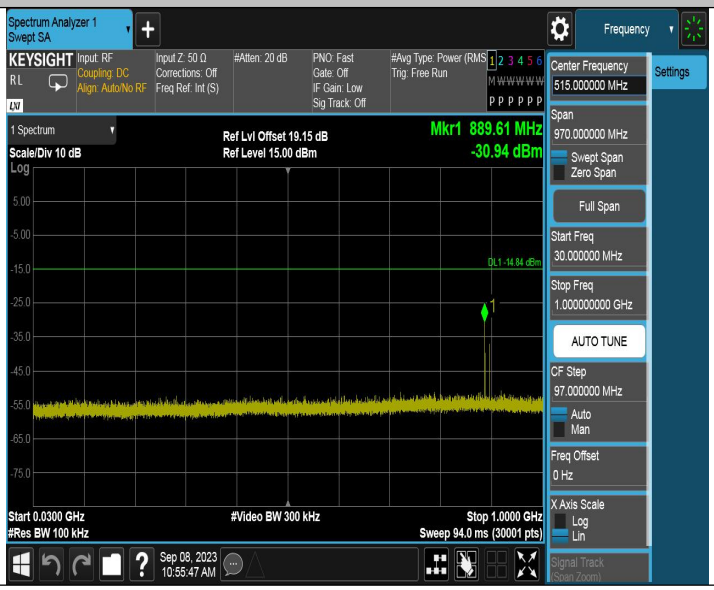
DH5_Ant1_2480MHz_0~Reference

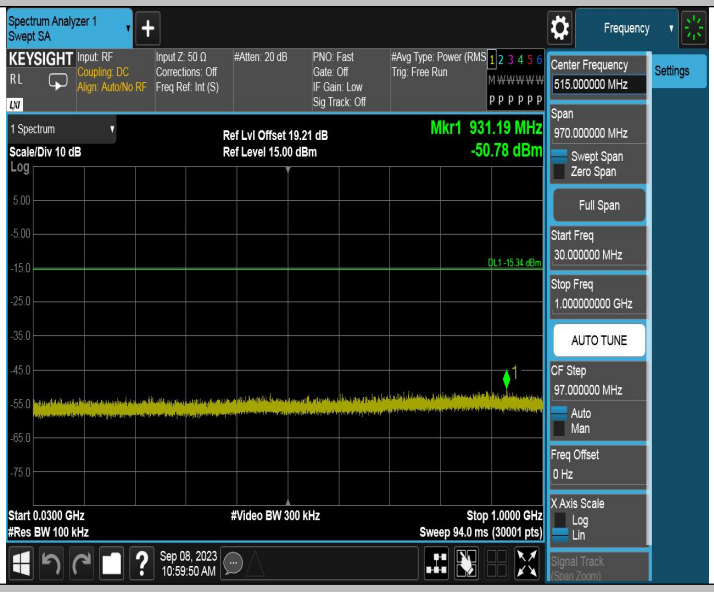

DH5_Ant1_2480MHz_30~1000MHz



DH5_Ant1_2480MHz_1000~26500MHz


2DH5_Ant1_2402MHz _0~Reference

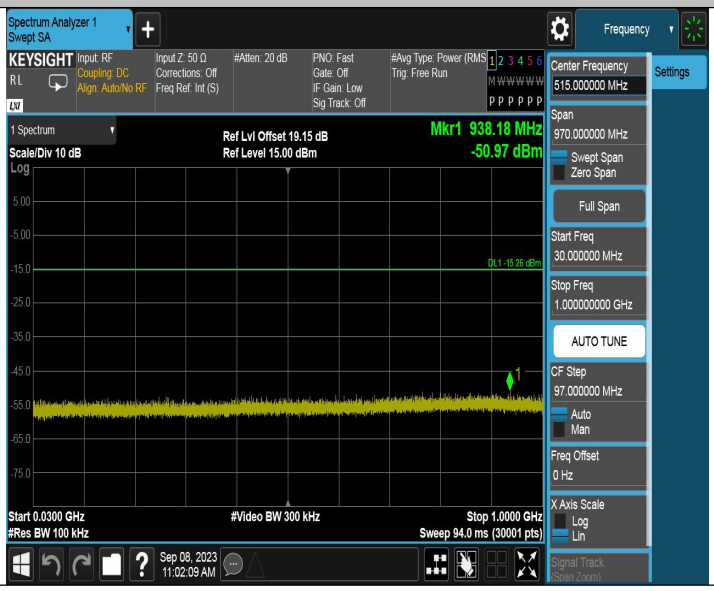
2DH5_Ant1_2402MHz_30~1000MHz




2DH5_Ant1_2402MHz_1000~26500MHz

2DH5_Ant1_2441MHz_0~Reference

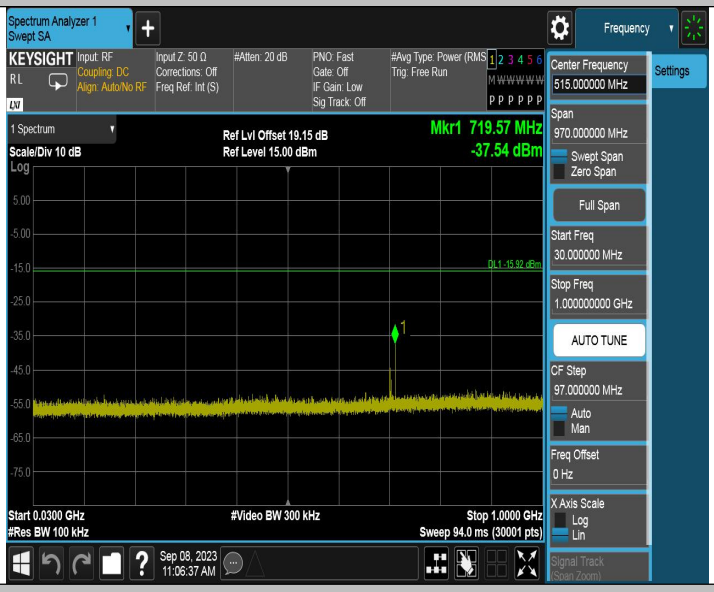

2DH5_Ant1_2441MHz_30~1000MHz



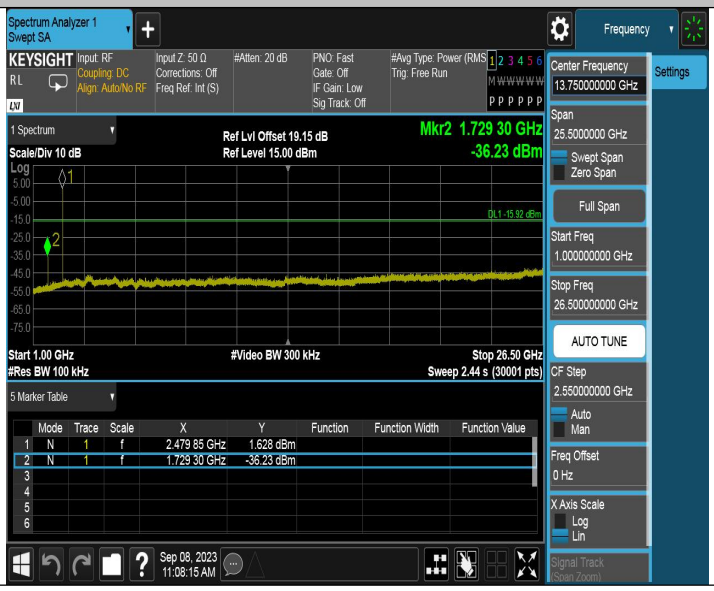
2DH5_Ant1_2441MHz_1000~26500MHz


2DH5_Ant1_2480MHz_0~Reference

2DH5_Ant1_2480MHz_30~1000MHz

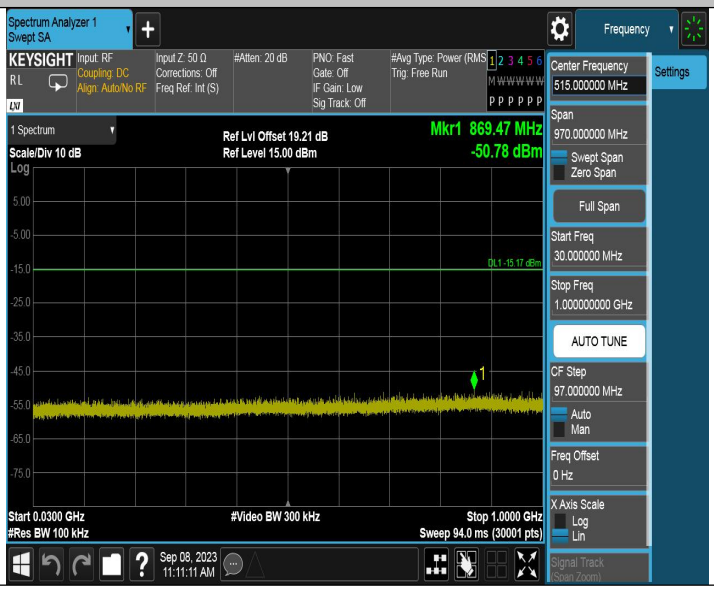



2DH5_Ant1_2480MHz_1000~26500MHz



3DH5_Ant1_2402MHz_0~Reference

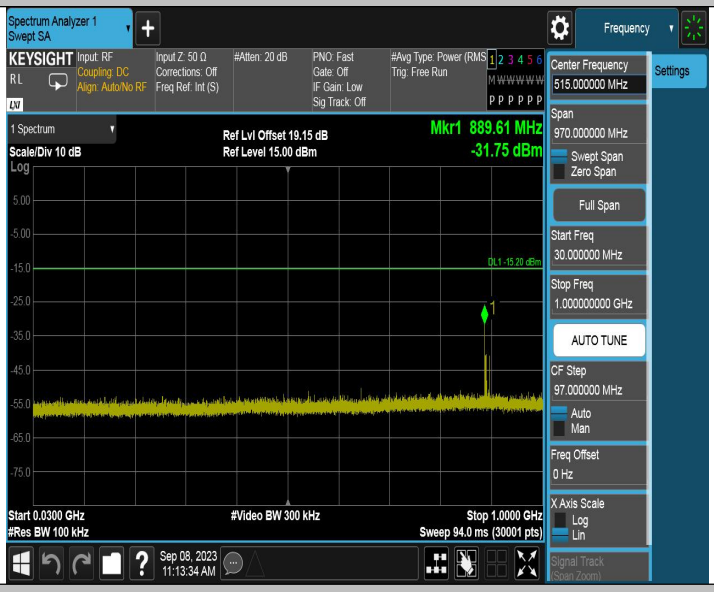

3DH5_Ant1_2402MHz_30~1000MHz



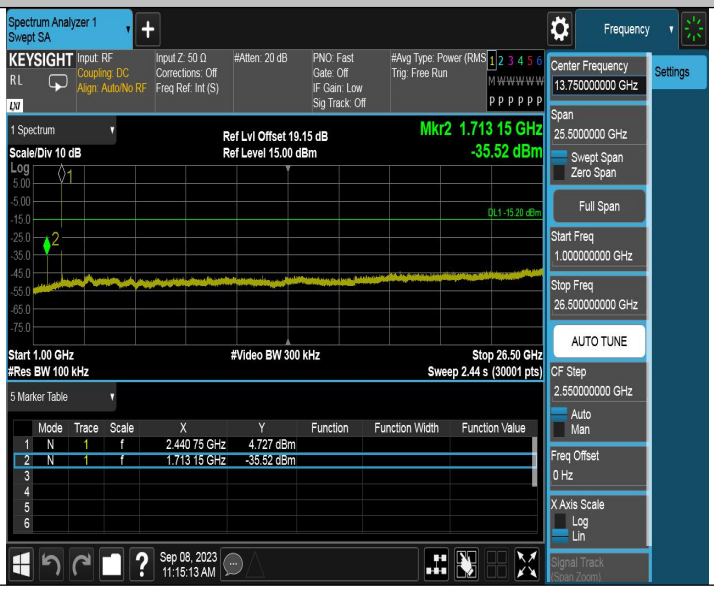
3DH5_Ant1_2402MHz_1000~26500MHz

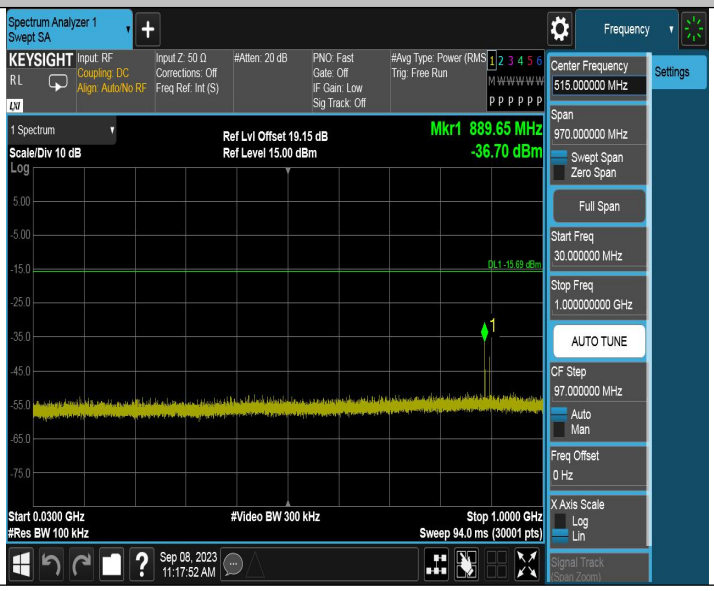

3DH5_Ant1_2441MHz_0~Reference

3DH5_Ant1_2441MHz_30~1000MHz




3DH5_Ant1_2441MHz_1000~26500MHz



| 3DH5_Ant1_2480MHz_0~Reference |
| --- |
|  |
| 3DH5_Ant1_2480MHz_30~1000MHz |
|  |

| 3DH5_Ant1_2480MHz_1000~26500MHz |
| --- |
|  |

## 7.9. Radiated Spurious Emission Measurement

### 7.9.1. Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

| FCC Part 15 Subpart C Paragraph 15.209 | | |
|---|---|---|
| Frequency [MHz] | Field Strength [uV/m] | Measured Distance [Meters] |
| 0.009 - 0.490 | 2400/F (kHz) | 300 |
| 0.490 - 1.705 | 24000/F (kHz) | 30 |
| 1.705 - 30 | 30 | 30 |
| 30 - 88 | 100 | 3 |
| 88 - 216 | 150 | 3 |
| 216 - 960 | 200 | 3 |
| Above 960 | 500 | 3 |

