FCC PART 15C TEST REPORT FOR CERTIFICATION On Behalf of

Tymphany HK Limited

Speaker

Model Number: EON610

FCC ID: 2AAGJEON610

Prepared for: Tymphany HK Limited

Room 1307-8, Dominon Centre, 43-59 Queen's Road East,

WanChai, Hong Kong

Prepared By: EST Technology Co., Ltd.

Santun(guantai Road), Houjie Town, DongGuan City,

GuangDong, China.

Tel: 86-769-83081888-808

Report Number: ESTE-R1412018

Date of Test : November 27~ December 15, 2014

Date of Report: December 22, 2014



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Test Report Verification

| | Test Report Verific | cation | | | | |
|-------------------------|--|--|--|--|--|--|
| Applicant: Address: | Tymphany HK Limited Room 1307-8, Dominon Centre, 43-59 Queen's Road East, WanChai, Hong Kong | | | | | |
| Manufacturer | JBL Professional | | | | | |
| Address: | 8500 Balboa Blvd. Northridge, CA | . 91329 | | | | |
| E.U.T: | Speaker | | | | | |
| Model Number: | EON610 | | | | | |
| Power Supply: | AC 100~120V/ 200~240V 50/60 | Hz Max 3.15A | | | | |
| Test Voltage: | AC 120V/60Hz | | | | | |
| Trade Name: | JBL Serial 1 | No.: | | | | |
| Date of Receipt: | November 27 Date of | f Test: November 27~ December 15, 2014 | | | | |
| Test Specification: | FCC Rules and Regulations Part 15 ANSI C63.10:2013 | 5 Subpart C:2013 | | | | |
| Test Result: | 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 ETSI EN FCC Rules and Regulations Part 15 Subpart C requirements. This report applies to above tested sample only and shall not be reproduced in part without written approval of EST Technology Co., Ltd. Date: December 22, 2014 | | | | | |
| Prepared by: | Tested by: | Approved by: | | | | |
| Ada | tom/ | Trementhe | | | | |
| Ada / Assistant | Tony.Tang/ Engineer | IcemanHu / Manager | | | | |
| Other Aspects: None. | | | | | | |
| Abbreviations: OK/P=pas | sed fail/F=failed n.a/N=not applica | able E.U.T=equipment under tested | | | | |
| | n a single evaluation of one sample of above report written approval of EST Technology Co., | | | | | |

duplicated in extracts without written approval of EST Technology Co., Ltd.



1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Product Name : Speaker

Model Number : EON610

FCC ID : 2AAGJEON610

Operation frequency : 2402MHz~2480MHz

Number of channel : 40

Antenna : Integral antenna, 5 dBi gain

Modulation : Bluetooth V4.0 BLE: GFSK

Sample Type : Prototype production

EST

2. SUMMARY OF TEST

2.1. Summary of test result

| Description of Test Item | Standard | Results |
|---------------------------------|---------------------|---------|
| | FCC Part 15: 15.207 | DAGG |
| Power Line Conducted Emission | ANSI C63.10:2013 | PASS |
| | FCC Part 15: 15.209 | |
| Radiated Emission | ANSI C63.10:2013 | PASS |
| | KDB 558074 | |
| | FCC Part 15: 15.247 | |
| Band Edge Compliance | ANSI C63.10:2013 | PASS |
| | KDB 558074 | |
| | FCC Part 15: 15.247 | |
| Conducted spurious emissions | ANSI C63.10:2013 | PASS |
| | KDB 558074 | |
| | FCC Part 15: 15.247 | |
| 6dB Bandwidth | ANSI C63.10:2013 | PASS |
| | KDB 558074 | |
| | FCC Part 15: 15.247 | |
| Peak Output Power | ANSI C63.10:2013 | PASS |
| - | KDB 558074 | |
| | FCC Part 15: 15.247 | |
| Power Spectral Density | ANSI C63.10:2013 | PASS |
| 1 | KDB 558074 | |
| Antenna requirement | FCC Part 15: 15.203 | PASS |

Note: 558074 D01 DTS Meas Guidance v03r02

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2.2. Test Facilities

EMC Lab : Certificated by CNAL, CHINA

Registration No.: L5288

Date of registration: November 13, 2014

Certificated by FCC, USA Registration No.: 989591

Date of registration: November 20, 2013

Certificated by Industry Canada Registration No.: 46405-9405 Test Side Number: 9405A-1

Date of registration: January 03, 2013

Certificated by VCCI, Japan

Registration No.: R-3663 & C-4103 Date of registration: July 25, 2011

Certificated by TUV Rheinland, Germany Registration No.: UA 50195514 0001 Date of registration: January 07, 2011

Certificated by TUV/PS, Shenzhen

Registration No.: SCN1017

Date of registration: January 27, 2011

Certificated by Intertek ETL SEMKO Registration No.: 2011-RTL-L1-18 Date of registration: April 28, 2011

Certificated by Siemic, Inc. Registration No.: SLCN021

Date of registration: November 8, 2011

Certificated by Nemko, Hong Kong

Registration No.: 175193

Date of registration: May 4, 2011

Name of Firm : EST Technology Co., Ltd.

Site Location : San Tun Management Zone, Houjie Town, Dongguan,

Guangdong, China

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2.3. Assistant equipment used for test

2.3.1. N/A

2.4. Block Diagram

For radiated emissions test: EUT was placed on a turn table, which is 0.1 meter high above ground.EUT was be set into BT test mode by Bluesuite software before test.



(EUT: Speaker)

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2.5. Test mode

A special test software was used to control EUT work in Continuous TX mode (100% duty cycle), and select test channel, wireless mode and data rate.

| Mode | Channel | Frequency |
|-----------------|---------|-----------|
| | Low | 2402MHz |
| BT 4.0-BLE GFSK | Middle | 2440MHz |
| | High | 2480MHz |

2.6. Channel List for Bluetooth

| Channel No. | Frequency (MHz) | Channel No. | Frequency (MHz) |
|-------------|-----------------|----------------|-----------------|
| 1 | 2402 | 2 | 2404 |
| 3 | 2406 | 4 | 2408 |
| 5 | 2410 | 6 | 2412 |
| 7 | 2414 | 8 | 2416 |
| 9 | 2418 | 10 | 2420 |
| 11 | 2422 | 12 | 2424 |
| 13 | 2426 | 14 | 2428 |
| 15 | 2430 | 16 | 2432 |
| 17 | 2434 | 18 | 2436 |
| 19 | 2438 | 20 | 2440 |
| 21 | 2442 | 22 | 2444 |
| 23 | 2446 | 24 | 2448 |
| 25 | 2450 | 26 | 2452 |
| 27 | 2454 | 28 | 2456 |
| 29 | 2458 | 30 | 2460 |
| 31 | 2462 | 32 | 2464 |
| 33 | 2466 | 34 | 2468 |
| 35 | 2470 | 36 | 2472 |
| 37 | 2474 | 38 | 2476 |
| 39 | 2478 | 40 | 2480 |

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2.7. Test Equipment

2.7.1. For conducted emission test

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|-------------------------|-----------------|-----------|------------|------------|-----------|
| EMI Test Receiver | Rohde & Schwarz | ESHS30 | 832354 | June,28,14 | 1 Year |
| Artificial Mains Networ | Rohde & Schwarz | ENV216 | 101260 | June,28,14 | 1 Year |
| Pulse Limiter | Rohde & Schwarz | ESH3-Z2 | 101100 | June,28,14 | 1 Year |

2.7.2. For radiated emission test(30-1000MHz)

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|-------------------|-----------------|-----------|----------------|------------|-----------|
| EMI Test Receiver | Rohde & Schwarz | ESVS10 | | June,28,14 | |
| Spectrum Analyzer | Agilent | E4411B | MY5014069 7 | June,28,14 | 1 Year |
| Bilog Antenna | Teseq | CBL 6111D | 27090 | June,28,14 | 1 Year |
| Signal Amplifier | Agilent | 310N | 187037 | June,28,14 | 1 Year |

2.7.3. For radiated emission test(above 1GHz)

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|-------------------|-----------------|-------------|-------------------|------------|-----------|
| Horn Antenna | SCHWARZB ECK | BBHA 9120 D | BBHA9120D1 002 | June,28,14 | 1 Year |
| 1 | SCHWARZB ECK | BBV9718 | 9718-212 | June,28,14 | 1 Year |
| Spectrum Analyzer | Agilent | E4408B | MY44211139 | June,28,14 | 1 Year |
| RF Cable | Hubersuhner | RG 214/U | 513423 | June,28,14 | 1 Year |

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3 POWER LINE CONDUCTED EMISSION TEST

3.1. Limit

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

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

3.3 Test Procedure

The EUT was placed on a non-metallic table, 10cm above the ground plane. The EUT Power connected to the power mains through a line impedance stabilization network (L.I.S.N. 1#). This provides a 50 ohm coupling impedance for the EUT (Please refer the block diagram of the test setup and photographs). 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.

