

# NCC

## 低功率射頻電機型式試驗報告

產品名稱: AX6000 次世代 Wi-Fi 路由器  
型號: Archer AX6000  
廠牌: tp-link  
申請者: 聯洲國際有限公司  
申請者地址: 新北市板橋區中山路一段 156 號 13 樓  
測試標準: LP0002 (105 年版) 4.7 章節  
參考法規: ANSI C63.10-2013  
測試結果: 符合  
測試日期: 2019.01.28 ~ 2019.02.15  
發行日期: 2019.03.05

測試工程師:

柯文凱

( 柯文凱 )

報告審核人:

陳柏均

( 陳柏均 )

報告簽屬人:

柯承志

( 柯承志 )



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本測試報告非經本公司同意不可局部複製使用

### 修訂紀錄

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## 1. 一般資訊

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 申請者       | 聯洲國際有限公司                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 申請者地址     | 新北市板橋區中山路一段 156 號 13 樓                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 製造商       | 普聯技術有限公司                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 製造商地址     | 深圳市南山區深南路科技園工業廠房 24 棟南段 1 層、3-5 層、28 棟北段 1-4 層                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 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. 291082) 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, 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. 產品資訊

### 2.1. 待測物裝置資料

|         |                                                                                                                                                                                                                                                                                                                                    |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 產品名稱    | AX6000 次世代 Wi-Fi 路由器                                                                                                                                                                                                                                                                                                               |
| 產品型號    | Archer AX6000                                                                                                                                                                                                                                                                                                                      |
| 待測物額定電壓 | AC adapter input                                                                                                                                                                                                                                                                                                                   |
| 無線規格    | 802.11a/n/ac/ax                                                                                                                                                                                                                                                                                                                    |
| 頻率範圍    | For 802.11a/n-HT20/ac-VHT20/ax-HE20:<br>5180~5240MHz, 5260~5320MHz, 5500~5700MHz, 5745~5825MHz<br>For 802.11n-HT40/ac-VHT40/ax-HE40:<br>5190~5230MHz, 5270~5310MHz, 5510~5670MHz, 5755~5795MHz<br>For 802.11ac-VHT80/ax-HE80:<br>5210MHz, 5290MHz, 5530MHz, 5610 MHz, 5775MHz<br>For 802.11ac-VHT160/ax-HE160:<br>5250MHz, 5570MHz |
| 調變模式    | 802.11a/n/ac: OFDM<br>802.11ax: OFDMA                                                                                                                                                                                                                                                                                              |
| 傳輸速率    | 802.11a: 6/9/12/18/24/36/48/54Mbps<br>802.11n: up to 600Mbps<br>802.11ac: up to 4333Mbps<br>802.11ax: up to 4804Mbps                                                                                                                                                                                                               |
| 頻道控制    | Auto                                                                                                                                                                                                                                                                                                                               |
| 附件      |                                                                                                                                                                                                                                                                                                                                    |
| 適配器     | MODEL: S050FU1200400<br>INPUT: 100 - 240V ~ 50/60Hz 1.5A Max.<br>OUTPUT: DC 12.0V 4000mA                                                                                                                                                                                                                                           |

## 2.2. 通道清單

### 802.11a/n-HT20/ac-VHT20/ax-HE20

| Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|---------|-----------|
| 36      | 5180 MHz  | 40      | 5200 MHz  | 44      | 5220 MHz  |
| 48      | 5240 MHz  | 52      | 5260 MHz  | 56      | 5280 MHz  |
| 60      | 5300 MHz  | 64      | 5320 MHz  | 100     | 5500 MHz  |
| 104     | 5520 MHz  | 108     | 5540 MHz  | 112     | 5560 MHz  |
| 116     | 5580 MHz  | 120     | 5600 MHz  | 124     | 5620 MHz  |
| 128     | 5640 MHz  | 132     | 5660 MHz  | 136     | 5680 MHz  |
| 140     | 5700 MHz  | 149     | 5745 MHz  | 153     | 5765 MHz  |
| 157     | 5785 MHz  | 161     | 5805 MHz  | 165     | 5825 MHz  |

### 802.11n-HT40/ac-VHT40/ax-HE40

| Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|---------|-----------|
| 38      | 5190 MHz  | 46      | 5230 MHz  | 54      | 5270 MHz  |
| 62      | 5310 MHz  | 102     | 5510 MHz  | 110     | 5550 MHz  |
| 118     | 5590 MHz  | 126     | 5630 MHz  | 134     | 5670 MHz  |
| 151     | 5755 MHz  | 159     | 5795 MHz  | --      | --        |

### 802.11ac-VHT80/ax-HE80

| Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|---------|-----------|
| 42      | 5210 MHz  | 58      | 5290 MHz  | 106     | 5530 MHz  |
| 122     | 5610 MHz  | 155     | 5775 MHz  | --      | --        |

