



# NCC

## 低功率射頻器材型式試驗報告

產品名稱 : Wireless Handheld Transmitter  
型號 : GLXD2+ Z3  
廠牌 : SHURE  
申請者 : Shure Incorporated  
申請者地址 : 5800 West Touhy Avenue, Niles, IL 60714-4608, USA  
測試標準 : LP0002 (109 年版)  
參考法規 : ANSI C63.10-2013  
測試結果 : 符合  
接收日期 : 2021/9/17  
測試日期 : 2021/9/20~2021/9/30

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## 修訂紀錄

| 報告編號          | 版本  | 描述              | 發行日期       |
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## 1. 一般資訊

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 申請者       | Shure Incorporated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 申請者地址     | 5800 West Touhy Avenue, Niles, IL 60714-4608, USA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 製造商       | Shure Incorporated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 製造商地址     | 5800 West Touhy Avenue, Niles, IL 60714-4608, USA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 實驗室       | 台灣曼瑞檢測科技有限公司                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 實驗室地址     | 33377 台灣桃園市龜山區復興二路 38 號                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 實驗室資訊     | <ol style="list-style-type: none"><li>1. MRT facility is a FCC registered (Reg. No. 153292) test facility with the site description report on file and is designated by the FCC as an Accredited Test Firm.</li><li>2. MRT facility is an IC registered (MRT Reg. No. 21723) test laboratory with the site description on file at Industry Canada.</li><li>3. MRT Lab is accredited to ISO 17025 by the Taiwan Accreditation Foundation (TAF Cert. No. 3261) in EMC, Telecommunications and Radio testing for FCC (Designation Number: TW3261), Industry Taiwan, EU and TELEC Rules.</li></ol> |
| 實驗室測試環境條件 | 溫度 (°C) : 20-35 / 濕度 (%RH) : 30-65                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## 2. 產品描述

### 2.1 產品資訊

|         |                                                                                   |
|---------|-----------------------------------------------------------------------------------|
| 產品名稱    | Wireless Handheld Transmitter                                                     |
| 產品型號    | GLXD2+ Z3                                                                         |
| 廠牌      | SHURE                                                                             |
| 商標      |  |
| 支援規格    | 2.4GHz & 5.8GHz                                                                   |
| 頻率範圍    | 5729~5846MHz                                                                      |
| 調變模式    | GFSK                                                                              |
| 最大輸出功率  | 7.18dBm                                                                           |
| 配件      |                                                                                   |
| Battery | Model No.: SB904<br>Capacitance: 2420mAh/8.71Wh<br>Rated Voltage: 3.6V            |

## 2.2 產品規格

|                            |                                                          |
|----------------------------|----------------------------------------------------------|
| Type of modulation         | 2-level CPM with Gaussian shaping (basically GFSK)       |
| Declared Channel Bandwidth | Full Bandwidth Mode: 2 MHz<br>Half Bandwidth Mode: 1 MHz |
| Channel Number             | 55                                                       |
| Channel Spacing            | 1MHz                                                     |

| Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|---------|-----------|
| 00      | 5729 MHz  | 01      | 5730 MHz  | 02      | 5733 MHz  |
| 03      | 5734 MHz  | 04      | 5736 MHz  | 05      | 5739 MHz  |
| 06      | 5742 MHz  | 07      | 5744 MHz  | 08      | 5745 MHz  |
| 09      | 5748 MHz  | 10      | 5749 MHz  | 11      | 5751 MHz  |
| 12      | 5754 MHz  | 13      | 5757 MHz  | 14      | 5759 MHz  |
| 15      | 5760 MHz  | 16      | 5763 MHz  | 17      | 5764 MHz  |
| 18      | 5766 MHz  | 19      | 5769 MHz  | 20      | 5772 MHz  |
| 21      | 5774 MHz  | 22      | 5775 MHz  | 23      | 5778 MHz  |
| 24      | 5779 MHz  | 25      | 5781 MHz  | 26      | 5784 MHz  |
| 27      | 5787 MHz  | 28      | 5789 MHz  | 29      | 5790 MHz  |
| 30      | 5793 MHz  | 31      | 5794 MHz  | 32      | 5796 MHz  |
| 33      | 5799 MHz  | 34      | 5802 MHz  | 35      | 5804 MHz  |
| 36      | 5805 MHz  | 37      | 5808 MHz  | 38      | 5809 MHz  |
| 39      | 5811 MHz  | 40      | 5814 MHz  | 41      | 5817 MHz  |
| 42      | 5819 MHz  | 43      | 5820 MHz  | 44      | 5823 MHz  |
| 45      | 5824 MHz  | 46      | 5826 MHz  | 47      | 5829 MHz  |
| 48      | 5832 MHz  | 49      | 5835 MHz  | 50      | 5836 MHz  |
| 51      | 5838 MHz  | 52      | 5841 MHz  | 53      | 5845 MHz  |
| 54      | 5846 MHz  | --      | --        | --      | --        |

## 2.3 測試模式

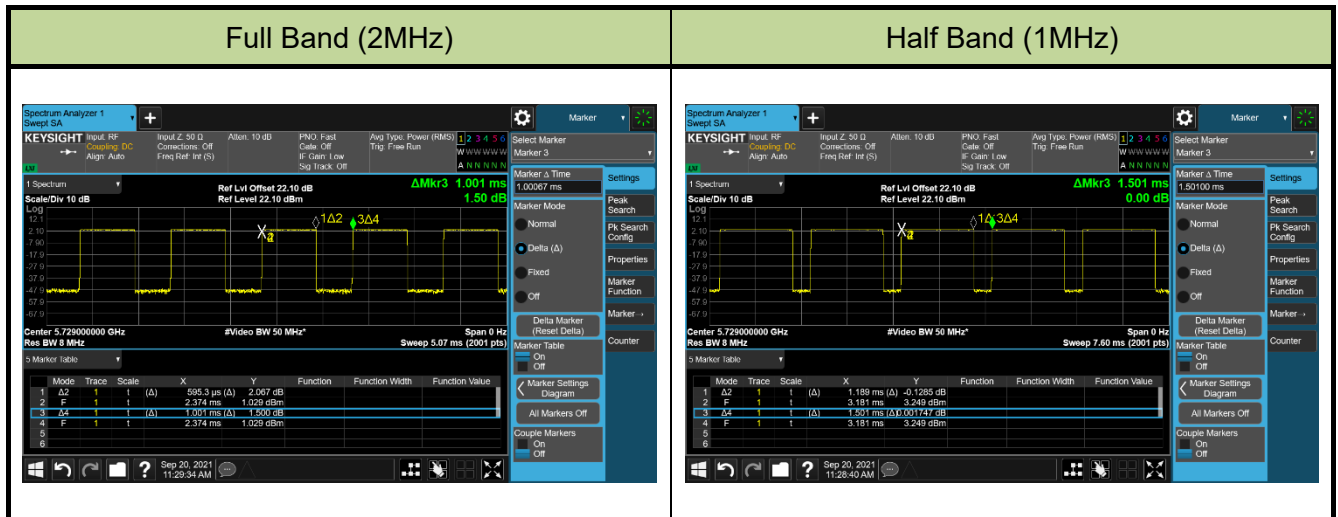
|           |                                          |
|-----------|------------------------------------------|
| Test Mode | Mode 1: 發射器- Full Bandwidth Mode (2 MHz) |
|           | Mode 2: 發射器- Half Bandwidth Mode (1 MHz) |
|           | Mode 3: 接收機- Full Bandwidth Mode (2 MHz) |

Note:

1. 經初測驗證過，1GHz 以下的 Mode 1 & Mode 2 並無明顯差異，故僅檢附最差狀況之 Mode1。

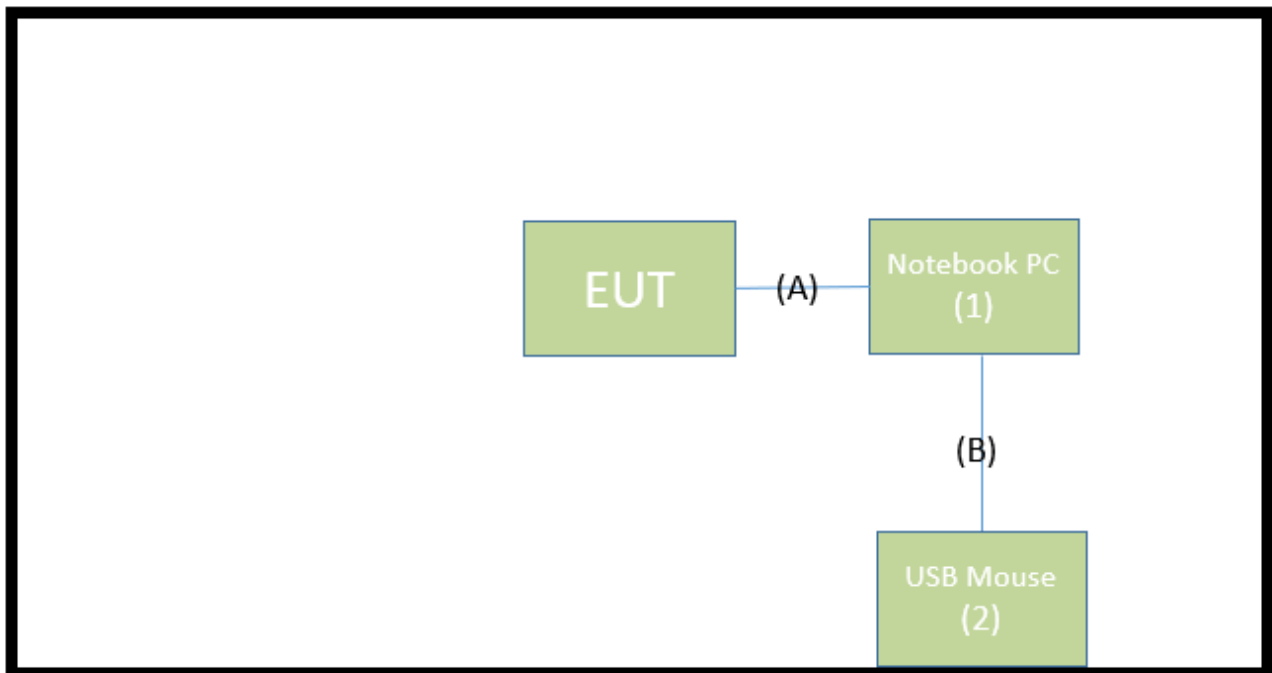
## Duty Cycle

| Test Mode        | Duty Cycle |
|------------------|------------|
| Full Band (2MHz) | 59.47%     |
| Half Band (1MHz) | 79.21%     |



## 2.4 測試配置

待測物測試配置圖



| Signal Cable Type |                 | Signal Cable Description                           |
|-------------------|-----------------|----------------------------------------------------|
| A                 | USB Cable       | Shielded, 1.2m<br>(Brand: SHURE, M/N: 95A42232UTJ) |
| B                 | USB Mouse Cable | Shielded, 1.6m                                     |

## 2.5 測試周邊

待測裝置測試時，其搭配系統測試時之週邊裝置包括如下：

| No. | 周邊名稱        | 廠牌     | 型號   | 序號  | 電源線                |
|-----|-------------|--------|------|-----|--------------------|
| 1   | Notebook PC | Lenovo | X250 | N/A | Non-shielded, 0.8m |
| 2   | USB Mouse   | Lenovo | M110 | N/A | N/A                |

## 2.6 操作程序

|    |                                               |
|----|-----------------------------------------------|
| 1. | Turn on the power of all equipment.           |
| 2. | Execute “Tera Term” program                   |
| 3. | Configure the test channel and the data rate. |
| 4. | Start test.                                   |

### 3. 測試設備明細

#### 傳導干擾 -SR2

| 儀器名稱               | 廠牌     | 型號                          | 財產編號        | 校正週期   | 有效日期      |
|--------------------|--------|-----------------------------|-------------|--------|-----------|
| Two-Line V-Network | R&S    | ENV216                      | MRTTWA00019 | 1 year | 2022/3/23 |
| Two-Line V-Network | R&S    | ENV216                      | MRTTWA00020 | 1 year | 2022/4/28 |
| 8-Wire ISN (T8)    | R&S    | ENY81                       | MRTTWA00018 | 1 year | 2022/5/30 |
| Cable              | Rosnol | N1C50-RG400-<br>B1C50-500CM | MRTTWE00013 | 1 year | 2022/6/20 |
| EMI Test Receiver  | R&S    | ESR3                        | MRTTWA00009 | 1 year | 2022/3/24 |

#### 輻射干擾 – AC1

| 儀器名稱                        | 廠牌          | 型號         | 財產編號        | 校正週期   | 有效日期      |
|-----------------------------|-------------|------------|-------------|--------|-----------|
| Broadband TRILOG<br>Antenna | SCHWARZBECK | VULB 9162  | MRTTWA00001 | 1 year | 2022/10/4 |
| EMI Test Receiver           | R&S         | ESR3       | MRTTWA00009 | 1 year | 2022/3/24 |
| Active Loop Antenna         | Schwarzbeck | FMZB 1519B | MRTTWA00002 | 1 year | 2022/5/6  |
| Broadband Horn antenna      | SCHWARZBECK | BBHA 9120D | MRTTWA00003 | 1 year | 2022/4/21 |
| Breitband Hornantenna       | Schwarzbeck | BBHA 9170  | MRTTWA00004 | 1 year | 2022/4/28 |
| Broadband Amplifier         | Schwarzbeck | BBV 9721   | MRTTWA00006 | 1 year | 2022/4/26 |
| Broadband Preamplifier      | SCHWARZBECK | BBV 9718   | MRTTWA00005 | 1 year | 2022/4/21 |
| Cable                       | HUBERSUHNER | SF106      | MRTTWE00010 | 1 year | 2022/6/15 |

#### 傳導量測設備 –SR5

| 儀器名稱                                          | 廠牌       | 型號      | 財產編號        | 校正週期   | 有效日期       |
|-----------------------------------------------|----------|---------|-------------|--------|------------|
| EXA Signal Analyzer                           | KEYSIGHT | N9010A  | MRTTWA00012 | 1 year | 2022/10/18 |
| EXA Signal Analyzer                           | KEYSIGHT | N9010B  | MRTTWA00074 | 1 year | 2022/7/19  |
| X-Series USB Peak and<br>Average Power Sensor | KEYSIGHT | U2021XA | MRTTWA00015 | 1 year | 2022/3/24  |

#### EMI 測試軟體

| 軟體名稱 | 廠牌      | 版本        |
|------|---------|-----------|
| e3   | Audix   | 9.160520a |
| EMI  | Quietek | V3        |

#### 4. 量測不確定度

|                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 電源傳導量測-電源線 (Conducted Emission- Power Line)                                                                                                                                                                          |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ):<br>0.15MHz~30MHz: $\pm 2.53\text{dB}$                                                                                                        |
| 輻射干擾量測 (Radiated Spurious Emission)                                                                                                                                                                                  |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ):<br>9kHz~30MHz: $\pm 3.92\text{dB}$<br>30MHz~1GHz: $\pm 4.25\text{dB}$<br>1GHz~18GHz: $\pm 4.40\text{dB}$<br>18GHz~40GHz: $\pm 4.45\text{dB}$ |
| 頻率誤差量測 (Frequency Error)                                                                                                                                                                                             |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ): $\pm 78.4\text{Hz}$                                                                                                                          |
| 傳導功率量測 (Conducted Power)                                                                                                                                                                                             |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ): $\pm 0.84\text{dB}$                                                                                                                          |
| 傳導干擾量測 (Conducted Spurious Emission)                                                                                                                                                                                 |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ): $\pm 2.65\text{dB}$                                                                                                                          |
| 佔用頻寬量測 (Occupied Bandwidth)                                                                                                                                                                                          |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ): 3.3%                                                                                                                                         |
| 溫度 / 濕度 (Temp. / Humidity)                                                                                                                                                                                           |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ): $\pm 0.82^\circ\text{C}$ / $\pm 3\%$                                                                                                         |
| 直流電源 (DC Voltage)                                                                                                                                                                                                    |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ): $\pm 0.3\%$                                                                                                                                  |

## 5. 測試結果

產品名稱                      **Wireless Handheld Transmitter**  
 型號                              **GLXD2+ Z3**

| 章節             | 量測項目     | 限制值                                                                           | 測試結果 | 測試數據     |
|----------------|----------|-------------------------------------------------------------------------------|------|----------|
| 3.3            | 電源傳導     | 低功率射頻器材技術規範 3.3 節                                                             | 符合   | 第 5.1 章節 |
| 5.7.3          | 峰值傳導輸出功率 | $\leq 30.00\text{dBm}$ for Band 4                                             | 符合   | 第 5.2 章節 |
| 5.7.8          | 天線之要求    | 低功率射頻器材技術規範 3.3 節                                                             | 符合   | 第 5.3 章節 |
| 3.6            | 輻射電場強度   | 低功率射頻器材技術規範 3.6 節                                                             | 符合   | 第 5.5 章節 |
| 3.5<br>5.7.4.2 | 頻帶邊緣     | $\leq 74\text{dBuV/m(Peak)}$<br>$\leq 54\text{dBuV/m(Average)}$               | 符合   | 第 5.6 章節 |
| 5.7.5          | 占用頻寬     | $\geq 500\text{KHz}$ (26dB Bandwidth)<br>$\geq 500\text{KHz}$ (6dB Bandwidth) | 符合   | 第 5.7 章節 |
| 5.7.3          | 功率頻譜密度   | $\leq 30\text{dBm} / 500\text{kHz}$ for Band 4                                | 符合   | 第 5.8 章節 |

備註：符合性的判定是基於測試結果符合規範的限制值或客戶的宣告要求，測試結果的判定是不考慮測量不確定度的值。

## 5.1 電源傳導測試

### 5.1.1 量測方法

待測物放置於1m\*2m\*0.8m之非導體桌面並離垂直牆面40cm（落地型產品置於地上），將待測物之電源線接至電源阻抗網路器(LISN)，同時保持待測物至LISN距80公分，並將電源線多餘部份以30至40公分之八字形捆綁於電源線中央並離地40cm，於在正常工作狀態下，執行待測物之火線(Line)及地線(neutral)各一次量測。

電源端點場強之測量範圍由 0.15MHz –30MHz，所量測之讀值皆為準尖峰值(Quasi-Peak Value)及平均值(Average Value)。場強接收機之解析頻寬為9kHz。

備 註：經初測驗證過，電源端點干擾測試對測試頻道數並無差異，因此檢附其中一個測試頻道之測試數。

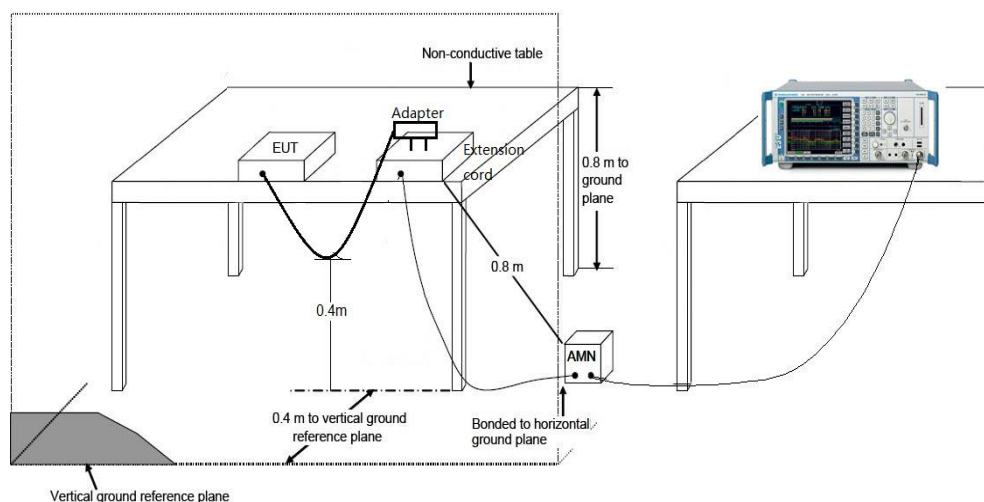
### 5.1.2 限制要求

以市電為電源之低功率射頻器材，其傳導回電源線上頻率自150kHz至30MHz之射頻電壓(在電源端子每一電源線對接地點)應小於或等於下表所列之限值。測量時應經過50微亨利( $\mu\text{H}$ )及50歐姆( $\Omega$ )之電源線阻抗模擬網路(LISN)。頻率重疊處，以較低限值為準。

| Frequency 頻率範圍<br>MHz | 傳導限制值(dBuV)          |                      |
|-----------------------|----------------------|----------------------|
|                       | 準尖峰值                 | 平均值                  |
| 0.15 - 0.50           | 66-56 <sub>(註)</sub> | 56-46 <sub>(註)</sub> |
| 0.50-5.0              | 56                   | 46                   |
| 5.0 - 30              | 60                   | 50                   |

