

FCC PART 15C TEST REPORT FOR CERTIFICATION
On Behalf of

Soundlab Technology Company Limited

Soundbar

Model Number: Klipsch Cinema 600-Sound Bar

Additional Model: Bar 48-Sound Bar, Klipsch Cinema 650 Sound Bar

FCC ID: 2ATKO-BAR600II


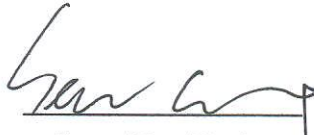

| | |
|--------------|---|
| Applicant: | Soundlab Technology Company Limited |
| Address: | No.101,202,Building 1, Microlab Industrial Park, No.2 Baozi South Road, Kengzi, Pingshan District, ShenZhen, China |
| | |
| Prepared By: | EST Technology Co., Ltd. Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China |
| | Tel: 86-769-83081888-808 |

| | |
|-----------------|------------------|
| Report Number: | ESTE-R2111111-1 |
| Date of Test: | Jul. 06~09, 2022 |
| Date of Report: | Jul. 14, 2022 |

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EST Technology Co., Ltd.

| | | | |
|--|---|---|------------------|
| Applicant: | Soundlab Technology Company Limited | | |
| Address: | No.101,202,Building 1, Microlab Industrial Park, No.2 Baozi South Road, Kengzi, Pingshan District, ShenZhen, China | | |
| Manufacturer: | Klipsch Group Inc. | | |
| Address: | 3502 Woodview Trace, Indianapolis, IN 46268 | | |
| E.U.T: | Soundbar | | |
| Model Number: | Klipsch Cinema 600-Sound Bar | | |
| Additional Model: | Bar 48-Sound Bar, Klipsch Cinema 650 Sound Bar Note: They are identical except model name. | | |
| Power Supply: | AC 100~240V, 50~60Hz | | |
| Trade Name: | Klipsch | Serial No.: | ----- |
| Date of Receipt: | Apr. 11, 2022 | Date of Test: | Jul. 06~09, 2022 |
| Test Specification: | FCC Part 15 Subpart C (15.249) ANSI C63.10:2013 | | |
| Test Result: | <p>The device described above is tested by EST Technology Co., Ltd. The measurement results were contained in this test report and EST Technology Co., Ltd. was assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliance with the FCC Rules and Regulations Part 15 Subpart C requirements.</p> <p>This report applies to above tested sample only and shall not be reproduced in part without written approval of EST Technology Co., Ltd.</p> | | |
| Prepared by: | Reviewed by: | Date: Jul 14, 2022 | |
|  |  |  | |
| Ring Yang/ Assistant | Seven Wang/ Engineer | Iceman Hu / Manager | |
| Other Aspects: | This report base on the previous report with report number: ESTE-R2111111, power supply board, audio amplifier IC and peripheral circuit were changed and model number were added in this report, so just re-tested spurious emissions (30MHz-1GHz) and conducted emissions. | | |
| <i>Abbreviations: OK/P=passed fail/F=failed n.a/N=not applicable E.U.T=equipment under tested</i> | | | |
| <i>This test report is based on a single evaluation of one sample of above mentioned products ,It is not permitted to be duplicated in extracts without written approval of EST Technology Co., Ltd.</i> | | | |

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

| | | |
|---------------------|---|------------------------------|
| Product Name | : | Soundbar |
| Model Number | : | Klipsch Cinema 600-Sound Bar |
| Software Version | : | V1.1 |
| Hardware Version | : | V1.1 |
| Operation frequency | : | 2404.5MHz-2479.5MHz |
| Number of channel | : | 16 |
| Modulation Type | : | GFSK |
| Sample Type | : | Prototype production |

Note:For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

1.2. Antenna Information

| Ant No. | Brand | Model Name | Antenna Type | Connector | Gain (dBi) |
|---------|-------|------------|--------------|-----------|------------|
| 1 | N/A | N/A | Internal | N/A | 1.34 |

Note: This information is provided by the applicant.

2. SUMMARY OF TEST

2.1. Summary of test result

| Report Section | Description of Test Item | FCC Standard Section | Results |
|----------------|---|--|---------|
| 3 | Field Strength of Fundamental | 15.249(a) | N/A |
| 4 | Radiated Spurious Emissions and Band Edge | 15.205 15.209 15.249(a)(c)(d)(e) 15.35(b) | PASS |
| 5 | 20dB Bandwidth | 15.215 | N/A |
| 6 | AC Power Line Conducted Emissions | 15.207 | PASS |
| 7 | Antenna Requirement | 15.203 | N/A |

Note: "N/A" denotes test is not applicable in this test report

2.2. Test Facilities

EMC Lab : Certificated by CNAS, CHINA
Registration No.: L5288
This Certificate is valid until: November 12, 2023

Certificated by FCC, USA
Designation Number: CN1215
This Certificate is valid until: January 31, 2024

Certificated by A2LA, USA
Registration No.: 4366.01
This Certificate is valid until: January 31, 2024

Certificated by Industry Canada
CAB identifier No.: CN0035
This Certificate is valid until: January 31, 2024

Certificated by VCCI, Japan
Registration No.:C-14103; T-20073; R-13663;
R-20103; G-20097
Date of registration: Apr. 20, 2020
This Certificate is valid until: Apr. 19, 2023

Certificated by TUV Rheinland, Germany
Registration No.: UA 50413872 0001
Date of registration: July 31, 2018

Certificated by Intertek
Registration No.: 2011-RTL-L2-64
Date of registration: November 08, 2018

Name of Firm : EST Technology Co., Ltd.

Site Location : Chilingxiang, Qishantou, Santun, Houjie, Dongguan,
Guangdong, China

2.3. Measurement uncertainty

| Test Item | Uncertainty |
|---|-----------------------|
| Uncertainty for Conduction emission test | ±3.48dB |
| Uncertainty for spurious emissions test (30MHz-1GHz) | ±4.60 dB(Polarize: H) |
| | ±4.68 dB(Polarize: V) |
| Uncertainty for spurious emissions test (1GHz to 18GHz) | ±4.96dB |
| Uncertainty for radio frequency | 7×10^{-8} |
| Uncertainty for conducted RF Power | 0.20dB |
| Uncertainty for Power density test | 0.26dB |

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

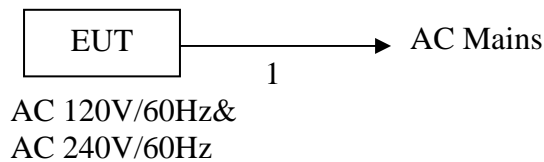
2.4. Assistant equipment used for test

| Item | Equipment | Brand | Model Name/Type No. | FCC ID | Series No. |
|------|-----------|-------|---------------------|--------|------------|
| - | - | - | - | - | - |

| Item | Shielded Type | Ferrite Core | Length | Note |
|------|---------------|--------------|--------|----------|
| 1 | NO | NO | 1.8m | AC Cable |

2.5. Block Diagram

For radiated emissions test: EUT was placed on a turn table, which is 0.8 meter high above ground. EUT was beset into test mode by software before test.



(EUT: Soundbar)

2.6. Test Mode

The test mode was selected for the final test as listed below.

| Test Item | Test Mode | Test Channel |
|-----------------------------------|-----------|-----------------|
| Radiated Spurious Emissions | TX | Low/Middle/High |
| AC Power Line Conducted Emissions | TX | Low/Middle/High |

Note: In radiated measurement, the EUT had been pre-scan on the positioned of each 3 axis (X,Y,Z), the worst case was found when positioned on **X-plane**.

2.7. Power Setting of Test Software

| Software Name | N/A | | |
|----------------|---------|---------|---------|
| Frequency(MHz) | 2404.5 | 2444.5 | 2479.5 |
| Setting | Default | Default | Default |

Note: This information is provided by the applicant.

2.8. Channel List

| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---------|-----------------|---------|-----------------|---------|-----------------|
| 1 | 2404.5 | 7 | 2434.5 | 13 | 2464.5 |
| 2 | 2409.5 | 8 | 2439.5 | 14 | 2469.5 |
| 3 | 2414.5 | 9 | 2444.5 | 15 | 2474.5 |
| 4 | 2419.5 | 10 | 2449.5 | 16 | 2479.5 |
| 5 | 2424.5 | 11 | 2454.5 | | |
| 6 | 2429.5 | 12 | 2459.5 | | |

2.9. Test Equipment List

| For conducted emission test | | | | | | |
|-----------------------------|-----------------|--------------|------------|------------------|------------|-----------|
| Equipment | Manufacturer | Model No. | Serial No. | Calibration Body | Last Cal. | Next Cal. |
| EMI Test Receiver | Rohde & Schwarz | ESHS30 | EST-E001 | LISAI | June 13,22 | 1 Year |
| Artificial Mains Network | Rohde & Schwarz | ENV216 | EST-E002 | LISAI | June 13,22 | 1 Year |
| Pulse Limiter | Rohde & Schwarz | ESH3-Z2 | EST-E078 | LISAI | June 13,22 | 1 Year |
| Test Software | Audix | e3-6.111221a | N/A | N/A | N/A | N/A |

| For radiated emission test(9kHz-30MHz) | | | | | | |
|--|-----------------|--------------|------------|------------------|------------|-----------|
| Equipment | Manufacturer | Model No. | Serial No. | Calibration Body | Last Cal. | Next Cal. |
| EMI Test Receiver | Rohde & Schwarz | ESR7 | EST-E047 | LISAI | June 13,22 | 1 Year |
| Active Loop Antenna | SCHWAREB ECK | FMZB 1519B | EST-E054 | LISAI | June 13,22 | 1 Year |
| Test Software | Audix | e3-6.111221a | N/A | N/A | N/A | N/A |
| 9kHz-30MHz Cable | N/A | EST-001 | N/A | N/A | N/A | N/A |

| For radiated emissions test (30MHz-1000MHz) | | | | | | |
|---|-----------------|--------------|------------|------------------|------------|-----------|
| Equipment | Manufacturer | Model No. | Serial No. | Calibration Body | Last Cal. | Next Cal. |
| EMI Test Receiver | Rohde & Schwarz | ESR7 | EST-E047 | LISAI | June 13,22 | 1 Year |
| Bilog Antenna | Teseq | CBL 6111D | EST-E034 | LISAI | June 13,22 | 1 Year |
| Test Software | Audix | e3-6.111221a | N/A | N/A | N/A | N/A |
| 30-1000MHz Cable | N/A | EST-002 | N/A | N/A | N/A | N/A |

3. RADIATED SPURIOUS EMISSIONS AND BAND EDGE

3.1. Limit

(a) The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

| Fundamental frequency | Field strength of harmonics@3m (microvolts/meter) | Average Limit@3m dBµV/m | Peak Limit@3m dBµV/m |
|-----------------------|---|-------------------------|----------------------|
| 902-928MHz | 500 | 54 | 74 |
| 2400-2483.5MHz | 500 | 54 | 74 |
| 5725-5875MHz | 500 | 54 | 74 |
| 24.0-24.25 | 2500 | 68 | 88 |

(b) Field strength limits are specified at a distance of 3 meters.

(c) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

15.209 Radiated emission limits

| Frequency (MHz) | Field Strength(µV/m) | Distance(m) |
|-----------------|----------------------|-------------|
| 0.009-0.490 | 2400/F(kHz) | 300 |
| 0.490-1.705 | 24000/F(kHz) | 30 |
| 1.705-30 | 30 | 30 |
| 30-88 | 100 | 3 |
| 88-216 | 150 | 3 |
| 216-960 | 200 | 3 |
| Above 960 | 500 | 3 |

15.205 Restricted frequency band

| MHz | MHz | MHz | GHz |
|----------------------------|-----------------------|-----------------|------------------|
| 0.090 - 0.110 | 16.42 - 16.423 | 399.9 - 410 | 4.5 - 5.15 |
| ¹ 0.495 - 0.505 | 16.69475 - 16.69525 | 608 - 614 | 5.35 - 5.46 |
| 2.1735 - 2.1905 | 16.80425 - 16.80475 | 960 - 1240 | 7.25 - 7.75 |
| 4.125 - 4.128 | 25.5 - 25.67 | 1300 - 1427 | 8.025 - 8.5 |
| 4.17725 - 4.17775 | 37.5 - 38.25 | 1435 - 1626.5 | 9.0 - 9.2 |
| 4.20725 - 4.20775 | 73 - 74.6 | 1645.5 - 1646.5 | 9.3 - 9.5 |
| 6.215 - 6.218 | 74.8 - 75.2 | 1660 - 1710 | 10.6 - 12.7 |
| 6.26775 - 6.26825 | 108 - 121.94 | 1718.8 - 1722.2 | 13.25 - 13.4 |
| 6.31175 - 6.31225 | 123 - 138 | 2200 - 2300 | 14.47 - 14.5 |
| 8.291 - 8.294 | 149.9 - 150.05 | 2310 - 2390 | 15.35 - 16.2 |
| 8.362 - 8.366 | 156.52475 - 156.52525 | 2483.5 - 2500 | 17.7 - 21.4 |
| 8.37625 - 8.38675 | 156.7 - 156.9 | 2690 - 2900 | 22.01 - 23.12 |
| 8.41425 - 8.41475 | 162.0125 - 167.17 | 3260 - 3267 | 23.6 - 24.0 |
| 12.29 - 12.293 | 167.72 - 173.2 | 3332 - 3339 | 31.2 - 31.8 |
| 12.51975 - 12.52025 | 240 - 285 | 3345.8 - 3358 | 36.43 - 36.5 |
| 12.57675 - 12.57725 | 322 - 335.4 | 3600 - 4400 | (²) |

