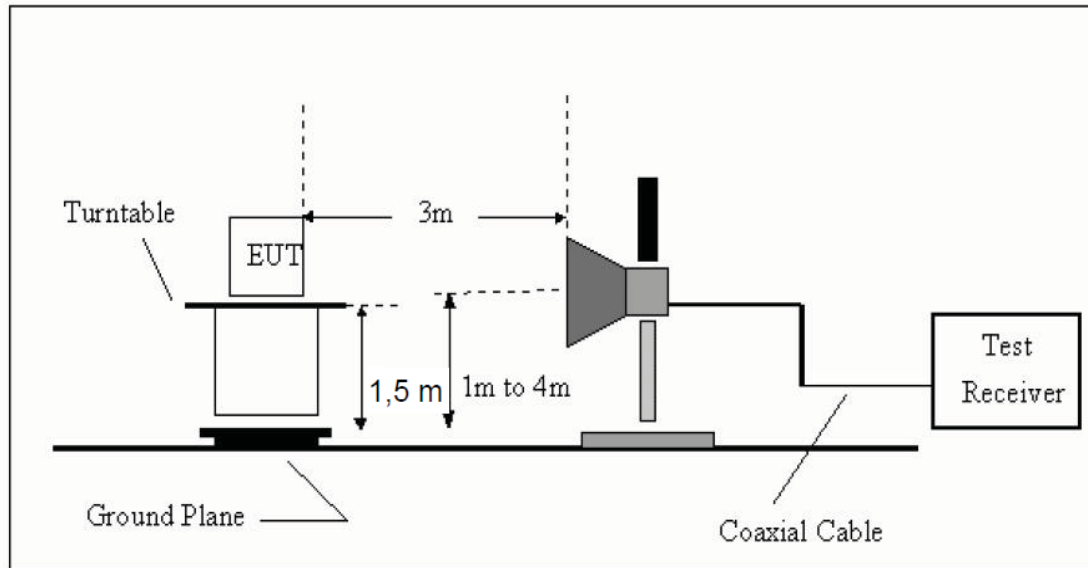


## 9. Band Edge Compliance

### 9.1. Block Diagram of Test Setup



### 9.2. Limit

All the lower and upper band-edges emissions appearing within restricted frequency bands shall not exceed the limits shown in RSS-GEN, all the other emissions outside operation shall be at least 20dB below the fundamental emissions, or comply with RSS-GEN limits.

### 9.3. Test Procedure

All restriction band and non- restriction band have been tested , only worse case is reported.

### 9.4. Test Result

**PASS. (See below detailed test data)**

Radiated Method

GFSK (CH Low)

Band Edge Test result								
EUT: Wireless Sound System				M/N: JOB ROCKER PLUS				
Power: AC 120V/60Hz								
Test date: 2015-12-05 Test site: 3m Chamber Tested by: Peter								
Test mode: Tx CH Low 2402MHz								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390	42.97	27.62	3.92	34.97	39.54	74	34.46	<b>PK</b>
2390	--	27.62	3.92	34.97	--	54	--	AV
2400	42.3	27.62	3.94	34.97	38.89	74	35.11	<b>PK</b>
2400	--	27.62	3.94	34.97	--	54	--	AV
Antenna Polarity: Horizontal								
2390	42.46	27.62	3.92	34.97	39.03	74	34.97	<b>PK</b>
2390	--	27.62	3.92	34.97	--	54	--	AV
2400	42.67	27.62	3.94	34.97	39.26	74	34.74	<b>PK</b>
2400	--	27.62	3.94	34.97	--	54	--	AV
Note:								
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK								
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK								
3, Result = Read level + Antenna factor + cable loss-Amp factor								
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.								

## GFSK (CH High)

Band Edge Test result								
EUT: Wireless Sound System					M/N: JOB ROCKER PLUS			
Power: AC 120V/60Hz								
Test date: 2015-12-05 Test site: 3m Chamber Tested by: Peter								
Test mode: Tx CH High 2480MHz								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2483.5	42.3	27.89	4	34.97	39.22	74	34.78	<b>PK</b>
2483.5		--	--	--	--	54	--	AV
Antenna Polarity: Horizontal								
2483.5	42.49	27.89	4	34.97	39.41	74	34.59	<b>PK</b>
2483.5		--	--	--	--	54	--	AV
Note:								
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK								
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK								
3, Result = Read level + Antenna factor + cable loss-Amp factor								
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.								

## GFSK ( Hopping Low)

Band Edge Test result								
EUT: Wireless Sound System				M/N: JOB ROCKER PLUS				
Power: AC 120V/60Hz								
Test date: 2015-12-05 Test site: 3m Chamber Tested by: Peter								
Test mode: Tx								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390	41.3	27.62	3.92	34.97	37.87	74	36.13	<b>PK</b>
2390	--	27.62	3.92	34.97	--	54	--	AV
Antenna Polarity: Horizontal								
2390	42.25	27.62	3.92	34.97	38.82	74	35.18	<b>PK</b>
2390	--	27.62	3.92	34.97	--	54	--	AV
Note:								
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK								
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK								
3, Result = Read level + Antenna factor + cable loss-Amp factor								
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.								

## GFSK ( Hopping High)

Band Edge Test result								
EUT: Wireless Sound System				M/N: JOB ROCKER PLUS				
Power: AC 120V/60Hz								
Test date: 2015-12-05 Test site: 3m Chamber Tested by: Peter								
Test mode: Tx								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2483.5	41.77	27.89	4	34.97	38.69	74	35.31	<b>PK</b>
2483.5		--	--	--	--	54	--	AV
Antenna Polarity: Horizontal								
2483.5	41.99	27.89	4	34.97	38.91	74	35.09	<b>PK</b>
2483.5		--	--	--	--	54	--	AV
Note:								
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK								
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK								
3, Result = Read level + Antenna factor + cable loss-Amp factor								
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.								

$\pi/4$  DQPSK ( CH Low )

Band Edge Test result								
EUT: Wireless Sound System					M/N: JOB ROCKER PLUS			
Power: AC 120V/60Hz								
Test date: 2015-12-05 Test site: 3m Chamber Tested by: Peter								
Test mode: Tx CH Low 2402MHz								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390	42.07	27.62	3.92	34.97	38.64	74	35.36	<b>PK</b>
2390	--	27.62	3.92	34.97	--	54	--	AV
Antenna Polarity: Horizontal								
2390	42.39	27.62	3.92	34.97	38.96	74	35.04	<b>PK</b>
2390	--	27.62	3.92	34.97	--	54	--	AV
Note:								
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK								
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK								
3, Result = Read level + Antenna factor + cable loss-Amp factor								
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.								

$\pi$  /4 DQPSK ( CH High )

Band Edge Test result								
EUT: Wireless Sound System				M/N: JOB ROCKER PLUS				
Power: AC 120V/60Hz								
Test date: 2015-12-05 Test site: 3m Chamber Tested by: Peter								
Test mode: Tx CH High 2480MHz								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2483.5	41.48	27.89	4	34.97	38.4	74	35.6	PK
2483.5		--	--	--	--	54	--	AV
Antenna Polarity: Horizontal								
2483.5	41.92	27.89	4	34.97	38.84	74	35.16	PK
2483.5		--	--	--	--	54	--	AV
Note:								
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK								
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK								
3, Result = Read level + Antenna factor + cable loss-Amp factor								
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.								

$\pi/4$  DQPSK (Hopping Low)

Band Edge Test result								
EUT: Wireless Sound System				M/N: JOB ROCKER PLUS				
Power: AC 120V/60Hz								
Test date: 2015-12-05 Test site: 3m Chamber Tested by: Peter								
Test mode:								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390	42.07	27.62	3.92	34.97	38.64	74	35.36	<b>PK</b>
2390	--	27.62	3.92	34.97	--	54	--	AV
Antenna Polarity: Horizontal								
2390	42.03	27.62	3.92	34.97	38.6	74	35.4	<b>PK</b>
2390	--	27.62	3.92	34.97	--	54	--	AV
Note:								
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK								
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK								
3, Result = Read level + Antenna factor + cable loss-Amp factor								
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.								



