中国认可
国际互认
检测
TESTING
CNAS L5313

# Test Report

**FCC Part15 Subpart C (Class II Permissive Change)**

| | | |
|---|---|---|
| Product Name | : | Virtual Reality Controller |
| Model No. | : | B0-S8A526053-BZ |
| FCC ID | : | 2AI3GS8A526053 |

Applicant : Pico Technology Inc.

Address : 20th Floor, Shining Tower, No.35 Xueyuan Road, HaiDian District, Beijing, The People

# Test Report Certification

Issued Date : Sep. 18, 2016
Report No. : 1672084R-RF-US-P06V01

| | | |
|---|---|---|
| Product Name | : | Virtual Reality Controller |
| Applicant | : | Pico Technology Inc. |
| Address | : | 20th Floor, Shining Tower, No.35 Xueyuan Road, HaiDian District, Beijing, The People |

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## History of This Test Report

| REPORT NO. | VERSION | DESCRIPTION | ISSUED DATE |
|---|---|---|---|
| 1672084R-RF-US-P06V03 | V1.0 | Initial Issued Report | Aug. 23, 2016 |
| 1672084R-RF-US-P06V03 | V1.1 | Comfirm the power and modified the power. | Sep. 18, 2016 |
| | | | |
| | | | |

# 1. General Information

## 1.1. EUT Description

| | |
|---|---|
| Product Name | Virtual Reality Controller |
| Brand Name | Pico |
| Model No. | B0-S8A526053-BZ |
| Working Voltage | DC 5V or 9V |
| Bluetooth Specification | V4.0 |
| Frequency Range | 2402- 2480 MHz |
| Channel Number | V4.0: 40 |
| Channel Separation | V4.0: 2MHz |
| Type of Modulation | V4.0: GFSK |
| Data Rate | V4.0: 1Mbps(GFSK) |
| Antenna Type | Reference to Antenna List |
| Peak Antenna Gain | Reference to Antenna List |

## 1.2. Working Frequency of Each Channel:

| Bluetooth Working Frequency of Each Channel: (For BLE) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 00 | 2402 MHz | 01 | 2404 MHz | 02 | 2406 MHz | 03 | 2408 MHz |
| 04 | 2410 MHz | 05 | 2412 MHz | 06 | 2414 MHz | 07 | 2416 MHz |
| 08 | 2418 MHz | 09 | 2420 MHz | 10 | 2422 MHz | 11 | 2424 MHz |
| 12 | 2426 MHz | 13 | 2428 MHz | 14 | 2430 MHz | 15 | 2432 MHz |
| 16 | 2434 MHz | 17 | 2436 MHz | 18 | 2438 MHz | 19 | 2440 MHz |
| 20 | 2442 MHz | 21 | 2444 MHz | 22 | 2446 MHz | 23 | 2448 MHz |
| 24 | 2450 MHz | 25 | 2452 MHz | 26 | 2454 MHz | 27 | 2456 MHz |
| 28 | 2458 MHz | 29 | 2460 MHz | 30 | 2462 MHz | 31 | 2464 MHz |
| 32 | 2466 MHz | 33 | 2468 MHz | 34 | 2470 MHz | 35 | 2472 MHz |
| 36 | 2474 MHz | 37 | 2476 MHz | 38 | 2478 MHz | 39 | 2480 MHz |

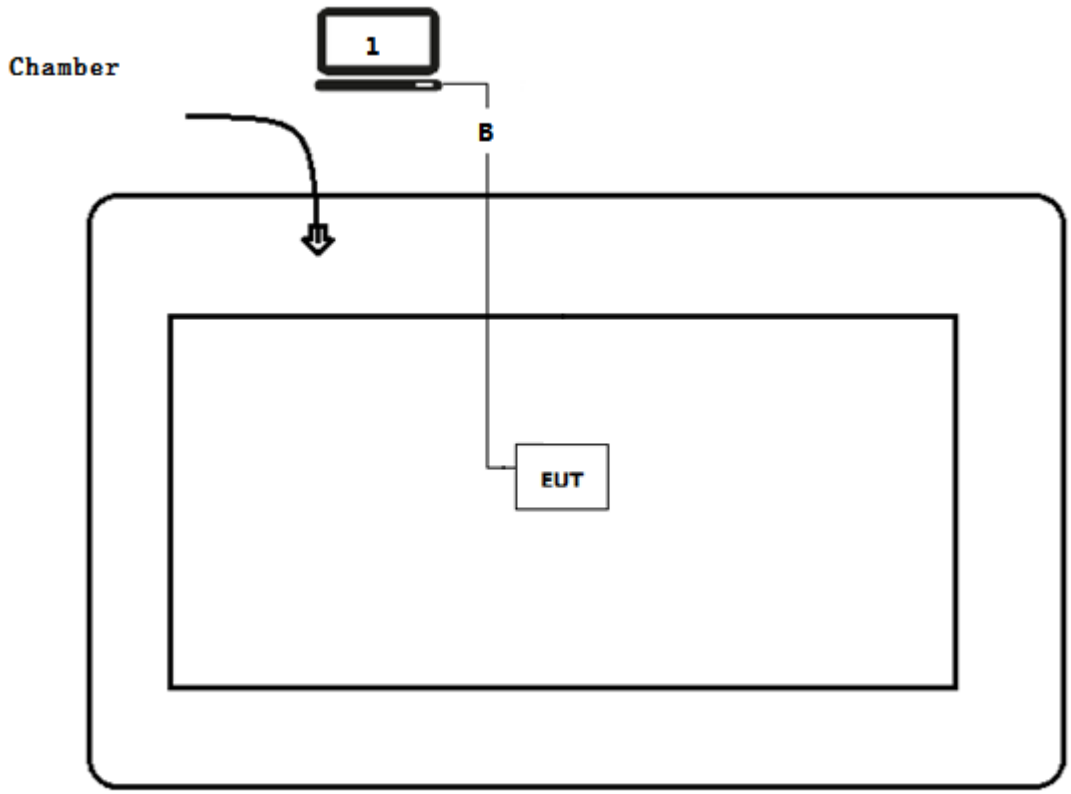
## 1.3. Antenna information

| | | | | | | |
|---|---|---|---|---|---|---|
| Model No. | AA077 | | | | | |
| Antenna manufacturer | Unictron | | | | | |
| Antenna Delivery | ☒ | 1*TX+1*RX | ☐ | 2*TX+2*RX | ☐ | 3*TX+3*RX |
| Antenna technology | ☒ | SISO | | | | |
| | ☐ | MIMO | ☐ | Basic | | |
| | | | ☐ | CDD | | |
| | | | ☐ | Beam-forming | | |
| Antenna Type | ☐ | External | ☐ | Dipole | | |
| | ☒ | Internal | ☐ | PIFA | | |
| | | | ☐ | PCB | | |
| | | | ☒ | Ceramic Chip Antenna | | |
| | | | ☐ | Metal plate type F antenna | | |
| Antenna Gain | 1.4dBi | | | | | |

## 1.4. Mode of Operation

| Test Mode |
| --- |
| Mode 1: Transmit |

## 1.6. Configuration of Tested System

| Test setup Diagram- Radiated Emission |
|---|
|   |
| B: LAN Cable, Non-shield, 10m |

## 1.7. EUT Exercise Software

| | |
|---|---|
| 1 | Setup the EUT and simulators as shown on above. |
| 2 | Turn on the power of all equipment. |
| 3 | Run the RF test software, and set the test mode and channel, then press OK to start continue receive. |

# 2. Technical Test

## 2.1. Summary of Test Result

| Performed Test Item | Normative References | Limit | Result |
|---|---|---|---|
| Emissions in restricted frequency bands | FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.209 | FCC 15.209 | PASS |
| Radiated Emission Band Edge | FCC CFR Title 47 Part 15 Subpart C: 2015 15.247(d) | FCC 15.209 | PASS |
| Fundamental emission output power | FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(b)(3) | | |

## 2.2. Test Frequency configuration:

| Bluetooth Working Frequency of Each Channel: (For BLE) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 00 | 2402 MHz | 01 | 2404 MHz | 02 | 2406 MHz | 03 | 2408 MHz |
| 04 | 2410 MHz | 05 | 2412 MHz | 06 | 2414 MHz | 07 | 2416 MHz |
| 08 | 2418 MHz | 09 | 2420 MHz | 10 | 2422 MHz | 11 | 2424 MHz |
| 12 | 2426 MHz | 13 | 2428 MHz | 14 | 2430 MHz | 15 | 2432 MHz |
| 16 | 2434 MHz | 17 | 2436 MHz | 18 | 2438 MHz | 19 | 2440 MHz |
| 20 | 2442 MHz | 21 | 2444 MHz | 22 | 2446 MHz | 23 | 2448 MHz |
| 24 | 2450 MHz | 25 | 2452 MHz | 26 | 2454 MHz | 27 | 2456 MHz |
| 28 | 2458 MHz | 29 | 2460 MHz | 30 | 2462 MHz | 31 | 2464 MHz |
| 32 | 2466 MHz | 33 | 2468 MHz | 34 | 2470 MHz | 35 | 2472 MHz |
| 36 | 2474 MHz | 37 | 2476 MHz | 38 | 2478 MHz | 39 | 2480 MHz |