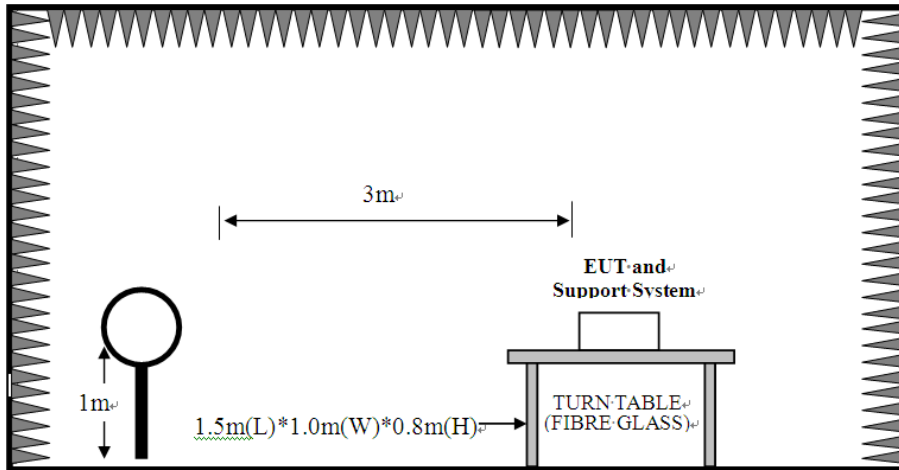
- (d) As shown in §15.35(b), for frequencies above 1000 MHz, the field strength limits in paragraphs (a) of this section are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation

Note:

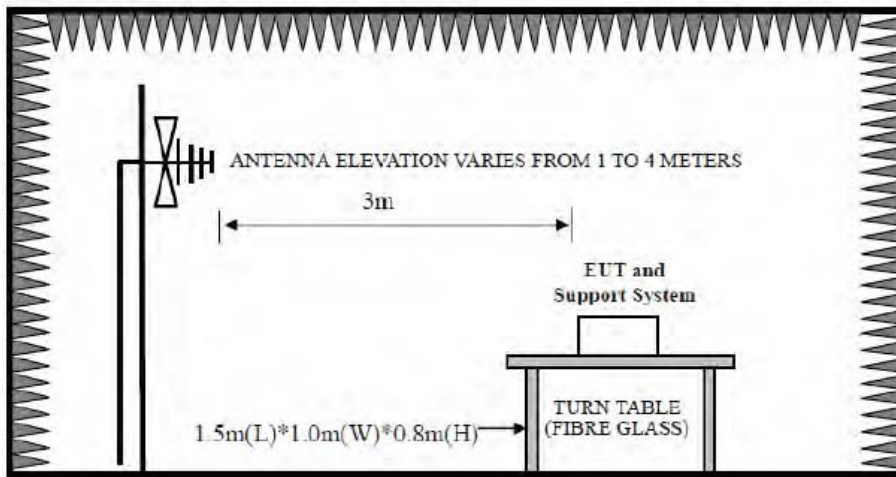
- (1) Emission level $\text{dB}\mu\text{V} = 20 \log \text{Emission level } \mu\text{V/m}$.
- (2) The smaller limit shall apply at the cross point between two frequency bands.
- (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

3.2. Test Setup

9kHz~30MHz



30~1000MHz



3.3. Spectrum Analyzer Setting

For 9KHz-150KHz

| Spectrum Parameters | Setting |
|---------------------|---|
| RBW | 300Hz(for Peak&AVG)/CISPR 200Hz(for QP) |
| VBW | 300Hz(for Peak&AVG)/CISPR 200Hz(for QP) |
| Start frequency | 9KHz |
| Stop frequency | 150KHz |
| Sweep Time | Auto |
| Detector | PEAK/QP/AVG |
| Trace Mode | Max Hold |

For 150KHz-30MHz

| Spectrum Parameters | Setting |
|---------------------|----------|
| RBW | 9KHz |
| VBW | 9KHz |
| Start frequency | 150KHz |
| Stop frequency | 30MHz |
| Sweep Time | Auto |
| Detector | QP |
| Trace Mode | Max Hold |

For 30MHz-1000MHz

| Spectrum Parameters | Setting |
|---------------------|----------|
| RBW | 120KHz |
| VBW | 300KHz |
| Start frequency | 30MHz |
| Stop frequency | 1000MHz |
| Sweep Time | Auto |
| Detector | QP |
| Trace Mode | Max Hold |

3.4. Test Procedure

- a. EUT was placed on a turn table, which is 0.8 meter high above ground for below 1GHz test.
- b. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower.
- c. Set the EUT transmit continuously with maximum output power.
- d. The turn table can rotate 360 degrees to determine the position of the maximum emission level.
- e. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.
- f. Spectrum analyzer setting parameters in accordance with section 3.3.
- g. Repeat above procedures until all channels were measured.
- h. Record the results in the test report.

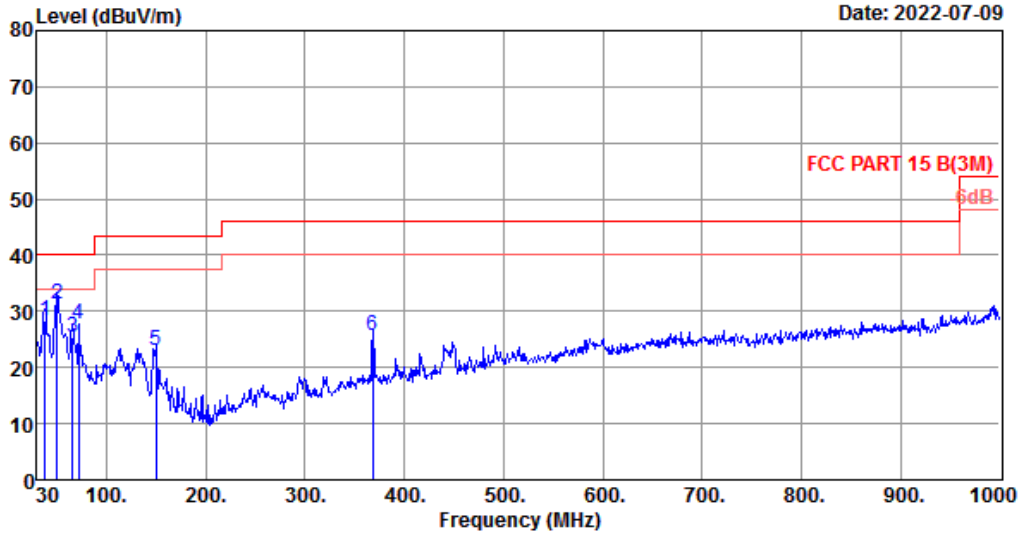
3.5. Test Result

Radiated Emissions Below 1GHz

EST Technology

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 33 File: \\EMC-966-1\test data\2022\RFIS\Shang lan bo\Klipsch Cinema 600-Sound Bar.EM6 (34) Date: 2022-07-09



Site no. : 1# 966 Chamber Data no. : 33
 Dis. / Ant. : 3m 37062 Ant. pol. : VERTICAL
 Limit : FCC PART 15 B(3M)
 Env. / Ins. : Temp:23.2';Humi:53%;Press:101.52kPa
 Engineer : JBR
 EUT : Soundbar
 Power : AC 120V/60Hz
 M/N : Klipsch Cinema 600-Sound Bar
 Test Mode : TX Mode

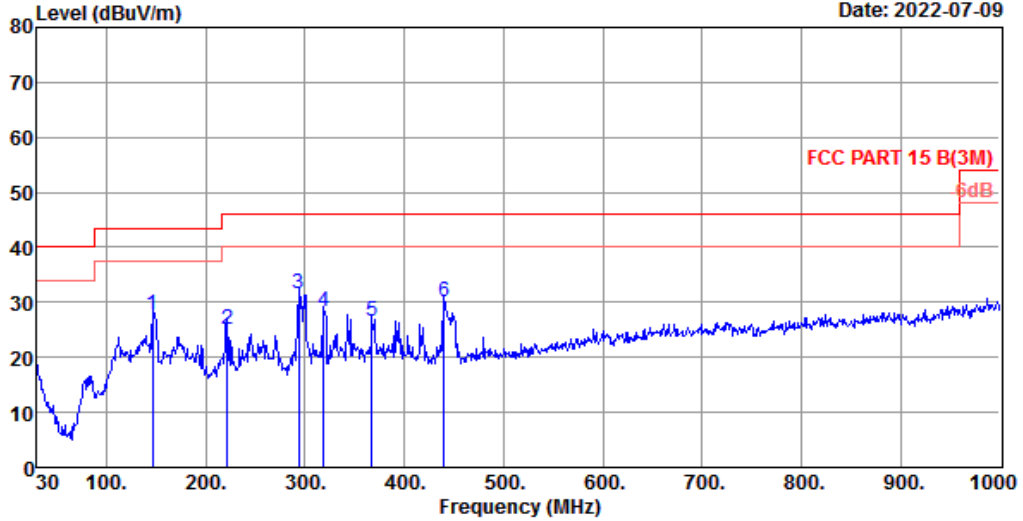
| | Freq. (MHz) | ANT Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|----------------|-------------------------|-----------------------|-------------------|-------------------------------|-------------------|----------------|--------|
| 1 | 37.7600 | 12.90 | 0.61 | 14.88 | 28.39 | 40.00 | 11.61 | QP |
| 2 | 50.3700 | 8.50 | 0.72 | 22.12 | 31.34 | 40.00 | 8.66 | QP |
| 3 | 65.8900 | 6.00 | 0.86 | 18.50 | 25.36 | 40.00 | 14.64 | QP |
| 4 | 71.7100 | 6.84 | 0.83 | 20.13 | 27.80 | 40.00 | 12.20 | QP |
| 5 | 150.2800 | 11.80 | 1.14 | 10.08 | 23.02 | 43.50 | 20.48 | QP |
| 6 | 368.5300 | 15.68 | 1.87 | 8.13 | 25.68 | 46.00 | 20.32 | QP |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. Margin= Limit - Emission Level.
 3. The emission levels that are 20dB below the official limit are not reported.

EST Technology

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 34 File: \\EMC-966-1\test data\2022\RF\SI\Shang lan bo\Klipsch Cinema 600-Sound Bar.EM6 (34) Date: 2022-07-09



Site no. : 1# 966 Chamber Data no. : 34
 Dis. / Ant. : 3m 37062 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 B(3M)
 Env. / Ins. : Temp:23.2';Humi:53%;Press:101.52kPa
 Engineer : JBR
 EUT : Soundbar
 Power : AC 120V/60Hz
 M/N : Klipsch Cinema 600-Sound Bar
 Test Mode : TX Mode

| Freq. (MHz) | ANT Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-------------|-------------------|-----------------|----------------|-------------------------|----------------|-------------|--------|
| 1 146.4000 | 11.88 | 1.19 | 14.71 | 27.78 | 43.50 | 15.72 | QP |
| 2 222.0600 | 10.12 | 1.37 | 13.61 | 25.10 | 46.00 | 20.90 | QP |
| 3 293.8400 | 13.78 | 1.65 | 16.14 | 31.57 | 46.00 | 14.43 | QP |
| 4 319.0600 | 14.17 | 1.66 | 12.48 | 28.31 | 46.00 | 17.69 | QP |
| 5 367.5600 | 15.67 | 1.87 | 9.00 | 26.54 | 46.00 | 19.46 | QP |
| 6 440.3100 | 17.10 | 1.93 | 11.15 | 30.18 | 46.00 | 15.82 | QP |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. Margin= Limit - Emission Level.
 3. The emission levels that are 20dB below the official limit are not reported.

Note:

1. The amplitude of 9KHz to 30MHz spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.
2. All channels had been pre-test, only the worst case was reported.

4. AC POWER LINE CONDUCTED EMISSIONS

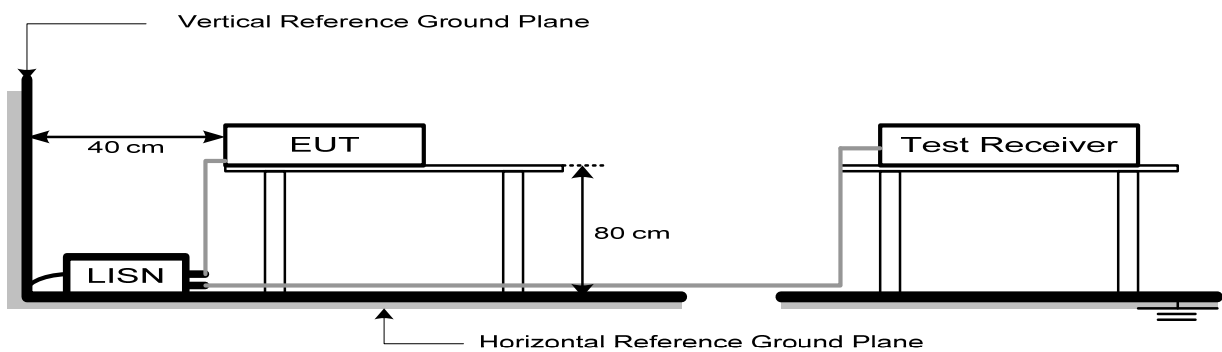
4.1. Limit

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

Note:

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

4.2. Test Setup



4.3. Spectrum Analyzer Setting

| Spectrum Parameters | Setting |
|---------------------|----------|
| RBW | 9KHz |
| VBW | 9KHz |
| Start frequency | 150KHz |
| Stop frequency | 30MHz |
| Sweep Time | Auto |
| Detector | QP/AVG |
| Trace Mode | Max Hold |

