

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                |                      |                                  |                          |               |                              |                               |                  |                   |                     |            |                     |                |                       |                   |                                    |                          |                       |                                       |                          |                                                                                                |                          |          |                         |         |                        |             |                 |  |                   |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|----------------------|----------------------------------|--------------------------|---------------|------------------------------|-------------------------------|------------------|-------------------|---------------------|------------|---------------------|----------------|-----------------------|-------------------|------------------------------------|--------------------------|-----------------------|---------------------------------------|--------------------------|------------------------------------------------------------------------------------------------|--------------------------|----------|-------------------------|---------|------------------------|-------------|-----------------|--|-------------------|--|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                |                      |                                  |                          |               |                              |                               |                  |                   |                     |            |                     |                |                       |                   |                                    |                          |                       |                                       |                          |                                                                                                |                          |          |                         |         |                        |             |                 |  |                   |  |
| <b>MOTOROLA PENANG ADV. COMM. LABORATORY</b><br><b>Motorola Solutions Malaysia Sdn. Bhd.</b><br><b>Innoplex Plot 2A Medan Bayan Lepas,</b><br><b>Mukim 12, S.W.D. 11900 Bayan Lepas,</b><br><b>Penang, Malaysia.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>FCC / IC TEST REPORT</b><br><b>Report Revision : Rev.C</b>                                  |                      |                                  |                          |               |                              |                               |                  |                   |                     |            |                     |                |                       |                   |                                    |                          |                       |                                       |                          |                                                                                                |                          |          |                         |         |                        |             |                 |  |                   |  |
| <table><tr><td><b>Date/s Tested</b></td><td>: 27-November-2016 - 30-May-2017</td></tr><tr><td><b>Report Issue Date</b></td><td>: 31-May-2017</td></tr><tr><td><b>Manufacturer/Location</b></td><td>: Motorola Solutions - Penang</td></tr><tr><td><b>Requestor</b></td><td>: MUNIANDY BARATH</td></tr><tr><td><b>Product Type</b></td><td>: Portable</td></tr><tr><td><b>Model Number</b></td><td>: H92QDH9PW7AN</td></tr><tr><td><b>Frequency Band</b></td><td>: 2.402-2.480 GHz</td></tr><tr><td><b>Rated / Max RF Output Power</b></td><td>: 8.9 mWatts / 10 mWatts</td></tr><tr><td><b>Applicant Name</b></td><td>: Motorola Solutions Malaysia Sdn Bhd</td></tr><tr><td><b>Applicant Address</b></td><td>: Innoplex Plot 2A, Medan Bayan lepas, Mukim 12, S.W.D.<br/>11900 Bayan Lepas, Penang, Malaysia</td></tr><tr><td><b>FCC Registrations</b></td><td>: 772092</td></tr><tr><td><b>IC Registrations</b></td><td>: 109AK</td></tr></table>  <p><b>The equipment was tested accordance to the requirement listed below:</b></p> <table><tr><td><b>(2.4GHz BT LE )</b></td><td><b>PASS</b></td></tr><tr><td><b>Part 15C</b></td><td></td></tr><tr><td><b>IC RSS 247</b></td><td></td></tr></table> |                                                                                                | <b>Date/s Tested</b> | : 27-November-2016 - 30-May-2017 | <b>Report Issue Date</b> | : 31-May-2017 | <b>Manufacturer/Location</b> | : Motorola Solutions - Penang | <b>Requestor</b> | : MUNIANDY BARATH | <b>Product Type</b> | : Portable | <b>Model Number</b> | : H92QDH9PW7AN | <b>Frequency Band</b> | : 2.402-2.480 GHz | <b>Rated / Max RF Output Power</b> | : 8.9 mWatts / 10 mWatts | <b>Applicant Name</b> | : Motorola Solutions Malaysia Sdn Bhd | <b>Applicant Address</b> | : Innoplex Plot 2A, Medan Bayan lepas, Mukim 12, S.W.D.<br>11900 Bayan Lepas, Penang, Malaysia | <b>FCC Registrations</b> | : 772092 | <b>IC Registrations</b> | : 109AK | <b>(2.4GHz BT LE )</b> | <b>PASS</b> | <b>Part 15C</b> |  | <b>IC RSS 247</b> |  |
| <b>Date/s Tested</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | : 27-November-2016 - 30-May-2017                                                               |                      |                                  |                          |               |                              |                               |                  |                   |                     |            |                     |                |                       |                   |                                    |                          |                       |                                       |                          |                                                                                                |                          |          |                         |         |                        |             |                 |  |                   |  |
| <b>Report Issue Date</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | : 31-May-2017                                                                                  |                      |                                  |                          |               |                              |                               |                  |                   |                     |            |                     |                |                       |                   |                                    |                          |                       |                                       |                          |                                                                                                |                          |          |                         |         |                        |             |                 |  |                   |  |
| <b>Manufacturer/Location</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | : Motorola Solutions - Penang                                                                  |                      |                                  |                          |               |                              |                               |                  |                   |                     |            |                     |                |                       |                   |                                    |                          |                       |                                       |                          |                                                                                                |                          |          |                         |         |                        |             |                 |  |                   |  |
| <b>Requestor</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | : MUNIANDY BARATH                                                                              |                      |                                  |                          |               |                              |                               |                  |                   |                     |            |                     |                |                       |                   |                                    |                          |                       |                                       |                          |                                                                                                |                          |          |                         |         |                        |             |                 |  |                   |  |
| <b>Product Type</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | : Portable                                                                                     |                      |                                  |                          |               |                              |                               |                  |                   |                     |            |                     |                |                       |                   |                                    |                          |                       |                                       |                          |                                                                                                |                          |          |                         |         |                        |             |                 |  |                   |  |
| <b>Model Number</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | : H92QDH9PW7AN                                                                                 |                      |                                  |                          |               |                              |                               |                  |                   |                     |            |                     |                |                       |                   |                                    |                          |                       |                                       |                          |                                                                                                |                          |          |                         |         |                        |             |                 |  |                   |  |
| <b>Frequency Band</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | : 2.402-2.480 GHz                                                                              |                      |                                  |                          |               |                              |                               |                  |                   |                     |            |                     |                |                       |                   |                                    |                          |                       |                                       |                          |                                                                                                |                          |          |                         |         |                        |             |                 |  |                   |  |
| <b>Rated / Max RF Output Power</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | : 8.9 mWatts / 10 mWatts                                                                       |                      |                                  |                          |               |                              |                               |                  |                   |                     |            |                     |                |                       |                   |                                    |                          |                       |                                       |                          |                                                                                                |                          |          |                         |         |                        |             |                 |  |                   |  |
| <b>Applicant Name</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | : Motorola Solutions Malaysia Sdn Bhd                                                          |                      |                                  |                          |               |                              |                               |                  |                   |                     |            |                     |                |                       |                   |                                    |                          |                       |                                       |                          |                                                                                                |                          |          |                         |         |                        |             |                 |  |                   |  |
| <b>Applicant Address</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | : Innoplex Plot 2A, Medan Bayan lepas, Mukim 12, S.W.D.<br>11900 Bayan Lepas, Penang, Malaysia |                      |                                  |                          |               |                              |                               |                  |                   |                     |            |                     |                |                       |                   |                                    |                          |                       |                                       |                          |                                                                                                |                          |          |                         |         |                        |             |                 |  |                   |  |
| <b>FCC Registrations</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | : 772092                                                                                       |                      |                                  |                          |               |                              |                               |                  |                   |                     |            |                     |                |                       |                   |                                    |                          |                       |                                       |                          |                                                                                                |                          |          |                         |         |                        |             |                 |  |                   |  |
| <b>IC Registrations</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | : 109AK                                                                                        |                      |                                  |                          |               |                              |                               |                  |                   |                     |            |                     |                |                       |                   |                                    |                          |                       |                                       |                          |                                                                                                |                          |          |                         |         |                        |             |                 |  |                   |  |
| <b>(2.4GHz BT LE )</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>PASS</b>                                                                                    |                      |                                  |                          |               |                              |                               |                  |                   |                     |            |                     |                |                       |                   |                                    |                          |                       |                                       |                          |                                                                                                |                          |          |                         |         |                        |             |                 |  |                   |  |
| <b>Part 15C</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                |                      |                                  |                          |               |                              |                               |                  |                   |                     |            |                     |                |                       |                   |                                    |                          |                       |                                       |                          |                                                                                                |                          |          |                         |         |                        |             |                 |  |                   |  |
| <b>IC RSS 247</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                |                      |                                  |                          |               |                              |                               |                  |                   |                     |            |                     |                |                       |                   |                                    |                          |                       |                                       |                          |                                                                                                |                          |          |                         |         |                        |             |                 |  |                   |  |
| <p>This report shall not be reproduced without written approval from an officially designated representative of the Motorola Penang Adv. Comm. Laboratory. The results and statements contained in this report pertain only to the device(s) evaluated.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                |                      |                                  |                          |               |                              |                               |                  |                   |                     |            |                     |                |                       |                   |                                    |                          |                       |                                       |                          |                                                                                                |                          |          |                         |         |                        |             |                 |  |                   |  |
| <p>Prepared By:</p><br><br><hr/> <p><b>GAN BOON TEONG</b><br/><b>Test Personnel</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p>Approved By:</p><br><br><hr/> <p><b>GOH AIK HONG</b><br/><b>Responsible Engineer</b></p>    |                      |                                  |                          |               |                              |                               |                  |                   |                     |            |                     |                |                       |                   |                                    |                          |                       |                                       |                          |                                                                                                |                          |          |                         |         |                        |             |                 |  |                   |  |

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REVISION HISTORY

| <b>Revision History</b> | <b>Description</b>                        | <b>Date</b>            | <b>Originator</b>     |
|-------------------------|-------------------------------------------|------------------------|-----------------------|
| Rev. A                  | Initial Report                            | <b>10-January-2017</b> | <b>GAN BOON TEONG</b> |
| Rev. B                  | Revise Section 6.2.1 and<br>Section 6.1.1 | <b>18-May-2017</b>     | <b>GAN BOON TEONG</b> |
| Rev. C                  | Revise Section 6.3.1 and<br>Section 6.3.3 | <b>31-May-2017</b>     | <b>GAN BOON TEONG</b> |

## 1.0.General Information

### EUT Description:

|                           |                                             |
|---------------------------|---------------------------------------------|
| <b>Technologies</b>       | 2.4GHz BT LE                                |
| <b>TX Frequency range</b> | 2402MHz – 2480MHz                           |
| <b>Modulation Type</b>    | GFSK                                        |
| <b>Input/Output</b>       | RF Port                                     |
| <b>Connector type</b>     | PROGRAMMING, TEST & ALIGNMENT CABLE         |
| <b>Antenna type</b>       | ANTENNA, CHIP, BEIDOU BT/GPS ANTENNA MODULE |

### 1.1.Channel number and frequency information:

40 channels are provided to this EUT:

| Channel | Freq. (MHz) | Channel | Freq. (MHz) | Channel | Freq. (MHz) | Channel | Freq. (MHz) |
|---------|-------------|---------|-------------|---------|-------------|---------|-------------|
| 0       | 2402        | 10      | 2422        | 20      | 2442        | 30      | 2462        |
| 1       | 2404        | 11      | 2424        | 21      | 2444        | 31      | 2464        |
| 2       | 2406        | 12      | 2426        | 22      | 2446        | 32      | 2466        |
| 3       | 2408        | 13      | 2428        | 23      | 2448        | 33      | 2468        |
| 4       | 2410        | 14      | 2430        | 24      | 2450        | 34      | 2470        |
| 5       | 2412        | 15      | 2432        | 25      | 2452        | 35      | 2472        |
| 6       | 2414        | 16      | 2434        | 26      | 2454        | 36      | 2474        |
| 7       | 2416        | 17      | 2436        | 27      | 2456        | 37      | 2476        |
| 8       | 2418        | 18      | 2438        | 28      | 2458        | 38      | 2478        |
| 9       | 2420        | 19      | 2440        | 29      | 2460        | 39      | 2480        |

The EUT contains following accessory devices and data cable:

| Item                                                             | Brand    | Model or P/N |
|------------------------------------------------------------------|----------|--------------|
| Impres 3000 Mah, Li-Ion High Capacity Battery, Low Voltage, Ip68 | MOTOROLA | PMNN4493A    |
| Programming, Test & Alignment Cable                              | MOTOROLA | PMKN4013C    |

### General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, the EUT is to comply with the requirements of the following standards:

### ANSI C63.10-2013

## 2.0.Summary of Test Results

| FCC Clause                    | IC Clause                        | Test Item                                 | Result | Remark                                                             |
|-------------------------------|----------------------------------|-------------------------------------------|--------|--------------------------------------------------------------------|
| 15.247 (b)(1)                 | RSS-247 5.1(2)                   | 6dB Channel Bandwidth                     | Pass   | NA                                                                 |
| 15.247 (a)(1)                 | RSS-247 5.1(1)<br>RSS-247 5.1(2) | Conducted RF Output Power (Peak)          | Pass   | NA                                                                 |
| 15.247(a)(1)(iii)             | RSS-247 5.1(4)                   | Maximum Power Spectral Density            | Pass   | NA                                                                 |
| 15.247(a)(1)(iii)             | RSS-247 5.1(4)                   | Conducted Spurious Emissions              | Pass   | NA                                                                 |
| 15.247 (d)                    | RSS-247 5.5                      | Band edge Conducted Spurious Emission     | Pass   | NA                                                                 |
| 15.205, 15.209,<br>15.247 (d) | RSS-247 5.5                      | Radiated Emission within Restricted Bands | Pass   | NA                                                                 |
| 15.207                        | RSS-247 5.5                      | AC Powerline Conducted Emission           | NA     | Testing is not required, radio shall turn off during charging mode |
| 15.203                        | RSS-Gen 8.8                      | Antenna requirement                       | NA     | Internal antenna is not accessible to the end-user                 |

## 3.0. Measurement Uncertainty

| Measurement                               | Frequency        | Expanded Uncertainty (k=1.96) (±) |
|-------------------------------------------|------------------|-----------------------------------|
| AC Power Line Conducted Spurious Emission | 150KHz ~ 30MHz   | 3.43                              |
| Radiated Emissions up to 1 GHz            | 30MHz ~ 200MHz   | 5.01                              |
|                                           | 200MHz ~ 1000MHz | 5.01                              |
| Radiated Emissions above 1 GHz            | 1GHz ~ 18GHz     | 5.01                              |
|                                           | 18GHz ~ 25GHz    | 5.01                              |

#### 4.0.Equipment List

##### **Bluetooth ATE # 1: (SW Version: Ate Main\_3.1.9\_R1)**

| <b>Description</b> | <b>Model</b> | <b>Serial Number</b> | <b>Calibration Date</b> | <b>Calibration Due Date</b> |
|--------------------|--------------|----------------------|-------------------------|-----------------------------|
| POWER SUPPLY       | 6652A        | 3117A00162           | 6-Mar-16                | 6-Mar-17                    |
| POWER SUPPLY       | 6652A        | 3541A02403           | 7-Sep-15                | 7-Sep-17                    |
| SPECTRUM ANALYZER  | E4445A       | MY46181513           | 11-Dec-14               | 11-Dec-17                   |
| SPECTRUM ANALYZER  | FSEK30       | 838495/014           | 29-Jun-15               | 29-Jun-17                   |

##### **Radiated Emission Station(SW Version: EMC FCC RE v1.5.1)**

| <b>Description</b>         | <b>Model</b> | <b>Serial Number</b> | <b>Calibration Date</b> | <b>Calibration Due Date</b> |
|----------------------------|--------------|----------------------|-------------------------|-----------------------------|
| DRG HORN FREQ.             | SAS-571      | 566                  | 4-Sep-16                | 4-Sep-17                    |
| DRG HORN FREQ.             | SAS-571      | 719                  | 28-Apr-15               | 28-Apr-17                   |
| BILOG ANTENNA              | CBL6112B     | 2964                 | 23-Jan-15               | 23-Jan-17                   |
| POWER SUPPLY               | 6674A        | 3126A00133           | 12-Nov-15               | 12-Nov-17                   |
| MICROWAVE SIGNAL GENERATOR | SMP04        | 100127               | 3-Jul-16                | 3-Jul-17                    |
| EMI TEST RECEIVER          | ESIB26       | 100336               | 19-Oct-16               | 19-Oct-17                   |
| SIGNAL ANALYZER            | FSV40        | 101103               | 25-Jun-16               | 25-Jun-17                   |
| 5M SEMI-ANECHOIC CHAMBER   | S800-HX      | J2308                | 29-Jul-16               | 29-Jul-17                   |
| BILOG ANTENNA              | CBL6112D     | 25516                | 23-Jan-16               | 23-Jan-17                   |
| BROAD-BAND HORN ANTENNA    | BBHA9170     | BBHA9170143          | 24-Nov-14               | 24-Feb-17                   |
| DATA LOGGER                | TM320        | 12249289             | 27-Apr-16               | 27-Apr-17                   |
| SYSTEM CONTROLLER          | SC104V       | 050806-1             | Not Required            | Not Required                |
| TRUNTABLE FLUSH MOUNT 2M   | FM2011       | NA                   | Not Required            | Not Required                |
| ANTENNA POSITIONNING TOWER | TLT2         | NA                   | Not Required            | Not Required                |
| 18 - 40GHz PREAMPLIFIER    | BBV9721      | 9721-007             | Not Required            | Not Required                |
| PREAMPLIFIER               | PAM-0118P    | 361                  | Not Required            | Not Required                |

## 5.0.Test Mode Applicability and Test Channel Detail

### Radiated Emission Test (Above 1GHz)

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

| EUT Configure Mode | Available Channel | Tested Channel | Modulation Type |
|--------------------|-------------------|----------------|-----------------|
| Test Mode          | 0 to 39           | 0,19,39        | GFSK            |

### Radiated Emission Test (Below 1GHz)

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

| EUT Configure Mode | Available Channel | Tested Channel | Modulation Type |
|--------------------|-------------------|----------------|-----------------|
| Test Mode          | 0 to 39           | 0,19,39        | GFSK            |

### Power Line Conducted Emission Test

☐ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☐ Following channel(s) was (were) selected for the final test as listed below.

| EUT Configure Mode | Available Channel | Tested Channel | Modulation Type |
|--------------------|-------------------|----------------|-----------------|
| Application Mode   | 0 to 39           | AUTO           | AUTO            |

### Antenna Port Conducted Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

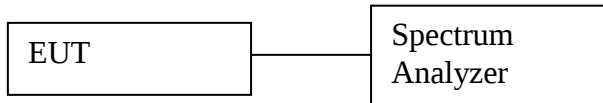
☒ Following channel(s) was (were) selected for the final test as listed below.

| EUT Configure Mode | Available Channel | Tested Channel | Modulation Type |
|--------------------|-------------------|----------------|-----------------|
| Test Mode          | 0 to 39           | 0,19,39        | GFSK            |

## 6.0. Transmitter Test Parameters

### 6.1.6dB Channel Bandwidth

#### 6.1.1. Test Setup



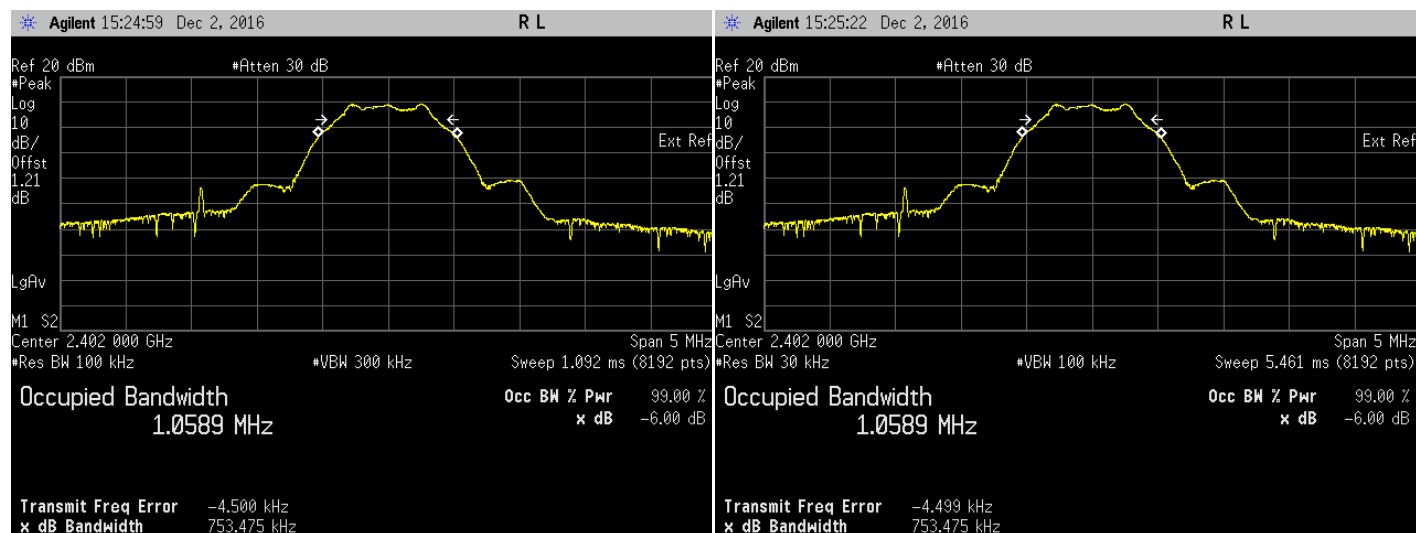
- 1) Check and ensure the spectrum analyzer well calibrate.
- 2) Turn on the DUT and set DUT to transmit maximum power.
- 3) Connect DUT's antenna terminal to spectrum analyzer with a low loss cable.
- 4) Setting of Spectrum analyzer :
  - a. RBW = 100 kHz
  - b. VBW = 300 kHz
  - c. Detector mode = Peak
  - d. Trace = Max hold
  - e. Sweep = auto
- 5) Measure the freq different of two frequencies that were attenuated 6dB from peak of the emission & record the frequency difference as the emission bandwidth.