The bandwidth of test receiver (R & S ESHS30) is set at 10kHz.

The frequency range from 150kHz to 30MHz is checked.

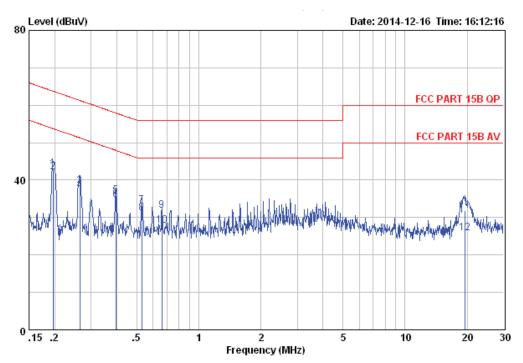
3.4. Test Result

PASS. (All emissions not reported below are too low against the prescribed limits.)

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^{2.} The lower limit shall apply at the transition frequencies.

3.5. Test data



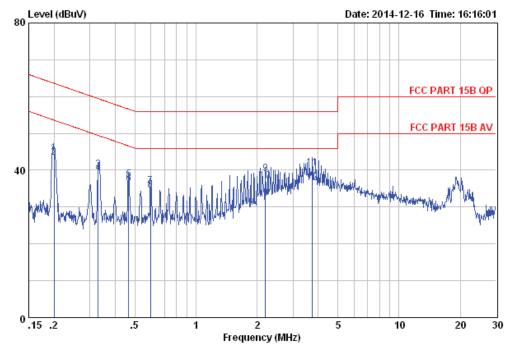
Site no. : EST Conduction Shielded RoomData no. : 899 Limit : FCC PART 15B QP LINE Phase : LINE

Env. / Ins. : Temp:25.3'C Humi:58% Press:101.50kPa

Engineer : Tony
EUT : Speaker
Power : AC 120V/60Hz
M/N : EON610
Test Mode : TX Mode

| | | LISN | Cable | | Emission | | | |
|----|-------|--------|-------|---------|----------|--------|--------|---------|
| | Freq. | Factor | Loss | Reading | Level | Limits | Margin | Remark |
| | (MHz) | (dB) | (dB) | (dBuV) | (dBuv) | (dBuv) | (dB) | |
| 1 | 0.20 | 9.61 | 9.80 | 23.68 | 43.09 | 63.76 | 20.67 | QP |
| 2 | 0.20 | 9.61 | 9.80 | 22.68 | 42.09 | 53.76 | 11.67 | Average |
| 3 | 0.26 | 9.61 | 9.83 | 18.82 | 38.26 | 61.29 | 23.03 | QP |
| 4 | 0.26 | 9.61 | 9.83 | 17.82 | 37.26 | 51.29 | 14.03 | Average |
| 5 | 0.40 | 9.61 | 9.82 | 16.36 | 35.79 | 57.95 | 22.16 | QP |
| 6 | 0.40 | 9.61 | 9.82 | 15.36 | 34.79 | 47.95 | 13.16 | Average |
| 7 | 0.53 | 9.61 | 9.81 | 13.72 | 33.14 | 56.00 | 22.86 | QP |
| 8 | 0.53 | 9.61 | 9.81 | 11.72 | 31.14 | 46.00 | 14.86 | Average |
| 9 | 0.66 | 9.59 | 9.81 | 12.38 | 31.78 | 56.00 | 24.22 | QP |
| 10 | 0.66 | 9.59 | 9.81 | 8.38 | 27.78 | 46.00 | 18.22 | Average |
| 11 | 19.43 | 9.68 | 9.95 | 12.31 | 31.94 | 60.00 | 28.06 | QP |
| 12 | 19.43 | 9.68 | 9.95 | 6.31 | 25.94 | 50.00 | 24.06 | Average |





Site no. : EST Conduction Shielded RoomData no. : 901 Limit : FCC PART 15B QP LINE Phase : NEUTRAL Env. / Ins. : Temp:25.3'C Humi:58% Press:101.50kPa
Engineer : Tony
EUT : Speaker

: AC 120V/60Hz Power

M/N : EON610 Test Mode : TX Mode

| | Freq. (MHz) | LISN Factor (dB) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuv) | Limits (dBuv) | Margin (dB) | Remark |
|----|----------------|------------------------|-----------------------|-------------------|-----------------------------|------------------|----------------|---------|
| 1 | 0.20 | 9.60 | 9.80 | 25.06 | 44.46 | 63.62 | 19.16 | QP |
| 2 | 0.20 | 9.60 | 9.80 | 24.06 | 43.46 | 53.62 | 10.16 | Average |
| 3 | 0.33 | 9.59 | 9.83 | 20.74 | 40.16 | 59.44 | 19.28 | QP |
| 4 | 0.33 | 9.59 | 9.83 | 19.74 | 39.16 | 49.44 | 10.28 | Average |
| 5 | 0.47 | 9.59 | 9.81 | 17.97 | 37.37 | 56.58 | 19.21 | QP |
| 6 | 0.47 | 9.59 | 9.81 | 16.97 | 36.37 | 46.58 | 10.21 | Average |
| 7 | 0.60 | 9.61 | 9.82 | 16.16 | 35.59 | 56.00 | 20.41 | QP |
| 8 | 0.60 | 9.61 | 9.82 | 15.16 | 34.59 | 46.00 | 11.41 | Average |
| 9 | 2.20 | 9.62 | 9.84 | 19.43 | 38.89 | 56.00 | 17.11 | QP |
| 10 | 2.20 | 9.62 | 9.84 | 17.43 | 36.89 | 46.00 | 9.11 | Average |
| 11 | 3.74 | 9.64 | 9.84 | 21.00 | 40.48 | 56.00 | 15.52 | QP |
| 12 | 3.74 | 9.64 | 9.84 | 17.00 | 36.48 | 46.00 | 9.52 | Average |



4 RADIATED EMISSION TEST

4.1 Limit

4.1.1 15.209 limits

| FREQUENCY | DISTANCE | FIELD STREN | NGTHS LIMIT | | |
|------------|----------|-------------------------|-------------|--|--|
| MHz | Meters | μV/m | dB(μV)/m | | |
| 30 ~ 88 | 3 | 100 | 40.0 | | |
| 88 ~ 216 | 3 | 150 | 43.5 | | |
| 216 ~ 960 | 3 | 200 | 46.0 | | |
| 960 ~ 1000 | 3 | 500 | 54.0 | | |
| Above 1000 | 3 | 74.0 dB(μV | /)/m (Peak) | | |
| | | 54.0 dB(µV)/m (Average) | | | |

Remark : (1) Emission level $dB\mu V = 20 \log Emission level \mu V/m$

- (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.

4.1.2 15.205 Restricted bands of operation

| 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) |

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.



4.2. Test Procedure

EUT and its simulators are placed on a turn table, which is 0.1 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna are set on test.

The bandwidth of the EMI test receiver is set at 120kHz for frequency range from 30MHz to 1000 MHz.

The bandwidth of the Spectrum's VBW is set at 3MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emissions measure above 1GHz

PEAK detector, 1MHz/1MHz for PAEK measurement, PEAK detector, 1MHz/10Hz for Average measurement

The frequency range from 30MHz to 10th harmonic (25GHz) are checked.

4.3 Test Result

PASS.

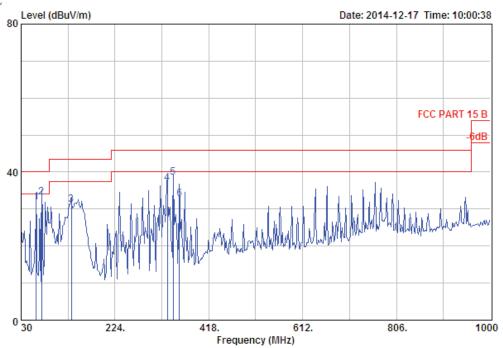
All the emissions from 30MHz to 25 GHz were comply with 15.209 limits.

- Note: 1. For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.
 - 2. The frequency 2402MHz . 2440MHz and 2480 MHz is fundamental frequency which no limit, the limit on plots is automatically generated by the software, it's not fundamental limit, we can't remove it.