$\pi/4$  DQPSK (Hopping High )

Band Edge Test result								
EUT: Wireless Sound System				M/N: JOB ROCKER PLUS				
Power: AC 120V/60Hz								
Test date: 2015-12-05 Test site: 3m Chamber Tested by: Peter								
Test mode: Tx								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2483.5	41.32	27.89	4	34.97	38.24	74	35.76	PK
2483.5		--	--	--	--	54	--	AV
Antenna Polarity: Horizontal								
2483.5	42.57	27.89	4	34.97	39.49	74	34.51	PK
2483.5		--	--	--	--	54	--	AV
Note:								
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK								
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK								
3, Result = Read level + Antenna factor + cable loss-Amp factor								
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.								

## 8- DPSK ( CH Low )

Band Edge Test result								
EUT: Wireless Sound System				M/N: JOB ROCKER PLUS				
Power: AC 120V/60Hz								
Test date: 2015-12-05 Test site: 3m Chamber Tested by: Peter								
Test mode: Tx CH Low 2402MHz								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390	42.25	27.62	3.92	34.97	38.82	74	35.18	<b>PK</b>
2390	--	27.62	3.92	34.97	--	54	--	AV
Antenna Polarity: Horizontal								
2390	42.46	27.62	3.92	34.97	39.03	74	34.97	<b>PK</b>
2390	--	27.62	3.92	34.97	--	54	--	AV
Note:								
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK								
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK								
3, Result = Read level + Antenna factor + cable loss-Amp factor								
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.								

## 8- DPSK ( CH High )

Band Edge Test result								
EUT: Wireless Sound System				M/N: JOB ROCKER PLUS				
Power: AC 120V/60Hz								
Test date: 2015-12-05 Test site: 3m Chamber Tested by: Peter								
Test mode: Tx CH High 2480MHz								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2483.5	41.3	27.89	4	34.97	38.22	74	35.78	<b>PK</b>
2483.5		--	--	--	--	54	--	AV
Antenna Polarity: Horizontal								
2483.5	42.65	27.89	4	34.97	39.57	74	34.43	<b>PK</b>
2483.5		--	--	--	--	54	--	AV
Note:								
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK								
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK								
3, Result = Read level + Antenna factor + cable loss-Amp factor								
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.								

## 8- DPSK (Hopping Low)

Band Edge Test result								
EUT: Wireless Sound System				M/N: JOB ROCKER PLUS				
Power: AC 120V/60Hz								
Test date: 2015-12-05 Test site: 3m Chamber Tested by: Peter								
Test mode: Tx								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390	41.97	27.62	3.92	34.97	38.54	74	35.46	<b>PK</b>
2390	--	27.62	3.92	34.97	--	54	--	AV
Antenna Polarity: Horizontal								
2390	42.5	27.62	3.92	34.97	39.07	74	34.93	<b>PK</b>
2390	--	27.62	3.92	34.97	--	54	--	AV
Note:								
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK								
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK								
3, Result = Read level + Antenna factor + cable loss-Amp factor								
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.								

## 8- DPSK (Hopping High )

Band Edge Test result								
EUT: Wireless Sound System				M/N:JOB ROCKER PLUS				
Power: AC 120V/60Hz								
Test date: 2015-12-05 Test site: 3m Chamber Tested by: Peter								
Test mode: Tx								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2483.5	41.39	27.89	4	34.97	38.31	74	35.69	PK
2483.5		--	--	--	--	54	--	AV
Antenna Polarity: Horizontal								
2483.5	42.1	27.89	4	34.97	39.02	74	34.98	PK
2483.5		--	--	--	--	54	--	AV
Note:								
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK								
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK								
3, Result = Read level + Antenna factor + cable loss-Amp factor								
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.								









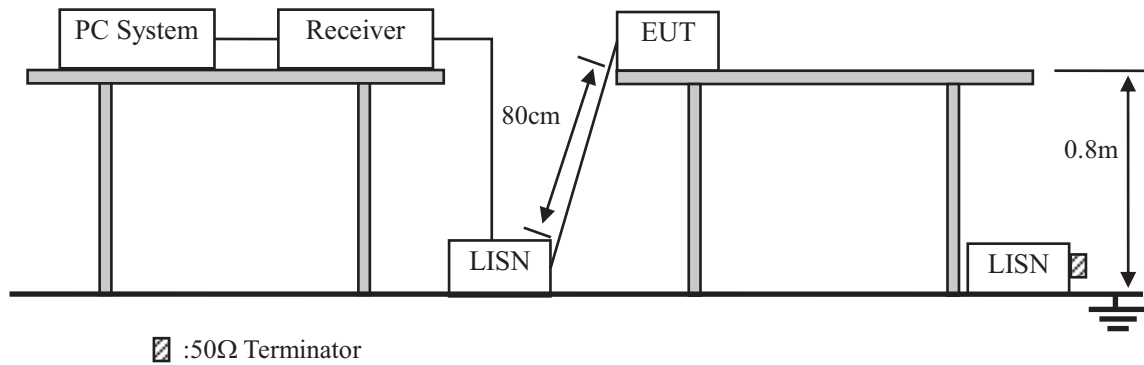






## 10. Power Line Conducted Emissions

### 10.1. Block Diagram of Test Setup



### 10.2. Limit

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB( $\mu$ V)	Average Level dB( $\mu$ V)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

- Notes: 1. \* Decreasing linearly with logarithm of frequency.  
 2. The lower limit shall apply at the transition frequencies.

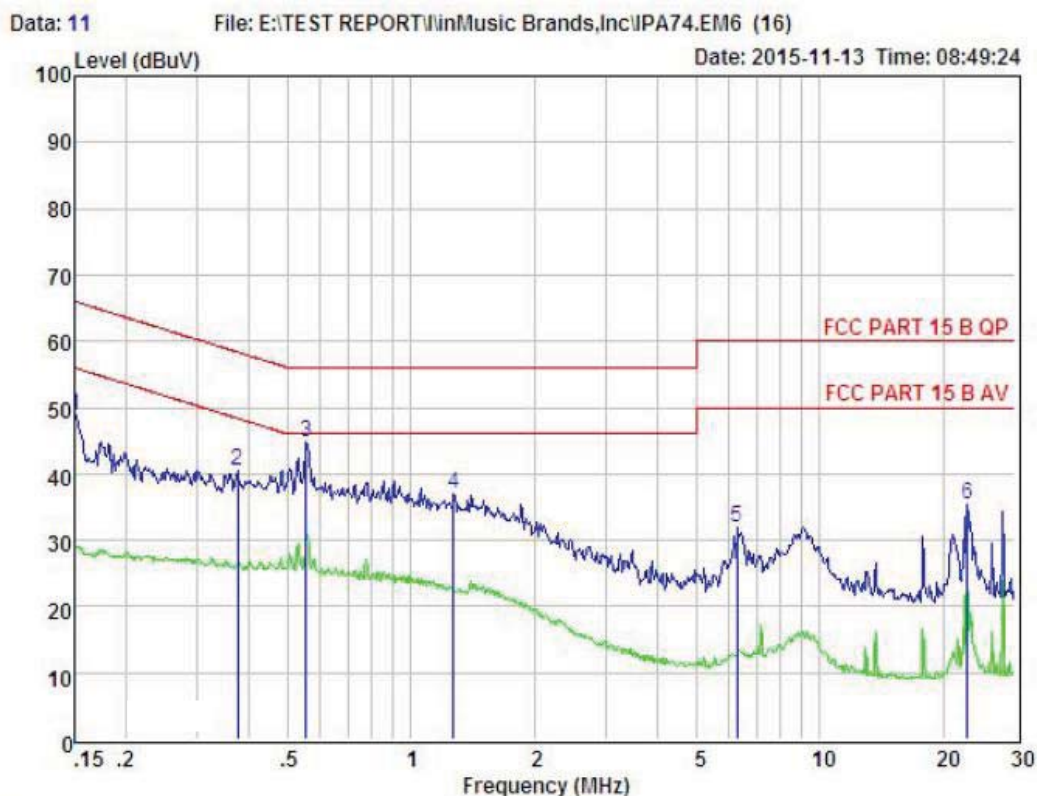
### 10.3. Test Procedure

- (1) The EUT was placed on a non-metallic table, 80cm above the ground plane.
- (2) Setup the EUT and simulator as shown in 10.1
- (3) The EUT Power connected to the power mains through a power adapter and a line impedance stabilization network (L.I.S.N1). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N2), this provided a 50-ohm coupling impedance for the EUT (Please refer to the block diagram of the test setup and photographs). Both sides of power line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4 2014 on conducted Emission test.
- (4) The bandwidth of test receiver is set at 10KHz.
- (5) The frequency range from 150 KHz to 30MHz is checked.