## 2.3. Test Environment

| Items | Required (IEC 68-1) | Actual |
|---|---|---|
| Temperature (°C) | 15-35 | 21 |
| Humidity (%RH) | 25-75 | 50 |
| Barometric pressure (mbar) | 860-1060 | 950-1000 |

## 2.4. Measurement Uncertainty

| Test Items | Uncertainty |
|---|---|
| AC Power Line Conducted Emission | |

# 3. Emissions in restricted frequency bands

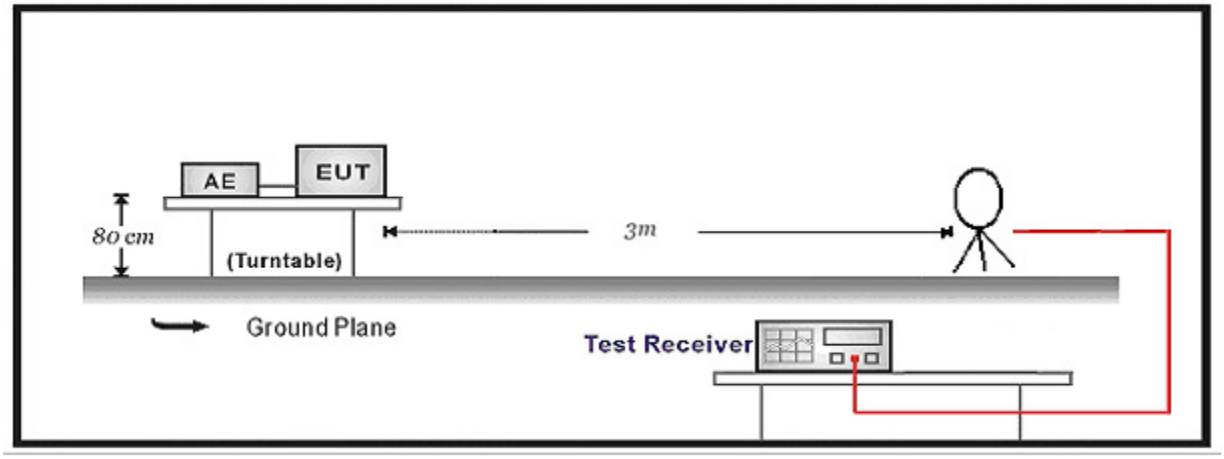
## 3.1. Test Equipment

| Radiated Emission(Below 1GHz) / AC-2 | | | | | |
|---|---|---|---|---|---|
| Instrument | Manufacturer | Type No. | Serial No. | Cal. Date | Cal. Due Date |
| EMI Test Receiver | R&S | ESCI | 100573 | 2016.03.05 | 2017.03.05 |
| Loop Antenna | R&S | HFH2-Z2 | 833799/003 | 2015.11.07 | 2016.11.07 |
| Bilog Chainenna | Teseq GmbH | CBL6112D | 27611 | 2015.09.25 | 2016.09.25 |
| Coaxial Cable | Huber+Suhner | SUCOFLEX 106 | AC2-C | 2017.02.28 | 2017.02.28 |
| Temperature/Humidity Meter | Zhichen | ZC1-2 | AC2-TH | 2016.01.05 | 2017.01.05 |
| Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards. | | | | | |

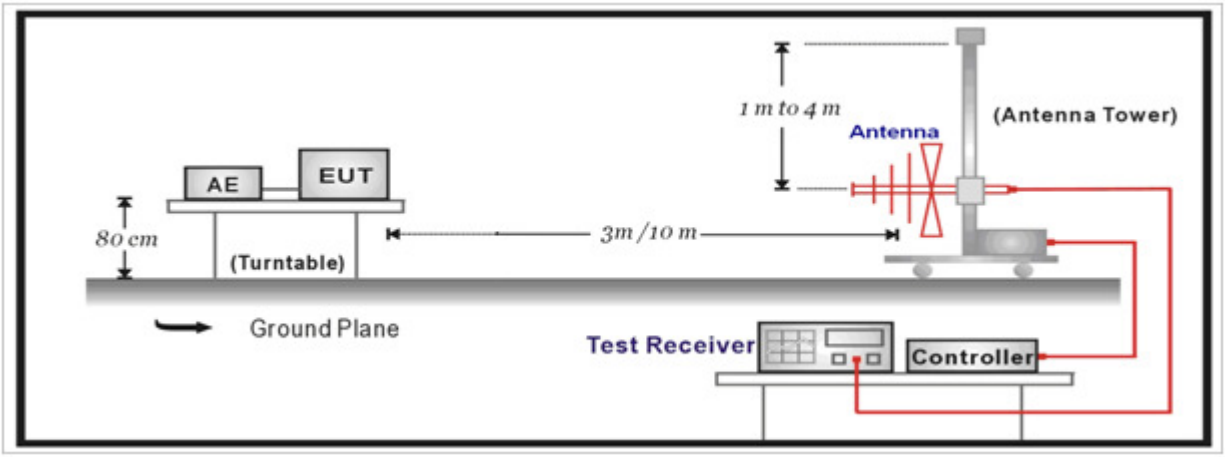
| Radiated Emission(Above 1GHz) / AC-5 | | | | | |
|---|---|---|---|---|---|
| Instrument | Manufacturer | Type No. | Serial No. | Cal. Date | Cal. Due Date |
| Spectrum Analyzer | Agilent | E4446A | MY45300103 | 2016.01.04 | 2017.01.04 |
| Preamplifier | Miteq | NSP1800-25 | 1364185 | 2016.05.03 | 2017.05.03 |
| DRG Horn | ETS-Lindgren | 3117 | 00167055 | 2016.07.23 | 2017.07.23 |
| Broad-Band Horn Antenna | Schwarzbeck | BBHA9170 | 1126450 | 2014.09.18 | 2016.09.18 |
| Coaxial Cable | Huber+Suhner | SUCOFLEX 106 | AC5-C1 | 2017.02.28 | 2017.02.28 |
| Coaxial Cable | Huber+Suhner | SUCOFLEX 106 | AC5-C2 | 2017.02.28 | 2017.02.28 |
| EMI Receiver | Agilent | N9038A | MY51210196 | 2016.07.16 | 2017.07.16 |
| Temperature/Humidity Meter | Zhichen | ZC1-2 | AC5-TH | 2016.01.05 | 2017.01.05 |
| Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards. | | | | | |

## 3.2. Test Setup

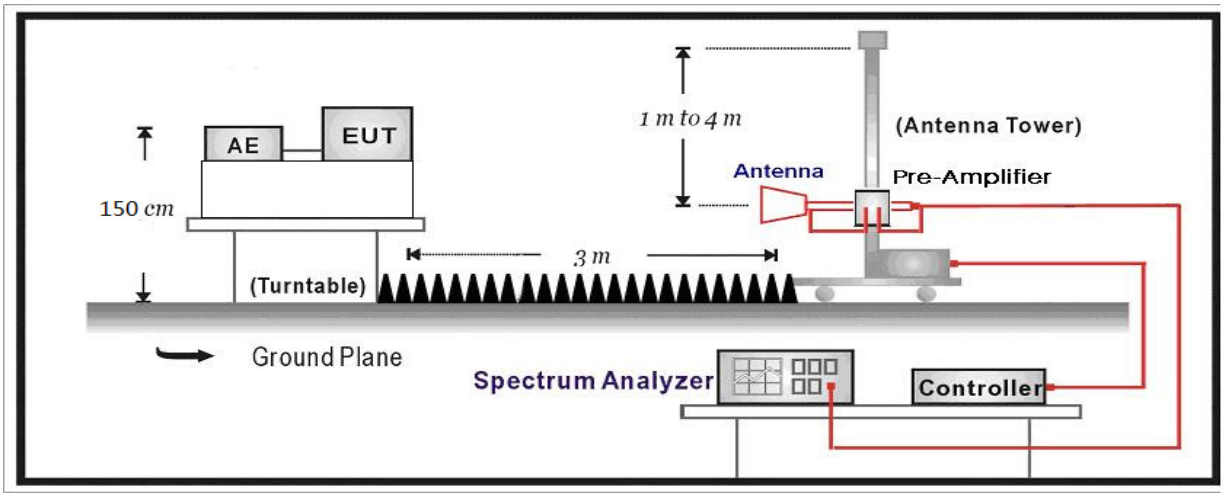
Below 30MHz Test Setup:




30MHz-1GHz Test Setup:




Above 1GHz Test Setup:



