 C769 C821 C822 C823 C918 C413 C415 C747 C749 C345 C346 C530 C538 C742 C746 C804 C809 C830
138	1120432246031	0402CHIP C 0.22μF	GRM155R61A224KA01D	1	C208
139	1120431056031	0402CHIP C 1μF	GRM155R61A105KE15D	50	C64 C95 C96 C98 C99 C207 C339 C505 C525 C540 C541 C542 C543 C607 C609 C612 C616 C619 C620 C621 C623 C640 C650 C656 C660 C661 C663 C687 C693 C704 C706 C708 C718 C720 C733 C736 C737 C750 C751 C756 C760 C772 C777 C949 R689

					C535 C537 C550 C743 C806
140					
141	112063P750091	0603CHIP C 0.75pF	GRM1885C1HR75BZ01D	1	C149
142	1120631P00091	0603CHIP C 1pF	GRM1885C1H1R0BZ01D	2	C151 C154
143	1120632P00091	0603CHIP C 2pF	GRM1885C1H2R0BZ01D	3	C142 C144 C155
144	1120632P50091	0603CHIP C 2.5pF	GRM1885C1H2R5BZ01D	1	C147
145	1120633P00091	0603CHIP C 3pF	GRM1885C1H3R0BZ01D	1	C153
146	1120635P00091	0603CHIP C 5pF	GRM1885C1H5R0BZ01D	2	C47 C150
147	1120633905091	0603CHIP C 39pF	GRM1885C1H390JA01D	1	L805
148	1120631515091	0603CHIP C 150pF	GRM1885C1H151JA01D	1	C145
149	1120631046091	0603CHIP C 0.1μF	GRM188R71H104KA01D	3	C331 C333 C335
150	1120634746051	0603CHIP C 0.47μF	GRM188R71C474KA01D	1	C931
151	1120631056051	0603CHIP C 1μF	GRM188R61C105KA01D	3	C126 C313 C779
152	1120731066031	0805CHIP C 10μF	GRM21BR61A106K	19	C200 C343 C546 C547 C614 C627 C632 C636 C665 C666 C700 C722 C740 C56 C304 C307 C332 C956 C548
153	1120732266031	0805CHIP C 22μF	GRM21BR61A226M	6	C653 C655 C771 C773 C774 C778
154	1120721047081	CERAMIC TRIMMER CAP 0.1 μ F P	TC211P104M035A	2	C12 C18
155	1120722257031	CERAMIC TRIMMER CAP 2.2 μ F P	TEESVP1A225M8R	2	C15 C311
156	1121021066051	CERAMIC TRIMMER CAP 10 μ F A	TEESVA1C106K8R	3	C643 C646 C964
157					
158		INDUCT or			
159	1170460100001	0402 FERRITE CHIP	GZ1005U601CTF	1	R673
160					
161	1170660100001	0603 FERRITE CHIP	BLM18AG601S	19	L7 L10 L19 L103 L206 L500 L601 L602 L604 L605 L606 L609 L610 L611 L811 L904 L812 L813 L814
162	1170722100001	0805 FERRITE CHIP	BLM21PG221S	5	L104 L105 L501 L502