### 7.9.2. Test Procedure Used

ANSI C63.10 Section 6.3 (General Requirements)

ANSI C63.10 Section 6.4 (Standard test method below 30MHz)

ANSI C63.10 Section 6.5 (Standard test method above 30MHz to 1GHz)

ANSI C63.10 Section 6.6 (Standard test method above 1GHz)

### 7.9.3. Test Setting

**Quasi-Peak Measurements below 1GHz**

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = as specified in Table 1
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

**Table 1 - RBW as a function of frequency**

| Frequency | RBW |
|---|---|
| 9 ~ 150 kHz | 200 ~ 300 Hz |
| 0.15 ~ 30 MHz | 9 ~ 10 kHz |
| 30 ~ 1000 MHz | 100 ~ 120 kHz |
| > 1000 MHz | 1 MHz |

**Peak Measurements above 1GHz**

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

**Average Measurements above 1GHz (Method VB)**

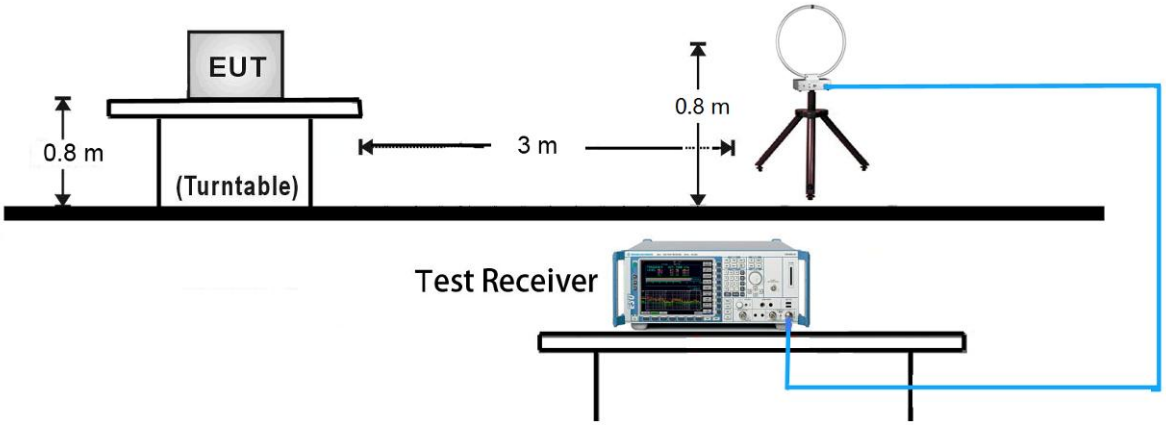
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle ≥ 98%, set VBW = 10 Hz.
   If the EUT duty cycle is < 98%, set VBW ≥ 1/T. T is the minimum transmission duration.
4. Detector = Peak
5. Sweep time = auto

6. Trace mode = max hold

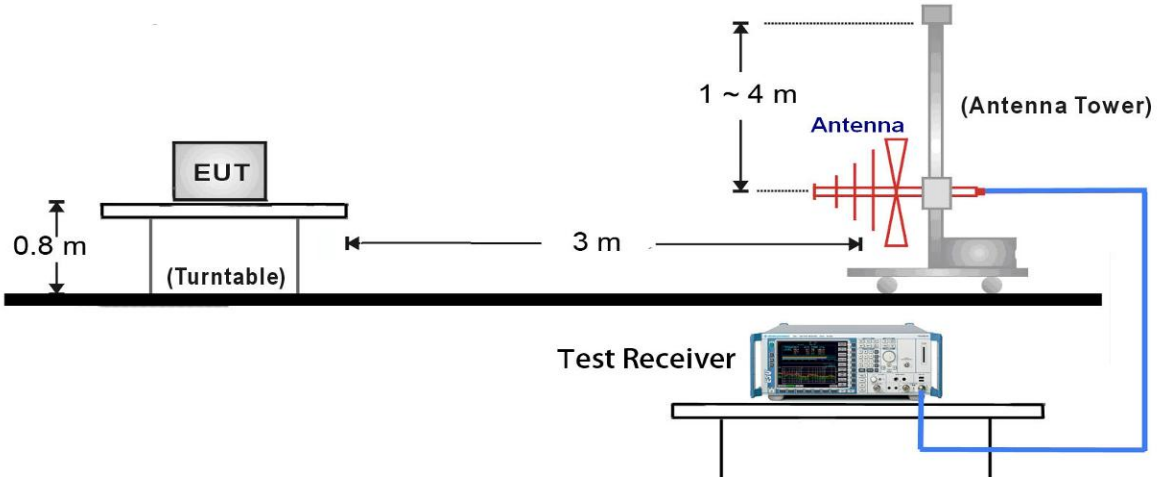
7. Trace was allowed to stabilize

### 7.9.4. Test Setup

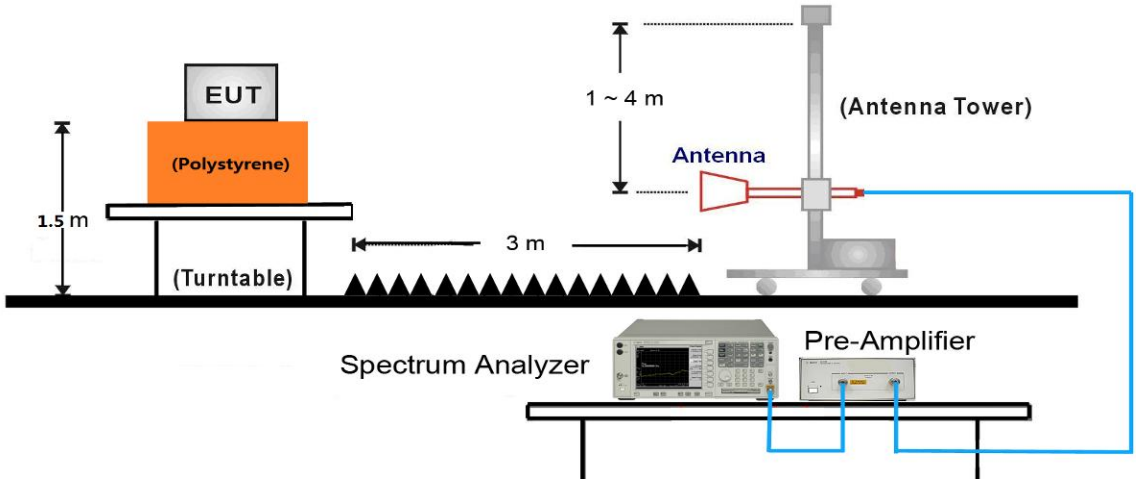
9kHz ~ 30MHz Test Setup:




30MHz ~ 1GHz Test Setup:




1GHz ~ 25GHz Test Setup:



### 7.9.5. Test Result

| Test Mode: | DH5 - Ant 1 | Test Date: | 2023-09-15 |
|---|---|---|---|
| Test Channel: | 00 | Test Engineer: | Guangze Ding |
| Remark: | Average measurement was not performed if peak level lower than average limit.<br>Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.<br>This is the worst case of Radiated Emission for 1-18GHz. | | |

| Frequency (MHz) | Level (dBμV/m) | Factor (dB) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|---|---|---|---|---|---|---|
| 3600.0000 | 45.87 | -5.94 | 74.00 | 28.13 | Peak | Horizontal |
| 4800.0000 | 50.89 | -2.61 | 74.00 | 23.11 | Peak | Horizontal |
| 4980.0000 | 48.69 | -2.15 | 74.00 | 25.31 | Peak | Horizontal |
| 7205.0000 | 53.89 | 3.55 | 74.00 | 20.11 | Peak | Horizontal |
| 4800.0000 | 52.60 | -2.61 | 74.00 | 21.40 | Peak | Vertical |
| 5115.0000 | 43.70 | -1.94 | 74.00 | 30.30 | Peak | Vertical |
| 6175.0000 | 47.41 | 0.69 | 74.00 | 26.59 | Peak | Vertical |
| 7205.0000 | 53.22 | 3.55 | 74.00 | 20.78 | Peak | Vertical |

| Test Mode: | DH5 - Ant 1 | Test Date: | 2023-09-15 |
|---|---|---|---|
| Test Channel: | 39 | Test Engineer: | Guangze Ding |
| Remark: | Average measurement was not performed if peak level lower than average limit.<br>Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.<br>This is the worst case of Radiated Emission for 1-18GHz. | | |

| Frequency (MHz) | Level (dBμV/m) | Factor (dB) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|---|---|---|---|---|---|---|
| 3305.0000 | 49.03 | -6.30 | 74.00 | 24.97 | Peak | Horizontal |
| 4880.0000 | 48.98 | -2.47 | 74.00 | 25.02 | Peak | Horizontal |
| 6040.0000 | 47.21 | 0.34 | 74.00 | 26.79 | Peak | Horizontal |
| 7325.0000 | 53.77 | 3.73 | 74.00 | 20.23 | Peak | Horizontal |
| 3195.0000 | 50.76 | -6.15 | 74.00 | 23.24 | Peak | Vertical |
| 4880.0000 | 52.63 | -2.47 | 74.00 | 21.37 | Peak | Vertical |
| 4975.0000 | 51.93 | -2.19 | 74.00 | 22.07 | Peak | Vertical |
| 7325.0000 | 53.45 | 3.73 | 74.00 | 20.55 | Peak | Vertical |

| Test Mode: | DH5 - Ant 1 | Test Date: | 2023-09-15 |
|---|---|---|---|
| Test Channel: | 78 | Test Engineer: | Guangze Ding |
| Remark: | Average measurement was not performed if peak level lower than average limit.<br>Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.<br>This is the worst case of Radiated Emission for 1-18GHz. | | |

| Frequency (MHz) | Level (dBμV/m) | Factor (dB) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|---|---|---|---|---|---|---|
| 3175.0000 | 48.34 | -6.15 | 74.00 | 25.66 | Peak | Horizontal |
| 3435.0000 | 46.07 | -6.22 | 74.00 | 27.93 | Peak | Horizontal |
| 4990.0000 | 49.21 | -2.08 | 74.00 | 24.79 | Peak | Horizontal |
| 7440.0000 | 53.88 | 3.87 | 74.00 | 20.12 | Peak | Horizontal |
| 3180.0000 | 46.54 | -6.15 | 74.00 | 27.46 | Peak | Vertical |
| 3585.0000 | 44.36 | -6.00 | 74.00 | 29.64 | Peak | Vertical |
| 4995.0000 | 52.20 | -2.04 | 74.00 | 21.80 | Peak | Vertical |
| 7440.0000 | 53.54 | 3.87 | 74.00 | 20.46 | Peak | Vertical |

| Test Mode: | 2DH5 - Ant 1 | Test Date: | 2023-09-15 |
|---|---|---|---|
| Test Channel: | 00 | Test Engineer: | Guangze Ding |
| Remark: | Average measurement was not performed if peak level lower than average limit.<br>Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.<br>This is the worst case of Radiated Emission for 1-18GHz. | | |

| Frequency (MHz) | Level (dBμV/m) | Factor (dB) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|---|---|---|---|---|---|---|
| 3165.0000 | 48.69 | -6.16 | 74.00 | 25.31 | Peak | Horizontal |
| 4800.0000 | 50.52 | -2.61 | 74.00 | 23.48 | Peak | Horizontal |
| 4985.0000 | 48.89 | -2.11 | 74.00 | 25.11 | Peak | Horizontal |
| 7205.0000 | 53.95 | 3.55 | 74.00 | 20.05 | Peak | Horizontal |
| 3030.0000 | 46.68 | -5.83 | 74.00 | 27.32 | Peak | Vertical |
| 4800.0000 | 52.08 | -2.61 | 74.00 | 21.92 | Peak | Vertical |
| 4995.0000 | 50.85 | -2.04 | 74.00 | 23.15 | Peak | Vertical |
| 7205.0000 | 53.93 | 3.55 | 74.00 | 20.07 | Peak | Vertical |

| Test Mode: | 2DH5 - Ant 1 | Test Date: | 2023-09-15 |
|---|---|---|---|
| Test Channel: | 39 | Test Engineer: | Guangze Ding |
| Remark: | Average measurement was not performed if peak level lower than average limit.<br>Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.<br>This is the worst case of Radiated Emission for 1-18GHz. | | |

| Frequency (MHz) | Level (dBμV/m) | Factor (dB) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|---|---|---|---|---|---|---|
| 3020.0000 | 48.67 | -5.81 | 74.00 | 25.33 | Peak | Horizontal |
| 4880.0000 | 48.27 | -2.47 | 74.00 | 25.73 | Peak | Horizontal |
| 4985.0000 | 49.46 | -2.11 | 74.00 | 24.54 | Peak | Horizontal |
| 7320.0000 | 53.46 | 3.69 | 74.00 | 20.54 | Peak | Horizontal |
| 4265.0000 | 48.13 | -3.97 | 74.00 | 25.87 | Peak | Vertical |
| 4880.0000 | 52.76 | -2.47 | 74.00 | 21.24 | Peak | Vertical |
| 4995.0000 | 52.80 | -2.04 | 74.00 | 21.20 | Peak | Vertical |
| 7320.0000 | 51.80 | 3.69 | 74.00 | 22.20 | Peak | Vertical |