### 10.4. Test Result

PASS. (See below detailed test data)

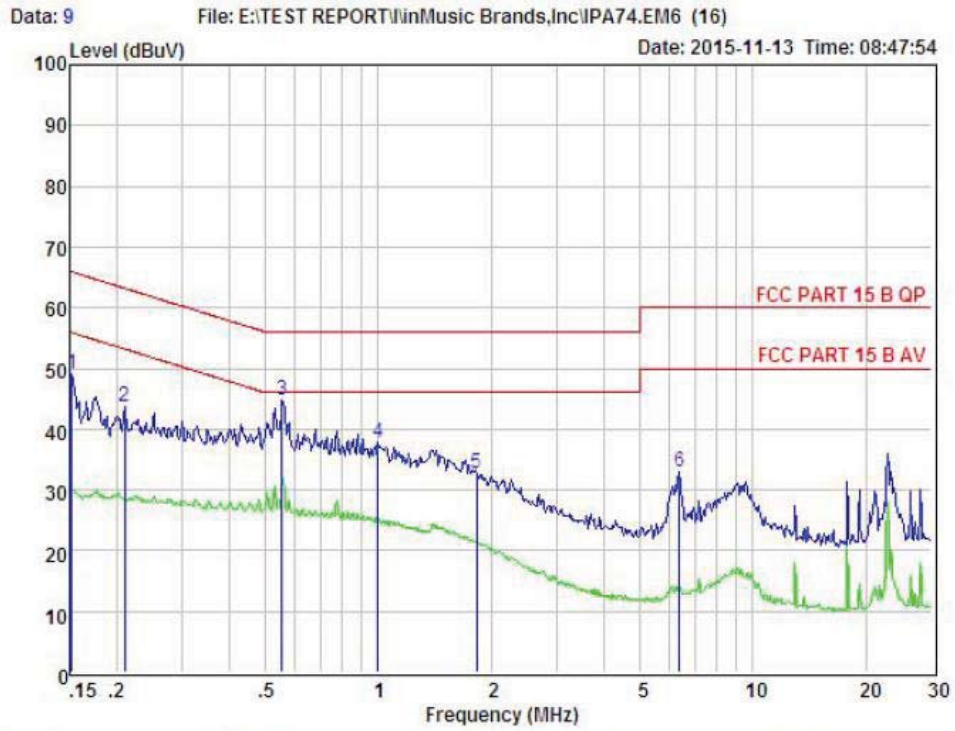
Mingsheng Adapter



Condition : FCC PART 15 B QP      POL: LINE      Temp:24.1 °C Hum:51 %  
 EUI :  
 Model No : IPA74  
 Test Mode : BT Mode  
 Power : AC 120V/60Hz  
 Test Engineer: Alex  
 Remark :

Item	Freq MHz	Read dBuV	LISN Factor dB	Attenuator Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	0.150	39.30	0.03	-9.49	0.10	48.92	66.00	-17.08	Peak
2	0.375	30.87	0.03	-9.57	0.10	40.57	58.39	-17.82	Peak
3	0.552	35.13	0.03	-9.59	0.10	44.85	56.00	-11.15	Peak
4	1.269	27.23	0.05	-9.65	0.10	37.03	56.00	-18.97	Peak
5	6.285	21.71	0.12	-9.97	0.14	31.94	60.00	-28.06	Peak
6	22.896	24.69	0.42	-9.81	0.43	35.35	60.00	-24.65	Peak

Remarks: Level = Read + LISN Factor - Attenuator Factor + Cable loss

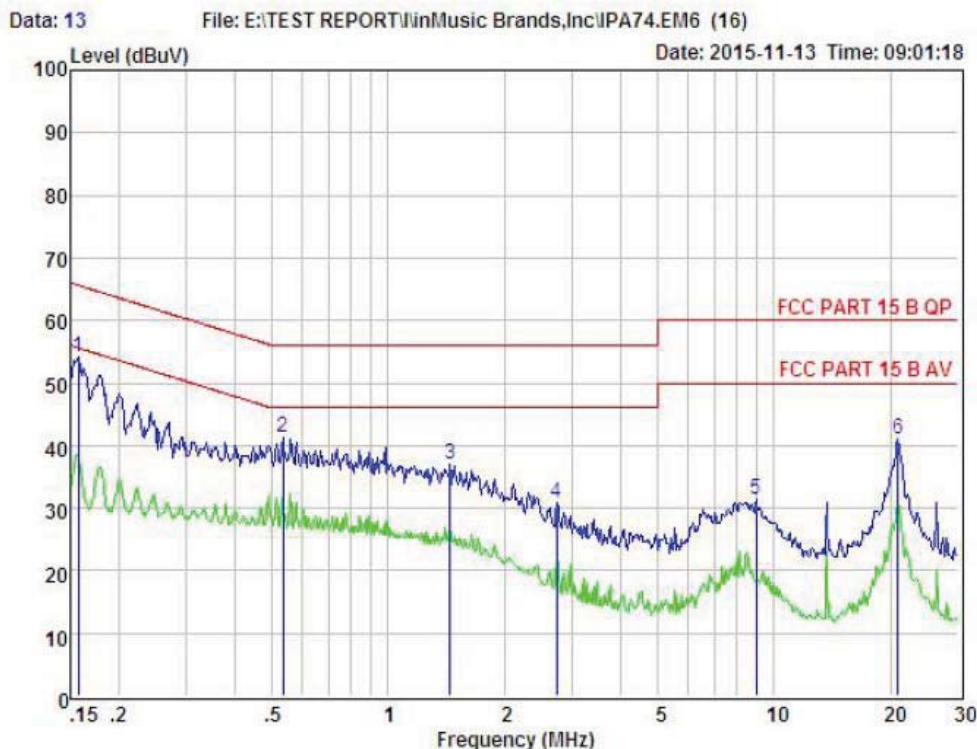


Condition : FCC PART 15 B QP POL: NEUTRAL Temp:24.1 °C Hum:51 %  
 EUT :  
 Model No :  
 Test Mode : BT Mode  
 Power : AC 120V/60Hz  
 Test Engineer: Alex  
 Remark :

Item	Freq MHz	Read dBuV	LISN Factor dB	Attenuator Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	0.152	39.43	0.03	-9.52	0.10	49.08	65.91	-16.83	Peak
2	0.211	33.93	0.03	-9.52	0.10	43.58	63.18	-19.60	Peak
3	0.552	35.14	0.03	-9.59	0.10	44.86	56.00	-11.14	Peak
4	1.000	27.91	0.04	-9.63	0.10	37.68	56.00	-18.32	Peak
5	1.829	22.90	0.05	-9.70	0.10	32.75	56.00	-23.25	Peak
6	6.352	22.76	0.12	-9.97	0.14	32.99	60.00	-27.01	Peak