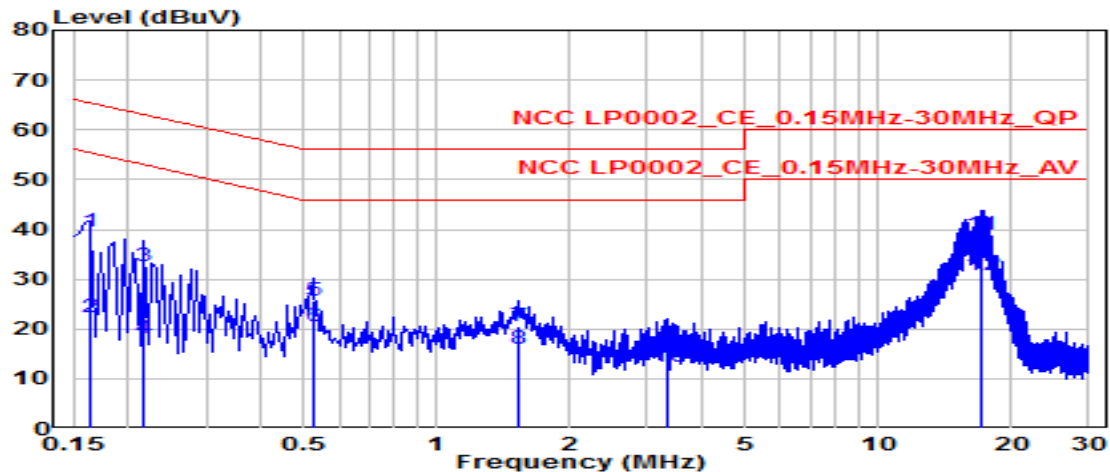
註:隨頻率之對數遞減

### 5.1.3 測試架構圖



#### 5.1.4 電源端點測試結果

|           |                               |                      |              |
|-----------|-------------------------------|----------------------|--------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-30   |
| Factor    | CE_ENV216-L1 (Filter ON)      | Temp. / Humidity     | 26.1°C /49%  |
| Polarity  | Line1                         | Site / Test Engineer | SR2 / Dean   |
| Test Mode | TX_Full Band_5788MHz          | Test Voltage         | AC 110V/60Hz |

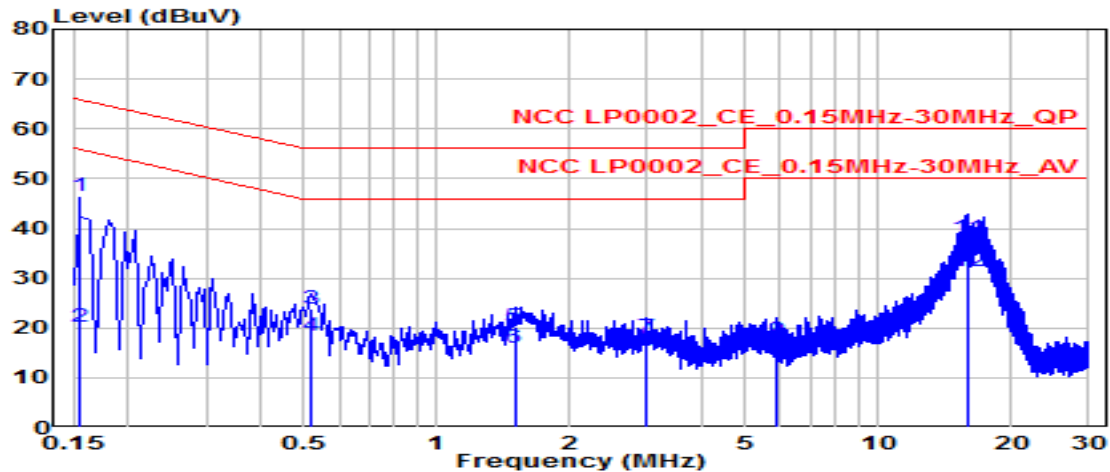


| No | Frequency (MHz) | Reading (dBuV) | C.F (dB) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Remark (QP/PK/AV) |
|----|-----------------|----------------|----------|----------------------|-------------|----------------|-------------------|
| 1  | 0.163           | 29.99          | 9.61     | 39.60                | -25.68      | 65.28          | QP                |
| 2  | 0.163           | 12.60          | 9.61     | 22.21                | -33.07      | 55.28          | Average           |
| 3  | 0.217           | 22.93          | 9.61     | 32.54                | -30.37      | 62.91          | QP                |
| 4  | 0.217           | 8.63           | 9.61     | 18.25                | -34.67      | 52.91          | Average           |
| 5  | 0.523           | 16.05          | 9.63     | 25.68                | -30.32      | 56.00          | QP                |
| 6  | 0.523           | 11.01          | 9.63     | 20.65                | -25.35      | 46.00          | Average           |
| 7  | 1.527           | 10.85          | 9.68     | 20.52                | -35.48      | 56.00          | QP                |
| 8  | 1.527           | 6.45           | 9.68     | 16.13                | -29.87      | 46.00          | Average           |
| 9  | 3.345           | 7.31           | 9.71     | 17.02                | -38.98      | 56.00          | QP                |
| 10 | 3.345           | 2.60           | 9.71     | 12.31                | -33.69      | 46.00          | Average           |
| 11 | *               | 17.095         | 9.95     | 38.94                | -21.06      | 60.00          | QP                |
| 12 | *               | 17.095         | 9.95     | 30.87                | -19.13      | 50.00          | Average           |

Note:

1. " \* ", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).

|           |                               |                      |              |
|-----------|-------------------------------|----------------------|--------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-30   |
| Factor    | CE_ENV216-N (Filter ON)       | Temp. / Humidity     | 26.1°C /49%  |
| Polarity  | Neutral                       | Site / Test Engineer | SR2 / Dean   |
| Test Mode | TX_Full Band_5788MHz          | Test Voltage         | AC 110V/60Hz |



| No |   | Frequency (MHz) | Reading (dBuV) | C.F (dB) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Remark (QP/PK/AV) |
|----|---|-----------------|----------------|----------|----------------------|-------------|----------------|-------------------|
| 1  | * | 0.154           | 36.87          | 9.62     | 46.49                | -19.26      | 65.75          | QP                |
| 2  |   | 0.154           | 10.68          | 9.62     | 20.30                | -35.46      | 55.75          | Average           |
| 3  |   | 0.519           | 14.28          | 9.63     | 23.91                | -32.09      | 56.00          | QP                |
| 4  |   | 0.519           | 8.73           | 9.63     | 18.37                | -27.63      | 46.00          | Average           |
| 5  |   | 1.500           | 10.67          | 9.68     | 20.35                | -35.65      | 56.00          | QP                |
| 6  |   | 1.500           | 6.28           | 9.68     | 15.96                | -30.04      | 46.00          | Average           |
| 7  |   | 2.994           | 8.26           | 9.71     | 17.97                | -38.03      | 56.00          | QP                |
| 8  |   | 2.994           | 5.58           | 9.71     | 15.29                | -30.71      | 46.00          | Average           |
| 9  |   | 5.878           | 7.63           | 9.77     | 17.41                | -42.59      | 60.00          | QP                |
| 10 |   | 5.878           | 4.81           | 9.77     | 14.58                | -35.42      | 50.00          | Average           |
| 11 |   | 15.979          | 28.01          | 9.98     | 38.00                | -22.00      | 60.00          | QP                |
| 12 | * | 15.979          | 21.53          | 9.98     | 31.52                | -18.48      | 50.00          | Average           |

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).

## 5.2 峰值傳導輸出功率

### 5.2.1 量測方法

待測物之天線埠經由適當之衰減直接連至頻譜分析儀RF輸入端，設定頻譜分析儀之解析度頻寬大於6dB發射頻寬或使用峰值功率表。除使用上述測量方式外，並得使用以最大傳導輸出功率作為測量方式（最大傳導輸出功率必須使用依據均方根等效電壓校準之儀器測量於任何連續傳輸之時段，測量結果須依儀器限制（如偵測器反應時間、相較於發射頻寬有限之解析頻寬能力，靈敏度等）調整得出正確之峰值測量。

### 5.2.2 限制要求

1. 使用頻率於5.725 GHz~5.850 GHz 頻段

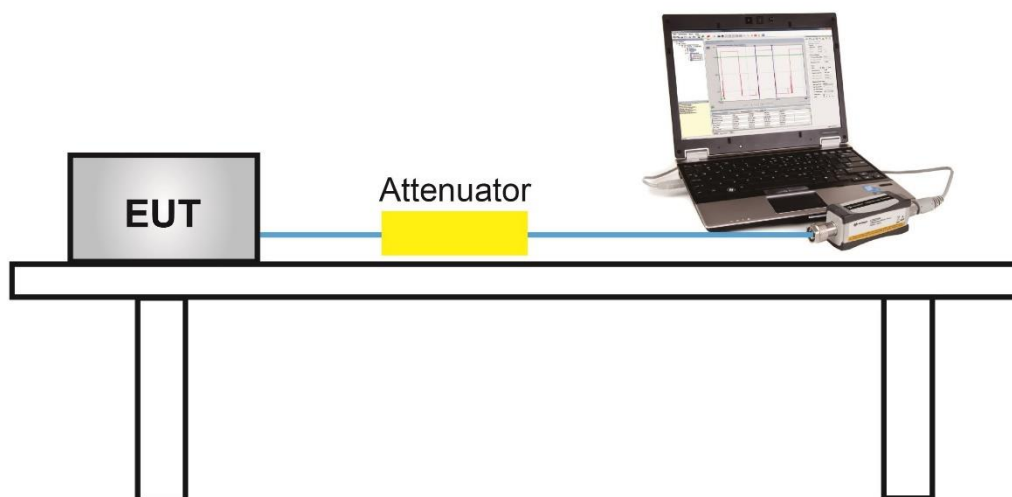
(1)最大傳導輸出功率應小於或等於1 W。

(2)在任何500 kHz 頻帶中最大功率頻譜密度應小於或等於30 dBm。

(3)供固定式點對點操作時，使用方向增益超過6 dBi 之發射天線，可不需對應減少發射器之傳導輸出功率限制值。

(4)除(3)外，使用超過6 dBi 方向增益之發射天線時，應依超過6 dBi 天線方向增益的dBi 總量，等量減少最大傳導輸出功率及最大功率頻譜密度。

### 5.2.3 測試架構圖



#### 5.2.4 峰值傳導輸出功率測試結果

|              |                               |         |            |
|--------------|-------------------------------|---------|------------|
| 待測物名稱        | Wireless Handheld Transmitter | 測試日期    | 2021/9/30  |
| 待測物型號        | GLXD2+ Z3                     | 溫度 / 濕度 | 23°C / 55% |
| 測試場地 / 測試工程師 | SR5 / Eric                    |         |            |

| Test Mode        | Frequency (MHz) | Average Power (dBm) | Limit (dBm) |
|------------------|-----------------|---------------------|-------------|
| Full Band (2MHz) | 5729            | 6.98                | < 30        |
| Full Band (2MHz) | 5788            | 7.18                | < 30        |
| Full Band (2MHz) | 5846            | 4.34                | < 30        |
| Half Band (1MHz) | 5729            | 5.72                | < 30        |
| Half Band (1MHz) | 5788            | 7.03                | < 30        |
| Half Band (1MHz) | 5846            | 4.17                | < 30        |

備 註： 此量測值已含線材損耗(Cable Loss=1.5dB)。

## 5.3 天線之要求

### 5.3.1 限制要求

依據國家通訊傳播委員會低功率射頻器材技術規範之第5.7.8節規定，天線之規格可不受下述規定之限制。

低功率射頻器材之發射機或收發信機所使用之天線，應為全固定、半固定式或以獨特之耦合(unique coupling)方式連接機體。製造者可設計供使用者因損壞而替換之天線，但不得設計或使用原認證以外之天線或可供引接各類電纜之標準天線插座或電氣連接頭，如：BNC、F type、N type、M type、UG type、RCA、SMA、SMB...等及其他各類工業或通訊標準接頭。

### 5.3.2 天線樣式

此其天線為 Dual-band Internal Monopole Antenna Type，(檢附天線規格書)

#### Antenna List

| No. | Brand | Part No. | Peak Gain |
|-----|-------|----------|-----------|
| 1   | SHURE | 53A43406 | 3.53dBi   |

## 5.4 輻射電場強度

### 5.4.1 量測方法

待測物置於非導體桌面（落地型產品置於地上），受測物使用交流電源時，將其與任何配件設備之電源線連接至位於旋轉桌的交流電源。受測物使用電池時，測試時應裝置新電池或充電完全的電池。受測物與配件設備之電源線無須束綁，桌面上受測設備的所有電源線由桌子的後緣垂下沿旋轉桌表面接至交流插座。落地型設備的交流電源線可以方便的型態走線。桌面可 360 度旋轉，接收天線置於距待測物 3m 距離，高度可在 1 至 4 公尺間變動，以量測待測物之最大輻射電場強度，接收天線並應於水平及垂直極化方向各量測一次。（待測物擺設方式根據 ANSI C63.10-2013 版本，待測物放置桌中心，1G 以下擺設高度為 80cm/1G 以上擺設高度為 150cm）

備註：若為手持式或穿戴式之裝置，需對其三個正交軸的方位評估測試，並記錄最差的數值（此待測物最差方位為 X 軸（側躺））。

- (1) 任一頻率小於或等於 1000 MHz 之訊號，使用 CISPR 準峰值檢波器
- (2) 任一頻率大於 1000 MHz 之訊號，使用平均值檢波器測量，當規定之發射限制值為平均值時（含 1000 MHz 以下），受測訊號藉由峰值檢波器（RBW:1MHz,VBW:3MHz）所測量之峰值，亦須符合峰值發射限制值，其峰值發射限制值為最大容許平均值加 20 dB。

### 5.4.2 限制要求

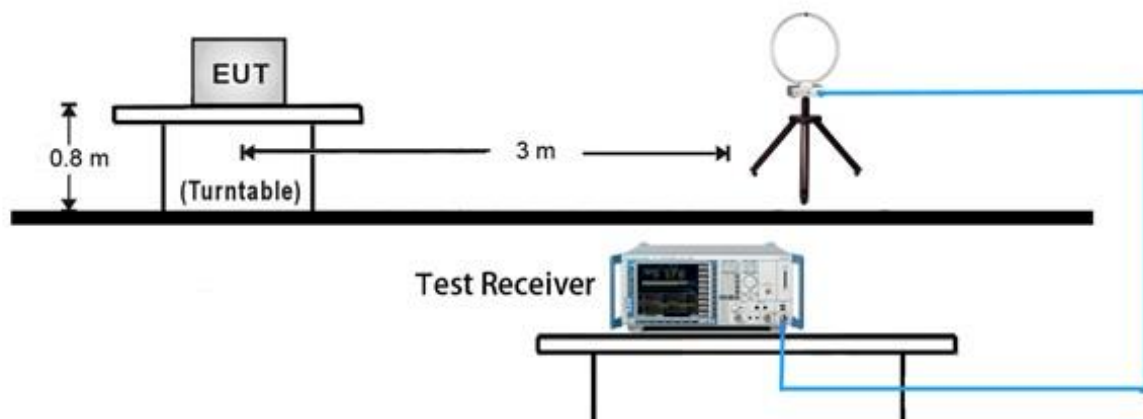
其電場強度不得超過下表之限值，且其不必要之發射皆不得大於主波發射強度。各頻段重疊處，以較嚴格之限制值為準。

| 頻率(f)<br>(MHz)            | 電場強度<br>(微伏特/公尺, $\mu\text{V/m}$ ) | 測距<br>(公尺) |
|---------------------------|------------------------------------|------------|
| $0.009 \leq f \leq 0.490$ | $2400/f(\text{kHz})$               | 300        |
| $0.490 < f \leq 1.705$    | $24000/f(\text{kHz})$              | 30         |
| $1.705 < f < 30$          | 30                                 | 30         |
| $30 \leq f \leq 88$       | 100                                | 3          |
| $88 < f \leq 216$         | 150                                | 3          |
| $216 < f \leq 960$        | 200                                | 3          |
| $960 < f$                 | 500                                | 3          |

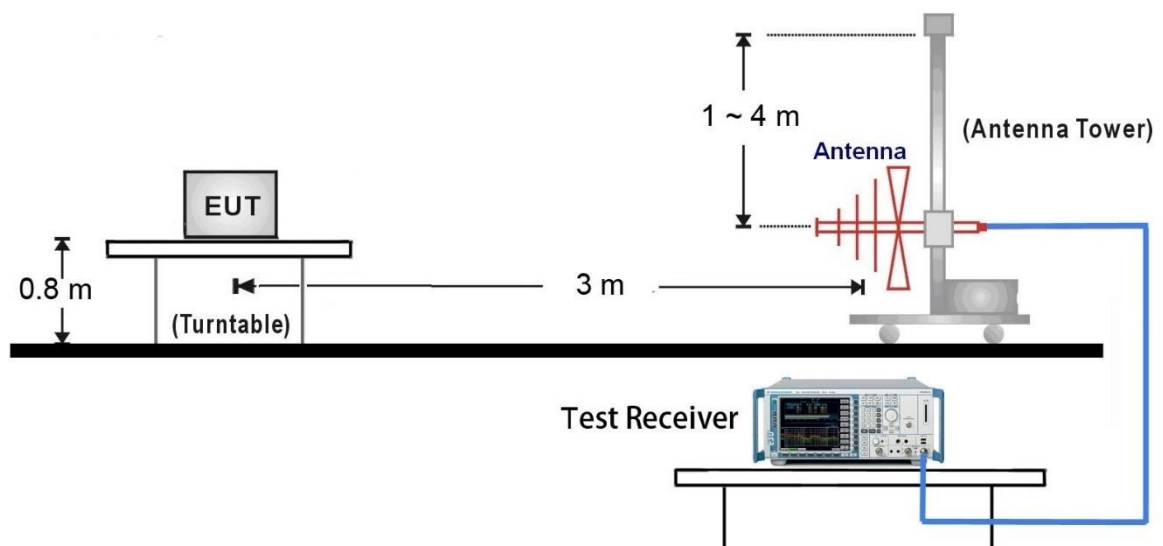
上表規定之電場強度，發射頻率在 9 kHz~90 kHz、110 kHz~490 kHz 及 1000MHz 以上者，其量測應以平均值檢波器為基準，且須符合低功率射頻器材技術規範第 6.14.節之規定；其他發射頻率，應以 CISPR 準峰值(quasi-peak) 檢波器測量；非以上表所指定之距離測量時，應符合第 6.5 節之規定，而輻射發射之量測頻率範圍須符合低功率射頻器材技術規範第 6.12 節之規定。