#### 6.1.2. Test Limits:

|                                  |
|----------------------------------|
| <b>Normal Condition (25 ° C)</b> |
| <b>≥500 kHz</b>                  |

#### 6.1.3. Test Data:

| Test Conditions |                 | Test Frequency | Results             |                              |        |
|-----------------|-----------------|----------------|---------------------|------------------------------|--------|
| Standard        | Modulation Type | Tx (MHz)       | 6dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) | Status |
| Bluetooth L.E   | GFSK            | 2402           | 0.753               | 1.059                        | Pass   |
| Bluetooth L.E   | GFSK            | 2440           | 0.750               | 1.056                        | Pass   |
| Bluetooth L.E   | GFSK            | 2480           | 0.743               | 1.055                        | Pass   |



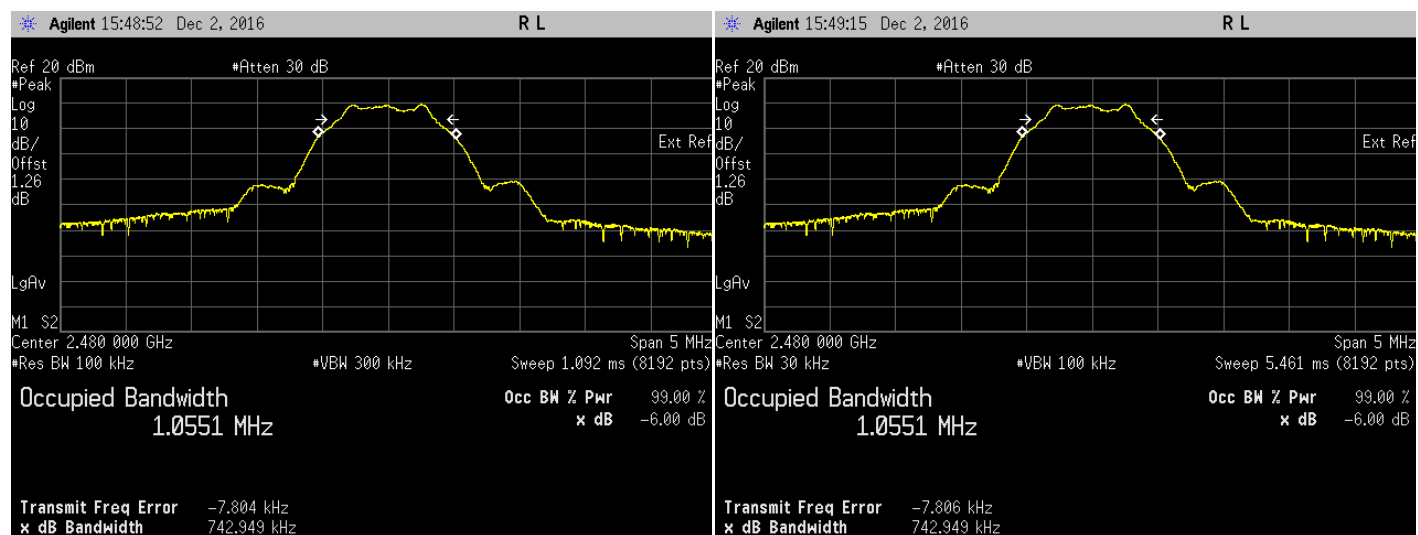
6dB Bandwidth. Bluetooth LE Frequency 2402 MHz

99% Bandwidth. Bluetooth LE Frequency 2402 MHz



6dB Bandwidth. Bluetooth LE Frequency 2440 MHz

99% Bandwidth. Bluetooth LE Frequency 2440 MHz

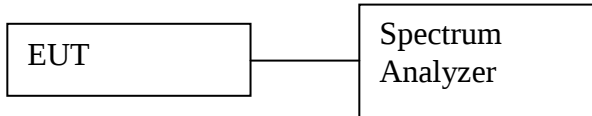


6dB Bandwidth. Bluetooth LE Frequency 2480 MHz

99% Bandwidth. Bluetooth LE Frequency 2480 MHz

## 6.2. Maximum Peak Conducted RF Output Power

### 6.2.1. Test Setup



- 1) Check and ensure the spectrum analyzer well calibrate.
- 2) Turn on the DUT and set DUT to transmit maximum power.
- 3) Connect DUT's antenna terminal to spectrum analyzer with a low loss cable.
- 4) Setting of Spectrum analyzer :
  - a. Set the RBW  $\geq$  DTS bandwidth.
  - b. Set the VBW  $\geq [3 \times \text{RBW}]$ .
  - c. Set the span  $\geq [3 \times \text{RBW}]$ .
  - d. Detector = peak.
  - e. Sweep time = auto couple.
  - f. Trace mode = max hold.
  - g. Allow trace to fully stabilize.
  - h. Use peak marker function to determine the peak amplitude level.

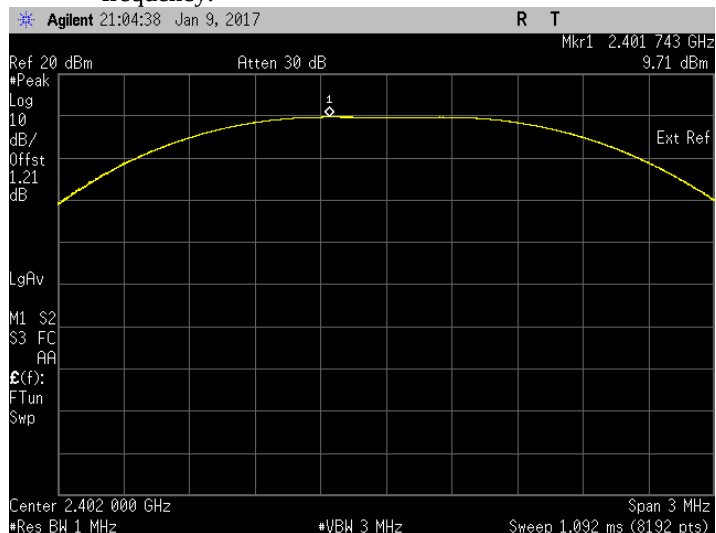
### 6.2.2. Test Limits:

|                                         |
|-----------------------------------------|
| <b>Normal Condition (25 ° C)</b>        |
| <b><math>\leq 1</math> Watt(30 dBm)</b> |

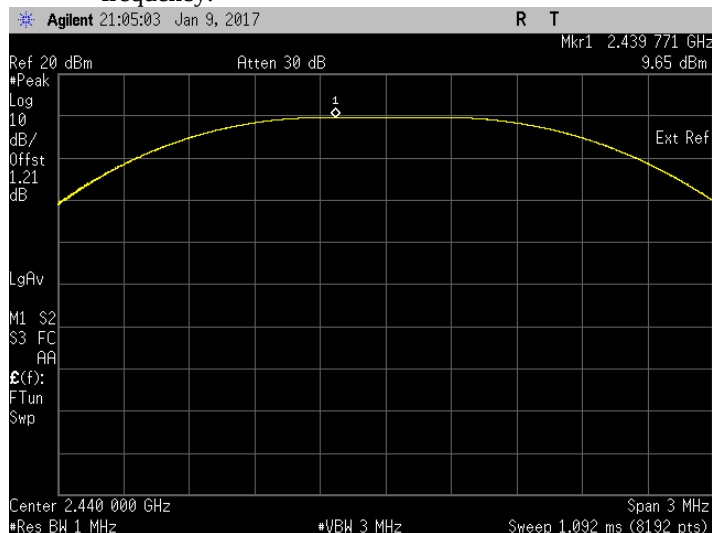
### 6.2.3. Test Data:

| Test Conditions |                 |          | Test Frequency     | Results |
|-----------------|-----------------|----------|--------------------|---------|
| Standard        | Modulation Type | Tx (MHz) | Output Power (dBm) | Status  |
| Bluetooth L.E   | GFSK            | 2402     | 9.71               | Pass    |
| Bluetooth L.E   | GFSK            | 2440     | 9.65               | Pass    |
| Bluetooth L.E   | GFSK            | 2480     | 9.64               | Pass    |

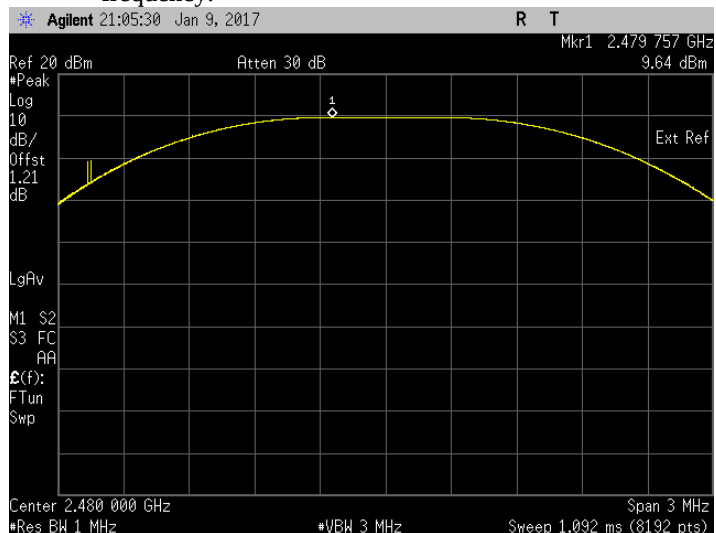
i. The Conducted RF Output Power test with result at low frequency.



ii. The Conducted RF Output Power test with result at mid frequency.

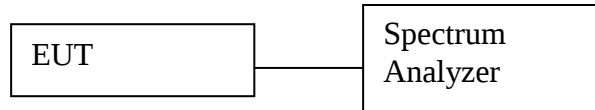


iii. The Conducted RF Output Power test with result at high frequency.



### 6.3.Maximum Peak Power Spectral Density

#### 6.3.1. Test Setup



##### Maximum Peak

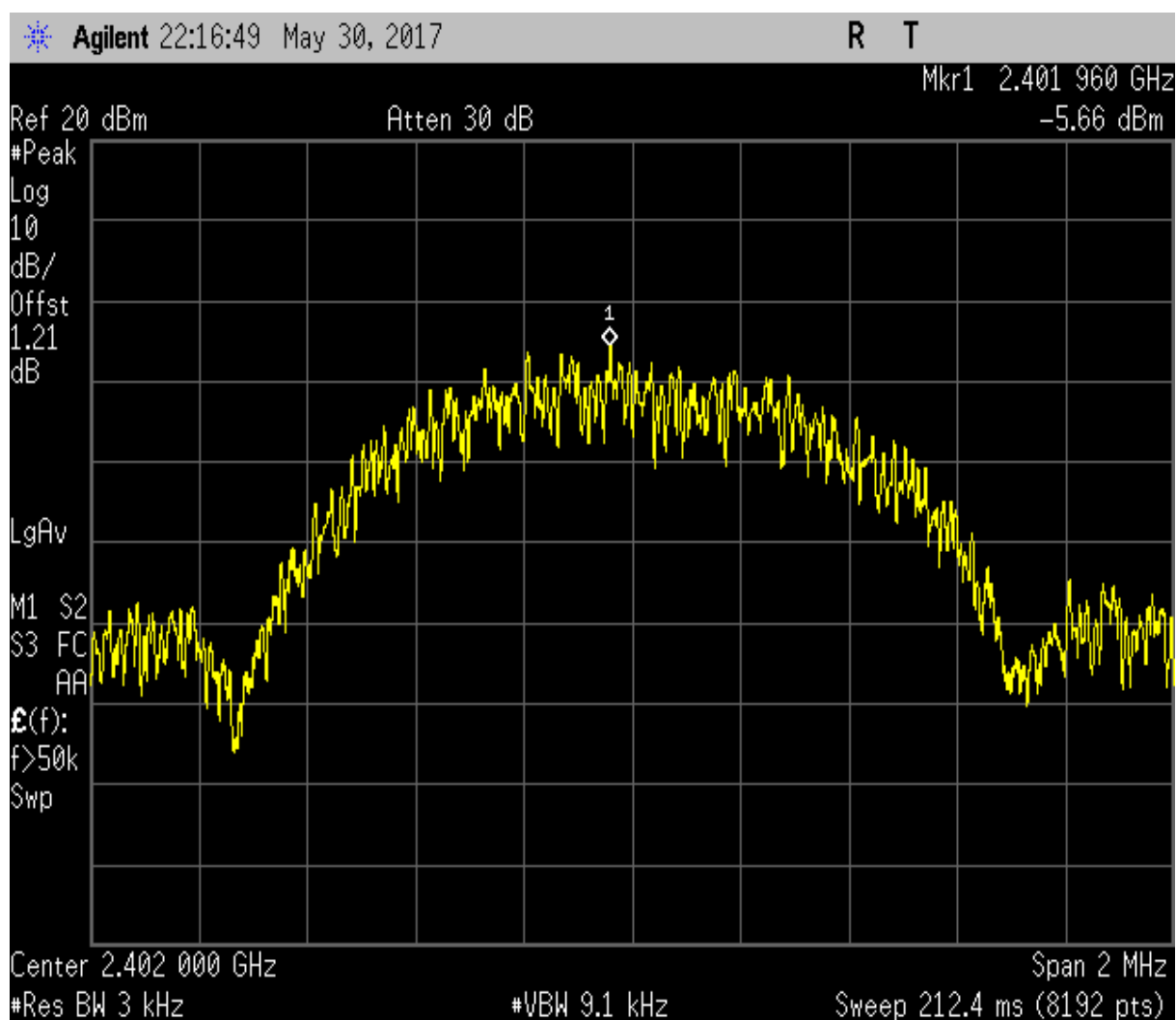
- 1) Check and ensure the spectrum analyzer well calibrate.
- 2) Turn on the DUT and set DUT to transmit maximum power.
- 3) Connect DUT's antenna terminal to spectrum analyzer with a low loss cable.
- 4) Setting of Spectrum analyzer :
  - a. Set analyzer center frequency to DTS channel center frequency.
  - b. Set the span to 1.5 times the DTS bandwidth.
  - c. Set the RBW to  $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$ .
  - d. Set the VBW  $\geq [3 \times \text{RBW}]$ .
  - e. Detector = peak.
  - f. Sweep time = auto couple.
  - g. Trace mode = max hold.
  - h. Allow trace to fully stabilize.
  - i. Use the peak marker function to determine the maximum amplitude level within the RBW.
  - j. If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.

#### 6.3.2. Test Limits

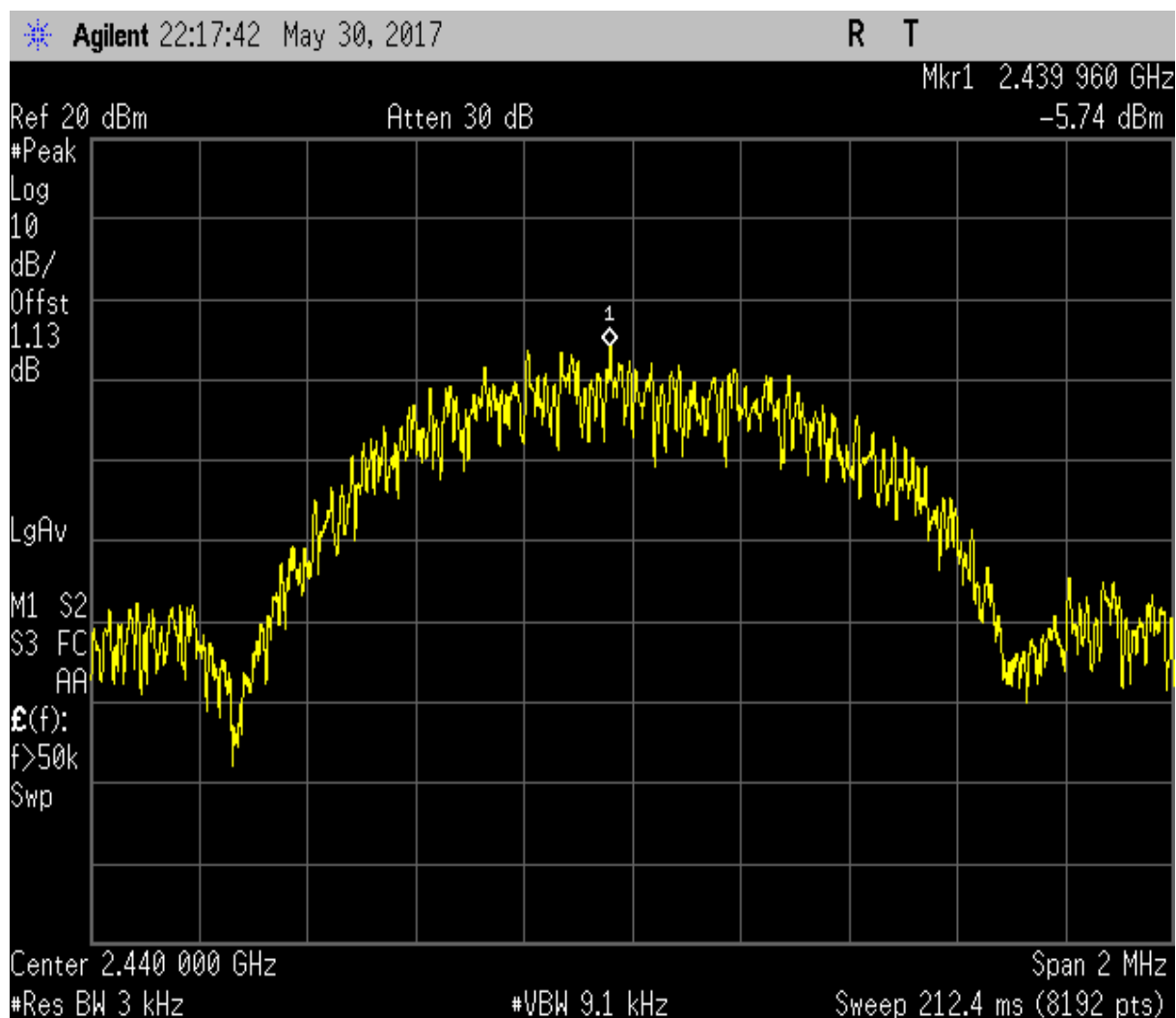
|                                             |
|---------------------------------------------|
| <b>Normal Condition (25 ° C)</b>            |
| <b><math>\leq 8 \text{ dBm/3kHz}</math></b> |
|                                             |