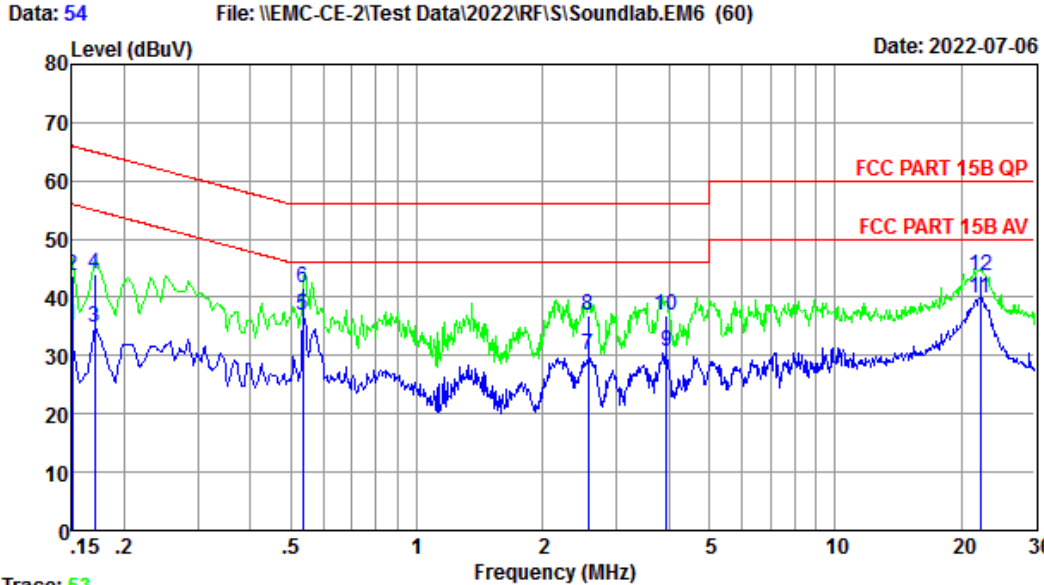
4.4. Test Procedure

- a. The EUT was placed on a non-metallic table, 80cm above the ground plane.
- b. The EUT Power connected to the power mains through a line impedance stabilization network.
- c. Provides a 50 ohm coupling impedance for the EUT (Please refer the block diagram of the test setup and photographs).
- d. Set the EUT transmit continuously with maximum output power.
- e. Spectrum analyzer setting parameters in accordance with section 4.3.
- f. The AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10: 2013 on Conducted Emission Test.
- g. Record the results in the test report.

4.5. Test Result

EST Technology

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel:+86-769-83081888
Fax:+86-769-83081878

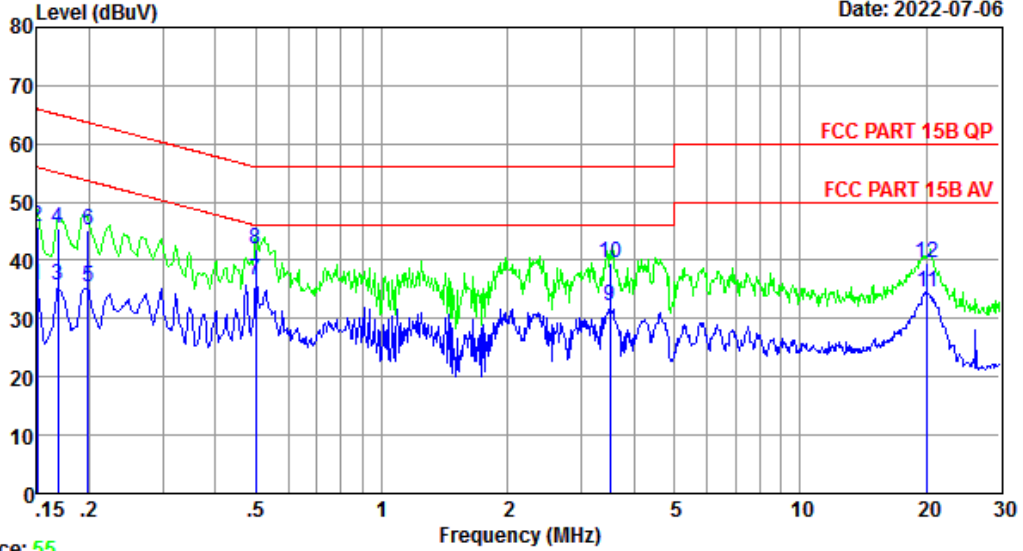


Trace: 53
 Site no : 2#CE Shield Room Data no. : 54
 Env. / Ins. : Temp:23.5°C Humi:54% Press:101.50kPa LINE Phase : LINE
 Limit : FCC PART 15B QP
 Engineer : MRS
 EUT : Soundbar
 Power : AC 120V/60Hz
 M/N : Klipsch Cinema 600-Sound Bar
 Test Mode : TX Mode

| | Freq. (MHz) | LISN Factor (db) | Cable Loss (db) | Reading (dBuV) | Emission Level (dBuV) | Limits (dBuV) | Margin (dB) | Remark |
|----|-------------|------------------|-----------------|----------------|-----------------------|---------------|-------------|---------|
| 1 | 0.150 | 9.82 | 9.69 | 15.57 | 35.08 | 56.00 | 20.92 | Average |
| 2 | 0.150 | 9.82 | 9.69 | 24.07 | 43.58 | 66.00 | 22.42 | QP |
| 3 | 0.170 | 9.82 | 9.69 | 15.20 | 34.71 | 54.94 | 20.23 | Average |
| 4 | 0.170 | 9.82 | 9.69 | 24.54 | 44.05 | 64.94 | 20.89 | QP |
| 5 | 0.535 | 9.84 | 9.92 | 17.02 | 36.78 | 46.00 | 9.22 | Average |
| 6 | 0.535 | 9.84 | 9.92 | 21.95 | 41.71 | 56.00 | 14.29 | QP |
| 7 | 2.567 | 9.96 | 9.96 | 10.23 | 30.15 | 46.00 | 15.85 | Average |
| 8 | 2.567 | 9.96 | 9.96 | 17.11 | 37.03 | 56.00 | 18.97 | QP |
| 9 | 3.943 | 9.95 | 9.99 | 10.78 | 30.72 | 46.00 | 15.28 | Average |
| 10 | 3.943 | 9.95 | 9.99 | 17.10 | 37.04 | 56.00 | 18.96 | QP |
| 11 | 22.180 | 9.85 | 10.16 | 19.98 | 39.99 | 50.00 | 10.01 | Average |
| 12 | 22.180 | 9.85 | 10.16 | 23.79 | 43.80 | 60.00 | 16.20 | QP |

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.
 2. Margin= Limit - Emission Level.
 3. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

Data: 56 File: \\EMC-CE-2\Test Data\2022\RF\SI\Soundlab.EM6 (60) Date: 2022-07-06

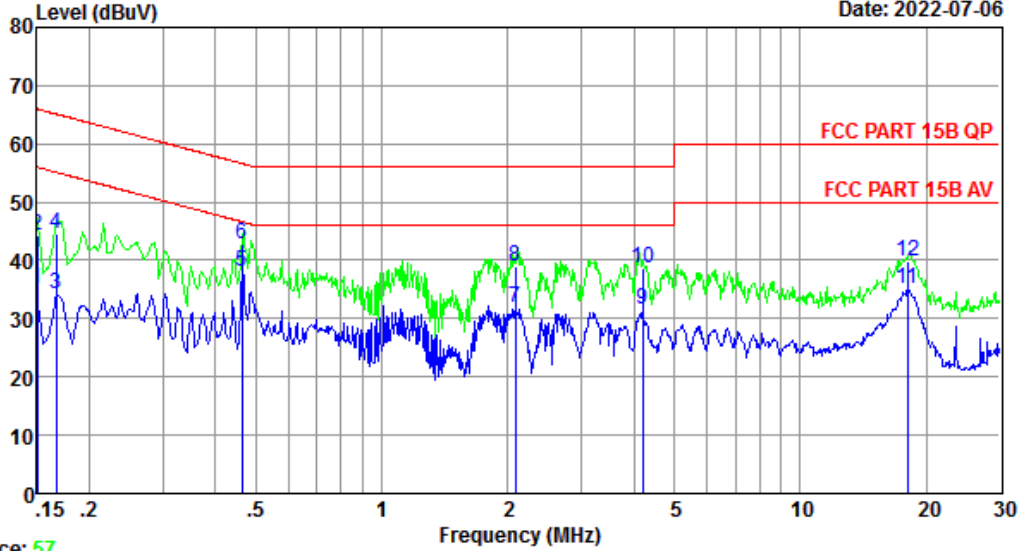


Trace: 55
 Site no : 2#CE Shield Room Data no. : 56
 Env. / Ins. : Temp:23.5°C Humi:54% Press:101.50kPa LINE Phase : NEUTRAL
 Limit : FCC PART 15B QP
 Engineer : MRS
 EUT : Soundbar
 Power : AC 120V/60Hz
 M/N : Klipsch Cinema 600-Sound Bar
 Test Mode : TX Mode

| | Freq. (MHz) | LISN Factor (db) | Cable Loss (db) | Reading (dBuV) | Emission Level (dBuV) | Limits (dBuV) | Margin (dB) | Remark |
|----|-------------|------------------|-----------------|----------------|-----------------------|---------------|-------------|---------|
| 1 | 0.150 | 9.78 | 9.69 | 16.12 | 35.59 | 56.00 | 20.41 | Average |
| 2 | 0.150 | 9.78 | 9.69 | 26.40 | 45.87 | 66.00 | 20.13 | QP |
| 3 | 0.169 | 9.78 | 9.69 | 16.17 | 35.64 | 55.03 | 19.39 | Average |
| 4 | 0.169 | 9.78 | 9.69 | 25.91 | 45.38 | 65.03 | 19.65 | QP |
| 5 | 0.199 | 9.72 | 9.77 | 16.02 | 35.51 | 53.67 | 18.16 | Average |
| 6 | 0.199 | 9.72 | 9.77 | 25.68 | 45.17 | 63.67 | 18.50 | QP |
| 7 | 0.499 | 9.76 | 9.92 | 17.05 | 36.73 | 46.01 | 9.28 | Average |
| 8 | 0.499 | 9.76 | 9.92 | 22.16 | 41.84 | 56.01 | 14.17 | QP |
| 9 | 3.509 | 10.00 | 9.99 | 12.20 | 32.19 | 46.00 | 13.81 | Average |
| 10 | 3.509 | 10.00 | 9.99 | 19.67 | 39.66 | 56.00 | 16.34 | QP |
| 11 | 20.162 | 10.15 | 10.16 | 14.34 | 34.65 | 50.00 | 15.35 | Average |
| 12 | 20.162 | 10.15 | 10.16 | 19.37 | 39.68 | 60.00 | 20.32 | QP |

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.
 2. Margin= Limit - Emission Level.
 3. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

Data: 58 File: \\EMC-CE-2\Test Data\2022\RF\SI\Soundlab.EM6 (60) Date: 2022-07-06

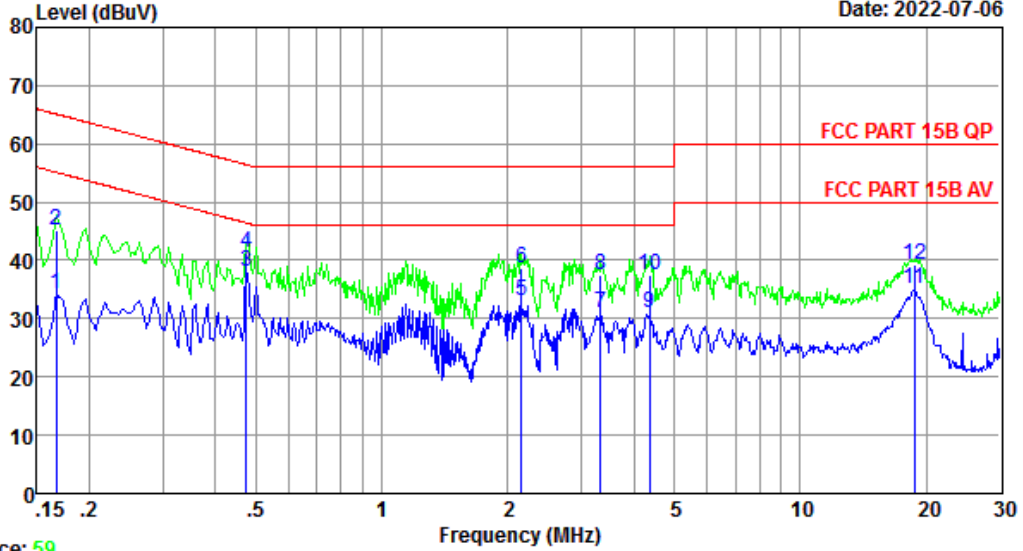


Trace: 57
 Site no : 2#CE Shield Room Data no. : 58
 Env. / Ins. : Temp:23.5°C Humi:54% Press:101.50kPa LINE Phase : NEUTRAL
 Limit : FCC PART 15B QP
 Engineer : MRS
 EUT : Soundbar
 Power : AC 240V/60Hz
 M/N : Klipsch Cinema 600-Sound Bar
 Test Mode : TX Mode

| | Freq. (MHz) | LISN Factor (db) | Cable Loss (db) | Reading (dBuV) | Emission Level (dBuV) | Limits (dBuV) | Margin (dB) | Remark |
|----|-------------|------------------|-----------------|----------------|-----------------------|---------------|-------------|---------|
| 1 | 0.150 | 9.78 | 9.69 | 15.80 | 35.27 | 56.00 | 20.73 | Average |
| 2 | 0.150 | 9.78 | 9.69 | 24.89 | 44.36 | 66.00 | 21.64 | QP |
| 3 | 0.167 | 9.78 | 9.69 | 14.82 | 34.29 | 55.12 | 20.83 | Average |
| 4 | 0.167 | 9.78 | 9.69 | 25.24 | 44.71 | 65.12 | 20.41 | QP |
| 5 | 0.464 | 9.75 | 9.92 | 18.41 | 38.08 | 46.63 | 8.55 | Average |
| 6 | 0.464 | 9.75 | 9.92 | 23.14 | 42.81 | 56.63 | 13.82 | QP |
| 7 | 2.088 | 9.96 | 9.96 | 12.01 | 31.93 | 46.00 | 14.07 | Average |
| 8 | 2.088 | 9.96 | 9.96 | 18.91 | 38.83 | 56.00 | 17.17 | QP |
| 9 | 4.202 | 10.03 | 9.99 | 11.59 | 31.61 | 46.00 | 14.39 | Average |
| 10 | 4.202 | 10.03 | 9.99 | 18.71 | 38.73 | 56.00 | 17.27 | QP |
| 11 | 18.039 | 10.14 | 10.14 | 14.88 | 35.16 | 50.00 | 14.84 | Average |
| 12 | 18.039 | 10.14 | 10.14 | 19.47 | 39.75 | 60.00 | 20.25 | QP |