### 5.4.3 測試架構圖

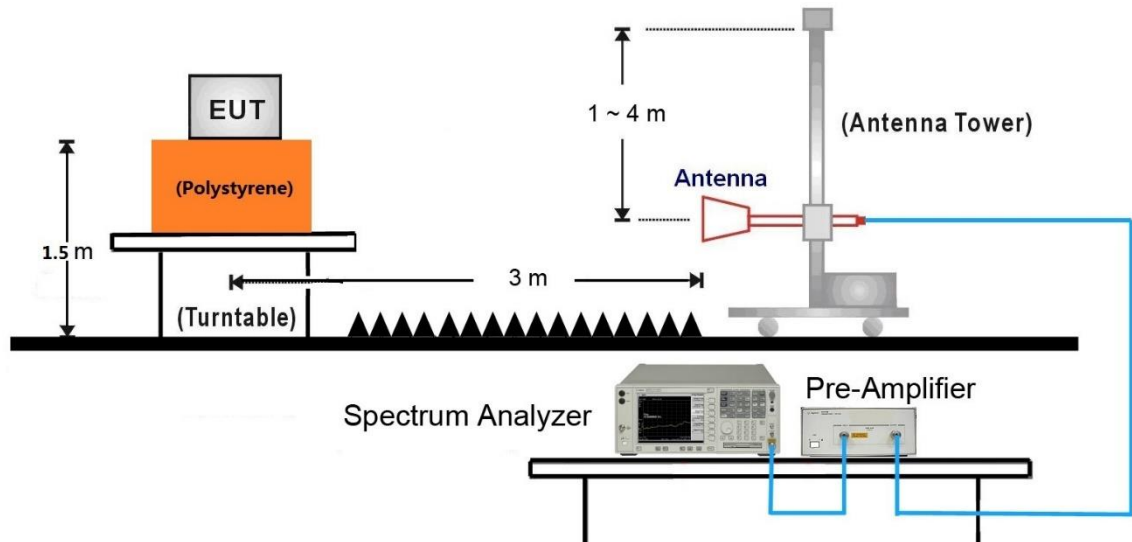
#### Under 30MHz Test



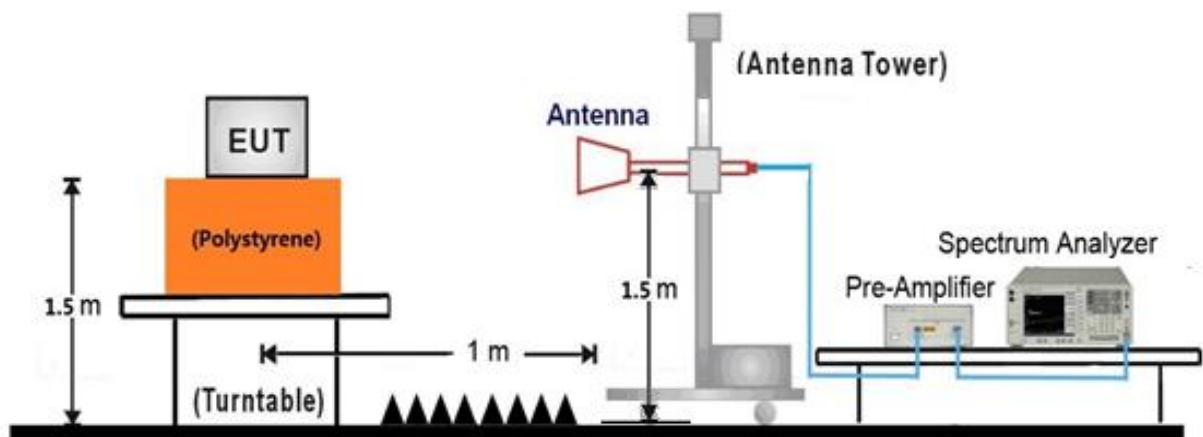
#### Under 1GHz Test Setup



### 1GHz ~ 18GHz Test Setup:

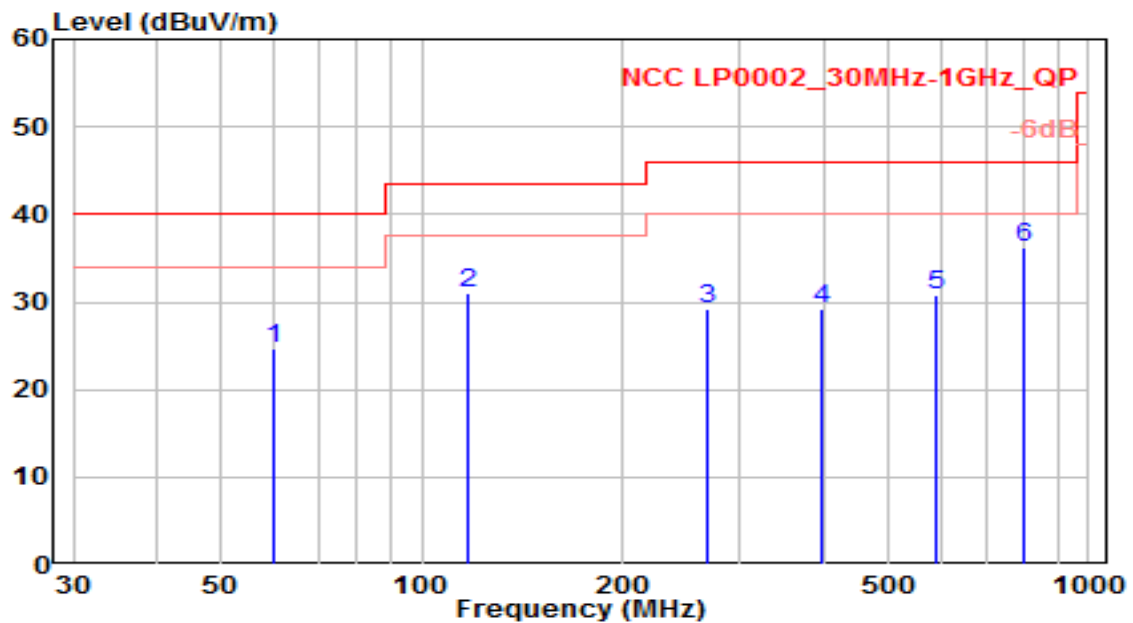


### 18GHz ~ 25GHz Test Setup:



#### 5.4.4 輻射電場強度測試結果

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-30     |
| Factor    | VULB 9162                     | Temp. / Humidity     | 24°C / 62%     |
| Polarity  | Horizontal                    | Site / Test Engineer | AC1 / Volvo    |
| Test Mode | TX_Full Band_5788MHz          | Test Voltage         | By Notebook PC |

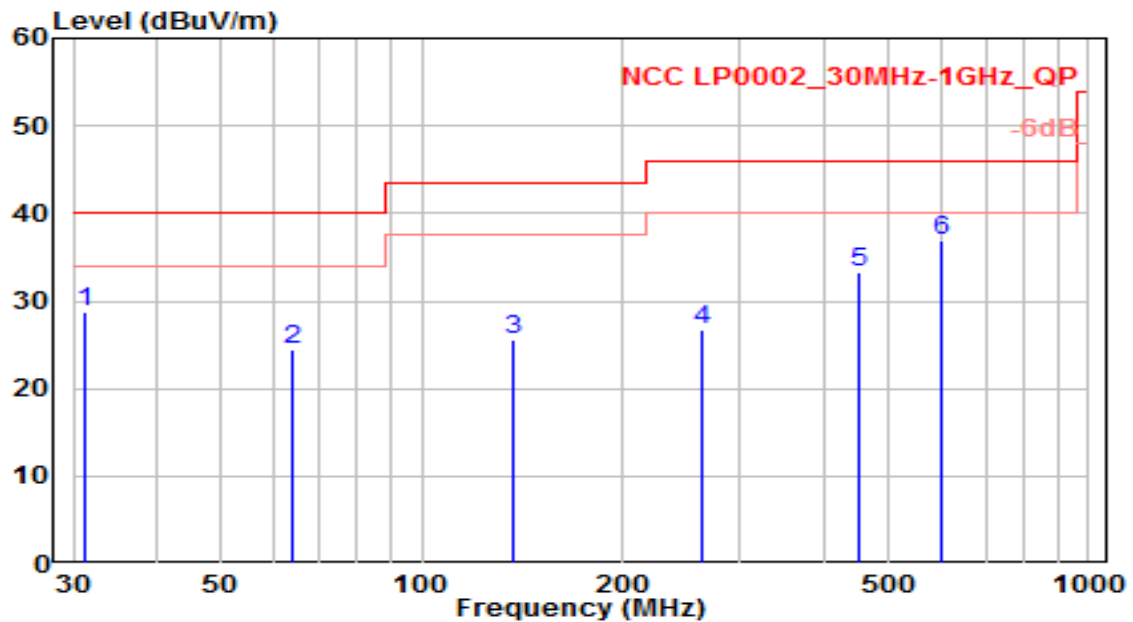


| No | Frequency (MHz) | Reading (dBuV) | C.F (dB/m) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | 60.215          | 4.62           | 20.14      | 24.76                | -15.24      | 40.00          | 100         | 155         | QP                |
| 2  | 117.218         | 13.43          | 17.65      | 31.08                | -12.42      | 43.50          | 100         | 90          | QP                |
| 3  | 267.326         | 8.60           | 20.67      | 29.27                | -16.73      | 46.00          | 100         | 35          | QP                |
| 4  | 398.561         | 5.23           | 24.04      | 29.26                | -16.74      | 46.00          | 100         | 260         | QP                |
| 5  | 592.225         | 3.16           | 27.65      | 30.80                | -15.20      | 46.00          | 100         | 310         | QP                |
| 6  | * 799.254       | 5.64           | 30.49      | 36.14                | -9.86       | 46.00          | 100         | 335         | QP                |

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-30     |
| Factor    | VULB 9162                     | Temp. / Humidity     | 24°C / 62%     |
| Polarity  | Vertical                      | Site / Test Engineer | AC1 / Volvo    |
| Test Mode | TX_Full Band_5788MHz          | Test Voltage         | By Notebook PC |

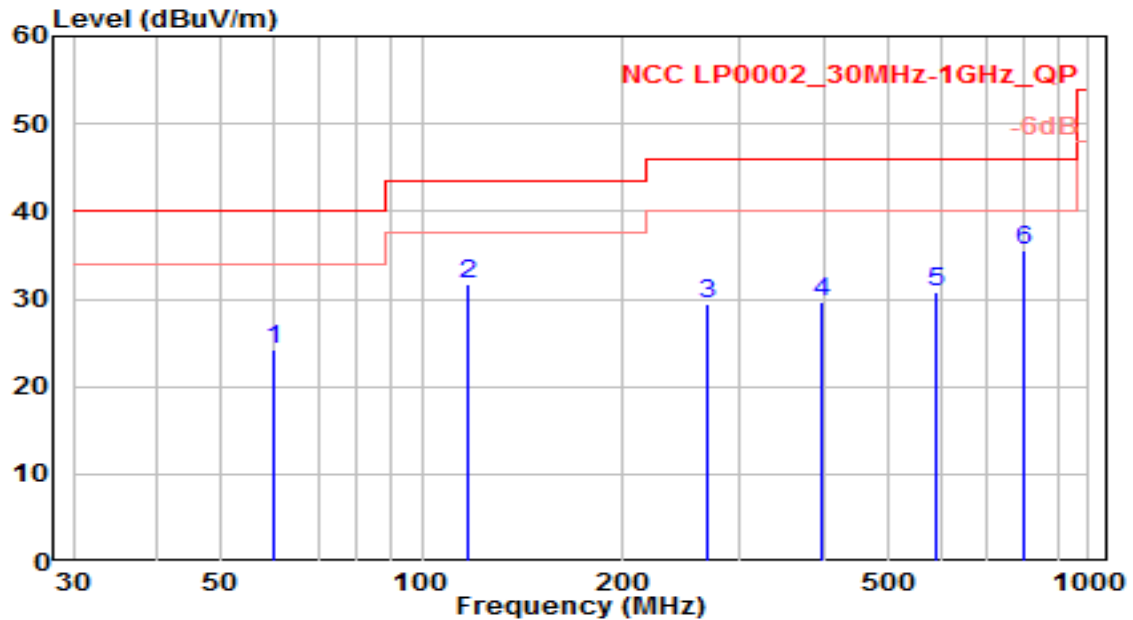


| No | Frequency (MHz) | Reading (dBUV) | C.F (dB/m) | Measurement (dBUV/m) | Margin (dB) | Limit (dBUV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | 31.266          | 10.23          | 18.63      | 28.86                | -11.14      | 40.00          | 100         | 175         | QP                |
| 2  | 64.216          | 5.59           | 18.84      | 24.44                | -15.56      | 40.00          | 100         | 330         | QP                |
| 3  | 137.289         | 9.56           | 16.10      | 25.66                | -17.84      | 43.50          | 100         | 225         | QP                |
| 4  | 263.364         | 6.21           | 20.62      | 26.83                | -19.17      | 46.00          | 100         | 20          | QP                |
| 5  | 453.316         | 8.22           | 24.98      | 33.19                | -12.81      | 46.00          | 100         | 165         | QP                |
| 6  | * 599.329       | 9.22           | 27.79      | 37.00                | -9.00       | 46.00          | 100         | 325         | QP                |

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBUV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-30     |
| Factor    | VULB 9162                     | Temp. / Humidity     | 24°C / 62%     |
| Polarity  | Horizontal                    | Site / Test Engineer | AC1 / Volvo    |
| Test Mode | RX_Full Band_5788MHz          | Test Voltage         | By Notebook PC |

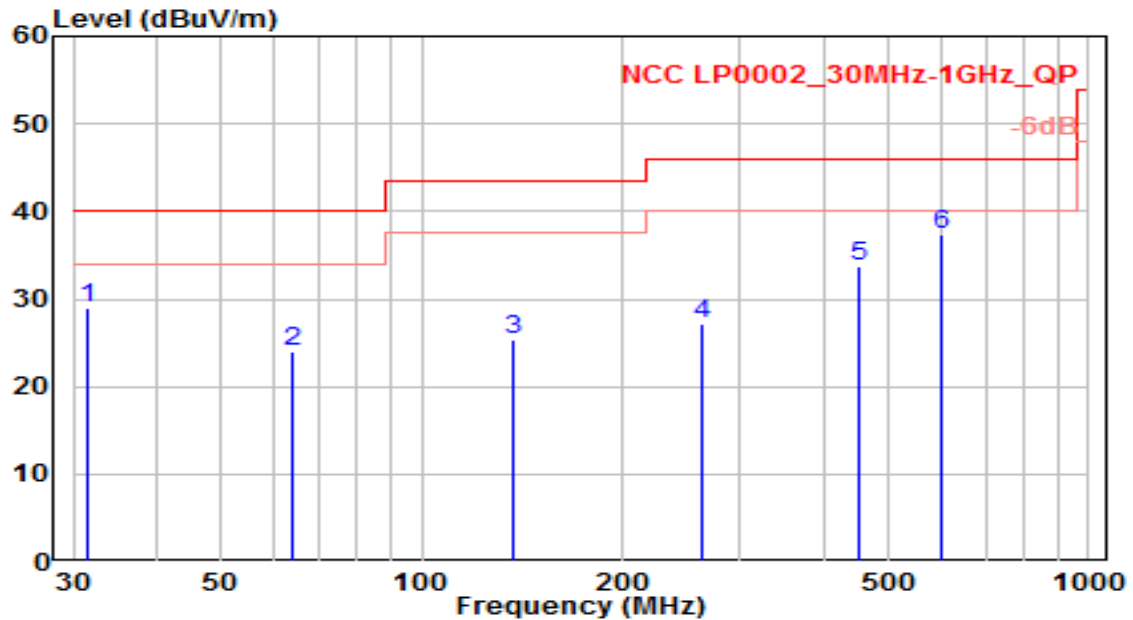


| No | Frequency (MHz) | Reading (dBuV) | C.F (dB/m) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | 60.155          | 4.15           | 20.16      | 24.31                | -15.69      | 40.00          | 100         | 160         | QP                |
| 2  | 117.288         | 13.99          | 17.64      | 31.63                | -11.87      | 43.50          | 100         | 85          | QP                |
| 3  | 267.650         | 8.66           | 20.67      | 29.33                | -16.67      | 46.00          | 100         | 30          | QP                |
| 4  | 398.156         | 5.62           | 24.03      | 29.65                | -16.35      | 46.00          | 100         | 255         | QP                |
| 5  | 592.512         | 3.15           | 27.65      | 30.80                | -15.20      | 46.00          | 100         | 320         | QP                |
| 6  | * 799.652       | 5.15           | 30.50      | 35.65                | -10.35      | 46.00          | 100         | 330         | QP                |

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-30     |
| Factor    | VULB 9162                     | Temp. / Humidity     | 24°C /62%      |
| Polarity  | Vertical                      | Site / Test Engineer | AC1 / Volvo    |
| Test Mode | RX_Full Band_5788MHz          | Test Voltage         | By Notebook PC |

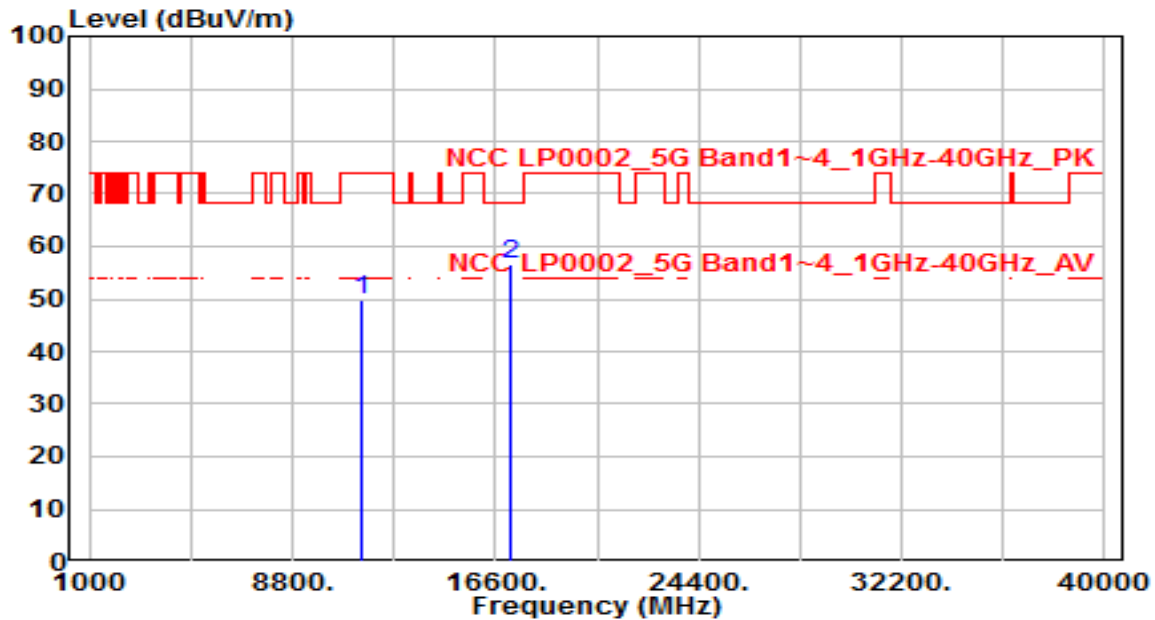


| No | Frequency (MHz) | Reading (dBUV) | C.F (dB/m) | Measurement (dBUV/m) | Margin (dB) | Limit (dBUV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | 31.545          | 10.22          | 18.68      | 28.91                | -11.09      | 40.00          | 100         | 180         | QP                |
| 2  | 64.215          | 5.18           | 18.84      | 24.03                | -15.97      | 40.00          | 100         | 325         | QP                |
| 3  | 137.216         | 9.32           | 16.10      | 25.42                | -18.08      | 43.50          | 100         | 235         | QP                |
| 4  | 263.151         | 6.48           | 20.61      | 27.09                | -18.91      | 46.00          | 100         | 30          | QP                |
| 5  | 453.214         | 8.66           | 24.98      | 33.64                | -12.36      | 46.00          | 100         | 155         | QP                |
| 6  | * 599.222       | 9.63           | 27.78      | 37.41                | -8.59       | 46.00          | 100         | 40          | QP                |

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBUV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-29     |
| Factor    | BBHA 9120D & BBHA 9170        | Temp. / Humidity     | 24°C /58%      |
| Polarity  | Horizontal                    | Site / Test Engineer | AC1 / Kaunaz   |
| Test Mode | TX_Full Band_5729MHz          | Test Voltage         | By Notebook PC |

