

Adjustment Procedures for the ALAN-42 DS

1. Band setting for the production mode.

- 1). Turn off the radio.
- 2). Make Link for production mode as below.

Link	S1	S2	S3	S4	Results	
13	1	1	1	1	Production Mode	For factory

- 3). Press the SCAN + AM/FM key and hold.
- 4). Turn on the radio.
- 5). The radio go to production mode. At this time the LCD display" Pd" display on the LCD, and go to Channel 1.
- 6). Turn off the radio.
- 7). Make Link as below to shipment for the default band.

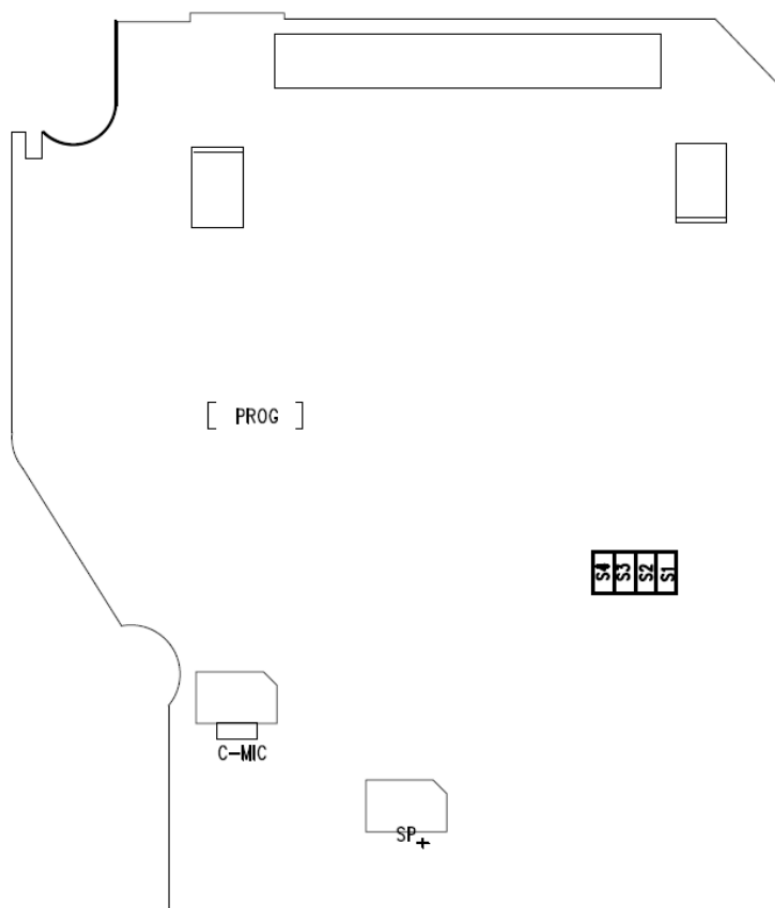
Link	S1	S2	S3	S4	Results	
1	0	0	0	0	I, I2, d4, EU, EC, E, F, PL, UK	Default band

- 8). Turn on the radio to adjustment.
Even if link to default band, keep the production mode until factory reset.

1-1. Table of Link.

Link	S1	S2	S3	S4	Results	
1	0	0	0	0	I, I2, d4, EU, EC, E, F, PL, UK	Default band
2	0	0	0	1	I, I2, d4, EU, EC, E, F, PL, UK, PX	
3	0	0	1	0	I, I2, d4, EU, EC, E, F, PL, UK, RU	
4	0	0	1	1	I, I2, d4, EU, EC, E, F, PL, UK, PX, RU	
5	0	1	0	0	Only KSA	
6	0	1	0	1	Only EC	
7	0	1	1	0	AU, AM	
8	0	1	1	1	I, I2, d4, EU, EC, E, F, PL, UK, PX, RU, SW, AU, NZ	
9	1	0	0	0	Only RU	
10	1	1	0	0	RU, PC	
11	1	1	0	1	Only E	
12	1	1	1	0	Only NZ	
13	1	1	1	1	Production Mode	For factory

"0" = closed, "1" = open



1-2. Link for the Romania.