## 3.3. Limit

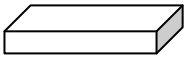
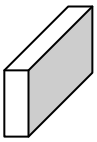
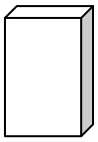
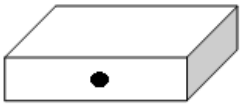
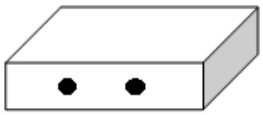
| Restricted Bands of operation | | | |
|---|---|---|---|
| Frequency (MHz) | Frequency (MHz) | Frequency (MHz) | Frequency (GHz) |
| 0.090 – 0.110 | 16.42 – 16.423 | 399.9 – 410 | 4.5 – 5.15 |
| 0.495 – 0.505 | 16.69475 –16.69525 | 608 – 614 | 5.35 – 5.46 |
| 2.1735 – 2.1905 | 16.80425 – 16.80475 | 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 |
| 8.81425 – 8.81475 | 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 | |
| 13.36 – 13.41 | | | |

| Restricted Band Emissions Limit | |
|---|---|
| Frequency (MHz) | Field strength ( |

## 3.4. Test Procedure

| Test Method | | | | | | |
|---|---|---|---|---|---|---|
| | References Rule | | | | Chapter | Description |
| ☐ | ANSI C63.10 | | | | 11.11 | Emissions in non-restricted frequency bands |
| | ☐ | ANSI C63.10 | | | 11.11.2 | Reference level measurement |
| | ☐ | ANSI C63.10 | | | 11.11.3 | Emission level measurement |
| ☒ | ANSI C63.10 | | | | 11.12 | Emissions in restricted frequency bands |
| | ☒ | ANSI C63.10 | | | 11.12.1 | Radiated emission measurements |
| | ☒ | ANSI C63.10 | | | 11.12.2.7 | Radiated spurious emission test |
| | | ☒ | ANSI C63.10 | | 6.4 | Radiated emissions from unlicensed wireless devices below 30 MHz |
| | | ☒ | ANSI C63.10 | | 6.5 | Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz |
| | | ☒ | ANSI C63.10 | | 6.6 | Radiated emissions from unlicensed wireless devices above 1 GHz |
| | ☒ | ANSI C63.10 | | | 11.12.2 | Antenna-port conducted measurements |
| | | ☐ | ANSI C63.10 | | 11.12.2.3 | Quasi-peak measurement procedure |
| | | ☒ | ANSI C63.10 | | 11.12.2.4 | Peak power measurement procedure |
| | | ☒ | ANSI C63.10 | | 11.12.2.5 | Average power measurement procedures |
| | | | ☐ | ANSI C63.10 | 11.12.2.5.1 | Trace averaging with continuous EUT transmission at full power |
| | | | ☐ | ANSI C63.10 | 11.12.2.5.2 | Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction |
| | | | ☒ | ANSI C63.10 | 11.12.2.5.3 | Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold |

## 3.5. EUT test Axis definition

| Item | Emissions in non-restricted frequency bands | | | |
|---|---|---|---|---|
| Device Category | ☐ | Fixed position use | | |
| | ☒ | Mobile position use | | |
| Test mode | Mode 1 | | | |
| Test method | ☒ | Radiated | | |
| | | X Axis | Y Axis | Z Axis |
| | |  |  |  |
| | | Worst Axis ☐ | Worst Axis ☒ | Worst Axis ☐ |
| | ☐ | Conducted | | |
| | ☐ | Chain 0 | | |
| | |  | | |
| | ☐ | Chain 0 | Chain 1 | |
| | |  | | |
| | ☐ | Chain 0 | Chain 1 | Chain 2 |
| | | | | |

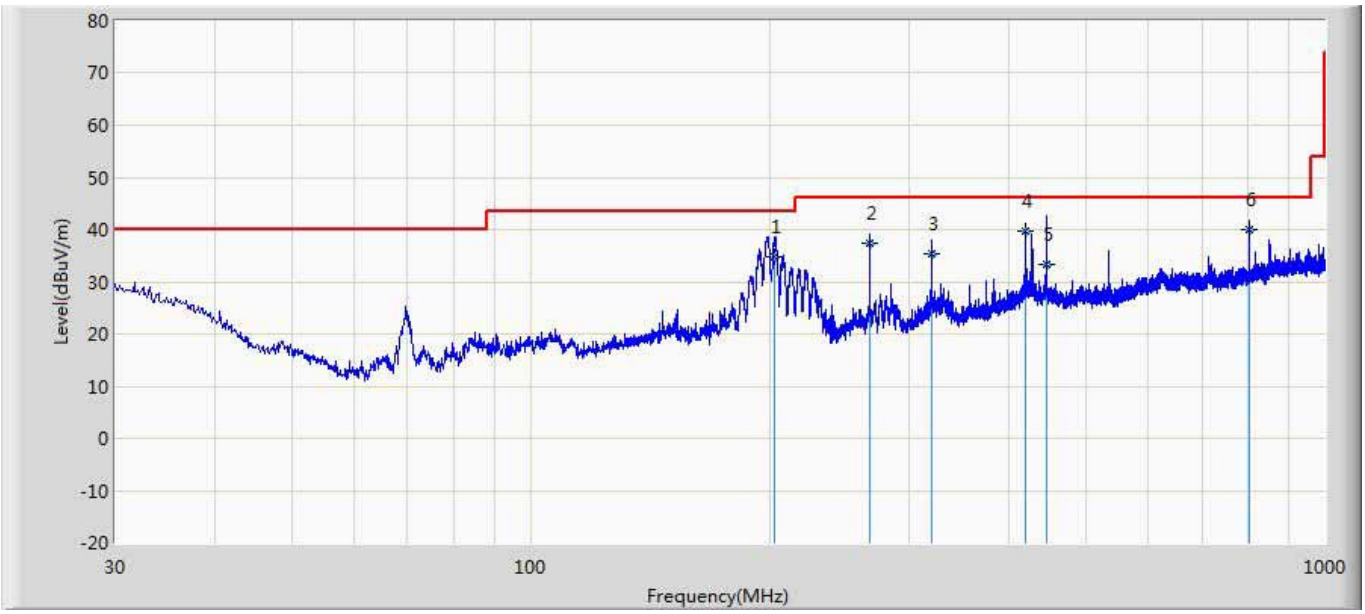
## 3.6. Test Result

| | | | | | |
|---|---|---|---|---|---|
| Product Name | : | Virtual Reality Controller | Power | : | AC 120V/60Hz |
| Test Mode | : | Mode 1 | Test Site | : | AC-5 |

| Chain | CH | Antenna | Frequency (MHz) | Measure Level (dB |
|---|---|---|---|---|

The worst case of Radiated Emission below 1GHz:

| | |
|---|---|
| Site: AC2 | Time: 2016/08/18 |
| Limit: FCC_Part15.109_RE(3m)_ClassB | Margin: 0 |
| Probe: CB7_CBL6112_0726 | Polarity: Horizontal |
| EUT: Virtual Reality Controller | Power: AC 120V/60Hz |
| Note: Mode 1 | |