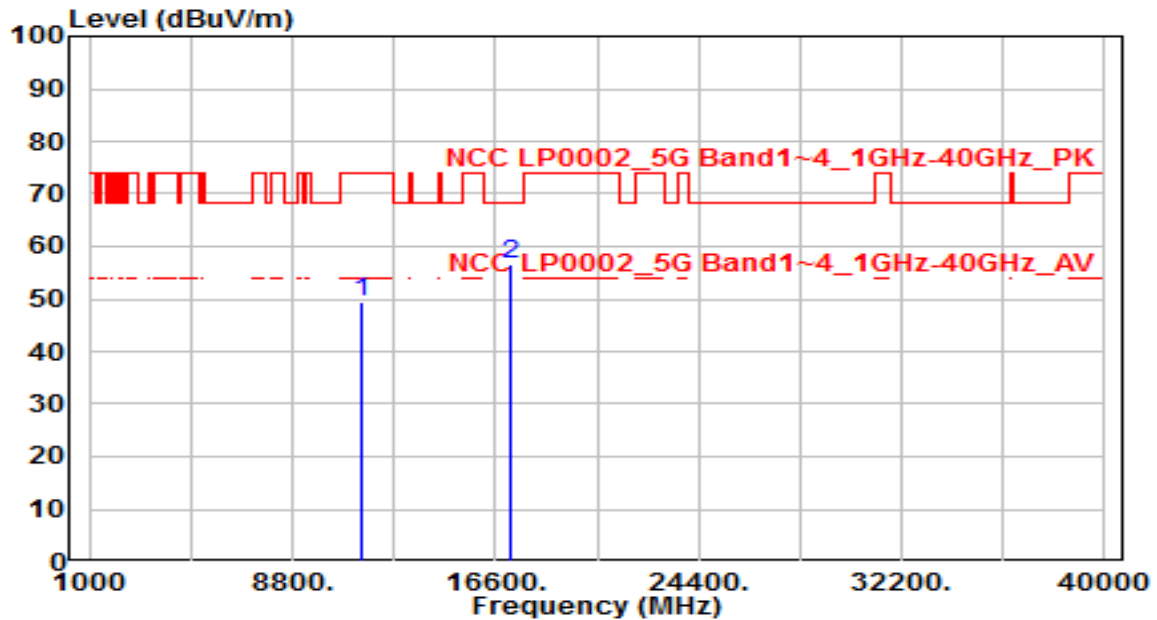


| No | Frequency (MHz) | Reading (dBuV) | C.F (dB/m) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | 11458.000       | 29.67          | 19.99      | 49.65                | -24.35      | 74.00          | 150         | 360         | Peak              |
| 2  | * 17187.000     | 30.67          | 25.76      | 56.43                | -11.77      | 68.20          | 150         | 360         | Peak              |

Note:

- "\*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- No2 is not in restricted band, the limit is 68.2dBuV/m.
- The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-29     |
| Factor    | BBHA 9120D & BBHA 9170        | Temp. / Humidity     | 24°C / 58%     |
| Polarity  | Vertical                      | Site / Test Engineer | AC1 / Kaunaz   |
| Test Mode | TX_Full Band_5729MHz          | Test Voltage         | By Notebook PC |

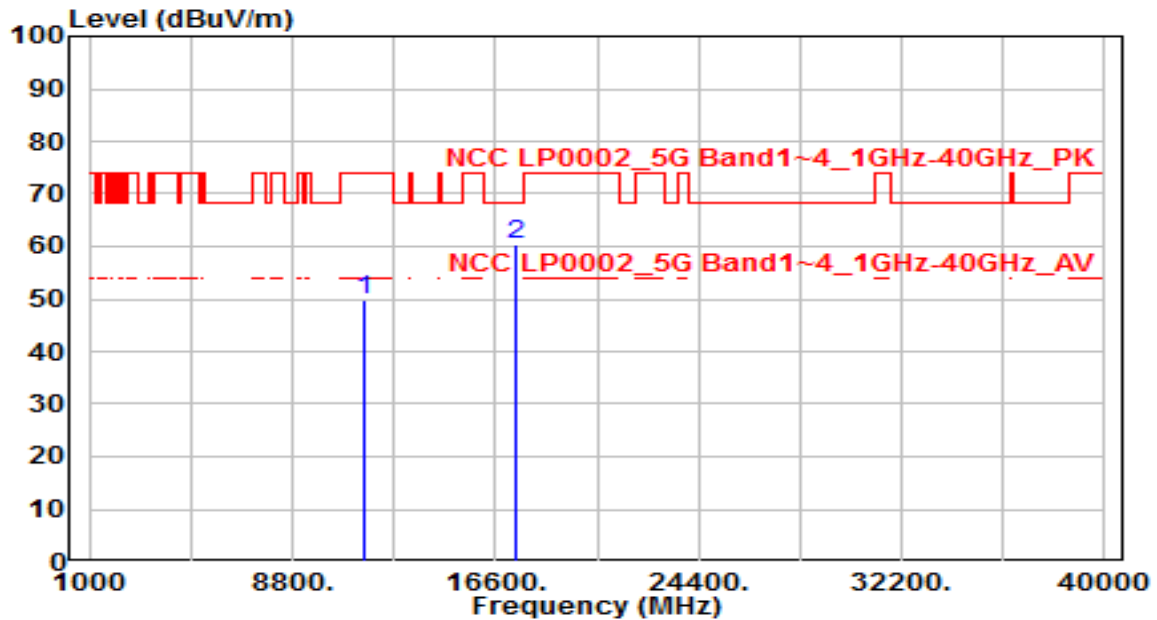


| No | Frequency (MHz) | Reading (dBuV) | C.F (dB/m) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | 11458.000       | 29.51          | 19.99      | 49.49                | -24.51      | 74.00          | 150         | 360         | Peak              |
| 2  | * 17187.000     | 30.74          | 25.76      | 56.50                | -11.70      | 68.20          | 150         | 360         | Peak              |

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. No2 is not in restricted band, the limit is 68.2dBuV/m.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-29     |
| Factor    | BBHA 9120D & BBHA 9170        | Temp. / Humidity     | 24°C /58%      |
| Polarity  | Horizontal                    | Site / Test Engineer | AC1 / Kaunaz   |
| Test Mode | TX_Full Band_5788MHz          | Test Voltage         | By Notebook PC |

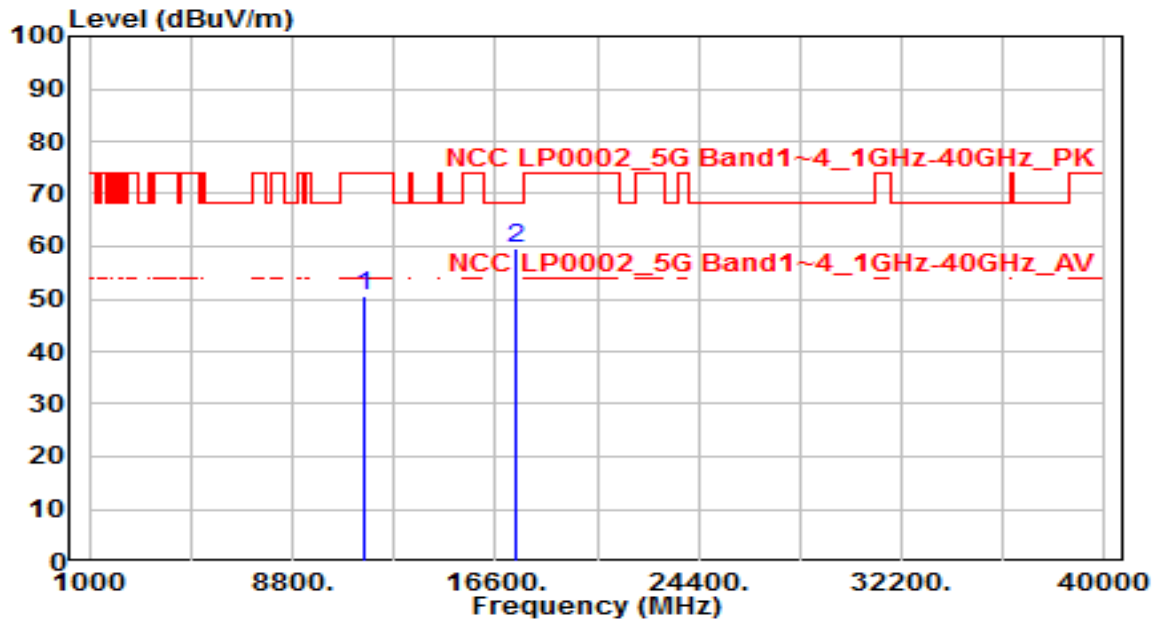


| No | Frequency (MHz) | Reading (dBuV) | C.F (dB/m) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | 11576.000       | 29.93          | 19.88      | 49.81                | -24.19      | 74.00          | 150         | 360         | Peak              |
| 2  | * 17364.000     | 33.61          | 26.93      | 60.54                | -7.66       | 68.20          | 150         | 360         | Peak              |

Note:

- "\*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- No2 is not in restricted band, the limit is 68.2dBuV/m.
- The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-29     |
| Factor    | BBHA 9120D & BBHA 9170        | Temp. / Humidity     | 24°C / 58%     |
| Polarity  | Vertical                      | Site / Test Engineer | AC1 / Kaunaz   |
| Test Mode | TX_Full Band_5788MHz          | Test Voltage         | By Notebook PC |

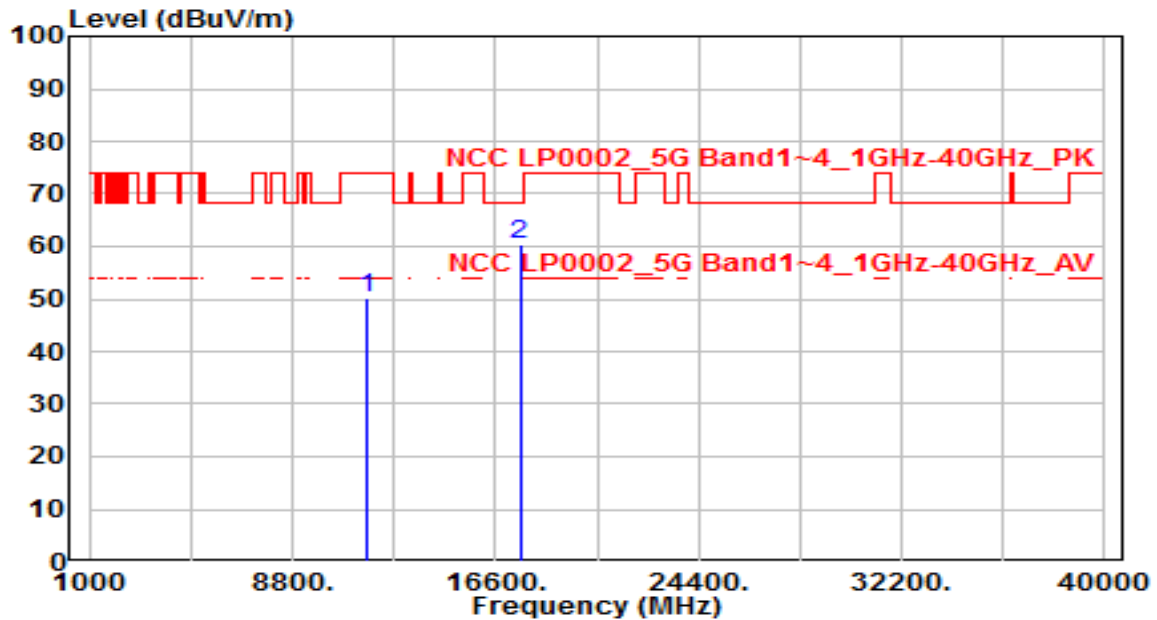


| No | Frequency (MHz) | Reading (dBuV) | C.F (dB/m) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | 11576.000       | 30.59          | 19.88      | 50.47                | -23.53      | 74.00          | 150         | 360         | Peak              |
| 2  | * 17364.000     | 32.64          | 26.93      | 59.58                | -8.62       | 68.20          | 150         | 360         | Peak              |

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. No2 is not in restricted band, the limit is 68.2dBuV/m.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-29     |
| Factor    | BBHA 9120D & BBHA 9170        | Temp. / Humidity     | 24°C / 58%     |
| Polarity  | Horizontal                    | Site / Test Engineer | AC1 / Kaunaz   |
| Test Mode | TX_Full Band_5846MHz          | Test Voltage         | By Notebook PC |

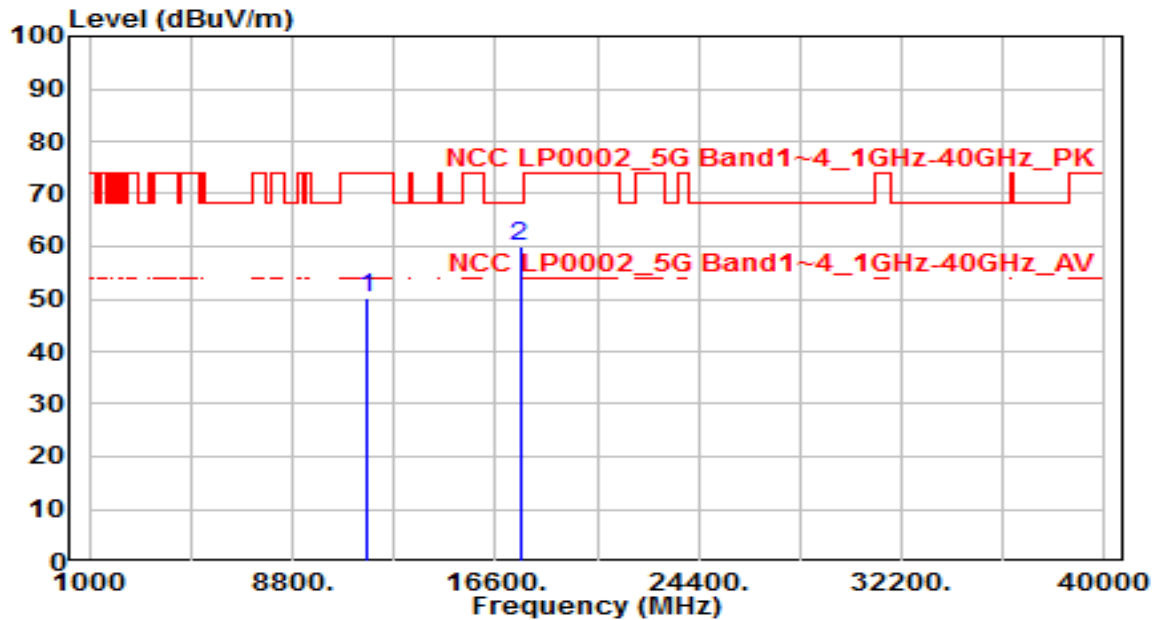


| No | Frequency (MHz) | Reading (dBuV) | C.F (dB/m) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | 11692.000       | 30.39          | 19.62      | 50.01                | -23.99      | 74.00          | 150         | 360         | Peak              |
| 2  | * 17538.000     | 32.26          | 28.20      | 60.46                | -7.74       | 68.20          | 150         | 360         | Peak              |

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. No2 is not in restricted band, the limit is 68.2dBuV/m.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-29     |
| Factor    | BBHA 9120D & BBHA 9170        | Temp. / Humidity     | 24°C / 58%     |
| Polarity  | Vertical                      | Site / Test Engineer | AC1 / Kaunaz   |
| Test Mode | TX_Full Band_5846MHz          | Test Voltage         | By Notebook PC |

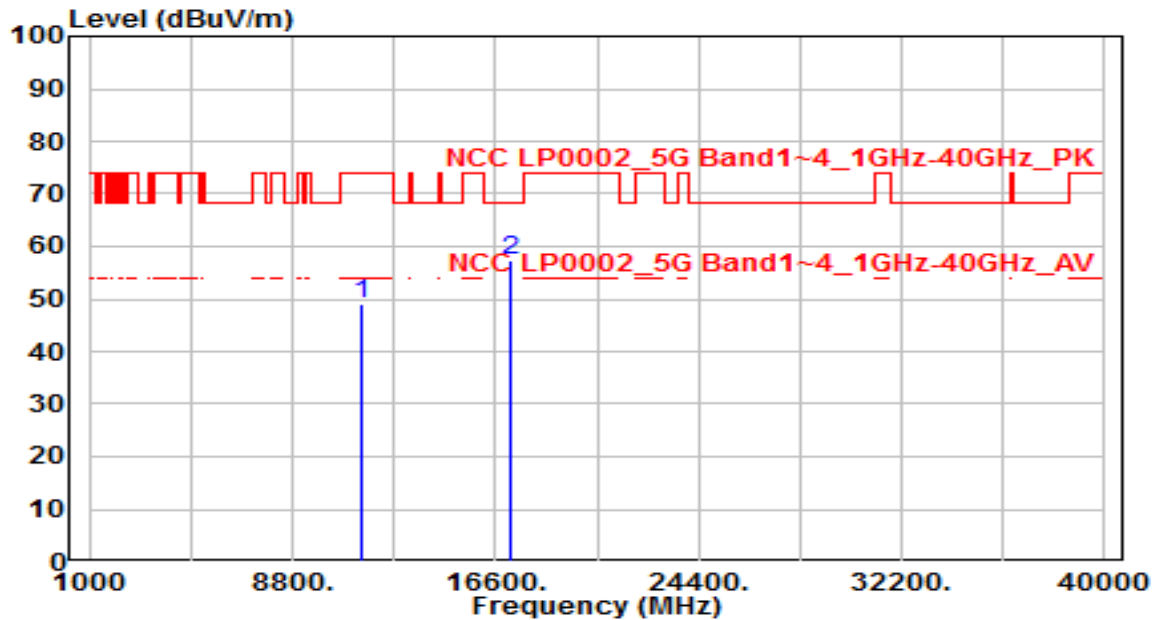


| No | Frequency (MHz) | Reading (dBuV) | C.F (dB/m) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | 11692.000       | 30.66          | 19.62      | 50.27                | -23.73      | 74.00          | 150         | 360         | Peak              |
| 2  | * 17538.000     | 31.96          | 28.20      | 60.16                | -8.04       | 68.20          | 150         | 360         | Peak              |

Note:

- "\*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- No2 is not in restricted band, the limit is 68.2dBuV/m.
- The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-29     |
| Factor    | BBHA 9120D & BBHA 9170        | Temp. / Humidity     | 24°C / 58%     |
| Polarity  | Horizontal                    | Site / Test Engineer | AC1 / Kaunaz   |
| Test Mode | TX_Half Band_5729MHz          | Test Voltage         | By Notebook PC |

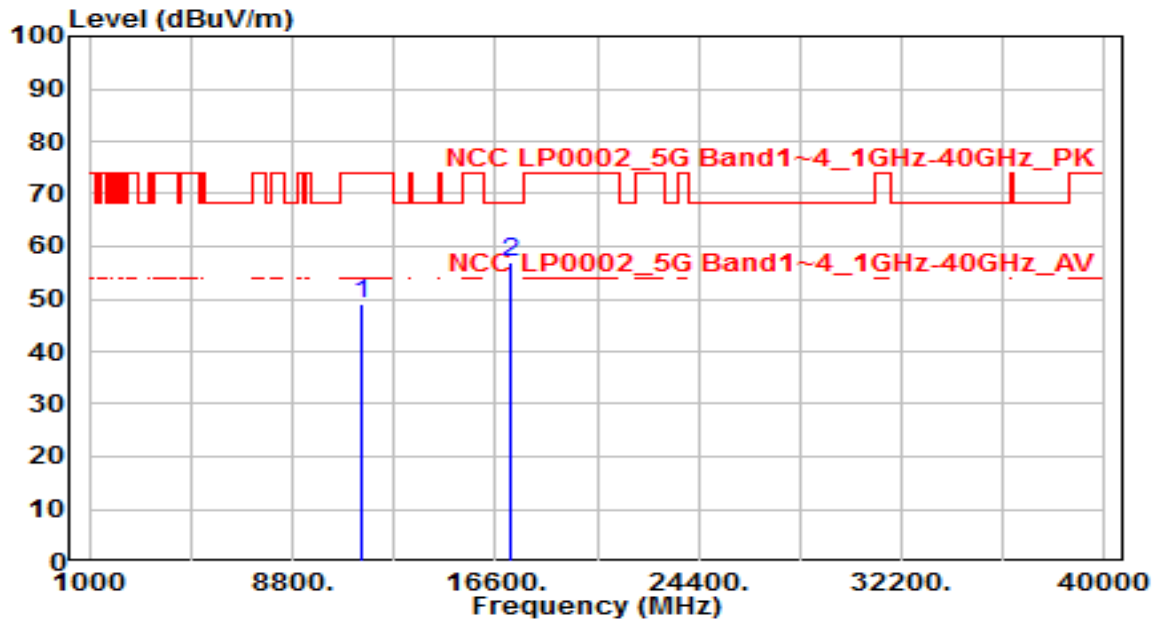


| No | Frequency (MHz) | Reading (dBuV) | C.F (dB/m) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | 11458.000       | 29.13          | 19.99      | 49.11                | -24.89      | 74.00          | 150         | 360         | Peak              |
| 2  | * 17187.000     | 31.56          | 25.76      | 57.32                | -10.88      | 68.20          | 150         | 360         | Peak              |

