

Report No.: TW2208248-01E

File reference No.: 2022-08-11

Applicant: DIXIN INNOVATION TECHNOLOGY CO.,LIMITED

Product: Multimedia Home Theater System

Model No.: SC-37HT, SC-35HT, SC-38HT, SC-39HT, SC-1129BT,

SC-18DVD, SC-25DVD, SC-28DVD, SC-31DVD, SC-20, SC-35, SC-20H, SC-1421SB, SC-1422SBW, SDVD-5060-B, ND-855, ND-858, ND-859, ND-863, ND-864, ND-865, ND-866, ND856DVD, PDVD5089, VP-109, DVD-3621,

CDV-30, IQ9000BT, ND-837, CDV-32, SC-31, BT-9228muc,

BT-939, BT-939muc, ND-867, ND-868, ND-869, ND-870

Trademark: SUPERSONIC, NAXA

Test Standards: FCC Part 15.249

Test result:

It is herewith confirmed and found to comply with the

requirements set up by ANSI C63.10 &FCC Part 15 Subpart C,

Paragraph 15.249 regulations for the evaluation of

electromagnetic compatibility

Approved By

Terry Tang Manager

Dated: August 11, 2022

Results appearing herein relate only to the sample tested

The technical reports is issued errors and omissions exempt and is subject to withdrawal at

SHENZHEN TIMEWAY TESTING LABORATORIES

Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China

Tel (755) 83448688, Fax (755) 83442996, E-Mail:info@timeway-lab.com

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Special Statement:

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAS. This approval result is accepted by MRA of APLAC.

Our test facility is recognized, certified, or accredited by the following organizations:

CNAS-LAB Code: L2292

The EMC Laboratory has been assessed and in compliance with CNAS-CL01 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2017 General Requirements) for the Competence of testing Laboratories.

FCC-Registration No.: 744189

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 744189.

Industry Canada (IC) — Registration No.:5205A

The EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 5205A.

A2LA (Certification Number:5013.01)

The EMC Laboratory has been accredited by the American Association for Laboratory Accreditation (A2LA). Certification Number:5013.01

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Test Report Conclusion

| (| | O | n | t | e | n | t |
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The report refers only to the sample tested and does not apply to the bulk.

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1.0 General Details

1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TESTING LABORATORIES.

Address: Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le

Village, Nanshan District, Shenzhen, China

Telephone: (755) 83448688 Fax: (755) 83442996

Site on File with the Federal Communications Commission – United Sates

Registration Number: 744189 For 3m Anechoic Chamber

1.2 Applicant Details

Applicant: DIXIN INNOVATION TECHNOLOGY CO., LIMITED

Address: UNIT 4, 4/F BLK B HANG WAI IND, CTR 6 KIN TAI ST TUEN MUN NT, HK

Telephone: 0755-33259533

Fax:

1.3 Description of EUT

Product: Multimedia Home Theater System Manufacturer: Shenzhen Jisheng Electronics Co., LTD

Address: West Side, 2nd Floor, Building 4, Wanyan Industrial Zone, Qiaotou Village,

Fuyong Town, Bao'an District, SHENZHEN Guangdong

Trademark: SUPERSONIC

Additional Trademark: **NAXA** Model Number: SC-37HT

Additional Model Name SC-35HT, SC-38HT, SC-39HT, SC-1129BT, SC-18DVD, SC-25DVD,

> SC-28DVD, SC-31DVD, SC-20, SC-35, SC-20H, SC-1421SB, SC-1422SBW, SDVD-5060-B, ND-855, ND-858, ND-859, ND-863, ND-864, ND-865, ND-866, ND856DVD, PDVD5089, VP-109, DVD-3621, CDV-30, IQ9000BT, ND-837, CDV-32, SC-31, BT-9228muc, BT-939, BT-939muc, ND-867, ND-868, ND-869,

ND-870

Hardware Version: 25AV-02R-D-032 Software Version: SA4SA0-AAA-844 Serial No.: 37HT08210001

Rating: Input: 100-240V, 50/60Hz, 15W; Modulation Type: GFSK, Pi/4D-QPSK (Bluetooth)

Operation Frequency: 2402-2480MHz

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Channel Separate: 1MHz Channel Number: 79

Antenna Designation Integral antenna with gain 2.0dBi (Declared by the applicant)

1.4 Submitted Sample: 1 pc

1.5 Test Duration

2022-08-05 to 2022-08-11

1.6 Test Uncertainty

Conducted Emissions Uncertainty =3.6dB

Radiated Emissions below 1GHz Uncertainty =4.7dB

Radiated Emissions above 1GHz Uncertainty =6.0dB

Conducted Power Uncertainty =6.0dB

Occupied Channel Bandwidth Uncertainty = 5%

Conducted Emissions Uncertainty = 3.6dB

Note: The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

1.7 Test Engineer

The sample tested by

Print Name: Andy Xing

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| 2.0 Test Equipment | | | | | |
|--------------------|--------------|------------------|--------------|--------------|------------|
| Instrument Type | Manufacturer | Model | Serial No. | Date of Cal. | Due Date |
| ESPI Test Receiver | R&S | ESPI 3 | 100379 | 2022-06-17 | 2023-06-18 |
| LISN | R&S | EZH3-Z5 | 100294 | 2022-06-17 | 2023-06-18 |
| LISN | R&S | EZH3-Z5 | 100253 | 2022-06-17 | 2023-06-18 |
| Impuls-Begrenzer | R&S | ESH3-Z2 | 100281 | 2022-06-17 | 2023-06-18 |
| Loop Antenna | EMCO | 6507 | 00078608 | 2021-06-18 | 2024-06-17 |
| Spectrum | R&S | FSIQ26 | 100292 | 2022-06-17 | 2023-06-18 |
| Horn Antenna | A-INFO | LB-180400-KF | J211060660 | 2021-07-02 | 2024-07-01 |
| Horn Antenna | R&S | BBHA 9120D | 9120D-631 | 2021-07-02 | 2024-07-01 |
| Power meter | Anritsu | ML2487A | 6K00003613 | 2022-06-17 | 2023-06-18 |
| Power sensor | Anritsu | MA2491A | 32263 | 2022-06-17 | 2023-06-18 |
| Bilog Antenna | Schwarebeck | VULB9163 | 9163/340 | 2021-07-02 | 2024-07-01 |
| 9*6*6 Anechoic | | | N/A | 2022-07-01 | 2023-06-30 |
| EMI Test Receiver | RS | ESVB | 826156/011 | 2022-06-17 | 2023-06-18 |
| EMI Test Receiver | RS | ESH3 | 860904/006 | 2022-06-17 | 2023-06-18 |
| Spectrum | HP/Agilent | ESA-L1500A | US37451154 | 2022-06-17 | 2023-06-18 |
| Spectrum | HP/Agilent | E4407B | MY50441392 | 2022-06-17 | 2023-06-18 |
| Spectrum | RS | FSP | 1164.4391.38 | 2022-01-15 | 2023-01-14 |
| RF Cable | Zhengdi | ZT26-NJ-NJ-8M/FA | | 2022-06-17 | 2023-06-18 |
| RF Cable | Zhengdi | 7m | | 2022-06-17 | 2023-06-18 |
| RF Switch | EM | EMSW18 | 060391 | 2022-06-17 | 2023-06-18 |
| Pre-Amplifier | Schwarebeck | BBV9743 | #218 | 2022-06-17 | 2023-06-18 |
| Pre-Amplifier | HP/Agilent | 8449B | 3008A00160 | 2022-06-17 | 2023-06-18 |
| LISN | SCHAFFNER | NNB42 | 00012 | 2022-01-05 | 2023-01-04 |