### 6.3.3. Test Result

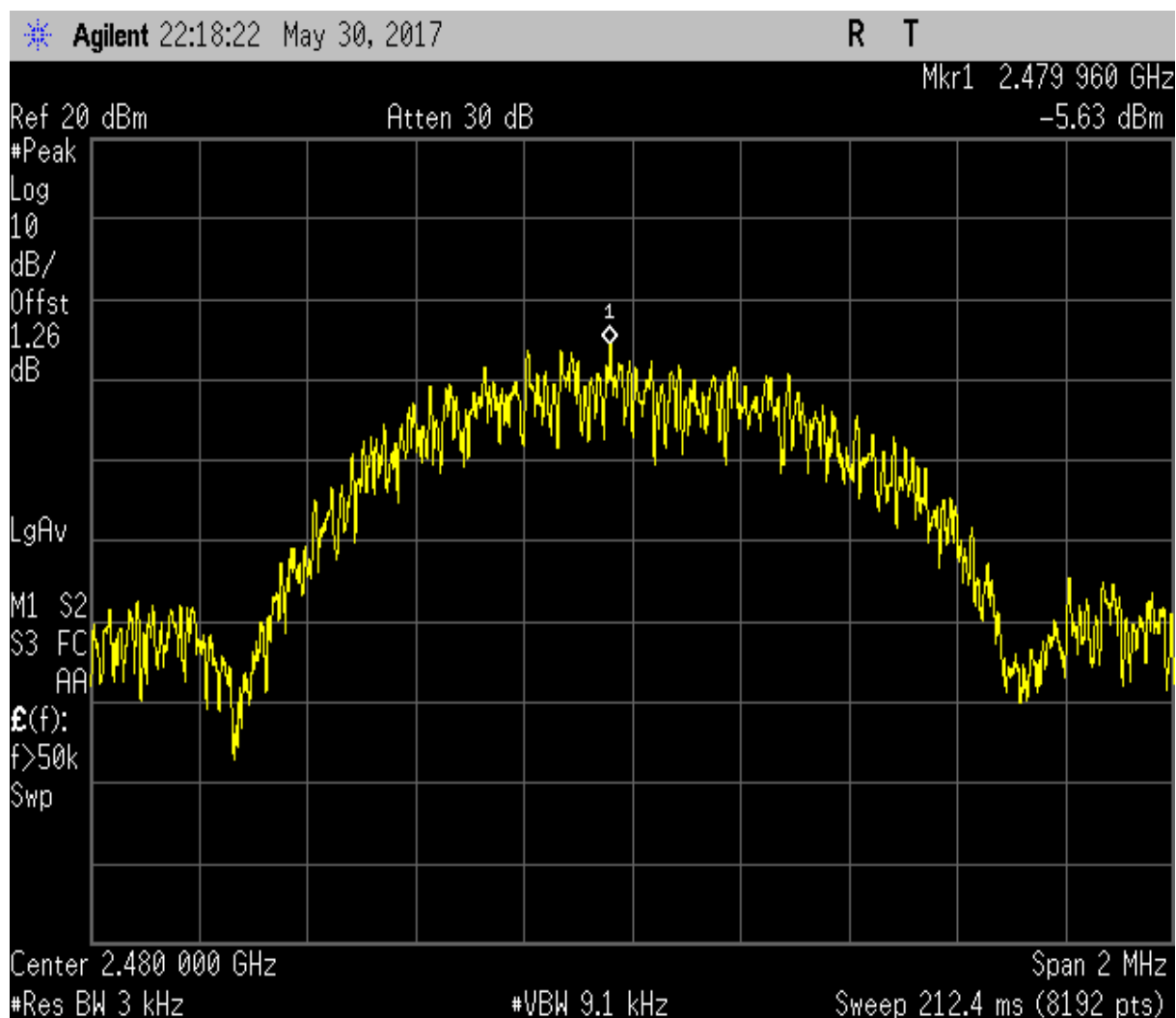
| Test Conditions |                 | Test Frequency | Results          |        |
|-----------------|-----------------|----------------|------------------|--------|
| Standard        | Modulation Type | Tx (MHz)       | Power (dBm/3kHz) | Status |
| Bluetooth L.E.  | GFSK            | 2402           | -5.66            | Pass   |
| Bluetooth L.E.  | GFSK            | 2440           | -5.74            | Pass   |
| Bluetooth L.E.  | GFSK            | 2480           | -5.63            | Pass   |



Maximum Power Spectral Density. Bluetooth LE Frequency 2402 MHz



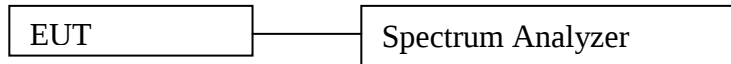
Maximum Power Spectral Density. Bluetooth LE Frequency 2440 MHz



Maximum Power Spectral Density. Bluetooth LE Frequency 2480 MHz

## 6.4. Conducted Spurious Emission

### 6.4.1. Test Setup



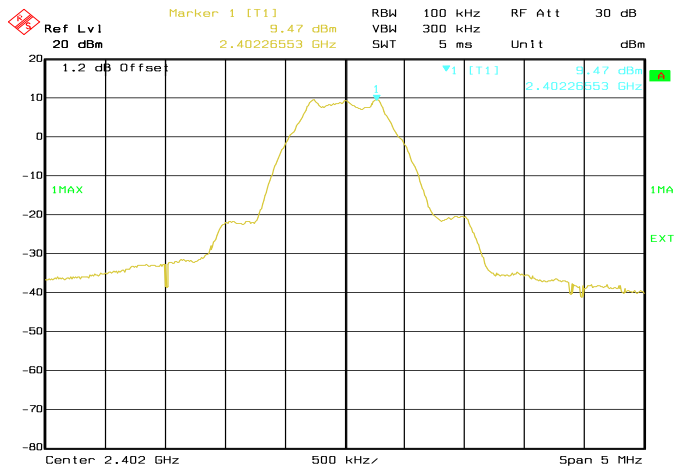
- 1) Check and ensure the spectrum analyzer well calibrate.
- 2) Turn on the DUT and set DUT to transmit maximum power.
- 3) Connect DUT's antenna terminal to spectrum analyzer with a low loss cable.
- 4) Setting of Spectrum analyzer :
  - a. RBW = 100 kHz
  - b. VBW = 300 kHz
  - c. Detector mode = Peak
  - d. Trace = Max Hold
  - e. Sweep = auto
- 5) Use the peak marker function to measure highest emission and scan up to 10<sup>th</sup> harmonic.

### 6.4.2. Test Limits:

|                                                        |
|--------------------------------------------------------|
| <b>Normal Condition (25 ° C)</b>                       |
| <b>Shall be at least 20 dB below peak (max) power.</b> |

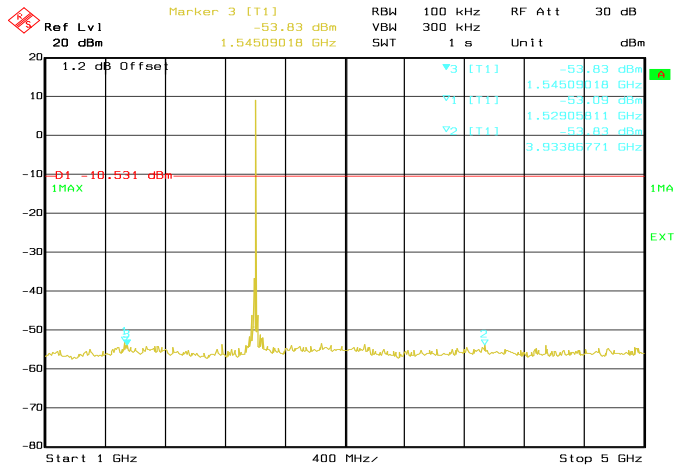
### 6.4.3. Test Result

| Test Conditions |                 |          | Test Frequency | Results     |        |
|-----------------|-----------------|----------|----------------|-------------|--------|
| Standard        | Modulation Type | Tx (MHz) | Spurs (MHz)    | Level (dBm) | Status |
| Bluetooth L.E.  | GFSK            | 2402     | 14188.38       | -50.16      | Pass   |
|                 |                 |          | 6993.99        | -50.60      | Pass   |
|                 |                 |          | 6713.43        | -51.13      | Pass   |
| Bluetooth L.E.  | GFSK            | 2440     | 6933.87        | -50.57      | Pass   |
|                 |                 |          | 14188.38       | -49.39      | Pass   |
|                 |                 |          | 6703.41        | -51.05      | Pass   |
| Bluetooth L.E.  | GFSK            | 2480     | 14188.38       | -50.22      | Pass   |
|                 |                 |          | 6583.17        | -51.26      | Pass   |
|                 |                 |          | 6973.95        | -50.80      | Pass   |



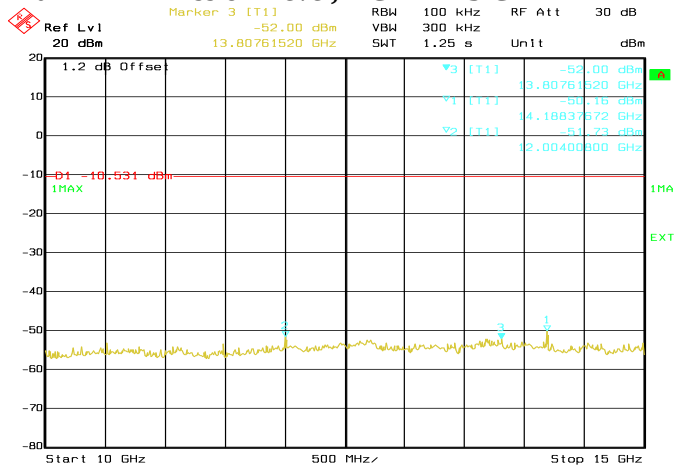
Date: 02.DEC.2016 11:27:45

### Conducted Emissions. Bluetooth LE, Frequency 2402 MHz Reference Level



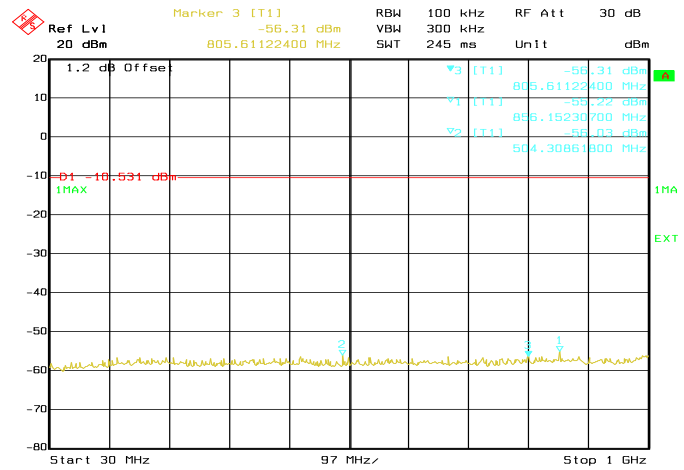
Date: 02.DEC.2016 11:28:51

### Conducted Emissions. Bluetooth LE, Frequency 2402 MHz Emission Level, 1 GHz -> 5 GHz



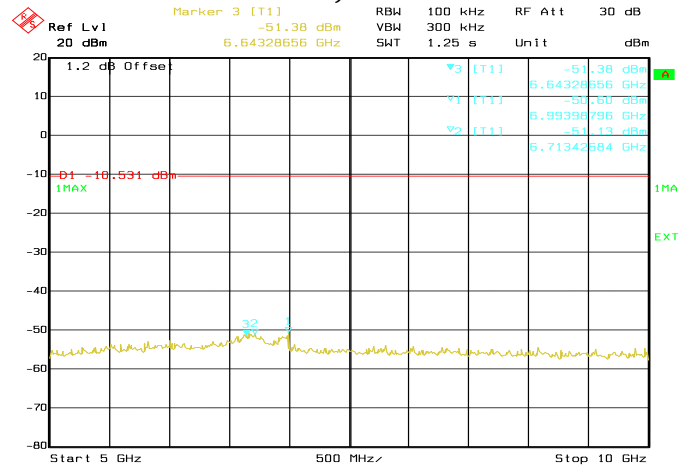
Date: 02.DEC.2016 11:29:57

### Conducted Emissions. Bluetooth LE, Frequency 2402 MHz Emission Level, 10 GHz -> 15 GHz



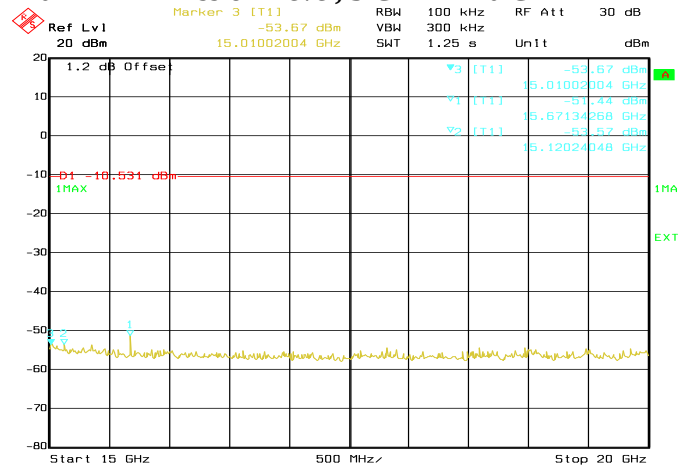
Date: 02.DEC.2016 11:28:18

### Conducted Emissions. Bluetooth LE, Frequency 2402 MHz Emission Level, 30 MHz -> 1 GHz



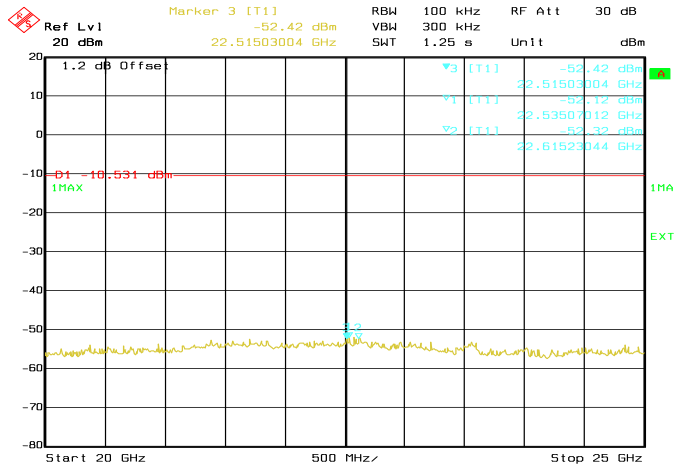
Date: 02.DEC.2016 11:29:24

### Conducted Emissions. Bluetooth LE, Frequency 2402 MHz Emission Level, 5 GHz -> 10 GHz

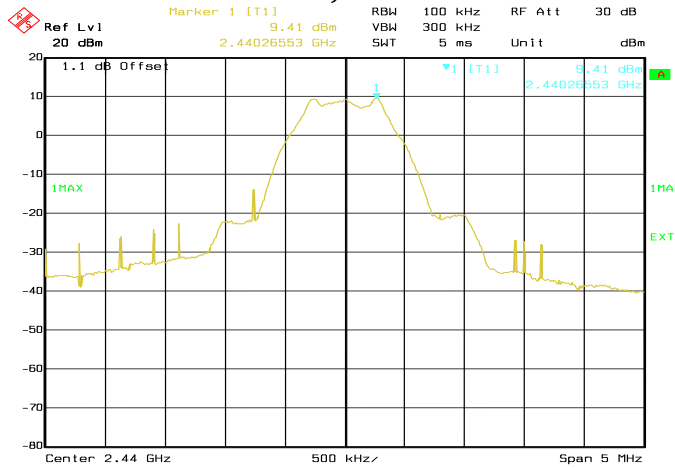


Date: 02.DEC.2016 11:30:29

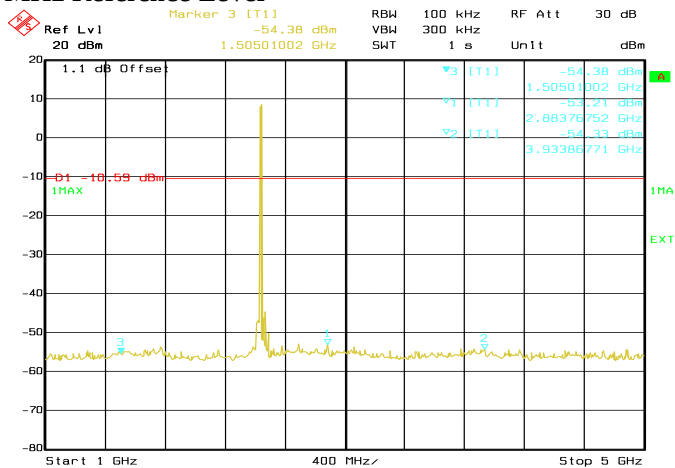
### Conducted Emissions. Bluetooth LE, Frequency 2402 MHz Emission Level, 15 GHz -> 20 GHz



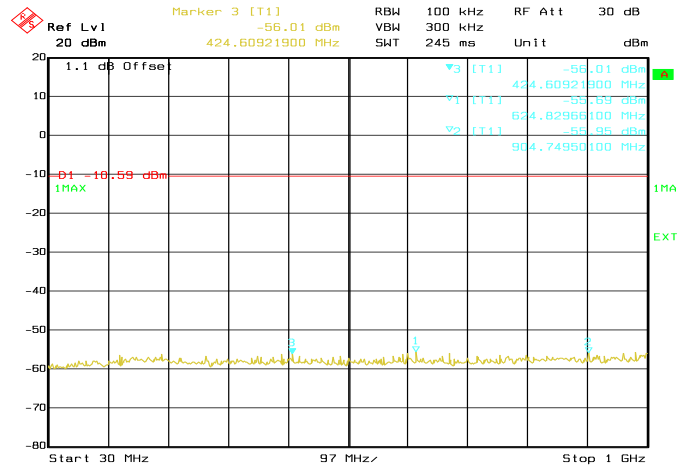
### Conducted Emissions. Bluetooth LE, Frequency 2402 MHz Emission Level, 20 GHz -> 25 GHz



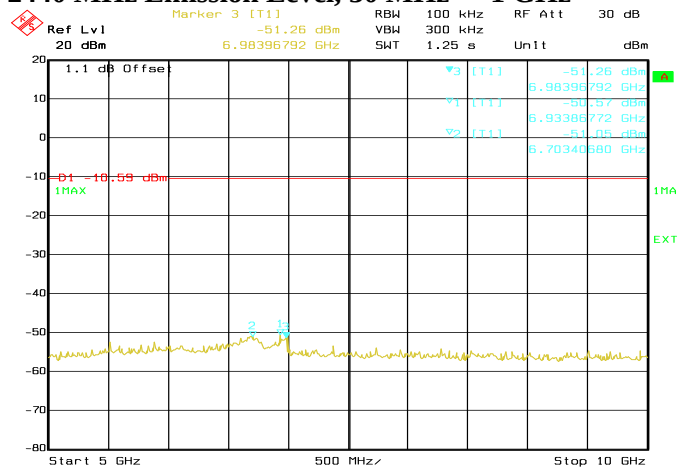
### Conducted Emissions. Bluetooth LE, Frequency 2440 MHz Reference Level



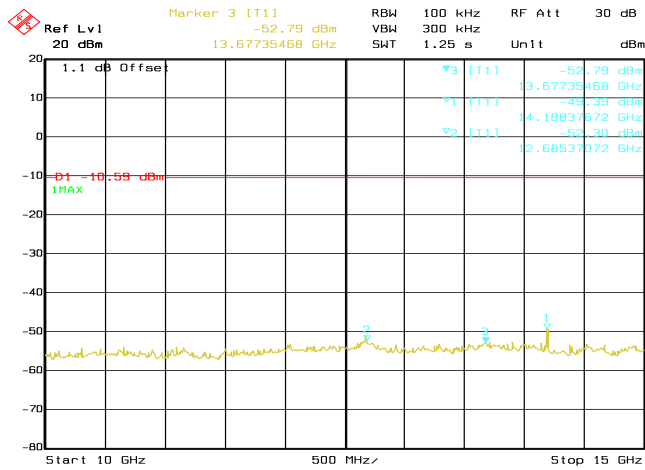
### Conducted Emissions. Bluetooth LE, Frequency 2440 MHz Emission Level, 1 GHz -> 5 GHz