					L503
163	1170760000001	0805 FERRITE CHIP	BLM21PG600S	1	L107
164	1140618N28001	SMALL FIXED INDUCT or 8.2nH	MLG1608B8N2S(or SDCL1608C8N2JTDF)	1	L119
165	1140718N25001	0805 WWCI 8.2nH	C2012C8N2J(or SDWL2012C8N2JSTF)	1	L14
166	1140711005001	0805 WWCI 10nH	MGTC0805CW100JST	1	L13
167	1140611005001	0603 SMALL FIXED INDUCT or 10nH	MLG1608B10NJ(or SDCL1608C10NJTDF)	1	L212
168	1140611505001	0603 SMALL FIXED INDUCT or 15nH	MLG1608B15NJ(or SDCL1608C15NJTDF)	1	L12
169	1140611805001	0603 SMALL FIXED INDUCT or 18nH	MLG1608B18NJ(or SDCL1608C18NJTDF)	4	L6 L11 L101 L607
170	1140711805001	0805 WWCI 18nH	C2012C18NJ(or SDWL2012C18NJSTF)	4	L203 L204 L208 L209
171	1140612205001	0603 SMALL FIXED INDUCT or 22nH	MLG1608B22NJ(or SDCL1608C22NJTDF)	5	L21 L24 L100 L202 L213
172	1140612705001	0603 SMALL FIXED INDUCT or 27nH	MLG1608B27NJ(or SDCL1608C27NJTDF)	1	L102
173	1140611015001	0603 SMALL FIXED INDUCT or 100nH	MLG1608BR10J(or SDCL1608CR10JTDF)	2	L17 L207
174	1140712215001	0805 WWCI 220nH	C2012CR22J(or SDWL2012CR22JSTF)	1	L109
175	1140612215001	0603 SMALL FIXED INDUCT or 220nH	MLG1608SR22J(or SDCL1608CR22JTDF)	1	L5
176	1140613315001	0603 SMALL FIXED INDUCT or 330nH	MLG1608SR33J(or SDCL1608CR33JTDF)	1	L210
177	1140713315001	0805 WWCI 330nH	C2012CR33J(or SDWL2012CR33JSTF)	1	L201
178	1140614715001	0603 SMALL FIXED INDUCT or 470nH	MLG1608SR47JT000(or SDCL1608CR47JTDF)	8	L8 L9 L15 L20 L22 L23 L901 L902
179	1140715615001	0805 WWC 560nH	C2012CR56J(or SDWL2012CR56JSTF)	1	L200
180	1140623326001	0603 SMALL FIXED INDUCT or 3.3µH	MLF1608A3R3KT(or SDFL1608Q3R3KTF)	1	L608
181	1142024737001	47µH WWCI	SWPA3012S470MT	2	L603 L612
182	1152R401R5031	AIR-C or E COIL 3T	ER0.4×1.5×3	1	L114
183	1152R351R6041	AIR-C or E COIL 4T	E2 0.35×1.6×4TR	3	L110 L112 L113
184	1152R351R6081	AIR-C or E COIL 8T	E2 0.35×1.6×8TR	1	L106
185					
186		DIOED			
187	1030000137201	DIOED	1SS372	3	D601 D602 D603
188	1030000059201	DIOED	BA592	1	D101

189	1030000211101	DIOED	MA2S111TX (or 1SS400SM)	4	D6 D604 D605 D606
190	1030000207701	DIOED	MA2S077 (or 1SS390TE61)	4	D100 D102 D103 D200
191	1030019213201	LED(RED)	HT19-2132SURC-HHH	1	D400
192	1030019213202	LED(GREEN)	HT19-2132SYGC	2	D401 D402
193	1030000037601	VARIABLE CAPACITANCE DIOED	HVC376B	4	D201 D202 D203 D206
194	1030000127801	VARIABLE CAPACITANCE DIOED	1SV278	1	D5
195	1030000132501	VARIABLE CAPACITANCE DIOED	1SV325	4	D1 D2 D3 D4
196	1031544002501	DIOED	1SR154-400TE25	1	D502
197	1030000000801	DIOED	BV08C	10	D801 D802 D803 D804 D805 D806 D807 D808 D809 D810
198					
199		TRANSISTOR			
200	1040002136201	TRANSISTOR	2SA1362-GR	1	Q305
201	1040002158601	TRANSISTOR	2SA1586(Y)	1	Q603
202	1040002335601	TRANSISTOR	2SC3356	3	Q3 Q4 Q102
203	1040002411601	TRANSISTOR	2SC4116(Y)	1	Q602
204	1040002461701	TRANSISTOR	2SC4617(S)	2	Q8 Q300
205	1040002506601	TRANSISTOR	2SC5066-Y	5	Q1 Q2 Q6 Q100 Q101
206	1040000408001	TRANSISTOR	KTC4080E-P	1	Q201
207	1040000012301	TRANSISTOR	DTA123JE-TL	1	Q604
208	1040000011401	TRANSISTOR	DTC114EE-TL	2	Q400 Q401
209	1040000011402	TRANSISTOR	DTC114TE-TL	1	Q110
210	1040000014402	TRANSISTOR	DTC144EE-TL	8	Q304 Q315 Q306 Q312 Q313 Q314 Q605 Q607
211	1040000000401	TRANSISTOR	UMC4 N TR	4	Q7 Q601 Q610 Q612
212	1040000071701	TRANSISTOR	FMMT717	1	Q606
213	1040004151101	TRANSISTOR	AT-41511	1	Q203
214		FET			
215	1050000224301	FET	2SJ243-T1	3	Q5 Q317 Q318
216	1050000340001	FET	ST3400SRG	4	Q307 Q309 Q310 Q311
217	1050000001201	FET	RD01MUS2-T113	1	Q105
218	1050000007201	FET	RD07MUS2B-T112	1	Q107
219	1050000050601	FET	BB506C	1	Q202
220					
221		IC			
222	1020620450201	LDO	XC6204B502MR (or XC6204B501MR)	3	IC602 IC603 IC604
223	1020620433201	LDO	XC6204B332MR	2	IC201 IC618
224	1020000235901	DC/DC	MP2359DJ	1	IC605