2.2 Automation Test Software

For Conducted Emission Test

| Name | Version |
|--------|-------------------|
| EZ-EMC | Ver.EMC-CON 3A1.1 |

For Radiated Emissions

| Name | Version |
|---|---------|
| EMI Test Software BL410-EV18.91 | V18.905 |
| EMI Test Software BL410-EV18.806 High Frequency | V18.06 |

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3.0 Technical Details

3.1 Summary of test results

| The FIIT | hac haan | tacted ac | cardina ta | n tha fo | llowing | specifications: |
|----------|-----------|-----------|------------|----------|---|-----------------|
| | Has Deeli | testeu ac | corume a | 0 HIC IV |)11(<i>) </i> | succincations. |

| Standard | Test Type | Result | Notes |
|---|-------------------------------------|--------|----------|
| FCC Part 15, Paragraph 15.203 | Antenna Requirement | Pass | Complies |
| FCC Part 15, Paragraph 15.207 | Conducted Emission Test | Pass | Complies |
| FCC Part 15 Subpart C Paragraph 15.249(a) & 15.249(b) Limit | Field Strength of Fundamental | Pass | Complies |
| FCC Part 15, Paragraph 15.209 | Radiated Emission Test | Pass | Complies |
| FCC Part 15 Subpart C Paragraph 15.249(d) Limit | Band Edge Test | Pass | Complies |

3.2 Test Standards

FCC Part 15 Subpart C, Paragraph 15.249, ANSI C63.4:2014 and ANSI C63.10:2013

4.0 EUT Modification

No modification by SHENZHEN TIMEWAY TESTING LABORATORIES

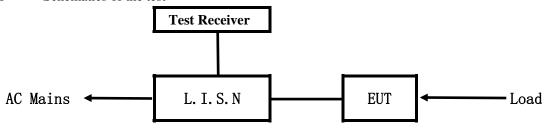
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5. Power Line Conducted Emission Test

5.1 Schematics of the test

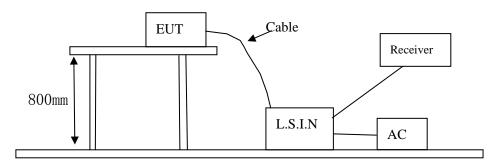


EUT: Equipment Under Test

5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.10-2013. The Frequency spectrum from 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.10 –2013.

Test Voltage: 120V~, 60Hz Block diagram of Test setup



5.3 Configuration of the EUT

The EUT was configured according to ANSI C63.10-2013. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

79 channels are provided to the EUT

A. EUT

| Device | Manufacturer | Model | FCC ID | |
|-----------------|----------------------|-------------------------|---------------------|--|
| Multimedia Home | Shenzhen Jisheng | SC-37HT (see the page 4 | 2464H WIDELESS ITEM | |
| Theater System | Electronics Co., LTD | for additional models) | 2A8AH-WIRELESS-ITEM | |

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B. Internal Device

| Device | Manufacturer | Model | FCC ID/DOC |
|--------|--------------|-------|------------|
| N/A | | | |

C. Peripherals

| Device | Manufacturer | Model | Rating |
|--------|--------------|-------|--------|
| | | | |

5.4 EUT Operating Condition

Operating condition is according to ANSI C63.10-2013

- A Setup the EUT and simulators as shown on follow
- B Enable AF signal and confirm EUT active to normal condition

5.5 Power line conducted Emission Limit according to Paragraph 15.207

| | <u> </u> | | | | | |
|-----------|------------------|---------------------|---------------|--|--|--|
| Frequency | | Limits (dB μ V) | | | | |
| | (MHz) | Quasi-peak Level | Average Level | | | |
| | $0.15 \sim 0.50$ | 66.0~56.0* | 56.0~46.0* | | | |
| | $0.50 \sim 5.00$ | 56.0 | 46.0 | | | |
| | 5.00 ~ 30 00 | 60.0 | 50.0 | | | |

Notes: 1. *Decreasing linearly with logarithm of frequency.

2. The tighter limit shall apply at the transition frequencies

5.6 Test Results:

Pass

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A: Conducted Emission on Live Terminal (150kHz to 30MHz)

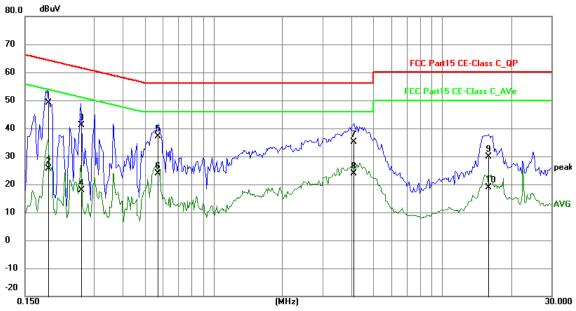
EUT Operating Environment

Temperature: 25°C Humidity: 65%RH Atmospheric Pressure: 101 kPa

EUT set Condition: Communication by BT

Model: SC-37HT Results: Pass

Please refer to following diagram for individual



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector | P/F |
|-----|--------------------|----------------|----------------|-----------------|-----------------|----------------|----------|-----|
| 1 | 0.1890 | 39.26 | 9.76 | 49.02 | 64.08 | -15.06 | QP | Р |
| 2 | 0.1890 | 15.99 | 9.76 | 25.75 | 54.08 | -28.33 | AVG | Р |
| 3 | 0.2631 | 31.42 | 9.75 | 41.17 | 61.33 | -20.16 | QP | Р |
| 4 | 0.2631 | 8.17 | 9.75 | 17.92 | 51.33 | -33.41 | AVG | Р |
| 5 | 0.5712 | 27.41 | 9.77 | 37.18 | 56.00 | -18.82 | QP | Р |
| 6 | 0.5712 | 14.08 | 9.77 | 23.85 | 46.00 | -22.15 | AVG | Р |
| 7 | 4.1115 | 25.17 | 9.89 | 35.06 | 56.00 | -20.94 | QP | Р |
| 8 | 4.1115 | 14.06 | 9.89 | 23.95 | 46.00 | -22.05 | AVG | Р |
| 9 | 15.9012 | 19.42 | 10.43 | 29.85 | 60.00 | -30.15 | QP | Р |
| 10 | 15.9012 | 8.49 | 10.43 | 18.92 | 50.00 | -31.08 | AVG | Р |

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B: Conducted Emission on Neutral Terminal (150kHz to 30MHz)