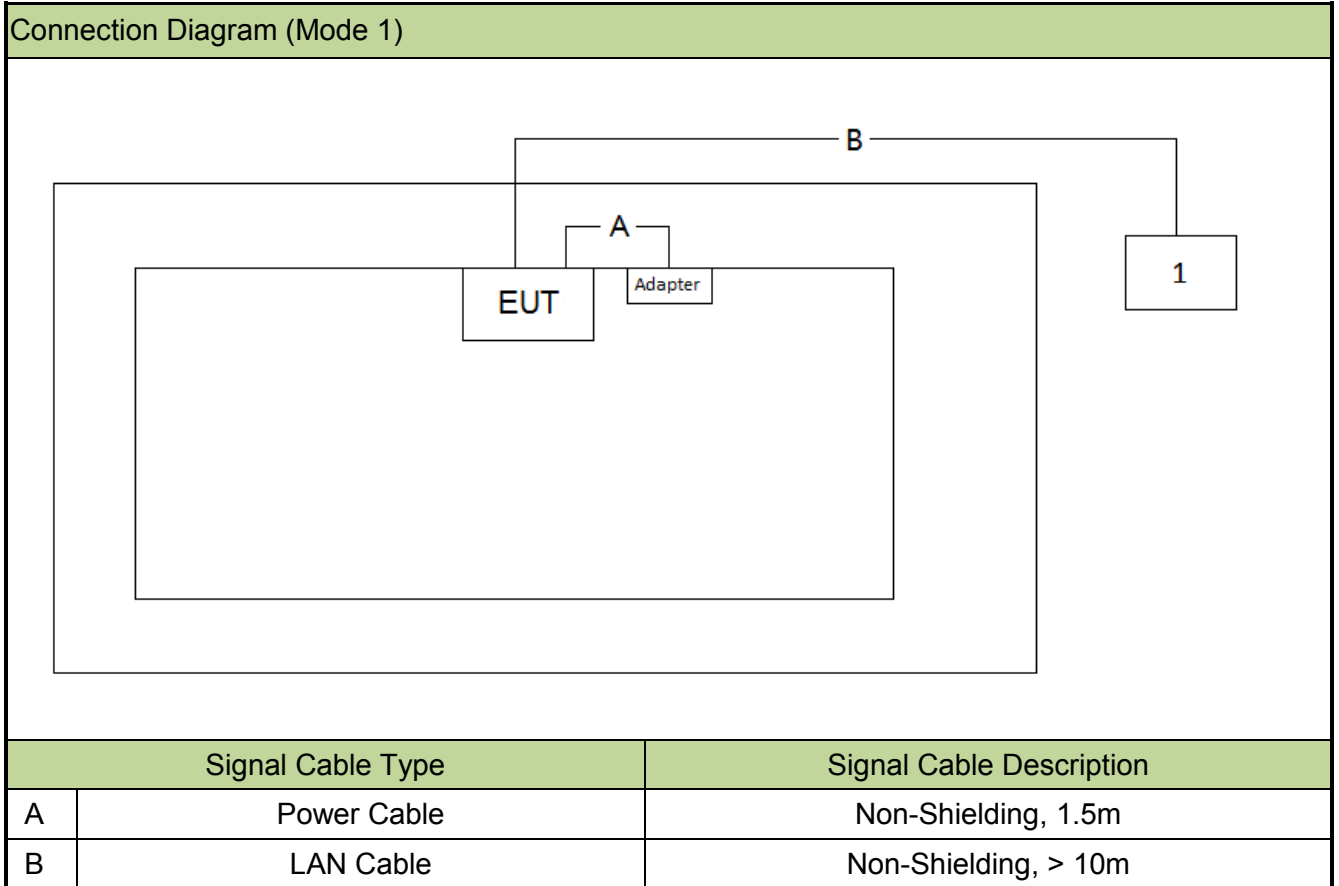
### 802.11ac-VHT160/ax-HE160

| Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|---------|-----------|
| 50      | 5250 MHz  | 114     | 5570 MHz  | --      | --        |

## 2. 3. 測試模式

Mode 1: 發射器 802.11a (6Mbps) (CDD Mode)  
Mode 2: 發射器 802.11n-HT20 (MCS0) (CDD Mode)  
Mode 3: 發射器 802.11n-HT40 (MCS0) (CDD Mode)  
Mode 4: 發射器 802.11ac-VHT20 (MCS0) (CDD Mode)  
Mode 5: 發射器 802.11ac-VHT40 (MCS0) (CDD Mode)  
Mode 6: 發射器 802.11ac-VHT80 (MCS0) (CDD Mode)  
Mode 7: 發射器 802.11ac-VHT160 (MCS0) (CDD Mode)  
Mode 8: 發射器 802.11ax-HE20 (MCS0) (CDD Mode)  
Mode 9: 發射器 802.11ax-HE40 (MCS0) (CDD Mode)  
Mode 10: 發射器 802.11ax-HE80 (MCS0) (CDD Mode)  
Mode 11: 發射器 802.11ax-HE160 (MCS0) (CDD Mode)  
Mode 12: 發射器 802.11ac-VHT20 (MCS0) (BF Mode)  
Mode 13: 發射器 802.11ac-VHT40 (MCS0) (BF Mode)  
Mode 14: 發射器 802.11ac-VHT80 (MCS0) (BF Mode)  
Mode 15: 發射器 802.11ac-VHT160 (MCS0) (BF Mode)  
Mode 16: 發射器 802.11ax-HE20 (MCS0) (BF Mode)  
Mode 17: 發射器 802.11ax-HE40 (MCS0) (BF Mode)  
Mode 18: 發射器 802.11ax-HE80 (MCS0) (BF Mode)  
Mode 19: 發射器 802.11ax-HE160 (MCS0) (BF Mode)

## 2.4. 測試系統組合圖



## 2.5. 測試周邊

| Item | 待測物名稱    | Manufacturer | Model No. | Serial No. | Power Cord         |
|------|----------|--------------|-----------|------------|--------------------|
| 1    | Notebook | Lenovo       | E430c     | N/A        | Non-Shielded, 1.8m |

## 2.6. 待測裝置測試時之典型操作程式

|    |                                               |
|----|-----------------------------------------------|
| 1. | Setup the EUT and simulators as shown on 2.4  |
| 2. | Turn on the power of all equipment.           |
| 3. | Execute "accessMTool v3.1.0.1" program.       |
| 4. | Configure the test channel and the data rate. |
| 5. | Start test.                                   |

### 3. 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% ( $U=2U_c(y)$ ): 2.53dB                             |
| 電源傳導量測-通訊埠 (Conducted Emission- Impedance Stabilization Network Measurement )                              |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ): 3.96dB                             |
| 輻射干擾量測 (Radiated Spurious Emission)                                                                        |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ): 3.92dB (Below 30M)                 |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ): 4.25dB (30M~1G)                    |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ): 4.40dB (1G~18G)                    |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ): 4.45dB (18G~40G)                   |
| 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% ( $U=2U_c(y)$ ): $\pm 0.3\%$                        |