Remarks: Level = Read + LISN Factor - Attenuator Factor + Cable loss

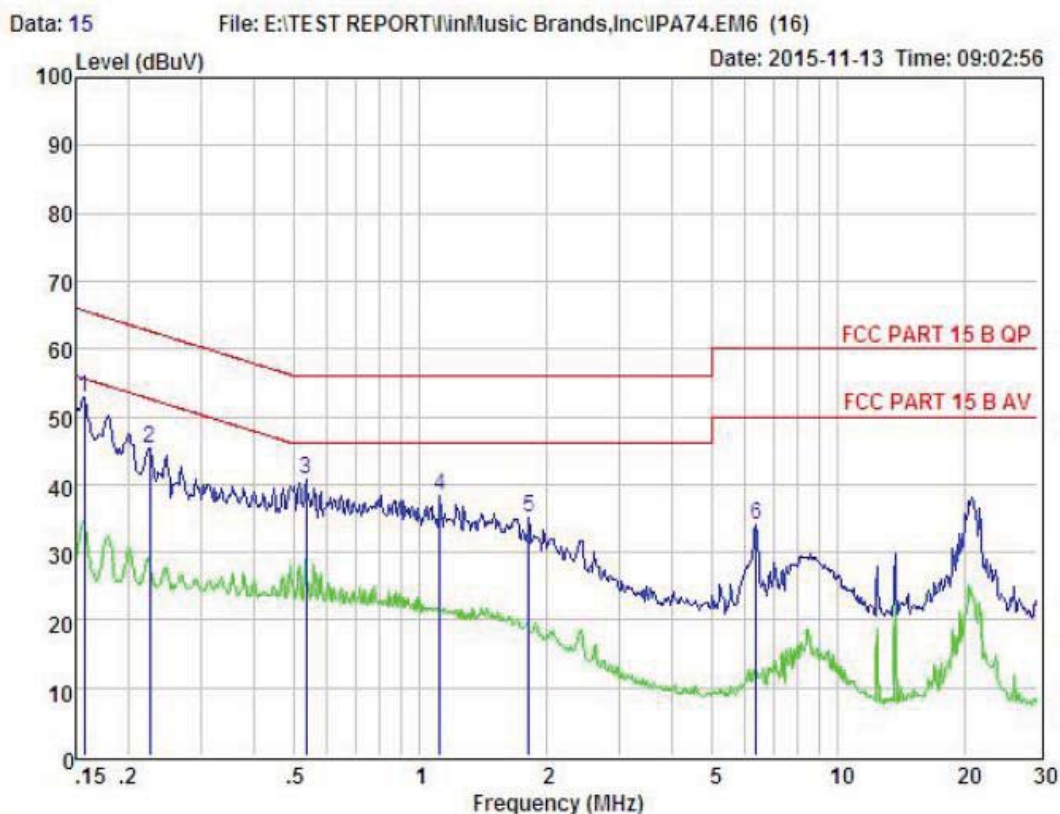
Guanjing Adapter



Condition : FCC PART 15 B QP POL: LINE Temp:24.1 °C Hum:51 %  
 EUI :  
 Model No : IPA74  
 Test Mode : BT Mode  
 Power : AC 120V/60Hz  
 Test Engineer: Alex  
 Remark :

Item	Freq MHz	Read dBuV	LISN Factor dB	Attenuator Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	0.157	44.53	0.03	-9.52	0.10	54.18	65.60	-11.42	Peak
2	0.535	31.54	0.03	-9.58	0.10	41.25	56.00	-14.75	Peak
3	1.449	27.24	0.05	-9.66	0.10	37.05	56.00	-18.95	Peak
4	2.736	20.83	0.07	-9.77	0.11	30.78	56.00	-25.22	Peak
5	9.011	21.00	0.16	-9.94	0.18	31.28	60.00	-28.72	Peak
6	20.924	30.62	0.34	-9.80	0.37	41.13	60.00	-18.87	Peak

Remarks: Level = Read + LISN Factor - Attenuator Factor + Cable loss



Condition : FCC PART 15 B QP POL: NEUTRAL Temp:24.1 °C Hum:51 %  
 EUT :  
 Model No : IPA74  
 Test Mode : BT Mode  
 Power : AC 120V/60Hz  
 Test Engineer: Alex  
 Remark :

Item	Freq MHz	Read dBuV	LISN Factor dB	Attenuator Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	0.157	43.29	0.03	-9.52	0.10	52.94	65.60	-12.66	Peak
2	0.226	35.69	0.03	-9.52	0.10	45.34	62.61	-17.27	Peak
3	0.535	31.03	0.03	-9.58	0.10	40.74	56.00	-15.26	Peak
4	1.117	28.53	0.04	-9.64	0.10	38.31	56.00	-17.69	Peak
5	1.819	25.23	0.05	-9.70	0.10	35.08	56.00	-20.92	Peak
6	6.352	23.84	0.12	-9.97	0.14	34.07	60.00	-25.93	Peak

Remarks: Level = Read + LISN Factor - Attenuator Factor + Cable loss

Note1: If QP Result comply with AV limit, AV Result is deemed to comply with AV limit



## **11. Antenna Requirements**

### **11.1. Limit**

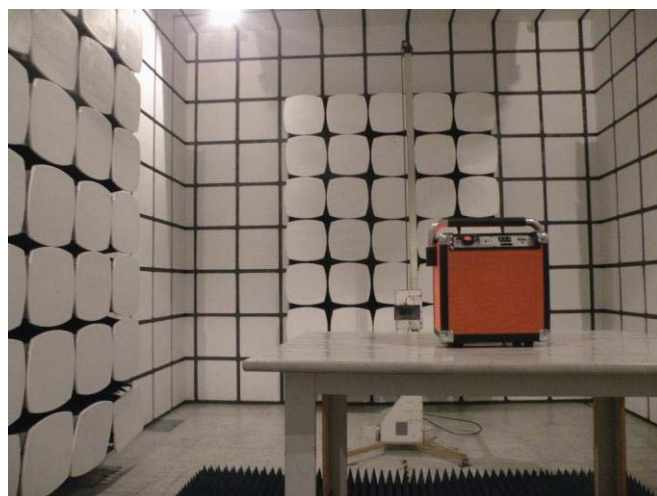
For intentional device, according to RSS-GEN, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to RSS-GEN, if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

### **11.2. Result**

The antennas used for this product are PCB Antenna for Bluetooth, no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is only 0dBi .