4.4 Test Data

30-1000 MHz



Site no. : 3m Chamber Data no. : 367

Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL

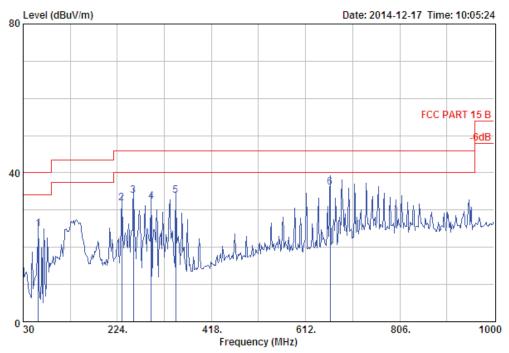
Limit : FCC PART 15 B
Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa

Engineer : Tony EUT : Speaker : AC 120V/60Hz Power M/N : EON610

: GFSK TX 2402MHz Test Mode

| | - | Factor | Loss | Reading | | Limits (dBuV/m) | _ | Remark |
|---|--------|--------|------|---------|-------|--------------------|-------|--------|
| 1 | 61.04 | 4.74 | 0.94 | 26.10 | 31.78 | 40.00 | 8.22 | QP |
| 2 | 72.68 | 6.12 | 1.13 | 26.05 | 33.30 | 40.00 | 6.70 | QP |
| 3 | 133.79 | 11.36 | 1.56 | 18.26 | 31.18 | 43.50 | 12.32 | QP |
| 4 | 332.64 | 13.93 | 2.48 | 20.65 | 37.06 | 46.00 | 8.94 | QP |
| 5 | 344.28 | 14.28 | 2.52 | 21.64 | 38.44 | 46.00 | 7.56 | QP |
| 6 | 356.89 | 14.46 | 2.56 | 15.75 | 32.77 | 46.00 | 13.23 | QP |





Site no. : 3m Chamber
Dis. / Ant. : 3m 27137
Limit : FCC PART 15 B

Data no. : 368 Ant. pol. : HORIZONTAL

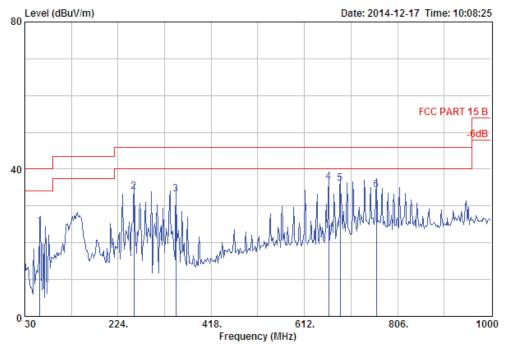
Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa

: Tony Engineer EUT : Speaker : AC 120V/60Hz Power : EON610 M/N

Test Mode : GFSK TX 2402MHz

| | - | Factor | Loss | Reading | Emission Level (dBuV/m) | Limits | _ | Remark |
|---|--------|--------|------|---------|-------------------------------|--------|-------|--------|
| 1 | 61.04 | 4.74 | 0.94 | 19.19 | 24.87 | 40.00 | 15.13 | QP |
| 2 | 232.73 | 9.59 | 2.08 | 20.29 | 31.96 | 46.00 | 14.04 | QP |
| 3 | 256.98 | 12.63 | 2.17 | 19.00 | 33.80 | 46.00 | 12.20 | QP |
| 4 | 293.84 | 12.92 | 2.33 | 17.01 | 32.26 | 46.00 | 13.74 | QP |
| 5 | 344.28 | 14.28 | 2.52 | 17.18 | 33.98 | 46.00 | 12.02 | QP |
| 6 | 662.44 | 20.10 | 3.55 | 12.49 | 36.14 | 46.00 | 9.86 | OP |





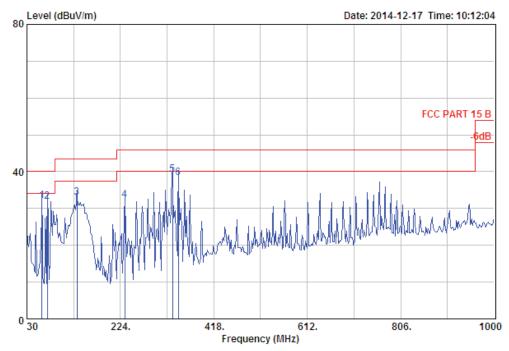
Site no. : 3m Chamber Data no. : 369 Dis. / Ant. : 3m 27137 Ant. pol Limit : FCC PART 15 B Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa Engineer : Tony Ant. pol. : HORIZONTAL

EUT : Speaker : AC 120V/60Hz : EON610 Power M/N

Test Mode : GFSK TX 2440MHz

| | - | Factor | Loss | Reading | Emission Level (dBuV/m) | Limits | _ | Remark |
|---|--------|--------|------|---------|-------------------------------|--------|-------|--------|
| 1 | 61.04 | 4.74 | 0.94 | 18.84 | 24.52 | 40.00 | 15.48 | QP |
| 2 | 256.98 | 12.63 | 2.17 | 19.12 | 33.92 | 46.00 | 12.08 | QP |
| 3 | 344.28 | 14.28 | 2.52 | 16.30 | 33.10 | 46.00 | 12.90 | QP |
| 4 | 662.44 | 20.10 | 3.55 | 12.83 | 36.48 | 46.00 | 9.52 | QP |
| 5 | 686.69 | 20.34 | 3.59 | 12.14 | 36.07 | 46.00 | 9.93 | QP |
| 6 | 761.38 | 22.03 | 3.95 | 8.44 | 34.42 | 46.00 | 11.58 | QP |





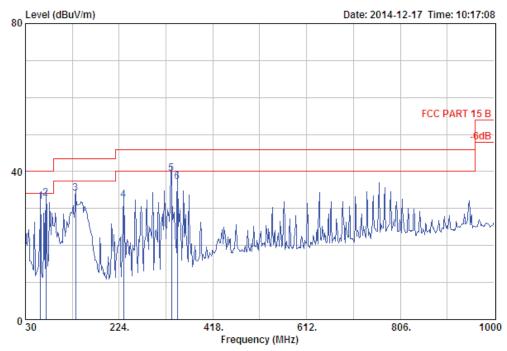
: 3m Chamber Site no. Data no. : 370 Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL

Limit : FCC PART 15 B
Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa
Engineer : Tony
EUT : Speaker
Power : AC 120V/60Hz

M/N : EON610 Test Mode : GFSK TX 2440MHz

| | - | Factor | Loss | Reading | | Limits (dBuV/m) | _ | Remark | |
|---|--------|--------|------|---------|-------|-----------------|-------|--------|--|
| 1 | 61.04 | 4.74 | 0.94 | 26.39 | 32.07 | 40.00 | 7.93 | QP | |
| 2 | 72.68 | 6.12 | 1.13 | 24.63 | 31.88 | 40.00 | 8.12 | QP | |
| 3 | 133.79 | 11.36 | 1.56 | 20.05 | 32.97 | 43.50 | 10.53 | QP | |
| 4 | 232.73 | 9.59 | 2.08 | 20.65 | 32.32 | 46.00 | 13.68 | QP | |
| 5 | 332.64 | 13.93 | 2.48 | 22.82 | 39.23 | 46.00 | 6.77 | QP | |
| 6 | 344.28 | 14.28 | 2.52 | 21.49 | 38.29 | 46.00 | 7.71 | QP | |





Site no. : 3m Chamber
Dis. / Ant. : 3m 27137
Limit : FCC PART 15 B Data no. : 371 Ant. pol. : VERTICAL

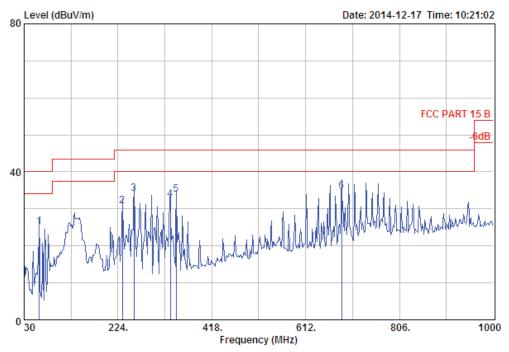
Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa

: Tony Engineer EUT : Speaker : AC 120V/60Hz Power M/N : EON610

Test Mode : GFSK TX 2480MHz

| | | Ant. | Cable | | Emission | 1 | | | |
|---|--------|-------|-------|-------|-------------------|-------|-------|--------|--|
| | - | | | _ | Level (dBuV/m) | | _ | Remark | |
| 1 | 61.04 | 4.74 | 0.94 | 26.19 | 31.87 | 40.00 | 8.13 | OP | |
| | 72.68 | | | | | | | ~ | |
| 3 | 133.79 | 11.36 | 1.56 | 21.28 | 34.20 | 43.50 | 9.30 | QP | |
| 4 | 232.73 | 9.59 | 2.08 | 20.56 | 32.23 | 46.00 | 13.77 | QP | |
| 5 | 332.64 | 13.93 | 2.48 | 23.09 | 39.50 | 46.00 | 6.50 | QP | |
| 6 | 344.28 | 14.28 | 2.52 | 20.36 | 37.16 | 46.00 | 8.84 | QP | |