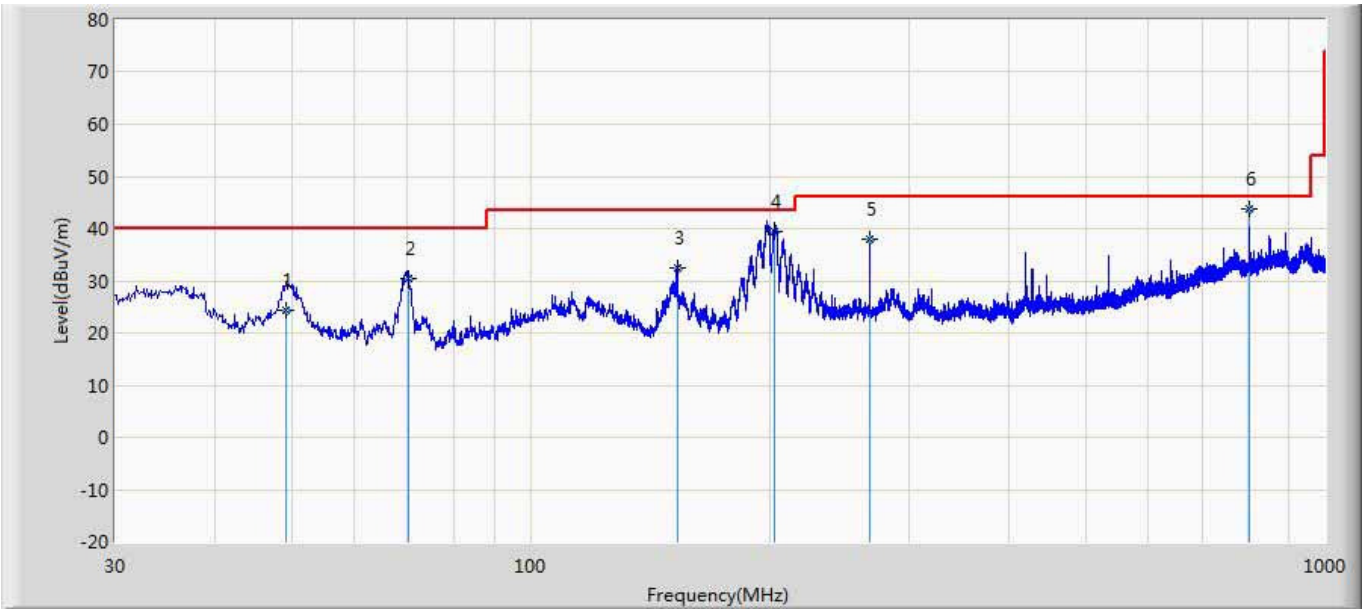



| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Probe (dB/m) | Cable (dB) | Amp (dB) | Ant Pos (cm) | Table Pos (deg) | Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 203.197 | 34.728 | 46.964 | -8.772 | 43.500 | 9.404 | 1.550 | 23.190 | 100 | 360 | QP |
| 2 | | 267.610 | 37.463 | 45.794 | -8.537 | 46.000 | 13.110 | 1.760 | 23.200 | 100 | 50 | QP |
| 3 | | 319.497 | 35.222 | 42.339 | -10.778 | 46.000 | 13.907 | 1.930 | 22.955 | 100 | 278 | QP |
| 4 | | 420.532 | 39.635 | 43.894 | -6.365 | 46.000 | 16.411 | 2.260 | 22.930 | 100 | 355 | QP |
| 5 | | 445.988 | 33.476 | 37.046 | -12.524 | 46.000 | 16.920 | 2.310 | 22.800 | 100 | 145 | QP |
| 6 | * | 802.790 | 39.935 | 39.109 | -6.065 | 46.000 | 20.023 | 3.120 | 22.317 | 200 | 250 | QP |

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

| | |
|---|---|
| Site: AC2 | Time: 2016/08/18 |
| Limit: FCC_Part15.109_RE(3m)_ClassB | Margin: 0 |
| Probe: CB7_CBL6112_0726 | Polarity: Vertical |
| EUT: Virtual Reality Controller | Power: AC 120V/60Hz |
| Note: Mode 1 | |




| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Probe (dB/m) | Cable (dB) | Amp (dB) | Ant Pos (cm) | Table Pos (deg) | Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 49.184 | 24.372 | 38.165 | -15.628 | 40.000 | 8.526 | 0.768 | 23.087 | 100 | 44 | QP |
| 2 | | 70.064 | 30.322 | 46.173 | -9.678 | 40.000 | 6.319 | 0.900 | 23.070 | 200 | 316 | QP |
| 3 | | 152.937 | 32.373 | 43.716 | -11.127 | 43.500 | 10.324 | 1.340 | 23.007 | 100 | 337 | QP |
| 4 | | 203.025 | 39.335 | 51.566 | -4.165 | 43.500 | 9.409 | 1.550 | 23.190 | 100 | 154 | QP |
| 5 | | 267.599 | 37.952 | 46.281 | -8.048 | 46.000 | 13.112 | 1.759 | 23.201 | 100 | 59 | QP |
| 6 | * | 802.793 | 43.629 | 42.803 | -2.371 | 46.000 | 20.023 | 3.120 | 22.317 | 100 | 27 | QP |

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

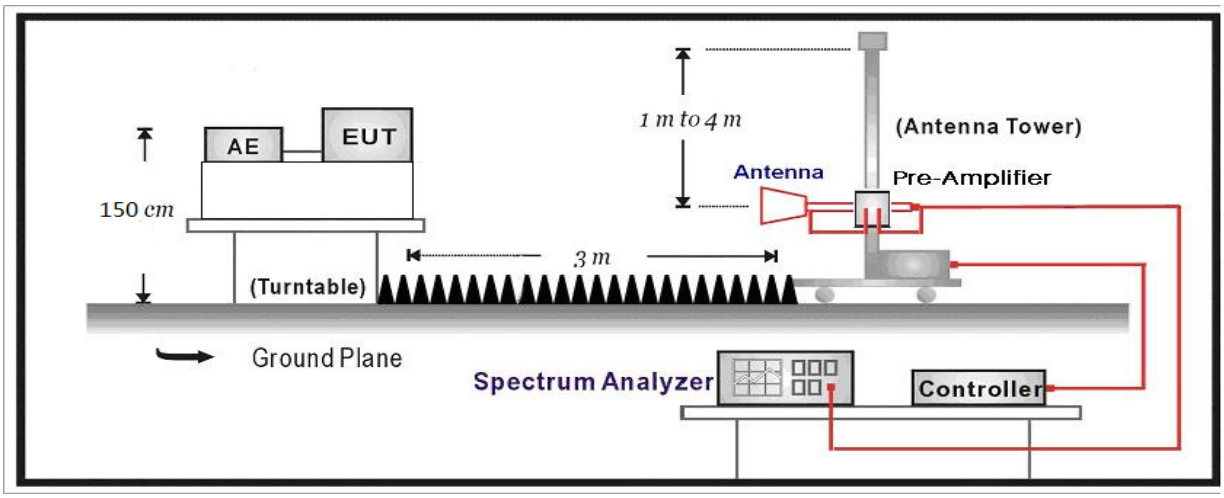
# 4. Radiated Emission Band Edge

## 4.1. Test Equipment

| Radiated Emission(Above 1GHz) / AC-5 | | | | | |
|---|---|---|---|---|---|
| Instrument | Manufacturer | Type No. | Serial No. | Cal. Date | Cal. Due Date |
| Spectrum Analyzer | Agilent | E4446A | MY45300103 | 2016.01.04 | 2017.01.04 |
| Preamplifier | Miteq | NSP1800-25 | 1364185 | 2016.05.03 | 2017.05.03 |
| DRG Horn | ETS-Lindgren | 3117 | 00167055 | 2016.07.23 | 2017.07.23 |
| Broad-Band Horn Antenna | Schwarzbeck | BBHA9170 | 1126450 | 2015.09.18 | 2016.09.18 |
| Coaxial Cable | Huber+Suhner | SUCOFLEX 106 | AC5-C1 | 2016.02.28 | 2017.02.28 |
| Coaxial Cable | Huber+Suhner | SUCOFLEX 106 | AC5-C2 | 2016.02.28 | 2017.02.28 |
| EMI Receiver | Agilent | N9038A | MY51210196 | 2016.07.16 | 2017.07.16 |
| Temperature/Humidity Meter | Zhichen | ZC1-2 | AC5-TH | 2016.01.05 | 2017.01.05 |

## 4.2. Test Setup

Above 1GHz Test Setup:



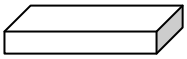
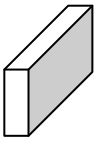
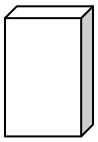
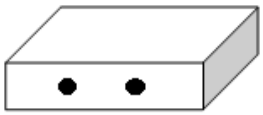

## 4.3. Limit

| Band edge Limit | | |
|---|---|---|
| Frequency bands (MHz) | Detector | Limit (dB |

## 4.4. Test Procedure

| Test Method | | | | | | |
|---|---|---|---|---|---|---|
| | References Rule | | | | Chapter | Description |
| ☒ | ANSI C63.10 | | | | 6.10 | Band-edge testing |
| | ☒ | ANSI C63.10 | | | 6.10.5 | Restricted-band band-edge measurements |
| | ☐ | ANSI C63.10 | | | 6.10.6 | Marker-delta method |
| ☒ | ANSI C63.10 | | | | 11.12 | Emissions in restricted frequency bands |
| | ☒ | ANSI C63.10 | | | 11.12.1 | Radiated emission measurements |
| | ☒ | ANSI C63.10 | | | 11.12.2.7 | Radiated spurious emission test |
| ☐ | ANSI C63.10 | | | | 6.4 | Radiated emissions from unlicensed wireless devices below 30 MHz |
| ☐ | ANSI C63.10 | | | | 6.5 | Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz |
| ☒ | ANSI C63.10 | | | | 6.6 | Radiated emissions from unlicensed wireless devices above 1 GHz |
| | ☐ | ANSI C63.10 | | | 11.12.2 | Antenna-port conducted measurements |
| | | ☐ | ANSI C63.10 | | 11.12.2.3 | Quasi-peak measurement procedure |
| | | ☒ | ANSI C63.10 | | 11.12.2.4 | Peak power measurement procedure |
| | | ☒ | ANSI C63.10 | | 11.12.2.5 | Average power measurement procedures |
| | | | ☐ | ANSI C63.10 | 11.12.2.5.1 | Trace averaging with continuous EUT transmission at full power |
| | | | ☐ | ANSI C63.10 | 11.12.2.5.2 | Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction |
| | | | ☒ | ANSI C63.10 | 11.12.2.5.3 | Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold |