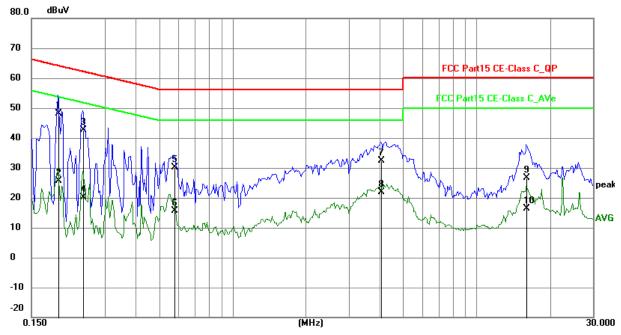
EUT Operating Environment

Temperature: 25°C Humidity: 65%RH Atmospheric Pressure: 101 kPa

EUT set Condition: Communication by BT

Model: SC-37HT Results: Pass

Please refer to following diagram for individual



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector | P/F |
|-----|--------------------|-------------------|----------------|-----------------|-----------------|----------------|----------|-----|
| 1 | 0.1929 | 38.31 | 9.75 | 48.06 | 63.91 | -15.85 | QP | Р |
| 2 | 0.1929 | 15.76 | 9.75 | 25.51 | 53.91 | -28.40 | AVG | Р |
| 3 | 0.2436 | 32.97 | 9.75 | 42.72 | 61.97 | -19.25 | QP | Р |
| 4 | 0.2436 | 10.46 | 9.75 | 20.21 | 51.97 | -31.76 | AVG | Р |
| 5 | 0.5790 | 20.36 | 9.77 | 30.13 | 56.00 | -25.87 | QP | Р |
| 6 | 0.5790 | 5.89 | 9.77 | 15.66 | 46.00 | -30.34 | AVG | Р |
| 7 | 4.0647 | 22.50 | 9.89 | 32.39 | 56.00 | -23.61 | QP | Р |
| 8 | 4.0647 | 11.96 | 9.89 | 21.85 | 46.00 | -24.15 | AVG | Р |
| 9 | 15.9714 | 16.22 | 10.44 | 26.66 | 60.00 | -33.34 | QP | Р |
| 10 | 15.9714 | 5.87 | 10.44 | 16.31 | 50.00 | -33.69 | AVG | Р |

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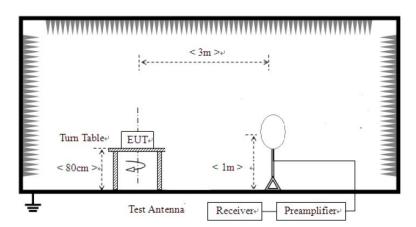


6 Radiated Emission Test

- 6.1 Test Method and test Procedure:
- (1) The EUT was tested according to ANSI C63.10-2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.10-2013.
- (3) The frequency spectrum from 30 MHz to 25 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 kHz. All readings are above 1 GHz, peak values with a resolution bandwidth of 1 MHz (Note: for Fundamental frequency radiated emission measurement, RBW=3MHz, VBW=10MHz). Measurements were made at 3 meters.
- (4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (5) The antenna polarization: Vertical polarization and Horizontal polarization.

Block diagram of Test setup

For radiated emissions from 9kHz to 30MHz

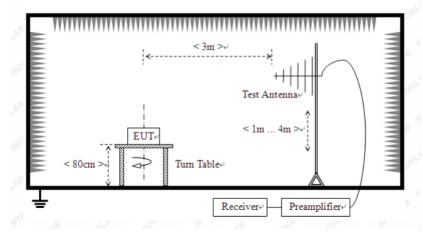


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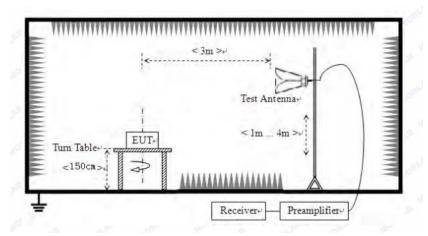
Date: 2022-08-11



For radiated emissions from 30MHz to1GHz



For radiated emissions above 1GHz



- 6.2 Configuration of The EUT

 Same as section 5.3 of this report
- 6.3 EUT Operating Condition

 Same as section 5.4 of this report.

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6.4 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

A FCC Part 15 Subpart C Paragraph 15.249(a) Limit

| Fundamental Frequency | Field Stre | ength of Fundame | ntal (3m) | Field Strength of Harmonics (3m) | | | |
|-----------------------|------------|------------------|------------|----------------------------------|--------------|-----------|--|
| (MHz) | mV/m | dBuV/m | | uV/m | dBuV/m | | |
| 2400-2483.5 | 50 | 94 (Average) | 114 (Peak) | 500 | 54 (Average) | 74 (Peak) | |

Note:

- 1. RF Field Strength (dBuV) = 20 log RF Voltage (uV)
- 2.Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
- 3. The emission limit in this paragraph is based on measurement instrumentation employing an average detector.

B. Frequencies in restricted band are complied to limit on Paragraph 15.209.

| Frequency Range (MHz) | Distance (m) | Field strength (dB µ V/m) |
|-----------------------|--------------|---------------------------|
| 30-88 | 3 | 40.0 |
| 88-216 | 3 | 43.5 |
| 216-960 | 3 | 46.0 |
| Above 960 | 3 | 54.0 |

Note:

- 1. RF Voltage $(dBuV) = 20 \log RF \text{ Voltage } (uV)$
- 2. In the Above Table, the tighter limit applies at the band edges.
- 3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT
- 4. All scanning using PK detector. And the final emission level was get using QP detector for frequency range from 30-1000MHz.As to 1G-25G, the final emission level got using PK. For fundamental measurement, PK detector used.
- 5. The two modulation modes of GFSK and Pi/4D-QPSK were tested. And only the worst case was recorded in the test report. GFSK was the worst case.

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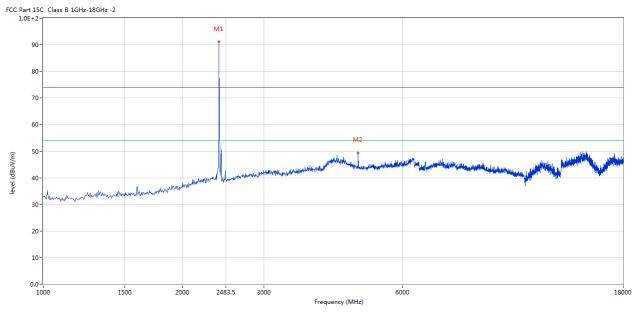


6.5 Test result

A Fundamental & Harmonics Radiated Emission Data

Please refer to the following test plots for details: Low Channel-2402MHz

Horizontal



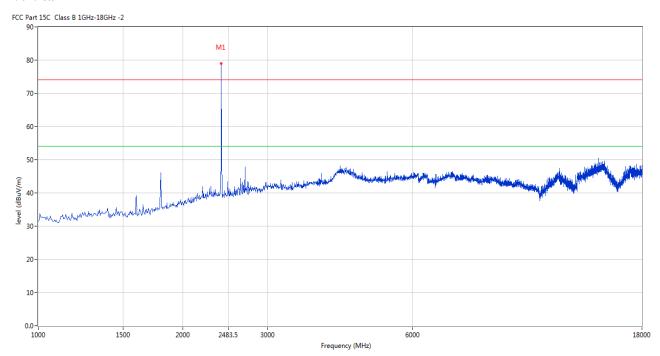
| No. | Frequency | Results | Factor | Limit | Over Limit | Detector | Table | Height | ANT | Verdict |
|-----|-----------|----------|--------|----------|------------|----------|--------|--------|------------|---------|
| | (MHz) | (dBuV/m) | (dB) | (dBuV/m) | (dB) | | (o) | (cm) | | |
| 1 | 2402 | 91.12 | -3.57 | 114.0 | -22.88 | Peak | 270.00 | 100 | Horizontal | Pass |
| 2 | 4802.799 | 50.29 | 3.12 | 74.0 | -23.71 | Peak | 53.00 | 100 | Horizontal | Pass |

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Vertical



| No. | Frequency | Results | Factor | Limit | Over Limit | Detector | Table (o) | Height | ANT | Verdict |
|-----|-----------|----------|--------|----------|------------|----------|-----------|--------|----------|---------|
| | (MHz) | (dBuV/m) | (dB) | (dBuV/m) | (dB) | | | (cm) | | |
| 1 | 2402 | 78.91 | -3.57 | 114.0 | -35.09 | Peak | 67.00 | 100 | Vertical | Pass |