| Test Mode: | 2DH5 - Ant 1 | Test Date: | 2023-09-15 |
|---|---|---|---|
| Test Channel: | 78 | Test Engineer: | Guangze Ding |
| Remark: | Average measurement was not performed if peak level lower than average limit.<br>Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.<br>This is the worst case of Radiated Emission for 1-18GHz. | | |

| Frequency (MHz) | Level (dBμV/m) | Factor (dB) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|---|---|---|---|---|---|---|
| 3170.0000 | 48.06 | -6.16 | 74.00 | 25.94 | Peak | Horizontal |
| 3435.0000 | 46.71 | -6.22 | 74.00 | 27.29 | Peak | Horizontal |
| 4985.0000 | 48.66 | -2.11 | 74.00 | 25.34 | Peak | Horizontal |
| 7440.0000 | 53.98 | 3.87 | 74.00 | 20.02 | Peak | Horizontal |
| 3180.0000 | 46.16 | -6.15 | 74.00 | 27.84 | Peak | Vertical |
| 4250.0000 | 48.42 | -4.01 | 74.00 | 25.58 | Peak | Vertical |
| 5000.0000 | 50.89 | -2.00 | 74.00 | 23.11 | Peak | Vertical |
| 7440.0000 | 53.92 | 3.87 | 74.00 | 20.08 | Peak | Vertical |

| Test Mode: | 3DH5 - Ant 1 | Test Date: | 2023-09-15 |
|---|---|---|---|
| Test Channel: | 00 | Test Engineer: | Guangze Ding |
| Remark: | Average measurement was not performed if peak level lower than average limit.<br>Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.<br>This is the worst case of Radiated Emission for 1-18GHz. | | |

| Frequency (MHz) | Level (dBμV/m) | Factor (dB) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|---|---|---|---|---|---|---|
| 3305.0000 | 47.34 | -6.30 | 74.00 | 26.66 | Peak | Horizontal |
| 4805.0000 | 50.70 | -2.61 | 74.00 | 23.30 | Peak | Horizontal |
| 4990.0000 | 49.51 | -2.08 | 74.00 | 24.49 | Peak | Horizontal |
| 7205.0000 | 53.88 | 3.55 | 74.00 | 20.12 | Peak | Horizontal |
| 3145.0000 | 46.15 | -6.14 | 74.00 | 27.85 | Peak | Vertical |
| 4805.0000 | 52.02 | -2.61 | 74.00 | 21.98 | Peak | Vertical |
| 4985.0000 | 53.48 | -2.11 | 74.00 | 20.52 | Peak | Vertical |
| 7205.0000 | 53.52 | 3.55 | 74.00 | 20.48 | Peak | Vertical |

| Test Mode: | 3DH5 - Ant 1 | Test Date: | 2023-09-15 |
|---|---|---|---|
| Test Channel: | 39 | Test Engineer: | Guangze Ding |
| Remark: | Average measurement was not performed if peak level lower than average limit.<br>Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.<br>This is the worst case of Radiated Emission for 1-18GHz. | | |

| Frequency (MHz) | Level (dBμV/m) | Factor (dB) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|---|---|---|---|---|---|---|
| 3165.0000 | 49.26 | -6.16 | 74.00 | 24.74 | Peak | Horizontal |
| 4880.0000 | 50.81 | -2.47 | 74.00 | 23.19 | Peak | Horizontal |
| 4990.0000 | 48.86 | -2.08 | 74.00 | 25.14 | Peak | Horizontal |
| 7320.0000 | 53.65 | 3.69 | 74.00 | 20.35 | Peak | Horizontal |
| 3570.0000 | 45.02 | -6.06 | 74.00 | 28.98 | Peak | Vertical |
| 4880.0000 | 51.91 | -2.47 | 74.00 | 22.09 | Peak | Vertical |
| 4990.0000 | 50.70 | -2.08 | 74.00 | 23.30 | Peak | Vertical |
| 7325.0000 | 53.12 | 3.73 | 74.00 | 20.88 | Peak | Vertical |

| Test Mode: | 3DH5 - Ant 1 | Test Date: | 2023-09-15 |
|---|---|---|---|
| Test Channel: | 78 | Test Engineer: | Guangze Ding |
| Remark: | Average measurement was not performed if peak level lower than average limit.<br>Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.<br>This is the worst case of Radiated Emission for 1-18GHz. | | |

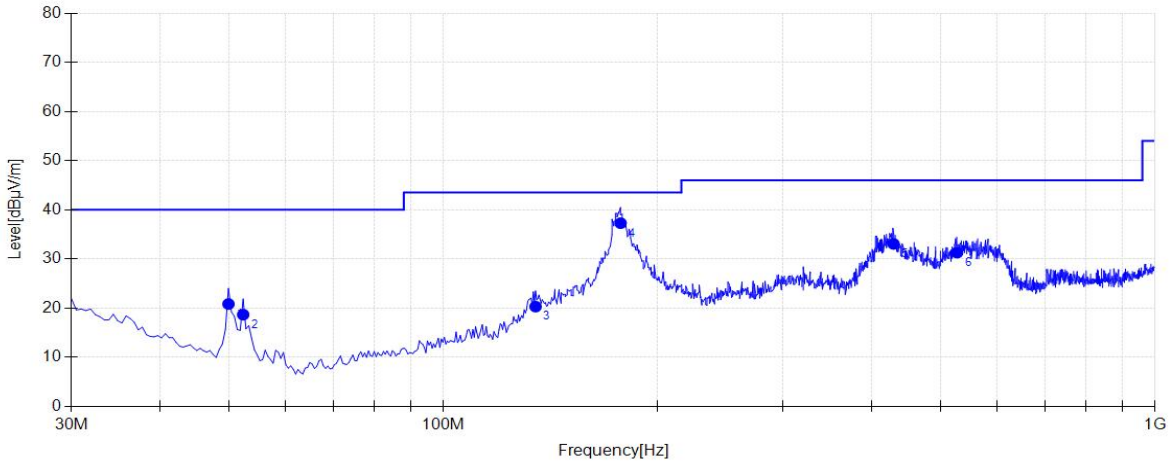
| Frequency (MHz) | Level (dBμV/m) | Factor (dB) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|---|---|---|---|---|---|---|
| 3170.0000 | 47.92 | -6.16 | 74.00 | 26.08 | Peak | Horizontal |
| 5000.0000 | 50.13 | -2.00 | 74.00 | 23.87 | Peak | Horizontal |
| 7015.0000 | 49.52 | 2.95 | 74.00 | 24.48 | Peak | Horizontal |
| 7440.0000 | 54.00 | 3.87 | 74.00 | 20.00 | Peak | Horizontal |
| 3555.0000 | 45.22 | -6.11 | 74.00 | 28.78 | Peak | Vertical |
| 4975.0000 | 50.97 | -2.19 | 74.00 | 23.03 | Peak | Vertical |
| 6405.0000 | 48.57 | 1.50 | 74.00 | 25.43 | Peak | Vertical |
| 7440.0000 | 53.94 | 3.87 | 74.00 | 20.06 | Peak | Vertical |

## The Worst Case of Radiated Emission below 1GHz:

| EUT: | Wireless Headset | Polarity: | Horizontal |
|---|---|---|---|
| Model: | TLL411007 | SN: | N/A |
| Mode: | Transmit by DH5 at Channel 2402MHz | Voltage: | DC 3.7V |
| Environment: | Temp: 22℃; Humi:52% | Engineer: | Guangze Ding |

*Start of Test:2023-10-07 10:57:24*

**Test Graph**



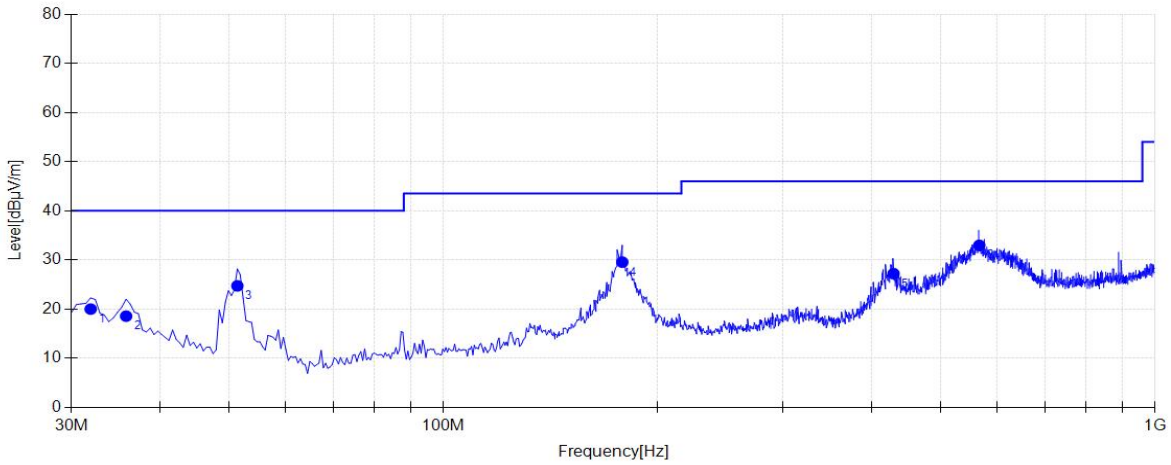

| Final Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Factor [dB] | QP Value [dBµV/m] | QP Limit [dBµV/m] | QP Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 49.8850 | 9.70 | 20.84 | 40.00 | 19.16 | 100 | 274 | Horizonta |
| 2 | 52.3100 | 9.02 | 18.68 | 40.00 | 21.32 | 200 | 0 | Horizonta |
| 3 | 134.760 | 11.68 | 20.31 | 43.50 | 23.19 | 200 | 112 | Horizonta |
| 4 | 177.440 | 11.04 | 37.29 | 43.50 | 6.21 | 200 | 11 | Horizonta |
| 5 | 429.155 | 17.36 | 33.07 | 46.00 | 12.93 | 100 | 70 | Horizonta |
| 6 | 527.125 | 19.90 | 31.29 | 46.00 | 14.71 | 200 | 6 | Horizonta |

Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

| EUT: | Wireless Headset | Polarity: | Vertical |
|---|---|---|---|
| Model: | TLL411007 | SN: | N/A |
| Mode: | Transmit by DH5 at Channel 2402MHz | Voltage: | DC 12V |
| Environment: | Temp: 22℃; Humi:52% | Engineer: | Guangze Ding |

*Start of Test:2023-10-07 10:59:48*

**Test Graph**




| Final Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Factor [dB] | QP Value [dBµV/m] | QP Limit [dBµV/m] | QP Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 31.9400 | 18.83 | 20.01 | 40.00 | 19.99 | 100 | 16 | Vertical |
| 2 | 35.8200 | 16.84 | 18.58 | 40.00 | 21.42 | 100 | 152 | Vertical |
| 3 | 51.3400 | 9.28 | 24.74 | 40.00 | 15.26 | 100 | 234 | Vertical |
| 4 | 178.410 | 11.06 | 29.56 | 43.50 | 13.94 | 200 | 283 | Vertical |
| 5 | 429.155 | 17.36 | 27.22 | 46.00 | 18.78 | 100 | 213 | Vertical |
| 6 | 566.410 | 20.56 | 32.98 | 46.00 | 13.02 | 100 | 56 | Vertical |

Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

## 7.10. Radiated Restricted Band Edge Measurement

**For 15.205 requirement:**

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

| Frequency (MHz) | Frequency (MHz) | Frequency (MHz) | Frequency (GHz) |
|---|---|---|---|
| 0.090 - 0.110 | 16.42 - 16.423 | 399.9 - 410 | 4.5 - 5.15 |
| [1] 0.495 - 0.505 | 16.69475 - 16.69525 | 608 - 614 | 5.35 - 5.46 |
| 2.1735 - 2.1905 | 16.80425 - 16.80475 | 960 - 1240 | 7.25 - 7.75 |
| 4.125 - 4.128 | 25.5 - 25.67 | 1300 - 1427 | 8.25 - 8.5 |
| 4.17725 - 4.17775 | 37.5 - 38.25 | 1435 - 1626.5 | 9.0 - 9.2 |
| 4.20725 - 4.20775 | 73 - 74.6 | 1645.5 - 1646.5 | 9.3 - 9.5 |
| 6.215 - 6.218 | 74.8 - 75.2 | 1660 - 1710 | 10.6 - 12.7 |
| 6.26775 - 6.26825 | 108 - 121.94 | 1718.8 - 1722.2 | 13.25 - 13.4 |
| 6.31175 - 6.31225 | 123 - 138 | 2200 - 2300 | 14.47 - 14.5 |
| 8.291 - 8.294 | 149.9 - 150.05 | 2310 - 2390 | 15.35 - 16.2 |
| 8.362 - 8.366 | 156.52475 - 156.525 | 2483.5 - 2500 | 17.7 - 21.4 |
| 8.37625 - 8.38675 | 156.7 - 156.9 | 2690 - 2900 | 22.01 - 23.12 |
| 8.41425 - 8.41475 | 162.0125 - 167.17 | 3260 - 3267 | 23.6 - 24.0 |
| 12.29 - 12.293 | 167.72 - 173.2 | 3332 - 3339 | 31.2 - 31.8 |
| 12.51975 - 12.52025 | 240 - 285 | 3345.8 - 3358 | 36.43 - 36.5 |
| 12.57675 - 12.57725 | 322 - 335.4 | 3600 - 4400 | ([2]) |
| 13.36 - 13.41 | -- | -- | -- |

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47CFR must not exceed the limits shown in Table per Section 15.209.