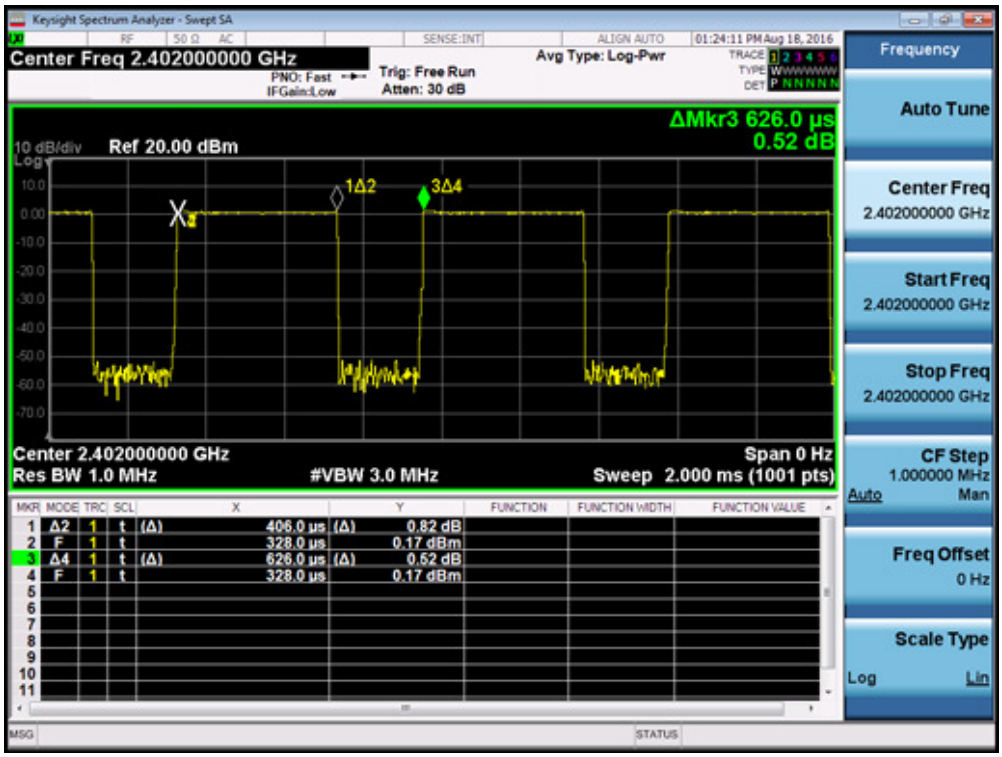
## 4.5. EUT test definition

| Item | Emissions in non-restricted frequency bands | | | |
|---|---|---|---|---|
| Device Category | ☐ | Fixed position use | | |
| | ☒ | Mobile position use | | |
| Test mode | Mode 1 | | | |
| Test method | ☒ | Radiated | | |
| | | X Axis | Y Axis | Z Axis |
| | |  |  |  |
| | | Worst Axis ☐ | Worst Axis ☒ | Worst Axis ☐ |
| | ☐ | Conducted | | |
| | ☐ | Chain 0 | | |
| | | | | |
| | ☐ | Chain 0 | Chain 1 | |
| | |  | | |
| | ☐ | Chain 0 | Chain 1 | Chain 2 |
| | | | | |

## 4.6. Duty Cycle

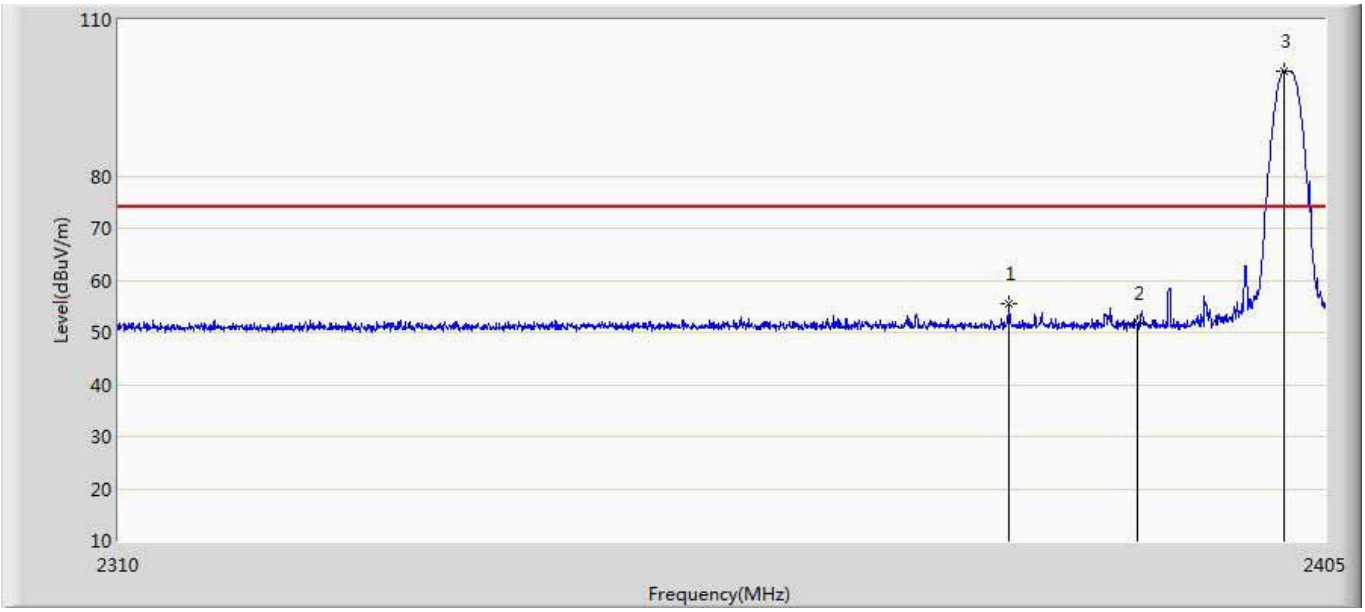
| Test Mode | Tx On (ms) | Tx Off (ms) | Reduced VBW (Hz) | Tx On + Tx Off (ms) | Duty Cycle |
|---|---|---|---|---|---|
| BLE | 0.406 | 0.220 | 3000 | 0.626 | 64.86% |

BLE



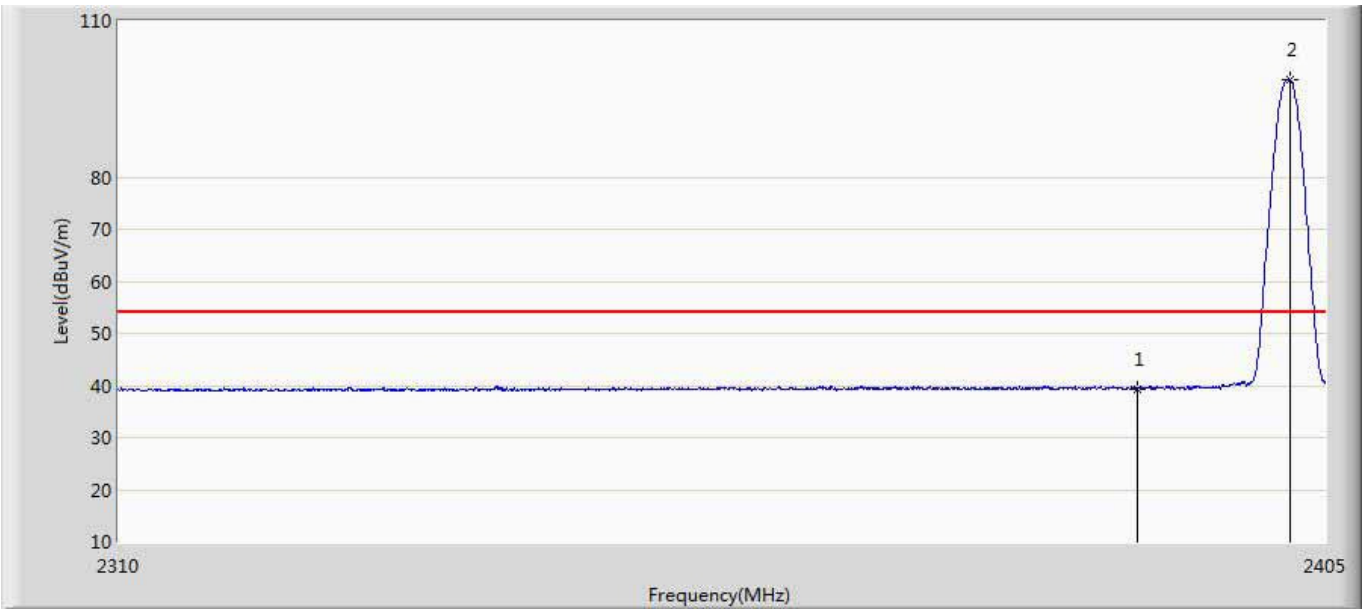
## 4.7. Test Result

| | |
|---|---|
| Engineer: Simon | |
| Site: AC5 | Time: 2016/07/30 - 17:51 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Horizontal |
| EUT: Virtual Reality Controller | Power: AC 120V/60Hz |
| Note: Mode 1: Transmit at channel 2402 by BLE | |