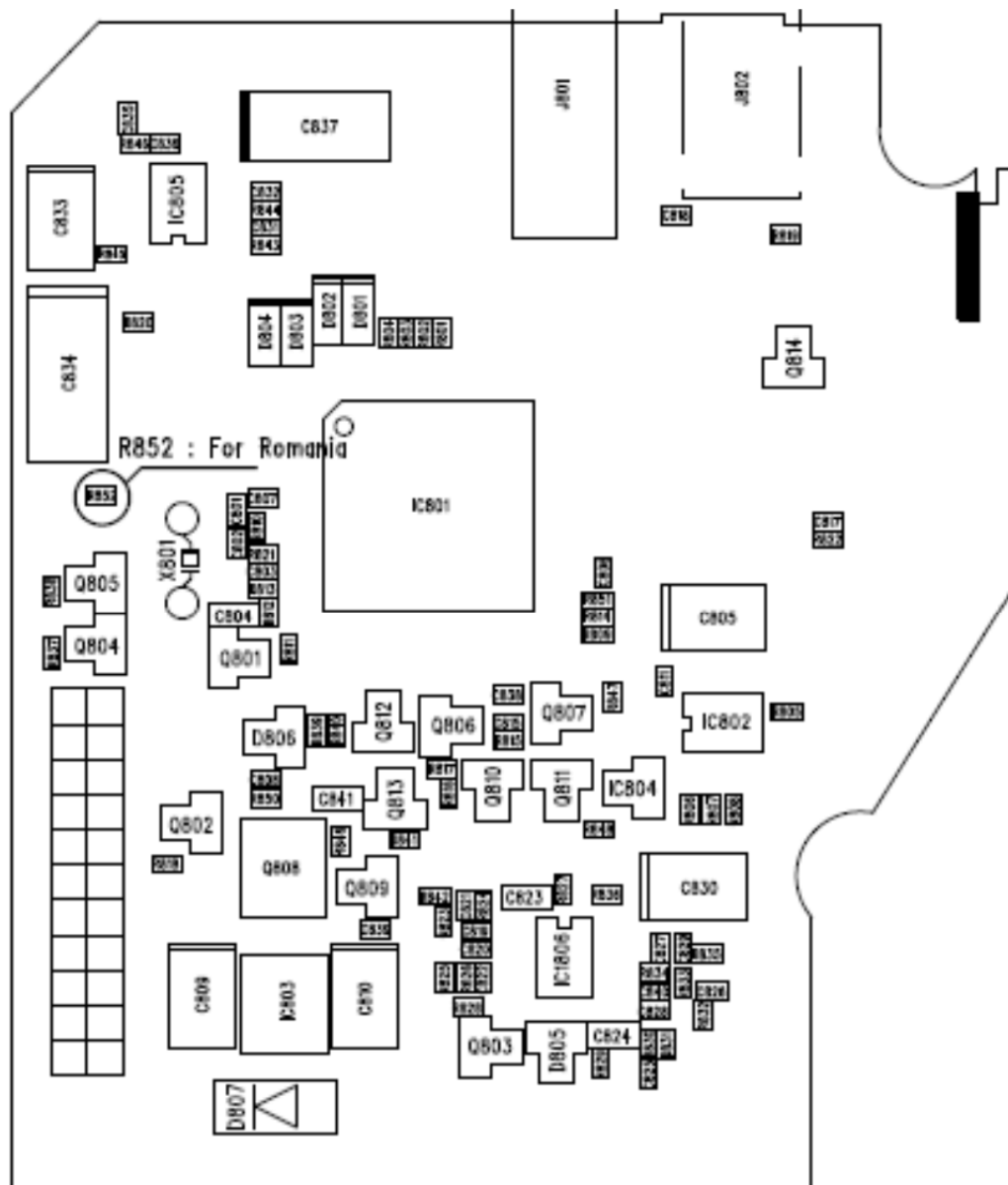
1).Description for this link.