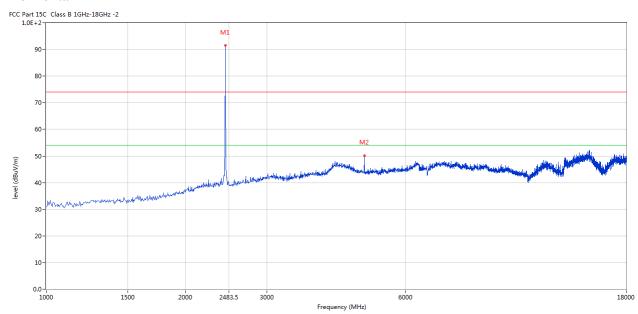
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Please refer to the following test plots for details: Middle Channel-2441MHz

Horizontal



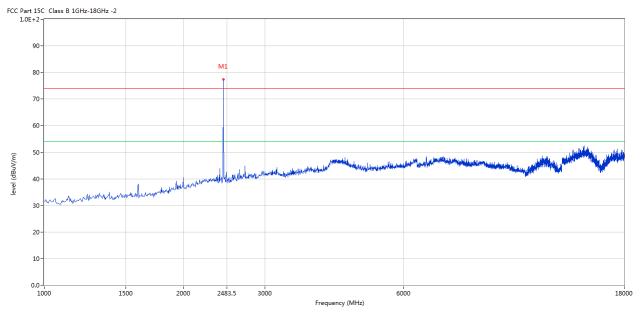
| No. | Frequency | Results | Factor | Limit | Over Limit | Detector | Table | Height | ANT | Verdict |
|-----|-----------|----------|--------|----------|------------|----------|--------|--------|------------|---------|
| | (MHz) | (dBuV/m) | (dB) | (dBuV/m) | (dB) | | (o) | (cm) | | |
| 1 | 2441 | 91.48 | -3.57 | 114.0 | -22.52 | Peak | 92.00 | 100 | Horizontal | Pass |
| 2 | 4883.529 | 50.19 | 3.20 | 74.0 | -23.81 | Peak | 275.00 | 100 | Horizontal | Pass |

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Vertical



| No. | Frequency | Results | Factor | Limit | Over Limit | Detector | Table | Height | ANT | Verdict |
|-----|-----------|----------|--------|----------|------------|----------|-------|--------|----------|---------|
| | (MHz) | (dBuV/m) | (dB) | (dBuV/m) | (dB) | | (o) | (cm) | | |
| 1 | 2441 | 77.31 | -3.57 | 114.0 | -36.69 | Peak | 43.00 | 100 | Vertical | Pass |

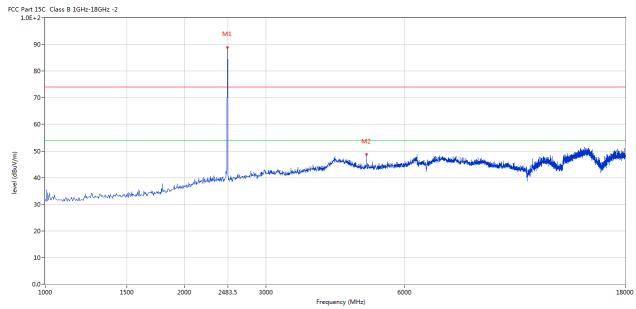
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Please refer to the following test plots for details: High Channel-2480MHz

Horizontal



| No. | Frequency | Results | Factor | Limit | Over Limit | Detector | Table | Height | ANT | Verdict |
|-----|-----------|----------|--------|----------|------------|----------|--------|--------|------------|---------|
| | (MHz) | (dBuV/m) | (dB) | (dBuV/m) | (dB) | | (o) | (cm) | | |
| 1 | 2480 | 88.89 | -3.57 | 114.0 | -25.11 | Peak | 80.00 | 100 | Horizontal | Pass |
| 2 | 4960.010 | 48.70 | 3.36 | 74.0 | -25.30 | Peak | 151.00 | 100 | Horizontal | Pass |

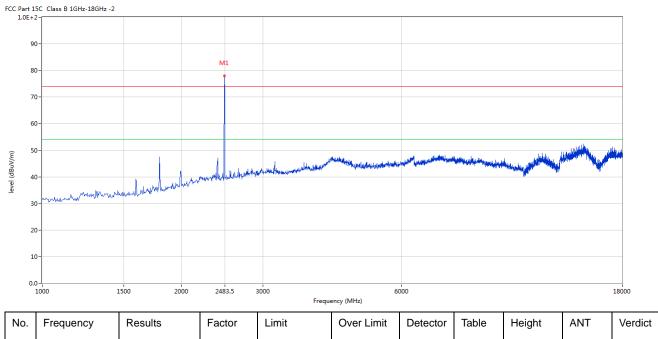
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Vertical



| No. | Frequency | Results | Factor | Limit | Over Limit | Detector | Table | Height | ANT | Verdict |
|-----|-----------|----------|--------|----------|------------|----------|-------|--------|----------|---------|
| | (MHz) | (dBuV/m) | (dB) | (dBuV/m) | (dB) | | (o) | (cm) | | |
| 1 | 2480 | 77.95 | -3.57 | 114.0 | -36.05 | Peak | 18.00 | 100 | Vertical | Pass |

Note: (2) Emission Level = Reading Level + Antenna Factor + Cable Loss-Amplifier

- (3) Margin=Emission-Limits
- (4) According to section 15.35(b), the peak limit is 20dB higher than the average limit
- (5) For test purpose, keep EUT continuous transmitting
- (5) For emission above 18GHz and Below 30MHz, It is only the floor noise. No necessary to take down.
- (6) the measured PK value less than the AV limit.

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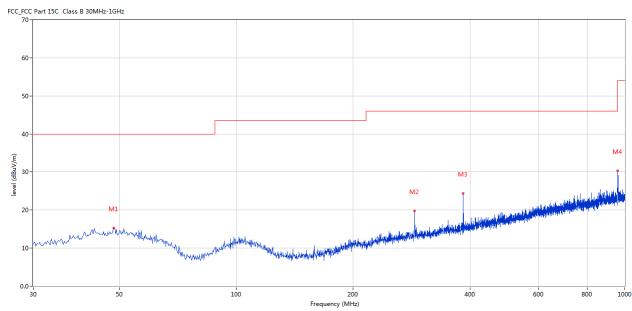


B. General Radiated Emission Data Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

Results: Pass

Please refer to following diagram for individual



| No. | Frequency | Results | Factor | Limit | Over Limit | Detector | Table | Height | ANT | Verdict |
|-----|-----------|----------|--------|----------|------------|----------|--------|--------|------------|---------|
| | (MHz) | (dBuV/m) | (dB) | (dBuV/m) | (dB) | | (o) | (cm) | | |
| 1 | 48.425 | 15.34 | -11.22 | 40.0 | -24.66 | Peak | 31.00 | 100 | Horizontal | Pass |
| 2 | 287.956 | 19.78 | -11.27 | 46.0 | -26.22 | Peak | 192.00 | 100 | Horizontal | Pass |
| 3 | 383.962 | 24.39 | -9.16 | 46.0 | -21.61 | Peak | 151.00 | 100 | Horizontal | Pass |
| 4 | 960.240 | 30.34 | -1.63 | 54.0 | -23.66 | Peak | 175.00 | 100 | Horizontal | Pass |