### Conducted Emissions. Bluetooth LE, Frequency 2440 MHz Emission Level, 30 MHz -> 1 GHz

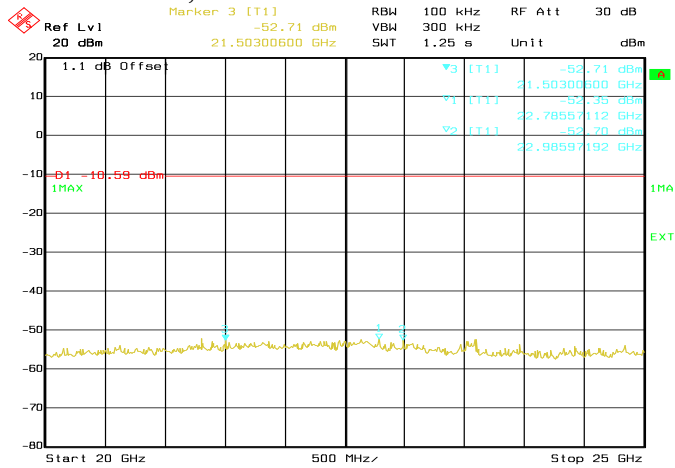


### Conducted Emissions. Bluetooth LE, Frequency 2440 MHz Emission Level, 5 GHz -> 10 GHz



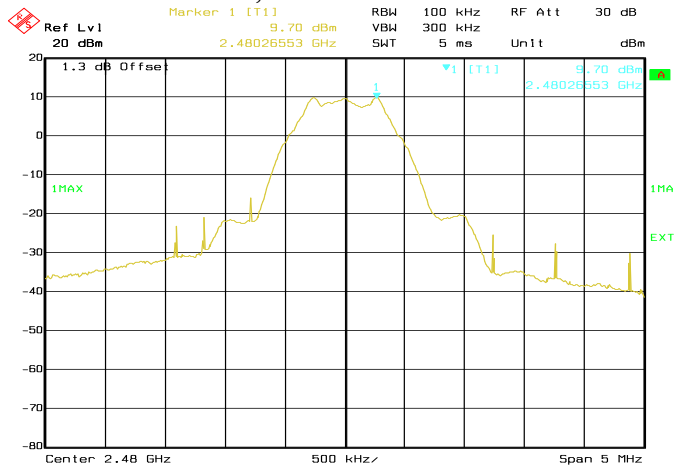
Date: 02.DEC.2016 11:42:10

### Conducted Emissions. Bluetooth LE, Frequency 2440 MHz Emission Level, 10 GHz -> 15 GHz



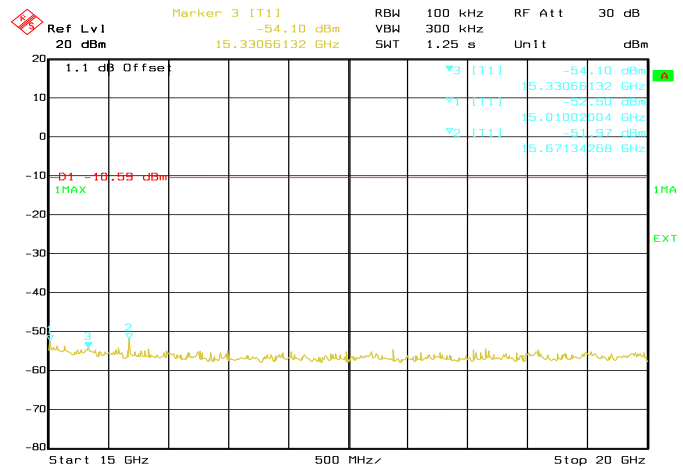
Date: 02.DEC.2016 11:43:16

### Conducted Emissions. Bluetooth LE, Frequency 2440 MHz Emission Level, 20 GHz -> 25 GHz



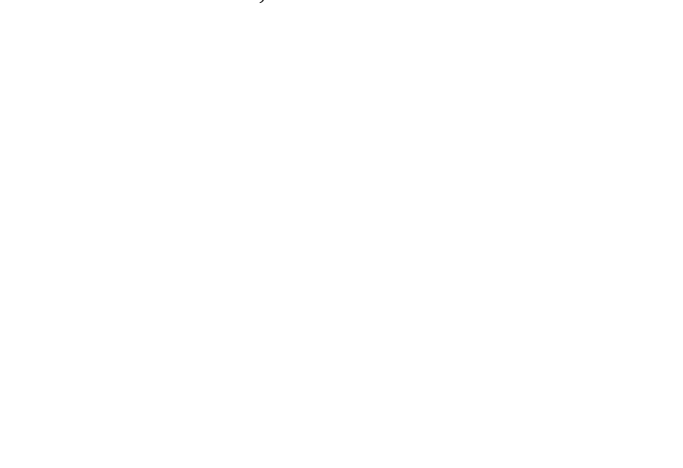
Date: 02.DEC.2016 11:47:02

### Conducted Emissions. Bluetooth LE, Frequency 2480 MHz Reference Level



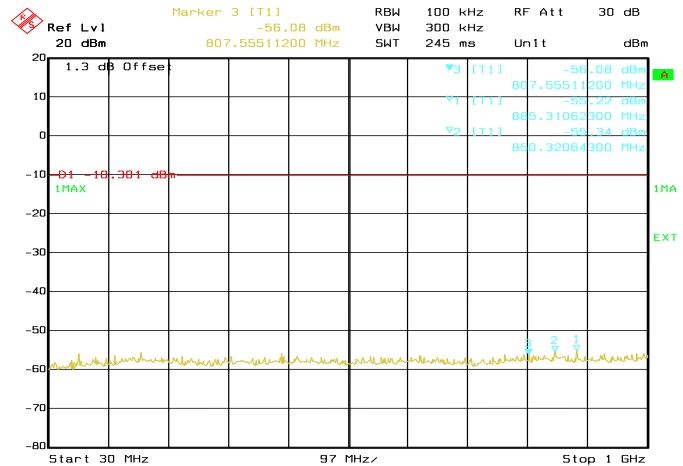
Date: 02.DEC.2016 11:42:43

### Conducted Emissions. Bluetooth LE, Frequency 2440 MHz Emission Level, 15 GHz -> 20 GHz



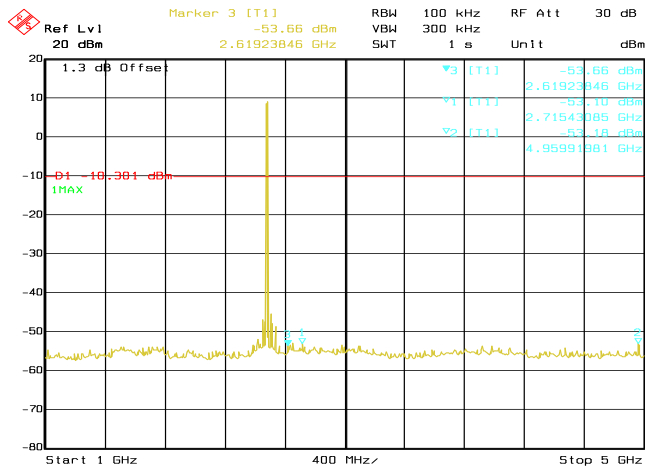
Date: 02.DEC.2016 11:47:35

### Conducted Emissions. Bluetooth LE, Frequency 2480 MHz Emission Level, 30 MHz -> 1 GHz



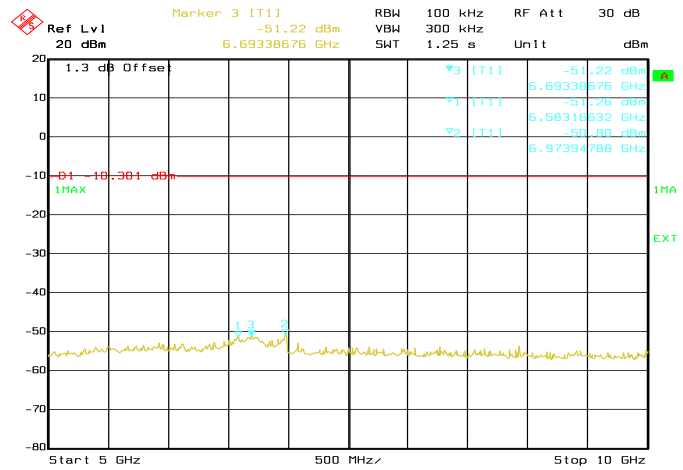
Date: 02.DEC.2016 11:47:35

### Conducted Emissions. Bluetooth LE, Frequency 2480 MHz Emission Level, 30 MHz -> 1 GHz



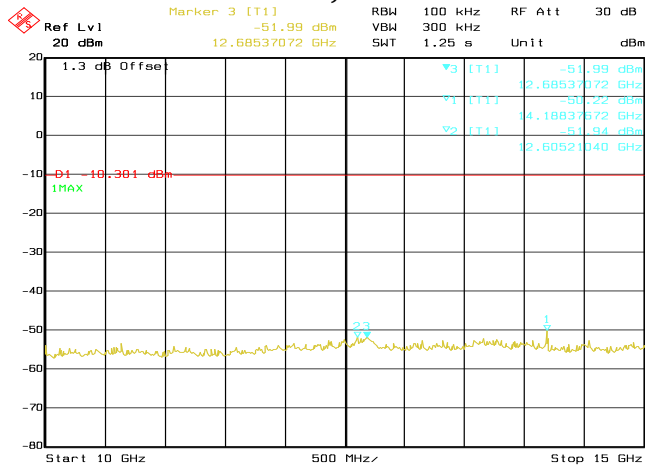
Date: 02.DEC.2016 11:48:08

**Conducted Emissions. Bluetooth LE, Frequency  
2480 MHz Emission Level, 1 GHz -> 5 GHz**



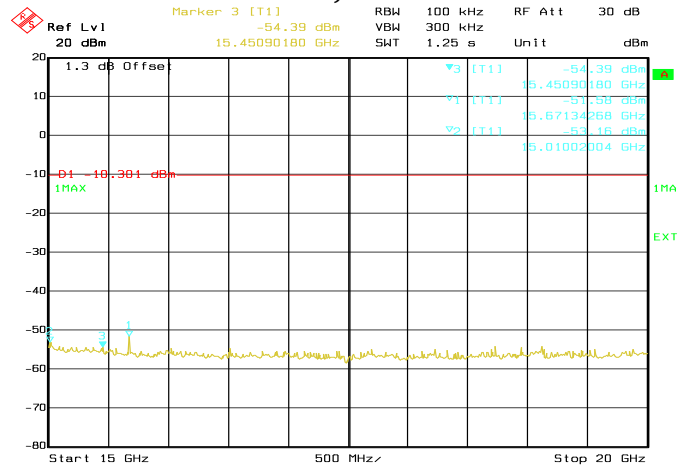
Date: 02.DEC.2016 11:48:41

**Conducted Emissions. Bluetooth LE, Frequency  
2480 MHz Emission Level, 5 GHz -> 10 GHz**



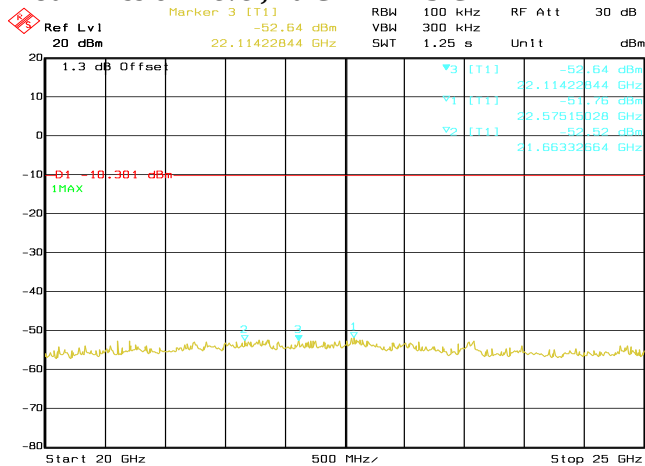
Date: 02.DEC.2016 11:49:14

**Conducted Emissions. Bluetooth LE, Frequency  
2480 MHz Emission Level, 10 GHz -> 15 GHz**



Date: 02.DEC.2016 11:49:46

**Conducted Emissions. Bluetooth LE, Frequency  
2480 MHz Emission Level, 15 GHz -> 20 GHz**

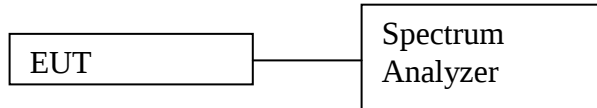


Date: 02.DEC.2016 11:50:20

**Conducted Emissions. Bluetooth LE, Frequency  
2480 MHz Emission Level, 20 GHz -> 25 GHz**

## 6.5. Band edge Conducted Spurious Emission

### 6.5.1. Test Setup



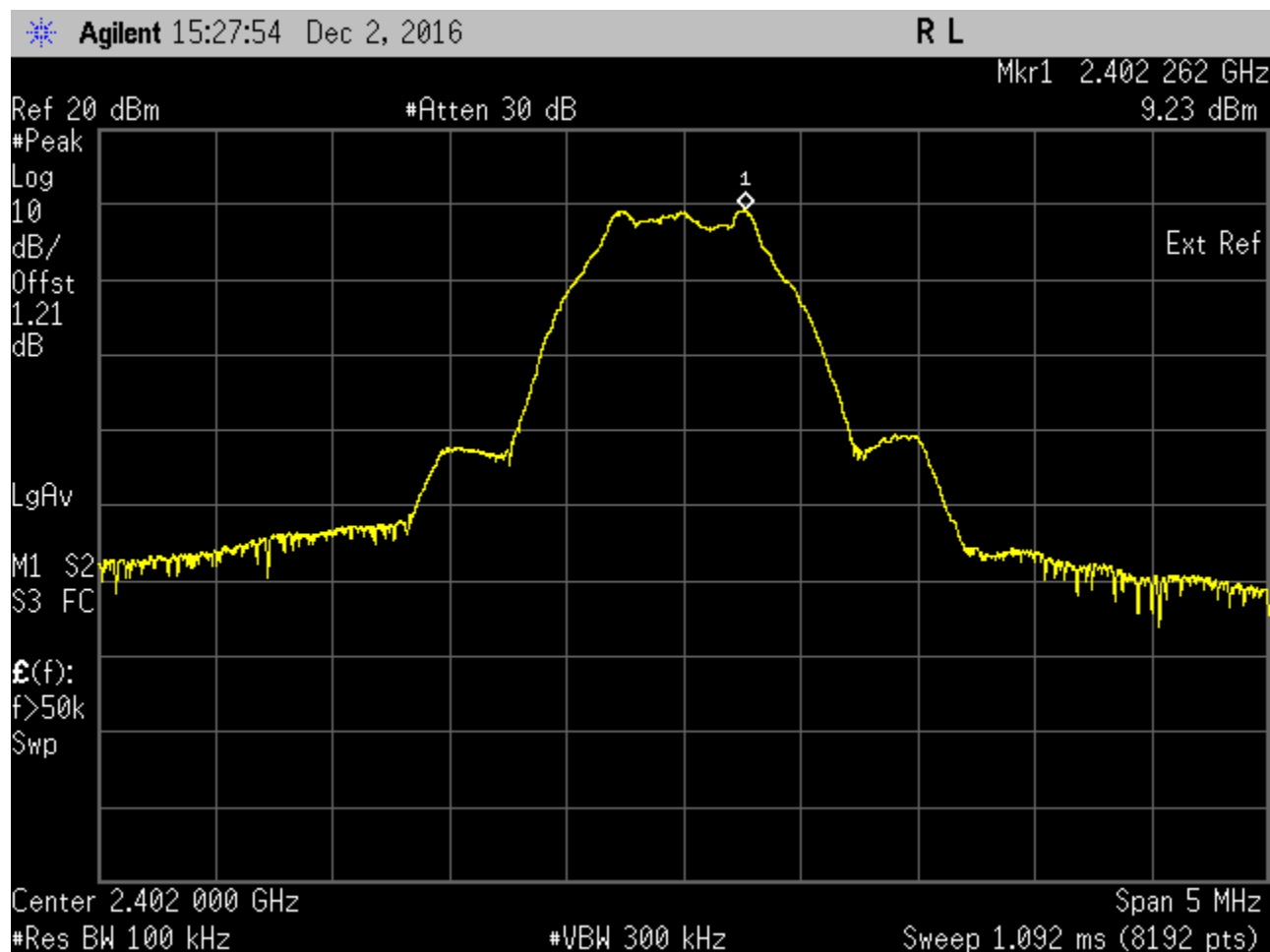
- a) Check and ensure the spectrum analyzer well calibrate.
- b) Turn on the DUT and set DUT to transmit maximum power.
- c) Connect DUT's antenna terminal to spectrum analyzer with a low loss cable.
- d) Setting of Spectrum analyzer :
  - a. RBW = 100 kHz
  - b. VBW = 300 kHz
  - c. Detector mode = Peak
  - d. Trace = Max Hold
  - e. Sweep = auto
- e) Use the peak marker function to measure highest emission.

### 6.5.2. Test Limits:

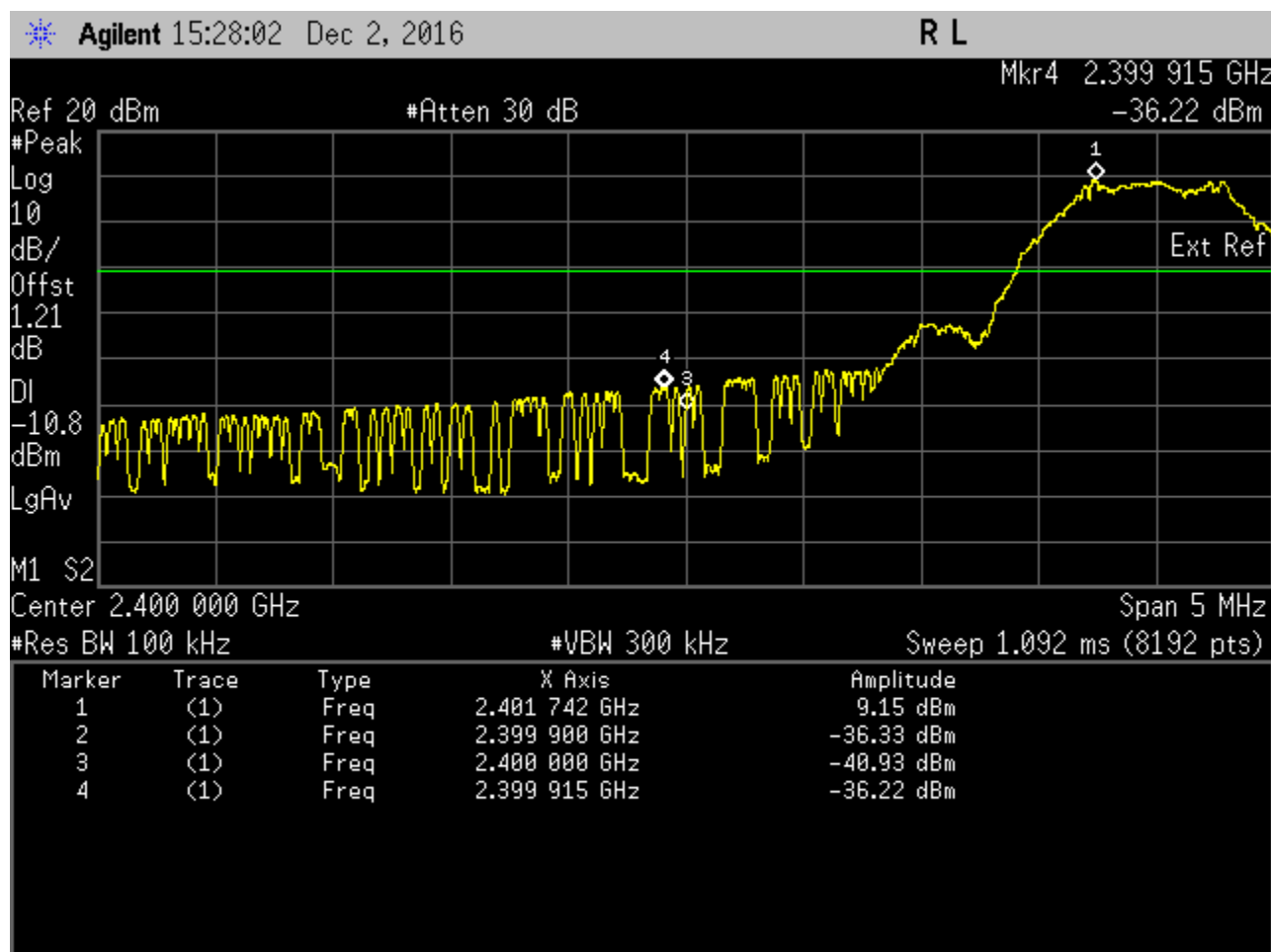
|                                                        |
|--------------------------------------------------------|
| <b>Normal Condition (25 ° C)</b>                       |
| <b>Shall be at least 20 dB below peak (max) power.</b> |

### 6.5.3. Test Result

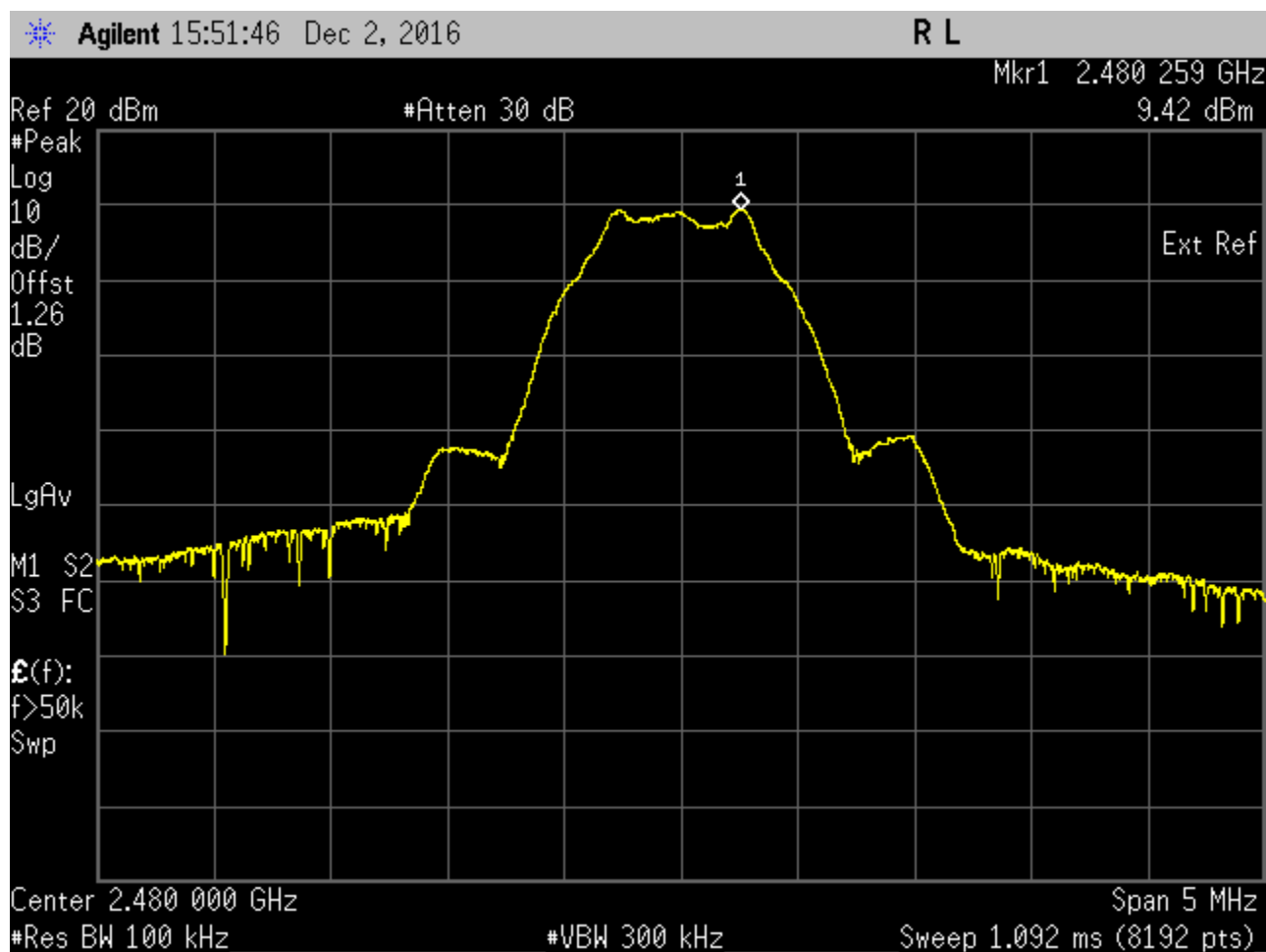
| Test Conditions |                 | Test Frequency | Results           |             |        |
|-----------------|-----------------|----------------|-------------------|-------------|--------|
| Standard        | Modulation Type | Tx (MHz)       | Frequencies (MHz) | Power (dBm) | Status |
| Bluetooth L.E   | GFSK            | 2402           | 2399.92           | -36.22      | Pass   |
| Bluetooth L.E   | GFSK            | 2480           | 2483.59           | -45.54      | Pass   |