Data no. : 372

Site no. : 3m Chamber Dis. / Ant. : 3m 27137

Ant. pol. : HORIZONTAL

: FCC PART 15 B Limit

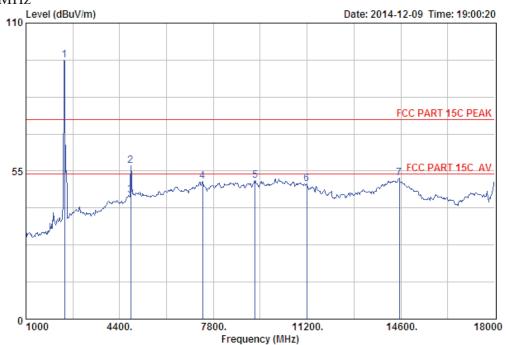
Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
Engineer : Tony
EUT : Speaker : AC 120V/60Hz Power : EON610 M/N

Test Mode : GFSK TX 2480MHz

| | _ | Factor | Loss | Reading | Emission Level (dBuV/m) | Limits | _ | Remark |
|---|--------|--------|------|---------|-------------------------------|--------|-------|--------|
| 1 | 61.04 | 4.74 | 0.94 | 19.42 | 25.10 | 40.00 | 14.90 | QP |
| 2 | 232.73 | 9.59 | 2.08 | 19.09 | 30.76 | 46.00 | 15.24 | QP |
| 3 | 256.98 | 12.63 | 2.17 | 19.39 | 34.19 | 46.00 | 11.81 | QP |
| 4 | 332.64 | 13.93 | 2.48 | 16.15 | 32.56 | 46.00 | 13.44 | QP |
| 5 | 344.28 | 14.28 | 2.52 | 17.15 | 33.95 | 46.00 | 12.05 | QP |
| 6 | 686.69 | 20.34 | 3.59 | 10.86 | 34.79 | 46.00 | 11.21 | QP |



1000-18000 MHz



Site no. : 3m Chamber
Dis. / Ant. : 3m ANT 1-18G
Limit : FCC PART 15C PEAK Data no. : 323

Ant. pol. : HORIZONTAL

Limit

Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa

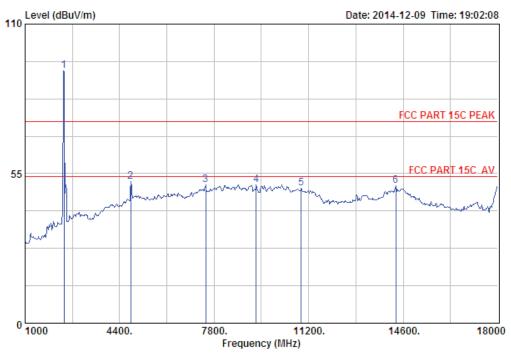
: Tony Engineer EUT : Speaker Power : AC 120V/60Hz M/N : EON610

Test Mode : GFSK TX 2402MHz

| | Freq. | Factor | | Factor | Reading | Emission g Level (dBuV/m) | Limits | _ | Remark |
|---|----------|--------|-------|--------|---------|---------------------------------|--------|--------|---------|
| 1 | 2402.00 | 27.61 | 6.62 | 34.18 | 96.25 | 96.30 | 74.00 | -22.30 | Peak |
| 2 | 4804.00 | 31.25 | 11.77 | 31.81 | 45.73 | 56.94 | 74.00 | 17.06 | Peak |
| 3 | 4804.00 | 31.25 | 11.77 | 31.81 | 34.75 | 45.96 | 54.00 | 8.04 | Average |
| 4 | 7409.00 | 36.58 | 11.60 | 31.97 | 35.08 | 51.29 | 74.00 | 22.71 | Peak |
| 5 | 9313.00 | 37.94 | 11.62 | 32.15 | 34.19 | 51.60 | 74.00 | 22.40 | Peak |
| 6 | 11183.00 | 39.40 | 11.15 | 34.00 | 33.79 | 50.34 | 74.00 | 23.66 | Peak |
| 7 | 14549.00 | 41.77 | 10.92 | 33.26 | 32.83 | 52.26 | 74.00 | 21.74 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.





Site no. : 3m Chamber
Dis. / Ant. : 3m ANT 1-18G Data no. : 324 Ant. pol. : VERTICAL

: FCC PART 15C PEAK Limit

Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa

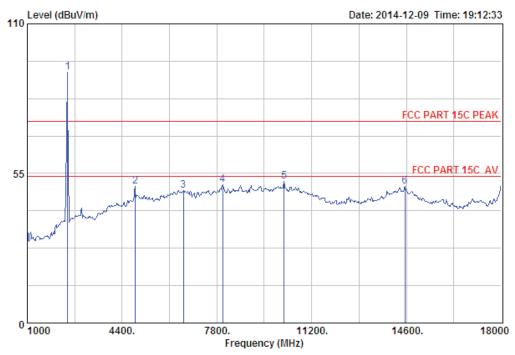
Engineer : Tony EUT : Speaker : AC 120V/60Hz : EON610 Power M/N

Test Mode : GFSK TX 2402MHz

| | - | Factor | Loss | Factor | Reading | Emission Level (dBuV/m) | Limits | _ | Remark |
|---|----------|--------|-------|--------|---------|-------------------------------|--------|--------|--------|
| 1 | 2402.00 | 27.61 | 6.62 | 34.18 | 92.65 | 92.70 | 74.00 | -18.70 | Peak |
| 2 | 4804.00 | 31.25 | 11.77 | 31.81 | 40.81 | 52.02 | 74.00 | 21.98 | Peak |
| 3 | 7494.00 | 36.48 | 11.62 | 31.87 | 34.59 | 50.82 | 74.00 | 23.18 | Peak |
| 4 | 9313.00 | 37.94 | 11.62 | 32.15 | 33.60 | 51.01 | 74.00 | 22.99 | Peak |
| 5 | 10928.00 | 39.45 | 11.29 | 33.52 | 32.47 | 49.69 | 74.00 | 24.31 | Peak |
| 6 | 14328.00 | 41.74 | 10.92 | 32.98 | 30.97 | 50.65 | 74.00 | 23.35 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.





Site no. : 3m Chamber Dis. / Ant. : 3m ANT 1-18G Data no. : 327

Ant. pol. : HORIZONTAL

: FCC PART 15C PEAK Limit

Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa

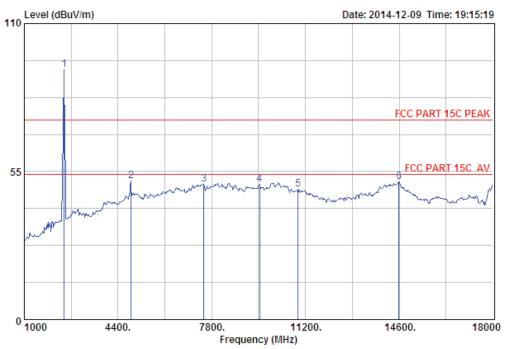
: Tony Engineer EUT : Speaker : AC 120V/60Hz Power M/N : EON610

Test Mode : GFSK TX 2440MHz

| | Freq. | Factor | Loss | Factor | Reading | Emission g Level (dBuV/m) | Limits | _ | Remark |
|---|----------|--------|-------|--------|---------|---------------------------------|--------|--------|--------|
| 1 | 2440.00 | 27.60 | 6.67 | 34.12 | 92.18 | 92.33 | 74.00 | -18.33 | Peak |
| 2 | 4880.00 | 31.37 | 12.07 | 31.90 | 38.76 | 50.30 | 74.00 | 23.70 | Peak |
| 3 | 6593.00 | 34.46 | 12.10 | 32.17 | 34.28 | 48.67 | 74.00 | 25.33 | Peak |
| 4 | 8004.00 | 37.01 | 11.40 | 31.22 | 33.53 | 50.72 | 74.00 | 23.28 | Peak |
| 5 | 10214.00 | 38.48 | 11.47 | 32.17 | 34.16 | 51.94 | 74.00 | 22.06 | Peak |
| 6 | 14549.00 | 41.77 | 10.92 | 33.26 | 30.95 | 50.38 | 74.00 | 23.62 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.





Site no. : 3m Chamber Data no. : 328
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa

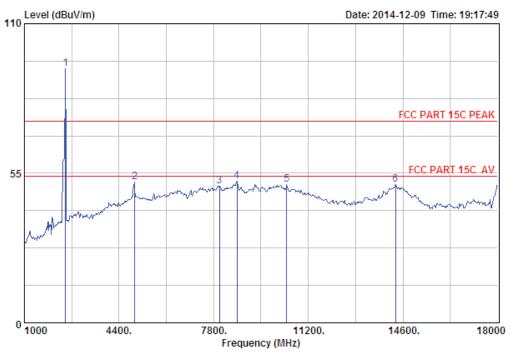
Engineer : Tony
EUT : Speaker
Power : AC 120V/60Hz
M/N : EON610

Test Mode : GFSK TX 2440MHz

| | - | Factor | Loss | Factor | Reading | Emission g Level (dBuV/m) | Limits | _ | Remark | |
|---|----------|--------|-------|--------|---------|---------------------------------|--------|--------|--------|--|
| 1 | 2440.00 | 27.60 | 6.67 | 34.12 | 92.82 | 92.97 | 74.00 | -18.97 | Peak | |
| 2 | 4880.00 | 31.37 | 12.07 | 31.90 | 39.83 | 51.37 | 74.00 | 22.63 | Peak | |
| 3 | 7511.00 | 36.47 | 11.61 | 31.85 | 34.17 | 50.40 | 74.00 | 23.60 | Peak | |
| 4 | 9534.00 | 37.97 | 11.70 | 31.92 | 32.65 | 50.40 | 74.00 | 23.60 | Peak | |
| 5 | 10928.00 | 39.45 | 11.29 | 33.52 | 31.22 | 48.44 | 74.00 | 25.56 | Peak | |
| 6 | 14583.00 | 41.65 | 10.92 | 33.38 | 31.93 | 51.12 | 74.00 | 22.88 | Peak | |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.