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.
 2. Margin= Limit - Emission Level.
 3. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

Data: 60 File: \\EMC-CE-2\Test Data\2022\RF\SI\Soundlab.EM6 (60) Date: 2022-07-06



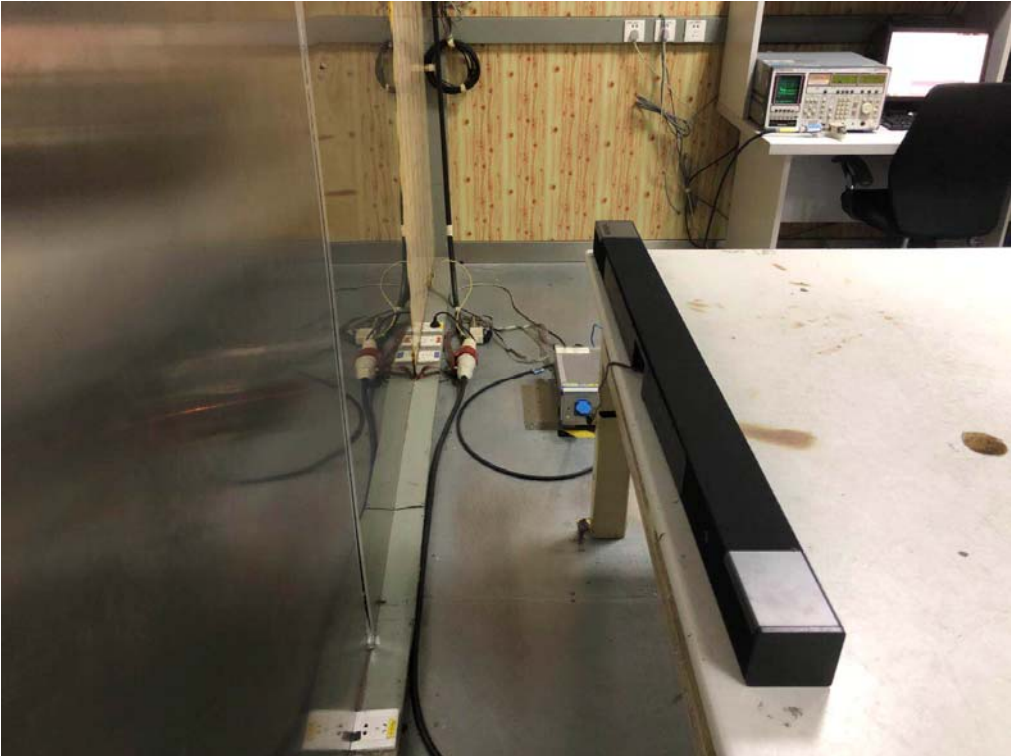
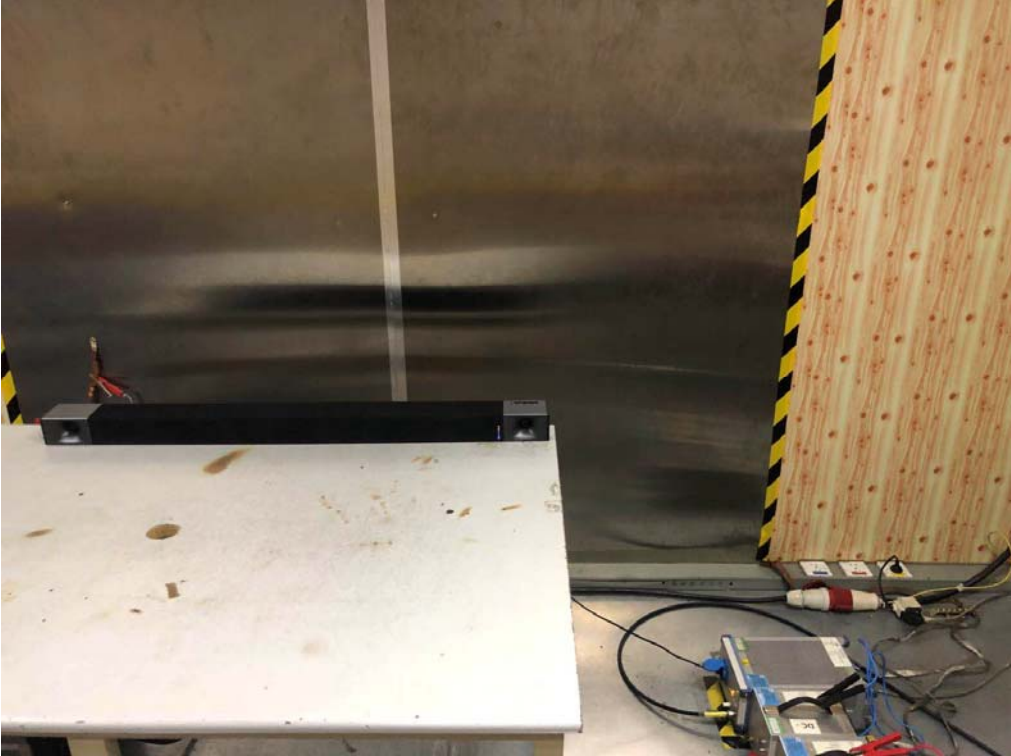
Trace: 59
 Site no : 2#CE Shield Room Data no. : 60
 Env. / Ins. : Temp:23.5°C Humi:54% Press:101.50kPa LINE Phase : LINE
 Limit : FCC PART 15B QP
 Engineer : MRS
 EUT : Soundbar
 Power : AC 240V/60Hz
 M/N : Klipsch Cinema 600-Sound Bar
 Test Mode : TX Mode

| | Freq. (MHz) | LISN Factor (db) | Cable Loss (db) | Reading (dBuV) | Emission Level (dBuV) | Limits (dBuV) | Margin (dB) | Remark |
|----|-------------|------------------|-----------------|----------------|-----------------------|---------------|-------------|---------|
| 1 | 0.167 | 9.82 | 9.69 | 14.76 | 34.27 | 55.12 | 20.85 | Average |
| 2 | 0.167 | 9.82 | 9.69 | 25.52 | 45.03 | 65.12 | 20.09 | QP |
| 3 | 0.474 | 9.84 | 9.92 | 18.33 | 38.09 | 46.45 | 8.36 | Average |
| 4 | 0.474 | 9.84 | 9.92 | 21.62 | 41.38 | 56.45 | 15.07 | QP |
| 5 | 2.155 | 10.04 | 9.96 | 12.92 | 32.92 | 46.00 | 13.08 | Average |
| 6 | 2.155 | 10.04 | 9.96 | 18.71 | 38.71 | 56.00 | 17.29 | QP |
| 7 | 3.328 | 9.93 | 9.98 | 11.19 | 31.10 | 46.00 | 14.90 | Average |
| 8 | 3.328 | 9.93 | 9.98 | 17.60 | 37.51 | 56.00 | 18.49 | QP |
| 9 | 4.361 | 9.92 | 9.99 | 11.05 | 30.96 | 46.00 | 15.04 | Average |
| 10 | 4.361 | 9.92 | 9.99 | 17.59 | 37.50 | 56.00 | 18.50 | QP |
| 11 | 18.721 | 9.87 | 10.15 | 15.04 | 35.06 | 50.00 | 14.94 | Average |
| 12 | 18.721 | 9.87 | 10.15 | 19.29 | 39.31 | 60.00 | 20.69 | QP |

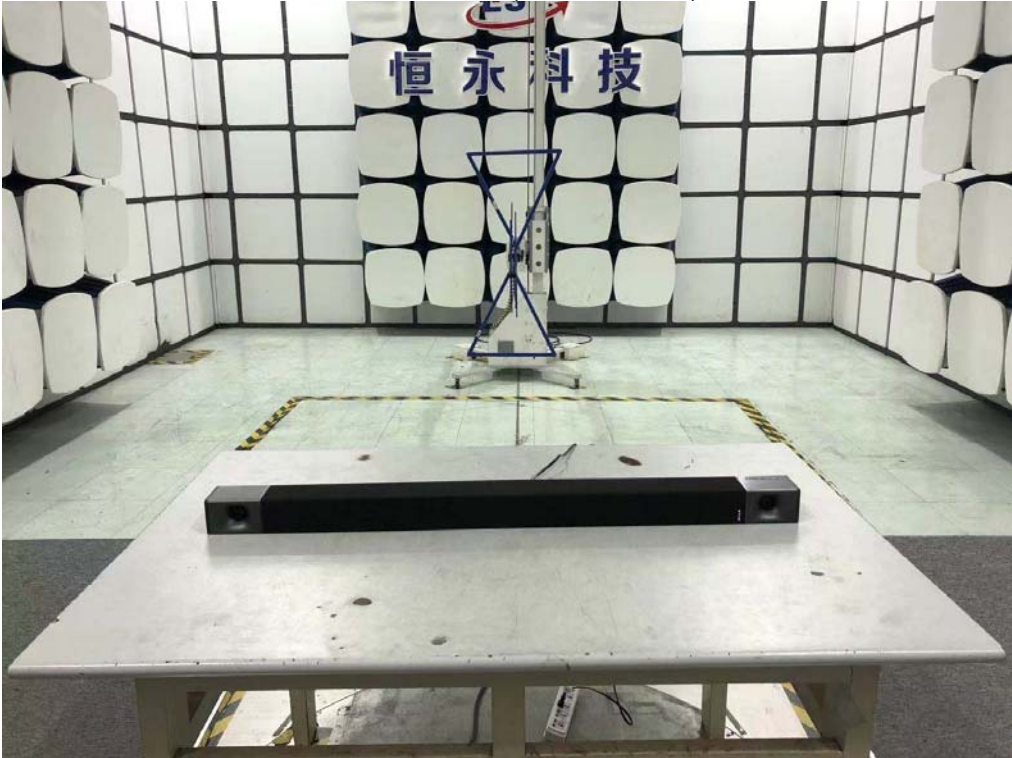
Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.
 2. Margin= Limit - Emission Level.
 3. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

5. TEST SETUP PHOTO

Conducted Emissions Test

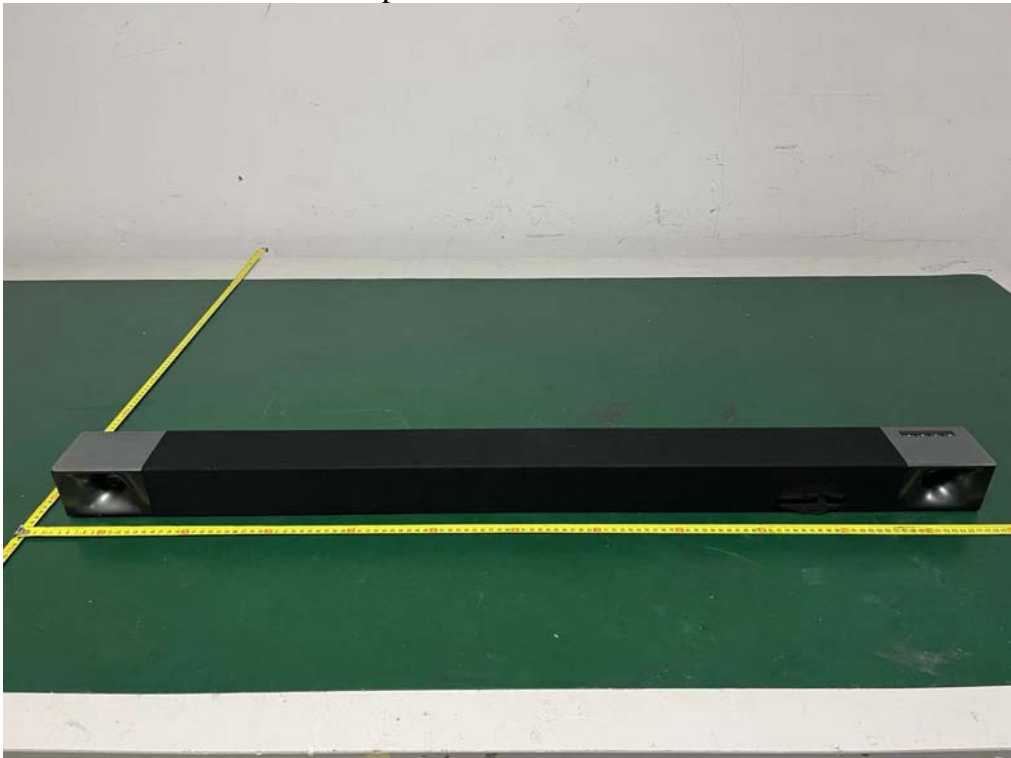


Radiated Test (Below 1GHz)