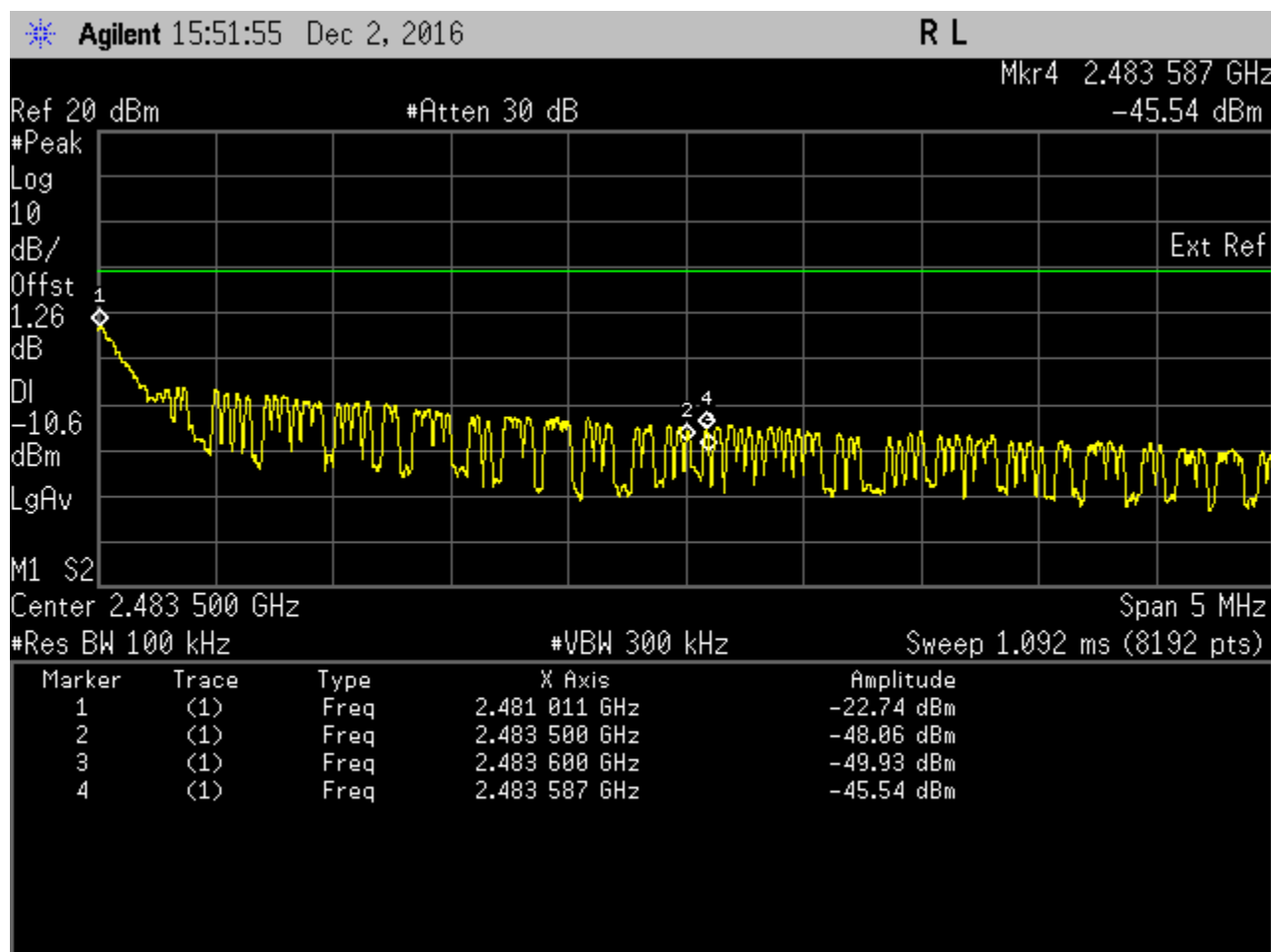
**Band Edge. Bluetooth LE Frequency 2402 MHz Reference Level**



Band Edge. Bluetooth LE Frequency 2402 MHz Band Edge



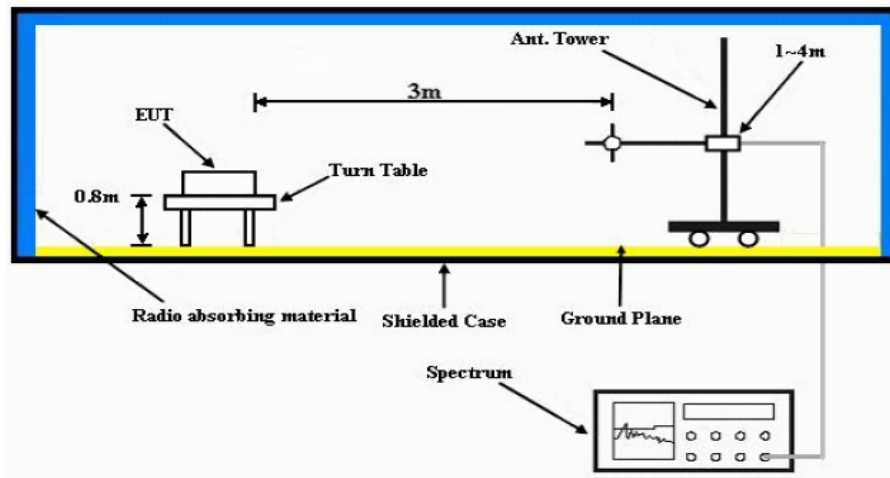
Band Edge. Bluetooth LE Frequency 2480 MHz Reference Level



Band Edge. Bluetooth LE Frequency 2480 MHz Band Edge

## 6.6. Radiated Emission within Restricted Bands

### 6.6.1. Test Setup



- The EUT is placed on the top of a rotating table 0.8m above the ground (<1GHz) and 1.5m above the ground (>1GHz) at a 3m semi-anechoic chamber. The table is rotated 360 degrees to determine the position of the highest radiation.
- The EUT is set 3m away from the interference-receiving antenna, which is mounted on the top of a variable-height antenna tower.
- The antenna is Bilog/Horn antenna depend on which frequency range uses, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT is arranged to its worst case and then the antenna is tuned to heights from 1m to 4m and the rotatable table is turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system is set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode is fall within the range of 10dB from the limit specified, the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. Otherwise, the testing could be stopped and the peak values of the EUT would be reported.

**NOTE:**

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3 MHz for Peak detection at frequency above 1 GHz.
3. All modes of operation were investigated and the worst-case emissions are reported.

**6.6.2 Test Limits:**

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power.

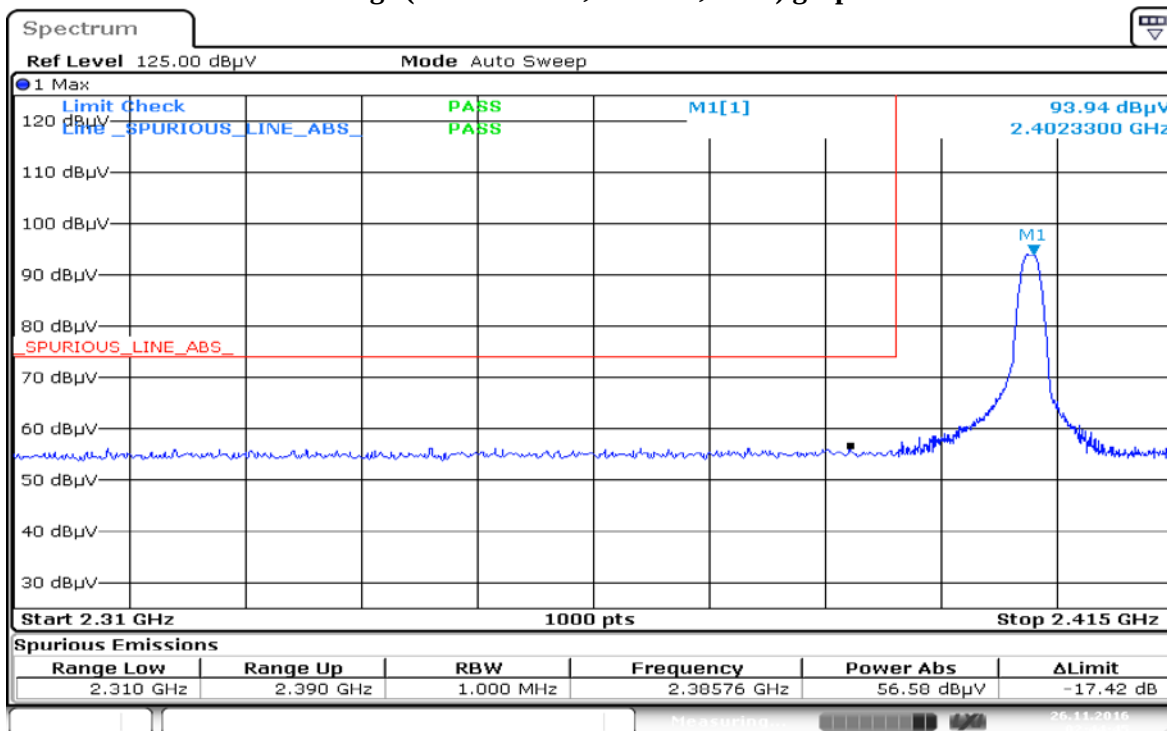
| Frequency (MHz) | Field strength (microvolts/meter) | Measurement distance (meters) |
|-----------------|-----------------------------------|-------------------------------|
| 0.009-0.490     | 2400/F(kHz)                       | 300                           |
| 0.490-1.705     | 24000/F(kHz)                      | 30                            |
| 1.705-30.0      | 30                                | 30                            |
| 30-88           | 100**                             | 3                             |
| 88-216          | 150**                             | 3                             |
| 216-960         | 200**                             | 3                             |
| Above 960       | 500                               | 3                             |

**NOTE:**

- 1) The lower limit shall apply at the transition frequencies.
- 2) Emission level (dBuV/m) = 20 log Emission level (uV/m).
- 3) For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

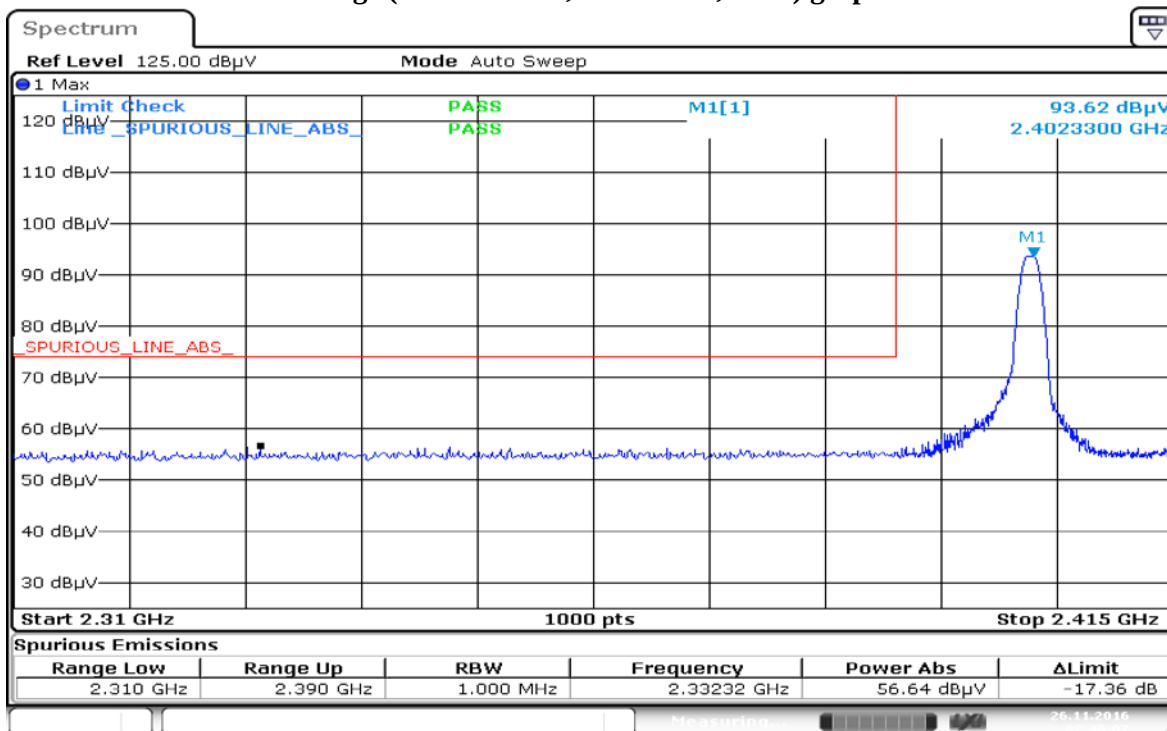


Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



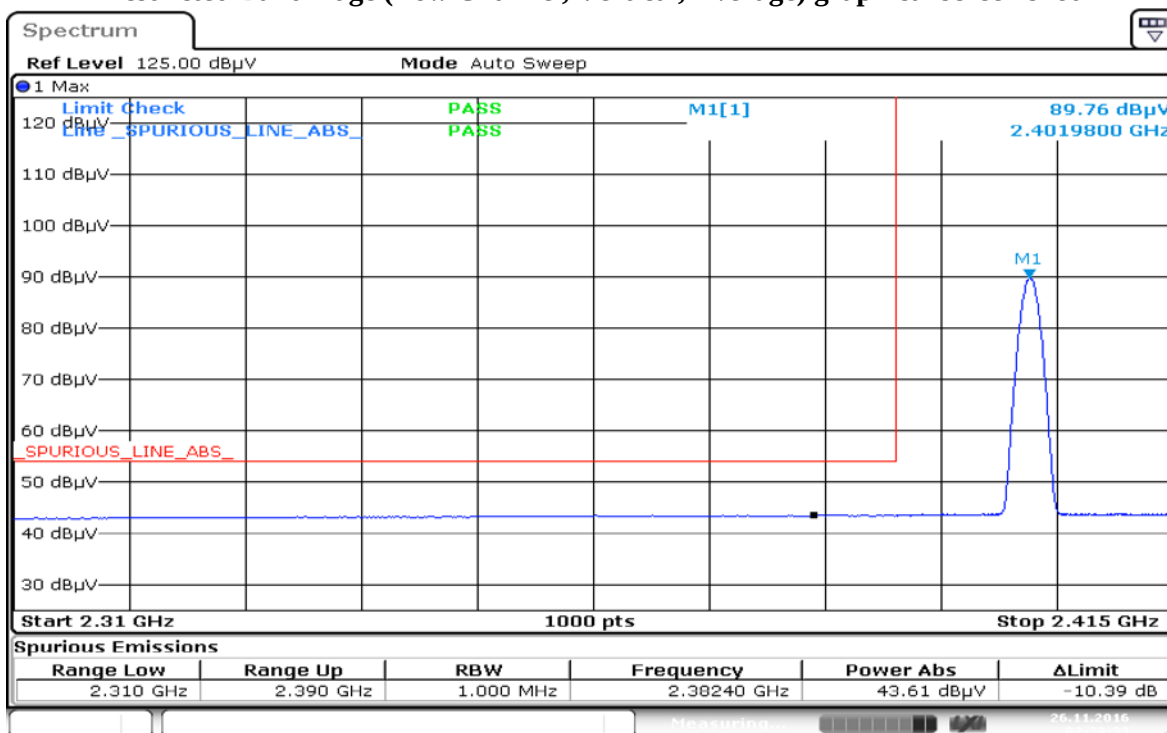
Date: 26.NOV.2016 02:44:45

### Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



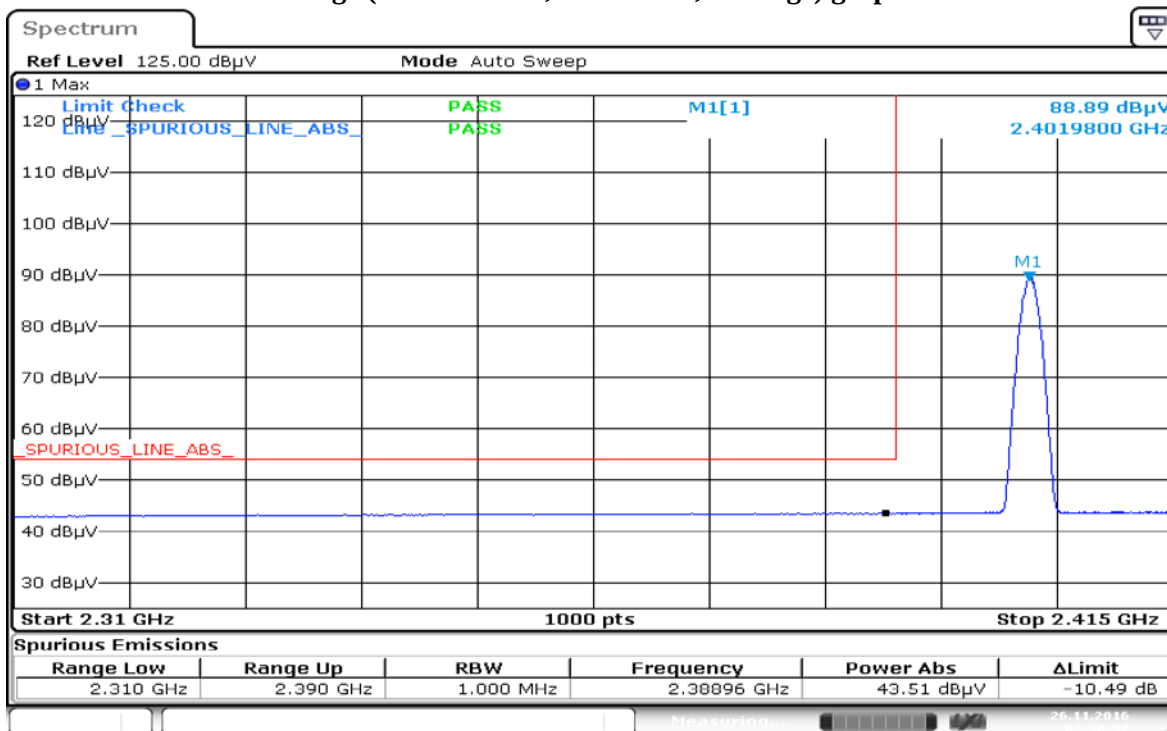
Date: 26.NOV.2016 02:46:08

### Restricted Band Edge (Low Channel, Vertical, Average) graphical screen shot



Date: 26.NOV.2016 02:29:33

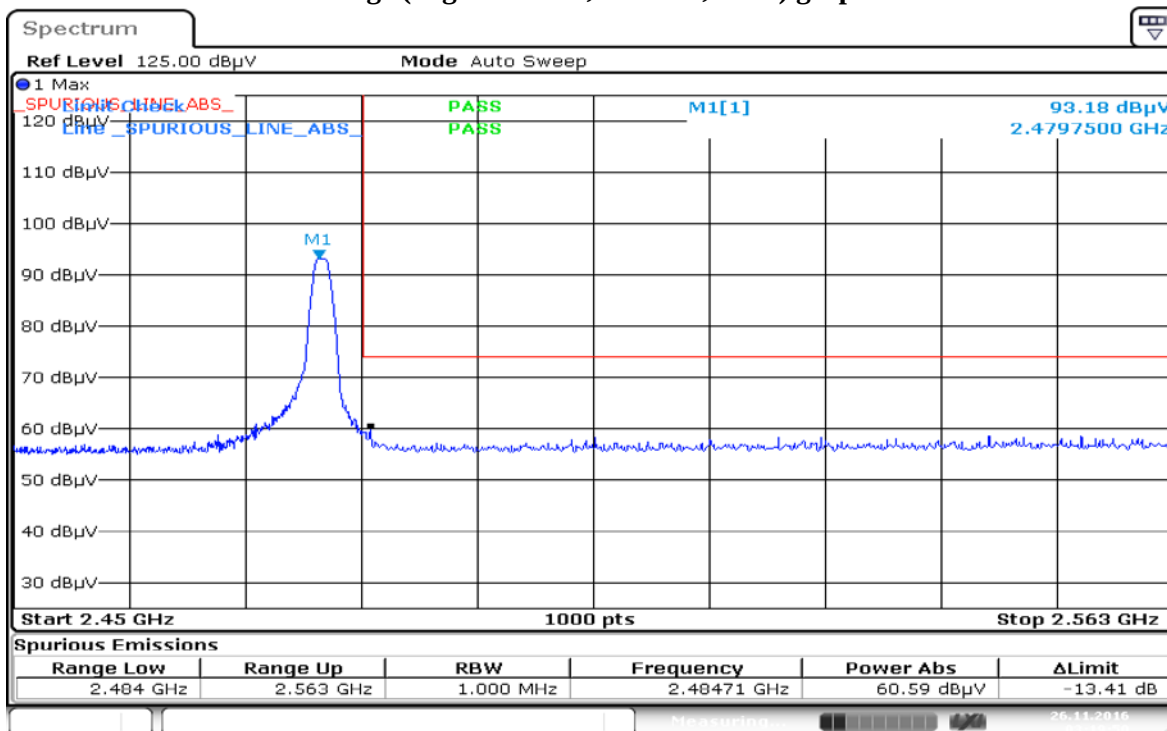
### Restricted Band Edge (Low Channel, Horizontal, Average) graphical screen shot