- Disable the power save function
- Change the backlight function.

2).Enable for the Romania.

- R852 : Install 0R or solder short.

3).Link (R852) Location.

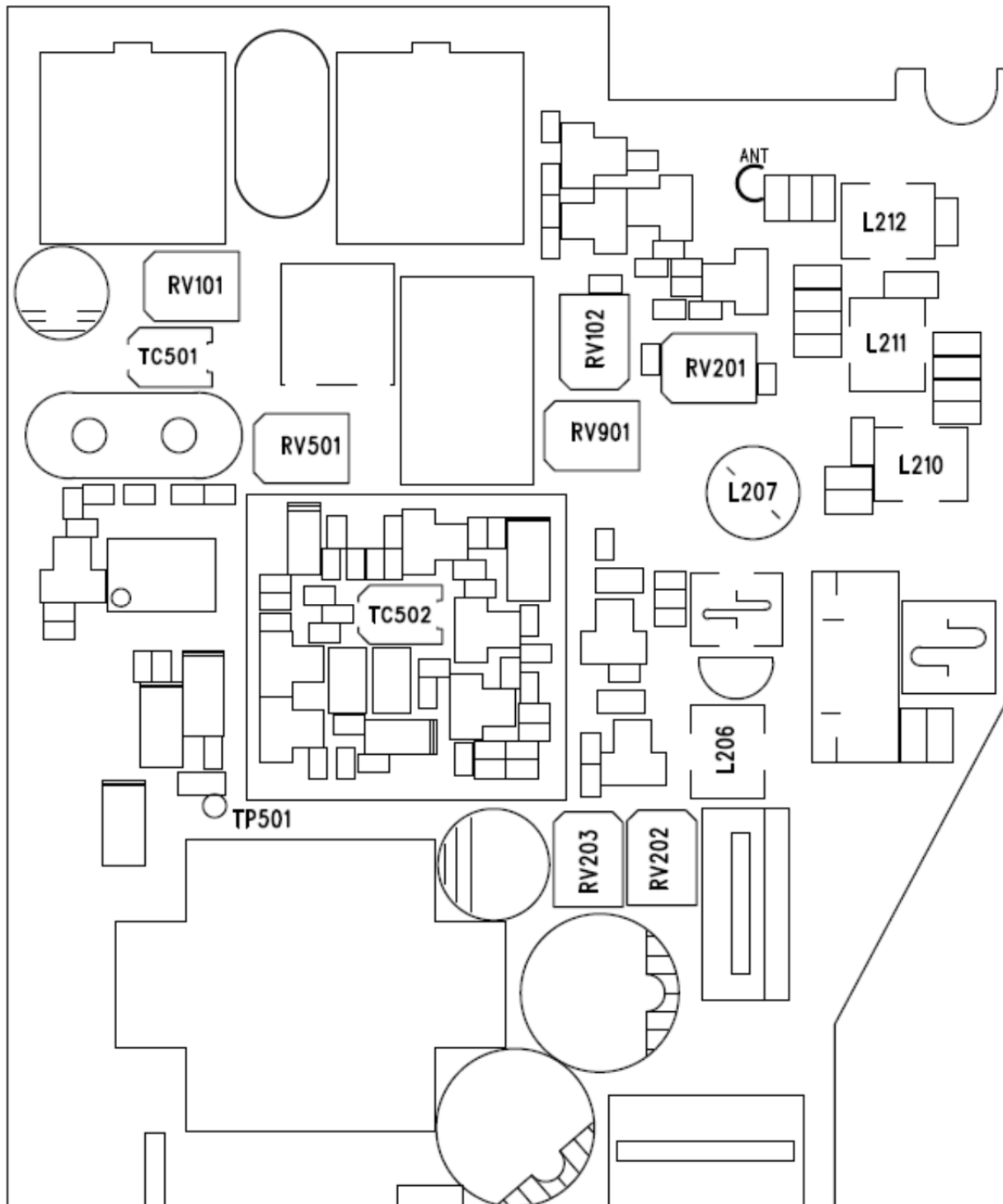


2.Adjustment Procedures

2-1.Frequency table of the production mode

CH No. Display	Frequency (MHz)	Remark
1	26.965	
2	26.975	
3	26.985	
19	27.185	
20	27.205	
21	27.215	
38	27.385	
39	27.395	
40	27.405	
41	26.565	
60	26.755	
80	26.955	
1u	27.60125	
20u	27.79125	
40u	27.99125	
1A	25.615	
2A	25.625	
3A	25.635	
38L	30.085	
39L	30.095	
40L	30.105	
1E	27.415	For the VCO Adjustment

2-2.Adjustment Location.



2-3.VCO Adjustments

Adjustment	Adjustment Condition	Unit	Value	Location	Adjust Point
VCO Lock Voltage	1).Select Channel : 1E (27.415MHz) 2).At RX mode	V	1.0V±0.1	TP501	TC502

2-4.Transmitter Adjustments

Adjustment	Adjustment Condition	Unit	Value	Adjust Point
Output Power (4W)	1).Select the channel : 41 (26.565MHz) 2). Enable High power 3).Select FM by AM/FM switch 4).Press PTT key 5).Select channel 40 and check 6).Select channel 1 and check. 7).Select channel 40U and check. 8).Select channel 1A and check 9).Select channel 40L and check.	W	Follow Spec.	RV202
Harmonics	1).Select the channel : 41 (26.565MHz) 2). Enable High power 3).Select FM by AM/FM switch 4).Press PTT key 5).L212 : Shift up side to Main Body. 6).L210 : Shift down side to Main Body. 7).Select channel 40 and check. 8).Select channel 40U and check.	dBm	Follow Spec.	L211 L212 L210