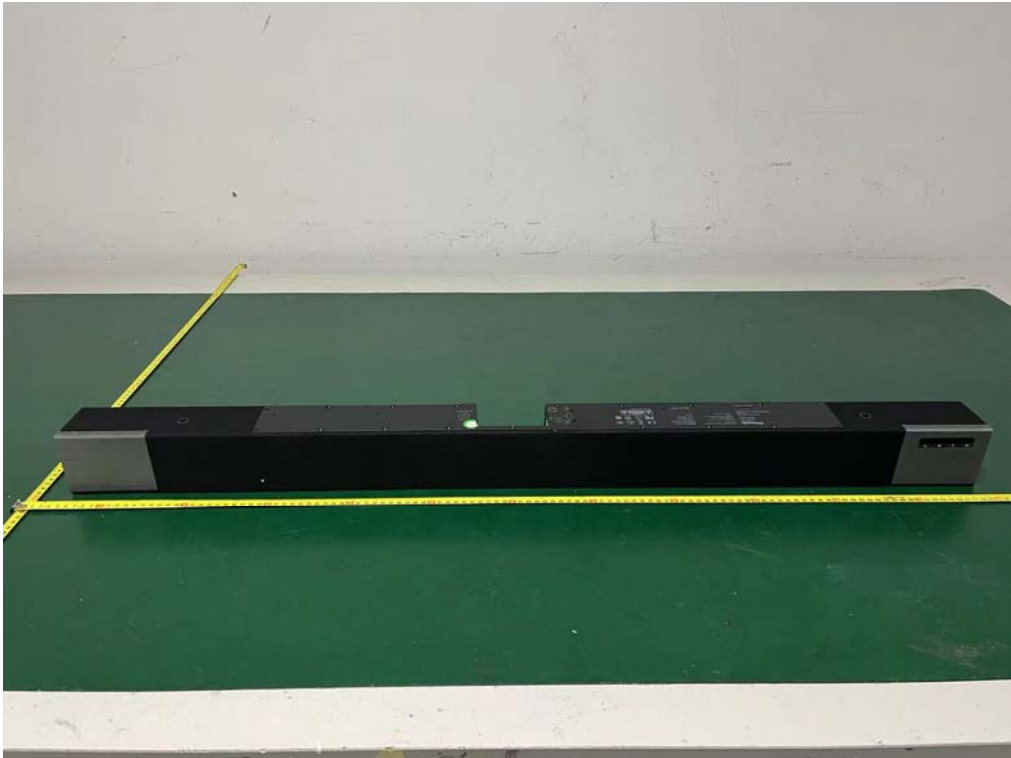


6. EUT PHOTO

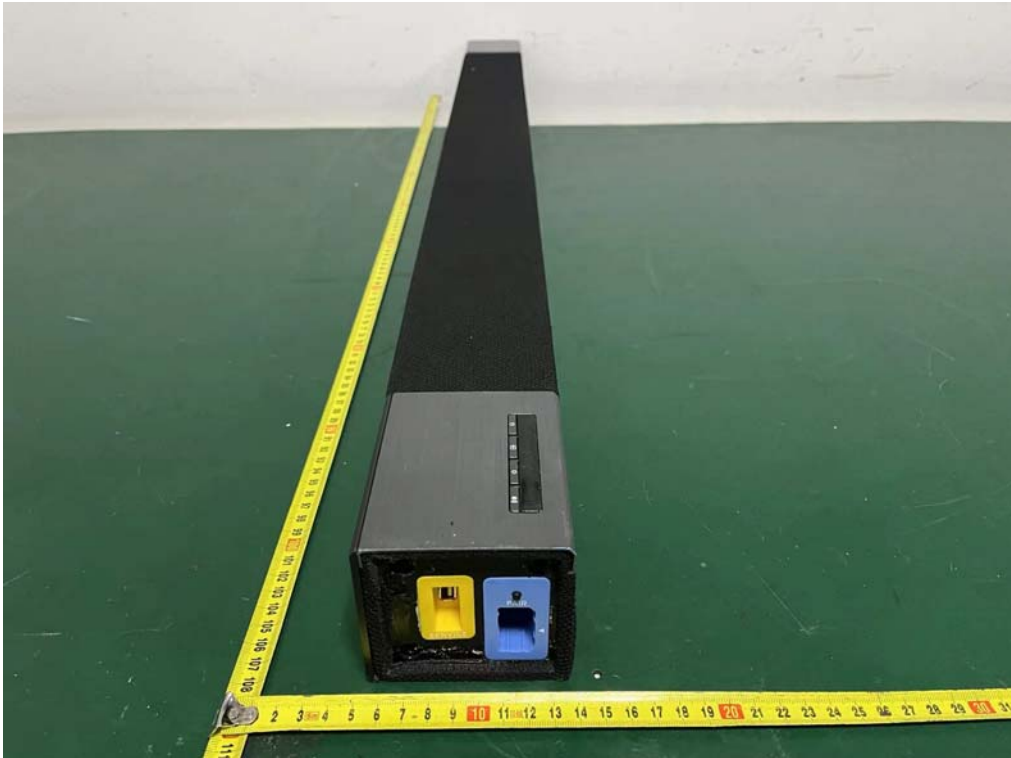
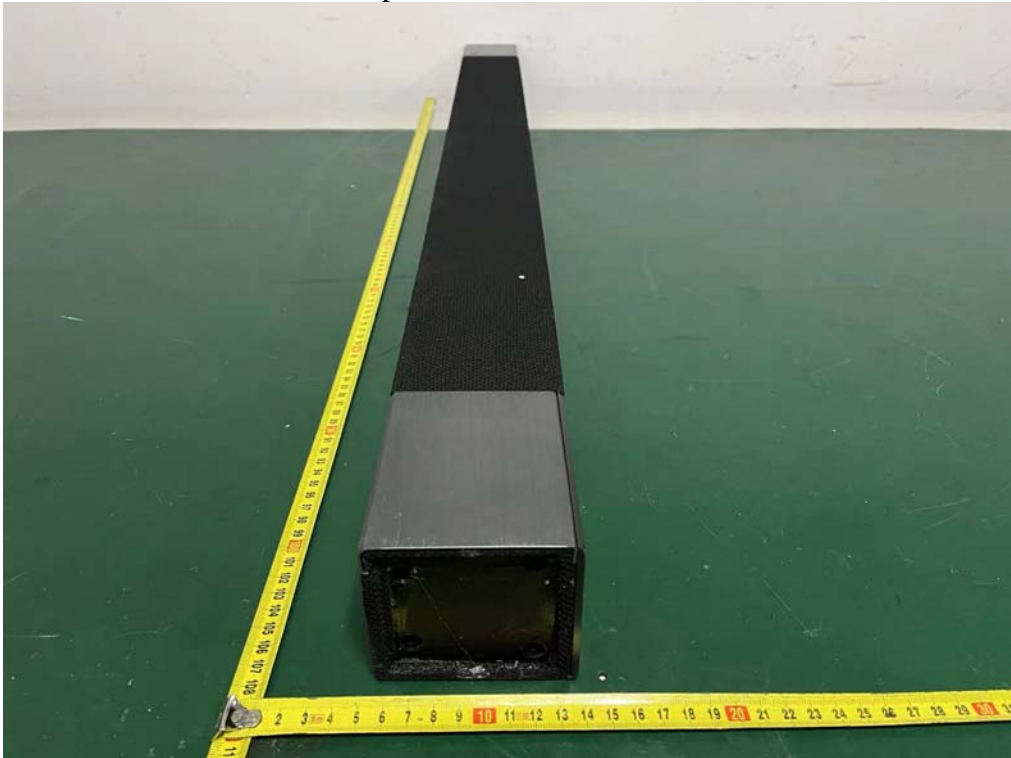
External Photos
M/N: Klipsch Cinema 600-Sound Bar



External Photos
M/N: Klipsch Cinema 600-Sound Bar



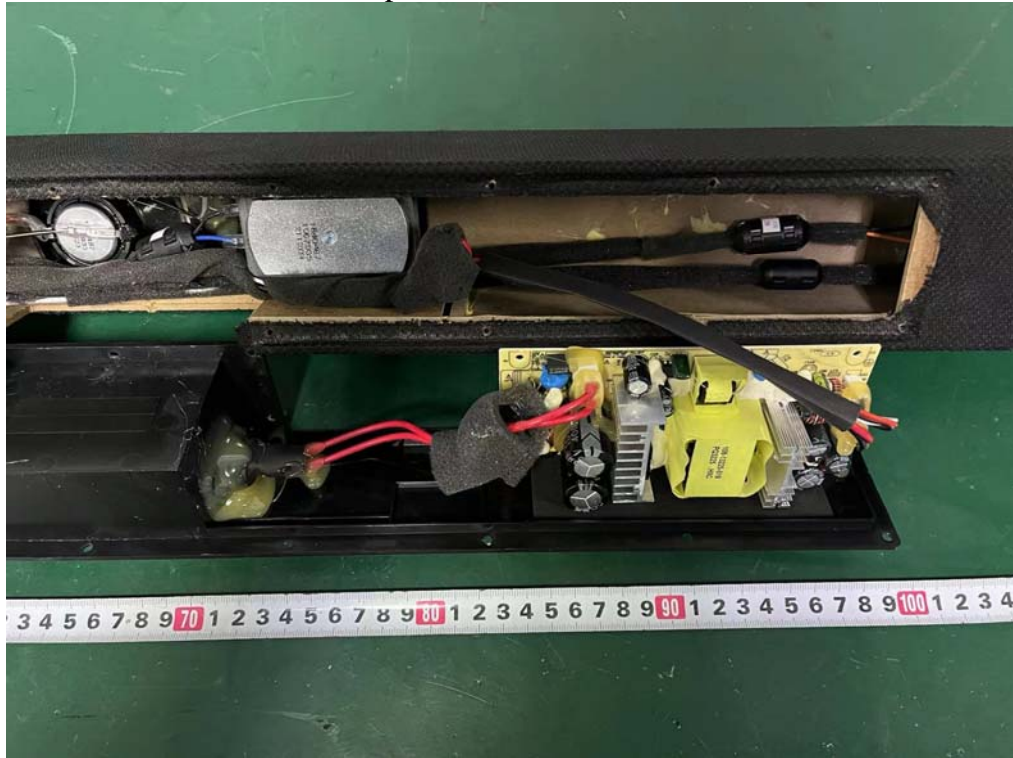
External Photos
M/N: Klipsch Cinema 600-Sound Bar



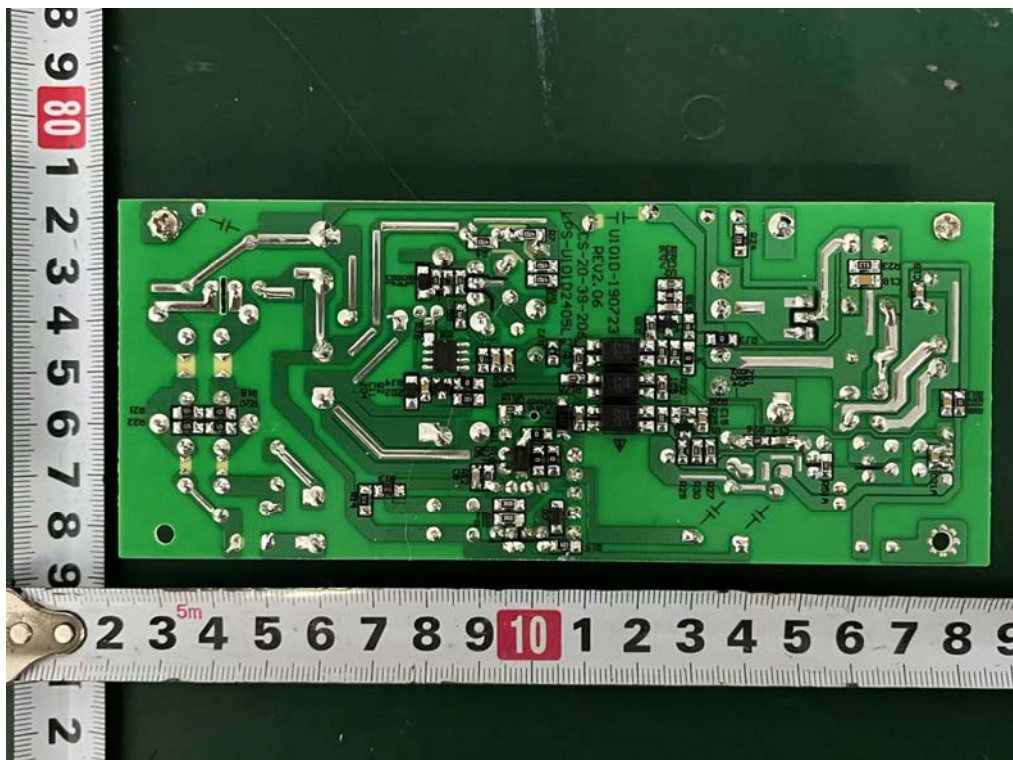
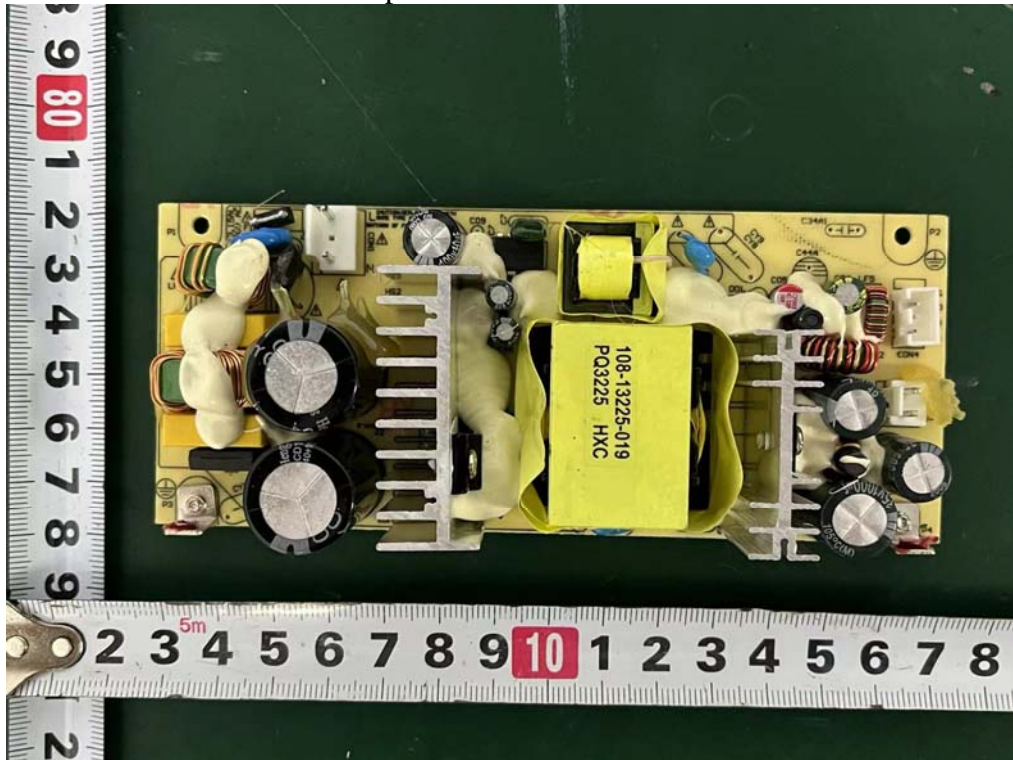
Internal Photos
M/N: Klipsch Cinema 600-Sound Bar