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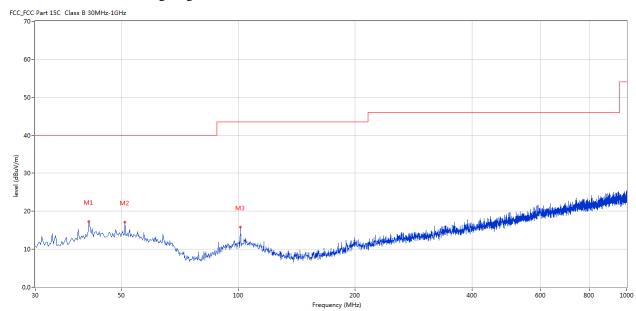


Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

Results: Pass

Please refer to following diagram for individual



| No. | Frequency | Results | Factor | Limit | Over Limit | Detector | Table | Height | ANT | Verdict |
|-----|-----------|----------|--------|----------|------------|----------|--------|--------|----------|---------|
| | (MHz) | (dBuV/m) | (dB) | (dBuV/m) | (dB) | | (o) | (cm) | | |
| 1 | 41.152 | 17.28 | -12.01 | 40.0 | -22.72 | Peak | 332.00 | 100 | Vertical | Pass |
| 2 | 51.092 | 17.16 | -11.41 | 40.0 | -22.84 | Peak | 303.00 | 100 | Vertical | Pass |
| 3 | 101.277 | 15.80 | -13.45 | 43.5 | -27.70 | Peak | 165.00 | 100 | Vertical | Pass |

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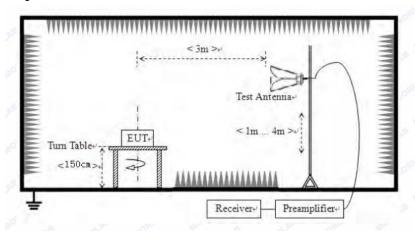


7. Band Edge

7.1 Test Method and test Procedure:

- (1) The EUT was tested according to ANSI C63.10–2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) Set Spectrum as RBW=1MHz, VBW=3MHz and Peak detector used for PK value. RBW=1MHz, VBW=10Hz and Peak detector used for AV value.
- (3) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (4) The antenna polarization: Vertical polarization and Horizontal polarization.

7. 2 Radiated Test Setup



For the actual test configuration, please refer to the related items – Photos of Testing

7.3 Configuration of The EUT

Same as section 5.3 of this report

7.4 EUT Operating Condition

Same as section 5.4 of this report.

7.5 Band Edge Limit

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 Section 15.209, whichever is the lesser attenuation.

The report refers only to the sample tested and does not apply to the bulk.

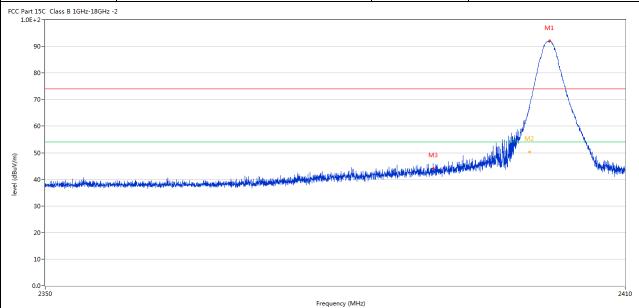
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7.6 Test Result

| Product: | Multimedia Home Theater System | Polarity | Horizontal |
|--------------|--------------------------------|--------------|------------|
| Mode | Keeping Transmitting | Test Voltage | 120V~ |
| Temperature | 24 deg. C, | Humidity | 56% RH |
| Test Result: | Pass | | |

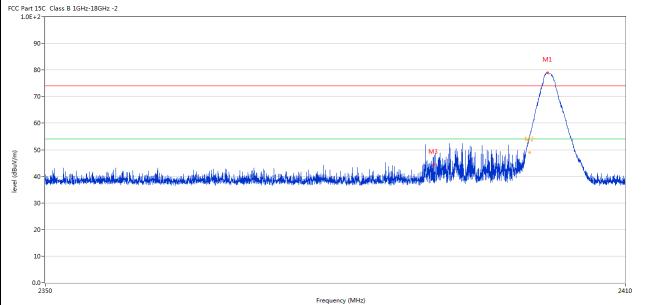


| No. | Frequency | Results | Factor | Limit | Over Limit | Detector | Table | Height | ANT | Verdict |
|-----|-----------|----------|--------|----------|------------|----------|--------|--------|------------|---------|
| | (MHz) | (dBuV/m) | (dB) | (dBuV/m) | (dB) | | (o) | (cm) | | |
| 2 | 2399.998 | 65.45 | -3.57 | 74.0 | -8.55 | Peak | 287.00 | 100 | Horizontal | Pass |
| 2** | 2399.998 | 50.19 | -3.57 | 54.0 | -3.81 | AV | 287.00 | 100 | Horizontal | Pass |
| 3 | 2389.980 | 44.04 | -3.53 | 74.0 | -29.96 | Peak | 278.00 | 100 | Horizontal | Pass |

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| Product: | Multimedia Home Theater System | Detector | Vertical |
|------------------------------------|--------------------------------|--------------|----------|
| Mode | Keeping Transmitting | Test Voltage | 120V~ |
| Temperature | 24 deg. C, | Humidity | 56% RH |
| Test Result: | Pass | | |
| FCC Part 15C Class B 1GHz-18GHz -2 | | • | |



| No. | Frequency | Results | Factor | Limit | Over Limit | Detector | Table | Height | ANT | Verdict |
|-----|-----------|----------|--------|----------|------------|----------|-------|--------|----------|---------|
| | (MHz) | (dBuV/m) | (dB) | (dBuV/m) | (dB) | | (o) | (cm) | | |
| 2 | 2399.983 | 54.53 | -3.57 | 74.0 | -19.47 | Peak | 26.00 | 100 | Vertical | Pass |
| 2** | 2399.983 | 48.89 | -3.57 | 54.0 | -5.11 | AV | 26.00 | 100 | Vertical | Pass |
| 3 | 2389.995 | 44.53 | -3.53 | 74.0 | -29.47 | Peak | 13.00 | 100 | Vertical | Pass |

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2**

2483.500

48.21

-3.57

54.0



| Pr | roduct: | Multim | edia Home | e Theater Sys | stem | Polarity | | Н | orizontal | |
|---|--|--|-------------|---------------|--|--------------------------------------|--|--|--|------|
| N | Mode | ŀ | Keeping Tr | ansmitting | | Test Voltag | ge | | 120V~ | |
| Tem | nperature | | 24 de | g. C, | | Humidity | 7 | 5 | 56% RH | |
| Test | t Result: | | Pa | SS | | | | | | |
| C Part 15C 1.0E+2- | C Class B 1GHz-18GHz | -2 | | | | | | | | |
| 90 - 80 - 70 - | | | | | | | | | | |
| 50- | | | <i>Y</i> | | \ . | | | | | |
| 50- 40- 30- 20- | daningissipidalikan ngangan pen | ALAMA MARANA | <i>y</i> | M | The state of the s | ili sepilongando por necopia sidenje | or and the second states of the second | المراجعة الم | the plant of the state of the s | |
| 40- | danielejdistriki dielektrika propinsiese | | <i>y</i> | 2483.5 | | ili saqabaqarabaqtan vaqababbaq | erge di erregen di filono | roods directly south with eq | tion of the state | 2500 |
| 40- 30- 20- 10- 0.0- 247 | danielejdistriki dielektrika propinsiese | Results (dBuV/m) | Factor (dB) | | 5 | Detector | Table (o) | Height (cm) | ANT | |