#### 4. 測試設備明細

##### Conducted Emissions - SR2

| Instrument                 | Manufacturer | Type No.      | Asset No.   | Cali. Interval | Cali. Due Date |
|----------------------------|--------------|---------------|-------------|----------------|----------------|
| Two-Line V-Network         | R&S          | ENV216        | MRTTWA00019 | 1 year         | 2019/3/20      |
| Two-Line V-Network         | R&S          | ENV216        | MRTTWA00020 | 1 year         | 2019/3/20      |
| 8-Wire ISN (T8)            | R&S          | ENY81         | MRTTWA00018 | 1 year         | 2019/4/24      |
| EMI Test Receiver          | R&S          | ESR3          | MRTTWA00045 | 1 year         | 2019/5/14      |
| Temperature/Humidity Meter | TFA          | 35.1078.10.IT | MRTTWA00033 | 1 year         | 2019/5/21      |

##### Radiated Emissions - AC1

| Instrument                 | Manufacturer | Type No.      | Asset No.   | Cali. Interval | Cali. Due Date |
|----------------------------|--------------|---------------|-------------|----------------|----------------|
| Active Loop Antenna        | SCHWARZBECK  | FMZB 1519B    | MRTTWA00002 | 1 year         | 2019/4/24      |
| Broadband TRILOG Antenna   | SCHWARZBECK  | VULB 9162     | MRTTWA00001 | 1 year         | 2019/5/22      |
| Broadband Hornantenna      | SCHWARZBECK  | BBHA 9120D    | MRTTWA00003 | 1 year         | 2019/4/24      |
| Breitband Hornantenna      | SCHWARZBECK  | BBHA 9170     | MRTTWA00004 | 1 year         | 2019/4/23      |
| Broadband Preamplifier     | SCHWARZBECK  | BBV 9718      | MRTTWA00005 | 1 year         | 2019/4/23      |
| Broadband Amplifier        | SCHWARZBECK  | BBV 9721      | MRTTWA00006 | 1 year         | 2019/4/23      |
| EMI Test Receiver          | R&S          | ESR3          | MRTTWA00009 | 1 year         | 2019/3/19      |
| EXA Signal Analyzer        | KEYSIGHT     | N9010A        | MRTTWA00012 | 1 year         | 2019/7/30      |
| Antenna Cable              | HUBERSUHNER  | SF106         | MRTTWE00010 | 1 year         | 2019/5/18      |
| Temperature/Humidity Meter | TFA          | 35.1078.10.IT | MRTTWA00032 | 1 year         | 2019/5/21      |

##### Conducted Test Equipment - SR1

| Instrument                                 | Manufacturer | Type No.      | Asset No.   | Cali. Interval | Cali. Due Date |
|--------------------------------------------|--------------|---------------|-------------|----------------|----------------|
| EXA Signal Analyzer                        | KEYSIGHT     | N9010A        | MRTTWA00012 | 1 year         | 2019/7/30      |
| EXA Signal Analyzer                        | KEYSIGHT     | N9010B        | MRTSUE06457 | 1 year         | 2019/7/19      |
| X-Series USB Peak and Average Power Sensor | KEYSIGHT     | U2021XA       | MRTTWA00014 | 1 year         | 2019/4/24      |
| Temperature/Humidity Meter                 | TFA          | 35.1078.10.IT | MRTTWA00032 | 1 year         | 2019/5/21      |

| Software | Version | Function          |
|----------|---------|-------------------|
| e3       | V 8.3.5 | EMI Test Software |
| EMI      | Quietek | V3                |

## 5. 測試結果

產品名稱 AX6000 次世代 Wi-Fi 路由器  
型號 Archer AX6000

| 章節             | 量測項目       | 限制值                            | 測試結果 | 測試數據      |
|----------------|------------|--------------------------------|------|-----------|
| 2.3            | 電源傳導       | 低功率射頻電機技術規範 2.3 節              | 符合   | 第 5.1 章節  |
| 4.7.2(1)(2)(3) | 峰值傳導輸出功率   | 參考第 5.2 章節                     | 符合   | 第 5.2 章節  |
| 2.2 及 4.7.8    | 天線之要求      | 低功率射頻電機技術規範 2.2 節及 4.7.8 節     | 符合   | 第 5.3 章節  |
| 4.7.3          | 操作頻帶外的峰值發射 | 低功率射頻電機技術規範 4.7.3 節            | 符合   | 第 5.4 章節  |
| 2.8 及 4.7.3    | 輻射電場強度     | 低功率射頻電機技術規範 2.8 節              | 符合   | 第 5.5 章節  |
| 4.7.5          | 26dB 佔用頻寬  | N/A                            | 符合   | 第 5.6 章節  |
| 4.7.5          | 6dB 佔用頻寬   | $\geq 500\text{KHz}$           | 符合   | 第 5.7 章節  |
| 4.7.2(1)(2)(3) | 功率頻譜密度     | 參考第 5.8 章節                     | 符合   | 第 5.8 章節  |
| 4.7.4          | 發射功率控制     | 至少具有 6dB 低於平均 EIRP 值 30dBm 的能力 | 符合   | 第 5.9 章節  |
| N/A            | 頻率穩定性      | 操作頻帶                           | 符合   | 第 5.10 章節 |

## 5.1. 電源端點干擾測試

### 5.1.1. 適用標準

依據國家通訊傳播委員會低功率射頻電機技術規範之第 2.3 節，以市電為電源之低功率射頻電機，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 <sup>(註)</sup> | 56-46 <sup>(註)</sup> |
| 0.50 - 5.0            | 56                   | 46                   |
| 5.0 - 30              | 60                   | 50                   |