| FCC Part 15 Subpart C Paragraph 15.209 | | |
|---|---|---|
| Frequency [MHz] | Field Strength [uV/m] | Measured Distance [Meters] |
| 0.009 - 0.490 | 2400/F (kHz) | 300 |
| 0.490 - 1.705 | 24000/F (kHz) | 30 |
| 1.705 - 30 | 30 | 30 |
| 30 - 88 | 100 | 3 |
| 88 - 216 | 150 | 3 |
| 216 - 960 | 200 | 3 |
| Above 960 | 500 | 3 |

### 7.10.1. Test Procedure Used

ANSI C63.10 Section 6.3 (General Requirements)

ANSI C63.10 Section 6.6 (Standard test method above 1GHz)

### 7.10.2. Test Setting

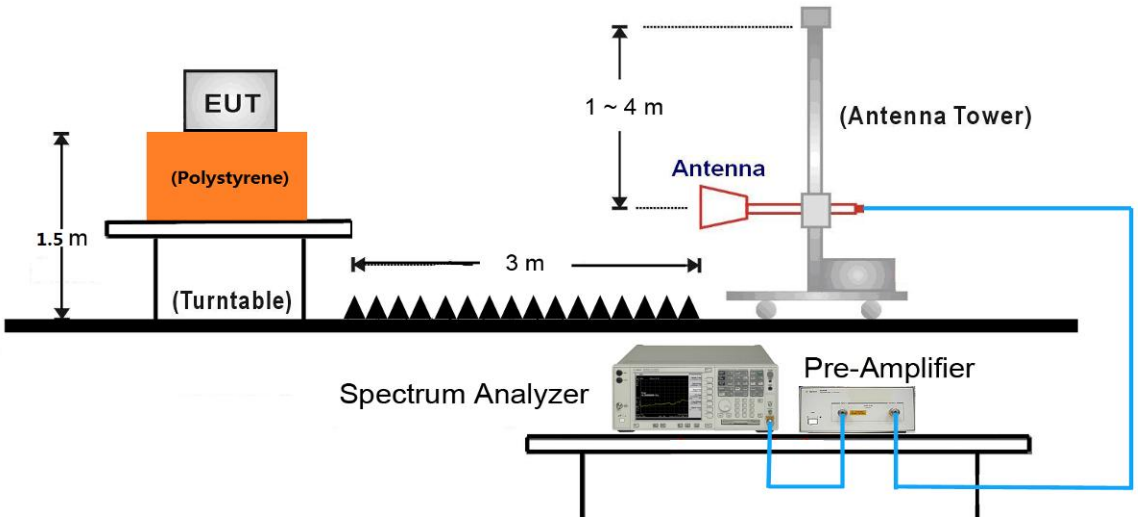
**Peak Field Strength Measurements**

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

**Average Measurements above 1GHz (Method VB)**

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle ≥ 98%, set VBW = 10 Hz.
   If the EUT duty cycle is < 98%, set VBW ≥ 1/T. T is the minimum transmission duration.
4. Detector = Peak
5. Sweep time = auto
6. Trace mode = max hold
7. Trace was allowed to stabilize

### 7.10.3. Test Setup

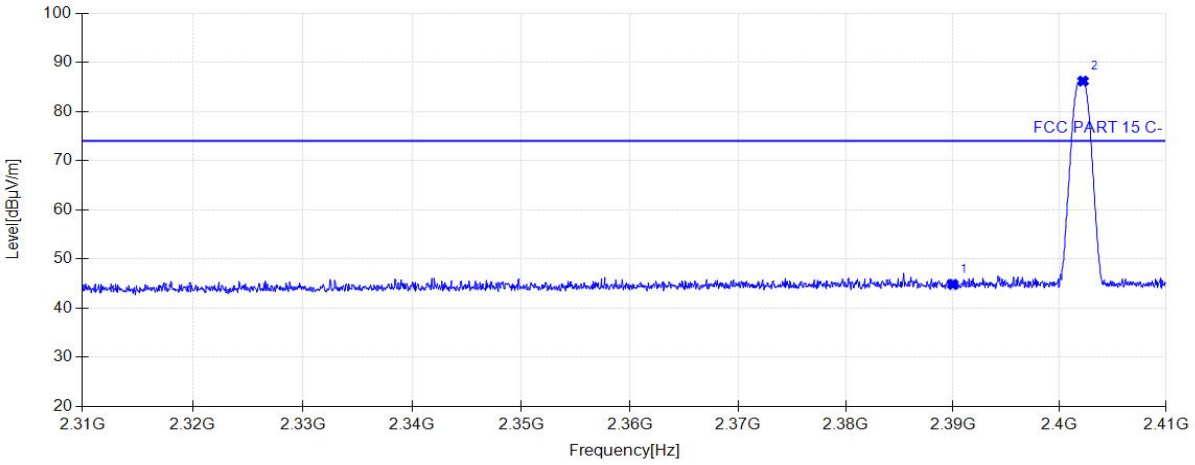


### 7.10.4. Test Result

| Project Information | | | |
|---|---|---|---|
| EUT: | Wireless Headset | Model: | TLL411007 |
| SN: | N/A | Voltage: | DC 3.7V |
| Environment: | Temp: 22℃; Humi:52% | Engineer: | Guangze Ding |
| Remark: | Transmit by DH5 at Channel 2402MHz | | |

*Start of Test:2023-09-15 13:42:09*

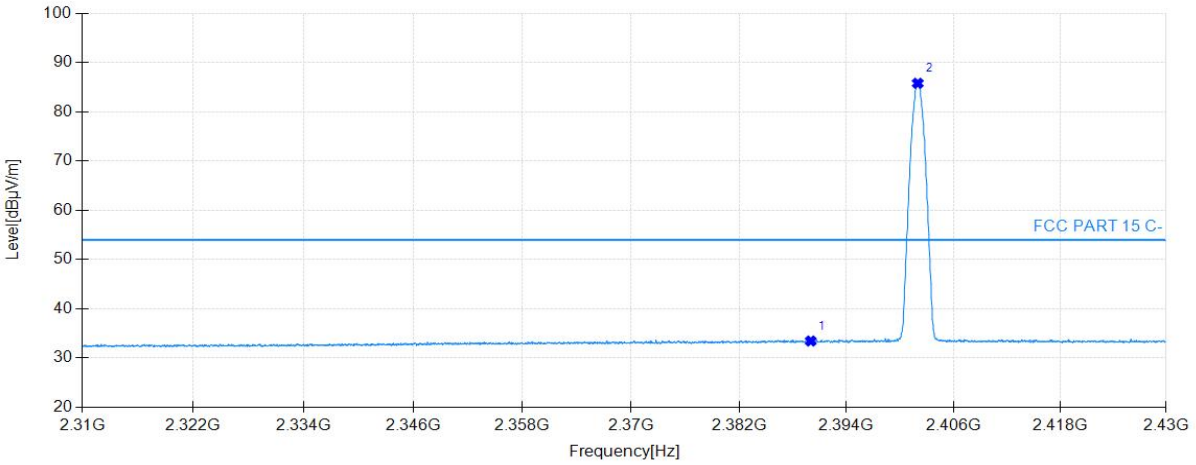
**Test Graph**




| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2390.00 | 44.82 | 32.74 | 74.00 | 29.18 | 160 | 358 | Horizontal |
| 2 | 2402.20 | 86.17 | 32.81 | / | / | 160 | 31 | Horizontal |

*Start of Test:2023-09-15 13:44:20*

**Test Graph**

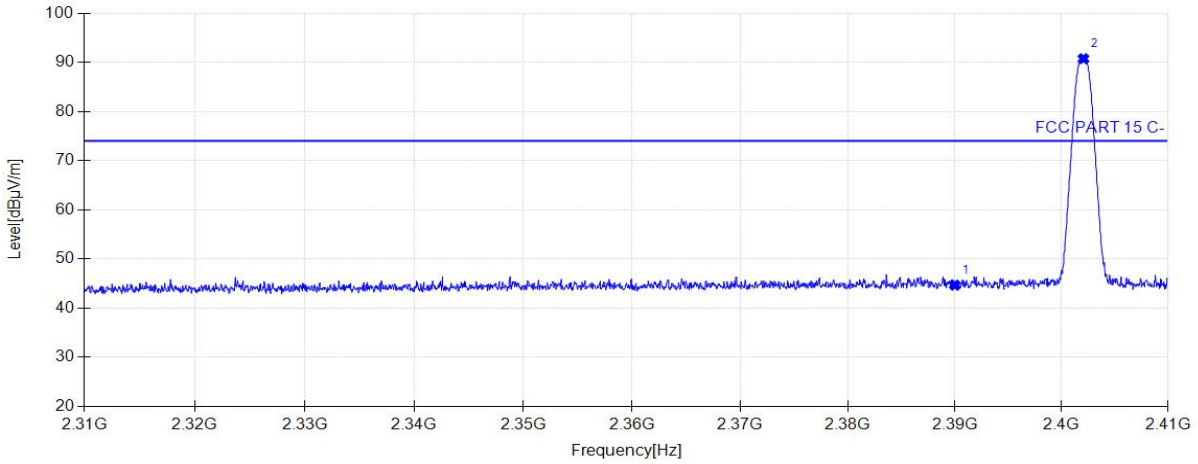



| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2390.00 | 33.45 | 32.74 | 54.00 | 20.55 | 160 | 133 | Horizontal |
| 2 | 2401.98 | 85.77 | 32.80 | / | / | 160 | 31 | Horizontal |

| Project Information | | | |
|---|---|---|---|
| EUT: | Wireless Headset | Model: | TLL411007 |
| SN: | N/A | Voltage: | DC 3.7V |
| Environment: | Temp: 22℃; Humi:52% | Engineer: | Guangze Ding |
| Remark: | Transmit by DH5 at Channel 2402MHz | | |

*Start of Test:2023-09-15 13:43:02*

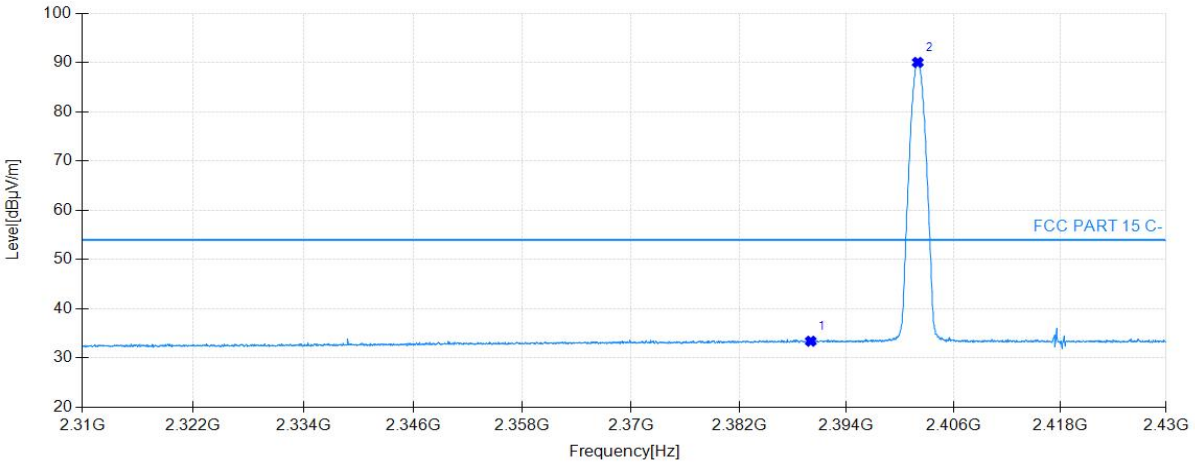
**Test Graph**




| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2390.00 | 44.67 | 32.74 | 74.00 | 29.33 | 160 | 255 | Vertical |
| 2 | 2402.05 | 90.73 | 32.80 | / | / | 160 | 4 | Vertical |

*Start of Test:2023-09-15 13:45:13*

**Test Graph**

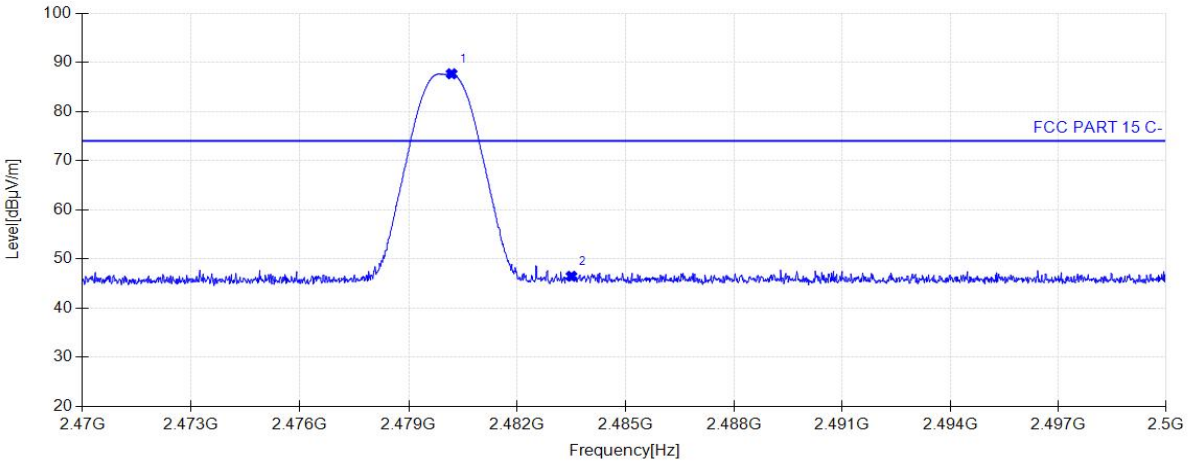



| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2390.00 | 33.41 | 32.74 | 54.00 | 20.59 | 160 | 104 | Vertical |
| 2 | 2401.98 | 90.01 | 32.80 | / | / | 160 | 357 | Vertical |

| Project Information | | | |
|---|---|---|---|
| EUT: | Wireless Headset | Model: | TLL411007 |
| SN: | N/A | Voltage: | DC 3.7V |
| Environment: | Temp: 22℃; Humi:52% | Engineer: | Guangze Ding |
| Remark: | Transmit by DH5 at Channel 2480MHz | | |