Internal Photos
M/N: Klipsch Cinema 600-Sound Bar



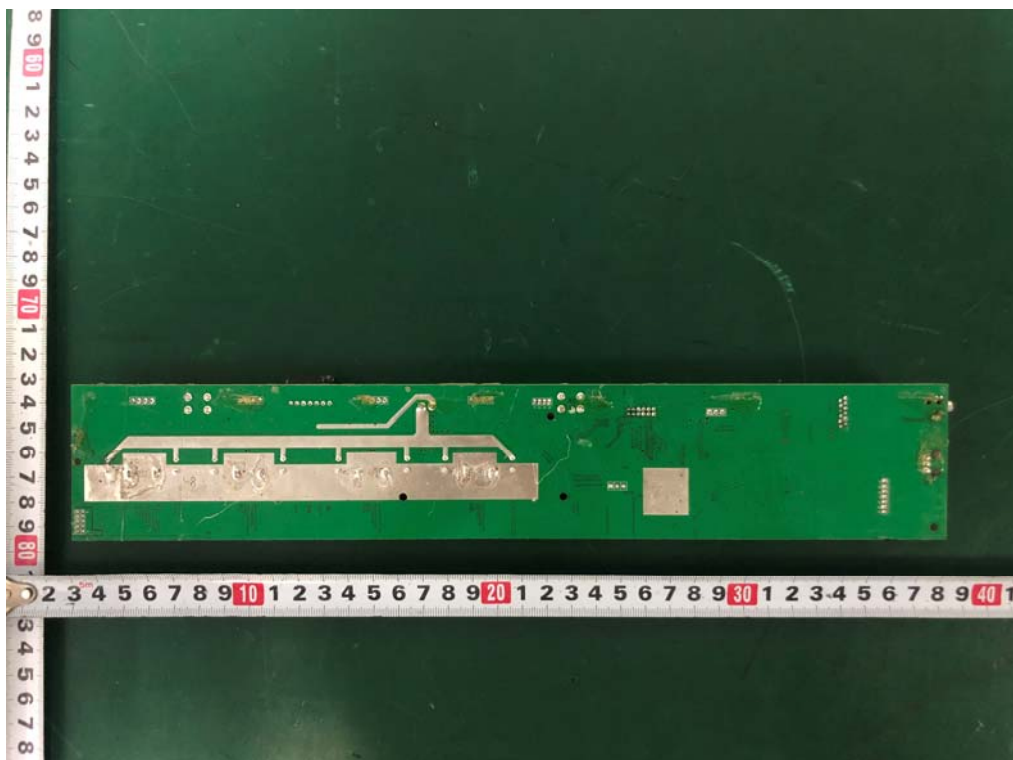
Internal Photos
M/N: Klipsch Cinema 600-Sound Bar



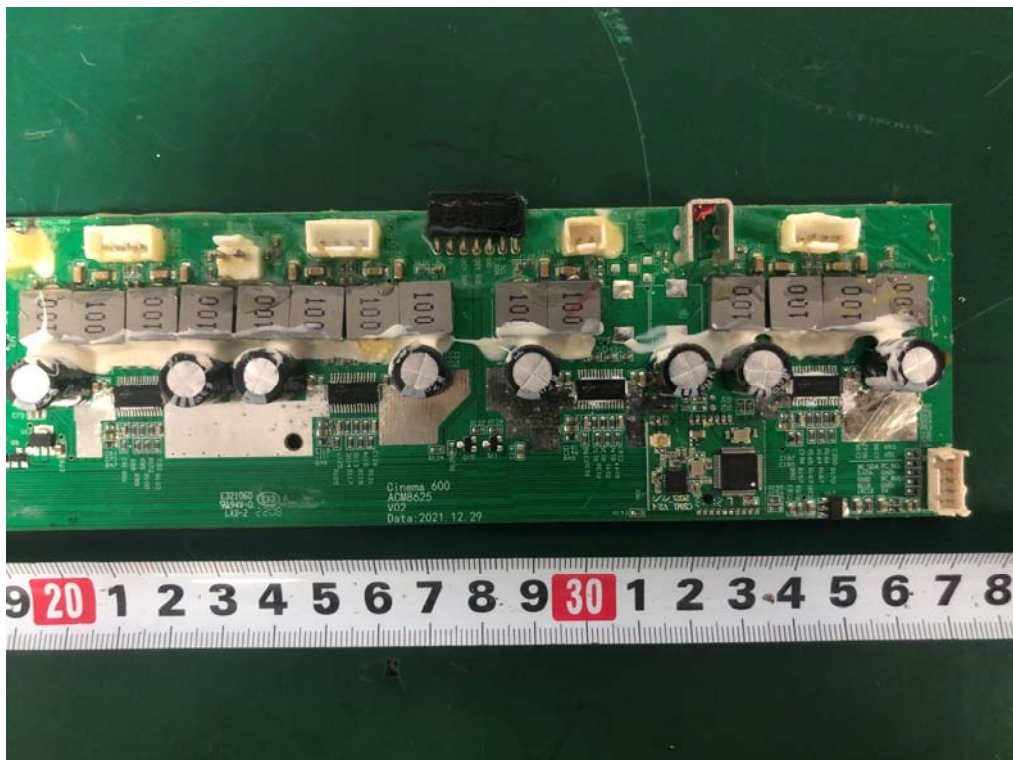
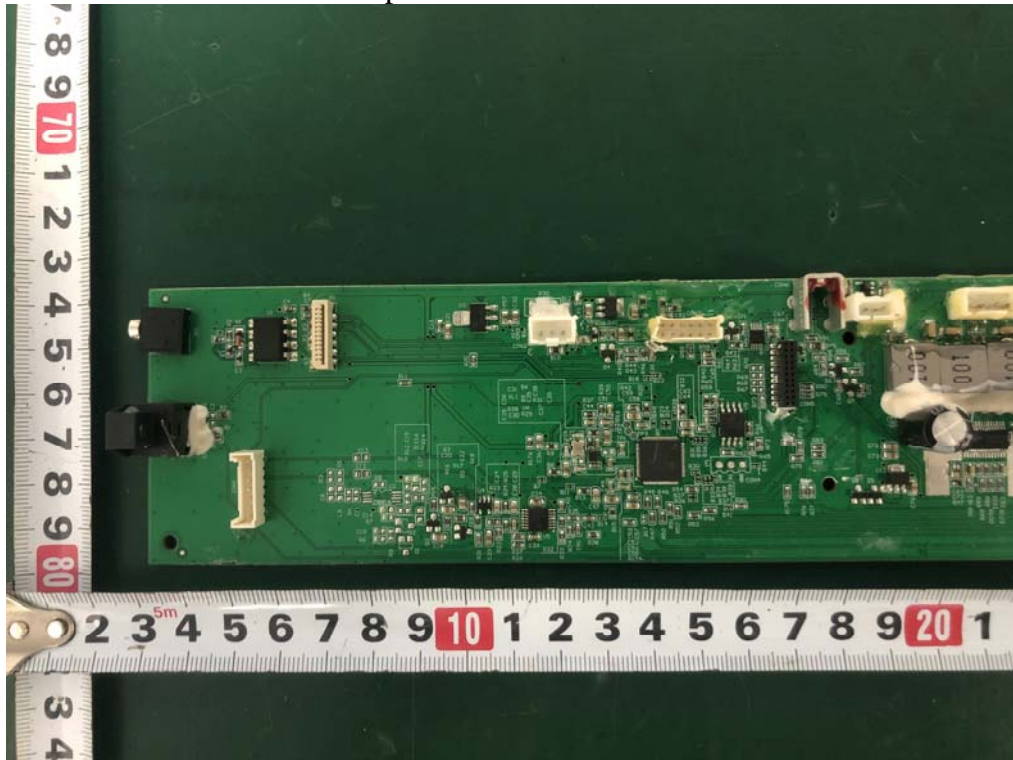
Internal Photos
M/N: Klipsch Cinema 600-Sound Bar



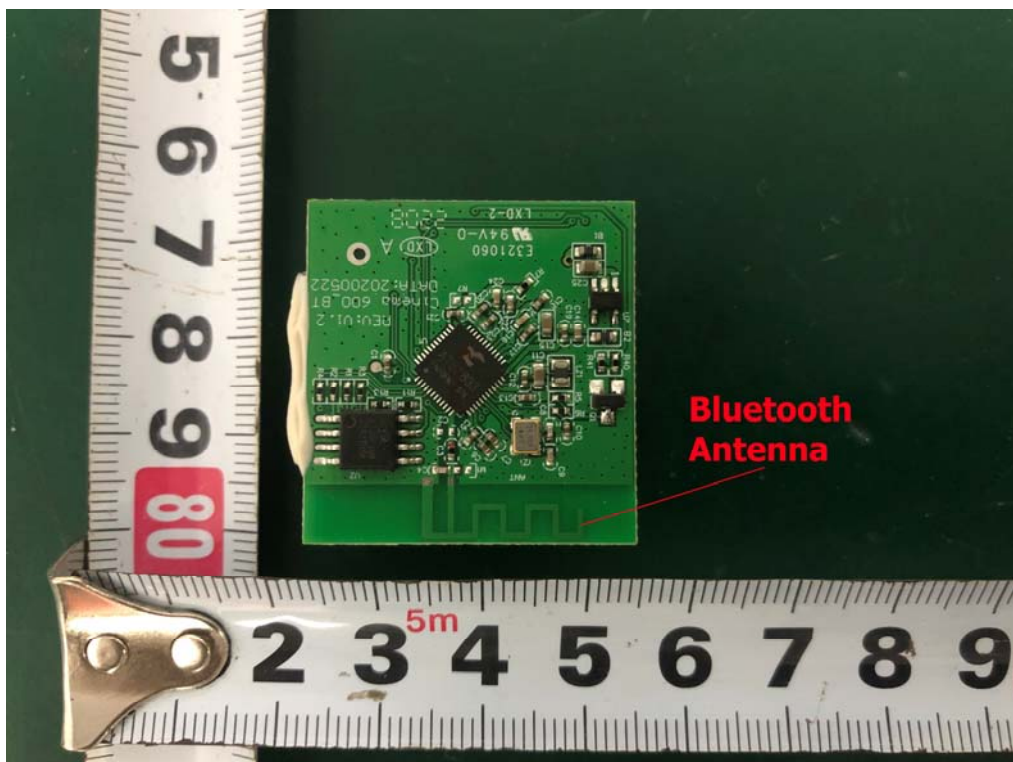
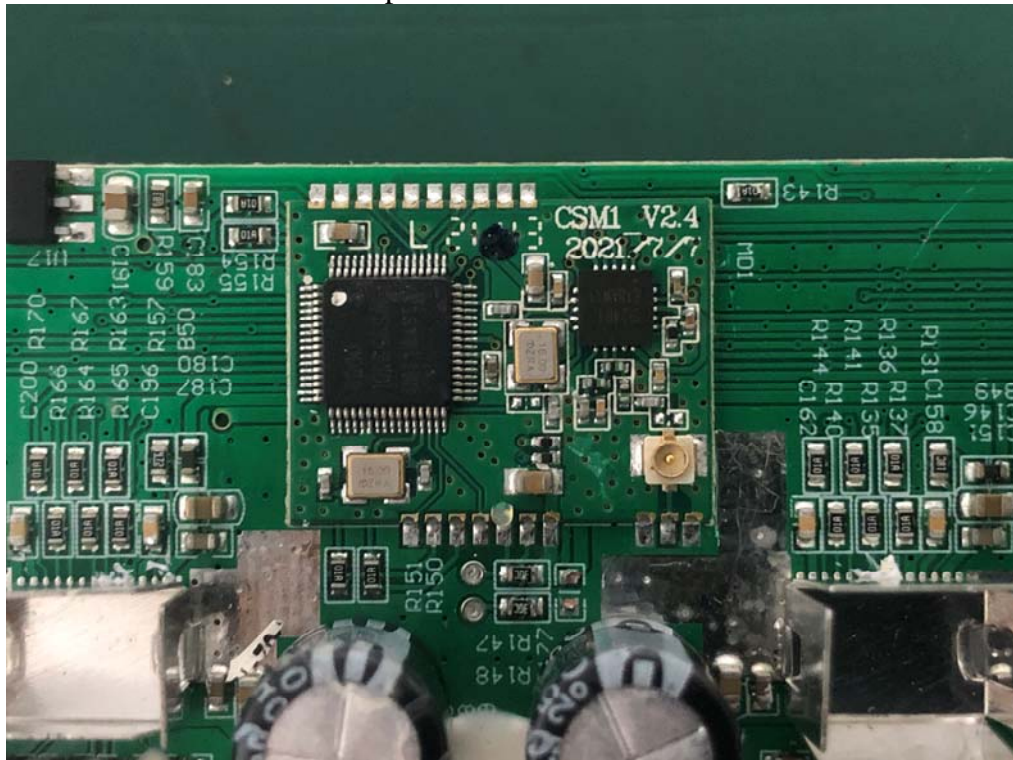
Internal Photos
M/N: Klipsch Cinema 600-Sound Bar