Output Power (1W)	1).Select the channel : 1 (26.965MHz) 2).Enable Low power 3).Select FM by AM/FM switch 4).Press PTT key	W	Follow Spec.	Check only
Frequency	1).Select the channel : 1 (26.965MHz) 2). Enable High power 3).Select FM by AM/FM switch 4).Press PTT key	Hz	Follow Spec.	TC501
Frequency (UK band)	1).Select the channel : 1U (27.60125MHz) 2). Enable High power 3).Press PTT key	Hz	Follow Spec.	Check only
AM Modulation (4W)	1).Select the channel : 1 (26.965MHz) 2). Enable High power 3).Select AM by AM/FM switch 4).Press PTT key	%	Follow Spec.	RV203
AM Modulation (1W)	1).Select the channel : 1 (26.965MHz) 2).Enable Low power 3).Select AM by AM/FM switch 4).Press PTT key	%	Follow Spec	Check only
FM max Deviation	1).Select the channel : 41 (26.565MHz) 2). Enable High power 3).Select FM by AM/FM switch 4).Press PTT key 5).Select channel 1 and check 6).Select channel 40 and check. 7).Select channel 40U and check	KHz	1.7 (Follow Spec)	RV501
Signal Meter (4W)	1).Select the channel : 1 (26.965MHz) 2). Enable High power 3).Select FM by AM/FM switch 4).Press PTT key	Bar	5Bar(4W)	RV201
Signal Meter (1W)	1).Select the channel : 1 (26.965MHz) 2). Enable Low power 3).Select FM by AM/FM switch 4).Press PTT key	Bar	2Bar(1W)	Check only