-5.79

ΑV

279.00

100

Horizontal

Pass

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| F | Product: | Multime | dia Home | Theater System | Detector | Detector Vert | | | |
|----------------------------|--------------------------------|---|-------------|--|--|--|--|--|----------------|
| | Mode | K | eeping Tra | nsmitting | Test Voltag | е | 12 | 0V~ | |
| Tei | mperature | | 24 deg | . C, | Humidity | | 56% | % RH | |
| Те | est Result: | | Pass | s | | | | | |
| C Part 1: | 5C Class B 1GHz-18GHz - 2-r | 2 | | | · | | | | |
| | | | | | | | | | |
| 90 | 0- | | | | | | | | |
| 80 | 0- | | | | | | | | |
| 70 | 0- | | | 1 | | | | | |
| | | | , | \ | | | | | |
| 60 | 0- | | _/ | | | | | | |
| _ | | 1.0 | | | | | | | |
| 50 40 | | dialiffication distribute and the little of | | A Market | بواريم فيلوفون المعاقدين | adas kada dina dhannid pilikkad | at any many make the state of t | ald he seem habite and along | han han han h |
| 50 40 30 | | dhedrildenderblitherblitherblitherblithe | | Market Control of the | ne proportion de la company | ada, bajdajir digana jerida, a | | ald the standard and | |
| 50 40 | | diadailahan kalikan didikan di | | And the state of t | manding to the tenter of t | | an target and the state of the | aldrich von Arbeit der den der | ke hamilian |
| 50 40 30 | | dialiillingirabilandaliikkeleilikkeleilikke | | | ne de la companya de | disk diebline deble | je koroni produktura kira sika | Aldrin Anton Antonio A | k kunitus |
| 50 40 30 20 10 | | d ke kirilden direktirken delike lebeker | | *************************************** | man di pangan di pan | alas la illustration de la constitución de la const | | aldekartus, labelak delek | 3500 |
| 50 40 30 20 10 | | d be hijldre jir gabidin per kalabah kalabah | | 2483.5 Frequency | | dish dibilah medilikka | joh kerendarish dina dina din | Aldrina habata da | 2500 |
| 50 40 30 20 10 | | Results | Factor | 2483.5 Frequency | | majar i marang paga panjar | Height | ANT | Γ |
| 50 40 30 20 10 | 0- | Results (dBuV/m) | Factor (dB) | 2483.5 Frequency Limit O | y (MHz) | majar i marang paga panjar | | - Company (And | 2500 Verdic |

Note: 1. The PK emission level less than the AV limit. No necessary to record the AV emission level.

2. The two modulation modes of GFSK and Pi/4D-QPSK were tested. And only the worst case was recorded in the test report. GFSK was the worst case.

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8.0 Antenna Requirement

Applicable Standard

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

This product has an integral antenna with gain 2.0dBi Max. It fulfills the requirement of this section.

Test Result: Pass

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| FSK Modulation | | | | | | | | | | | |
|-------------------|-------------|--------------|------------|--------------|------------------------|--------------|-----------------------|----------|----------|-----------|----|
| Product: | Mı | ıltimedia l | Home The | eater System | m | Tes | t Mode: | | Keep tra | nsmitting | |
| Mode | | Keepii | ng Transm | nitting | | Test | Voltage | : | 120 |)V~ | |
| Temperature | | 2 | 24 deg. C, | | | Нι | ımidity | | 56% | RH | |
| Test Result: | | | Pass | | | D | etector | | P | K | |
| dB Bandwidth | | 8 | 329.66kHz | Z | | | | | _ | - | |
| > | | Delta 1 [T1] | | | | | 30 k | Hz | RF Att | 20 dB | |
| Ref Lvl | | | -0. | .20 dB | VI | ВW | 100 k | Hz | | | |
| 10 dBm | | 829 | .659318 | 863 kHz | SI | TV | 8.5 m | ıs | Unit | dв | m |
| 10 | | | | | | | v ₁ | [T1] | -2 | 1.26 dB | m |
| | | | | | | | | | 2.4015 | 7014 GH | z |
| 0 | | | | ^ | | | <u>^</u> 1 | [T1] | _ | 0.20 dB | |
| | | | | | $\backslash \bigwedge$ | | ▽ 2 | | 329.6593 | | |
| -10 | | | | | 1 h | † | <u>* 2</u> | [T1] | 2 40200 | 1.45 dB | |
| | | | | \sim | | Y | | | 2.40200 | JUL GR | |
| | 5 dBm | | | | | 1 | <u> </u> | | | | 1 |
| 1MAX -30 | | | لمر | | | | ν _ν / ν | | | | 11 |
| | | \sim | / | | | | - 41 | <u>ر</u> | | | |
| -40 | | | | | | + | | <u> </u> | | | - |
| -50 | \bigwedge | | | | | | | <u></u> | | | |
| handrod | V | ν' | | | | | | Ţ | / hy | www. | |
| -60 | | | | | | | | | | | |
| -70 | 0 | | | | | | | | | | |
| 80 | | | | | | | | | | | |
| | | | | | | | | | | | |
| -90 Center 2.4 | | | | | kHz/ | | | | | an 3 MH | |

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| Product: | Mu | ltimedia H | Iome Thea | ter System | ı | T | est Mode: | : | | Keep tra | nsmitting | <u>g</u> |
|-----------------|------------------|--|-----------|---------------------------------------|-------------------------|---------------|-----------------------|-----|----------|----------------|------------------|----------------|
| Mode | | Keepin | g Transmi | tting | | Te | est Voltage | e | | 12 | 0V~ | |
| Temperature | | 2 | 4 deg. C, | | | I | Humidity | | | 56% | 6 RH | |
| Test Result: | | | Pass | | | | Detector | | PK | | | |
| OdB Bandwidth | | 82 | 29.66kHz | | | | | | | | | |
| Ŕ | | Delta 1 | [T1] | | R | .BW 30 kHz | | Hz | R | F Att | 20 dE | 1 |
| Ref Lvl | | | | 29 dB | | VBW 100 kHz | | | | | | |
| 10 dBm | | 829 | 9.659318 | 64 kHz | S | WT | 8.5 m | າຣ | U | nit | dE | m |
| 10 | | | | | | | v ₁ | [T1 |] | -21 | .59 dB | m A |
| | | | | | 2 | | | | | 2.44057 | 014 GH | |
| 0 | | | | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | (| | <u></u> 1 | [T1 | | -(| .29 dB | |
| | | | | 100 | $\backslash \backslash$ | | ∇_2 | [T1 | | 29.65931 _1 | 864 kH .87 dB | |
| -10 | | | | | ľ | ٦ | | | | 2.44100 | | |
| | | | 1 / | √∧ | | \mathcal{V} | _ | | | | | |
| -20 —D1 -21. | 92 dBm | | - N | | | | <u> </u> | | | | | 1 _M |
| 1max | | | لہ | | | | Wy. | | | | | IM |
| -30 | | | | | | | | | | | | 1 |
| | | | | | | | | 7 | | | | |
| -40 | | - | | | | | | 1 | | | | - |
| | m | <i></i> | | | | | | | | M | | |
| -50 | کر کرمی | \forall | | | | | | | <u> </u> | | | 1 |
| | | Ť | | | | | | | | W | Muny | |
| -60 | | | | | | | | | | | | 4 |
| | | | | | | | | | | | | |
| -70 | | | | | | | | | | | | - |
| | | | | | | | | | | | | |
| -80 | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| -90 | -90 | | | | | | | | | | | |
| Center 2 | Center 2.441 GHz | | | 300 | kHz/ | | | | | Spa | n 3 MH | z |