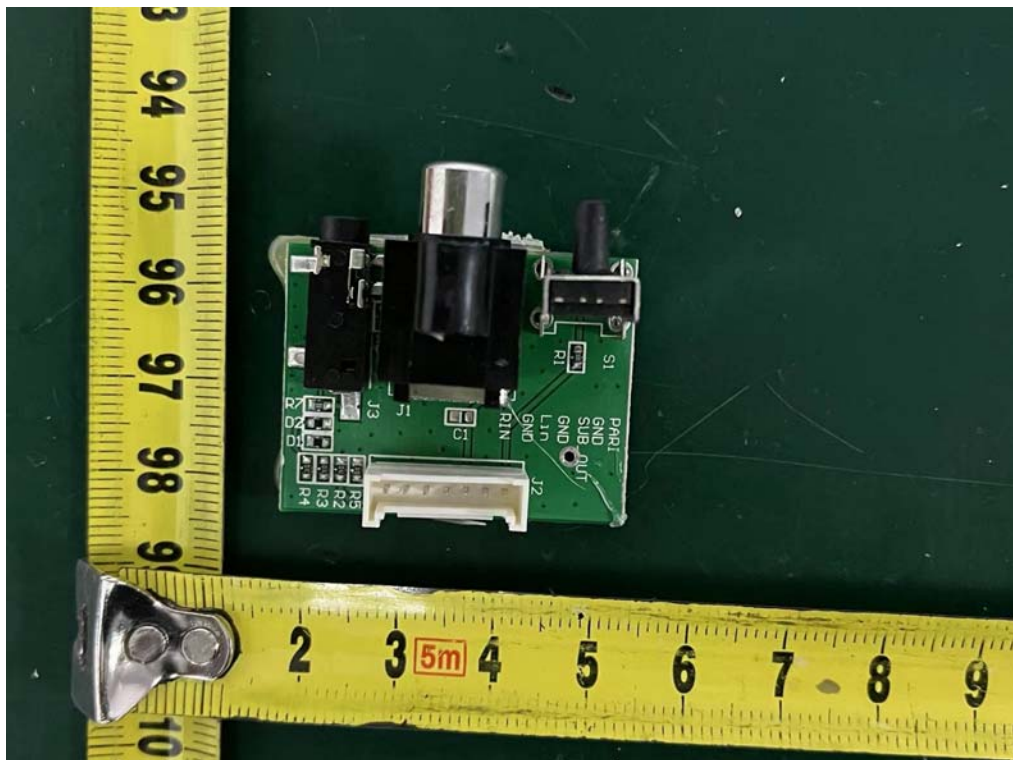
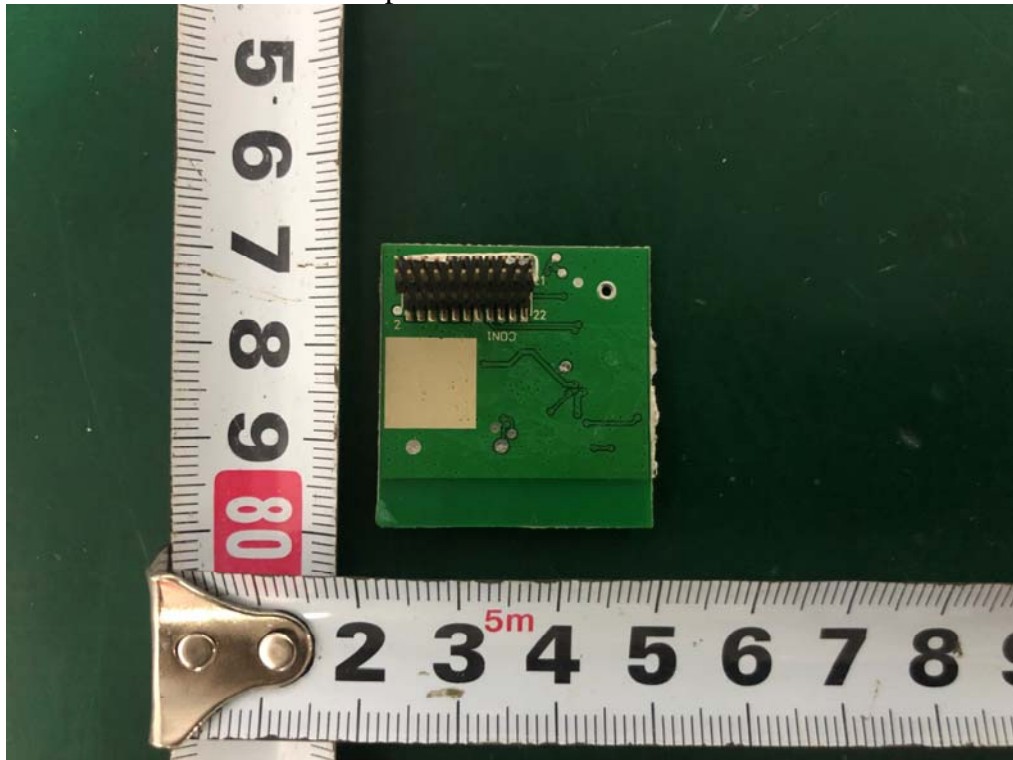
Internal Photos
M/N: Klipsch Cinema 600-Sound Bar



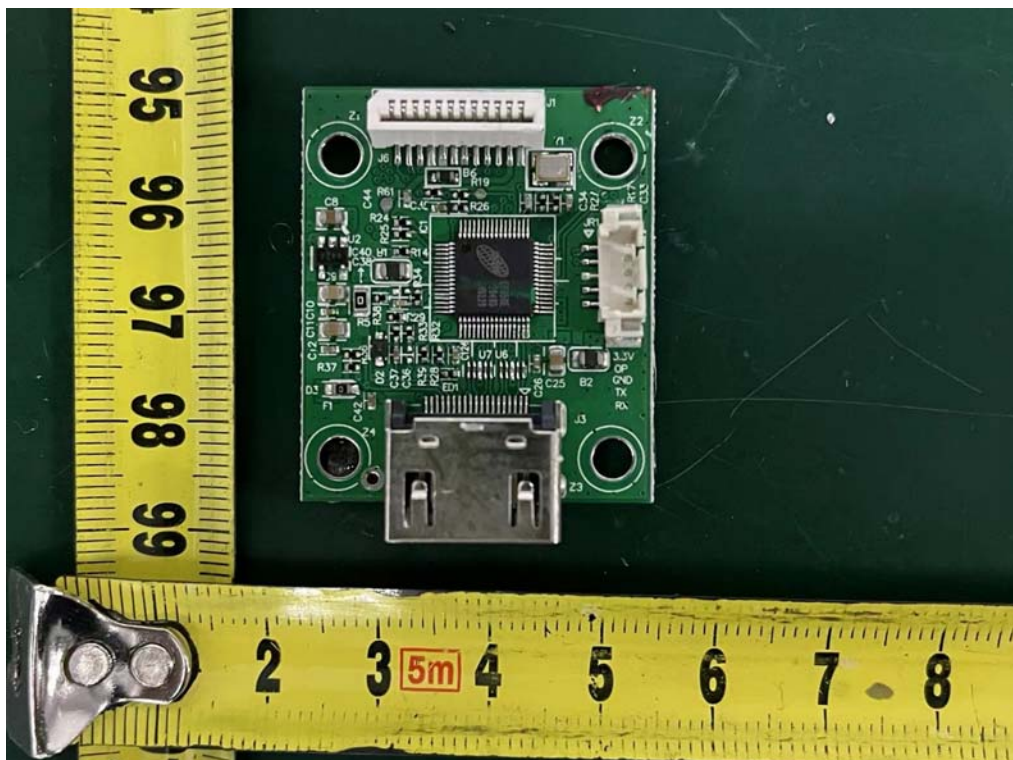
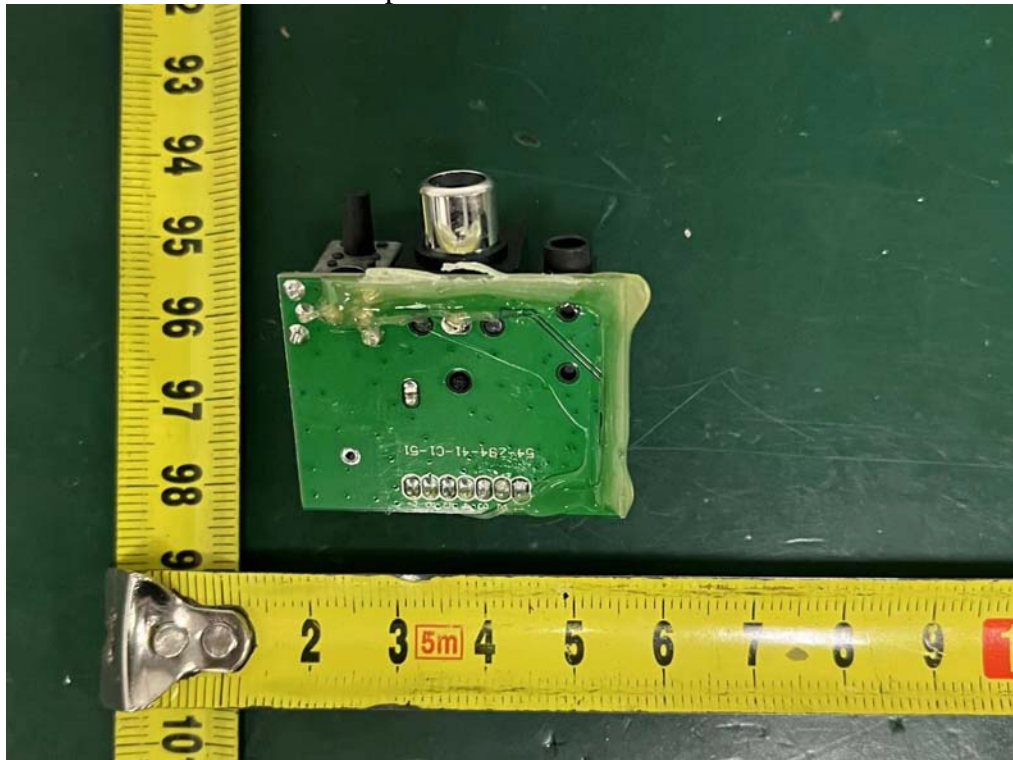
Internal Photos
M/N: Klipsch Cinema 600-Sound Bar