225	1020000212801	FLASH IC	W25Q128FV51G	1	IC613
226	1020000290201	OPERATIONAL AMPLIFIER	NJM2902V	1	IC300
227	1020000290401	OPERATIONAL AMPLIFIER	NJM2904V	3	IC100 IC301 IC608
228	1020000750101	OPERATIONAL AMPLIFIER	TA75W01FU	1	IC601
229	1020000912401	RESET IC	PST9124NR	1	IC615
230	1020000282201	AF PA	TDA2822D	1	IC302
231	1020000723101	PLL IC	SKY72310	1	IC607
232	1020000600001	BASE BAND PROCESSOR	HR_C6000	1	IC609
233	1020000755101	OPERATIONAL AMPLIFIER	TC75S51F	1	IC610
234	1020000300001	ALPU-MP (WATCHDOG)	HR_V3000S	1	IC611
235	1020000324051	CPU	STM32F405VGT6	1	IC614
236	1020000745951	I/O EXTENSION	74HC595	3	IC619 IC620 IC621
237	1020000236501	FM IF DEMODULATOR	AK2365A	1	IC200
238					
239		OTHERS			
240	1221008000001	CHIP CRYSTAL RESONATOR	DSX321G (8MHz)	1	X603
241	1221029491201	CHIP CRYSTAL RESONATOR	DSB321SDA (29.4912MHz)	1	X602
242	1221016800001	VC-TCXO	DSA321SDM (16.8MHz)	1	X601
243	1080000499501	CRYSTAL FILTER	DSF753SDF(49.95MHZ 5*7) (D49910GQ11)	1	XF201
244	1110206303201	FUSE	F0603HI3000V032T (or S0603-S-3.0A)	1	F500
245	1060000001001	TACT SWITCH	SKRTLAE010	1	S404
246	1010780020101	DR7800-2 main PCB	DR7800-2V03.PCB	1	
247	2040DR780001A	2 PIN power socket		1	J502
248	1230001801001	18PIN FPC Connector	0.5mm 18PIN	1	J801
249	1230002201001	22PIN FPC Connector	0.5mm 22PIN	1	J802
250					
251		DR7800-2 PLUS addition			
252		For MANDOWN			
253	1020000202001	MANDOWN IC	MXD2020ML	1	IC612
254	1040000000401	TRANSISTOR	UMC4 N TR	1	Q611
255		For GPS			
256	1140613N35002	0603 WWC 3.3nH	SDWL1608C3N3SSTF	2	L807 L809
257	1140611205002	0603 WWC 12nH	SDWL1608C12NJSTF	1	L804
258	1140613905002	0603 WWC 39nH	SDWL1608C39NJSTF	1	L802
259	1140614705002	0603 WWC 47nH	SDWL1680C47NJSTF	1	L806
260	1020001144101	GPS AMP IC	NJG1144KA1	1	IC802
261	1020001010201	GPS module	MC-1010-2RE	1	IC805
262		For blue tooth			