Site no. : 3m Chamber Dis. / Ant. : 3m ANT 1-18G Data no. : 329 Ant. pol. : VERTICAL

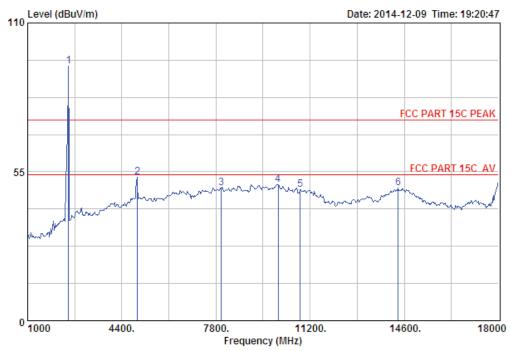
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
Engineer : Tony

EUT : Speaker : AC 120V/60Hz Power M/N : EON610 Test Mode : GFSK TX 2480MHz

| | Ant. | Cable | Amp | | Emission | 1 | | | |
|----------|---|---|--|--|---|--|--|---|---|
| Freq. | Factor | Loss | Factor | Reading | g Level | Limits | Margin | Remark | |
| (MHz) | (dB/m) | (dB) | (dB) | (dBuV) | (dBuV/m) | (dBuV/m) | (dB) | | |
| 2400 00 | | | | | | 74.00 | | | _ |
| | | | | | | | | | |
| 4960.00 | 31.49 | 12.44 | 31.97 | 39.94 | 51.90 | 74.00 | 22.10 | Peak | |
| 8004.00 | 37.01 | 11.40 | 31.22 | 33.18 | 50.37 | 74.00 | 23.63 | Peak | |
| 8633.00 | 37.24 | 11.45 | 32.31 | 35.60 | 51.98 | 74.00 | 22.02 | Peak | |
| 10418.00 | 38.83 | 11.36 | 32.56 | 33.26 | 50.89 | 74.00 | 23.11 | Peak | |
| 14328.00 | 41.74 | 10.92 | 32.98 | 31.21 | 50.89 | 74.00 | 23.11 | Peak | |
| | (MHZ) 2480.00 4960.00 8004.00 8633.00 10418.00 | Freq. Factor (MHz) (dB/m) 2480.00 27.58 4960.00 31.49 8004.00 37.01 8633.00 37.24 10418.00 38.83 | Freq. Factor Loss (MHz) (dB/m) (dB) | Freq. Factor Loss Factor (MHz) (dB/m) (dB) (dB) 2480.00 27.58 6.71 34.03 4960.00 31.49 12.44 31.97 8004.00 37.01 11.40 31.22 8633.00 37.24 11.45 32.31 10418.00 38.83 11.36 32.56 | Freq. Factor Loss Factor Reading (MHz) (dB/m) (dB) (dB) (dBuV) 2480.00 27.58 6.71 34.03 93.33 4960.00 31.49 12.44 31.97 39.94 8004.00 37.01 11.40 31.22 33.18 8633.00 37.24 11.45 32.31 35.60 10418.00 38.83 11.36 32.56 33.26 | Freq. Factor Loss Factor Reading Level (MHz) (dB/m) (dB) (dB) (dBuV) (dBuV/m) 2480.00 27.58 6.71 34.03 93.33 93.59 4960.00 31.49 12.44 31.97 39.94 51.90 8004.00 37.01 11.40 31.22 33.18 50.37 8633.00 37.24 11.45 32.31 35.60 51.98 10418.00 38.83 11.36 32.56 33.26 50.89 | (MHz) (dB/m) (dB) (dB) (dBuV) (dBuV/m) (dBuV/m) 2480.00 27.58 6.71 34.03 93.33 93.59 74.00 4960.00 31.49 12.44 31.97 39.94 51.90 74.00 8004.00 37.01 11.40 31.22 33.18 50.37 74.00 8633.00 37.24 11.45 32.31 35.60 51.98 74.00 10418.00 38.83 11.36 32.56 33.26 50.89 74.00 | Freq. Factor Loss Factor Reading Level Limits Margin (MHz) (dB/m) (dB) (dB) (dBuV) (dBuV/m) (dBuV/m) (dB) 2480.00 27.58 6.71 34.03 93.33 93.59 74.00 -19.59 4960.00 31.49 12.44 31.97 39.94 51.90 74.00 22.10 8004.00 37.01 11.40 31.22 33.18 50.37 74.00 23.63 8633.00 37.24 11.45 32.31 35.60 51.98 74.00 22.02 10418.00 38.83 11.36 32.56 33.26 50.89 74.00 23.11 | Freq. Factor Loss Factor Reading Level Limits Margin Remark (MHz) (dB/m) (dB) (dB) (dBuV) (dBuV/m) (dBuV/m) (dB) 2480.00 27.58 6.71 34.03 93.33 93.59 74.00 -19.59 Peak 4960.00 31.49 12.44 31.97 39.94 51.90 74.00 22.10 Peak 8004.00 37.01 11.40 31.22 33.18 50.37 74.00 23.63 Peak 8633.00 37.24 11.45 32.31 35.60 51.98 74.00 22.02 Peak 10418.00 38.83 11.36 32.56 33.26 50.89 74.00 23.11 Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.





Site no. : 3m Chamber
Dis. / Ant. : 3m ANT 1-18G
Limit : FCC PART 15C PEAK Data no. : 330 Ant. pol. : HORIZONTAL

Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa

: Tony Engineer EUT : Speaker : AC 120V/60Hz Power

M/N : EON610

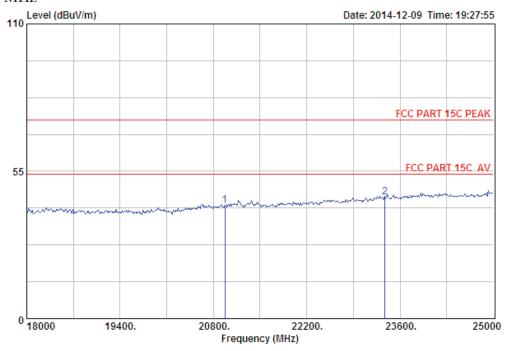
Test Mode : GFSK TX 2480MHz

| | | Ant. | Cable | Amp | | Emission | | | |
|---|----------|--------|-------|--------|---------|----------|----------|--------|--------|
| | Freq. | Factor | Loss | Factor | Reading | Level | Limits | Margin | Remark |
| | (MHz) | (dB/m) | (dB) | (dB) | (dBuV) | (dBuV/m) | (dBuV/m) | (dB) | |
| 1 | 2480.00 | 27.58 | 6.71 | 34.03 | 93.83 | 94.09 | 74.00 | -20.09 | Peak |
| | 4960.00 | | | | | | | | |
| 3 | 7987.00 | 36.98 | 11.41 | 31.23 | 31.93 | 49.09 | 74.00 | 24.91 | Peak |
| 4 | 10044.00 | 38.18 | 11.56 | 31.85 | 32.30 | 50.19 | 74.00 | 23.81 | Peak |
| 5 | 10843.00 | 39.35 | 11.30 | 33.36 | 31.22 | 48.51 | 74.00 | 25.49 | Peak |
| 6 | 14379.00 | 41.77 | 10.92 | 32.88 | 29.11 | 48.92 | 74.00 | 25.08 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.