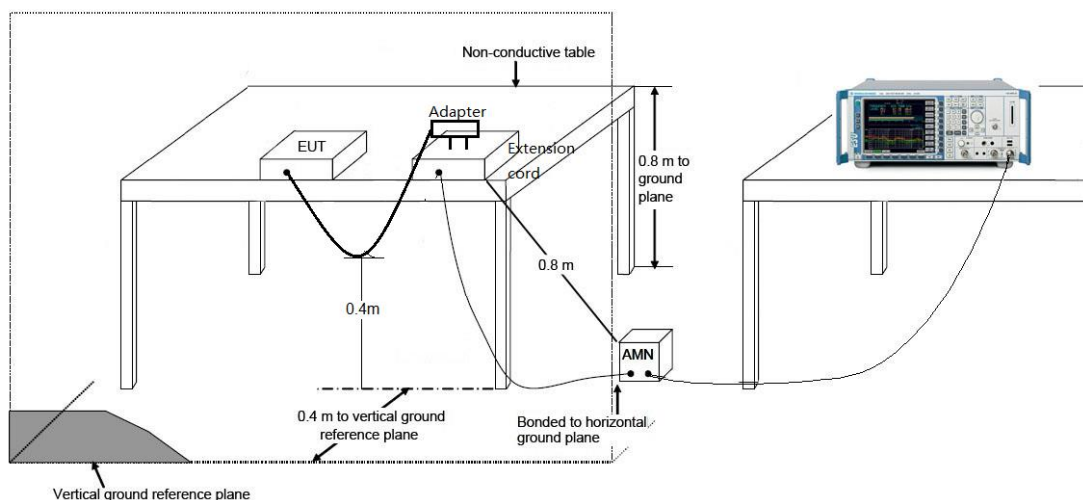
註:隨頻率之對數遞減

### 5.1.2. 量測方法

待測物置於高 80 公分之非導體桌面（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。

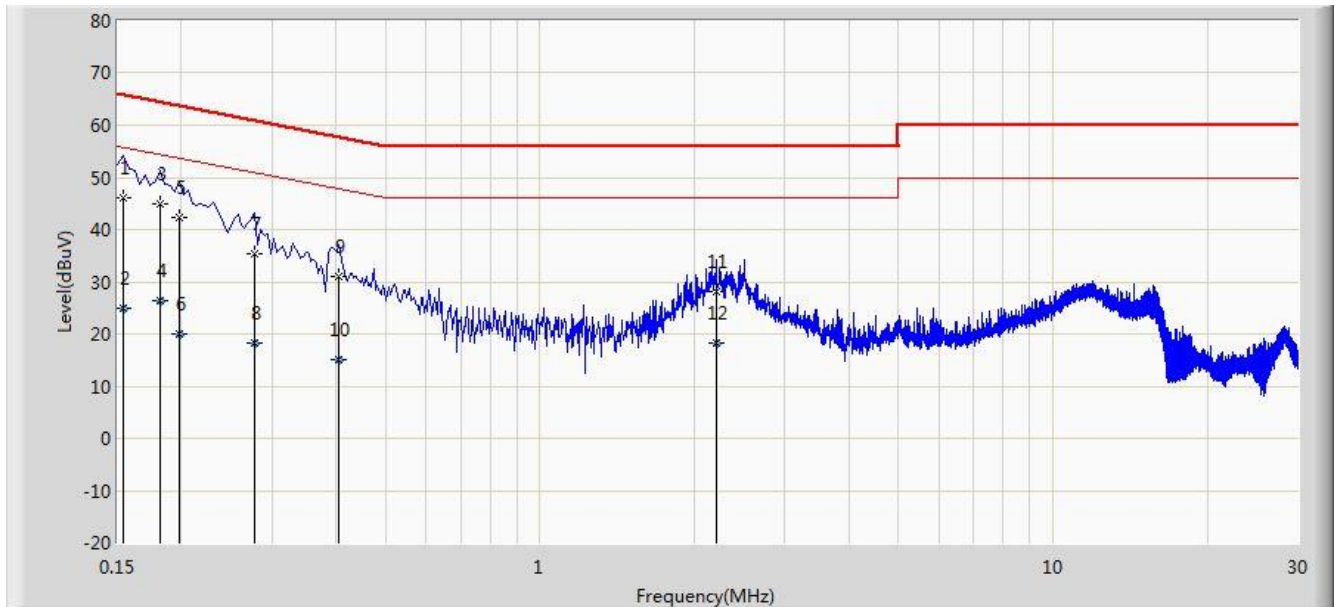
備 註: 經初測驗證過，電源端點干擾測試對測試頻道數並無差異，因此檢附其中一個測試頻道之測試數。

### 5.1.3. 測試架構圖



#### 5.1.4. 電源端點測試結果

|                                    |                          |
|------------------------------------|--------------------------|
| Site: SR2                          | Time: 2019/02/21 - 13:16 |
| Limit: NCC LP0002_CE_0.15MHz-30MHz | Engineer: Kevin Ker      |
| Probe: ENV216_Filter On            | Polarity: Line           |
| EUT: AX6000 次世代 Wi-Fi 路由器          | Power: AC 110V/60Hz      |
| Test Mode: <b>Worst Case Mode</b>  |                          |