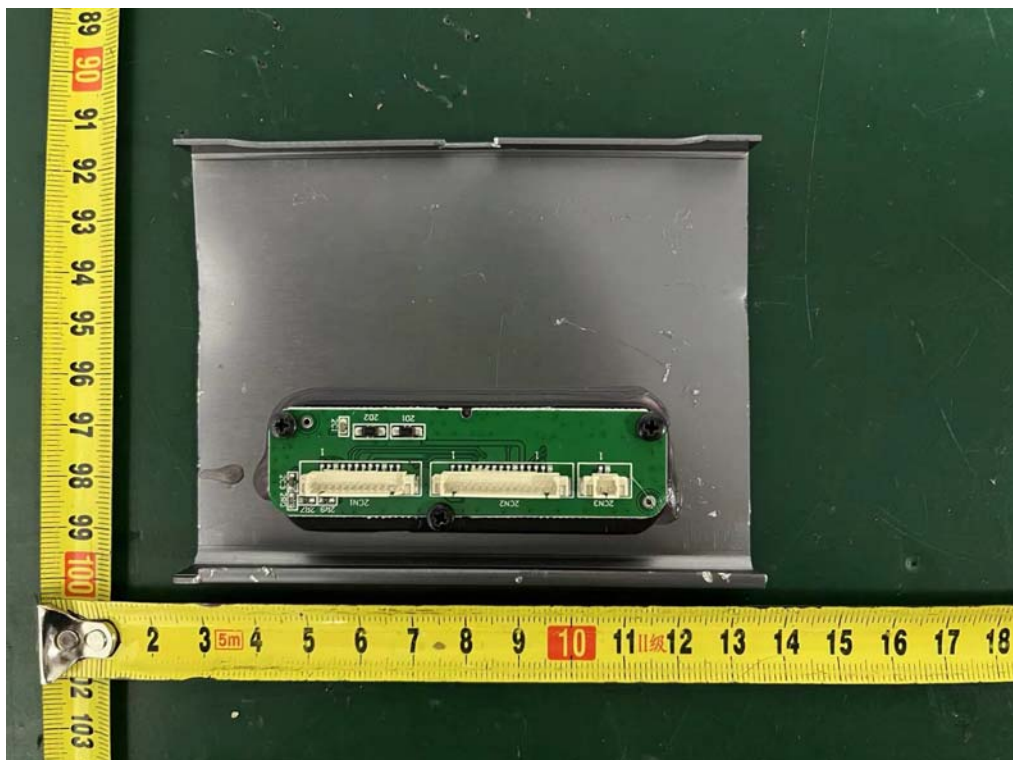
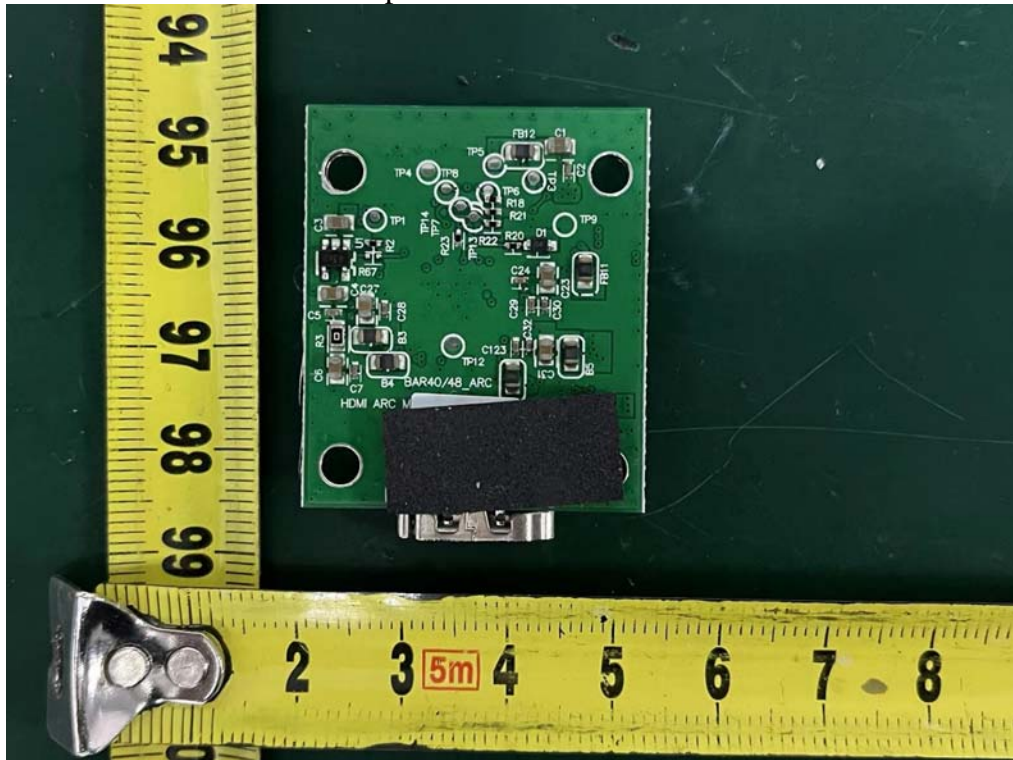
Internal Photos
M/N: Klipsch Cinema 600-Sound Bar



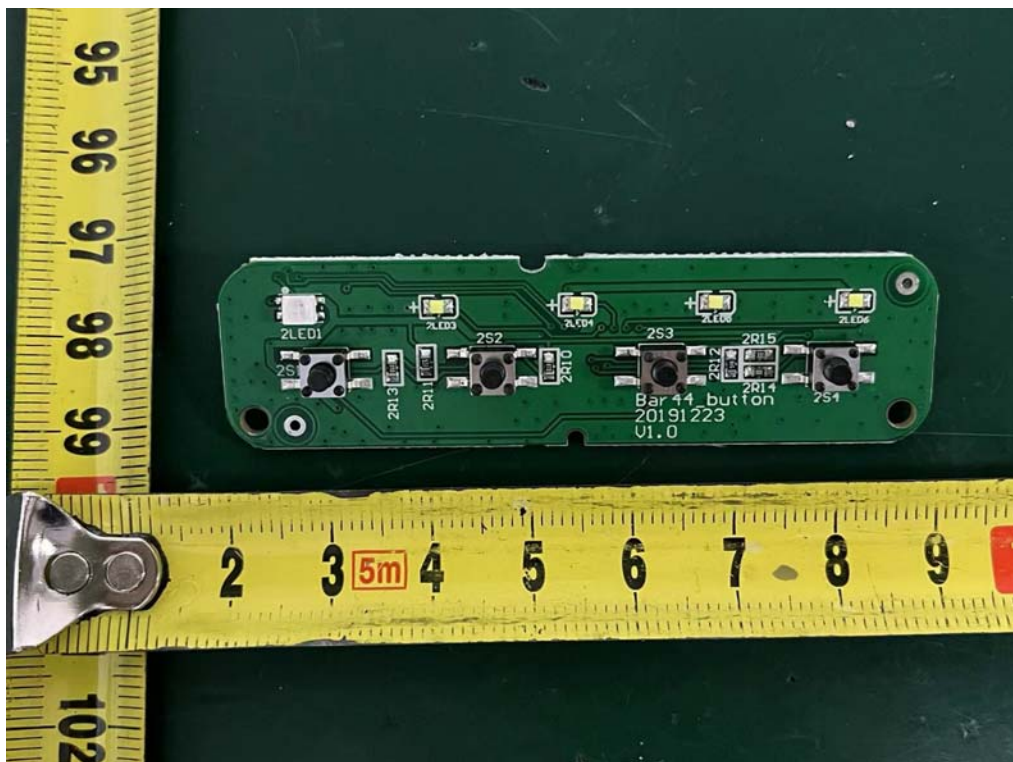
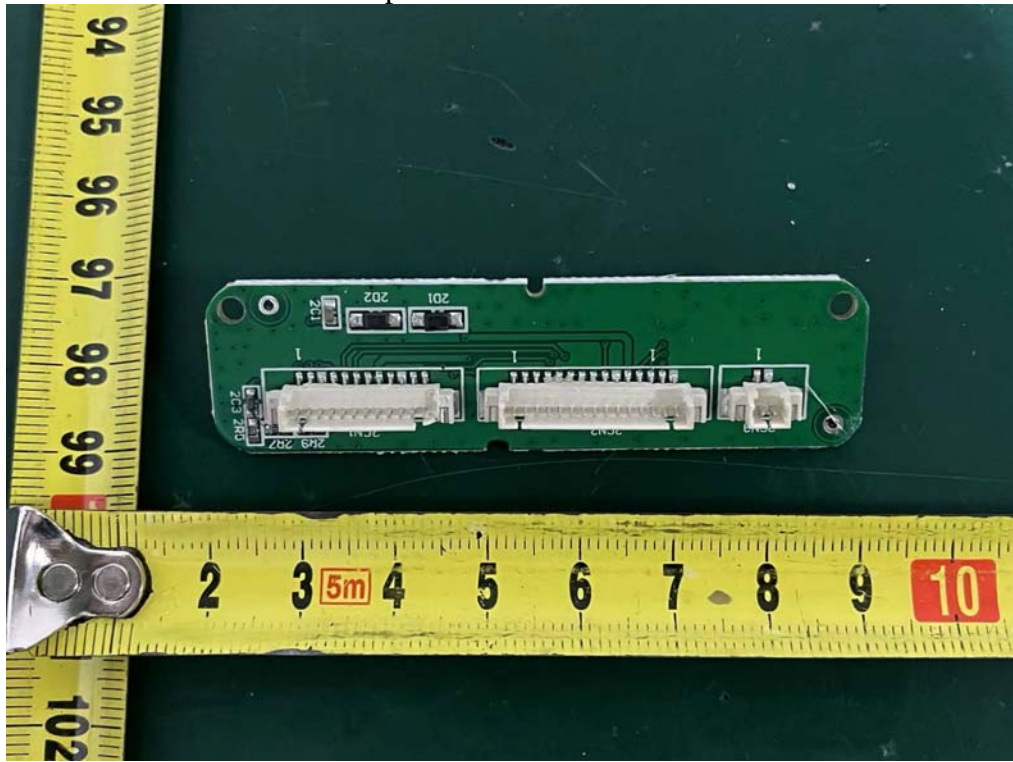
Internal Photos
M/N: Klipsch Cinema 600-Sound Bar



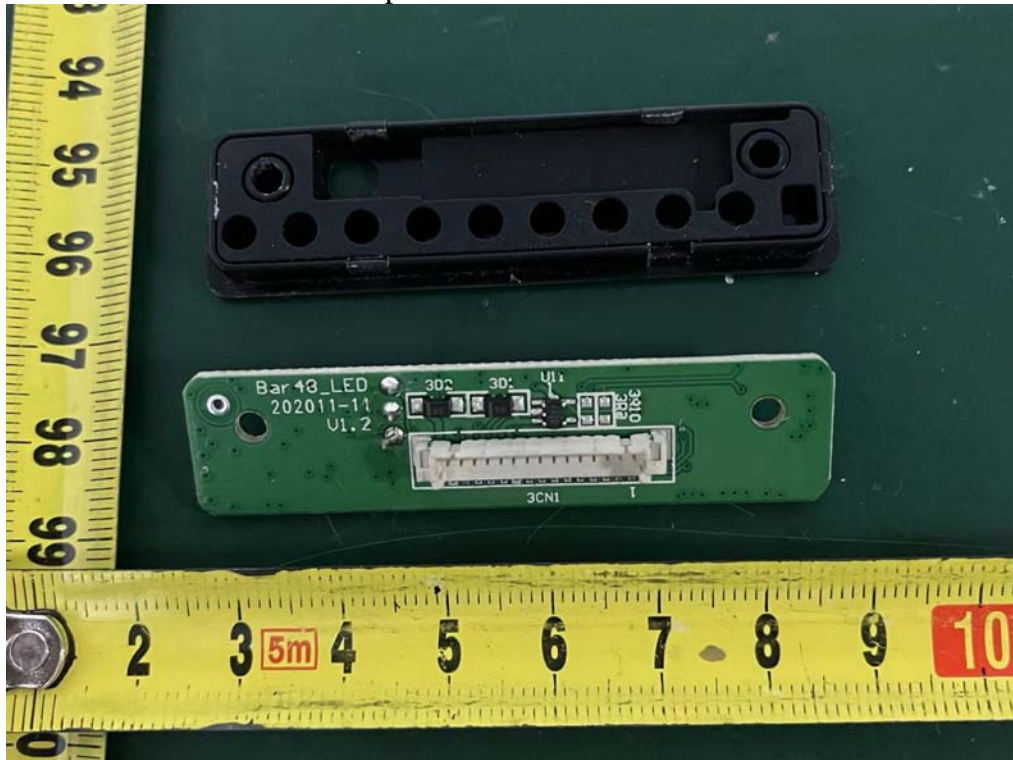
Internal Photos
M/N: Klipsch Cinema 600-Sound Bar



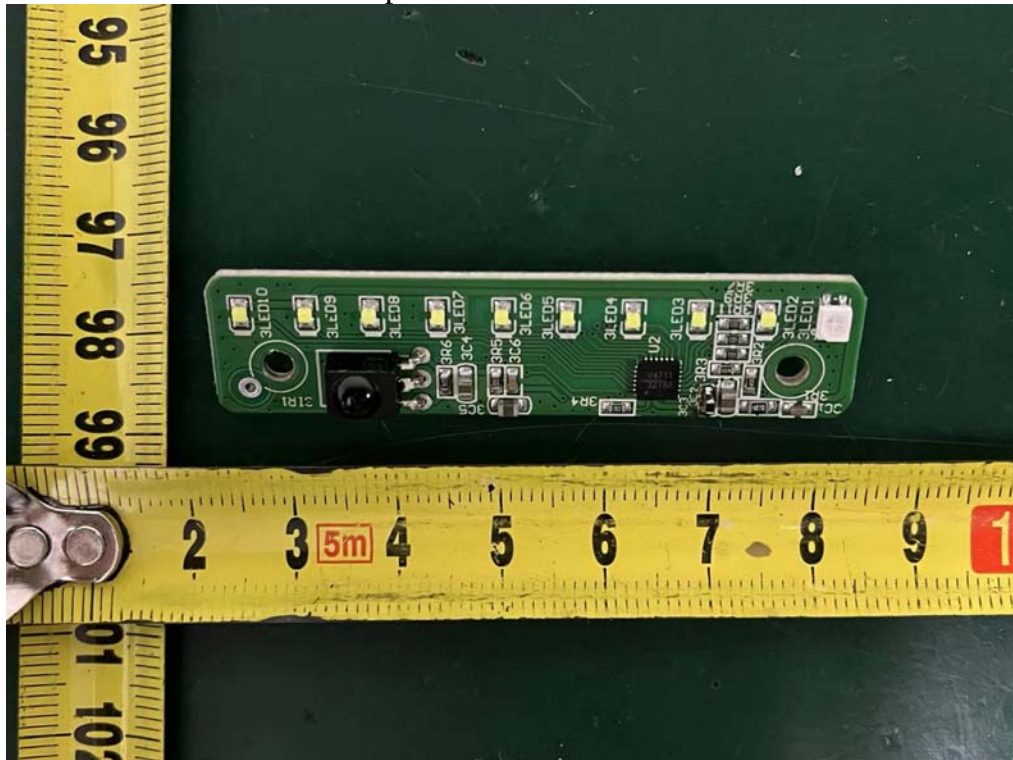
Internal Photos
M/N: Klipsch Cinema 600-Sound Bar



Internal Photos
M/N: Klipsch Cinema 600-Sound Bar



Internal Photos
M/N: Klipsch Cinema 600-Sound Bar



End of Test Report