Note:

- "\*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- No2 is not in restricted band, the limit is 68.2dBuV/m.
- The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-29     |
| Factor    | BBHA 9120D & BBHA 9170        | Temp. / Humidity     | 24°C / 58%     |
| Polarity  | Vertical                      | Site / Test Engineer | AC1 / Kaunaz   |
| Test Mode | TX_Half Band_5729MHz          | Test Voltage         | By Notebook PC |

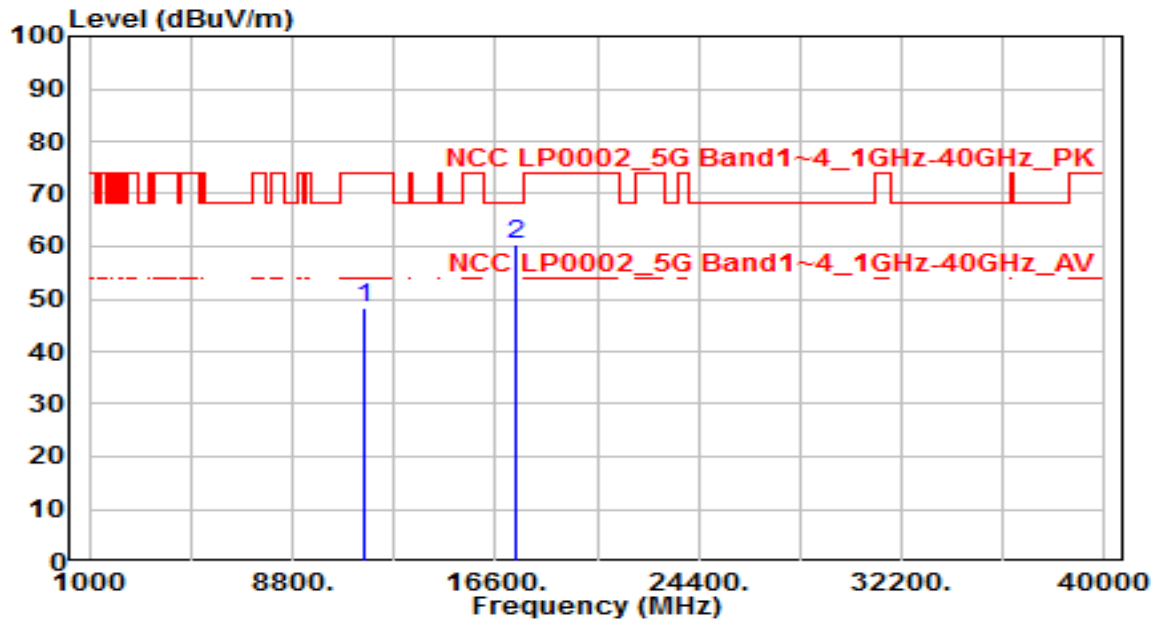


| No | Frequency (MHz) | Reading (dBuV) | C.F (dB/m) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | 11458.000       | 28.98          | 19.99      | 48.96                | -25.04      | 74.00          | 150         | 360         | Peak              |
| 2  | * 17187.000     | 31.12          | 25.76      | 56.88                | -11.32      | 68.20          | 150         | 360         | Peak              |

Note:

- "\*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- No2 is not in restricted band, the limit is 68.2dBuV/m.
- The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-29     |
| Factor    | BBHA 9120D & BBHA 9170        | Temp. / Humidity     | 24°C / 58%     |
| Polarity  | Horizontal                    | Site / Test Engineer | AC1 / Kaunaz   |
| Test Mode | TX_Half Band_5788MHz          | Test Voltage         | By Notebook PC |

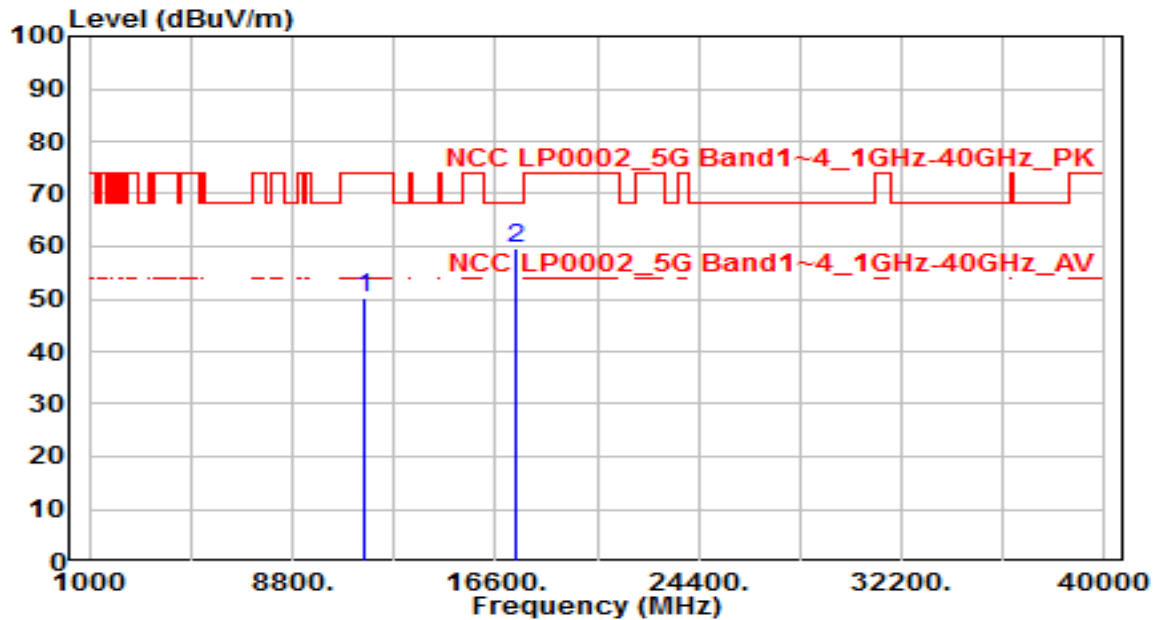


| No | Frequency (MHz) | Reading (dBuV) | C.F (dB/m) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | 11576.000       | 28.57          | 19.88      | 48.45                | -25.55      | 74.00          | 150         | 360         | Peak              |
| 2  | * 17364.000     | 33.31          | 26.93      | 60.25                | -7.95       | 68.20          | 150         | 360         | Peak              |

Note:

- "\*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- No2 is not in restricted band, the limit is 68.2dBuV/m.
- The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-29     |
| Factor    | BBHA 9120D & BBHA 9170        | Temp. / Humidity     | 24°C / 58%     |
| Polarity  | Vertical                      | Site / Test Engineer | AC1 / Kaunaz   |
| Test Mode | TX_Half Band_5788MHz          | Test Voltage         | By Notebook PC |

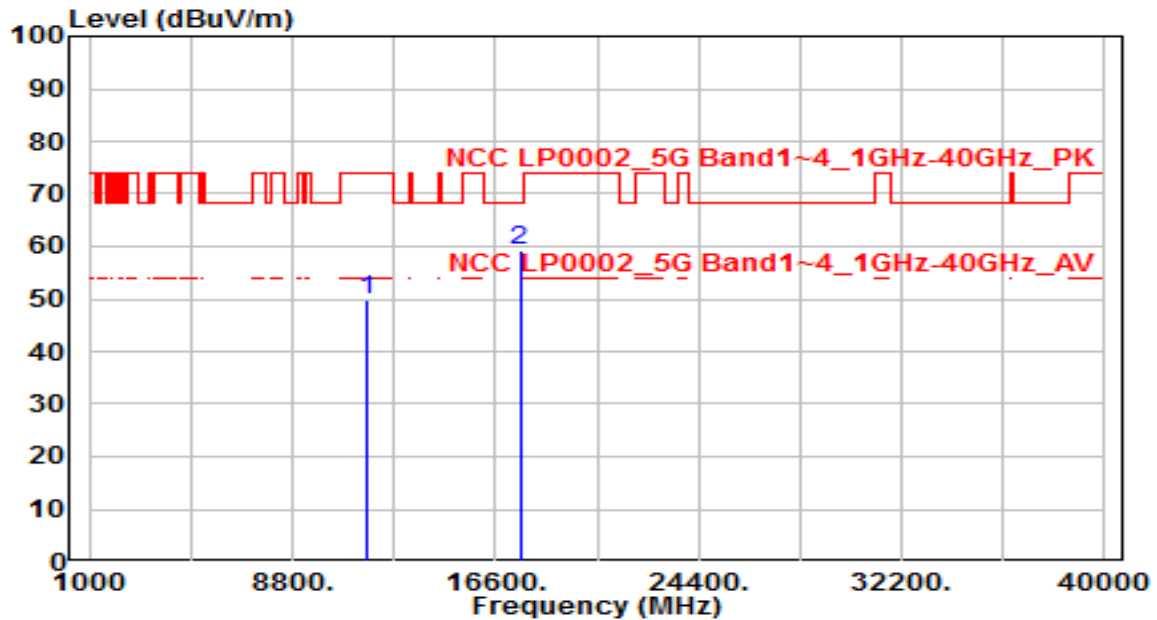


| No | Frequency (MHz) | Reading (dBuV) | C.F (dB/m) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | 11576.000       | 30.18          | 19.88      | 50.06                | -23.94      | 74.00          | 150         | 360         | Peak              |
| 2  | * 17364.000     | 32.63          | 26.93      | 59.57                | -8.63       | 68.20          | 150         | 360         | Peak              |

Note:

- "\*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- No2 is not in restricted band, the limit is 68.2dBuV/m.
- The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-29     |
| Factor    | BBHA 9120D & BBHA 9170        | Temp. / Humidity     | 24°C / 58%     |
| Polarity  | Horizontal                    | Site / Test Engineer | AC1 / Kaunaz   |
| Test Mode | TX_Half Band_5846MHz          | Test Voltage         | By Notebook PC |

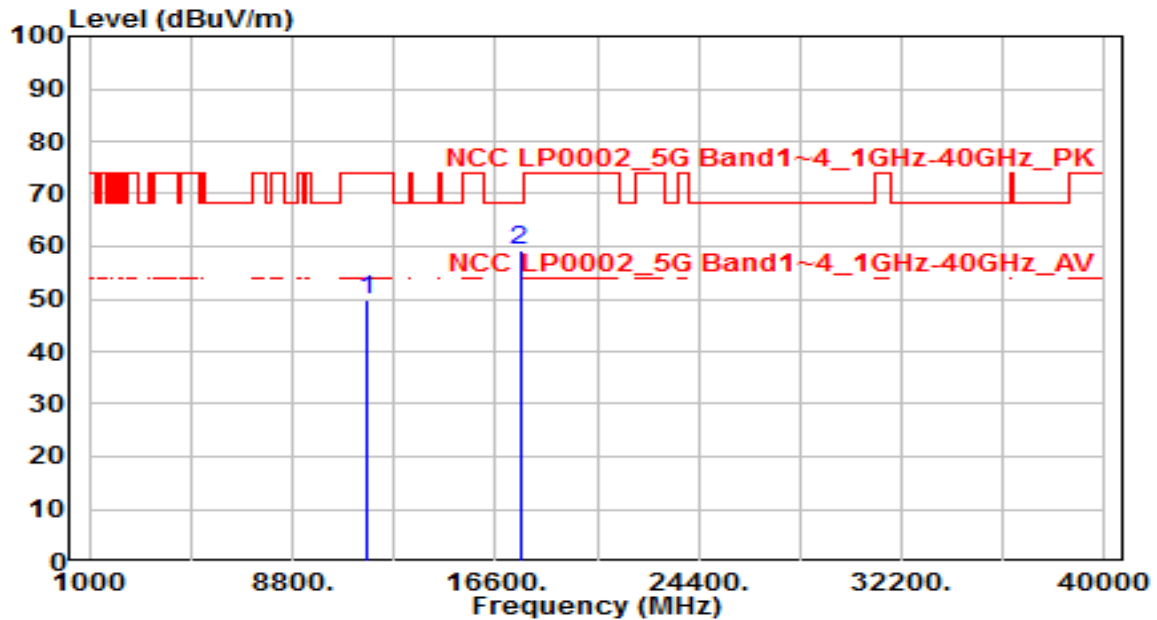


| No | Frequency (MHz) | Reading (dBuV) | C.F (dB/m) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | 11692.000       | 30.09          | 19.62      | 49.70                | -24.30      | 74.00          | 150         | 360         | Peak              |
| 2  | * 17538.000     | 31.09          | 28.20      | 59.29                | -8.91       | 68.20          | 150         | 360         | Peak              |

Note:

- "\*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- No2 is not in restricted band, the limit is 68.2dBuV/m.
- The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-29     |
| Factor    | BBHA 9120D & BBHA 9170        | Temp. / Humidity     | 24°C / 58%     |
| Polarity  | Vertical                      | Site / Test Engineer | AC1 / Kaunaz   |
| Test Mode | TX_Half Band_5846MHz          | Test Voltage         | By Notebook PC |

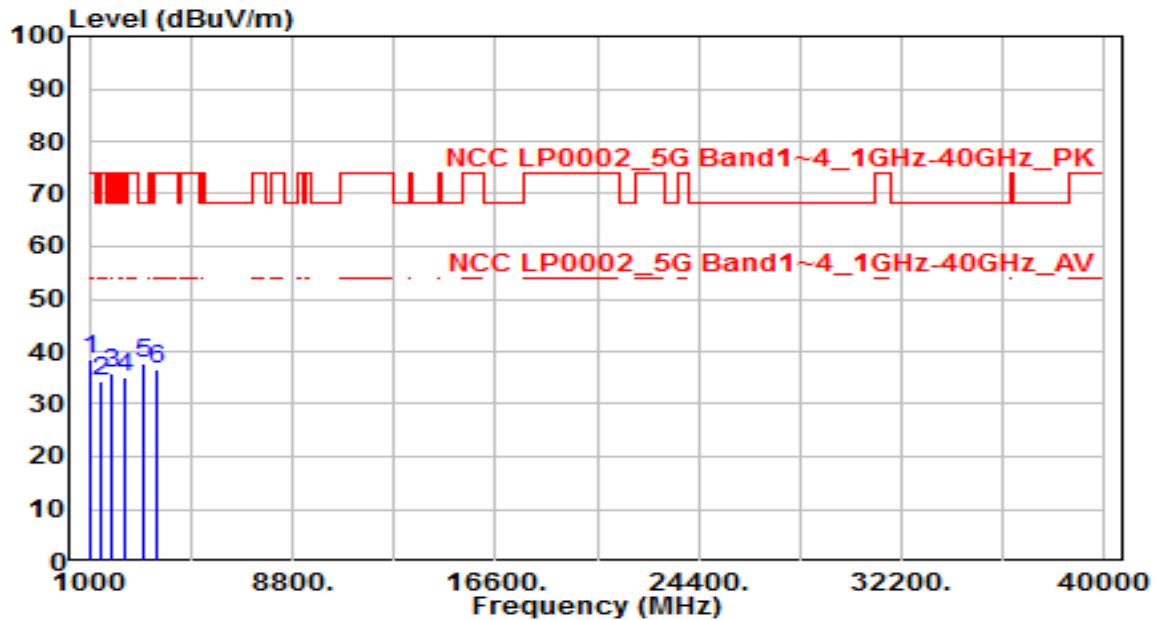


| No | Frequency (MHz) | Reading (dBuV) | C.F (dB/m) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | 11692.000       | 30.12          | 19.62      | 49.73                | -24.27      | 74.00          | 150         | 360         | Peak              |
| 2  | * 17538.000     | 31.03          | 28.20      | 59.23                | -8.97       | 68.20          | 150         | 360         | Peak              |

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. No2 is not in restricted band, the limit is 68.2dBuV/m.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-29     |
| Factor    | BBHA 9120D & BBHA 9170        | Temp. / Humidity     | 24°C /58%      |
| Polarity  | Horizontal                    | Site / Test Engineer | AC1 / Kaunaz   |
| Test Mode | RX_Full Band_5788MHz          | Test Voltage         | By Notebook PC |

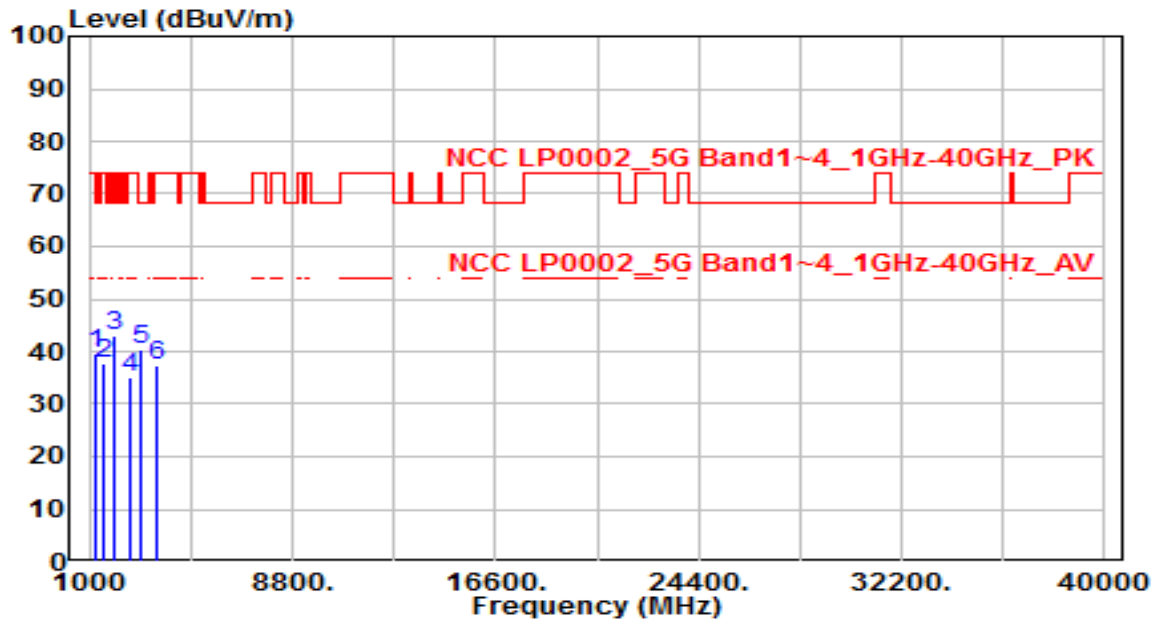


| No | Frequency (MHz) | Reading (dBuV) | C.F (dB/m) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | 1064.524        | 44.87          | -6.42      | 38.45                | -35.55      | 74.00          | 150         | 360         | Peak              |
| 2  | 1423.856        | 39.46          | -5.11      | 34.35                | -39.65      | 74.00          | 150         | 360         | Peak              |
| 3  | 1903.748        | 39.78          | -3.77      | 36.01                | -32.19      | 68.20          | 150         | 360         | Peak              |
| 4  | 2374.852        | 37.08          | -2.10      | 34.99                | -39.01      | 74.00          | 150         | 360         | Peak              |
| 5  | * 3101.936      | 39.28          | -1.45      | 37.83                | -30.37      | 68.20          | 150         | 360         | Peak              |
| 6  | 3623.148        | 36.74          | 0.03       | 36.77                | -37.23      | 74.00          | 150         | 360         | Peak              |