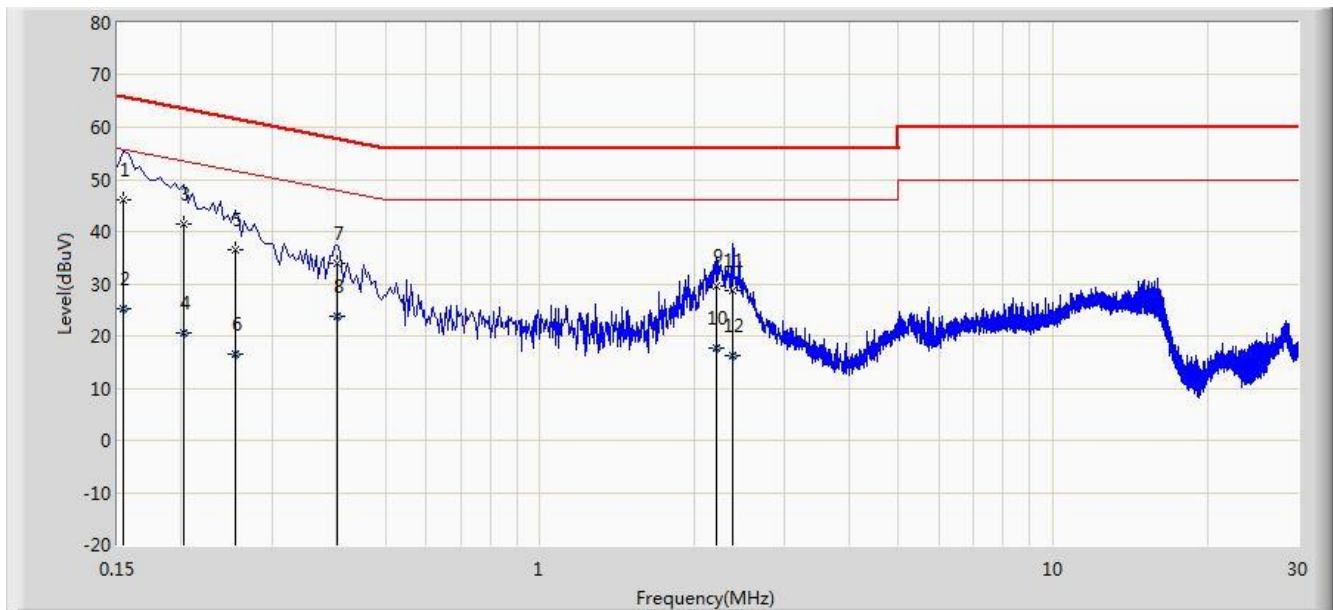


| No | Flag | Mark | Frequency (MHz) | Measure Level (dBuV) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV) | Factor (dB) | Type |
|----|------|------|-----------------|----------------------|----------------------|-----------------|--------------|-------------|------|
| 1  |      |      | 0.154           | 45.997               | 35.288               | -19.784         | 65.781       | 10.709      | QP   |
| 2  |      |      | 0.154           | 24.783               | 14.074               | -30.998         | 55.781       | 10.709      | AV   |
| 3  |      | *    | 0.182           | 44.914               | 34.854               | -19.480         | 64.394       | 10.060      | QP   |
| 4  |      |      | 0.182           | 26.381               | 16.321               | -28.013         | 54.394       | 10.060      | AV   |
| 5  |      |      | 0.198           | 42.189               | 32.155               | -21.505         | 63.694       | 10.034      | QP   |
| 6  |      |      | 0.198           | 19.899               | 9.865                | -33.795         | 53.694       | 10.034      | AV   |
| 7  |      |      | 0.278           | 35.368               | 25.387               | -25.508         | 60.875       | 9.981       | QP   |
| 8  |      |      | 0.278           | 18.389               | 8.408                | -32.487         | 50.875       | 9.981       | AV   |
| 9  |      |      | 0.406           | 31.153               | 21.109               | -26.577         | 57.730       | 10.043      | QP   |
| 10 |      |      | 0.406           | 15.086               | 5.042                | -32.644         | 47.730       | 10.043      | AV   |
| 11 |      |      | 2.210           | 28.101               | 18.246               | -27.899         | 56.000       | 9.855       | QP   |
| 12 |      |      | 2.210           | 18.217               | 8.362                | -27.783         | 46.000       | 9.855       | AV   |

Note: Measure Level (dBuV) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

|                                    |                          |
|------------------------------------|--------------------------|
| Site: SR2                          | Time: 2019/02/21 - 13:20 |
| Limit: NCC LP0002_CE_0.15MHz-30MHz | Engineer: Kevin Ker      |
| Probe: ENV216_Filter On            | Polarity: Neutral        |
| EUT: AX6000 次世代 Wi-Fi 路由器          | Power: AC 110V/60Hz      |
| Test Mode: <b>Worst Case Mode</b>  |                          |



| No | Flag | Mark | Frequency (MHz) | Measure Level (dBuV) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV) | Factor (dB) | Type |
|----|------|------|-----------------|----------------------|----------------------|-----------------|--------------|-------------|------|
| 1  |      | *    | 0.154           | 46.119               | 35.394               | -19.663         | 65.781       | 10.725      | QP   |
| 2  |      |      | 0.154           | 25.182               | 14.457               | -30.600         | 55.781       | 10.725      | AV   |
| 3  |      |      | 0.202           | 41.490               | 31.493               | -22.038         | 63.528       | 9.997       | QP   |
| 4  |      |      | 0.202           | 20.567               | 10.570               | -32.961         | 53.528       | 9.997       | AV   |
| 5  |      |      | 0.254           | 36.414               | 26.447               | -25.211         | 61.625       | 9.967       | QP   |
| 6  |      |      | 0.254           | 16.516               | 6.549                | -35.109         | 51.625       | 9.967       | AV   |
| 7  |      |      | 0.402           | 34.049               | 23.990               | -23.763         | 57.812       | 10.059      | QP   |
| 8  |      |      | 0.402           | 23.767               | 13.708               | -24.045         | 47.812       | 10.059      | AV   |
| 9  |      |      | 2.210           | 29.577               | 19.723               | -26.423         | 56.000       | 9.854       | QP   |
| 10 |      |      | 2.210           | 17.636               | 7.782                | -28.364         | 46.000       | 9.854       | AV   |
| 11 |      |      | 2.378           | 28.830               | 18.981               | -27.170         | 56.000       | 9.849       | QP   |
| 12 |      |      | 2.378           | 16.186               | 6.337                | -29.814         | 46.000       | 9.849       | AV   |

Note: Measure Level (dBuV) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

## 5.2. 功率限制值

### 5.2.1. 適用標準

依據國家通訊傳播委員會低功率射頻電機技術規範之第 4.7.3 節：

使用於 5.15 GHz~5.25 GHz 頻段，供室外操作使用，最大傳導輸出功率應小於或等於 1 W。

使用頻率於 5.25 GHz~5.35 GHz 與 5.470 GHz~5.725 GHz 頻段，最大傳導輸出功率應小於或等於 250 mW 或  $11\text{dBm} + 10\log B$  (B 是 26 dB 發射頻寬，單位 MHz) 之較小者。