18000-25000 MHz



Site no. : 3m Chamber
Dis. / Ant. : 3m ANT ABOVE 18G Data no. : 333 Ant. pol. : VERTICAL Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
Engineer : Tony

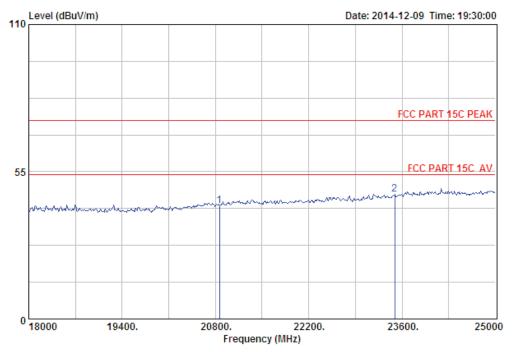
EUT : Speaker : AC 120V/60Hz Power

M/N : EON610 Test Mode : GFSK TX 2402MHz

| | | Ant. | Cable | Amp | | Emission | | | |
|---|----------|-------|-------|-------|-------|----------|-----------------|-------|--------|
| | - | | | | _ | | Limits (dBuV/m) | _ | Remark |
| 1 | 20975.00 | 46.29 | 20.12 | 35.82 | 11.68 | 42.27 | 74.00 | 31.73 | Peak |
| 2 | 23376.00 | 45.67 | 21.48 | 33.46 | 11.53 | 45.22 | 74.00 | 28.78 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.





Data no. : 334

Site no. : 3m Chamber
Dis. / Ant. : 3m ANT ABVOE 18G
Limit : FCC PART 15C PEAK Ant. pol. : HORIZONTAL

Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa

: Tony : Speaker : AC 120V/60Hz Engineer EUT Power

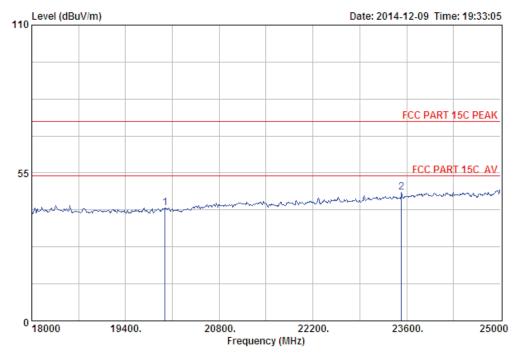
M/N : EON610

Test Mode : GFSK TX 2402MHz

| | | Ant. | Cable | Amp | | Emission | | | |
|---|----------|-------|-------|-------|-------|----------|-----------------|-------|--------|
| | - | | | | _ | | Limits (dBuV/m) | _ | Remark |
| 1 | 20863.00 | 46.22 | 20.07 | 35.91 | 11.76 | 42.14 | 74.00 | 31.86 | Peak |
| 2 | 23488.00 | 45.70 | 21.59 | 33.33 | 12.48 | 46.44 | 74.00 | 27.56 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.





: 3m Chamber Site no. Data no. : 335

Dis. / Ant. : 3m ANT ABVOE 18G Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa

: Tony Engineer : Speaker EUT Power : AC 120V/60Hz

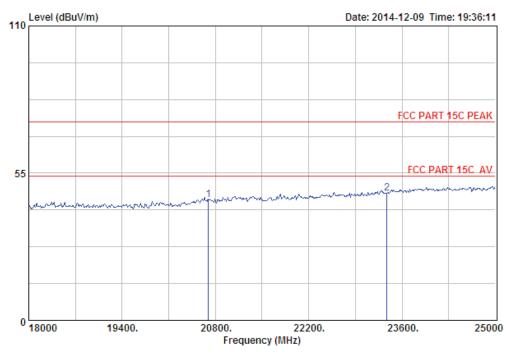
: EON610 M/N

Test Mode : GFSK TX 2440MHz

| | Ant. | Cable | Amp | | Emission | | | |
|----------------------|------|-------|-----|---|----------|--------------------|---|--------------|
| - | | | | _ | | Limits (dBuV/m) | _ | Remark |
| 19988.00 23523.00 | | | | | | | | Peak Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.





Site no. : 3m Chamber Data no. : 336 Dis. / Ant. : 3m ANT ABOVE 18G Ant. pol Limit : FCC PART 15C PEAK Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa Ant. pol. : VERTICAL

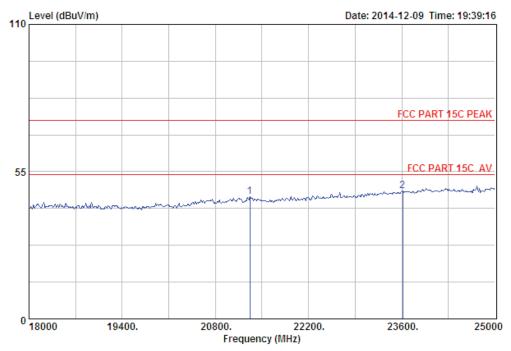
Engineer : Tony EUT : Speaker : AC 120V/60Hz : EON610 Power M/N

Test Mode : GFSK TX 2440MHz

| | | Ant. | Cable | Amp | | Emission | | | |
|---|----------|--------|-------|--------|---------|----------|----------|--------|--------|
| | Freq. | Factor | Loss | Factor | Reading | Level | Limits | Margin | Remark |
| | (MHz) | (dB/m) | (dB) | (dB) | (dBuV) | (dBuV/m) | (dBuV/m) | (dB) | |
| | | | | | | | | | |
| 1 | 20695.00 | 46.11 | 19.99 | 36.07 | 15.13 | 45.16 | 74.00 | 28.84 | Peak |
| 2 | 23376.00 | 45.67 | 21.48 | 33.46 | 13.93 | 47.62 | 74.00 | 26.38 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.





: 3m Chamber Site no. Data no. : 337 Dis. / Ant. : 3m ANT ABOVE 18G Ant. pol. : VERTICAL

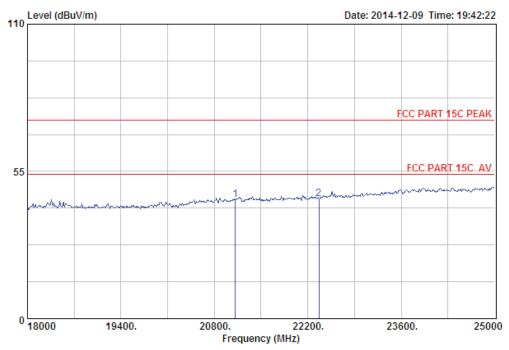
Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
Engineer : Tony
EUT : Speaker : AC 120V/60Hz Power : EON610 M/N

Test Mode : GFSK TX 2480MHz

| | Ant. | Cable | Amp | | Emission | | |
|----------------------|------|-------|-----|---|-------------------|------|--------------|
| - | | | | _ | Level (dBuV/m) | _ | Remark |
| 21318.00 23614.00 | | | | | | | Peak Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.





Site no. : 3m Chamber Data no. : 338

Dis. / Ant. : 3m ANT ABVOE 18G Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa

: Tony EUT : Speaker Power : AC 120V/60Hz

M/N : EON610

Test Mode : GFSK TX 2480MHz

| | | Ant. | Cable | Amp | | Emission | | | |
|---|----------|--------|-------|--------|---------|----------|----------|--------|--------|
| | Freq. | Factor | Loss | Factor | Reading | Level | Limits | Margin | Remark |
| | (MHz) | (dB/m) | (dB) | (dB) | (dBuV) | (dBuV/m) | (dBuV/m) | (dB) | |
| | | | | | | | | | |
| 1 | 21115.00 | 46.22 | 20.18 | 35.69 | 13.77 | 44.48 | 74.00 | 29.52 | Peak |
| 2 | 22368.00 | 45.77 | 20.78 | 34.51 | 12.74 | 44.78 | 74.00 | 29.22 | Peak |
| | | | | | | | | | |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.



5 BAND EDGE COMPLIANCE TEST

5.1 Limit

All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits

5.2 Test Procedure

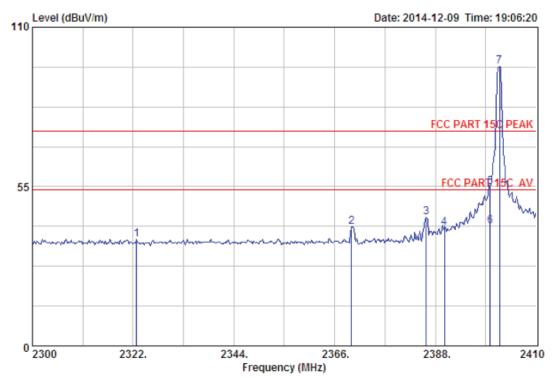
- 1. The EUT is placed on a turntable, which is 0.1m above the ground plane and worked at highest radiated power.
- 2. The turntable was rotated for 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
- 4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
- (a) Peak: RBW = 1MHz, VBW = 1MHz, Detector=PEAK detector, Sweep time = auto (b) AV: RBW = 1MHz, VBW = 10Hz, Detector=PEAK detector, Sweep time = auto

5.3 Test Result

Pass (The testing data was attached in the next pages.)

- Note: 1. For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.
 - 2. The frequency 2402MHz and 2480 MHz is fundamental frequency which no limit, the limit on plots is automatically generated by the software, it's not fundamental limit, we can't remove it.