## 12. Test setup photo

### 12.1. Photos of Radiated emission



## 12.2.Photos of Conducted Emission test



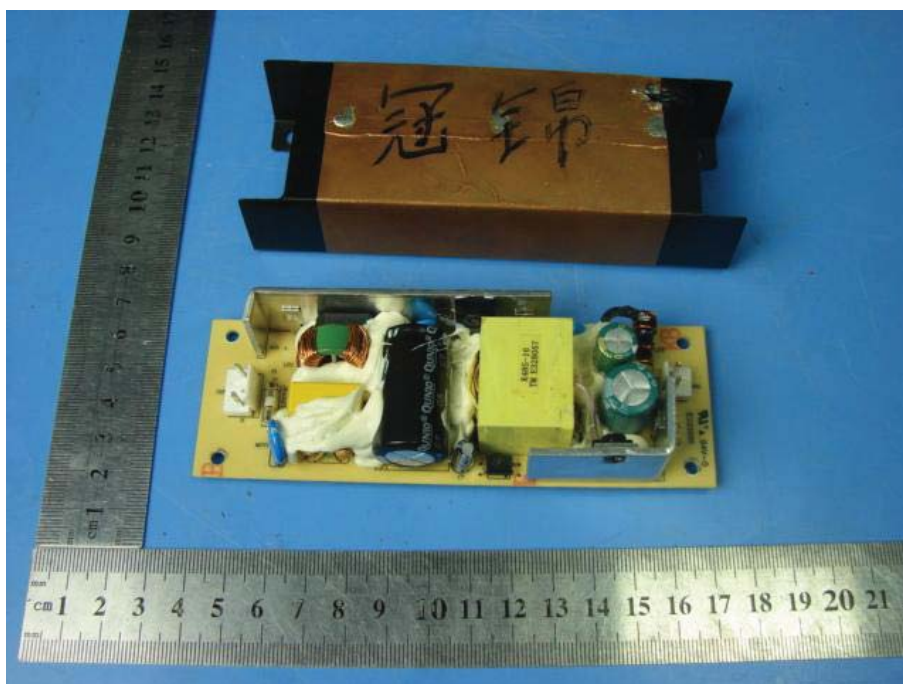
### 13. Photos of EUT



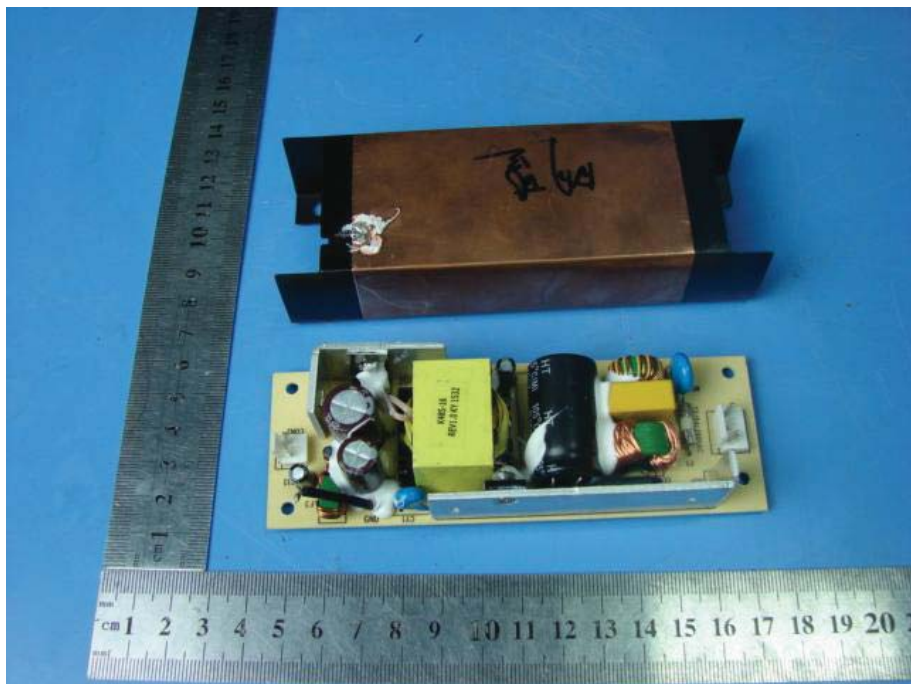
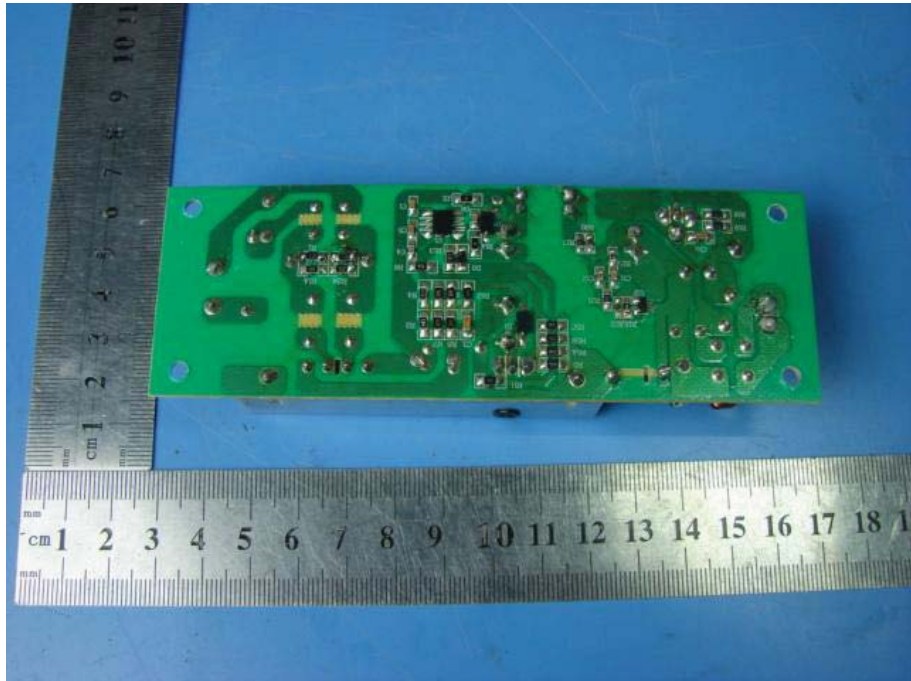


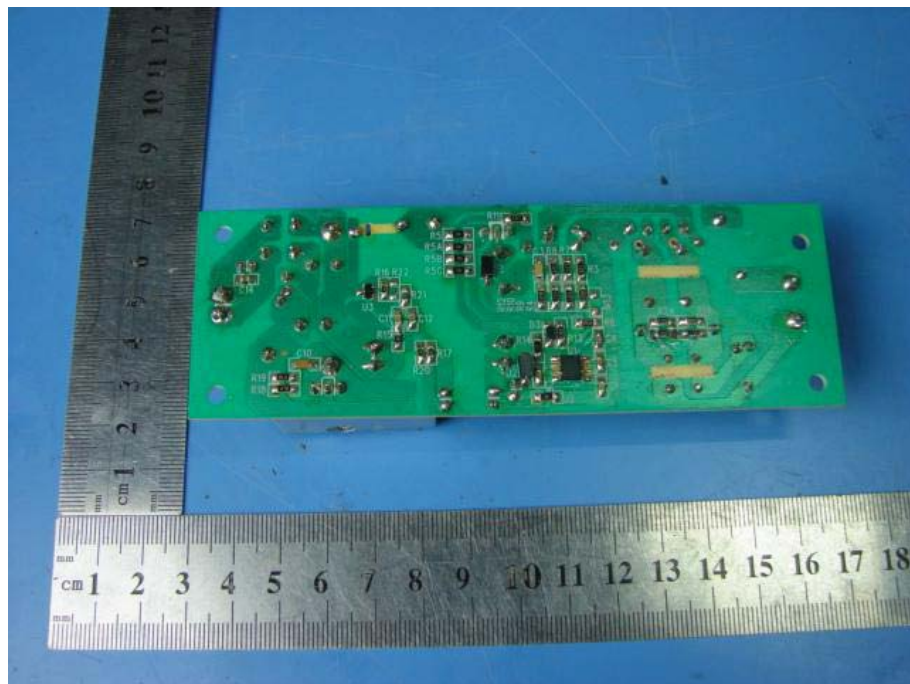
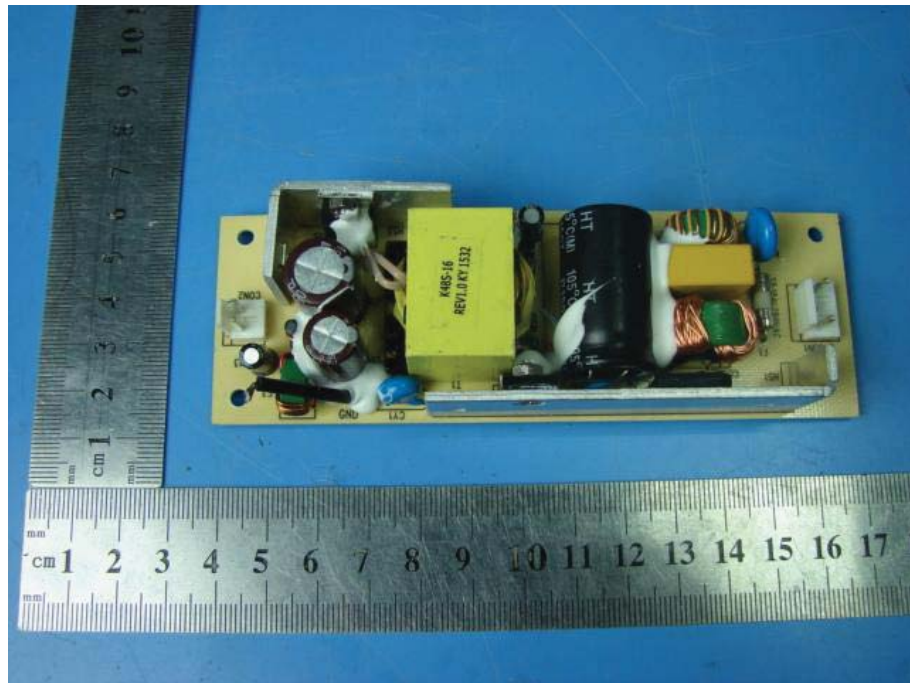