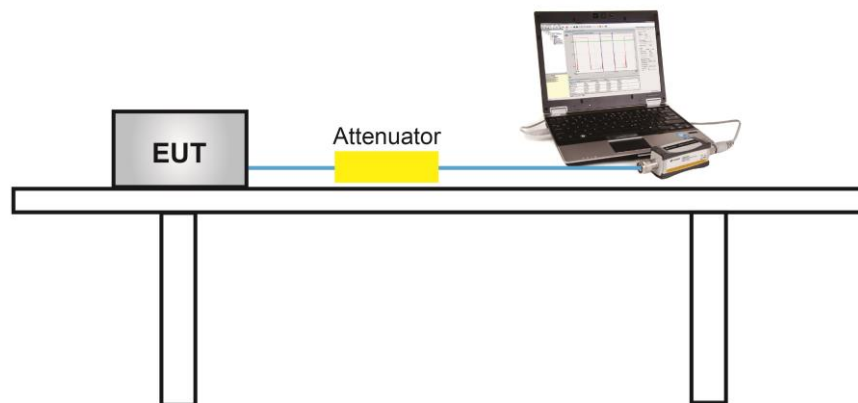
使用頻率於 5.725 GHz~5.850 GHz 頻段，最大傳導輸出功率應小於或等於 1 W。

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。

### 5.2.2. 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，峰值發射功率必須使用依據均方根等效電壓校準之儀器量測於任何連續傳輸之時段，量測結果須依儀器限制(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量測或使用峰值功率表。

### 5.2.3. 測試架構圖



#### 5.2.4. 功率限制值測試結果

Power output test was verified over all data rates of each mode shown as below table, and then choose the maximum power output (grey marker) for final test of each channel.

For Ant 0 / Ant 0 + 1 + 2 + 3 port:

| Test Mode | Bandwidth | Channel | Frequency (MHz) | Data Rate/ MCS | Average Power (dBm) |
|-----------|-----------|---------|-----------------|----------------|---------------------|
| 802.11a   | 20        | 36      | 5180            | 6Mbps          | 19.99               |
|           |           |         |                 | 24Mbps         | 19.75               |
|           |           |         |                 | 54Mbps         | 19.50               |
| 802.11n   | 20        | 36      | 5180            | MCS0           | 20.28               |
|           |           |         |                 | MCS4           | 20.04               |
|           |           |         |                 | MCS8           | 19.85               |
| 802.11n   | 40        | 38      | 5190            | MCS0           | 19.09               |
|           |           |         |                 | MCS4           | 18.73               |
|           |           |         |                 | MCS9           | 18.50               |
| 802.11ac  | 20        | 36      | 5180            | MCS0           | 20.16               |
|           |           |         |                 | MCS4           | 19.94               |
|           |           |         |                 | MCS8           | 19.68               |
| 802.11ac  | 40        | 38      | 5190            | MCS0           | 19.71               |
|           |           |         |                 | MCS4           | 19.58               |
|           |           |         |                 | MCS9           | 19.34               |
| 802.11ac  | 80        | 42      | 5210            | MCS0           | 17.09               |
|           |           |         |                 | MCS4           | 16.74               |
|           |           |         |                 | MCS9           | 16.52               |
| 802.11ac  | 160       | 50      | 5250            | MCS0           | 15.36               |
|           |           |         |                 | MCS4           | 15.13               |
|           |           |         |                 | MCS9           | 14.92               |
| 802.11ax  | 20        | 36      | 5180            | MCS0           | 19.72               |
|           |           |         |                 | MCS5           | 19.53               |
|           |           |         |                 | MCS11          | 19.32               |
| 802.11ax  | 40        | 38      | 5190            | MCS0           | 19.10               |
|           |           |         |                 | MCS5           | 18.90               |
|           |           |         |                 | MCS11          | 18.73               |
| 802.11ax  | 80        | 42      | 5210            | MCS0           | 18.23               |
|           |           |         |                 | MCS5           | 18.03               |
|           |           |         |                 | MCS11          | 17.83               |

| Test Mode | Bandwidth | Channel | Frequency<br>(MHz) | Data Rate/<br>MCS | Average Power<br>(dBm) |
|-----------|-----------|---------|--------------------|-------------------|------------------------|
| 802.11ax  | 160       | 50      | 5250               | MCS0              | 17.09                  |
|           |           |         |                    | MCS5              | 16.82                  |
|           |           |         |                    | MCS11             | 16.58                  |

|       |                      |      |            |
|-------|----------------------|------|------------|
| 待測物名稱 | AX6000 次世代 Wi-Fi 路由器 | 溫度   | 25°C       |
| 測試工程師 | Kevin Ker            | 濕度   | 56%        |
| 測試場地  | SR1                  | 測試日期 | 2019/01/29 |