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-29     |
| Factor    | BBHA 9120D & BBHA 9170        | Temp. / Humidity     | 24°C /58%      |
| Polarity  | Vertical                      | Site / Test Engineer | AC1 / Kaunaz   |
| Test Mode | RX_Full Band_5788MHz          | Test Voltage         | By Notebook PC |



| No | Frequency (MHz) | Reading (dBuV) | C.F (dB/m) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | 1196.857        | 45.65          | -5.93      | 39.72                | -34.28      | 74.00          | 150         | 360         | Peak              |
| 2  | 1543.963        | 42.62          | -4.71      | 37.91                | -36.09      | 74.00          | 150         | 360         | Peak              |
| 3  | * 1991.874      | 46.49          | -3.54      | 42.95                | -25.25      | 68.20          | 150         | 360         | Peak              |
| 4  | 2584.263        | 36.63          | -1.64      | 35.00                | -39.00      | 74.00          | 150         | 360         | Peak              |
| 5  | 2996.915        | 42.01          | -1.73      | 40.28                | -27.92      | 68.20          | 150         | 360         | Peak              |
| 6  | 3588.206        | 37.39          | -0.07      | 37.32                | -36.68      | 74.00          | 150         | 360         | Peak              |

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

## 5.5 頻帶邊緣

### 5.5.1 量測方法

待測物置於非導體桌面（落地型產品置於地上），受測物使用交流電源時，將其與任何配件設備之電源線連接至位於旋轉桌的交流電源。受測物使用電池時，測試時應裝置新電池或充電完全的電池。受測物與配件設備之電源線無須束綁，桌面上受測設備的所有電源線由桌子的後緣垂下沿旋轉桌表面接至交流插座。落地型設備的交流電源線可以方便的型態走線。桌面可360度旋轉，接收天線置於距待測物3m距離，高度可在1至4公尺間變動，以量測待測物之最大輻射電場強，接收天線並應於水平及垂直極化方向各量測一次。（待測物擺設方式根據 ANSI C63.10-2013版，待測物放置桌中心，1G以下擺設高度為80cm/1G以上擺設高度為150cm）

備註：若為手持式或穿戴式之裝置，需對其三個正交軸的方位評估測試，並記錄最差的數值（此待測物最差方位為 X 軸（側躺））。

- (1) 任一頻率小於或等於1000 MHz 之訊號,使用CISPR準峰值檢波器
- (2) 任一頻率大於1000 MHz 之訊號，使用平均值檢波器測量，當規定之發射限制值為平均值時(含1000 MHz 以下)，受測訊號藉由峰值檢波器(RBW:1MHz,VBW:3MHz)所測量之峰值，亦須符合峰值發射限制值，其峰值發射限制值為最大容許平均值加20 dB。

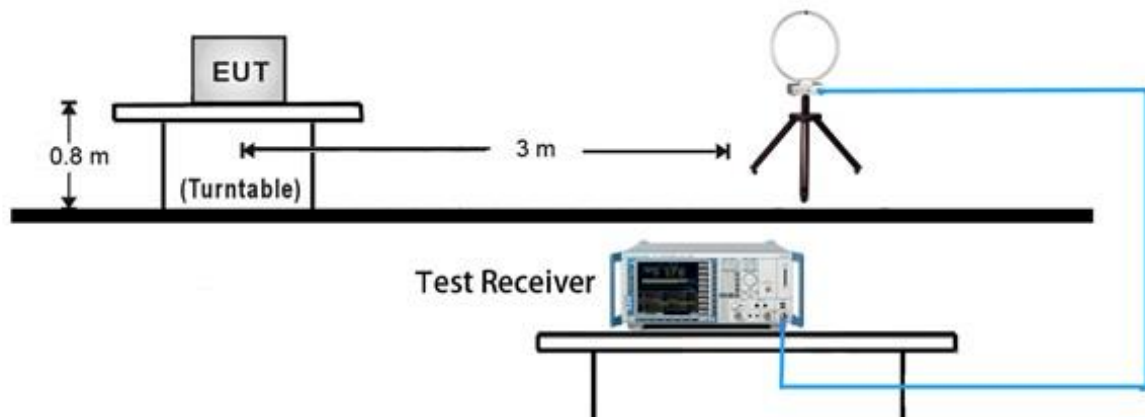
### 5.5.2 限制要求

除低功率射頻器材技術規範另有規定外，任何低功率射頻器材之主波皆不得使用下表所列各頻段之頻率低功率射頻器材落於下表所列頻帶內之混附發射，其電場強度必須符合低功率射頻器材技術規範之第3.6節限制規定

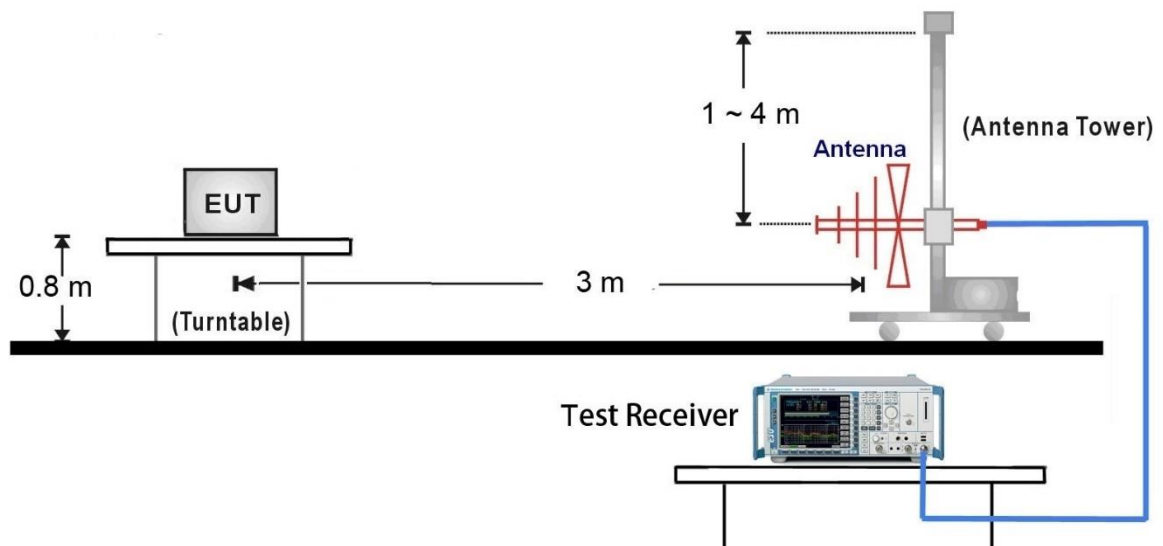
| 頻 率 ( MHz )   | 頻 率 ( MHz )   | 頻 率 ( MHz )   | 頻 率 ( MHz )   | 頻 率 ( MHz ) |
|---------------|---------------|---------------|---------------|-------------|
| 0.090~0.110   | 25.500~25.700 | 703.00~748.00 | 2310.0~2390.0 | 13250~13400 |
| 0.490~0.510   | 37.475~38.275 | 758.00~803.00 | 2483.5~2900.0 | 14470~14500 |
| 2.172~2.198   | 73.500~75.400 | 825.00~915.00 | 3260.0~3267.0 | 15350~16200 |
| 3.013~3.033   | 108.00~138.00 | 930.00~1240.0 | 3332.0~3339.0 | 17700~21400 |
| 4.115~4.198   | 149.90~150.05 | 1300.0~1427.0 | 3345.8~3358.0 | 22010~23120 |
| 5.670~5.690   | 156.70~156.90 | 1435.0~1626.5 | 3500.0~4400.0 | 23600~24000 |
| 6.200~6.300   | 162.01~167.17 | 1660.0~1785.0 | 4500.0~5250.0 | 31200~31800 |
| 8.230~8.400   | 167.72~173.20 | 1805.0~1880.0 | 5350.0~5460.0 | 36430~36500 |
| 12.265~12.600 | 240.00~285.00 | 1885.0~1900.0 | 7250.0~7750.0 | 38600 以上    |
| 13.340~13.430 | 322.00~335.40 | 1905.0~1985.0 | 8025.0~8500.0 |             |
| 14.965~15.020 | 399.90~410.00 | 2010.0~2025.0 | 9000.0~9200.0 |             |
| 16.700~16.755 | 485.00~510.00 | 2110.0~2170.0 | 9300.0~9500.0 |             |
| 19.965~20.020 | 608.00~614.00 | 2200.0~2300.0 | 10600~12700   |             |

### 5.5.3 測試架構圖

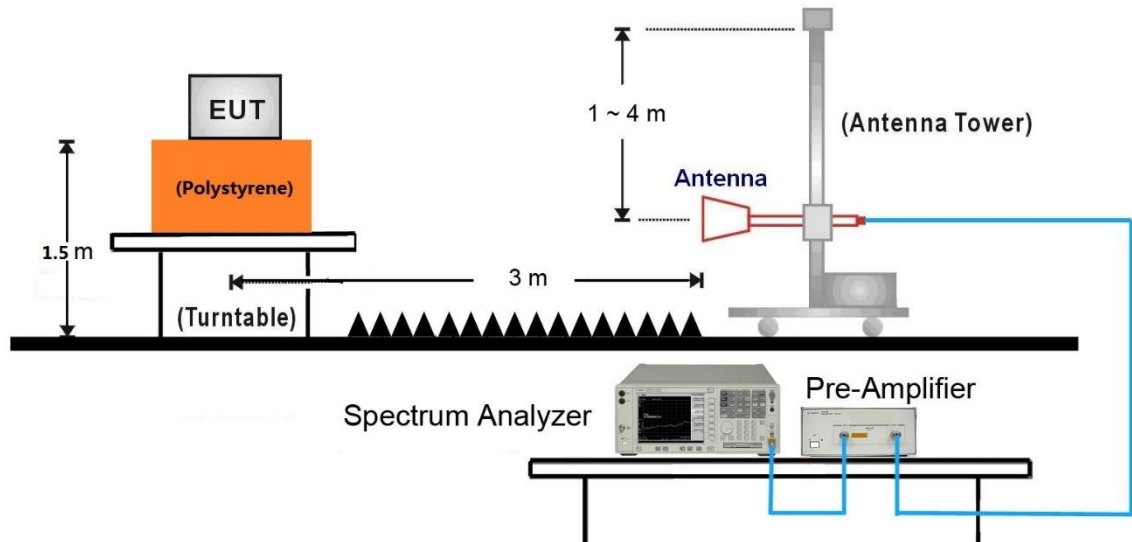
#### Under 30MHz Test



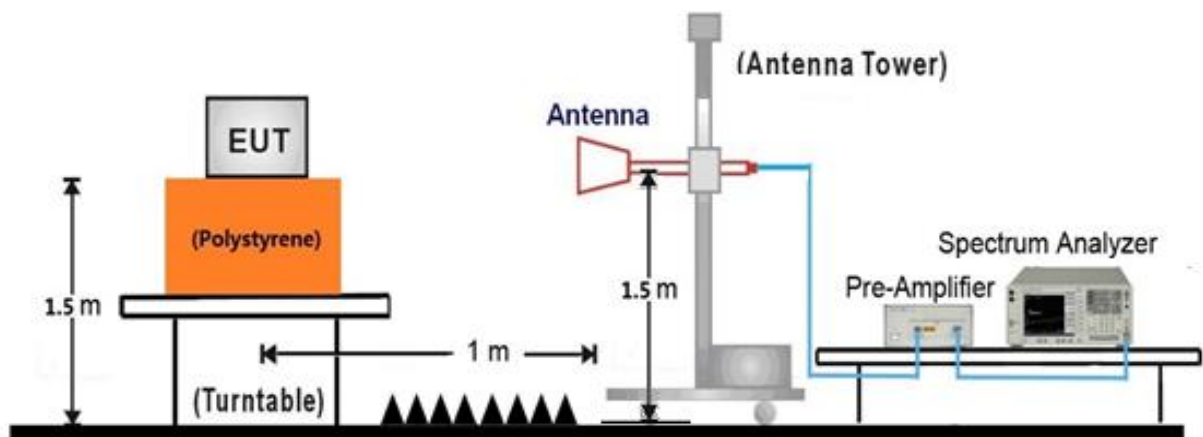
#### Under 1GHz Test Setup



### 1GHz ~ 18GHz Test Setup:

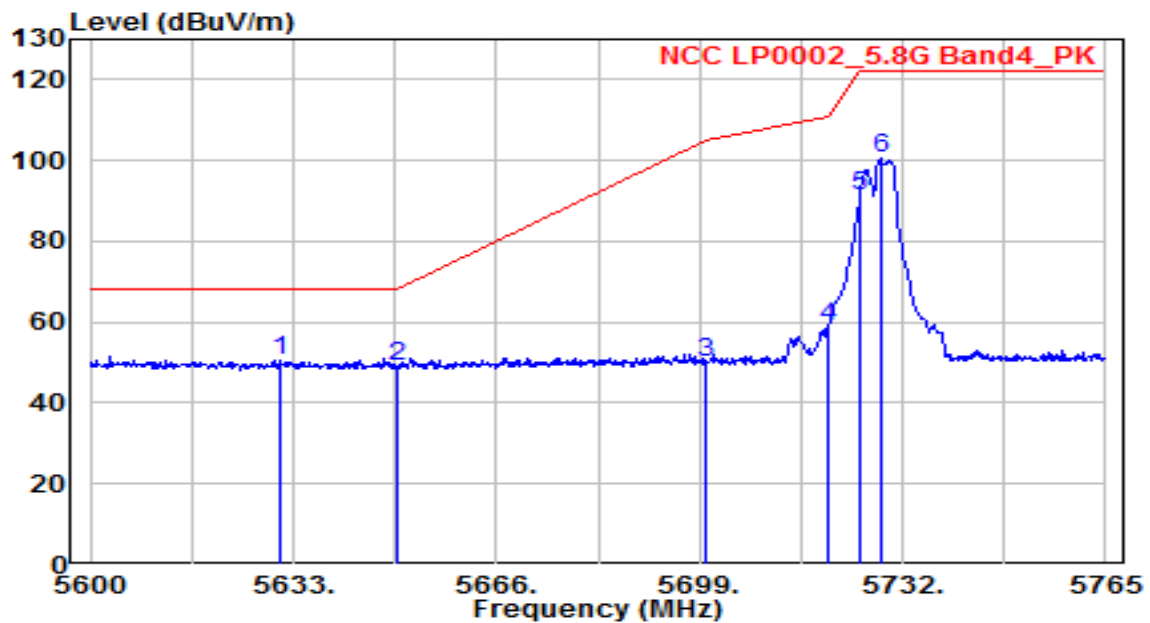


### 18GHz ~25GHz Test Setup:



#### 5.5.4 頻帶邊緣測試結果

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-29     |
| Factor    | BBHA 9120D                    | Temp. / Humidity     | 24°C /58%      |
| Polarity  | Horizontal                    | Site / Test Engineer | AC1 / Kaunaz   |
| Test Mode | TX_Full Band_5729MHz          | Test Voltage         | By Notebook PC |

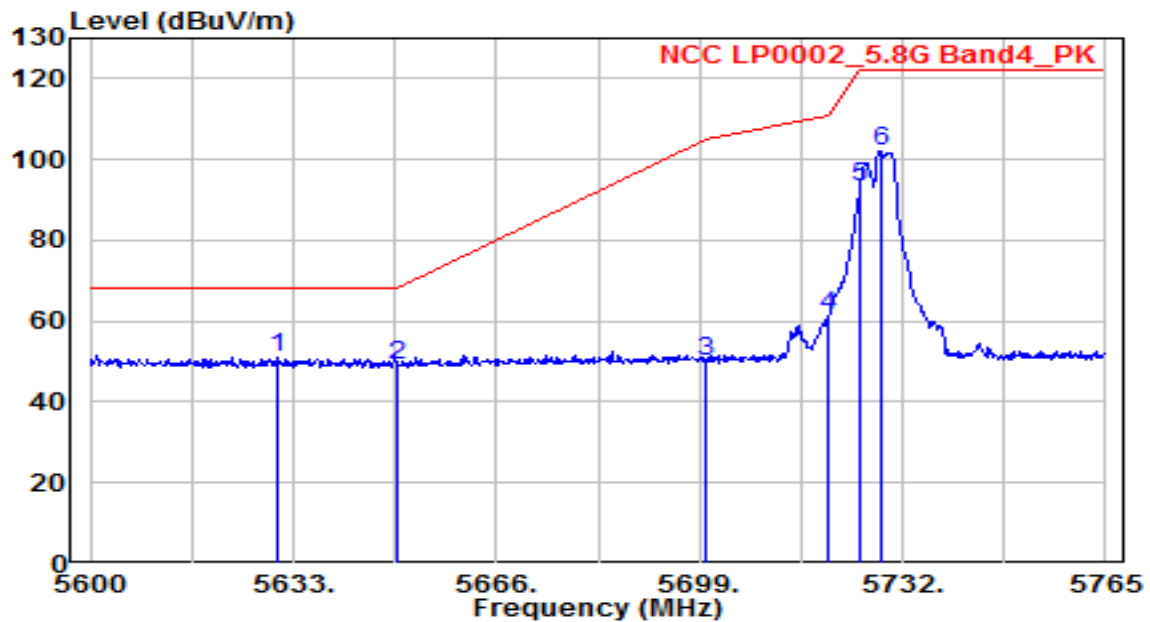


| No | Frequency (MHz) | Reading (dBUV) | C.F (dB/m) | Measurement (dBUV/m) | Margin (dB) | Limit (dBUV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | * 5631.020      | 45.32          | 5.25       | 50.57                | -17.63      | 68.20          | 150         | 135         | Peak              |
| 2  | 5650.000        | 43.60          | 5.32       | 48.92                | -19.28      | 68.20          | 150         | 135         | Peak              |
| 3  | 5700.000        | 44.76          | 5.50       | 50.26                | -54.94      | 105.20         | 150         | 135         | Peak              |
| 4  | 5720.000        | 53.41          | 5.57       | 58.98                | -51.82      | 110.80         | 150         | 135         | Peak              |
| 5  | 5725.000        | 85.88          | 5.59       | 91.47                | -30.73      | 122.20         | 150         | 135         | Peak              |
| 6  | 5728.370        | 94.77          | 5.60       | 100.37               | -21.83      | 122.20         | 150         | 135         | Peak              |

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBUV/m) = Reading(dBUV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-29     |
| Factor    | BBHA 9120D                    | Temp. / Humidity     | 24°C /58%      |
| Polarity  | Vertical                      | Site / Test Engineer | AC1 / Kaunaz   |
| Test Mode | TX_Full Band_5729MHz          | Test Voltage         | By Notebook PC |