Date: 26.NOV.2016 02:30:58

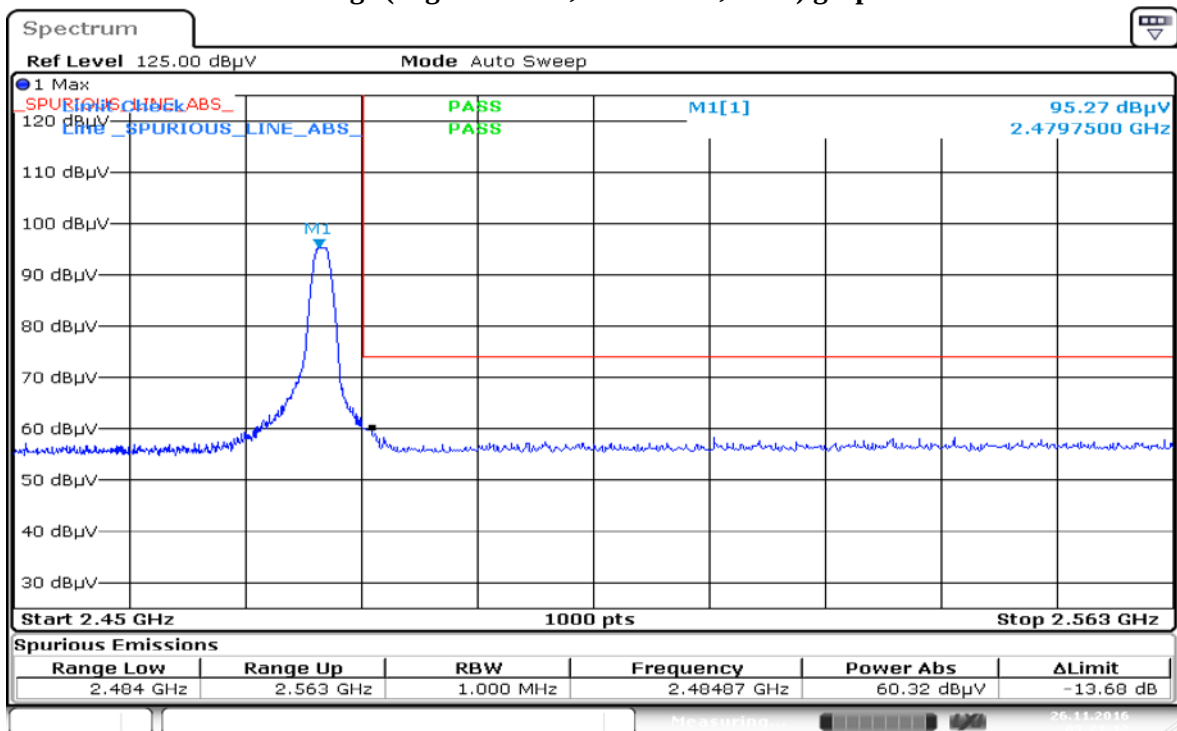


### Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



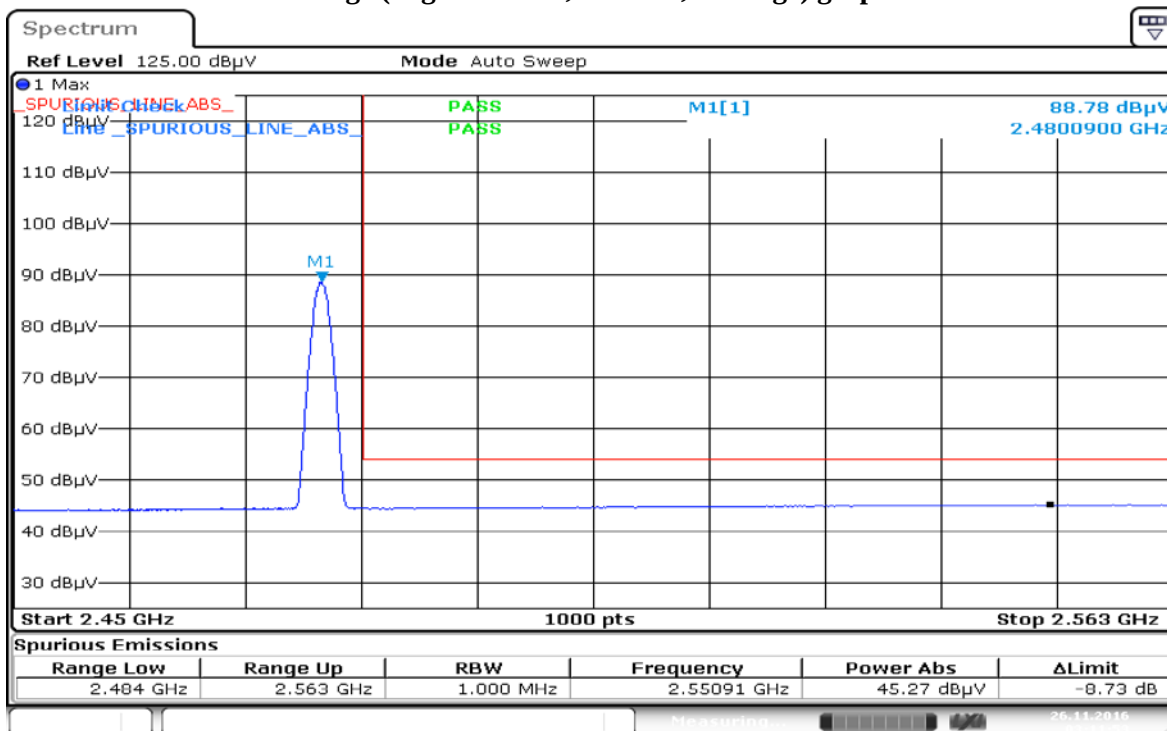
Date: 26.NOV.2016 03:19:50

### Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot



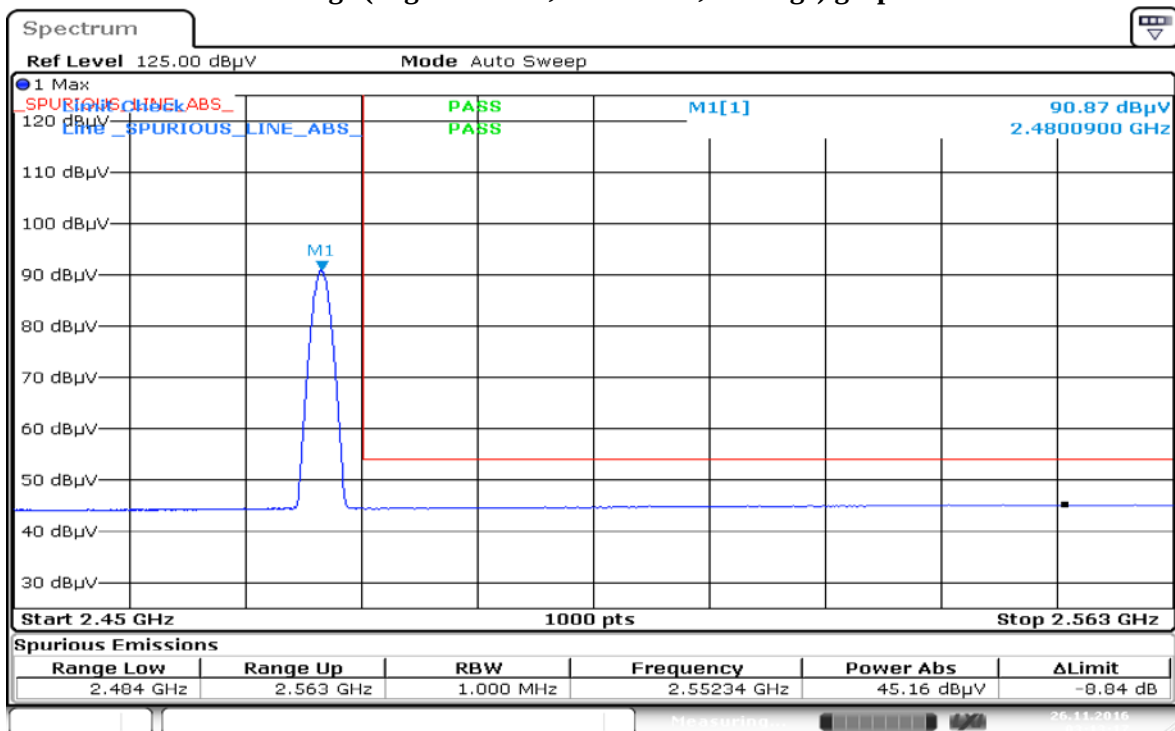
Date: 26.NOV.2016 03:21:13

### Restricted Band Edge (High Channel, Vertical, Average) graphical screen shot



Date: 26.NOV.2016 03:11:53

**Restricted Band Edge (High Channel, Horizontal, Average) graphical screen shot**



Date: 26.NOV.2016 03:13:18

**Test: Bluetooth SAC Receiver Radiated Emission**  
**Model#: H92QDH9PW7AN S/N: 837TSX0063 EMC SR ID#: 05756-EMC-00018**  
**Battery: PMNN4493A Accessory: PMAE4100A**  
**Test Channel: Low Test Frequency: 2402.00 MHz Test Standard: ANSI C63.4-2014**  
**Worst Case Plane: X-Plane (BT LE)**

**Radiated Emission (Low Channel) tabular data**

| Vertical Radiated Emission Result   |                         |                        |                        |                   |                   |                    |                    |                           |   |
|-------------------------------------|-------------------------|------------------------|------------------------|-------------------|-------------------|--------------------|--------------------|---------------------------|---|
| Spur Freq (MHz)                     | Spur level QPK (dBμV/m) | Spur level PK (dBμV/m) | Spur level AV (dBμV/m) | Limit PK (dBμV/m) | Limit AV (dBμV/m) | Margin PK (dBμV/m) | Margin AV (dBμV/m) | Carrier PK Power (dBμV/m) |   |
| 4804                                | -                       | 40.2440**              | **                     | 74                | 54                | 33.76**            | -                  | -                         | - |
| 7206                                | -                       | 44.3607**              | **                     | 74                | 54                | 29.64**            | -                  | -                         | - |
| 9608                                | -                       | 44.4420**              | **                     | 74                | 54                | 29.56**            | -                  | -                         | - |
| 12010                               | -                       | 49.7172**              | **                     | 74                | 54                | 24.28**            | -                  | -                         | - |
| 14412                               | -                       | 52.0256**              | **                     | 74                | 54                | 21.97**            | -                  | -                         | - |
| 16814                               | -                       | 53.0672**              | **                     | 74                | 54                | 20.93**            | -                  | -                         | - |
| 19216                               | -                       | 41.8595**              | **                     | 74                | 54                | 32.14**            | -                  | -                         | - |
| 21618                               | -                       | 40.9125**              | **                     | 74                | 54                | 33.09**            | -                  | -                         | - |
| 24020                               | -                       | 42.5015**              | **                     | 74                | 54                | 31.50**            | -                  | -                         | - |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
| Horizontal Radiated Emission Result |                         |                        |                        |                   |                   |                    |                    |                           |   |
| 4804                                | -                       | 40.6579**              | **                     | 74                | 54                | 33.34**            | -                  | -                         | - |
| 7206                                | -                       | 43.7670**              | **                     | 74                | 54                | 30.23**            | -                  | -                         | - |
| 9608                                | -                       | 44.4197**              | **                     | 74                | 54                | 29.58**            | -                  | -                         | - |
| 12010                               | -                       | 49.4137**              | **                     | 74                | 54                | 24.59**            | -                  | -                         | - |
| 14412                               | -                       | 51.5067**              | **                     | 74                | 54                | 22.49**            | -                  | -                         | - |
| 16814                               | -                       | 53.4400**              | **                     | 74                | 54                | 20.56**            | -                  | -                         | - |
| 19216                               | -                       | 41.5255**              | **                     | 74                | 54                | 32.47**            | -                  | -                         | - |
| 21618                               | -                       | 41.1122**              | **                     | 74                | 54                | 32.89**            | -                  | -                         | - |
| 24020                               | -                       | 41.9695**              | **                     | 74                | 54                | 32.03**            | -                  | -                         | - |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |

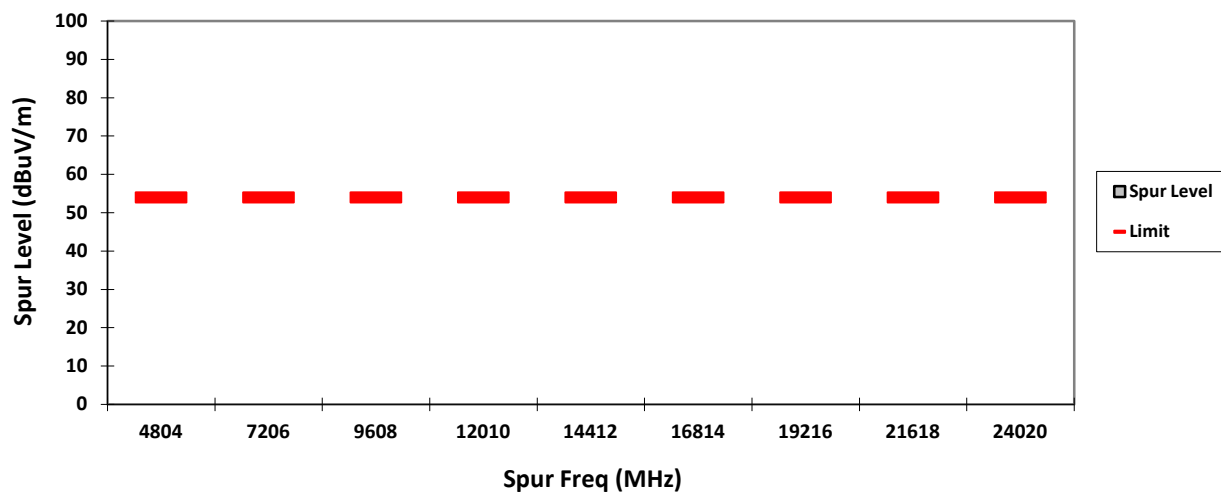
|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

Temperature (degC): 23.4  
 Test Performed by: Nazrin&Qawiman  
 System MU: 5.01dB

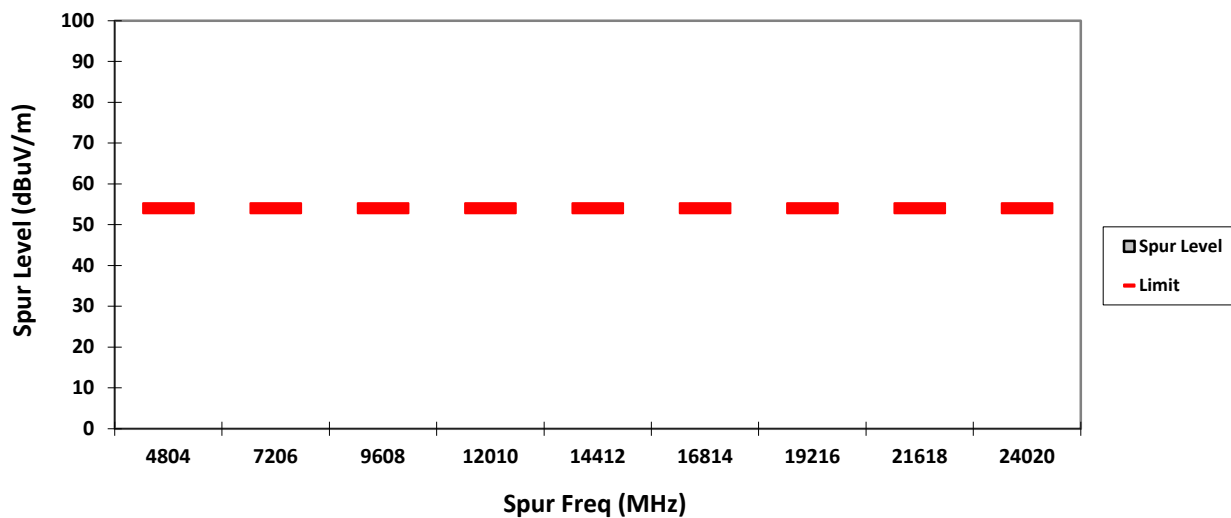
Humidity (%): 71.6  
 Test Date: Sun, Nov 27, 2016  
 Duty Cycle (%): <77%

Remarks: \*\* Indicates the spurious emission could not be detected due to noise limitation or ambient.