*Start of Test:2023-09-15 13:48:49*

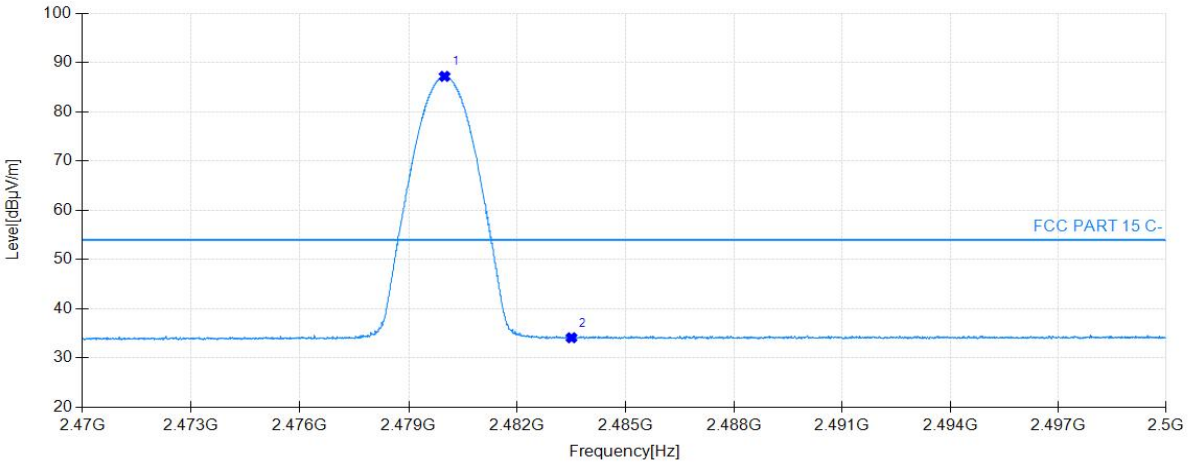
**Test Graph**




| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2480.18 | 87.66 | 33.22 | 74.00 | -13.66 | 160 | 344 | Horizontal |
| 2 | 2483.50 | 46.48 | 33.23 | / | / | 160 | 290 | Horizontal |

*Start of Test:2023-09-15 13:51:15*

**Test Graph**

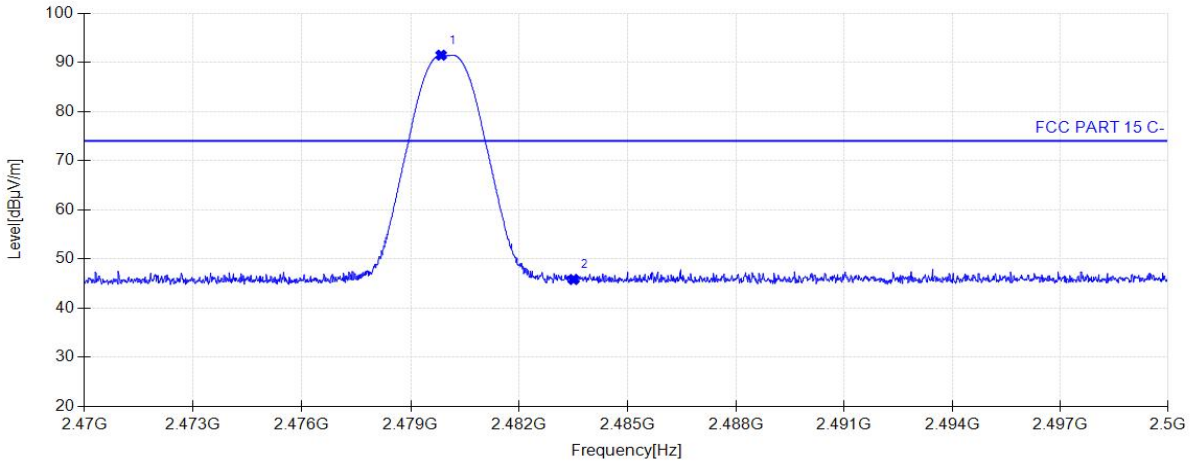



| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2479.99 | 87.17 | 33.21 | 54.00 | -33.17 | 160 | 344 | Horizontal |
| 2 | 2483.50 | 34.11 | 33.23 | / | / | 160 | 9 | Horizontal |

| Project Information | | | |
|---|---|---|---|
| EUT: | Wireless Headset | Model: | TLL411007 |
| SN: | N/A | Voltage: | DC 3.7V |
| Environment: | Temp: 22℃; Humi:52% | Engineer: | Guangze Ding |
| Remark: | Transmit by DH5 at Channel 2480MHz | | |

*Start of Test:2023-09-15 13:49:41*

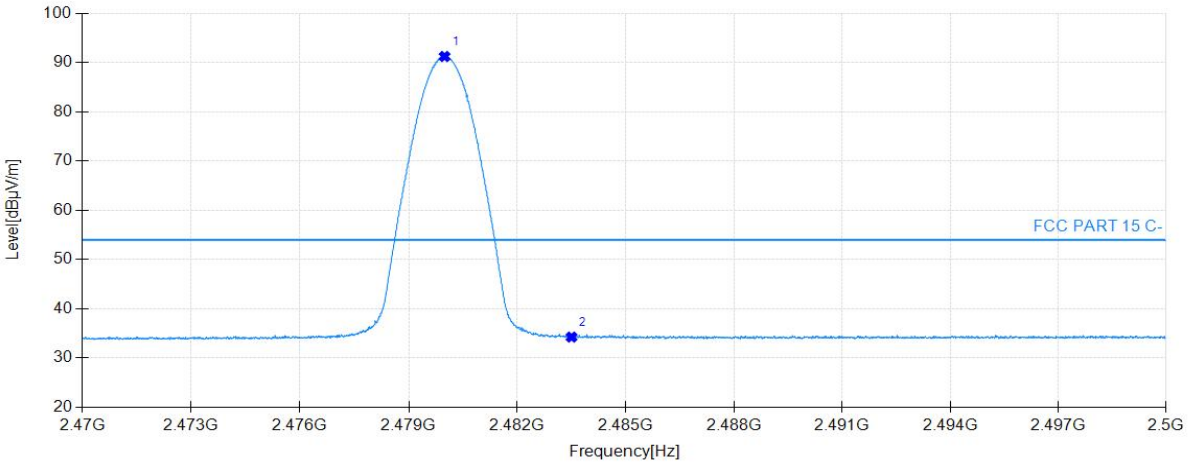
**Test Graph**




| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2479.84 | 91.45 | 33.21 | 74.00 | -17.45 | 160 | 357 | Vertical |
| 2 | 2483.50 | 45.82 | 33.23 | / | / | 160 | 345 | Vertical |

*Start of Test:2023-09-15 13:52:07*

**Test Graph**

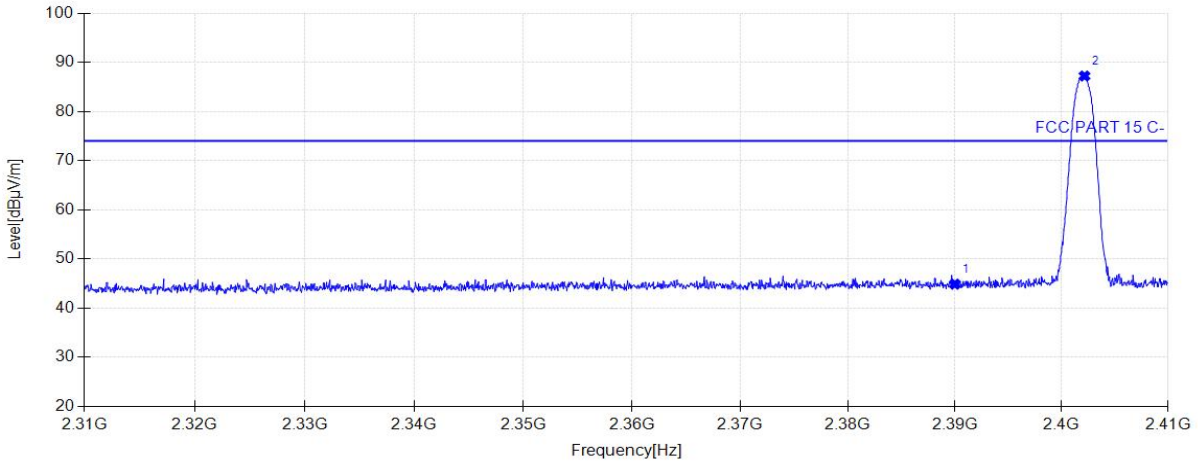



| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2479.99 | 91.21 | 33.21 | 54.00 | -37.21 | 160 | 350 | Vertical |
| 2 | 2483.50 | 34.25 | 33.23 | / | / | 160 | 138 | Vertical |

| Project Information | | | |
|---|---|---|---|
| EUT: | Wireless Headset | Model: | TLL411007 |
| SN: | N/A | Voltage: | DC 3.7V |
| Environment: | Temp: 22℃; Humi:52% | Engineer: | Guangze Ding |
| Remark: | Transmit by 2DH5 at Channel 2402MHz | | |

*Start of Test:2023-09-15 14:01:10*

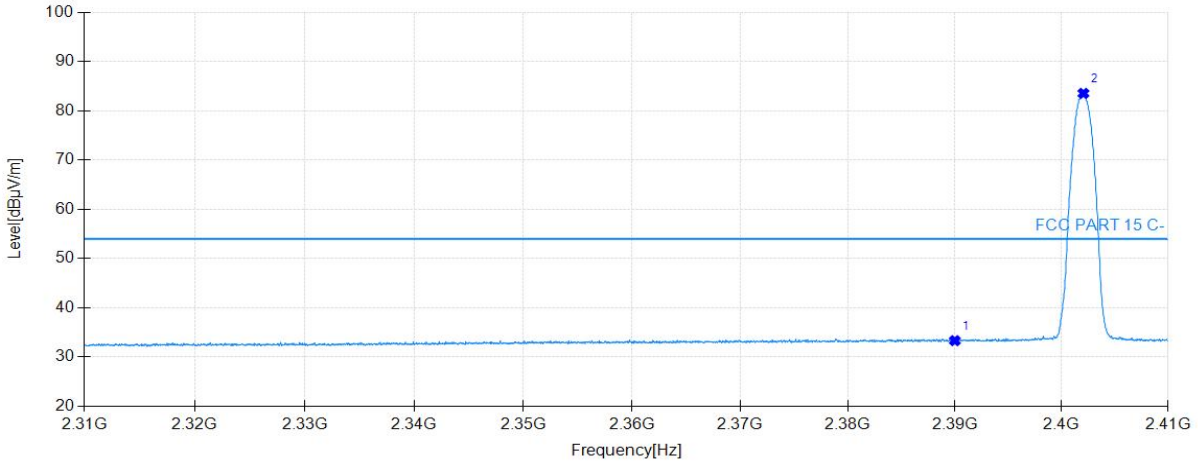
**Test Graph**




| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2390.00 | 44.87 | 32.74 | 74.00 | 29.13 | 160 | 64 | Horizontal |
| 2 | 2402.15 | 87.21 | 32.81 | / | / | 160 | 24 | Horizontal |

*Start of Test:2023-09-15 14:03:23*

**Test Graph**

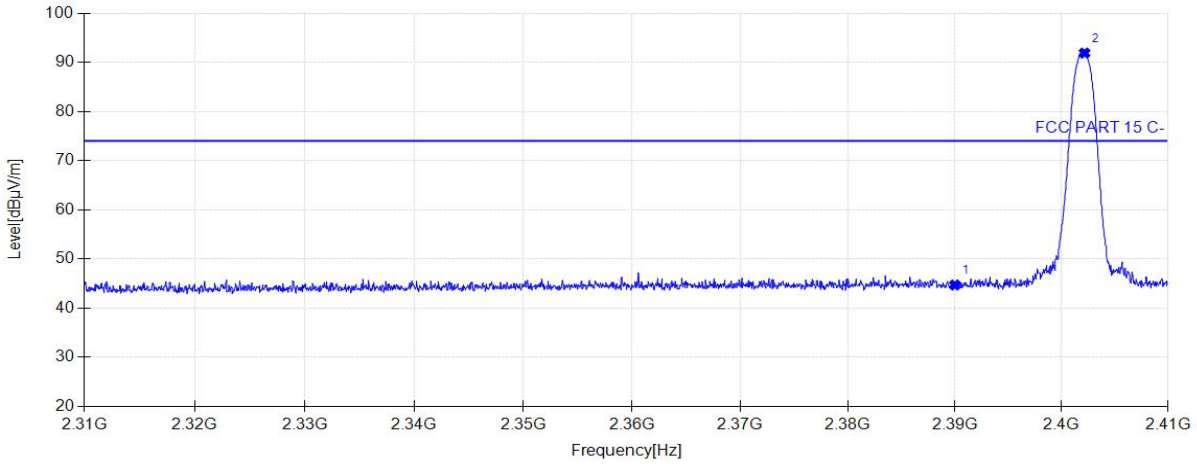



| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2390.00 | 33.32 | 32.74 | 54.00 | 20.68 | 160 | 354 | Horizontal |
| 2 | 2402.05 | 83.52 | 32.80 | / | / | 160 | 24 | Horizontal |

| Project Information | | | |
|---|---|---|---|
| EUT: | Wireless Headset | Model: | TLL411007 |
| SN: | N/A | Voltage: | DC 3.7V |
| Environment: | Temp: 22℃; Humi:52% | Engineer: | Guangze Ding |
| Remark: | Transmit by 2DH5 at Channel 2402MHz | | |