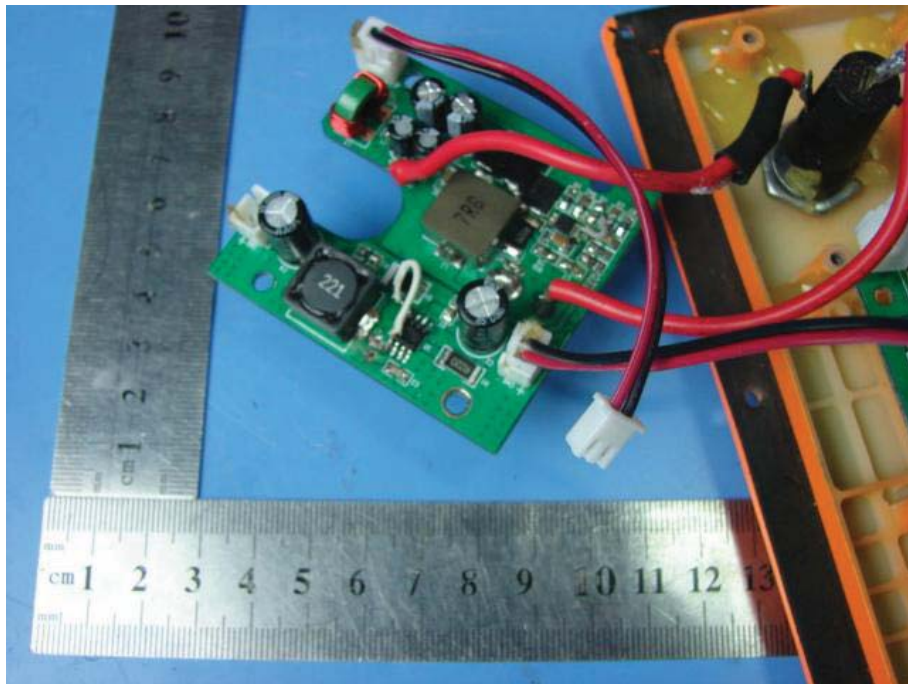
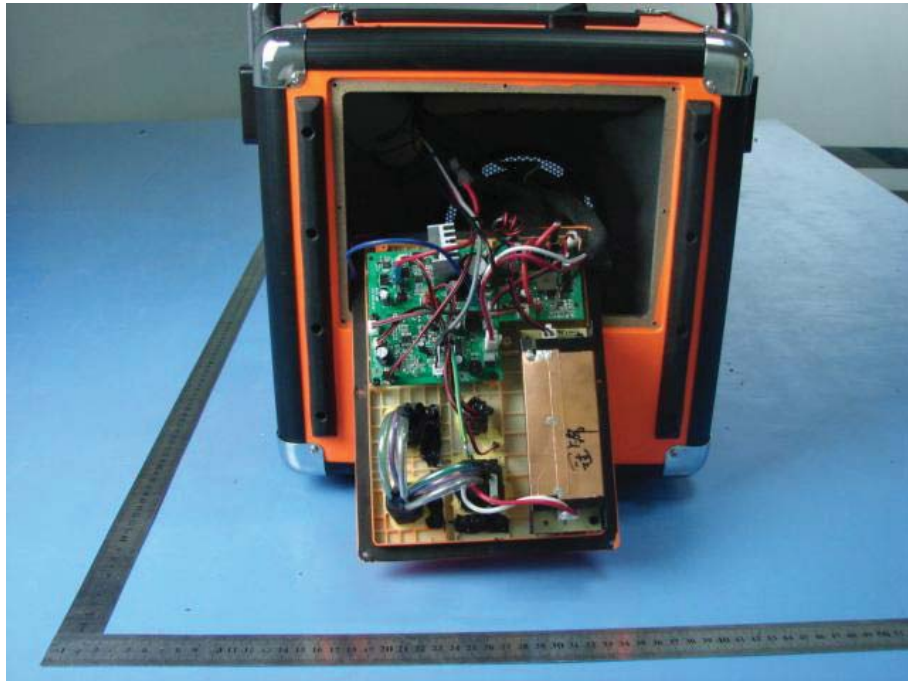


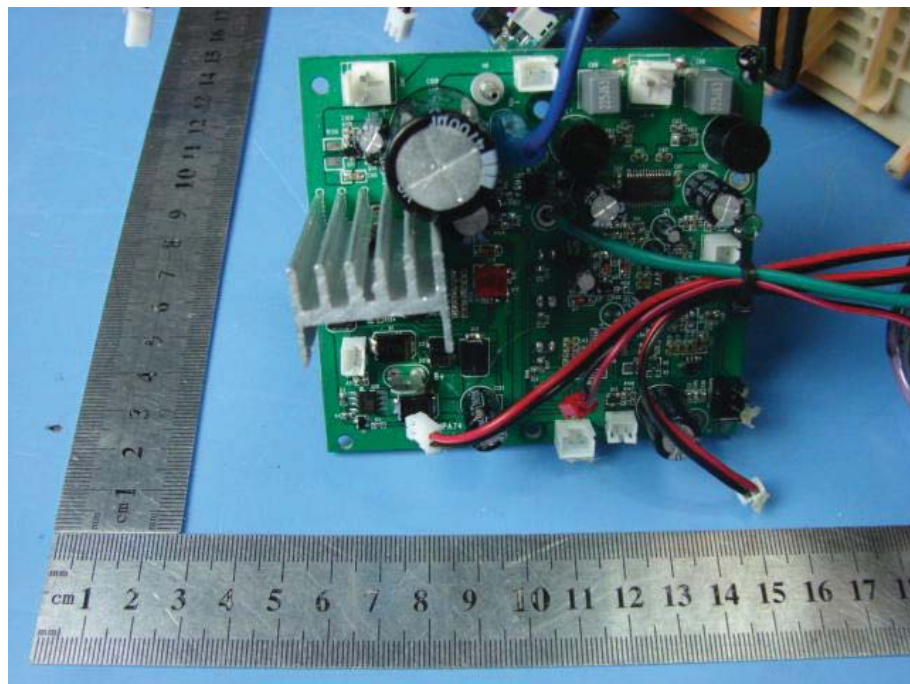
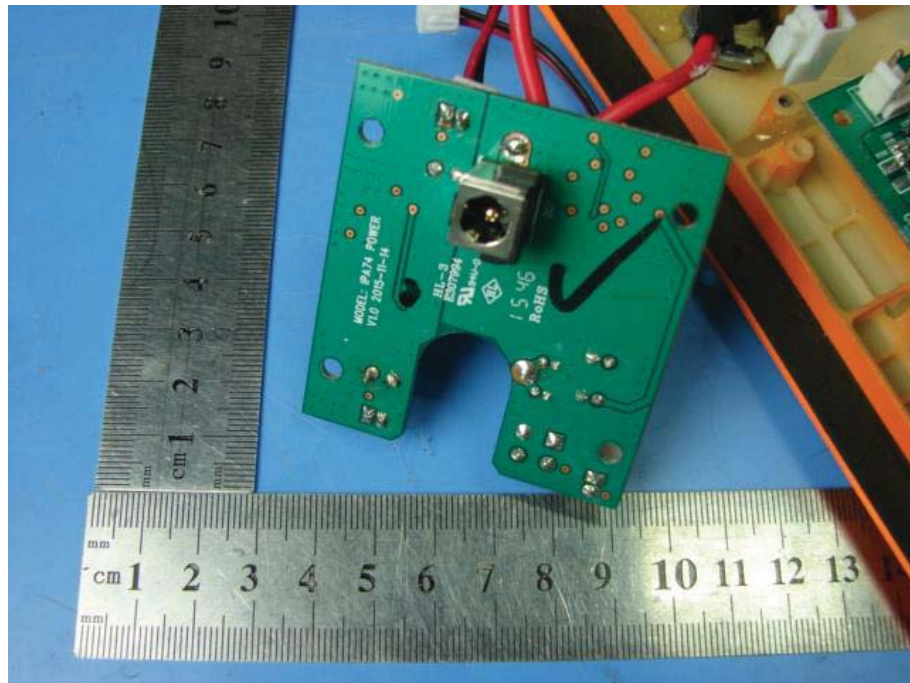