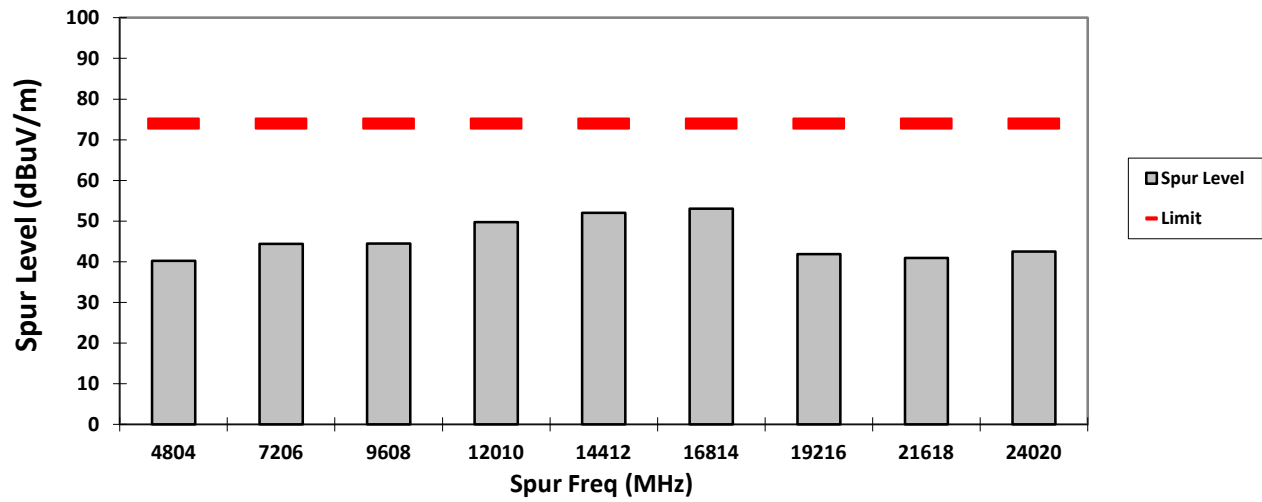
### VERTICAL, QPK



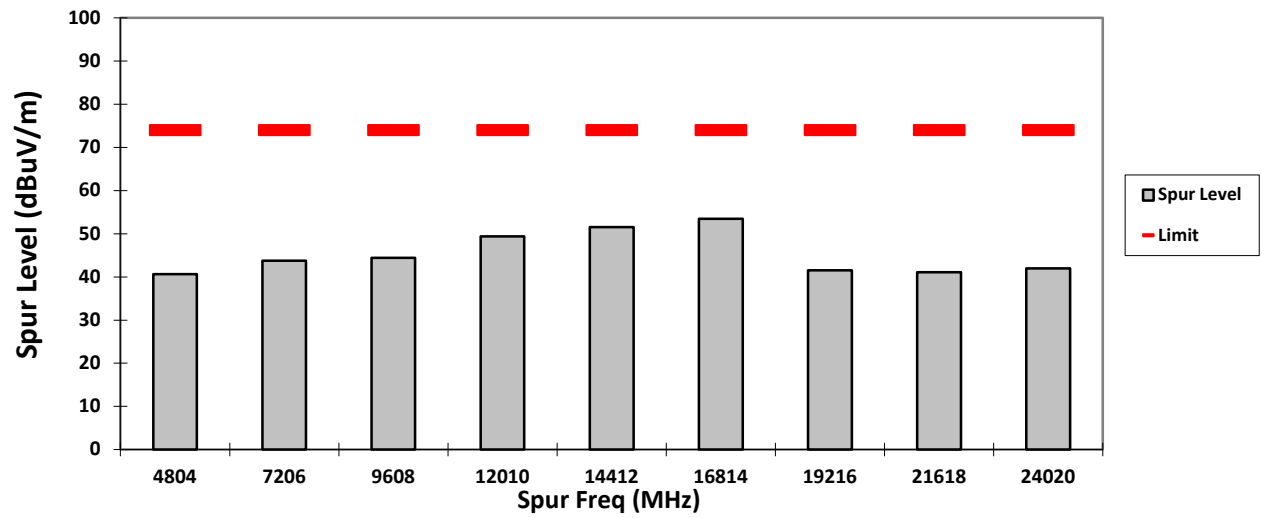
### HORIZONTAL, QPK



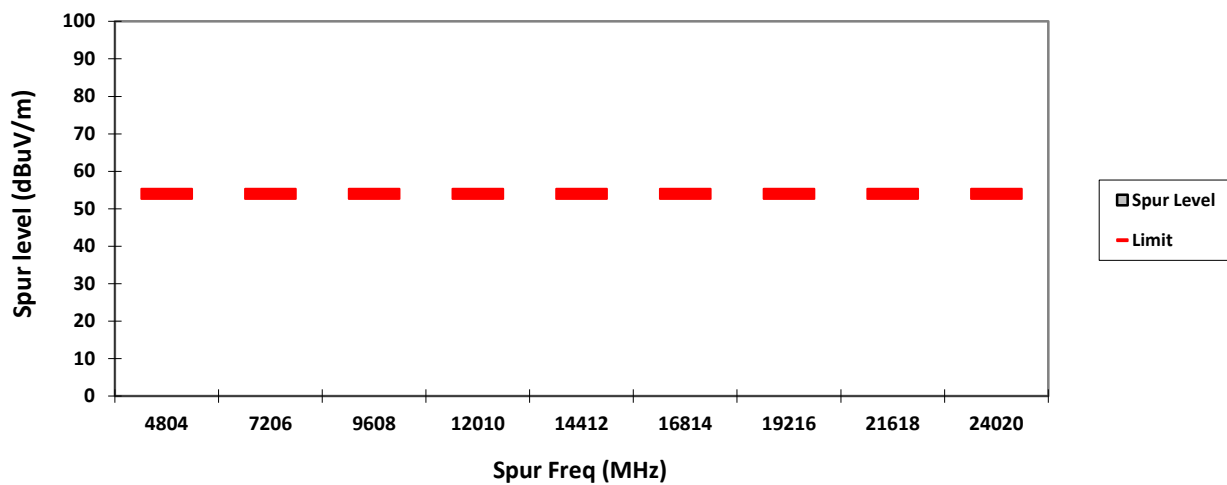
VERTICAL, PK



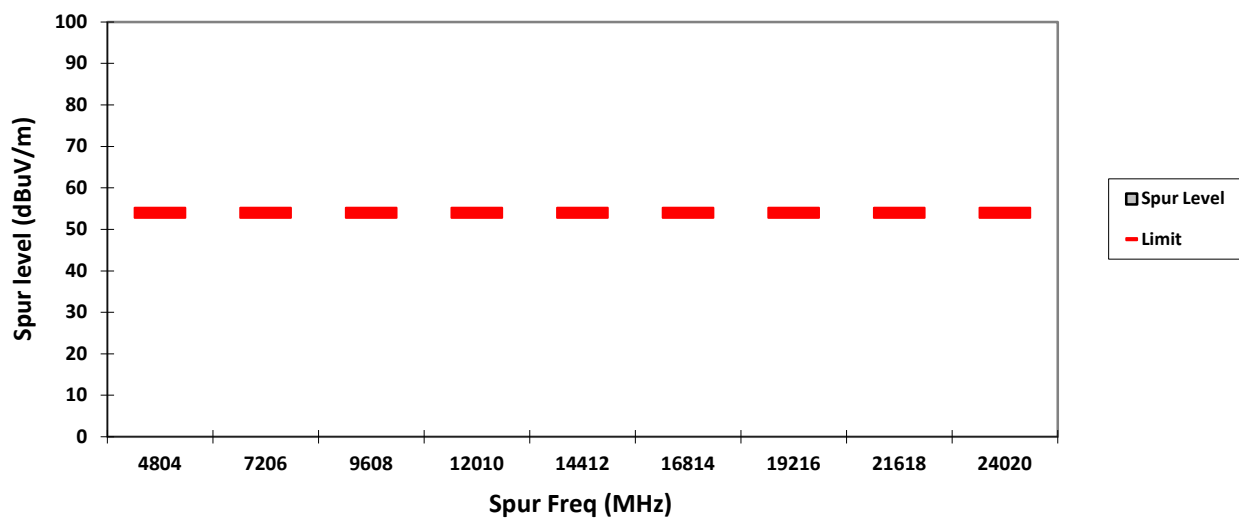
HORIZONTAL, PK



### VERTICAL, AV



### HORIZONTAL, AV



**Test: Bluetooth SAC Receiver Radiated Emission**  
**Model#: H92QDH9PW7AN S/N: 837TSX0063 EMC SR ID#: 05756-EMC-00018**  
**Battery: PMNN4493A Accessory: PMAE4100A**  
**Test Channel: Mid Test Frequency: 2440.00 MHz Test Standard: ANSI C63.4-2014**  
**Worst Case Plane: X-Plane (BT LE)**

**Radiated Emission (Mid Channel) tabular data**

| Vertical Radiated Emission Result   |                         |                        |                        |                   |                   |                    |                    |                           |   |
|-------------------------------------|-------------------------|------------------------|------------------------|-------------------|-------------------|--------------------|--------------------|---------------------------|---|
| Spur Freq (MHz)                     | Spur level QPK (dBμV/m) | Spur level PK (dBμV/m) | Spur level AV (dBμV/m) | Limit PK (dBμV/m) | Limit AV (dBμV/m) | Margin PK (dBμV/m) | Margin AV (dBμV/m) | Carrier PK Power (dBμV/m) |   |
| 4880                                | -                       | 41.3674**              | **                     | 74                | 54                | 32.63**            | -                  | -                         | - |
| 7320                                | -                       | 44.9387**              | **                     | 74                | 54                | 29.06**            | -                  | -                         | - |
| 9760                                | -                       | 43.6617**              | **                     | 74                | 54                | 30.34**            | -                  | -                         | - |
| 12200                               | -                       | 50.7762**              | **                     | 74                | 54                | 23.22**            | -                  | -                         | - |
| 14640                               | -                       | 51.8922**              | **                     | 74                | 54                | 22.11**            | -                  | -                         | - |
| 17080                               | -                       | 54.4663**              | **                     | 74                | 54                | 19.53**            | -                  | -                         | - |
| 19520                               | -                       | 41.5312**              | **                     | 74                | 54                | 32.47**            | -                  | -                         | - |
| 21960                               | -                       | 42.5003**              | **                     | 74                | 54                | 31.50**            | -                  | -                         | - |
| 24400                               | -                       | 42.2168**              | **                     | 74                | 54                | 31.78**            | -                  | -                         | - |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
| Horizontal Radiated Emission Result |                         |                        |                        |                   |                   |                    |                    |                           |   |
| 4880                                | -                       | 40.6522**              | **                     | 74                | 54                | 33.35**            | -                  | -                         | - |
| 7320                                | -                       | 44.4461**              | **                     | 74                | 54                | 29.55**            | -                  | -                         | - |
| 9760                                | -                       | 43.0108**              | **                     | 74                | 54                | 30.99**            | -                  | -                         | - |
| 12200                               | -                       | 50.8540**              | **                     | 74                | 54                | 23.15**            | -                  | -                         | - |
| 14640                               | -                       | 50.6138**              | **                     | 74                | 54                | 23.39**            | -                  | -                         | - |
| 17080                               | -                       | 54.8676**              | **                     | 74                | 54                | 19.13**            | -                  | -                         | - |
| 19520                               | -                       | 41.1013**              | **                     | 74                | 54                | 32.90**            | -                  | -                         | - |
| 21960                               | -                       | 42.3768**              | **                     | 74                | 54                | 31.62**            | -                  | -                         | - |
| 24400                               | -                       | 41.9893**              | **                     | 74                | 54                | 32.01**            | -                  | -                         | - |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |

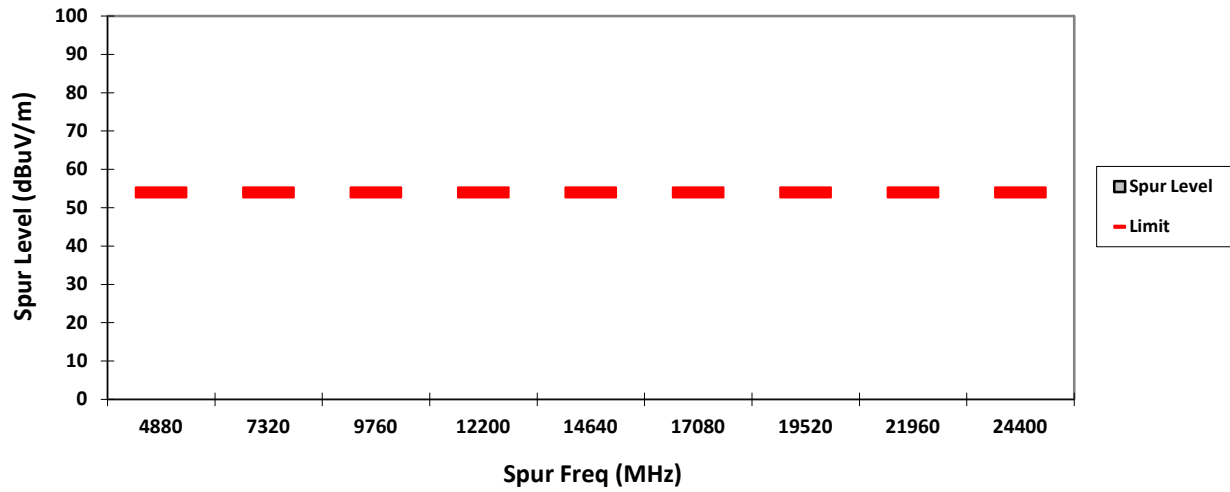
|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

Temperature (degC): 23.4  
 Test Performed by: Nazrin&Qawiman  
 System MU: 5.01dB

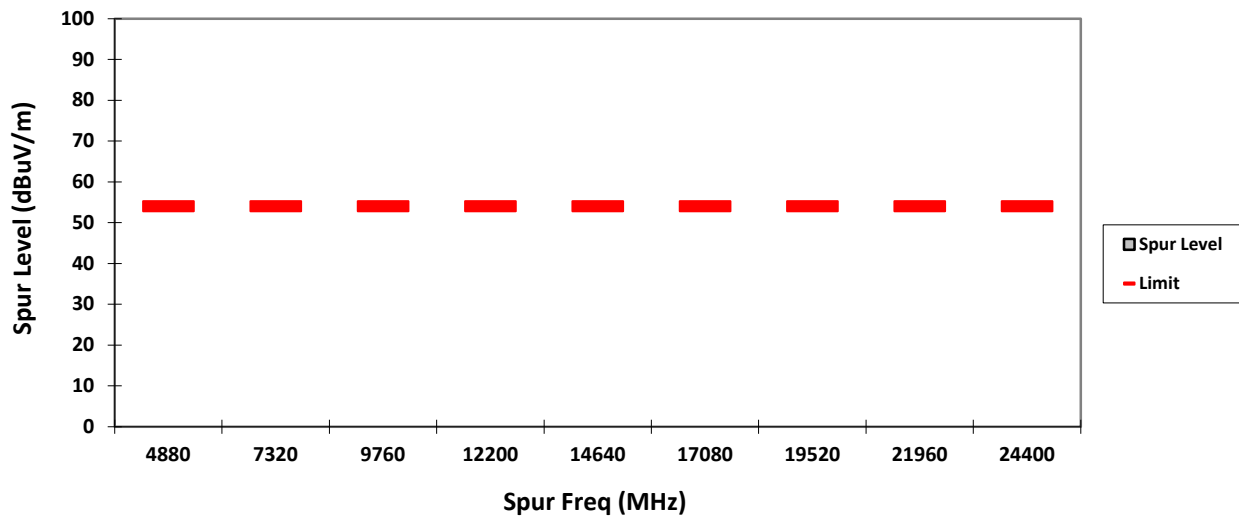
Humidity (%): 71.6  
 Test Date: Tue, Nov 29, 2016  
 Duty Cycle (%): <77%

Remarks: \*\* Indicates the spurious emission could not be detected due to noise limitation or ambient.

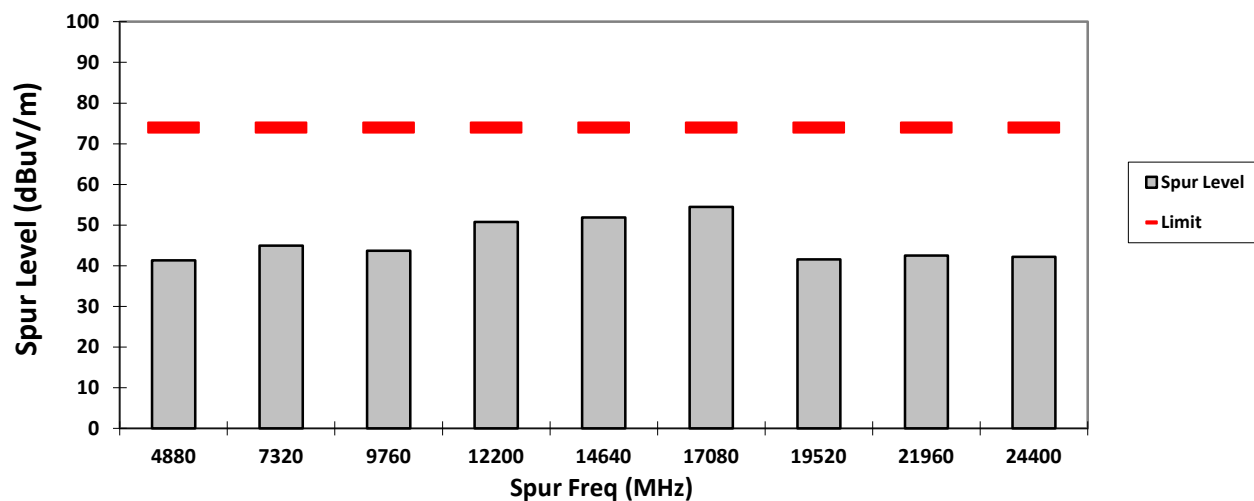
### VERTICAL, QPK



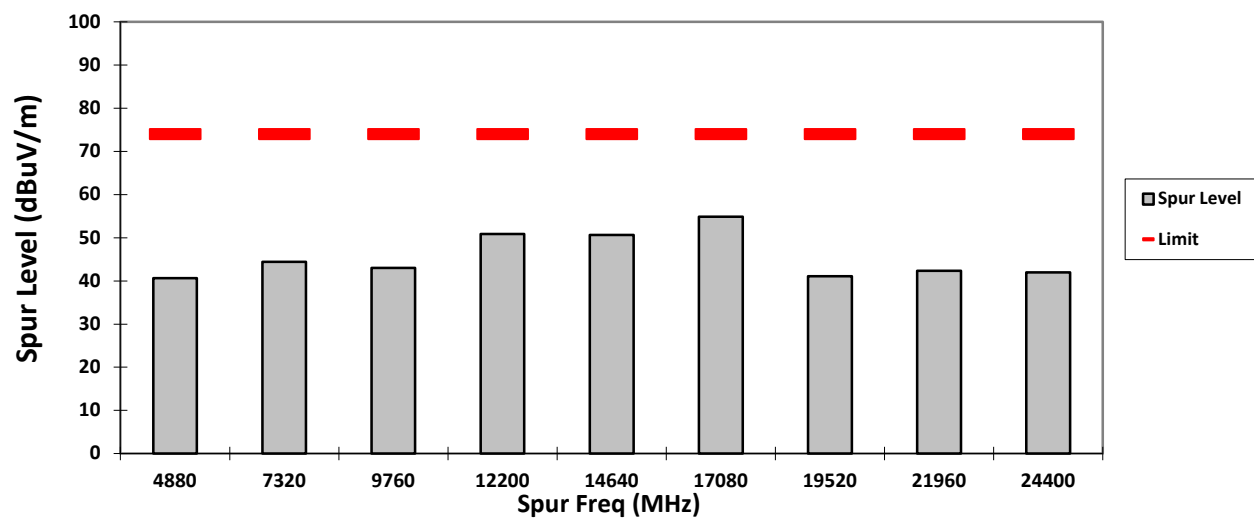
### HORIZONTAL, QPK



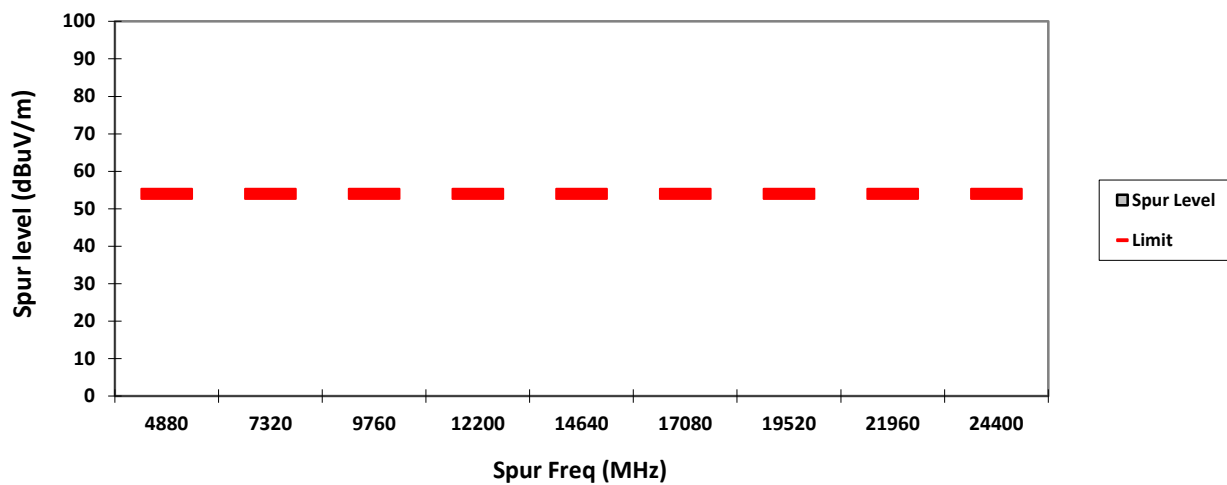
### VERTICAL, PK



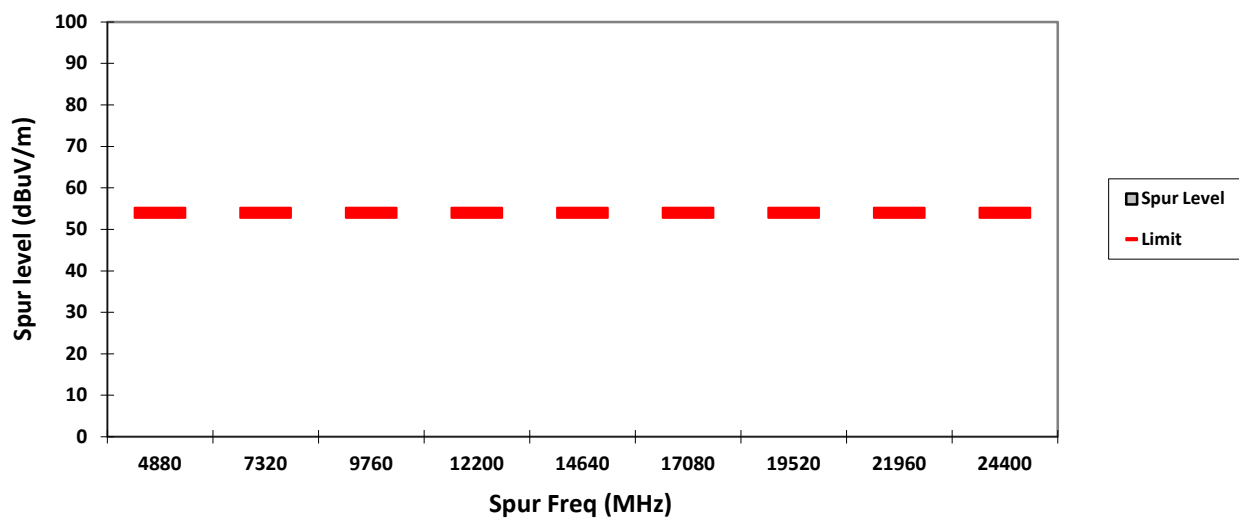
### HORIZONTAL, PK



### VERTICAL, AV



### HORIZONTAL, AV



**Test: Bluetooth SAC Receiver Radiated Emission**  
**Model#: H92QDH9PW7AN**      **S/N: 837TSX0063**      **EMC SR ID#: 05756-EMC-00018**  
**Battery: PMNN4493A**      **Accessory: PMAE4100A**  
**Test Channel: High**      **Test Frequency: 2480.00 MHz**      **Test Standard: ANSI C63.4-2014**  
**Worst Case Plane: X-Plane (BT LE)**