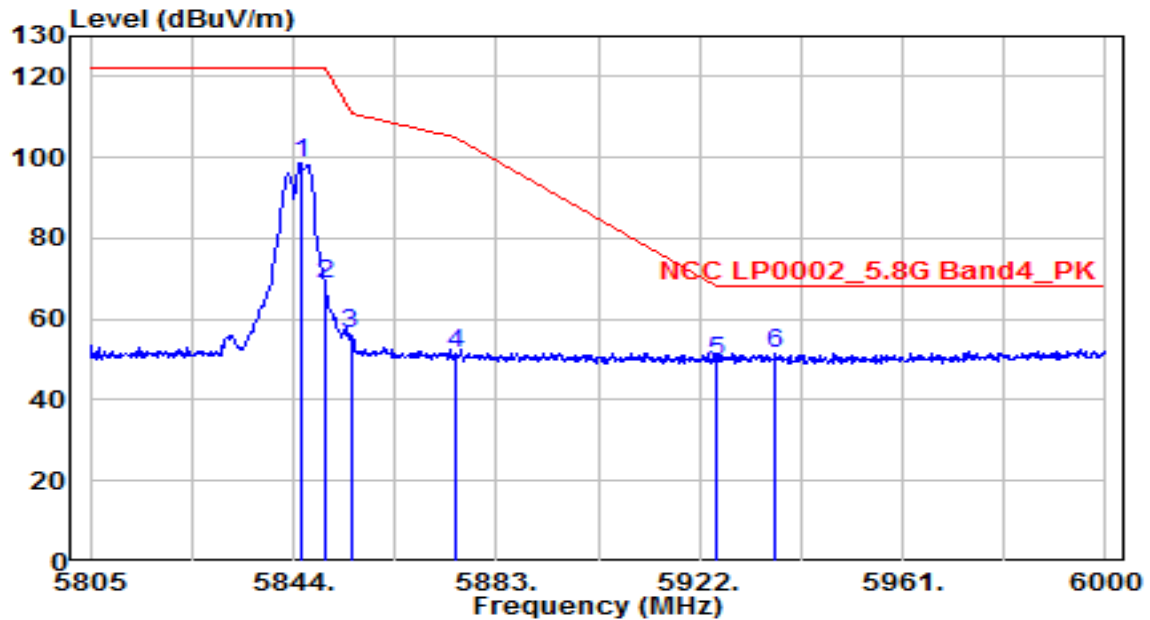


| No | Frequency (MHz) | Reading (dBuV) | C.F (dB/m) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | * 5630.360      | 45.95          | 5.24       | 51.19                | -17.01      | 68.20          | 250         | 135         | Peak              |
| 2  | 5650.000        | 43.61          | 5.32       | 48.93                | -19.27      | 68.20          | 250         | 135         | Peak              |
| 3  | 5700.000        | 44.64          | 5.50       | 50.14                | -55.06      | 105.20         | 250         | 135         | Peak              |
| 4  | 5720.000        | 55.79          | 5.57       | 61.36                | -49.44      | 110.80         | 250         | 135         | Peak              |
| 5  | 5725.000        | 87.44          | 5.59       | 93.03                | -29.17      | 122.20         | 250         | 135         | Peak              |
| 6  | 5728.370        | 96.46          | 5.60       | 102.06               | -20.14      | 122.20         | 250         | 135         | Peak              |

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-29     |
| Factor    | BBHA 9120D                    | Temp. / Humidity     | 24°C /58%      |
| Polarity  | Horizontal                    | Site / Test Engineer | AC1 / Kaunaz   |
| Test Mode | TX_Full Band_5846MHz          | Test Voltage         | By Notebook PC |

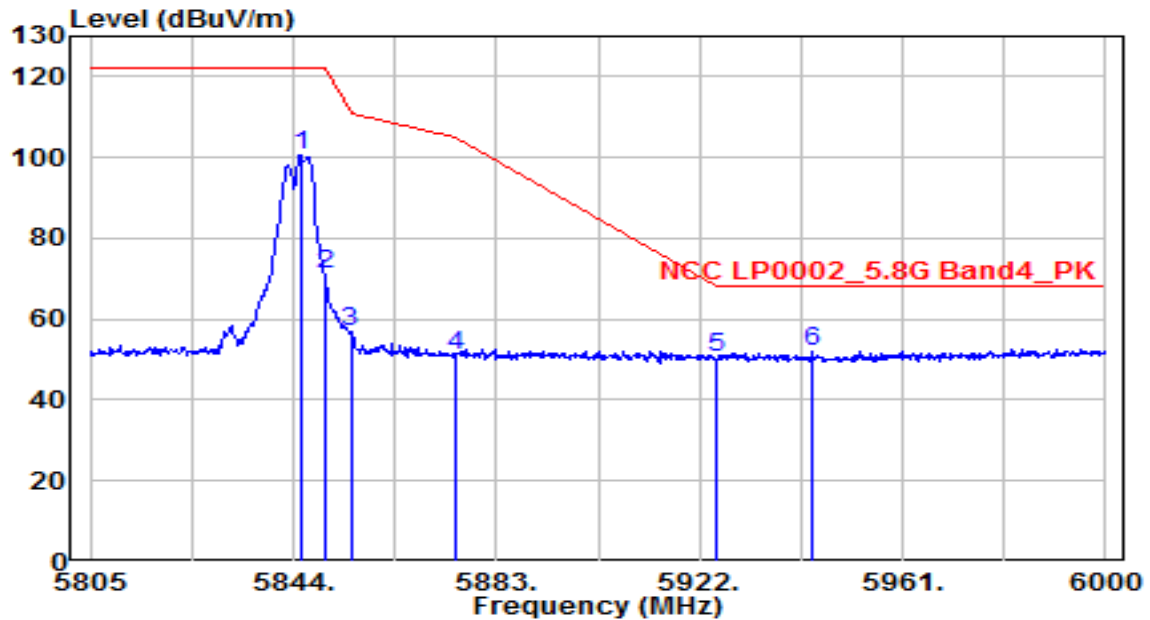


| No | Frequency (MHz) | Reading (dBuV) | C.F (dB/m) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | 5845.365        | 92.46          | 6.03       | 98.49                | -23.71      | 122.20         | 150         | 145         | Peak              |
| 2  | 5850.000        | 62.55          | 6.04       | 68.59                | -53.61      | 122.20         | 150         | 145         | Peak              |
| 3  | 5855.000        | 50.25          | 6.06       | 56.32                | -54.48      | 110.80         | 150         | 145         | Peak              |
| 4  | 5875.000        | 45.16          | 6.13       | 51.30                | -53.90      | 105.20         | 150         | 145         | Peak              |
| 5  | 5925.000        | 43.31          | 6.32       | 49.63                | -18.57      | 68.20          | 150         | 145         | Peak              |
| 6  | * 5936.625      | 44.93          | 6.36       | 51.29                | -16.91      | 68.20          | 150         | 145         | Peak              |

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-29     |
| Factor    | BBHA 9120D                    | Temp. / Humidity     | 24°C /58%      |
| Polarity  | Vertical                      | Site / Test Engineer | AC1 / Kaunaz   |
| Test Mode | TX_Full Band_5846MHz          | Test Voltage         | By Notebook PC |

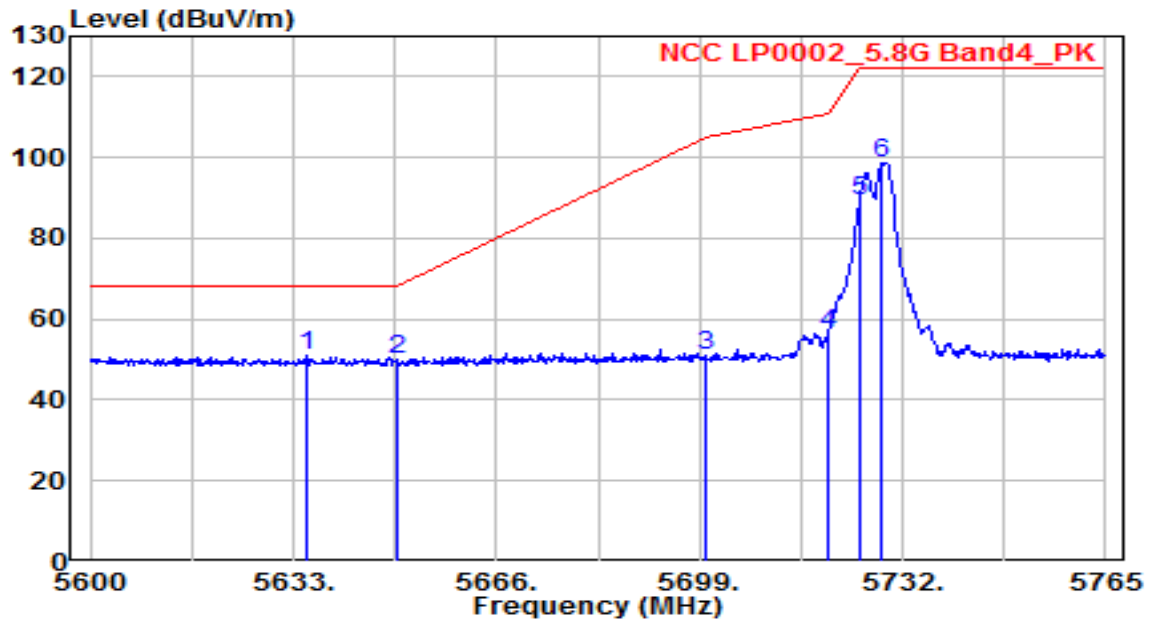


| No | Frequency (MHz) | Reading (dBuV) | C.F (dB/m) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | 5845.365        | 94.49          | 6.03       | 100.52               | -21.68      | 122.20         | 245         | 20          | Peak              |
| 2  | 5850.000        | 64.90          | 6.04       | 70.94                | -51.26      | 122.20         | 245         | 20          | Peak              |
| 3  | 5855.000        | 50.88          | 6.06       | 56.94                | -53.86      | 110.80         | 245         | 20          | Peak              |
| 4  | 5875.000        | 44.76          | 6.13       | 50.90                | -54.30      | 105.20         | 245         | 20          | Peak              |
| 5  | 5925.000        | 44.28          | 6.32       | 50.59                | -17.61      | 68.20          | 245         | 20          | Peak              |
| 6  | * 5943.645      | 45.69          | 6.38       | 52.07                | -16.13      | 68.20          | 245         | 20          | Peak              |

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-29     |
| Factor    | BBHA 9120D                    | Temp. / Humidity     | 24°C /58%      |
| Polarity  | Horizontal                    | Site / Test Engineer | AC1 / Kaunaz   |
| Test Mode | TX_Half Band_5729MHz          | Test Voltage         | By Notebook PC |

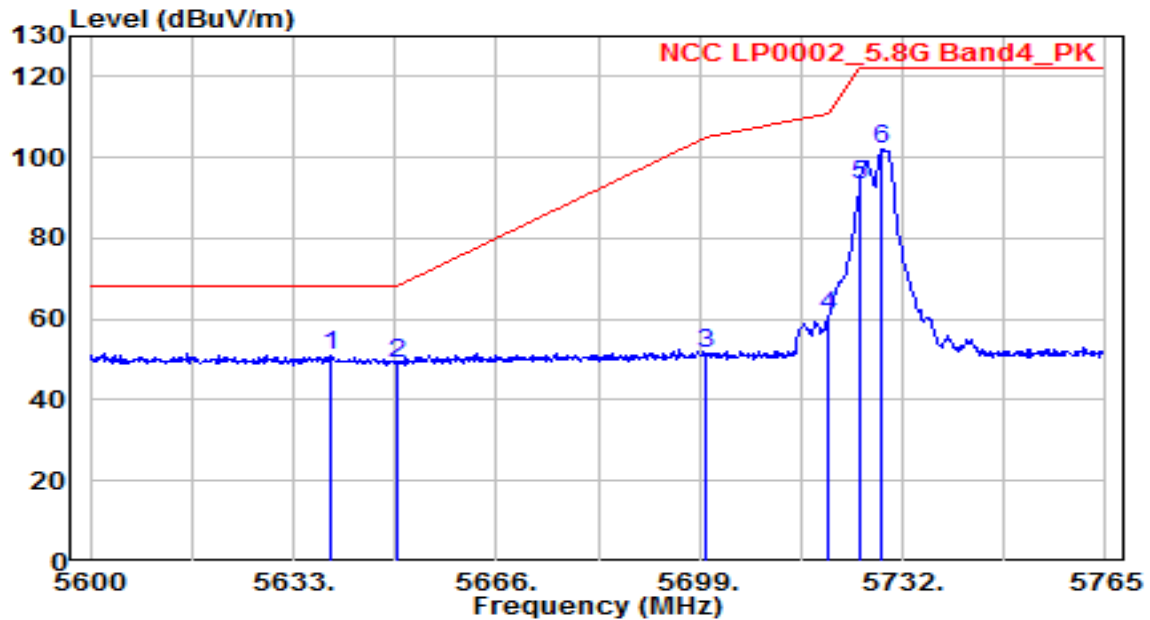


| No | Frequency (MHz) | Reading (dBuV) | C.F (dB/m) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | * 5635.310      | 45.84          | 5.26       | 51.11                | -17.09      | 68.20          | 150         | 135         | Peak              |
| 2  | 5650.000        | 44.61          | 5.32       | 49.93                | -18.27      | 68.20          | 150         | 135         | Peak              |
| 3  | 5700.000        | 45.62          | 5.50       | 51.12                | -54.08      | 105.20         | 150         | 135         | Peak              |
| 4  | 5720.000        | 50.67          | 5.57       | 56.24                | -54.56      | 110.80         | 150         | 135         | Peak              |
| 5  | 5725.000        | 83.82          | 5.59       | 89.41                | -32.79      | 122.20         | 150         | 135         | Peak              |
| 6  | 5728.700        | 93.04          | 5.60       | 98.65                | -23.55      | 122.20         | 150         | 135         | Peak              |

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-29     |
| Factor    | BBHA 9120D                    | Temp. / Humidity     | 24°C /58%      |
| Polarity  | Vertical                      | Site / Test Engineer | AC1 / Kaunaz   |
| Test Mode | TX_Half Band_5729MHz          | Test Voltage         | By Notebook PC |

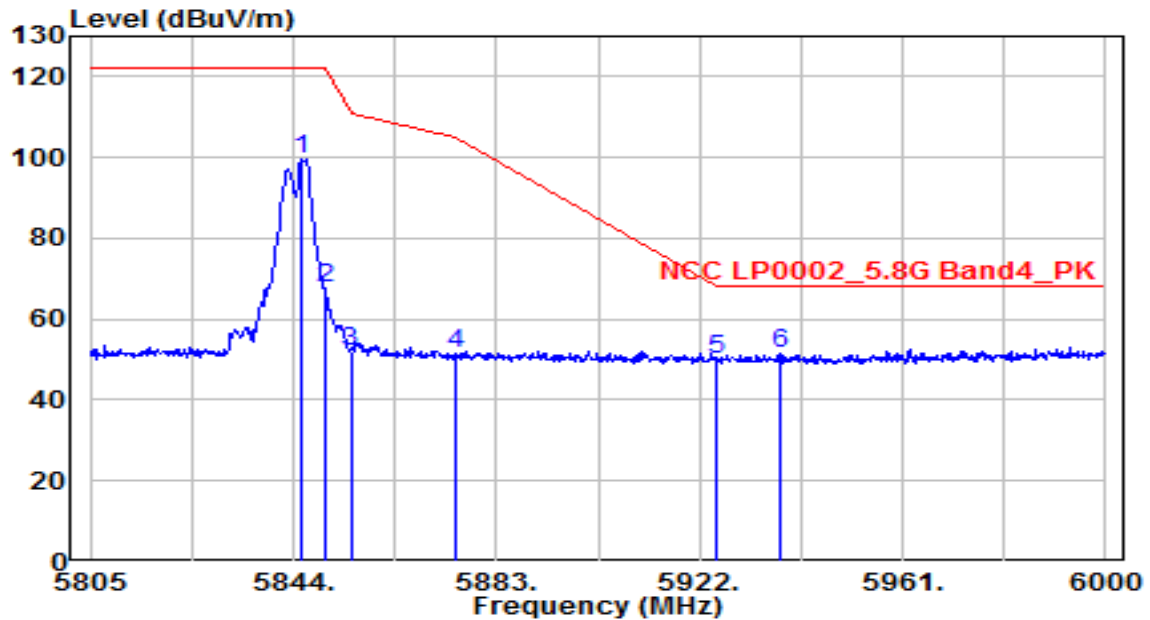


| No | Frequency (MHz) | Reading (dBuV) | C.F (dB/m) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | * 5638.940      | 45.62          | 5.28       | 50.90                | -17.30      | 68.20          | 250         | 135         | Peak              |
| 2  | 5650.000        | 43.76          | 5.32       | 49.08                | -19.12      | 68.20          | 250         | 135         | Peak              |
| 3  | 5700.000        | 46.06          | 5.50       | 51.55                | -53.65      | 105.20         | 250         | 135         | Peak              |
| 4  | 5720.000        | 55.28          | 5.57       | 60.85                | -49.95      | 110.80         | 250         | 135         | Peak              |
| 5  | 5725.000        | 87.83          | 5.59       | 93.42                | -28.78      | 122.20         | 250         | 135         | Peak              |
| 6  | 5728.700        | 96.27          | 5.60       | 101.87               | -20.33      | 122.20         | 250         | 135         | Peak              |

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-29     |
| Factor    | BBHA 9120D                    | Temp. / Humidity     | 24°C /58%      |
| Polarity  | Horizontal                    | Site / Test Engineer | AC1 / Kaunaz   |
| Test Mode | TX_Half Band_5846MHz          | Test Voltage         | By Notebook PC |

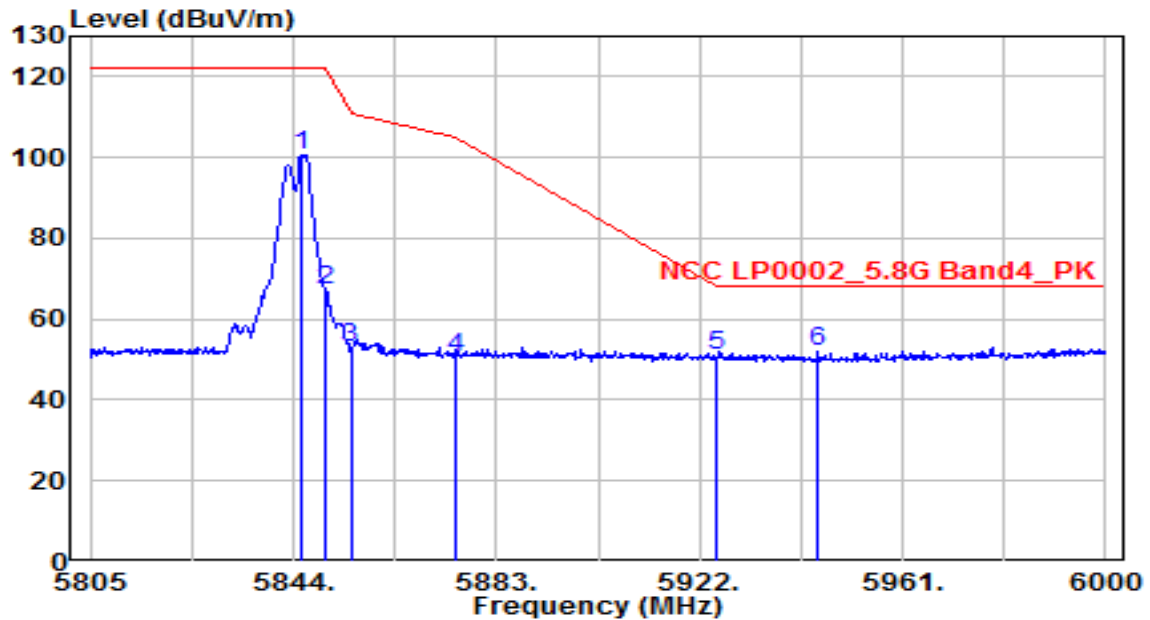


| No | Frequency (MHz) | Reading (dBuV) | C.F (dB/m) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | 5845.560        | 93.58          | 6.03       | 99.61                | -22.59      | 122.20         | 150         | 145         | Peak              |
| 2  | 5850.000        | 61.45          | 6.04       | 67.50                | -54.70      | 122.20         | 150         | 145         | Peak              |
| 3  | 5855.000        | 46.00          | 6.06       | 52.06                | -58.74      | 110.80         | 150         | 145         | Peak              |
| 4  | 5875.000        | 45.56          | 6.13       | 51.69                | -53.51      | 105.20         | 150         | 145         | Peak              |
| 5  | 5925.000        | 43.84          | 6.32       | 50.16                | -18.04      | 68.20          | 150         | 145         | Peak              |
| 6  | * 5937.405      | 45.10          | 6.36       | 51.46                | -16.74      | 68.20          | 150         | 145         | Peak              |