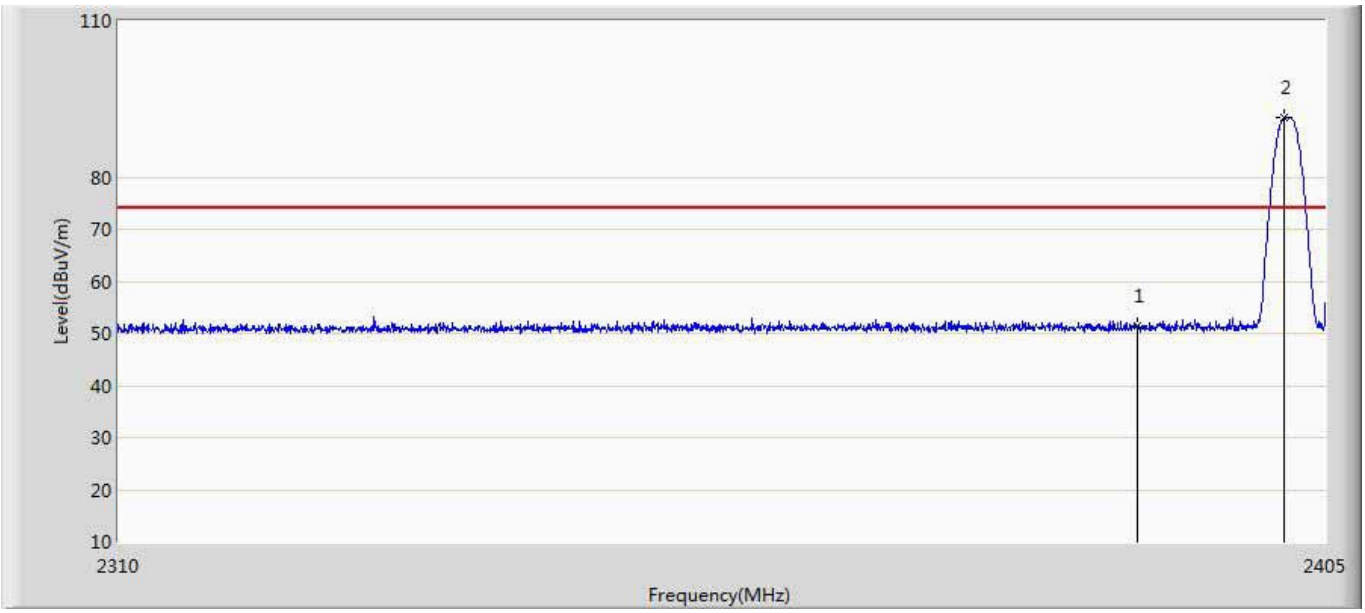

| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|---|---|---|---|---|---|---|---|---|
| 1 | | 2379.778 | 55.577 | 19.511 | -18.423 | 74.000 | 36.066 | PK |
| 2 | | 2390.000 | 51.607 | 15.521 | -22.393 | 74.000 | 36.086 | PK |
| 3 | * | 2401.770 | 100.246 | 64.122 | 26.246 | 74.000 | 36.124 | PK |

| | |
|---|---|
| Engineer: Simon | |
| Site: AC5 | Time: 2016/07/30 - 17:55 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Horizontal |
| EUT: Virtual Reality Controller | Power: AC 120V/60Hz |
| Note: Mode 1: Transmit at channel 2402 by BLE | |



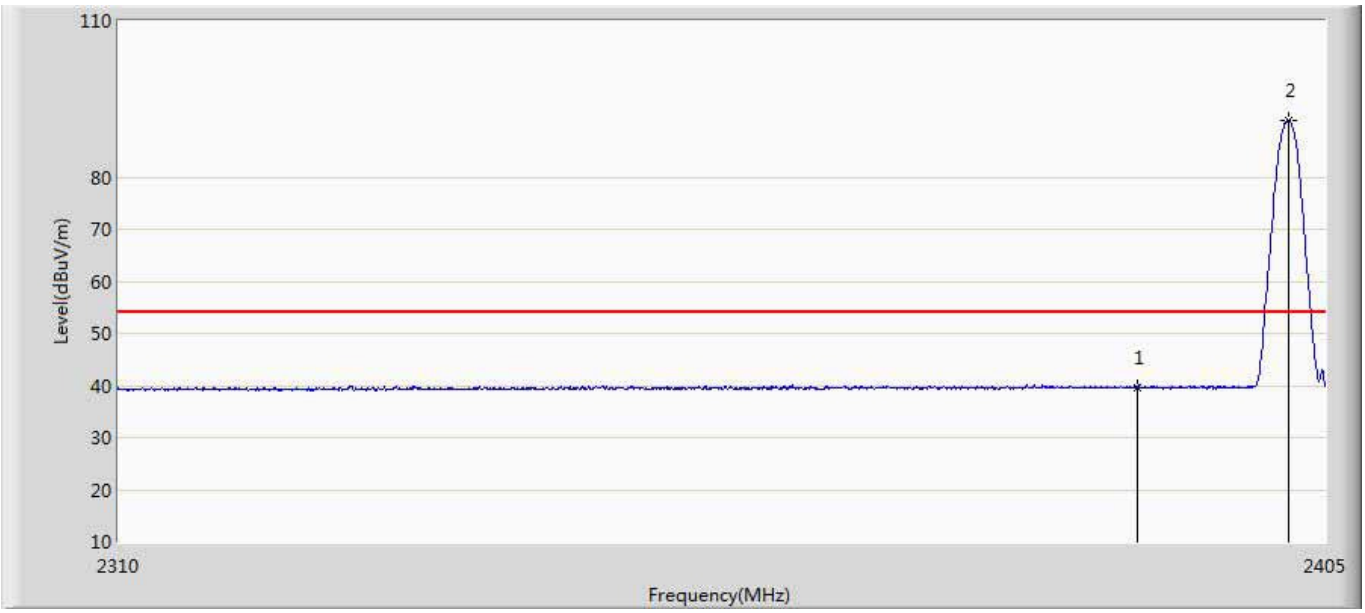

| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|---|---|---|---|---|---|---|---|---|
| 1 | | 2390.000 | 39.319 | 3.233 | -14.681 | 54.000 | 36.086 | AV |
| 2 | * | 2402.245 | 98.696 | 62.570 | 44.696 | 54.000 | 36.126 | AV |

| | |
|---|---|
| Engineer: Simon | |
| Site: AC5 | Time: 2016/07/30 - 17:59 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Vertical |
| EUT: Virtual Reality Controller | Power: AC 120V/60Hz |
| Note: Mode 1: Transmit at channel 2402 by BLE | |



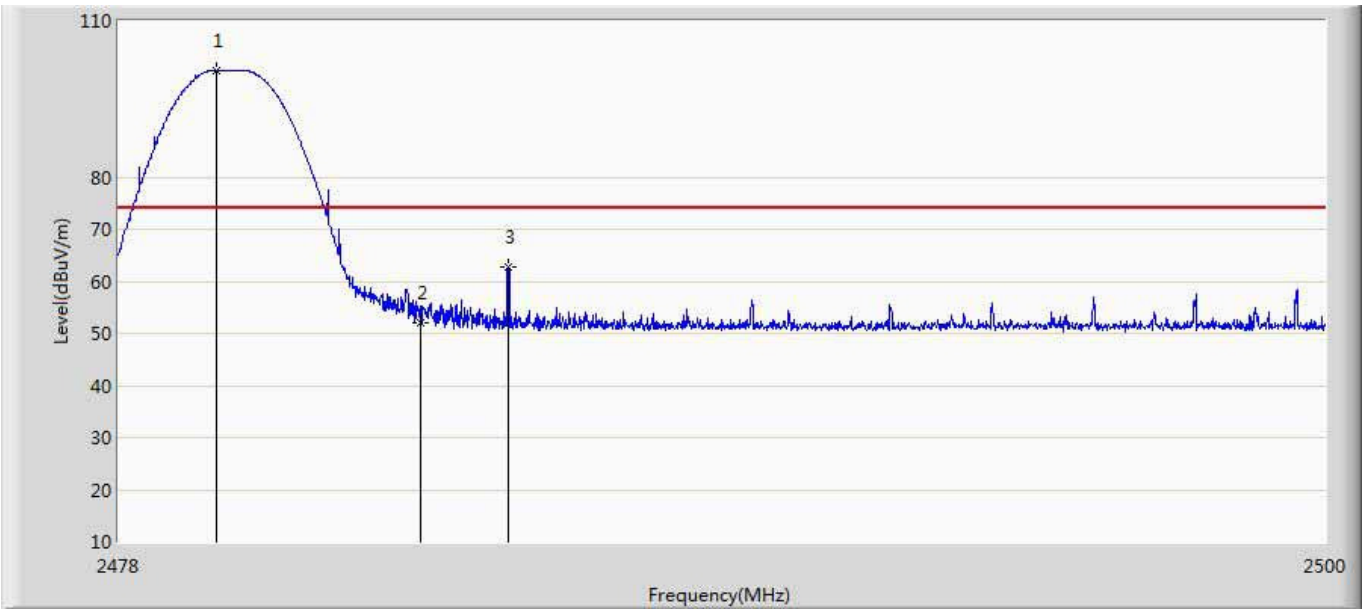

| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|---|---|---|---|---|---|---|---|---|
| 1 | | 2390.000 | 51.321 | 15.235 | -22.679 | 74.000 | 36.086 | PK |
| 2 | * | 2401.770 | 91.468 | 55.344 | 17.468 | 74.000 | 36.124 | PK |

| | |
|---|---|
| Engineer: Simon | |
| Site: AC5 | Time: 2016/07/30 - 18:01 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Vertical |
| EUT: Virtual Reality Controller | Power: AC 120V/60Hz |
| Note: Mode 1: Transmit at channel 2402 by BLE | |