5.4 Test Data



Site no. : 3m Chamber Data no. : 325
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa

Engineer : Tony
EUT : Speaker
Power : AC 120V/60Hz

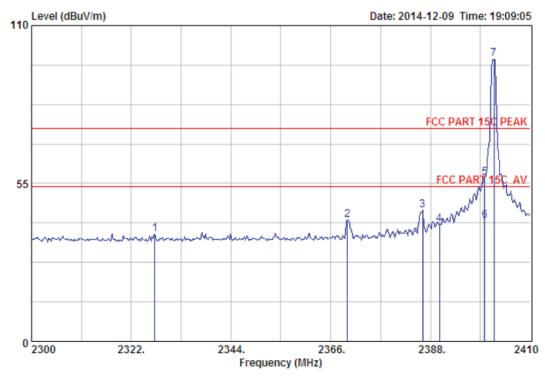
M/N : EON610

Test Mode : GFSK TX 2402MHz

| | | _ | Factor | Loss | Factor | Reading | Emission Level (dBuV/m) | Limits | _ | Remark |
|---|---|---------|--------|------|--------|---------|-------------------------------|--------|--------|---------|
| _ | 1 | 2322.77 | 27.73 | 6.54 | 34.23 | 36.61 | 36.65 | 74.00 | 37.35 | Peak |
| | 2 | 2369.74 | 27.67 | 6.60 | 34.20 | 41.11 | 41.18 | 74.00 | 32.82 | Peak |
| | 3 | 2386.02 | 27.64 | 6.62 | 34.19 | 44.38 | 44.45 | 74.00 | 29.55 | Peak |
| | 4 | 2390.00 | 27.64 | 6.62 | 34.19 | 40.67 | 40.74 | 74.00 | 33.26 | Peak |
| | 5 | 2400.00 | 27.61 | 6.62 | 34.18 | 54.93 | 54.98 | 74.00 | 19.02 | Peak |
| | 6 | 2400.00 | 27.61 | 6.62 | 34.18 | 41.28 | 41.33 | 54.00 | 12.67 | Average |
| | 7 | 2401.97 | 27.61 | 6.62 | 34.18 | 96.37 | 96.42 | 74.00 | -22.42 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.





Site no. : 3m Chamber Data no. : 326

Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa

Engineer : Tony
EUT : Speaker
Power : AC 120V/60Hz

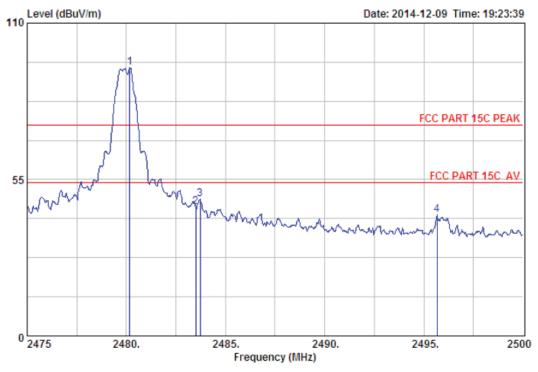
M/N : EON610

Test Mode : GFSK TX 2402MHz

| | | | Ant. | Cable | Amp | | Emission | | | |
|---|---|----------------|---------------|-------|-------|-------|----------|-------|--------|---------|
| | | Freq. (MHz) | Factor (dB/m) | | | _ | (dBuV/m) | | _ | Remark |
| - | 1 | 2327.17 | 27.73 | 6.54 | 34.23 | 37.35 | 37.39 | 74.00 | 36.61 | Peak |
| | 2 | 2369.74 | 27.67 | 6.60 | 34.20 | 42.25 | 42.32 | 74.00 | 31.68 | Peak |
| | 3 | 2386.24 | 27.64 | 6.62 | 34.19 | 45.44 | 45.51 | 74.00 | 28.49 | Peak |
| | 4 | 2390.00 | 27.64 | 6.62 | 34.19 | 40.63 | 40.70 | 74.00 | 33.30 | Peak |
| | 5 | 2400.00 | 27.61 | 6.62 | 34.18 | 56.90 | 56.95 | 74.00 | 17.05 | Peak |
| | 6 | 2400.00 | 27.61 | 6.62 | 34.18 | 41.98 | 42.03 | 54.00 | 11.97 | Average |
| | 7 | 2401.97 | 27.61 | 6.62 | 34.18 | 98.19 | 98.24 | 74.00 | -24.24 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.





Data no. : 331

Site no. : 3m Chamber Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL

: FCC PART 15C PEAK

Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa

Engineer : Tony EUT : Speaker Power : AC 120V/60Hz

: EON610 M/N

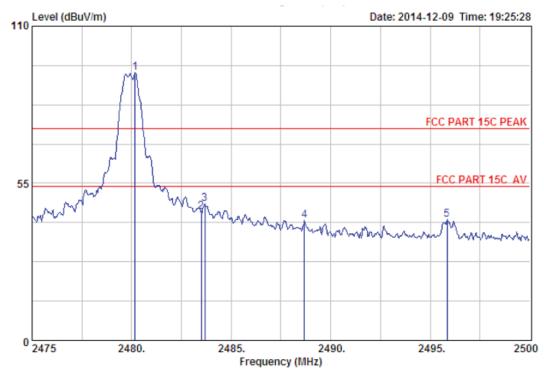
Test Mode : GFSK TX 2480MHz

| | | Ant. | Cable | Amp | 1 | Emission | | | |
|------|---------|---------------|-------|-------|-------|----------|-------|----------------|--------|
| | _ | Factor (dB/m) | | | _ | | | Margin (dB) | Remark |
| | | | | | | | | | |
| 1 | 2480.18 | 27.58 | 6.71 | 34.03 | 94.05 | 94.31 | 74.00 | -20.31 | Peak |
| 2 | 2483.50 | 27.58 | 6.71 | 34.03 | 45.01 | 45.27 | 74.00 | 28.73 | Peak |
| 3 | 2483.73 | 27.58 | 6.71 | 34.03 | 47.84 | 48.10 | 74.00 | 25.90 | Peak |
| 4 | 2495.68 | 27.57 | 6.73 | 34.00 | 42.19 | 42.49 | 74.00 | 31.51 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

2. The emission levels that are 20dB below the official limit are not reported.





: 3m Chamber Data no. : 332 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK
Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa

Engineer : Tony EUT : Speaker Power : AC 120V/60Hz

M/N : EON610

Test Mode : GFSK TX 2480MHz

| | | Ant. | Cable | Amp | | Emission | | | |
|---|---------|--------|-------|-------|--------|----------|----------|--------|--------|
| | _ | | | | _ | | | Margin | Remark |
| | (MHz) | (dB/m) | (dB) | (dB) | (dBuV) | (dBuV/m) | (dBuV/m) | (dB) | |
| 1 | 2480.18 | 27.58 | 6.71 | 34.03 | 93.39 | 93.65 | 74.00 | -19.65 | Peak |
| 2 | 2483.50 | 27.58 | 6.71 | 34.03 | 44.63 | 44.89 | 74.00 | 29.11 | Peak |
| 3 | 2483.68 | 27.58 | 6.71 | 34.03 | 47.66 | 47.92 | 74.00 | 26.08 | Peak |
| 4 | 2488.68 | 27.58 | 6.73 | 34.03 | 41.74 | 42.02 | 74.00 | 31.98 | Peak |
| 5 | 2495.85 | 27.57 | 6.73 | 34.00 | 41.98 | 42.28 | 74.00 | 31.72 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

2. The emission levels that are 20dB below the official limit are not reported.



6 6dB Bandwidth Test

6.1 Limit

For direct sequence systems, the minimum 6dB bandwidth shall be at least 500kHz

6.2 Test Procedure

- 1, Connected the EUT's antenna port to spectrum analyzer device.
- 2, Follow the test procedure as described in KDB 558074
 - (1). Set resolution bandwidth (RBW) = 100 kHz.
 - (2). Set the video bandwidth (VBW) $\geq 3 \times RBW$.
 - (3). Detector = Peak.
 - (4). Trace mode = max hold.
 - (5). Sweep = auto couple.
 - (6). Allow the trace to stabilize.
 - (7). Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

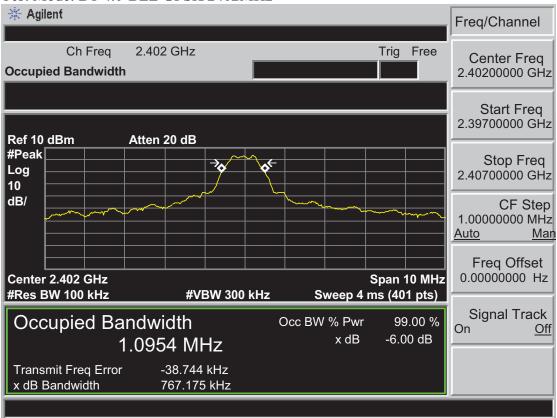
6.3 Test Result

| EUT: Speaker | | | | | |
|--------------------|---------|----------------------|--------------------|--|--|
| M/N: EON610 | | | | | |
| Test date: 2014 | 4-12-08 | Tested by: Tony.Tang | Test site: RF Site | | |
| Test Mode CH | | 6dB bandwidth (MHz) | Limit (KHz) | | |
| DT 4 0 DI E | CH1 | 0.767 | >500 | | |
| BT 4.0-BLE GFSK | CH20 | 0.769 | >500 | | |
| Ursk | CH40 | 0.782 | >500 | | |
| Conclusion: PASS | | | | | |