4.Receiver Adjustments

Adjustment	Adjustment Condition	Unit	Value	Adjust Point
AM Max Audio and Distortion	1).Select the channel : 20 (27.205MHz) 2).Select AM by AM/FM switch 3).SG level : -47dBm	V %	Follow Spec	Check only
AM Sensitivity	1).Select the channel : 20 (27.205MHz) 2).Select AM by AM/FM switch 3).SG level : -107dBm 4).Select channel 1 and check. 5).Select channel 40 and check.	dBm	Follow Spec	Check only
FM Max Audio and Distortion	1).Select the channel : 20 (27.205MHz) 2).Select FM by AM/FM switch 3).SG level : -47dBm	V %	Follow Spec	Check only
FM Sensitivity	1).Select the channel : 20 (27.205MHz) 2).Select FM by AM/FM switch 3).SG level : -107dBm 4).Select channel 1 and check. 5).Select channel 40 and check. 6).Select channel 41 and check. 7).Select channel 1U and check. 8).Select channel 40U and check. 9).Select channel 1A and check. 10).Select channel 40L and check.	dBm	Follow Spec	Check only
Tight Squelch	1).Select the channel : 20 (27.205MHz) 2).Select FM by AM/FM switch 3).SG level : -47dBm	dBm	Follow Spec	RV101
Auto Squelch	1).Select the channel : 20 (27.205MHz) 2).Select AM by AM/FM switch 3).SG level : Depend on sensitivity	dB	Follow Spec	RV901
Signal Meter	1).Select the channel : 20 (27.205MHz) 2).Select FM by AM/FM switch 3).SG level : -67dBm	Bar	Follow Spec	RV102
NB (Noise Blank)	1). Select the channel : 20 (27.205MHz) 2).Select AM by AM/FM switch 3).Enable NB .Press long SCAN key .Will be blanking AM / FM icon on the LCD 4).SG level : -101dBm 5).Disable NB .Press long SCAN key	dB	Follow Spec	Check only

5.Factory Reset before shipment.

Must be factory reset the ALAN-42 DS before shipment.

The factory reset method as below.

- 1).Turn off the radio
- 2).Setting default link as below

Link	S1	S2	S3	S4	Results	
1	0	0	0	0	I, I2, d, d2, d3, d4, EU, EC, E, F, PL, UK	Default band

- 3).Press the SCAN + EMG key and hold.

- 4).Turn on the radio

- 5).Completed factory reset, on the LCD display show the band "EC" and channel "1"

*.Note

1.Band Selection.

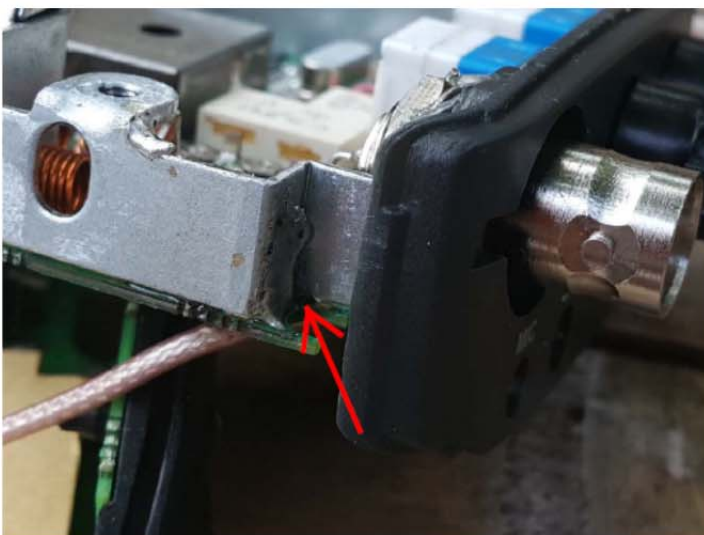
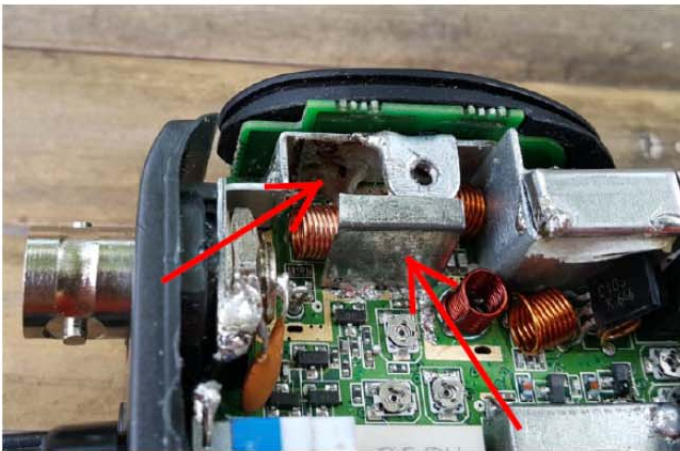
- 1).Turn off the radio
- 2).Press SCAN + AM/FM key and hold.
- 3).Turn on the radio.
- 4).Select the band via Up and Down key.
- 5).Press the AM/FM key to confirm.