| Test Mode | Data Rate/<br>MCS | Channel No. | Freq. (MHz) | Ant 0<br>Average Power (dBm) | Ant 1<br>Average Power (dBm) | Ant 2<br>Average Power (dBm) | Ant 3<br>Average Power (dBm) | Total<br>Average Power (dBm) | Average Power Limit (dBm) | Result |
|-----------|-------------------|-------------|-------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|---------------------------|--------|
| CDD Mode  |                   |             |             |                              |                              |                              |                              |                              |                           |        |
| 11a       | 6Mbps             | 36          | 5180        | 19.99                        | 19.63                        | 20.18                        | 20.01                        | 25.98                        | ≤ 30.00                   | Pass   |
| 11a       | 6Mbps             | 44          | 5220        | 19.65                        | 19.40                        | 19.80                        | 19.64                        | 25.65                        | ≤ 30.00                   | Pass   |
| 11a       | 6Mbps             | 48          | 5240        | 19.79                        | 19.36                        | 19.70                        | 19.73                        | 25.67                        | ≤ 30.00                   | Pass   |
| 11a       | 6Mbps             | 52          | 5260        | 13.86                        | 13.60                        | 13.93                        | 14.19                        | 19.92                        | ≤ 23.98                   | Pass   |
| 11a       | 6Mbps             | 60          | 5300        | 14.11                        | 13.49                        | 14.24                        | 14.17                        | 20.03                        | ≤ 23.98                   | Pass   |
| 11a       | 6Mbps             | 64          | 5320        | 14.07                        | 13.88                        | 14.27                        | 14.55                        | 20.22                        | ≤ 23.98                   | Pass   |
| 11a       | 6Mbps             | 100         | 5500        | 14.00                        | 13.83                        | 14.04                        | 13.96                        | 19.98                        | ≤ 23.98                   | Pass   |
| 11a       | 6Mbps             | 120         | 5600        | 14.17                        | 13.82                        | 14.00                        | 14.18                        | 20.07                        | ≤ 23.98                   | Pass   |
| 11a       | 6Mbps             | 140         | 5700        | 14.79                        | 14.51                        | 14.78                        | 14.76                        | 20.73                        | ≤ 23.98                   | Pass   |
| 11a       | 6Mbps             | 149         | 5745        | 23.84                        | 24.00                        | 23.68                        | 23.68                        | 29.82                        | ≤ 30.00                   | Pass   |
| 11a       | 6Mbps             | 157         | 5785        | 23.74                        | 23.80                        | 23.64                        | 23.78                        | 29.76                        | ≤ 30.00                   | Pass   |
| 11a       | 6Mbps             | 165         | 5825        | 23.63                        | 23.71                        | 23.52                        | 23.46                        | 29.60                        | ≤ 30.00                   | Pass   |
| 11n-HT20  | MCS0              | 36          | 5180        | 20.28                        | 19.71                        | 20.12                        | 20.06                        | 26.07                        | ≤ 30.00                   | Pass   |
| 11n-HT20  | MCS0              | 40          | 5220        | 20.07                        | 19.36                        | 19.90                        | 19.96                        | 25.85                        | ≤ 30.00                   | Pass   |
| 11n-HT20  | MCS0              | 48          | 5240        | 19.68                        | 19.39                        | 19.90                        | 19.62                        | 25.67                        | ≤ 30.00                   | Pass   |
| 11n-HT20  | MCS0              | 52          | 5260        | 14.18                        | 13.34                        | 14.50                        | 14.19                        | 20.09                        | ≤ 23.98                   | Pass   |
| 11n-HT20  | MCS0              | 60          | 5300        | 14.10                        | 13.85                        | 14.37                        | 14.37                        | 20.20                        | ≤ 23.98                   | Pass   |
| 11n-HT20  | MCS0              | 64          | 5320        | 13.85                        | 13.65                        | 14.35                        | 14.09                        | 20.01                        | ≤ 23.98                   | Pass   |
| 11n-HT20  | MCS0              | 100         | 5500        | 13.39                        | 13.68                        | 13.32                        | 13.62                        | 19.53                        | ≤ 23.98                   | Pass   |
| 11n-HT20  | MCS0              | 120         | 5600        | 14.21                        | 13.93                        | 14.03                        | 14.16                        | 20.10                        | ≤ 23.98                   | Pass   |
| 11n-HT20  | MCS0              | 140         | 5700        | 15.15                        | 14.46                        | 14.92                        | 14.89                        | 20.88                        | ≤ 23.98                   | Pass   |
| 11n-HT20  | MCS0              | 149         | 5745        | 23.69                        | 23.94                        | 23.54                        | 23.66                        | 29.73                        | ≤ 30.00                   | Pass   |
| 11n-HT20  | MCS0              | 157         | 5785        | 23.68                        | 23.75                        | 23.66                        | 23.81                        | 29.75                        | ≤ 30.00                   | Pass   |
| 11n-HT20  | MCS0              | 165         | 5825        | 23.65                        | 23.73                        | 23.66                        | 23.42                        | 29.64                        | ≤ 30.00                   | Pass   |

| Test Mode  | Data Rate/<br>MCS | Channel No. | Freq. (MHz) | Ant 0<br>Average Power (dBm) | Ant 1<br>Average Power (dBm) | Ant 2<br>Average Power (dBm) | Ant 3<br>Average Power (dBm) | Total<br>Average Power (dBm) | Average Power Limit (dBm) | Result |
|------------|-------------------|-------------|-------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|---------------------------|--------|
| CDD Mode   |                   |             |             |                              |                              |                              |                              |                              |                           |        |
| 11n-HT40   | MCS0              | 38          | 5190        | 19.09                        | 18.83                        | 19.41                        | 19.21                        | 25.16                        | ≤ 30.00                   | Pass   |
| 11n-HT40   | MCS0              | 46          | 5230        | 21.92                        | 22.18                        | 22.71                        | 22.43                        | 28.34                        | ≤ 30.00                   | Pass   |
| 11n-HT40   | MCS0              | 54          | 5270        | 16.99                        | 16.82                        | 16.99                        | 17.40                        | 23.08                        | ≤ 23.98                   | Pass   |
| 11n-HT40   | MCS0              | 62          | 5310        | 15.02                        | 15.17                        | 14.99                        | 15.26                        | 21.13                        | ≤ 23.98                   | Pass   |
| 11n-HT40   | MCS0              | 102         | 5510        | 16.68                        | 16.26                        | 16.19                        | 16.59                        | 22.46                        | ≤ 23.98                   | Pass   |
| 11n-HT40   | MCS0              | 118         | 5590        | 16.86                        | 16.29                        | 16.14                        | 16.62                        | 22.51                        | ≤ 23.98                   | Pass   |
| 11n-HT40   | MCS0              | 134         | 5670        | 16.65                        | 16.99                        | 16.83                        | 17.45                        | 23.01                        | ≤ 23.98                   | Pass   |
| 11n-HT40   | MCS0              | 151         | 5755        | 23.68                        | 23.66                        | 23.71                        | 23.88                        | 29.75                        | ≤ 30.00                   | Pass   |
| 11n-HT40   | MCS0              | 159         | 5795        | 23.54                        | 23.40                        | 23.61                        | 23.78                        | 29.61                        | ≤ 30.00                   | Pass   |
| 11ac-VHT20 | MCS0              | 36          | 5180        | 20.16                        | 19.62                        | 20.21                        | 20.11                        | 26.05                        | ≤ 30.00                   | Pass   |
| 11ac-VHT20 | MSC0              | 40          | 5220        | 20.17                        | 19.52                        | 20.04                        | 20.09                        | 25.98                        | ≤ 30.00                   | Pass   |
| 11ac-VHT20 | MCS0              | 48          | 5240        | 20.04                        | 19.55                        | 19.98                        | 19.92                        | 25.90                        | ≤ 30.00                   | Pass   |
| 11ac-VHT20 | MSC0              | 52          | 5260        | 14.34                        | 13.75                        | 14.70                        | 14.59                        | 20.38                        | ≤ 23.98                   | Pass   |
| 11ac-VHT20 | MCS0              | 60          | 5300        | 14.28                        | 13.87                        | 14.73                        | 14.57                        | 20.40                        | ≤ 23.98                   | Pass   |
| 11ac-VHT20 | MSC0              | 64          | 5320        | 14.26                        | 13.32                        | 14.15                        | 13.87                        | 19.94                        | ≤ 23.98                   | Pass   |
| 11ac-VHT20 | MCS0              | 100         | 5500        | 13.52                        | 13.46                        | 13.57                        | 13.61                        | 19.56                        | ≤ 23.98                   | Pass   |
| 11ac-VHT20 | MSC0              | 120         | 5600        | 14.43                        | 13.98                        | 14.26                        | 14.26                        | 20.26                        | ≤ 23.98                   | Pass   |
| 11ac-VHT20 | MCS0              | 140         | 5700        | 15.28                        | 14.98                        | 15.08                        | 15.31                        | 21.19                        | ≤ 23.98                   | Pass   |
| 11ac-VHT20 | MCS0              | 149         | 5745        | 23.84                        | 23.89                        | 23.82                        | 23.89                        | 29.88                        | ≤ 30.00                   | Pass   |
| 11ac-VHT20 | MCS0              | 157         | 5785        | 23.69                        | 23.87                        | 23.46                        | 23.84                        | 29.74                        | ≤ 30.00                   | Pass   |
| 11ac-VHT20 | MCS0              | 165         | 5825        | 23.68                        | 23.95                        | 23.59                        | 23.88                        | 29.80                        | ≤ 30.00                   | Pass   |