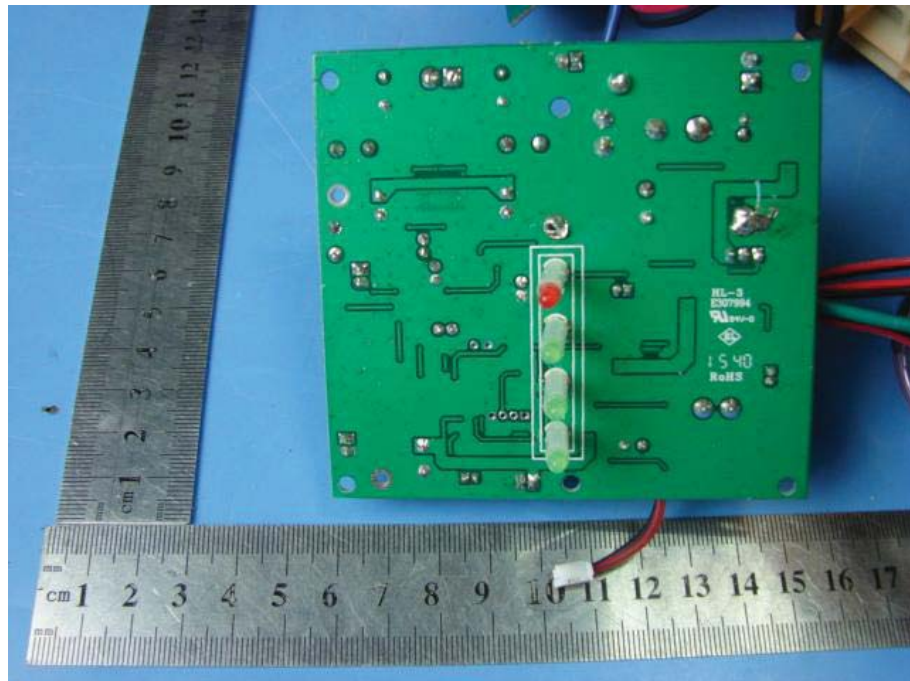


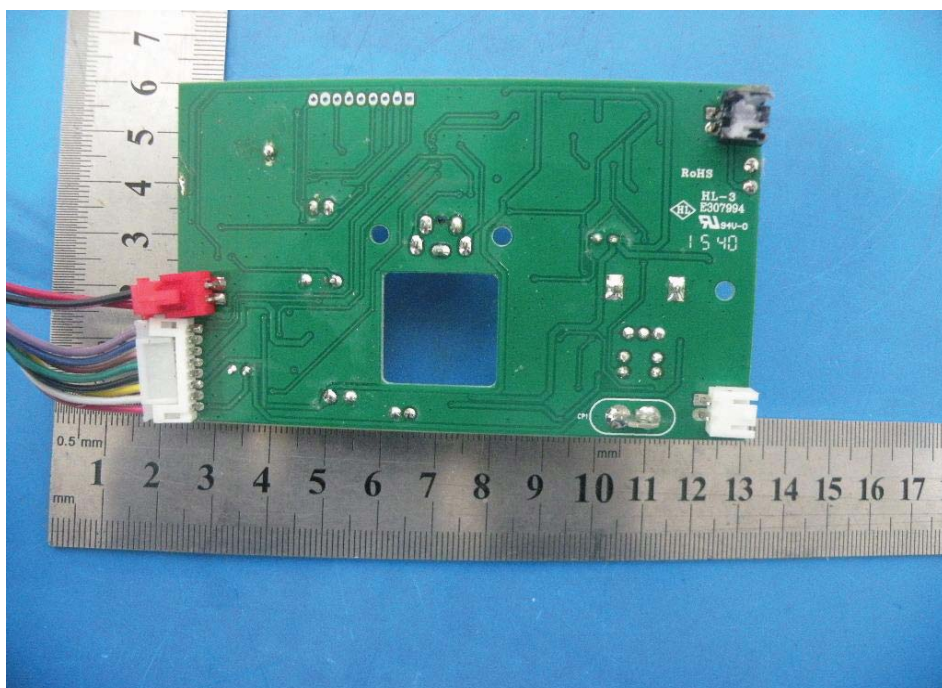
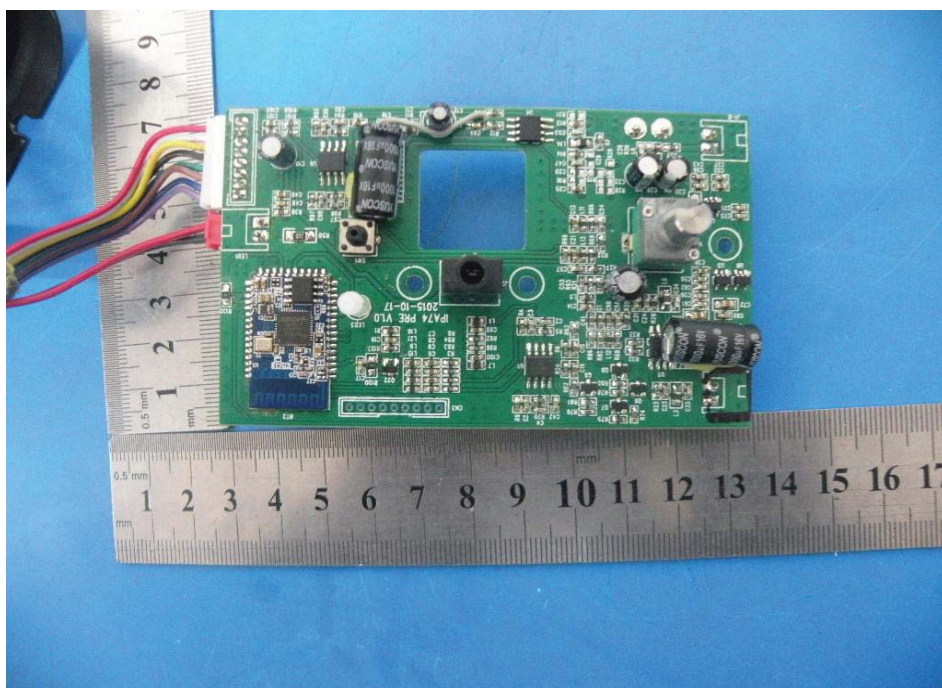


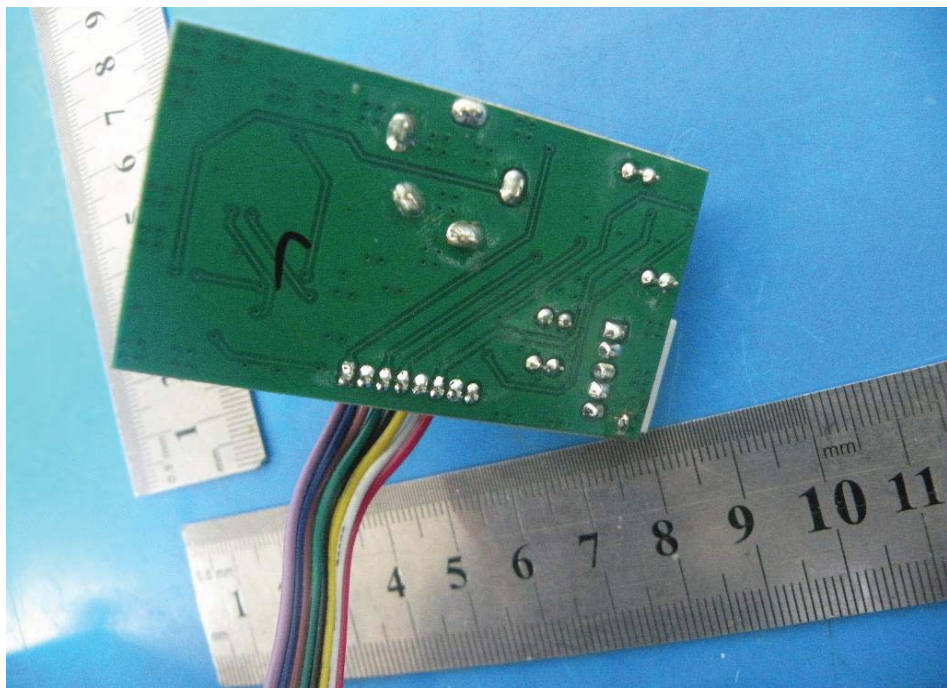
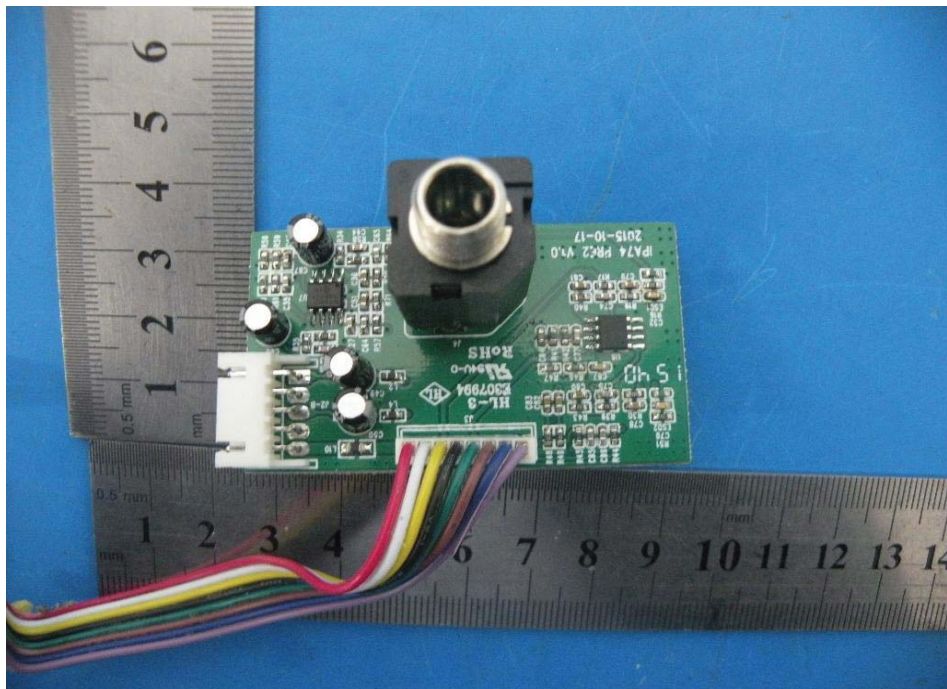