263	102000086901	blue tooth module	BTM869	1	IC804
264		For Vibrate			
265	1230001020001	2PIN connect or	1.0mm 2PIN	1	J503
266	1040002136201	TRANSISTOR	2SA1362-GR	1	Q308
267					
268	602DR7800001	DR7800 LCD PCBA Part list			
269					
270	1010780020201	DR7800lcd PCB	DR7800lcd-V03.PCB	1	
271	1030019215101	LED(white)	HQ19-2151UWC82	9	D2 D3 D4 D5 D6 D7 D8 D9 D10
272					
273	1090400050001	0402 CHIP R 0Ω	RC0402JR-070R	1	R21
274	1090410250001	0402 CHIP R 1kΩ	RC0402JR-071K	22	R2 R3 R4 R5 R6 R7 R8 R9 R10 R11 R12 R13 R14 R26 R27 R28 R29 R30 R31 R32 R33 R34
275	1090410350001	0402 CHIP R 10kΩ	RC0402JR-0710K	2	R20 R24
276	1090447450001	0402 CHIP R 470kΩ	RC0402JR-07470K	1	R25
277	1090656150001	0603 CHIP R 560Ω	RC0603JR-07560R	3	R15 R16 R17
278					
279	1120434716091	0402 CHIP C 470pF	GRM155R71H471KA01D	2	C11 C16
280	1120431036071	0402 CHIP C 0.01μF	GRM155R71E103KA01D	5	C12 C15 C19 C20 C21
281	1120631046091	0603 CHIP C 0.1μF	GRM188R71H104KA01D	1	C10
282	1120631056051	0603 CHIP C 1μF	GRM188R61C105KA01D	1	C14
283	1120731066031	0805 CHIP C 10μF	GRM21BR61A106K	2	C13 C18
284	1020620450201	LDO	XC6204B502MR (or XC6204B501MR)	1	IC2
285	1020620433201	LDO	XC6204B332MR (or XC6204B331MR)	1	IC1
286	1040002461701	TRANSIST or	2SC4617(S)	1	Q1
287	1230001801001	18PIN FPC Connect or	0.5-18P-H=2.0	1	J2
288	1230002001001	22PIN FPC Connect or	0.5-20P-H=2.0	1	J1
289	1070780000002	DR7800 LCD module		1	
290					
291	601DR7800202	DR7800 Chassis	DR7800 PCBA with structure parts		
292	1211361601002	speaker	ND036GM16721	1	soldering on FPC
293	1212602762201	MIC ELEMENT	PF0-6027P-62±2dB	1	soldering on FPC
294	1120634716091	0603 CHIP C 470pF	GRM188R71H471KA01D	1	soldering on FPC
295	1010780000201	FPC1	DR7800FPC1-V08	1	

296	1010780000301	FPC2	DR7800FPC2-V05	1	
297	1010780000101	SIDE PCB	DR7800SIDE-V04	1	
298					
299	604DR7810001	DR7810 housing with LCD board		1	
300	202-DR7800-003A	DR7800 cabinet waterproof ring	orange 30A 50%high spring silicon	1	
301	202-DR7800-006A	DR7800 RF socket washer	orange 60A 50%high spring silicon	1	
302	202-DR7800-007A	DR7800 volume knob washer	orange 60A 50%high spring silicon	1	
303	202-DR7800-008A	DR7800 encode knob washer	orange 60A 50%high spring silicon	1	
304	202-DR7800-010A	DR7800 chassis screw waterproof ring	orange 60A 50%high spring silicon	2	
305	201-DR7800-004A	DR7800 radio top cover	black PC 1414	1	
306	201-DR7800-005A	DR7800 volume knob	black PC 1414	1	
307	201-DR7800-006A	DR7800 encoder knob	black PC 1414	1	
308	304-201050-004A	DR7800 screw	304H, M2. 0X10. 5	2	
309	305-060257-002A	DR7800 Volume screw M6X0. 75	special shape brass	1	
310	305-070257-003A	DR7800 Encoder screw M7X0. 75 special shape brass	special shape brass	1	
311	305-090757-004A	DR7800 RF socket screw	special shape brass	1	
312	301-200404-003A	DR7800 side screw	machine screw M2. 0X4. 0	2	
313	203-DR7800-010A	DR7800 knob lining	SUS304 1/4H	2	
314		DR7800-2 chassis		1	
315		DR7800-2 main PCBA assembling		1	
316		DR7800-2 PCBA		1	
317	203-DR7800-003A	DR7800 power socket shrapnel	gold plating 3U' '	2	
318	201-DR7800-014A	DR7800 power socket upper cover	black LCP+30%GF,	1	
319	201-DR7800-015A	DR7800 power socket lower cover	black LCP+31%GF,	1	
320	203-DR7800-006A	DR7800 RF connector shrapnel	gold plating 3U' '	1	
321	1102210300002	DR7800 volume switch	R08719NS-FE15S7.0-B103-0072	1	
322	1061031810161	DR7800 encode switch 360 °	ED103180-FE14.5S7.5-A16-1010	1	
323	1061031810162	DR7500 encode switch 16CH	ED103180-FE14.5S7.5-A16-1007	1	
324	203-DR7800-001A	DR7800 AL cabinet	polishing ADC 12	1	
325	305-091077-001A	DR7800SMA RF socket	gold plating 3U' '	1	