*Start of Test:2023-09-15 14:02:02*

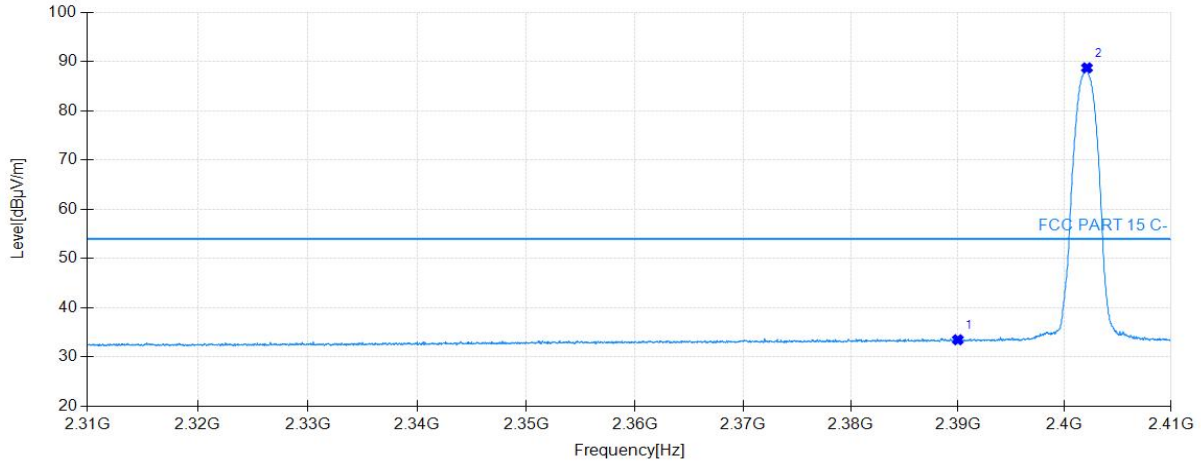
**Test Graph**




| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2390.00 | 44.70 | 32.74 | 74.00 | 29.30 | 160 | 71 | Vertical |
| 2 | 2402.15 | 91.88 | 32.81 | / | / | 160 | 357 | Vertical |

*Start of Test:2023-09-15 14:04:15*

**Test Graph**

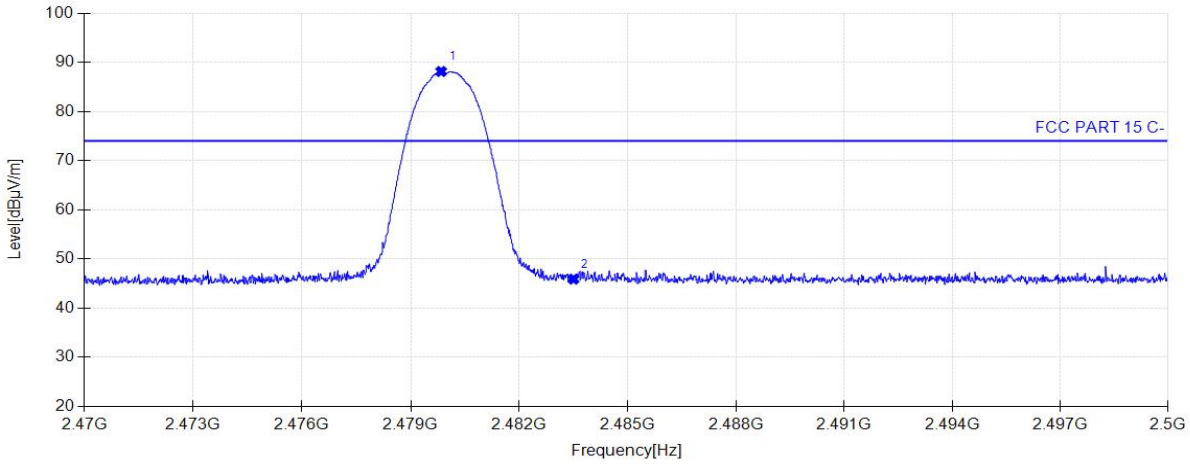



| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2390.00 | 33.50 | 32.74 | 54.00 | 20.50 | 160 | 357 | Vertical |
| 2 | 2402.10 | 88.70 | 32.81 | / | / | 160 | 1 | Vertical |

| Project Information | | | |
|---|---|---|---|
| EUT: | Wireless Headset | Model: | TLL411007 |
| SN: | N/A | Voltage: | DC 3.7V |
| Environment: | Temp: 22℃; Humi:52% | Engineer: | Guangze Ding |
| Remark: | Transmit by 2DH5 at Channel 2480MHz | | |

*Start of Test:2023-09-15 13:57:21*

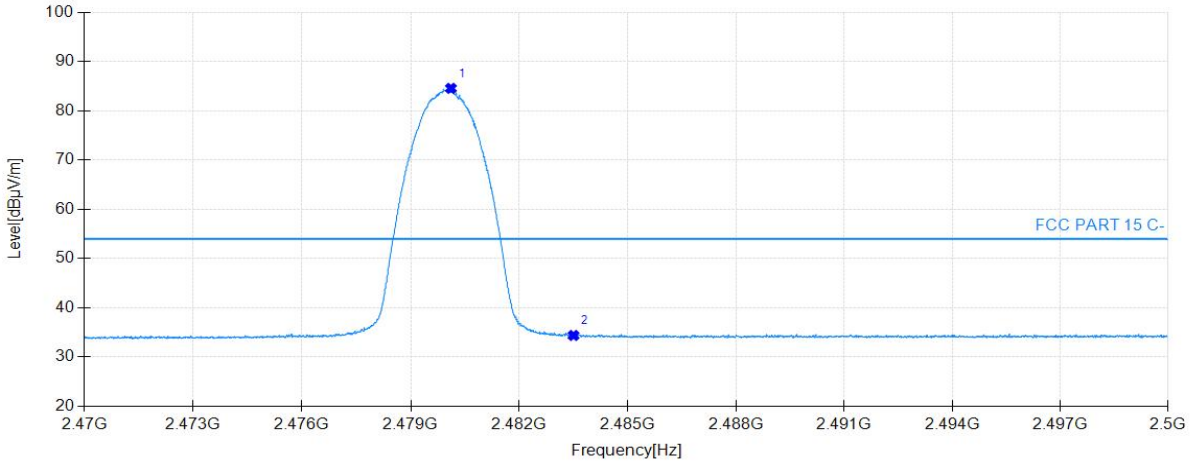
**Test Graph**




| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2479.84 | 88.13 | 33.21 | 74.00 | -14.13 | 160 | 343 | Horizontal |
| 2 | 2483.50 | 45.89 | 33.23 | / | / | 160 | 71 | Horizontal |

*Start of Test:2023-09-15 13:54:59*

**Test Graph**

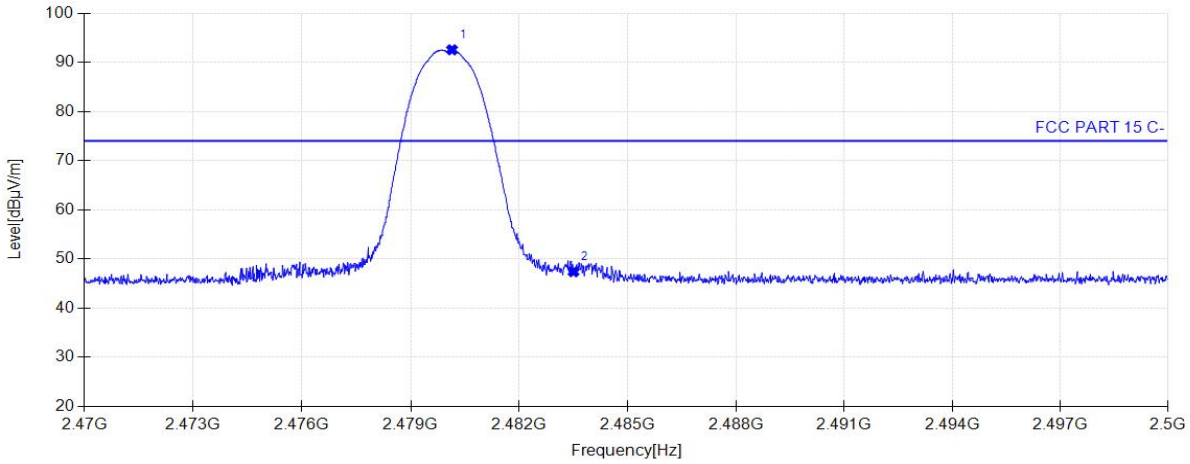



| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2480.11 | 84.54 | 33.22 | 54.00 | -30.54 | 160 | 24 | Horizontal |
| 2 | 2483.50 | 34.38 | 33.23 | / | / | 160 | 92 | Horizontal |

| Project Information | | | |
|---|---|---|---|
| EUT: | Wireless Headset | Model: | TLL411007 |
| SN: | N/A | Voltage: | DC 3.7V |
| Environment: | Temp: 22℃; Humi:52% | Engineer: | Guangze Ding |
| Remark: | Transmit by 2DH5 at Channel 2480MHz | | |

*Start of Test:2023-09-15 13:58:13*

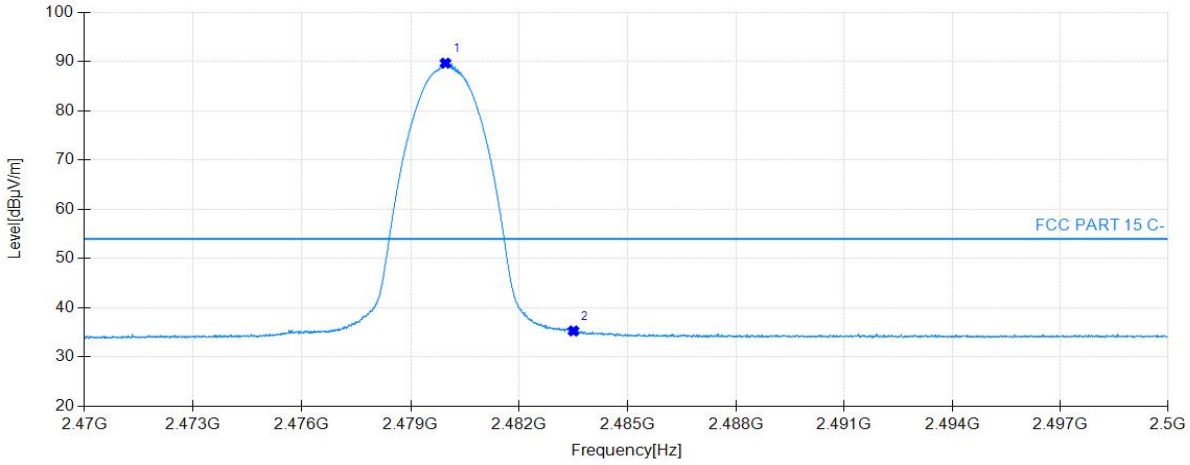
**Test Graph**




| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2480.14 | 92.54 | 33.22 | 74.00 | -18.54 | 160 | 357 | Vertical |
| 2 | 2483.50 | 47.40 | 33.23 | / | / | 160 | 351 | Vertical |

*Start of Test:2023-09-15 13:55:52*

**Test Graph**

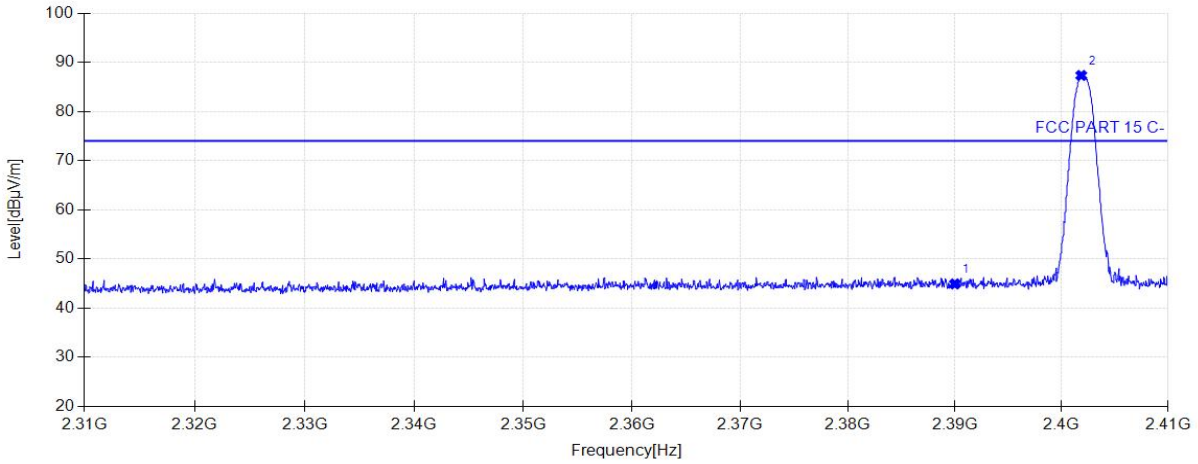



| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2479.96 | 89.65 | 33.21 | 54.00 | -35.65 | 160 | 2 | Vertical |
| 2 | 2483.50 | 35.28 | 33.23 | / | / | 160 | 4 | Vertical |

| Project Information | | | |
|---|---|---|---|
| EUT: | Wireless Headset | Model: | TLL411007 |
| SN: | N/A | Voltage: | DC 3.7V |
| Environment: | Temp: 22℃; Humi:52% | Engineer: | Guangze Ding |
| Remark: | Transmit by 3DH5 at Channel 2402MHz | | |