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

|           |                               |                      |                |
|-----------|-------------------------------|----------------------|----------------|
| EUT       | Wireless Handheld Transmitter | Date of Test         | 2021-09-29     |
| Factor    | BBHA 9120D                    | Temp. / Humidity     | 24°C /58%      |
| Polarity  | Vertical                      | Site / Test Engineer | AC1 / Kaunaz   |
| Test Mode | TX_Half Band_5846MHz          | Test Voltage         | By Notebook PC |



| No | Frequency (MHz) | Reading (dBuV) | C.F (dB/m) | Measurement (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Height (cm) | Angle (deg) | Remark (QP/PK/AV) |
|----|-----------------|----------------|------------|----------------------|-------------|----------------|-------------|-------------|-------------------|
| 1  | 5845.560        | 94.60          | 6.03       | 100.63               | -21.57      | 122.20         | 245         | 20          | Peak              |
| 2  | 5850.000        | 61.29          | 6.04       | 67.33                | -54.87      | 122.20         | 245         | 20          | Peak              |
| 3  | 5855.000        | 46.96          | 6.06       | 53.02                | -57.78      | 110.80         | 245         | 20          | Peak              |
| 4  | 5875.000        | 44.34          | 6.13       | 50.48                | -54.72      | 105.20         | 245         | 20          | Peak              |
| 5  | 5925.000        | 44.51          | 6.32       | 50.83                | -17.37      | 68.20          | 245         | 20          | Peak              |
| 6  | * 5944.815      | 45.49          | 6.39       | 51.88                | -16.32      | 68.20          | 245         | 20          | Peak              |

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

## 5.6 占用頻寬

### 5.6.1 量測方法

待測物之天線埠經由適當之衰減直接連至頻譜分析儀RF輸入端，頻譜分析儀之設定,參考如下:

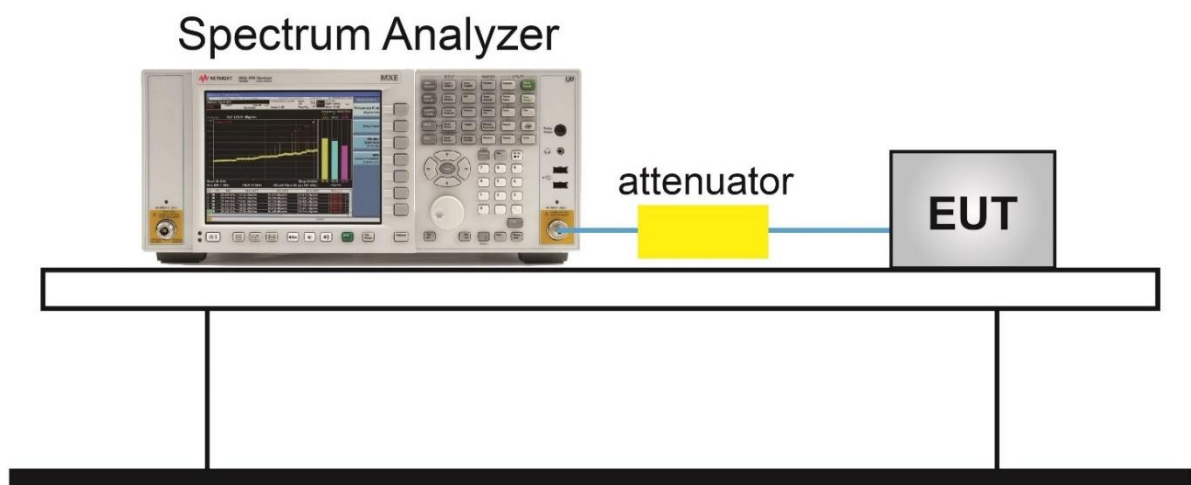
- (1) Set RBW = 100 kHz
- (2) VBW  $\geq 3 \times$  RBW
- (3) Detector = Peak
- (4) Trace mode = max hold
- (5) Sweep = auto couple

### 5.6.2 限制要求

26dB頻寬至少應有500kHz。

6dB頻寬至少應有500kHz。

### 5.6.3 測試架構圖

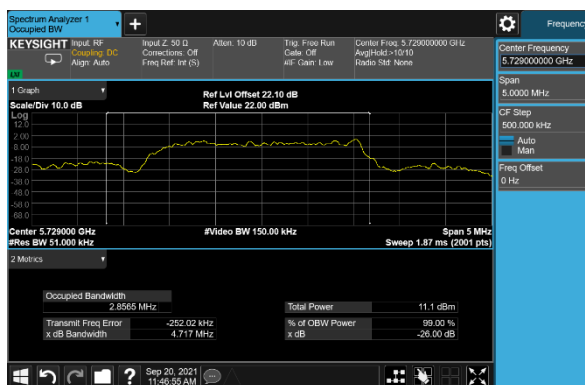


#### 5.6.4 占用頻寬測試結果

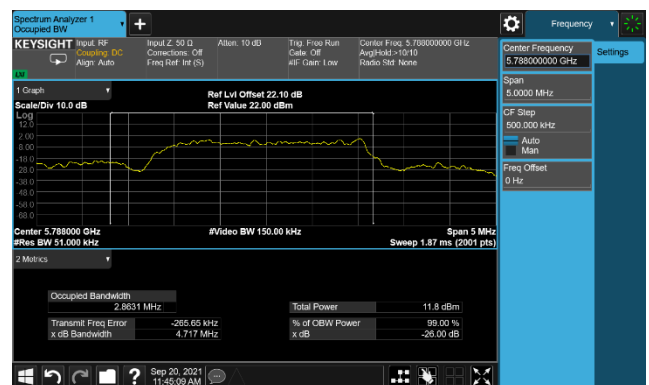
##### 26dB 頻寬:

| Test Mode        | Frequency<br>(MHz) | 26dB Bandwidth<br>(MHz) | Limit<br>(MHz) | Result |
|------------------|--------------------|-------------------------|----------------|--------|
| Full Band (2MHz) | 5729               | 4.717                   | $\geq 0.5$     | Pass   |
|                  | 5788               | 4.717                   | $\geq 0.5$     | Pass   |
|                  | 5846               | 4.718                   | $\geq 0.5$     | Pass   |
| Half Band (1MHz) | 5729               | 2.275                   | $\geq 0.5$     | Pass   |
|                  | 5788               | 2.270                   | $\geq 0.5$     | Pass   |
|                  | 5846               | 2.281                   | $\geq 0.5$     | Pass   |

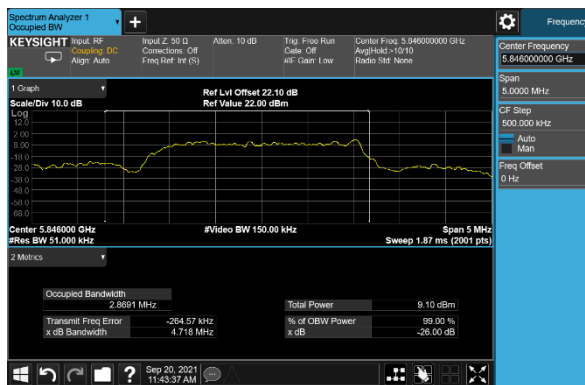
### 5729MHz Full Band (2MHz)



### 5788MHz Full Band (2MHz)



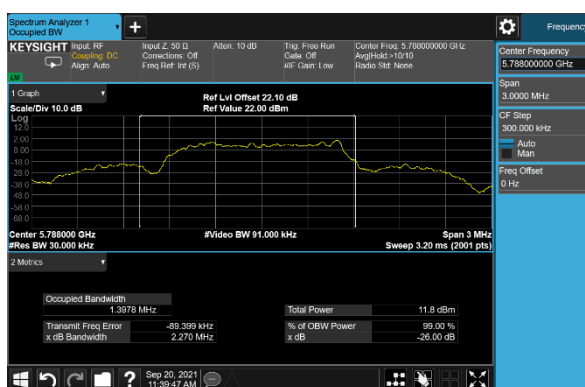
### 5846MHz Full Band (2MHz)



### 5729MHz Half Band (1MHz)



### 5788MHz Half Band (1MHz)



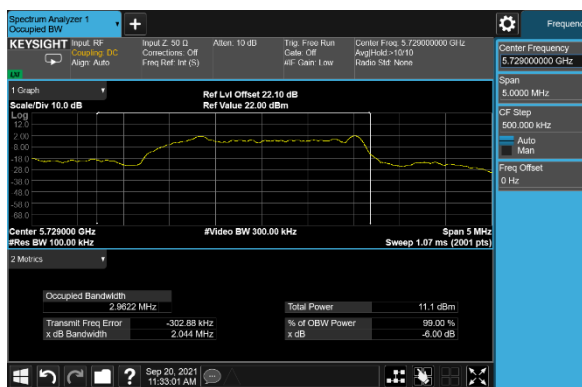
### 5846MHz Half Band (1MHz)



**6dB 頻寬:**

| Test Mode        | Frequency<br>(MHz) | 6dB Bandwidth<br>(MHz) | Limit<br>(MHz) | Result |
|------------------|--------------------|------------------------|----------------|--------|
| Full Band (2MHz) | 5729               | 2.044                  | $\geq 0.5$     | Pass   |
|                  | 5788               | 2.052                  | $\geq 0.5$     | Pass   |
|                  | 5846               | 2.053                  | $\geq 0.5$     | Pass   |
| Half Band (1MHz) | 5729               | 1.034                  | $\geq 0.5$     | Pass   |
|                  | 5788               | 1.031                  | $\geq 0.5$     | Pass   |
|                  | 5846               | 1.031                  | $\geq 0.5$     | Pass   |

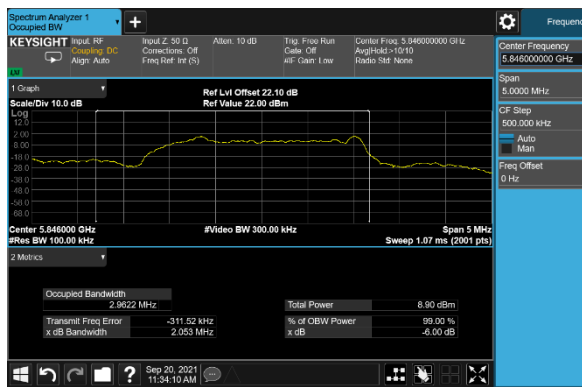
### 5729MHz Full Band (2MHz)



### 5788MHz Full Band (2MHz)



### 5846MHz Full Band (2MHz)



### 5729MHz Half Band (1MHz)



### 5788MHz Half Band (1MHz)



### 5846MHz Half Band (1MHz)



## 5.7. 功率頻譜密度

### 5.7.1 量測方法

待測物之天線埠經由適當之衰減直接連至頻譜分析儀RF輸入端，量測定於500kHz頻寬。

### 5.7.2 限制要求

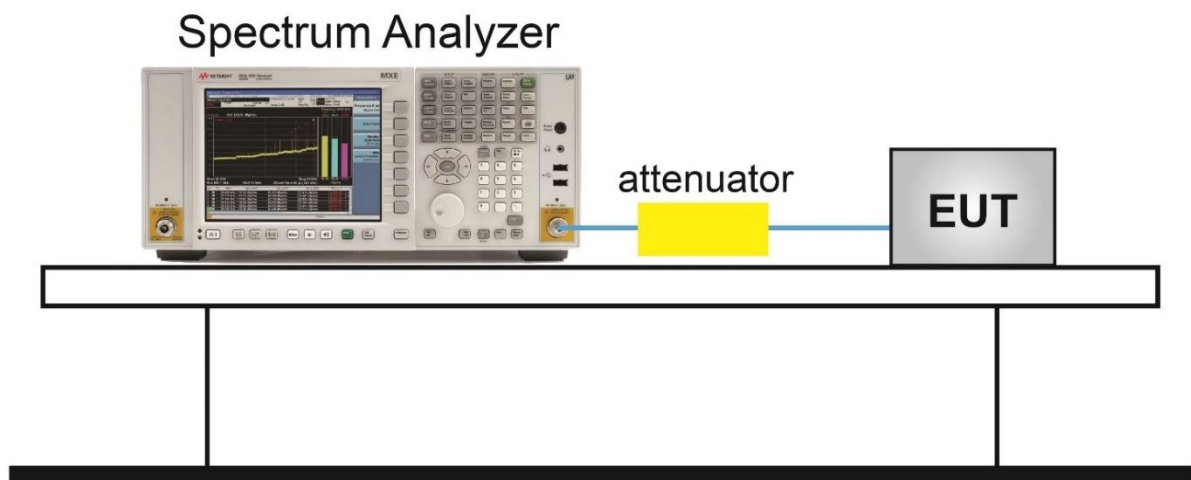
1. 使用頻率於5.725 GHz~5.850 GHz 頻段

(1)在任何500 kHz 頻帶中最大功率頻譜密度應小於或等於30 dBm。

(2)供固定式點對點操作時，使用方向增益超過6 dBi 之發射天線，可不需對應減少發射器之傳導輸出功率限制值。

(3)除(2)外，使用超過6 dBi 方向增益之發射天線時，應依超過6 dBi 天線方向增益的dBi 總量，等量減少最大傳導輸出功率及最大功率頻譜密度。

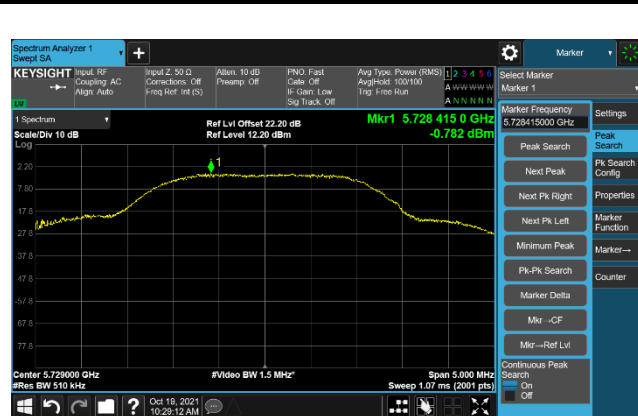
### 5.7.3 測試架構圖



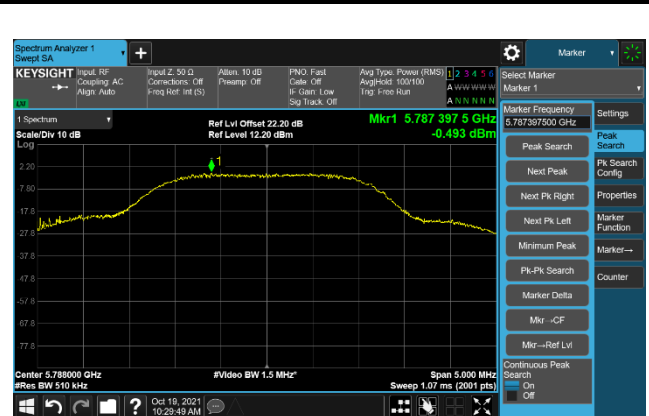
#### 5.7.4 功率頻譜密度測試結果

| Test Mode           | Freq.<br>(MHz) | PSD<br>(dBm/kHz) | Duty Cycles<br>(%) | Total PSD<br>(dBm/kHz) | Limit<br>(dBm/kHz)                | Result |
|---------------------|----------------|------------------|--------------------|------------------------|-----------------------------------|--------|
| Full Band<br>(2MHz) | 5729           | -0.782           | 59.47%             | 3.732                  | $\leq 30\text{dBm}/500\text{kHz}$ | Pass   |
|                     | 5788           | -0.493           | 59.47%             | 4.021                  | $\leq 30\text{dBm}/500\text{kHz}$ | Pass   |
|                     | 5846           | -3.489           | 59.47%             | 1.025                  | $\leq 30\text{dBm}/500\text{kHz}$ | Pass   |
| Half Band<br>(1MHz) | 5729           | 1.342            | 79.21%             | 3.366                  | $\leq 30\text{dBm}/500\text{kHz}$ | Pass   |
|                     | 5788           | 2.529            | 79.21%             | 4.553                  | $\leq 30\text{dBm}/500\text{kHz}$ | Pass   |
|                     | 5846           | -0.697           | 79.21%             | 1.327                  | $\leq 30\text{dBm}/500\text{kHz}$ | Pass   |

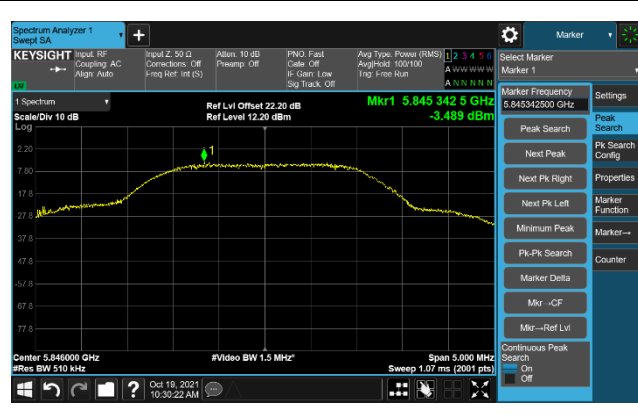
## 5729MHz Full Band (2MHz)



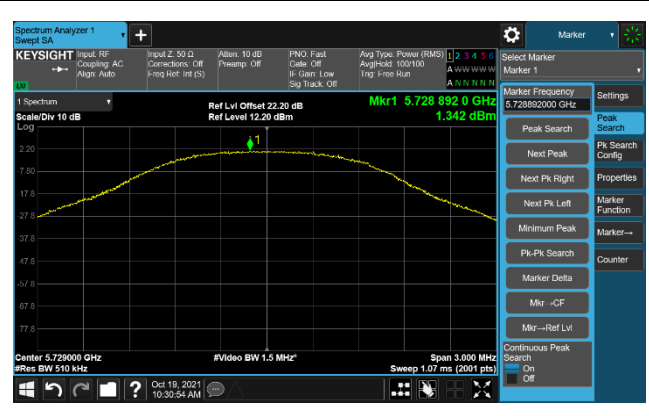
## 5788MHz Full Band (2MHz)



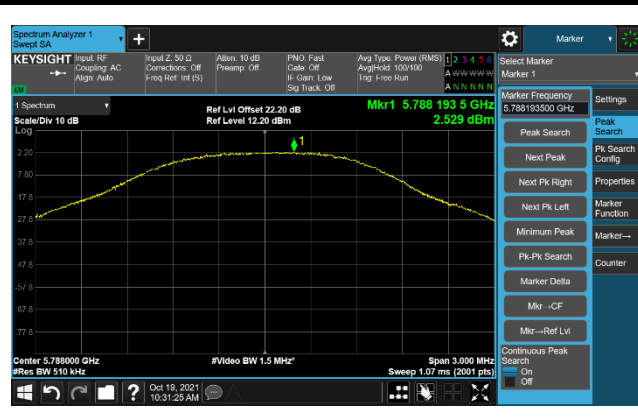
## 5846MHz Full Band (2MHz)



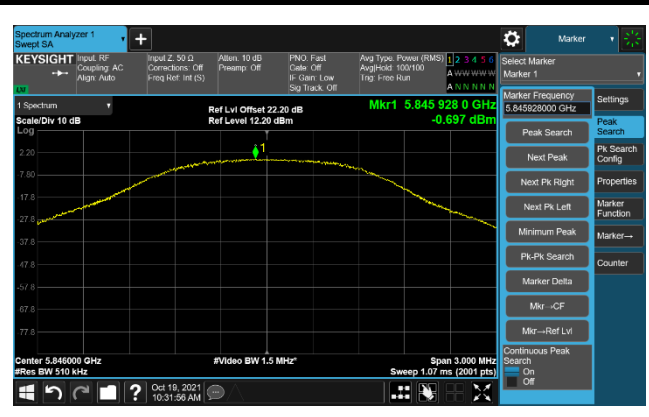
## 5729MHz Half Band (1MHz)



## 5788MHz Half Band (1MHz)



## 5846MHz Half Band (1MHz)



The End