6. Assemble notice.

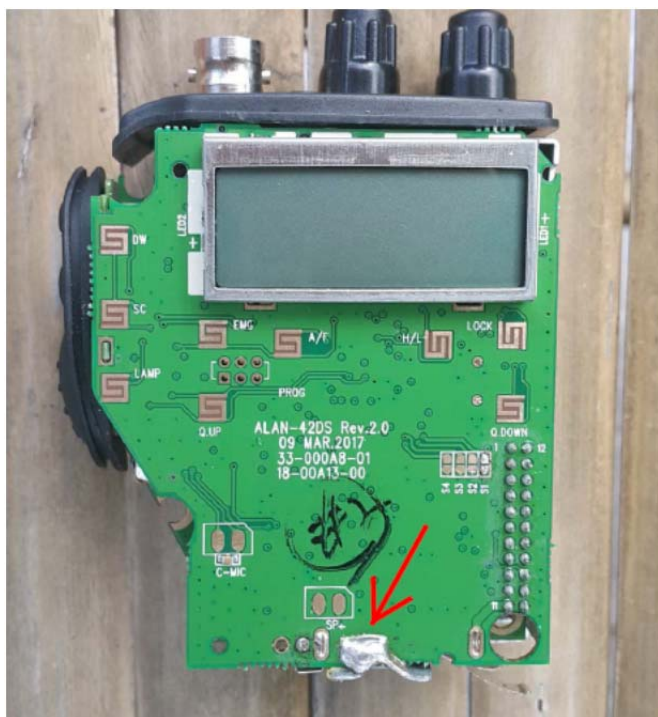
- 1). VCO Can Soldering Point to avoid TX O.S.C when high power.



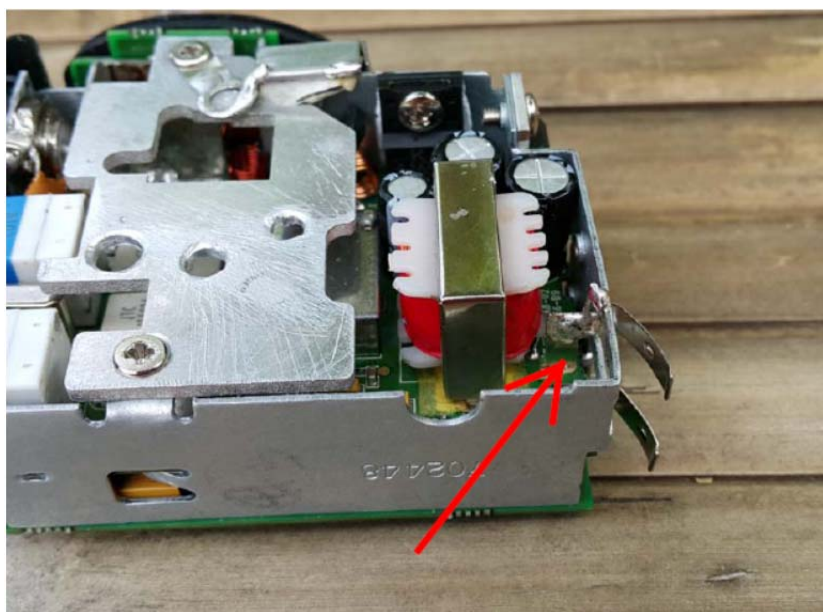
- 2). Main body to PCB ground soldering and add shield plate to solve TX harmonics.