**Radiated Emission (High Channel) tabular data**

| Vertical Radiated Emission Result   |                         |                        |                        |                   |                   |                    |                    |                           |   |
|-------------------------------------|-------------------------|------------------------|------------------------|-------------------|-------------------|--------------------|--------------------|---------------------------|---|
| Spur Freq (MHz)                     | Spur level QPK (dBμV/m) | Spur level PK (dBμV/m) | Spur level AV (dBμV/m) | Limit PK (dBμV/m) | Limit AV (dBμV/m) | Margin PK (dBμV/m) | Margin AV (dBμV/m) | Carrier PK Power (dBμV/m) |   |
| 4960                                | -                       | 41.3599**              | **                     | 74                | 54                | 32.64**            | -                  | -                         | - |
| 7440                                | -                       | 44.7579**              | **                     | 74                | 54                | 29.24**            | -                  | -                         | - |
| 9920                                | -                       | 39.0051**              | **                     | 74                | 54                | 34.99**            | -                  | -                         | - |
| 12400                               | -                       | 50.6124**              | **                     | 74                | 54                | 23.39**            | -                  | -                         | - |
| 14880                               | -                       | 51.1874**              | **                     | 74                | 54                | 22.81**            | -                  | -                         | - |
| 17360                               | -                       | 56.4047**              | **                     | 74                | 54                | 17.60**            | -                  | -                         | - |
| 19840                               | -                       | 42.0773**              | **                     | 74                | 54                | 31.92**            | -                  | -                         | - |
| 22320                               | -                       | 41.5383**              | **                     | 74                | 54                | 32.46**            | -                  | -                         | - |
| 24800                               | -                       | 42.4936**              | **                     | 74                | 54                | 31.51**            | -                  | -                         | - |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
| Horizontal Radiated Emission Result |                         |                        |                        |                   |                   |                    |                    |                           |   |
| 4960                                | -                       | 41.3078**              | **                     | 74                | 54                | 32.69**            | -                  | -                         | - |
| 7440                                | -                       | 45.6993**              | **                     | 74                | 54                | 28.30**            | -                  | -                         | - |
| 9920                                | -                       | 38.6871**              | **                     | 74                | 54                | 35.31**            | -                  | -                         | - |
| 12400                               | -                       | 50.7976**              | **                     | 74                | 54                | 23.20**            | -                  | -                         | - |
| 14880                               | -                       | 51.3587**              | **                     | 74                | 54                | 22.64**            | -                  | -                         | - |
| 17360                               | -                       | 55.7589**              | **                     | 74                | 54                | 18.24**            | -                  | -                         | - |
| 19840                               | -                       | 41.9592**              | **                     | 74                | 54                | 32.04**            | -                  | -                         | - |
| 22320                               | -                       | 41.3809**              | **                     | 74                | 54                | 32.62**            | -                  | -                         | - |
| 24800                               | -                       | 42.4058**              | **                     | 74                | 54                | 31.59**            | -                  | -                         | - |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |
|                                     |                         |                        |                        |                   |                   |                    |                    |                           |   |

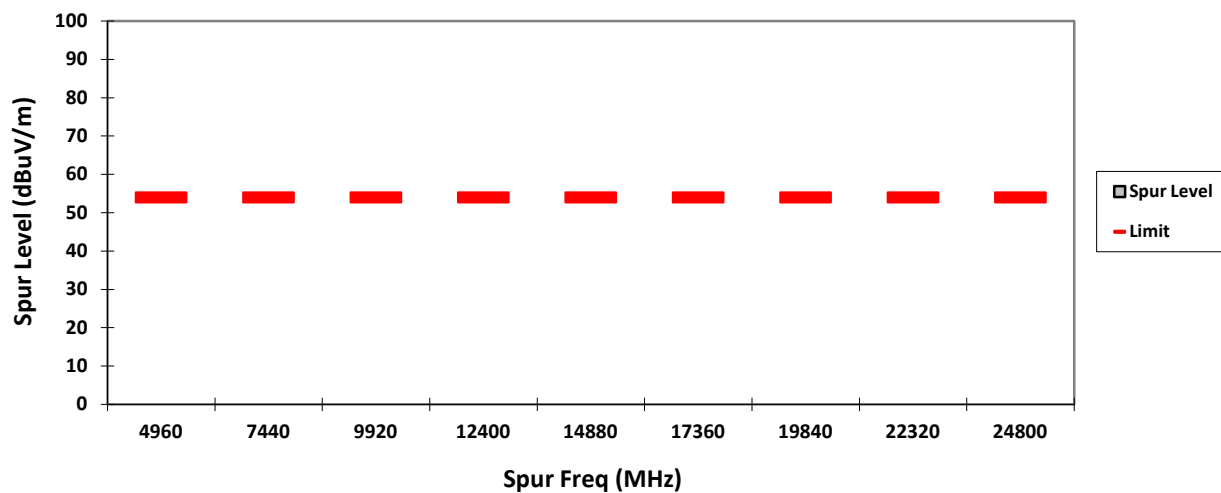
|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

**Temperature (degC): 23.4**  
**Test Performed by: Nazrin&Qawiman**  
**System MU: 5.01dB**

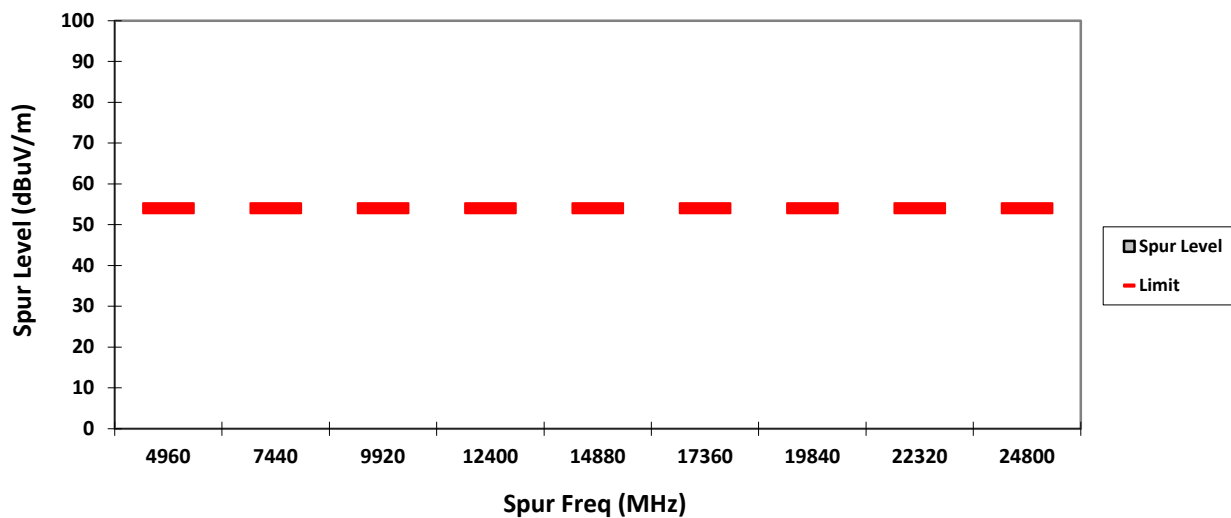
**Humidity (%): 71.6**  
**Test Date: Sun, Nov 27, 2016**  
**Duty Cycle (%): <77%**

**Remarks: \*\* Indicates the spurious emission could not be detected due to noise limitation or ambient.**

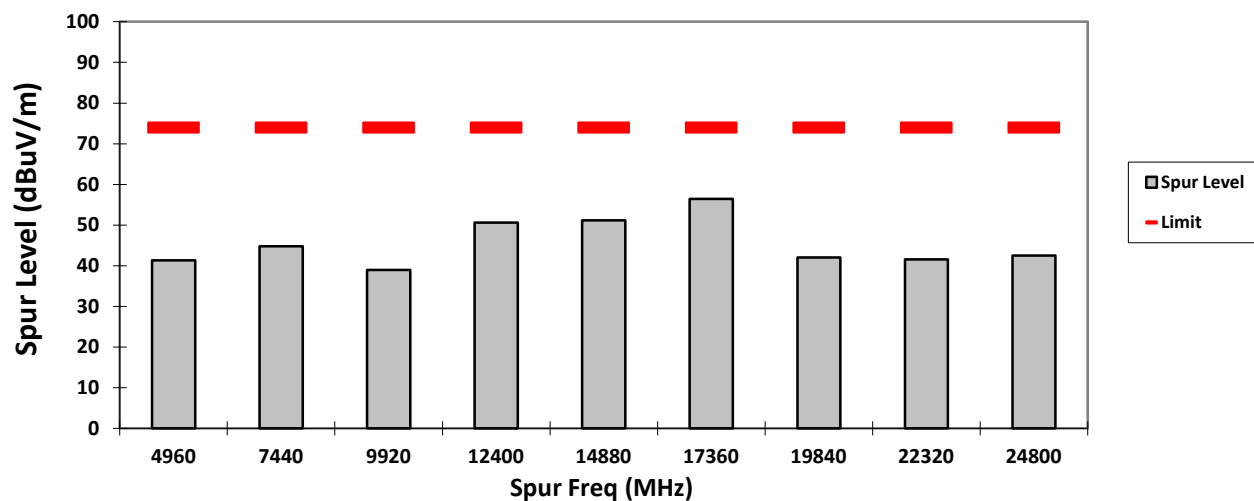
### VERTICAL, QPK



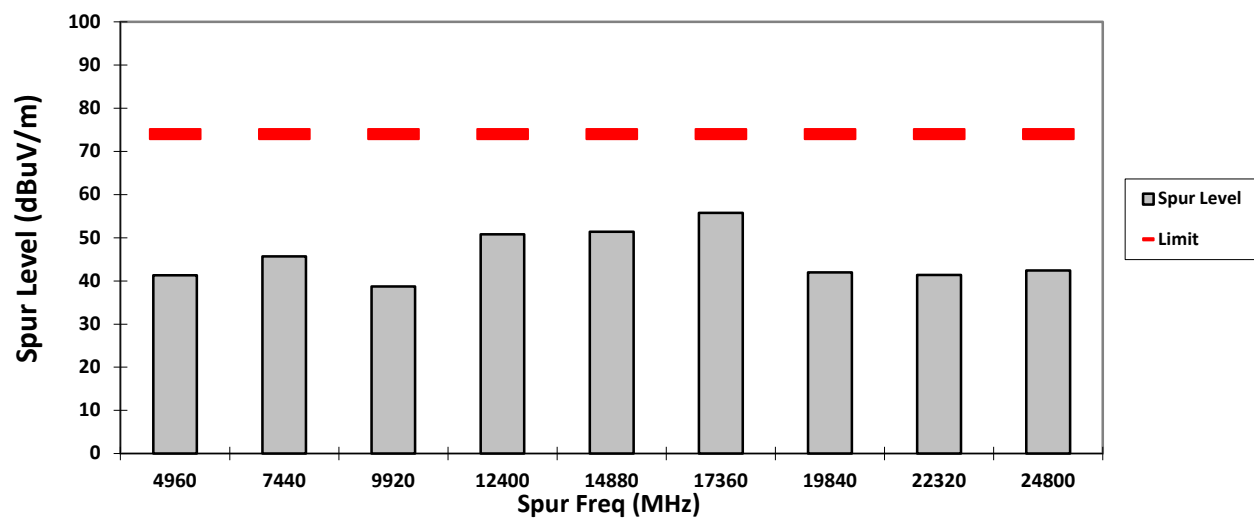
### HORIZONTAL, QPK



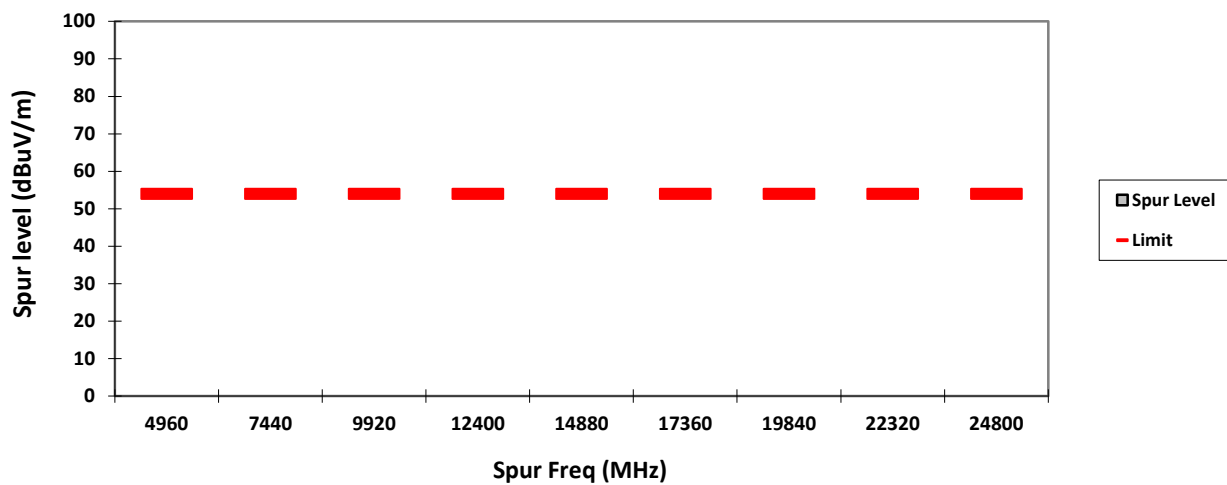
### VERTICAL, PK



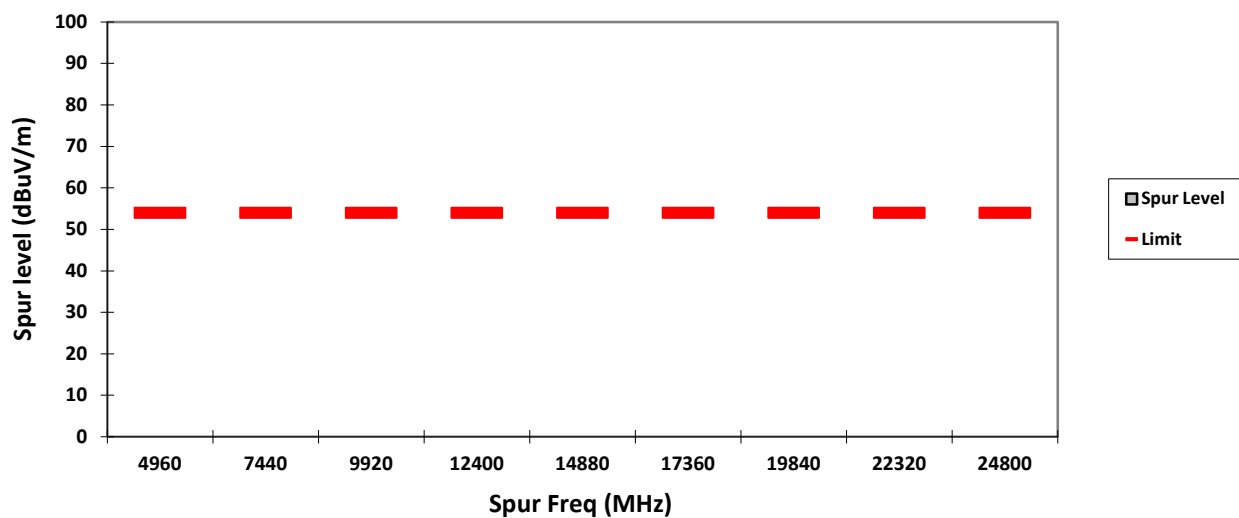
### HORIZONTAL, PK



### VERTICAL, AV

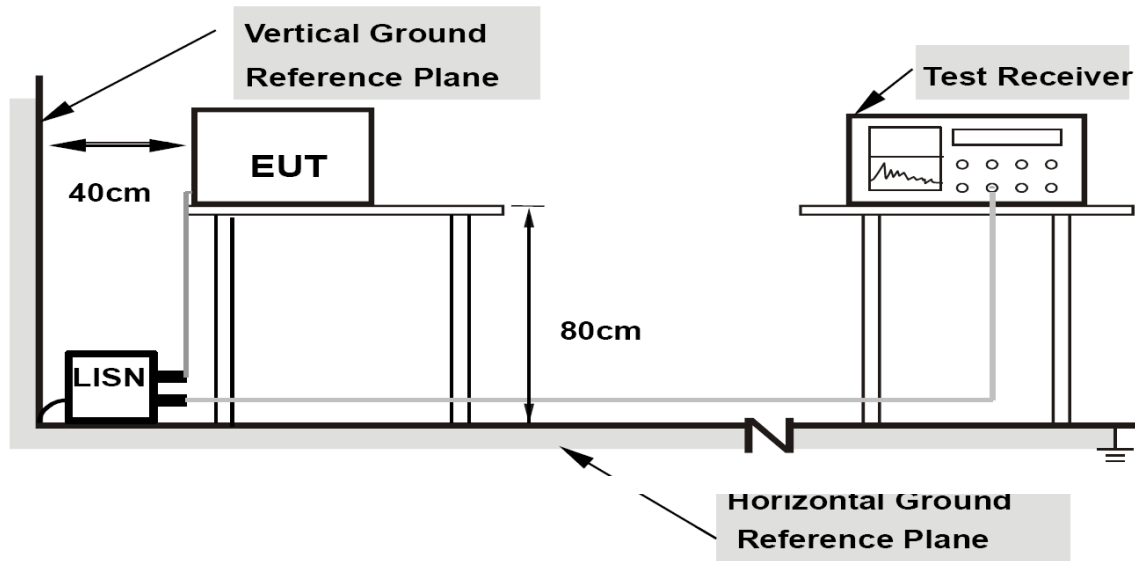


### HORIZONTAL, AV



### 3.0.C Powerline Conducted Emission

#### 3.0.1. Test Setup



- 1) Tests were conducted for both Receive and Transmit Mode of the EUT.
- 2) The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/50uH of coupling impedance for the measuring instrument.
- 3) Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- 4) The frequency range from 150 kHz to 30MHz was measured.

#### 3.0.2. Test Limits:

**For AC Power Line Conducted Test Limit can be Class A or B depends on product classification.**

**Limits for conducted disturbance at the mains ports  
of class A ITE**

| Frequency range<br>MHz                                        | Limits<br>dB(μV) |         |
|---------------------------------------------------------------|------------------|---------|
|                                                               | Quasi-peak       | Average |
| 0,15 to 0,50                                                  | 79               | 66      |
| 0,50 to 30                                                    | 73               | 60      |
| NOTE The lower limit shall apply at the transition frequency. |                  |         |

**Table 1: Limits for Conducted Disturbance at the Mains Ports of Class A ITE.**

**Limits for conducted disturbance at the mains ports  
of class B ITE**

| Frequency range<br>MHz                                                                                                                                                          | Limits<br>dB(μV) |          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------|
|                                                                                                                                                                                 | Quasi-peak       | Average  |
| 0,15 to 0,50                                                                                                                                                                    | 66 to 56         | 56 to 46 |
| 0,50 to 5                                                                                                                                                                       | 56               | 46       |
| 5 to 30                                                                                                                                                                         | 60               | 50       |
| NOTE 1 The lower limit shall apply at the transition frequencies.<br>NOTE 2 The limit decreases linearly with the logarithm of the frequency in the range 0,15 MHz to 0,50 MHz. |                  |          |

**Table 2: Limits for Conducted Disturbance at the Mains Ports of Class B ITE**

### 3.0.3. Test Result

**Not Applicable. Testing is not required, radio shall turn off during charging mode.**