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| GFSK Modulati | ion | | | | | | | | | | |
|-----------------|--------------------|-----------|-----------|-------------|----------------------|------------|-----------------------|-------------------|-----------------|--------------------|-----|
| Product: | Mul | timedia H | ome Thea | iter System | 1 | Test | Mode: | | Keep tra | nsmitting | |
| Mode | | Keeping | g Transmi | tting | | Test ' | Voltage | e | 12 | 0V~ | |
| Temperature | | 24 | 4 deg. C, | | | Hur | nidity | | 569 | 6 RH | |
| Test Result: | | | Pass | | | Det | tector | | I | PK | |
| 20dB Bandwidth | | 81 | 7.64kHz | | | | | | | | |
| R. | | Delta 1 | [T1] | | RI | 3W | 30 k | Hz R | F Att | 20 dB | |
| Ref Lvl | | | | 70 dB | | | 100 k | | | | |
| 10 dBm | | 817 | 7.635270 |)54 kHz | SI | VΤ | 8.5 m | ns U | nit | dBm | |
| 10 | | | | | | | v ₁ | [T1] | -22 | .33 dBm | A |
| | | | | | | | | | 2.47957 | 615 GHz | |
| 0 | | | | ^ / | | | <u></u> 1 | [T1] | (| .70 dB | |
| | | | | | $\backslash \Lambda$ | | ∇2 | 8. [T1] | 17.63527 - 2 | 054 kHz .56 dBm | |
| -10 | | | | | h | \ | | | 2.48000 | | |
| | | | _ / | ~ | | \\\ 1 | | | | | |
| -20 _D1 -22. | 56 dBm | | V | | | \ <u>\</u> | | | | | 1MA |
| 1 | | | ~J | | | | مهر | | | | IMA |
| -30 | | _ | / | | | | <u> </u> | | | | |
| | | \wedge | | | | | | γ_{γ} | | | |
| -40 | Γ_{Λ} | | | | | | | ١ | M | | |
| -50 | | V | | | | | | V | M | mm | |
| -60 | | | | | | | | | | | |
| -70 | | | | | | | | | | | |
| -80 | | | | | | | | | | | |
| -90 Center 2 | .48 GHz | | | 300 | kHz/ | | | | Spa | n 3 MHz | |
| Date: 27 | 7.JUL.2 | 021 11 | :01:25 | | | | | | | | |

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| Pi/4D-QPSK Mo | odulation | 1 | | | | | | | | | |
|----------------|-----------------|---------------|-----------|------------|----------|-----|-----------------------|----------------|----------|------------|-----|
| Product: | Mu | ltimedia H | Iome Thea | ter System | 1 | T | est Mode: | | Keep tra | ansmitting | |
| Mode | | Keepin | g Transmi | tting | | To | est Voltage | e | 12 | 0V~ | |
| Temperature | | 2 | 4 deg. C, | | |] | Humidity | | 569 | % RH | |
| Test Result: | | | Pass | | | | Detector | |] | PK | |
| 20dB Bandwidth | | 1. | 208MHz | | | | | | | | |
| Ŕ | | Marker | 1 [T1 r | ndB] | 1 | RBW | 30 k | Hz R | F Att | 20 dB | |
| Ref Lvl | | ndB | | 00 dB | | VBW | 100 k | | | | |
| 10 dBm | | BW 1 | 1.208416 | 83 MHz | i | SWT | 8.5 n | ıs U | nit | dBm | |
| | | | | | | | v ₁ | [T1] | -1 | .41 dBm | A |
| 0 | | | | 3 | | | | | 2.40200 | 301 GHz | |
| | | | | ^ / | | | ndl BW | 8 | 1.20841 | 0.00 dB | |
| | | | | | | | o V _T | 1 [T1] | -21 | .683 MHz | |
| -10 | | | \sim | | \ | M | 14V | | 2.40138 | | |
| | | T | $\sqrt{}$ | | | | $\triangle \sqrt{J}$ | [2 [T1] | -21 | .67 dBm | |
| -20 | | / | | | | | 1 | ń | 2.40259 | 218 GHz | 1MA |
| | | | | | | | | ٦ | | | |
| -30 | | | | | | | | | | | |
| -40 | | | | | | | | \ | | | |
| -50 | $\wedge \wedge$ | \sim | | | | | | \mathcal{M} | | | |
| har har | | | | | | | | | , Mr | Myland | |
| -60 | | | | | | | | | | | |
| -70 | | | | | | | | | | | |
| -80 | | | | | | | | | | | |
| -90 | | | | | | | | | | | |
| Center 2 | .402 GI | Hz | | 300 | kHz, | / | | | Spa | n 3 MHz | |
| Date: 27 | JUL.2 | 021 11 | :04:35 | | | | | | | | |

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| Product: | Multi | imedia H | Iome Thea | ter System | l | T | est Mode: | | Keep tra | nsmitting | |
|---------------|------------------|----------|-----------|------------|---------------|-----|------------------------|---------------|----------|--------------------|-----|
| Mode | | Keepin | g Transmi | tting | | Te | est Voltage | : | 120 | 0V~ | |
| Temperature | | 2 | 4 deg. C, | | |] | Humidity | | 56% | 6 RH | |
| Test Result: | | | Pass | | | | Detector | | F | PΚ | |
| OdB Bandwidth | 1.208MHz | | | | | | | | | | |
| Ŕ | IV. | Marker | 1 [T1 n | ıdB] | 1 | RBW | 30 k | Hz RI | 7 Att | 20 dB | |
| Ref Lvl | n | ndB | 20. | 00 dB | 7 | VBW | 100 k | Hz | | | |
| 10 dBm | Е | 3W 1 | .208416 | 83 MHz | : | SWT | 8.5 m | s Uı | nit | dBm | ı |
| 10 | | | | | | | $lacktriangledown_1$ | [T1] | -1 | .85 dBm | 7 |
| | | | | | | | | | 2.44100 | 301 GHz | A |
| 0 | | | | <u> </u> | | | ndI | , | 20 | .00 dB | |
| | | | | /\ / | \ | | $ abla_{\mathrm{T1}} $ | | 1.20841 | 683 MHz | |
| -10 | | | ~^ N | 7 7 | _ | \ | M_{-} | [T1] | 2.44038 | .71 dBm 377 GHz | |
| | | | | ~ | | ~ | $\sqrt{2}$ | r [T1] | -21 | .89 dBm | |
| -20 | | T) | ~ | | | | | 2 | 2.44159 | 218 GHz | |
| 1MAX | | / ا | | | | | | لر | | | 1M2 |
| -30 | | | | | | | | -\ | | | |
| | | | | | | | | | | | |
| -40 | M .M | W | | | | | | M | \wedge | | |
| -50 1 | | | | | | | | , | V \\ | h my | |
| -60 | | | | | | | | | | · · · · · | |
| -70 | | | | | | | | | | | |
| | | | | | | | | | | | |
| -80 | | | | | | | | | | | |
| | | | | | | | | | | | |
| -90 | 90 | | | | | | | | | | |
| Center 2. | Center 2.441 GHz | | | 300 | kHz, | / | | | Spa | n 3 MHz | |