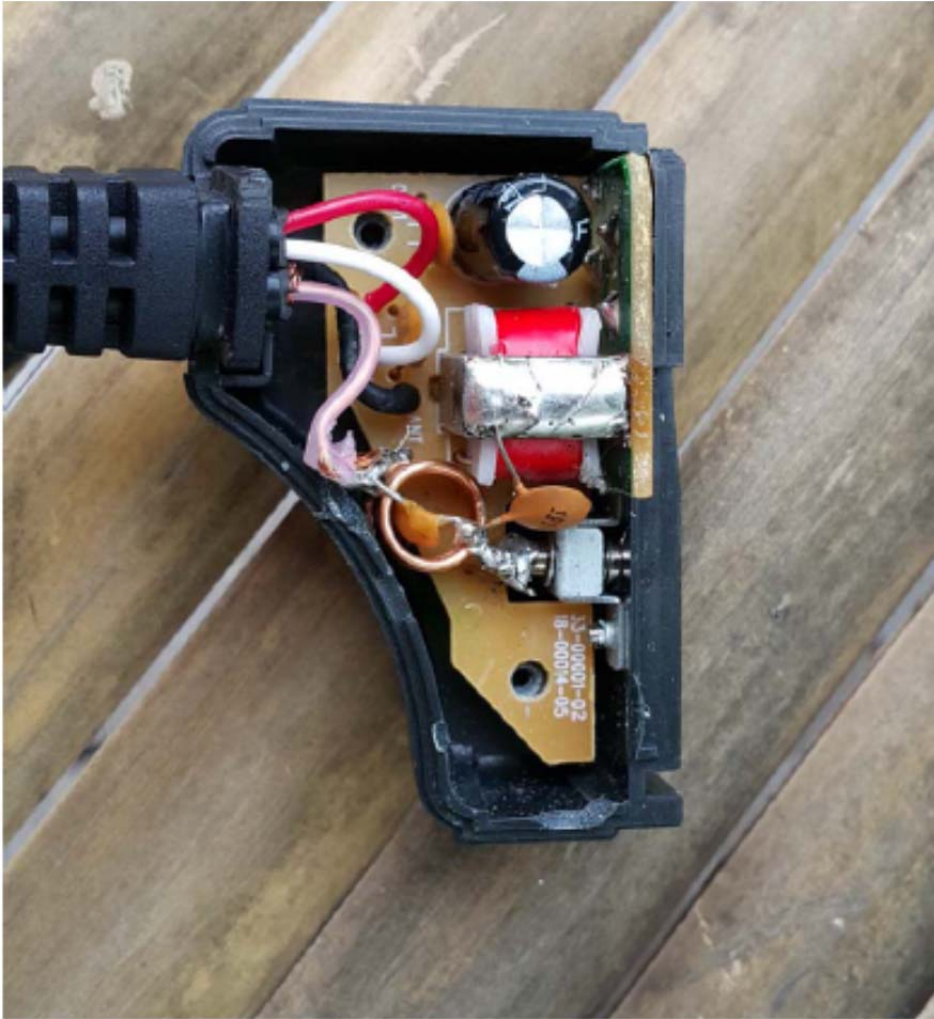
3). Main body to ground soldering for ACP in AM with DC car adaptor.



4). Main body to DC ground terminal soldering for ACP in AM with DC car adaptor.



5). Assemble DC car adaptor for ACP in AM.



7. Assemble Picture.