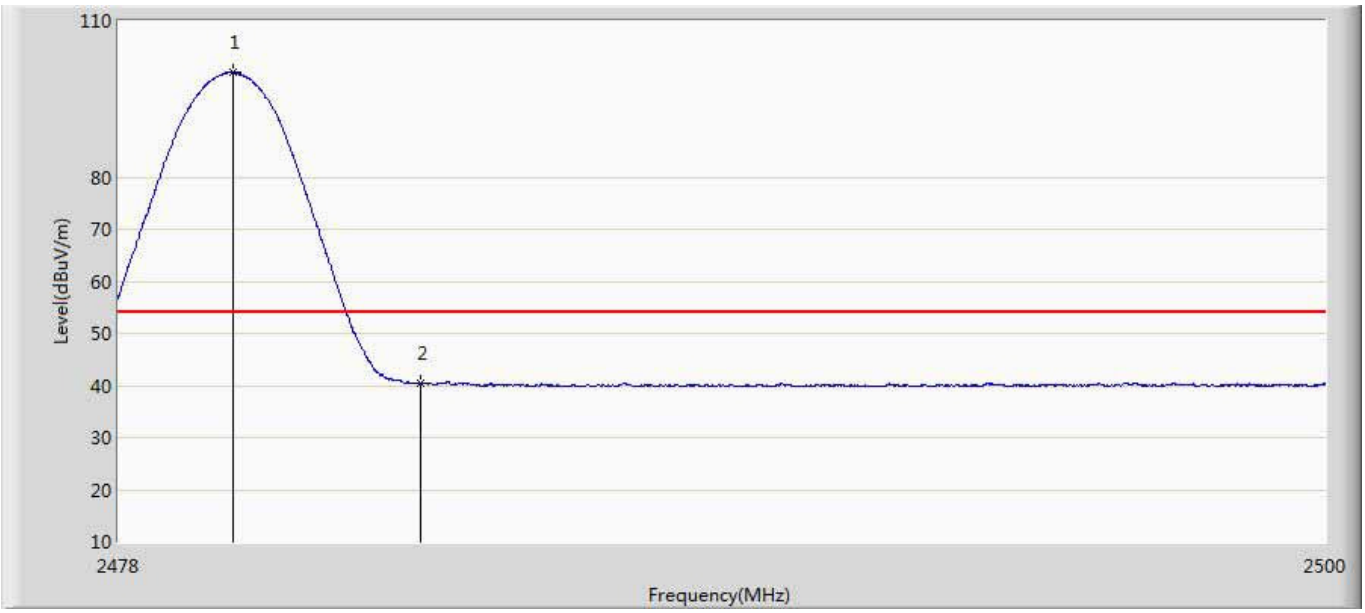

| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|---|---|---|---|---|---|---|---|---|
| 1 | | 2390.000 | 39.625 | 3.539 | -14.375 | 54.000 | 36.086 | AV |
| 2 | * | 2402.055 | 90.952 | 54.827 | 36.952 | 54.000 | 36.124 | AV |

| | |
|---|---|
| Engineer: Simon | |
| Site: AC5 | Time: 2016/07/30 - 18:04 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Horizontal |
| EUT: Virtual Reality Controller | Power: AC 120V/60Hz |
| Note: Mode 1: Transmit at channel 2480 by BLE | |



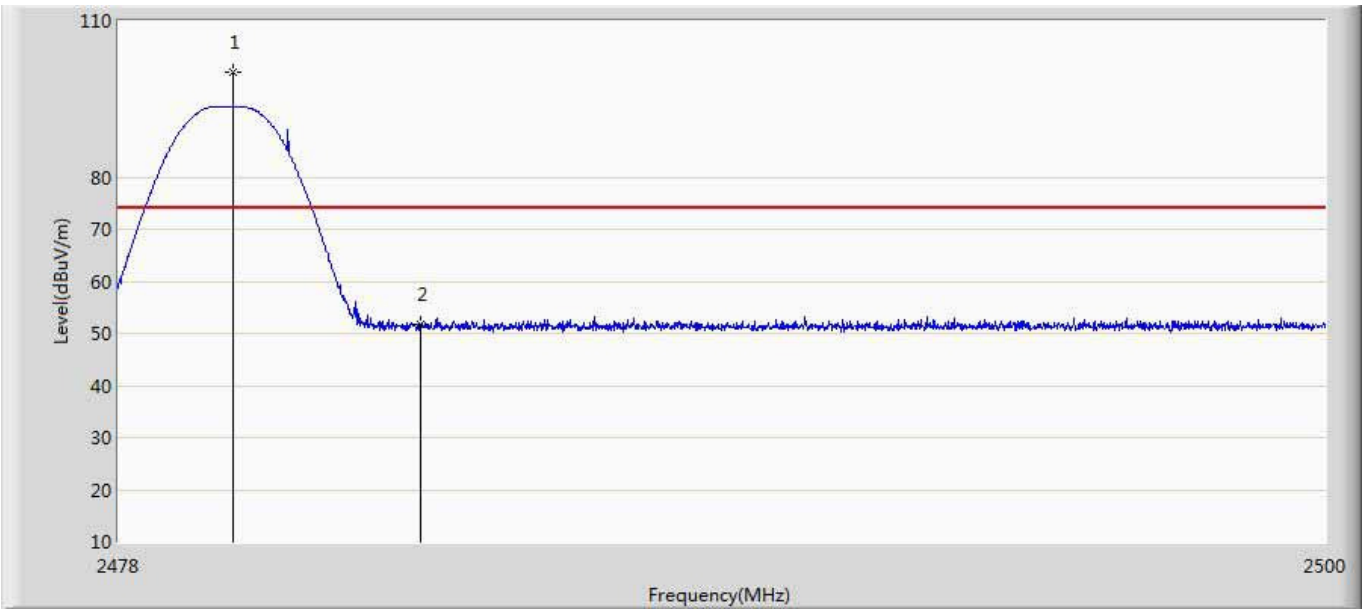

| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|---|---|---|---|---|---|---|---|---|
| 1 | * | 2479.793 | 100.531 | 64.281 | 26.531 | 74.000 | 36.250 | PK |
| 2 | | 2483.500 | 52.020 | 15.759 | -21.980 | 74.000 | 36.261 | PK |
| 3 | | 2485.095 | 62.635 | 26.369 | -11.365 | 74.000 | 36.266 | PK |

| | |
|---|---|
| Engineer: Simon | |
| Site: AC5 | Time: 2016/07/30 - 18:14 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Horizontal |
| EUT: Virtual Reality Controller | Power: AC 120V/60Hz |
| Note: Mode 1: Transmit at channel 2480 by BLE | |