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| Product: | Multi | imedia H | ome Thea | ter System | 1 | T | est Mode: | | Keep tra | nsmitting | |
|----------------|-------------------|-----------|--|------------|---|----------|-----------------------|-------|-------------|--|-----|
| Mode | | Keeping | g Transmi | tting | | Te | est Voltage | | 12 | 0V~ | |
| Temperature | | 24 | 4 deg. C, | | |] | Humidity | | 56% | 6 RH | |
| Test Result: | | | Pass | | | | Detector | | I | PK | |
| 20dB Bandwidth | | 1. | 214MHz | | | | | | | | |
| F | M | Marker | 1 [T1 n | idB] | R | BW | 30 kH | Iz RI | 7 Att | 20 dB | |
| Ref Lvl | n | ndB | 20. | 00 dB | V | BW | 100 kH | Íz | | | |
| 10 dBm | E | 3W 1 | .214428 | 886 MHz | S | WT | 8.5 ms | . Ur | nit | dBm | ı |
| 10 | | | | | | | v ₁ | [T1] | -2 | .59 dBm | A |
| | | | | | | | | | 2.48000 | 301 GHz | A |
| 0 | | | | | | | ndB | | 20 | .00 dB | |
| | | | | \wedge | | | BW ▼ _{T1} | 5-2-2 | 1.21442 | 886 MHz | |
| -10 | | | | | 5 | \sim | <u></u> | [T1] | 2.47937 | .71 dBm 776 GHz | |
| | | | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | ~ | \ | ~ | | [T1] | -22 -22 | .57 dBm | |
| -20 | | 4 | ما | | | | | | 2.48059 | 218 GHz | |
| 1MAX | | | | | | | | 7 | | | 1M2 |
| -30 | | | | | | | | | | | |
| -40 | ^ | $\sqrt{}$ | | | | | | M | √ | | |
| -50 | ~~~\ \ | | | | | | | 4 | The Control | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | |
| -60 | | | | | | | | | | - #4/14 | |
| -70 | | | | | | | | | | | |
| -80 | | | | | | | | | | | |
| -90 | | | | | | | | | | | |
| Center 2. | Center 2.48 GHz | | | 300 kHz/ | | | | | Spa | n 3 MHz | |

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10.0 FCC ID Label

FCC ID: 2A8AH-WIRELESS-ITEM

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Mark Location:



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11.0 Photo of testing

11.1 Conducted test View--



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Radiated emission test view



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11.2 Photographs - EUT

Outside View

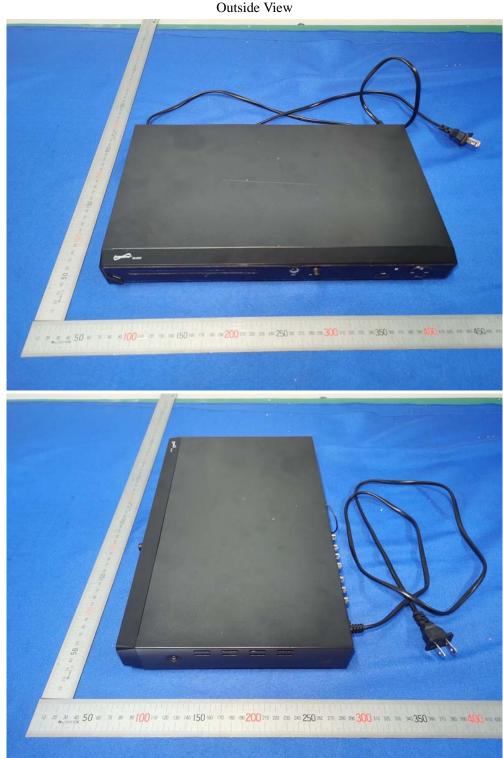


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Outside View



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Inside View





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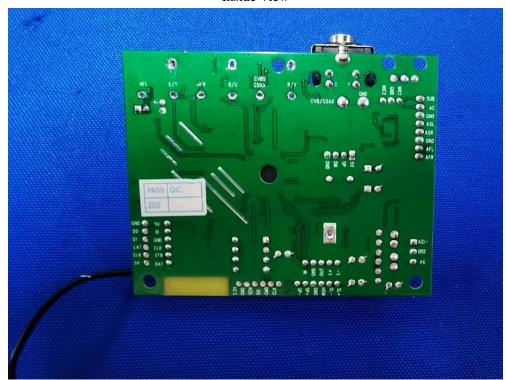
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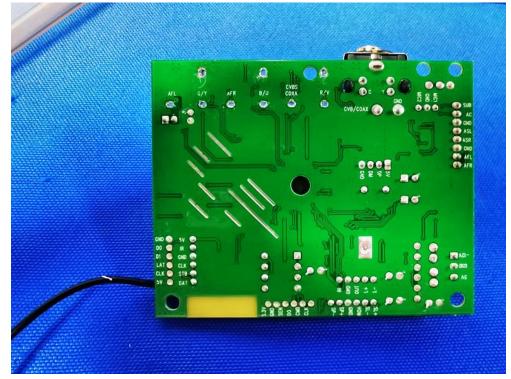
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Inside View





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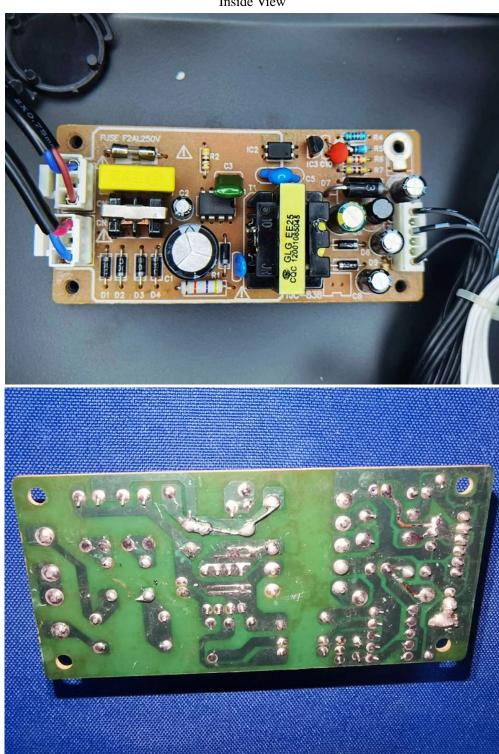
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Inside View



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Inside View





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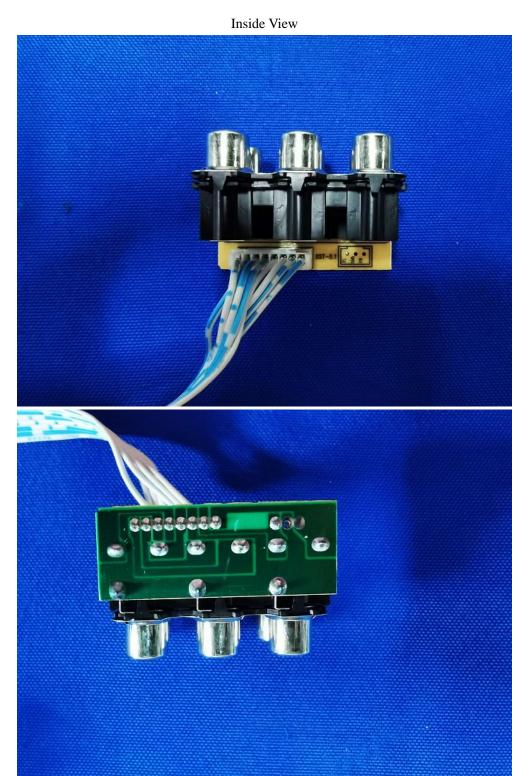
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Inside View



-- End of the report--