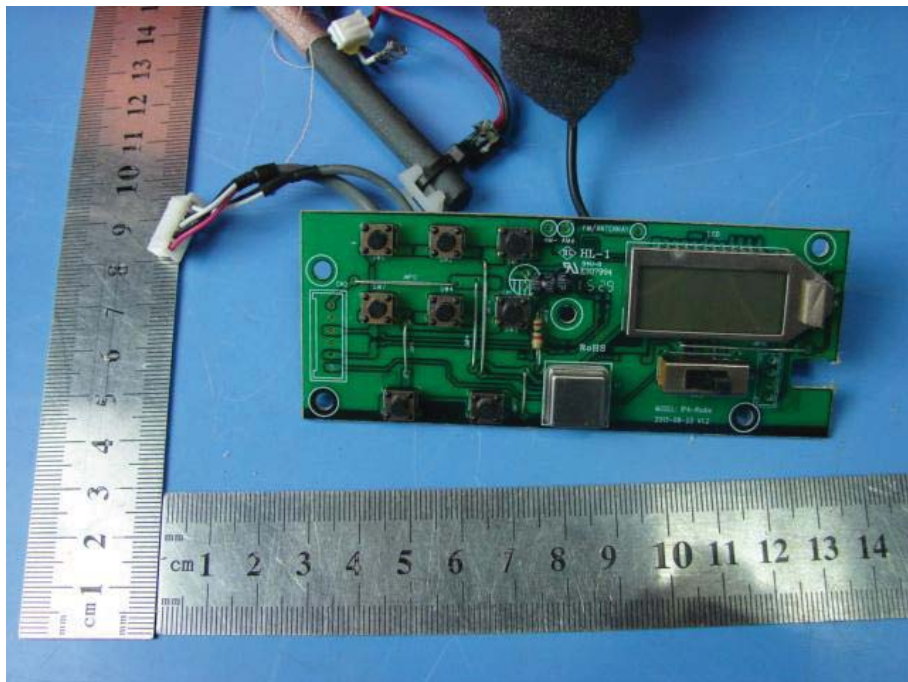
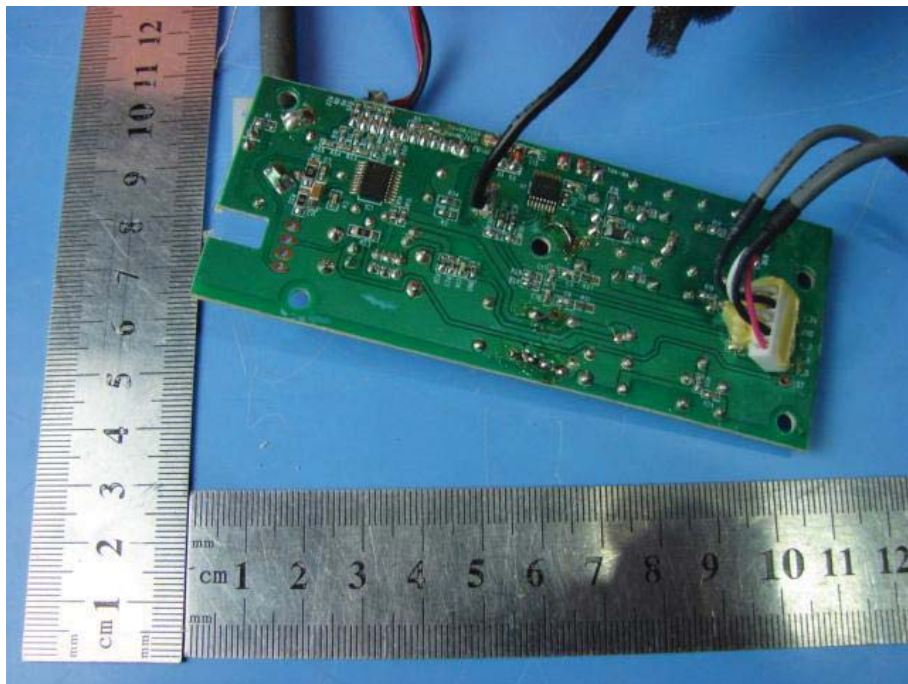




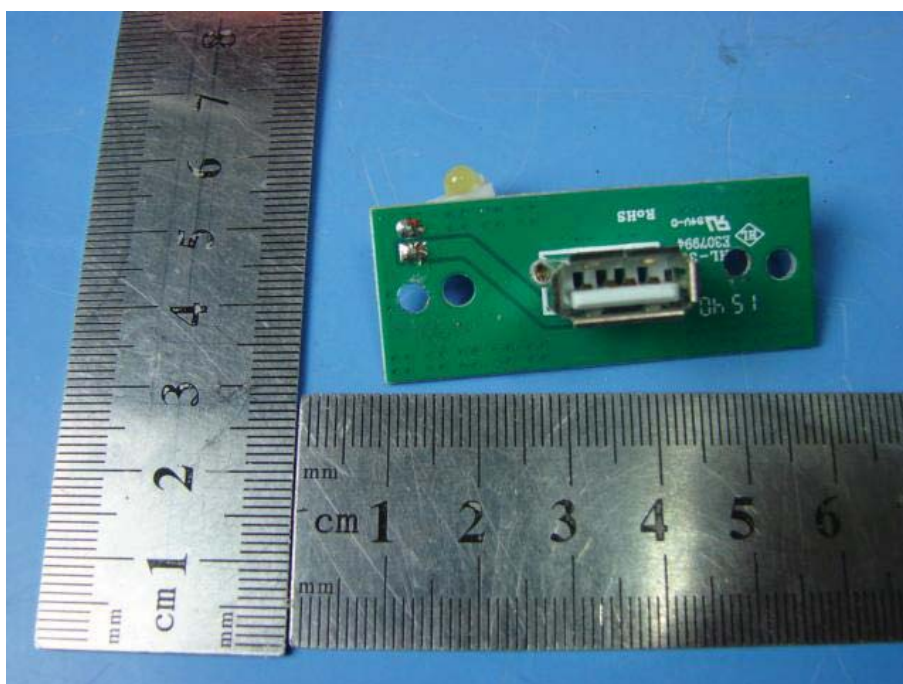
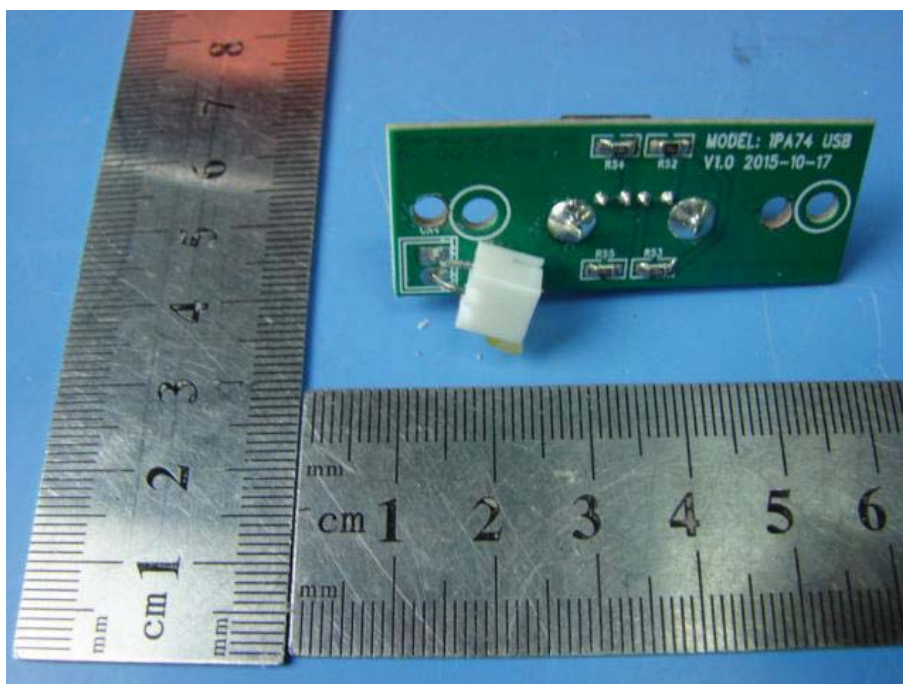














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