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6.4 Test Data

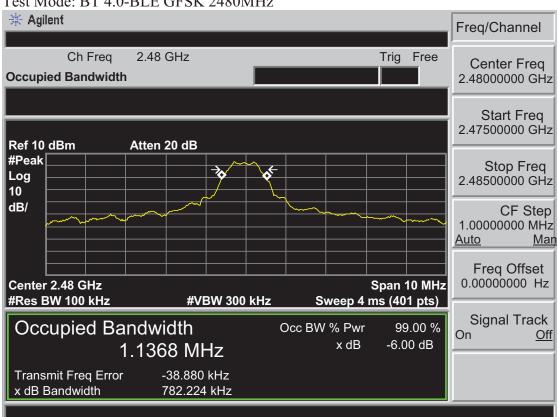
Test Mode: BT 4.0-BLE GFSK 2402MHz



Test Mode: BT 4.0-BLE GFSK 2440MHz











7 OUTPUT POWER TEST

7.1 Limit

For systems using digital modulation in the 2400—2483.5MHz, The Peak out put Power shall not exceed 1W(30dBm)

7.2 Test Procedure

7.3 Test Procedure

- 1, Connected the EUT's antenna port to spectrum analyzer device.
- 2, Follow the test procedure as described in KDB 558074
 - (1). Set the RBW \geq DTS bandwidth.
 - (2). Set VBW \geq 3 x RBW.
 - (3). Set span \geq 3 x RBW.
 - (4). Sweep time = auto couple.
 - (5). Detector = peak.
 - (6). Trace mode = max hold.
 - (7). Allow trace to fully stabilize.
 - (8). Use peak marker function to determine the peak amplitude level.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.



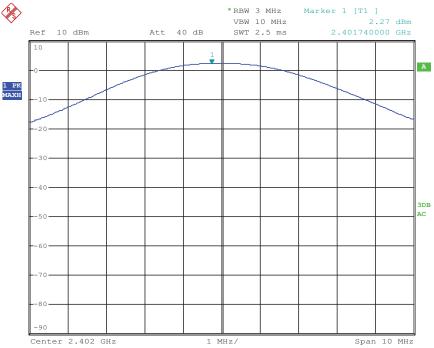
7.4 Test Result

| EUT: Speaker | | | | | | |
|--------------------|-------|-------------------------|----------------------|--|--|--|
| M/N: EON610 | | | | | | |
| Test date: 2014- | 12-11 | Test site: 3m Chamber | Tested by: Tony Tang | | | |
| Pass | | | | | | |
| Test Mode CH | | Peak output Power (dBm) | Limit (dBm) | | | |
| DT 4 O DI E | CH1 | 2.27 | 30 | | | |
| BT 4.0-BLE GFSK | CH20 | 1.85 | 30 | | | |
| GISK | CH40 | 1.69 | 30 | | | |
| Conclusion: PASS | | | | | | |

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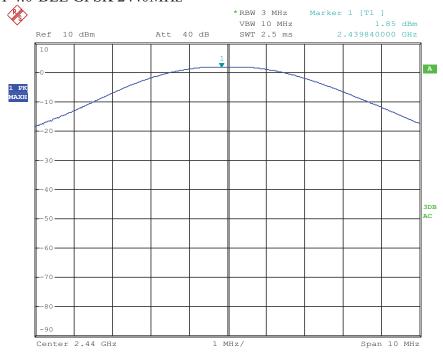
7.5 Test Data

Test Mode: BT 4.0-BLE GFSK 2402MHz



Date: 10.DEC.2014 06:18:16

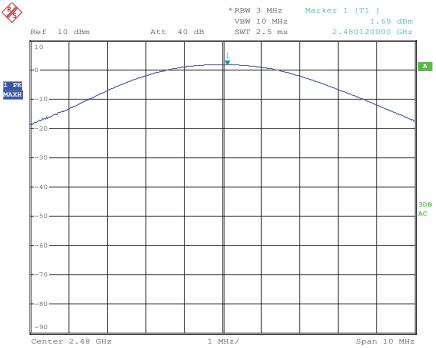
Test Mode: BT 4.0-BLE GFSK 2440MHz



Date: 10.DEC.2014 06:24:16



Test Mode: BT 4.0-BLE GFSK 2480MHz



Date: 10.DEC.2014 06:25:03

8 POWER SPECTRAL DENSITY TEST

8.1 Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

8.2 Test Procedure

- 1, Connected the EUT's antenna port to spectrum analyzer device.
- 2, Follow the test procedure as described in KDB 558074
- (1). Set analyzer center frequency to DTS channel center frequency.
- (2). Set the span to 1.5 times the DTS bandwidth.
- (3). Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- (4). Set the VBW \geq 3 RBW.
- (5). Detector = peak.
- (6). Sweep time = auto couple.
- (7). Trace mode = max hold.
- (8). Allow trace to fully stabilize.
- (9). Use the peak marker function to determine the maximum amplitude level.
- (10). If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.



8.3 Test Result

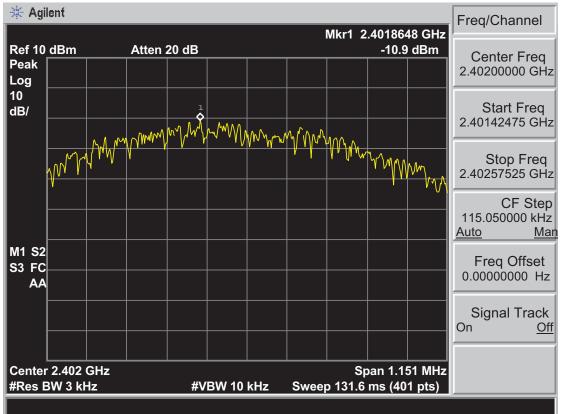
| EUT: Speaker | | | | | |
|--------------------|-------|--------------------------|----------------------|--|--|
| M/N: EON610 | | | | | |
| Test date: 2014- | 12-08 | Test site: 3m Chamber | Tested by: Tony Tang | | |
| Pass | | | | | |
| Test Mode | СН | Power density (dBm/3kHz) | Limit (dBm/3kHz) | | |
| DT 4 0 DI E | CH1 | -10.90 | 8 | | |
| BT 4.0-BLE GFSK | CH20 | -11.27 | 8 | | |
| GISK | CH40 | -11.54 | 8 | | |
| Conclusion: PASS | | | | | |



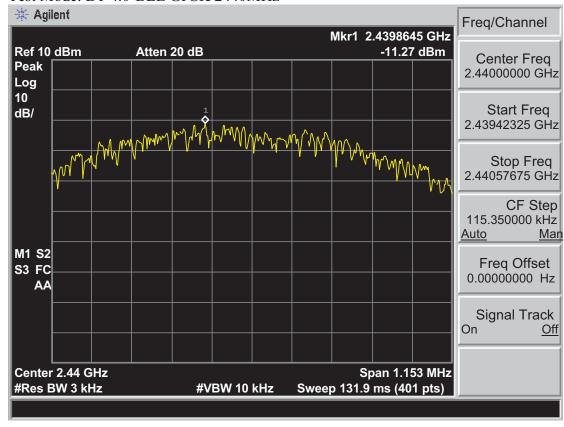
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8.4 Test Data

Test Mode: BT 4.0-BLE GFSK 2402MHz

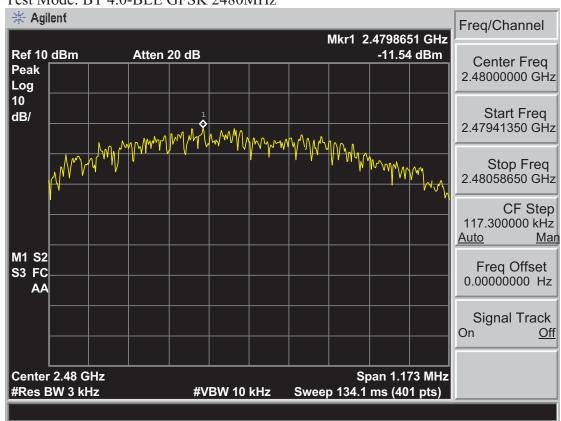


Test Mode: BT 4.0-BLE GFSK 2440MHz











9 ANTENNA REQUIREMENTS

9.1 Limit

For intentional device, according to FCC 47 CFR Section 15.203, 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 FCC 47 CFR Section 15.247 (b), 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.

9.2 Result

The antennas used for this product are integral Antenna and that 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 5 dBi.

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