*Start of Test:2023-09-15 14:09:03*

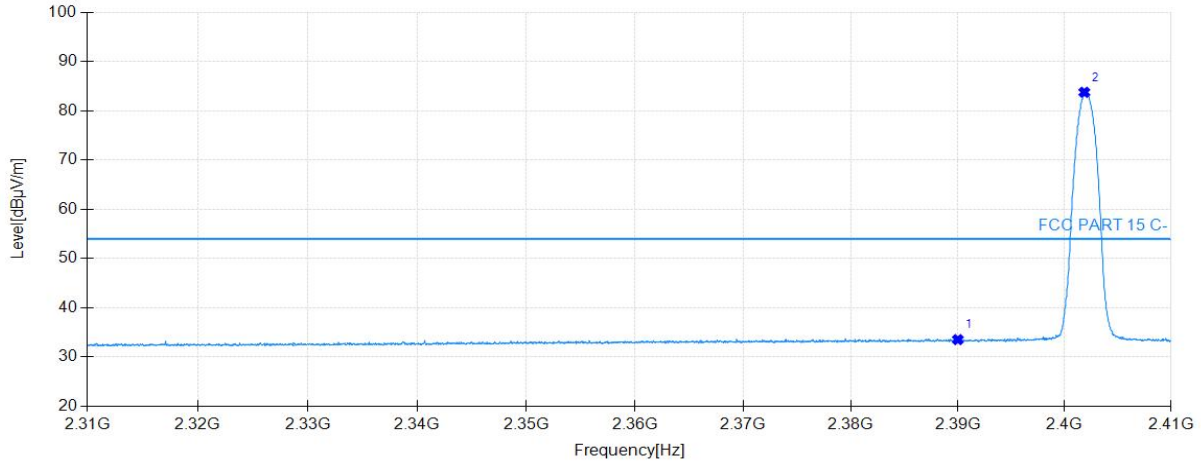
**Test Graph**




| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2390.00 | 44.92 | 32.74 | 74.00 | 29.08 | 160 | 43 | Horizontal |
| 2 | 2401.85 | 87.32 | 32.80 | / | / | 160 | 15 | Horizontal |

*Start of Test:2023-09-15 14:06:52*

**Test Graph**

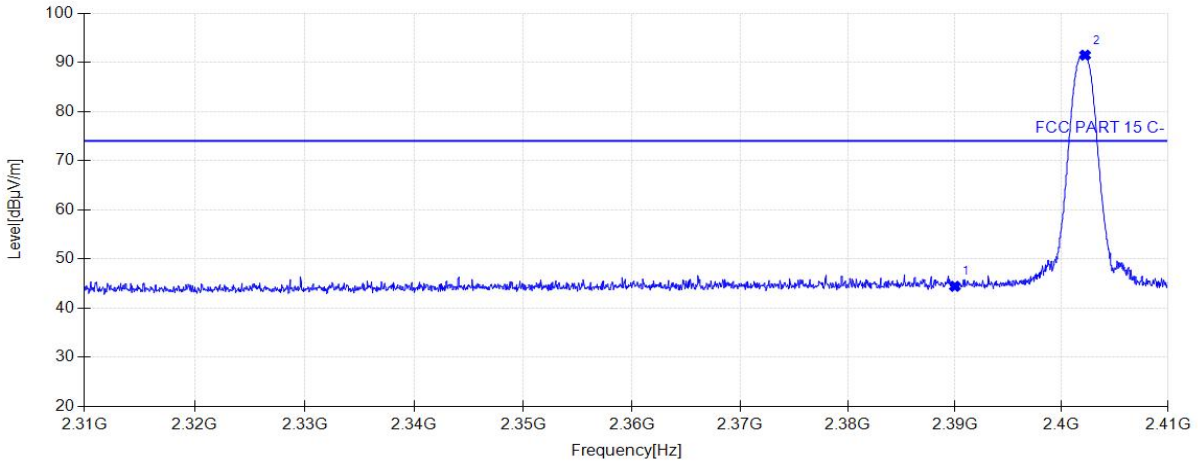



| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2390.00 | 33.53 | 32.74 | 54.00 | 20.47 | 160 | 290 | Horizontal |
| 2 | 2401.85 | 83.74 | 32.80 | / | / | 160 | 160 | Horizontal |

| Project Information | | | |
|---|---|---|---|
| EUT: | Wireless Headset | Model: | TLL411007 |
| SN: | N/A | Voltage: | DC 3.7V |
| Environment: | Temp: 22℃; Humi:52% | Engineer: | Guangze Ding |
| Remark: | Transmit by 3DH5 at Channel 2402MHz | | |

*Start of Test:2023-09-15 14:09:55*

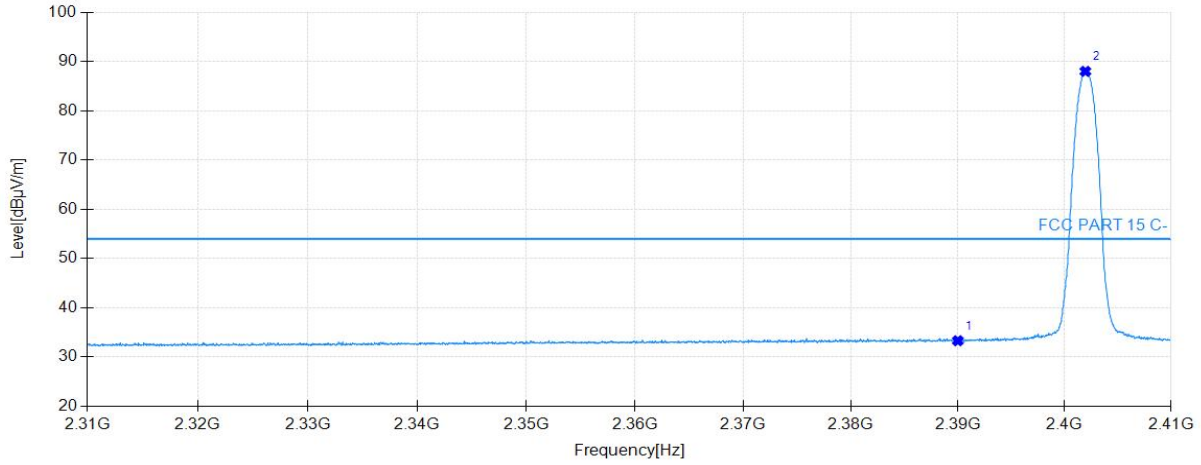
**Test Graph**




| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2390.00 | 44.44 | 32.74 | 74.00 | 29.56 | 160 | 4 | Vertical |
| 2 | 2402.20 | 91.45 | 32.81 | / | / | 160 | 357 | Vertical |

*Start of Test:2023-09-15 14:07:44*

**Test Graph**

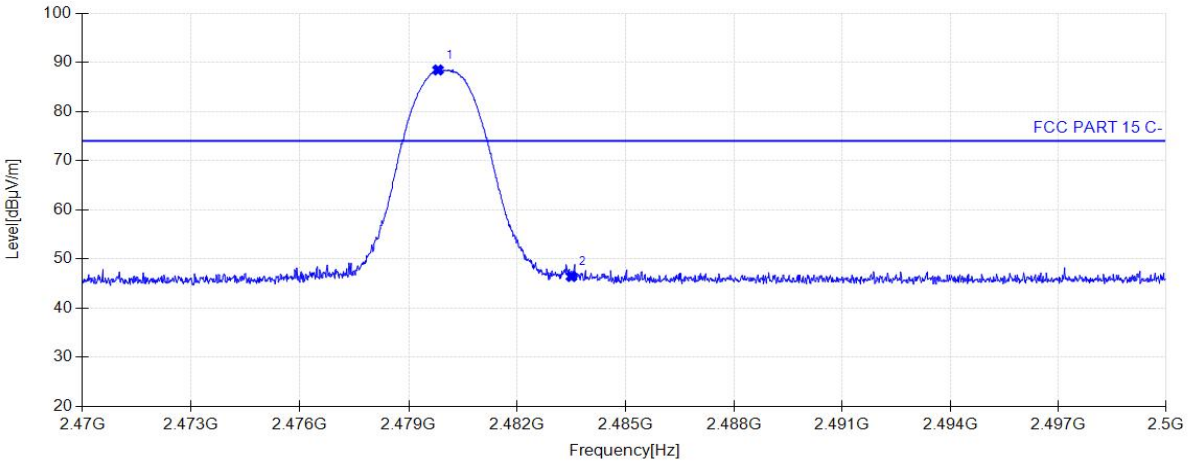



| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2390.00 | 33.30 | 32.74 | 54.00 | 20.70 | 160 | 118 | Vertical |
| 2 | 2401.95 | 87.99 | 32.80 | / | / | 160 | 357 | Vertical |

| Project Information | | | |
|---|---|---|---|
| EUT: | Wireless Headset | Model: | TLL411007 |
| SN: | N/A | Voltage: | DC 3.7V |
| Environment: | Temp: 22℃; Humi:52% | Engineer: | Guangze Ding |
| Remark: | Transmit by 3DH5 at Channel 2480MHz | | |

*Start of Test:2023-09-15 14:12:25*

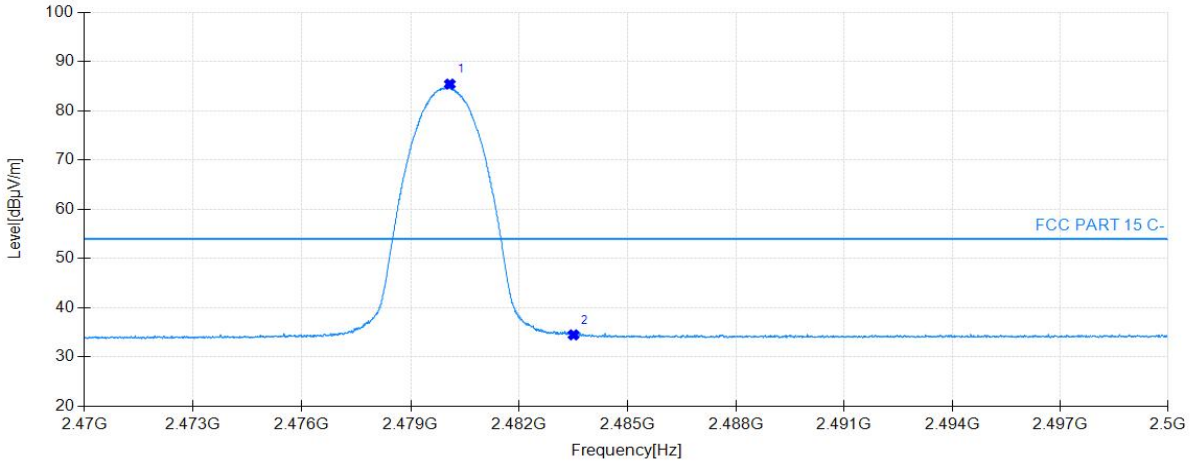
**Test Graph**




| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2479.81 | 88.44 | 33.21 | 74.00 | -14.44 | 160 | 344 | Horizontal |
| 2 | 2483.50 | 46.43 | 33.23 | / | / | 160 | 344 | Horizontal |

*Start of Test:2023-09-15 14:14:35*

**Test Graph**

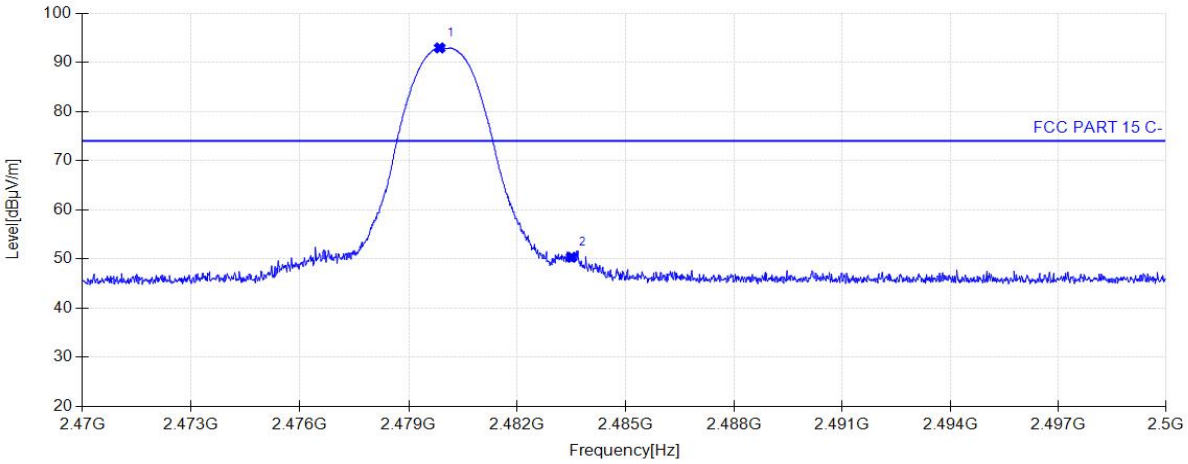



| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2480.08 | 85.40 | 33.22 | 54.00 | -31.40 | 160 | 16 | Horizontal |
| 2 | 2483.50 | 34.49 | 33.23 | / | / | 160 | 44 | Horizontal |

| Project Information | | | |
|---|---|---|---|
| EUT: | Wireless Headset | Model: | TLL411007 |
| SN: | N/A | Voltage: | DC 3.7V |
| Environment: | Temp: 22℃; Humi:52% | Engineer: | Guangze Ding |
| Remark: | Transmit by 3DH5 at Channel 2480MHz | | |