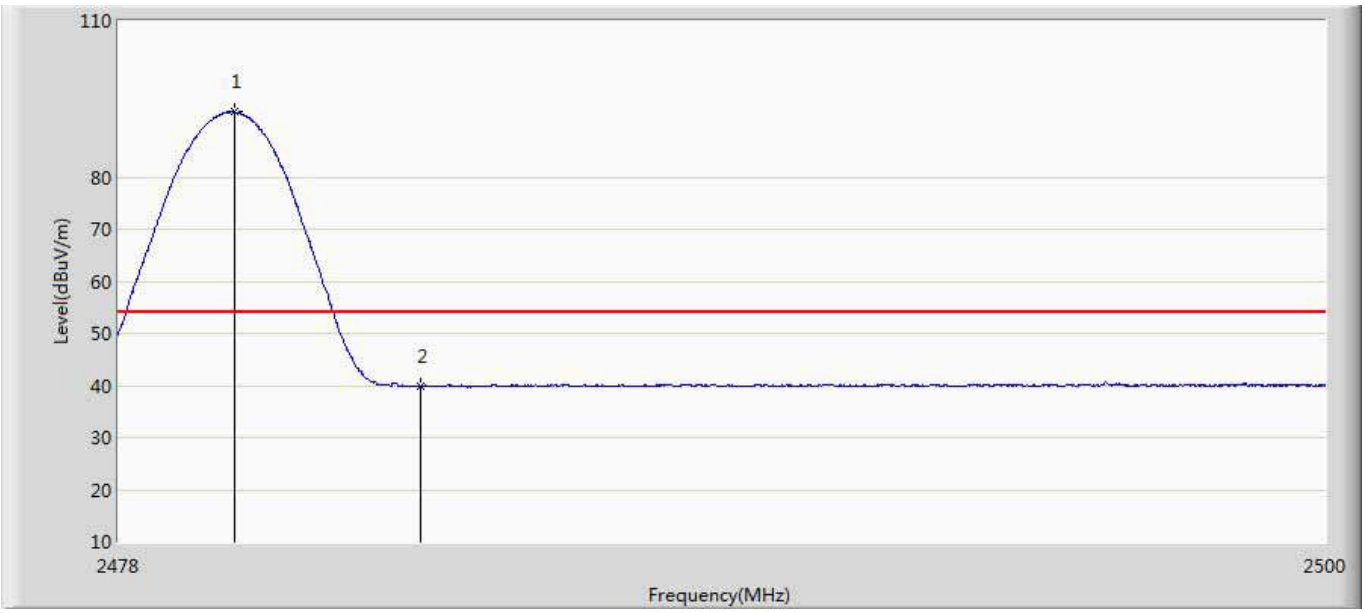

| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|---|---|---|---|---|---|---|---|---|
| 1 | * | 2480.079 | 100.058 | 63.807 | 46.058 | 54.000 | 36.251 | AV |
| 2 | | 2483.500 | 40.448 | 4.187 | -13.552 | 54.000 | 36.261 | AV |

| | |
|---|---|
| Engineer: Simon | |
| Site: AC5 | Time: 2016/07/30 - 18:17 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Vertical |
| EUT: Virtual Reality Controller | Power: AC 120V/60Hz |
| Note: Mode 1: Transmit at channel 2480 by BLE | |




| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|---|---|---|---|---|---|---|---|---|
| 1 | * | 2480.079 | 100.058 | 63.807 | 26.058 | 74.000 | 36.251 | PK |
| 2 | | 2483.500 | 51.683 | 15.422 | -22.317 | 74.000 | 36.261 | PK |

| | |
|---|---|
| Engineer: Simon | |
| Site: AC5 | Time: 2016/07/30 - 18:19 |
| Limit: FCC_Part15.209_RE(3m) | Margin: 0 |
| Probe: Horn_3117_00167055(1-18GHz) | Polarity: Vertical |
| EUT: Virtual Reality Controller | Power: AC 120V/60Hz |
| Note: Mode 1: Transmit at channel 2480 by BLE | |




| No | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor (dB) | Type |
|---|---|---|---|---|---|---|---|---|
| 1 | * | 2480.112 | 92.490 | 56.239 | 38.490 | 54.000 | 36.251 | AV |
| 2 | | 2483.500 | 39.899 | 3.638 | -14.101 | 54.000 | 36.261 | AV |

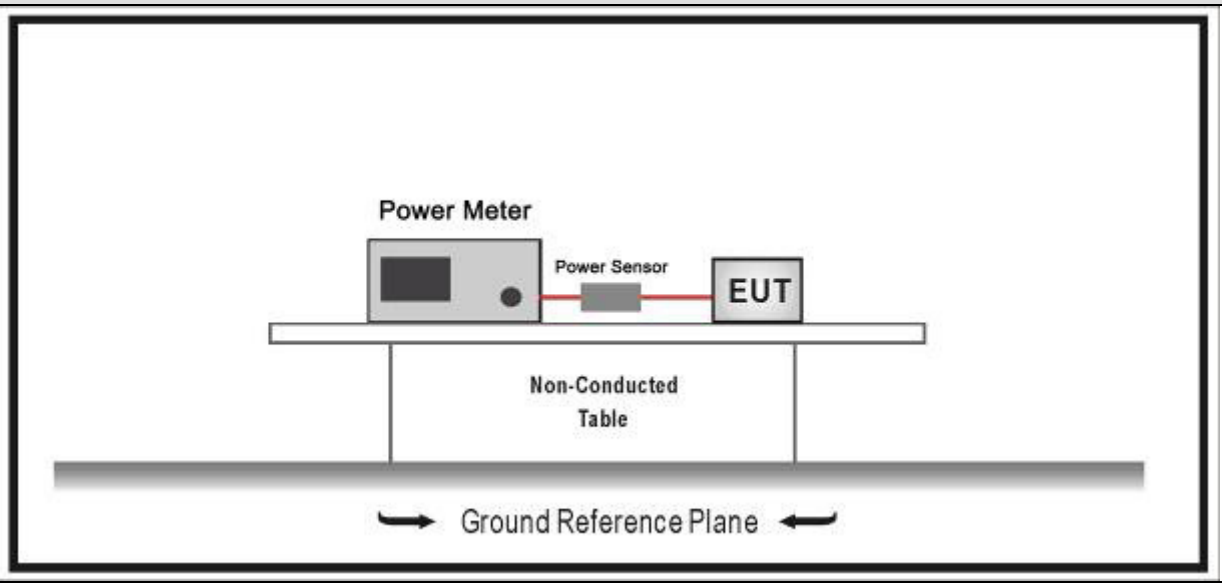
# 5. Fundamental emission output power

## 5.1. Test Equipment

| Fundamental emission output power/ TR-8 | | | | | |
|---|---|---|---|---|---|
| Instrument | Manufacturer | Type No. | Serial No. | Cal. Date | Cal. Due Date |
| Spectrum Analyzer | Agilent | E4446A | MY45300103 | 2016.01.04 | 2017.01.04 |
| Spectrum Analyzer | Agilent | N9010A | MY48030494 | 2016.02.04 | 2017.02.04 |
| Wideband Peak Power Meter | Anritsu | ML2495A | 0905006 | 2015.10.14 | 2016.10.14 |
| Power Sensor | Anritsu | MA2411B | 0846014 | 2015.10.14 | 2016.10.14 |
| Temperature/Humidity Meter | zhicheng | ZC1-2 | TR8-TH | 2016.04.10 | 2017.04.10 |
| Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards. | | | | | |

## 5.2. Test Setup

Fundamental emission output power test setup



## 5.3. Limit

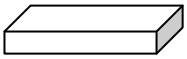
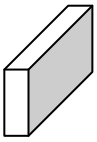
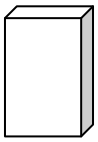
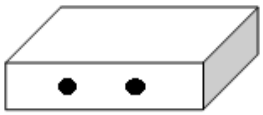
| Fundamental emission output power Limit |
| --- |

☒ GTX

## 5.4. Test Procedure

| Fundamental emission output power Test Method | | | | | |
|---|---|---|---|---|---|
| | References Rule | | | Chapter | Description |
| ☒ | ANSI C63.10 | | | 11.9 | Fundamental emission output power |
| | ☒ | ANSI C63.10 | | 11.9.1 | Maximum peak conducted output power |
| | | ☐ | ANSI C63.10 | 11.9.1.1 | RBW ≥ DTS bandwidth |
| | | ☐ | ANSI C63.10 | 11.9.1.2 | Integrated band power method |
| | | ☒ | ANSI C63.10 | 11.9.1.3 | PKPM1 Peak power meter method |
| | ☐ | ANSI C63.10 | | 11.9.2 | Maximum conducted (average) output power |
| | | ☐ | ANSI C63.10 | 11.9.2.2 | Measurement using a spectrum analyzer (SA) |
| | | | ☐ ANSI C63.10 | 11.9.2.2.2 | Method AVGSA-1(Duty cycle |

## 5.5. EUT test definition

| Item | Fundamental emission output power | | | |
|---|---|---|---|---|
| Device Category | ☐ | Fixed position use | | |
| | ☒ | Mobile position use | | |
| Test mode | Mode 1 | | | |
| Test method | ☐ | Radiated | | |
| | | X Axis | Y Axis | Z Axis |
| | |  |  |  |
| | | Worst Axis ☐ | Worst Axis ☐ | Worst Axis ☐ |
| | ☒ | Conducted | | |
| | ☒ | Chain 0 | | |
| | | | | |
| | ☐ | Chain 0 | Chain 1 | |
| | |  | | |
| | ☐ | Chain 0 | Chain 1 | Chain 2 |
| | | | | |

## 5.6. Test Result

| | | | | | |
|---|---|---|---|---|---|
| Product Name | : | Virtual Reality Controller | Test Power | : | AC 120V/60Hz |
| Test Site | : | TR8 | | | |

| Mode | Channel | Test Frequency (MHz) | Measurement Power Output (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|
| 1 | 00 | 2402 | 2.18 | 30 | Pass |
| 1 | 19 | 2440 | 2.87 | 30 | Pass |
| 1 | 39 | 2480 | 2.92 | 30 | Pass |

The End