326	202-DR7800-005A	DR7800 power socket washer 60A 50% high spring silicon	orange 60A 50%high spring silicon	1	
327	301-200407-001A	DR7800 screw for mainboard	machine screw M2.0X4.0	14	
328		RF PA cooling PAD	gray	1	
329		screw for clip	M2.5*6	2	
330	203-DR7800-011A	DR7800 shielding case	SUS304 1/4H	1	
331	204-DR7800-021A	DR7800 insulation sticker of shielding case		1	
332				1	
333					
334	1070780000002	DR7800 LCD module		1	
335				1	
336	204-DR7800-001A	DR7800 main key board dome		1	
337	204-DR7800-008A	DR7800LCD protection sponge		1	
338	204-DR7800-010A	DR7800 LCD_PCBA insulation sticker		1	
339	204-DR7800-023A	DR7800 lens protection film		1	
340					
341	201-DR7800-001A	DR7810 radio front cabinet	black PC1414	1	
342	201-DR7800-002A	DR7800 PTT plastic key cover	black PC1414	1	
343	201-DR7800-003A	DR7800 PTT plastic key	black PC1414	1	
344	201-DR7800-008A	DR7800 light-guider	milky white PC 2405	1	
345	201-DR7800-009A	DR7800 lens protection film	clear PC 2405	1	
346	202-DR7800-001A	DR7800 Keypad rubber	black PU	1	
347	202-DR7800-002A	DR7800 PTT silicon key	block 60A 50% high spring silicon	1	
348	202-DR7800-004A	DR7800 alarm silicon key	orange 60A 50%high spring silicon	1	
349	202-DR7800-011A	DR7800 mic washer	orange 60A 50%high spring silicon	1	
350	203-DR7800-007A	DR7800 LCD fixed plate	SUS304 3/4H	1	
351	203-DR7800-008A	DR7800 speaker fixed plate	SUS304 3/5H	1	
352	203-DR7800-009A	DR7800 motor fixed plate	SUS304 3/6H	1	
353	302-200454-002A	DR7800 screw for LCD_PCB	KB-M2.0X4.5	8	
354	204-OCU600-004A	DR7800 7mm mic air filter Φ7.0X4.5X0.2	φ 7.0X4.5X0.2	1	
355	204-DR7800-002A	DR7800 PTT metal dome plate		1	
356	204-DR7800-003A	24.6X21.5mm air filter		1	

		nylon weave			
357	204-DR7800-009A	DR7800 PTT-FPC sticker		1	
358	204-DR7800-011A	DR7800 earphone PCB sticker		1	
359	204-DR7810-014A	DR7800 front cabinet label	PVC,	1	
360	204-DR7800-020A	DR7800 motor sponge		1	
361	204-DR7800-018A	DR7800 blue tooth antenna fixed silicon	silicon	1	
362	204-DR7800-019A	DR7800 blue tooth antenna thermostability sticker	yellow clear	1	
363		small motor	0815F33-06160T7-Y35	1	
364					

**BLOCK DIAGRAM
PACKING
OPTION**

SPECIFICATIONS