*Start of Test:2023-09-15 14:13:17*

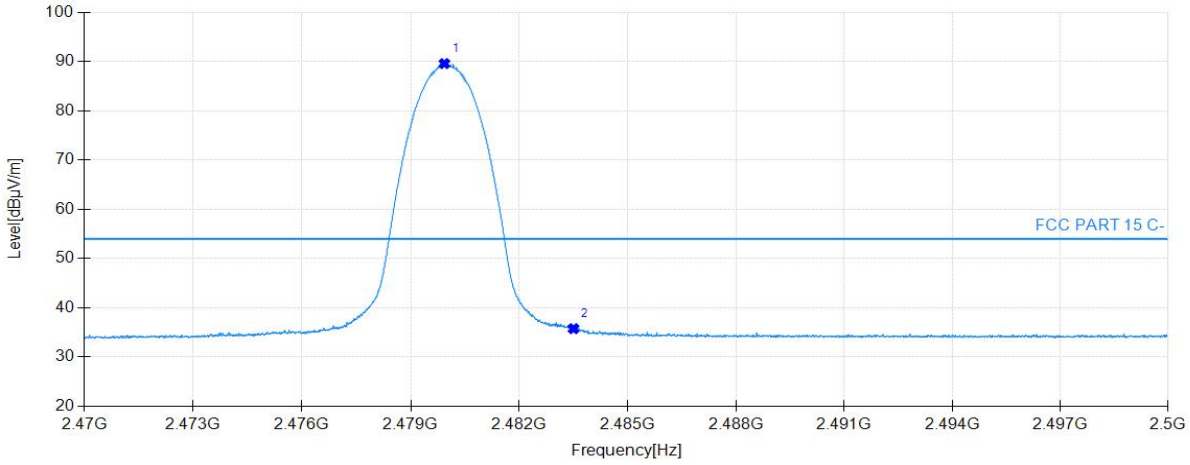
**Test Graph**




| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2479.85 | 92.92 | 33.21 | 74.00 | -18.92 | 160 | 356 | Vertical |
| 2 | 2483.50 | 50.35 | 33.23 | / | / | 160 | 6 | Vertical |

*Start of Test:2023-09-15 14:15:27*

**Test Graph**




| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2479.93 | 89.57 | 33.21 | 54.00 | -35.57 | 160 | 356 | Vertical |
| 2 | 2483.50 | 35.75 | 33.23 | / | / | 160 | 0 | Vertical |

## 7.11. AC Conducted Emissions Measurement

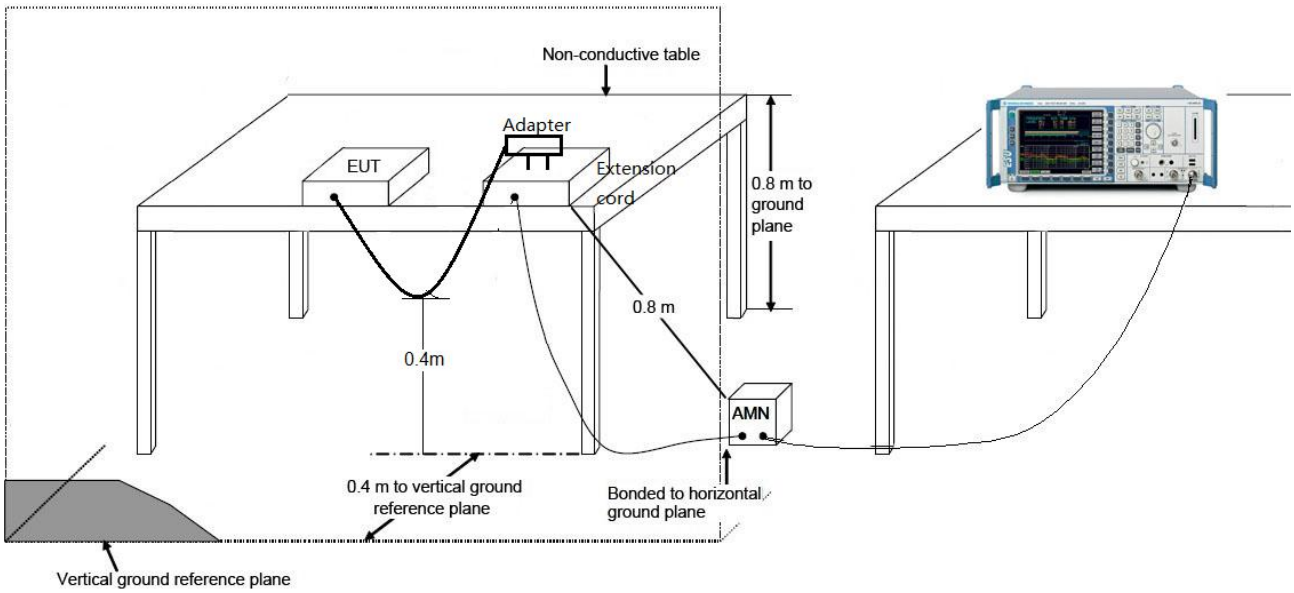
### 7.11.1. Test Limit

| FCC Part 15 Subpart C Paragraph 15.207 Limits | | |
|---|---|---|
| Frequency (MHz) | QP (dBμV) | Average (dBμV) |
| 0.15 - 0.50 | 66 - 56 | 56 - 46 |
| 0.50 - 5.0 | 56 | 46 |
| 5.0 - 30 | 60 | 50 |

Note 1: The lower limit shall apply at the transition frequencies.

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

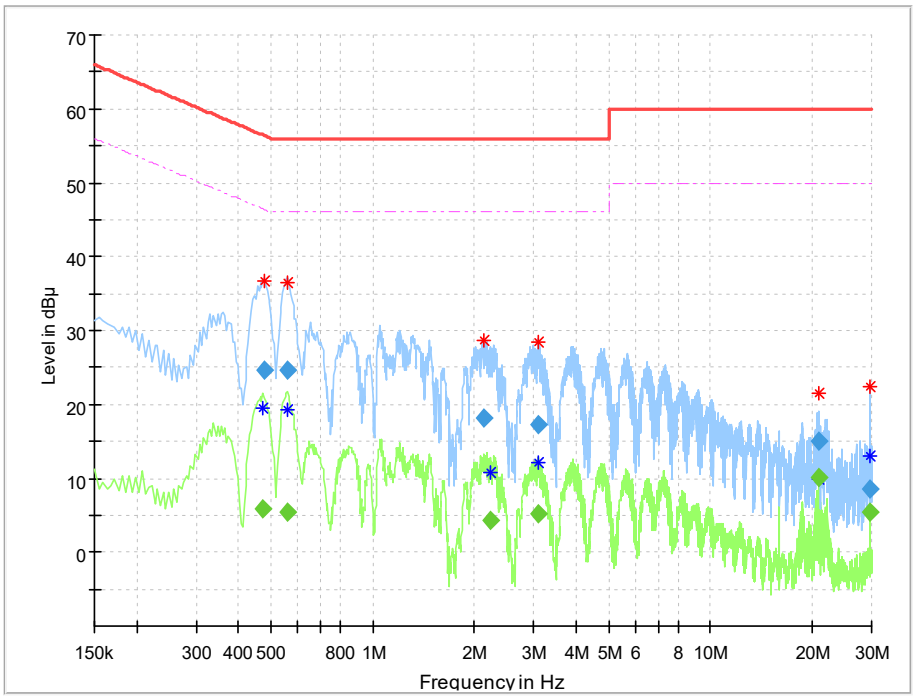
### 7.11.2. Test Setup



### 7.11.3. Test Result

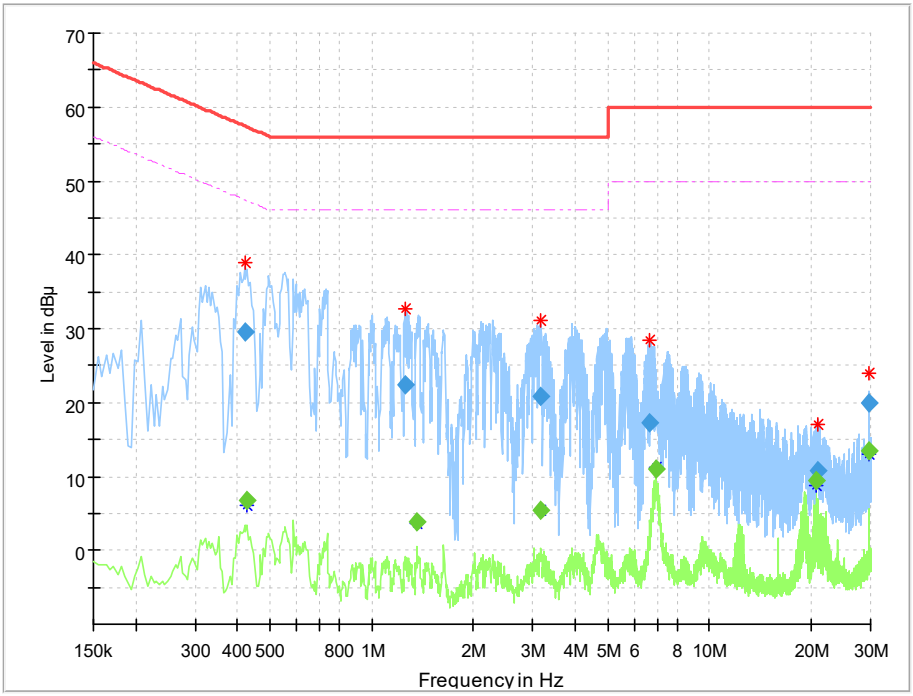
**The worst case of Conducted Emissions:**

| EUT: | Wireless Headset | Polarity: | LINE |
|---|---|---|---|
| Model: | TLL411007 | Power Supply: | HW-050200C01 |
| Mode: | / | Voltage: | 120V/60Hz |
| Environment: | Temp: 24℃; Humi:52% | Engineer: | Guangze Ding |
| Remark: | The EUT is charge. | | |




| Frequency (MHz) | QuasiPeak (dBuV) | Average (dBuV) | Limit (dBuV) | Margin (dB) | Meas. Time | Bandwidth (kHz) | Line | Filter | Corr. (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 0.474000 | --- | 5.86 | 46.44 | 40.59 | 100.0 | 9.000 | L1 | ON | 9.6 |
| 0.478500 | 24.60 | --- | 56.37 | 31.76 | 100.0 | 9.000 | L1 | ON | 9.6 |
| 0.559500 | --- | 5.52 | 46.00 | 40.48 | 100.0 | 9.000 | L1 | ON | 9.6 |
| 0.559500 | 24.65 | --- | 56.00 | 31.35 | 100.0 | 9.000 | L1 | ON | 9.6 |
| 2.134500 | 18.27 | --- | 56.00 | 37.73 | 100.0 | 9.000 | L1 | ON | 9.6 |
| 2.229000 | --- | 4.36 | 46.00 | 41.64 | 100.0 | 9.000 | L1 | ON | 9.6 |
| 3.079500 | --- | 5.11 | 46.00 | 40.89 | 100.0 | 9.000 | L1 | ON | 9.6 |
| 3.102000 | 17.20 | --- | 56.00 | 38.80 | 100.0 | 9.000 | L1 | ON | 9.6 |
| 20.976000 | 15.06 | --- | 60.00 | 44.94 | 100.0 | 9.000 | L1 | ON | 9.8 |
| 20.976000 | --- | 10.03 | 50.00 | 39.97 | 100.0 | 9.000 | L1 | ON | 9.8 |
| 29.796000 | --- | 5.36 | 50.00 | 44.64 | 100.0 | 9.000 | L1 | ON | 9.8 |
| 29.796000 | 8.46 | --- | 60.00 | 51.54 | 100.0 | 9.000 | L1 | ON | 9.8 |

| EUT: | Wireless Headset | Polarity: | NEUTRAL |
|---|---|---|---|
| Model: | TLL411007 | Power Supply: | HW-050200C01 |
| Mode: | / | Voltage: | 120V/60Hz |
| Environment: | Temp: 24℃; Humi:52% | Engineer: | Guangze Ding |
| Remark: | The EUT is charge. | | |




| Frequency (MHz) | QuasiPeak (dBuV) | Average (dBuV) | Limit (dBuV) | Margin (dB) | Meas. Time | Bandwidth (kHz) | Line | Filter | Corr. (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 0.420000 | 29.47 | --- | 57.45 | 27.98 | 100.0 | 9.000 | N | ON | 9.6 |
| 0.429000 | --- | 6.75 | 47.27 | 40.52 | 100.0 | 9.000 | N | ON | 9.6 |
| 1.261500 | 22.36 | --- | 56.00 | 33.64 | 100.0 | 9.000 | N | ON | 9.6 |
| 1.360500 | --- | 3.87 | 46.00 | 42.13 | 100.0 | 9.000 | N | ON | 9.6 |
| 3.178500 | --- | 5.35 | 46.00 | 40.65 | 100.0 | 9.000 | N | ON | 9.6 |
| 3.178500 | 20.91 | --- | 56.00 | 35.09 | 100.0 | 9.000 | N | ON | 9.6 |
| 6.679500 | 17.22 | --- | 60.00 | 42.78 | 100.0 | 9.000 | N | ON | 9.7 |
| 6.981000 | --- | 11.02 | 50.00 | 38.98 | 100.0 | 9.000 | N | ON | 9.7 |
| 20.643000 | --- | 9.36 | 50.00 | 40.64 | 100.0 | 9.000 | N | ON | 9.8 |
| 20.823000 | 10.88 | --- | 60.00 | 49.12 | 100.0 | 9.000 | N | ON | 9.8 |
| 29.805000 | --- | 13.50 | 50.00 | 36.50 | 100.0 | 9.000 | N | ON | 9.9 |
| 29.805000 | 19.98 | --- | 60.00 | 40.02 | 100.0 | 9.000 | N | ON | 9.9 |

# 8. CONCLUSION

The data collected relate only the item(s) tested and show that the **Wireless Headset** is in compliance with Part 15C of the FCC Rules.

The End