| Test Mode   | Data Rate/<br>MCS | Channel No. | Freq. (MHz) | Ant 0<br>Average Power (dBm) | Ant 1<br>Average Power (dBm) | Ant 2<br>Average Power (dBm) | Ant 3<br>Average Power (dBm) | Total<br>Average Power (dBm) | Average Power Limit (dBm) | Result |
|-------------|-------------------|-------------|-------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|---------------------------|--------|
| CDD Mode    |                   |             |             |                              |                              |                              |                              |                              |                           |        |
| 11ac-VHT40  | MCS0              | 38          | 5190        | 19.71                        | 19.39                        | 19.51                        | 19.55                        | 25.56                        | ≤ 30.00                   | Pass   |
| 11ac-VHT40  | MCS0              | 46          | 5230        | 22.27                        | 22.26                        | 22.69                        | 22.35                        | 28.42                        | ≤ 30.00                   | Pass   |
| 11ac-VHT40  | MCS0              | 54          | 5270        | 17.08                        | 16.78                        | 16.95                        | 17.32                        | 23.06                        | ≤ 23.98                   | Pass   |
| 11ac-VHT40  | MCS0              | 62          | 5310        | 17.23                        | 16.95                        | 16.97                        | 17.30                        | 23.14                        | ≤ 23.98                   | Pass   |
| 11ac-VHT40  | MCS0              | 102         | 5510        | 16.66                        | 16.07                        | 16.08                        | 16.40                        | 22.33                        | ≤ 23.98                   | Pass   |
| 11ac-VHT40  | MCS0              | 118         | 5590        | 16.44                        | 15.98                        | 16.05                        | 16.36                        | 22.23                        | ≤ 23.98                   | Pass   |
| 11ac-VHT40  | MCS0              | 134         | 5670        | 17.61                        | 17.45                        | 17.36                        | 17.70                        | 23.55                        | ≤ 23.98                   | Pass   |
| 11ac-VHT40  | MCS0              | 151         | 5755        | 23.54                        | 23.23                        | 23.56                        | 23.69                        | 29.53                        | ≤ 30.00                   | Pass   |
| 11ac-VHT40  | MCS0              | 159         | 5795        | 23.70                        | 23.24                        | 23.62                        | 23.74                        | 29.60                        | ≤ 30.00                   | Pass   |
| 11ac-VHT80  | MCS0              | 42          | 5210        | 17.09                        | 16.81                        | 16.84                        | 17.29                        | 23.03                        | ≤ 30.00                   | Pass   |
| 11ac-VHT80  | MCS0              | 58          | 5290        | 17.03                        | 16.23                        | 16.66                        | 17.06                        | 22.78                        | ≤ 23.98                   | Pass   |
| 11ac-VHT80  | MCS0              | 106         | 5530        | 15.81                        | 15.99                        | 15.93                        | 15.88                        | 21.92                        | ≤ 23.98                   | Pass   |
| 11ac-VHT80  | MCS0              | 122         | 5610        | 16.40                        | 16.27                        | 16.21                        | 16.30                        | 22.32                        | ≤ 23.98                   | Pass   |
| 11ac-VHT80  | MCS0              | 155         | 5775        | 20.07                        | 20.14                        | 19.82                        | 20.29                        | 26.10                        | ≤ 30.00                   | Pass   |
| 11ac-VHT160 | MCS0              | 50          | 5250        | 15.36                        | 15.10                        | 15.59                        | 15.71                        | 21.47                        | ≤ 23.98                   | Pass   |
| 11ac-VHT160 | MCS0              | 114         | 5570        | 15.26                        | 14.92                        | 14.93                        | 15.21                        | 21.10                        | ≤ 23.98                   | Pass   |
| 11ax-HE20   | MCS0              | 36          | 5180        | 19.72                        | 19.36                        | 20.00                        | 19.92                        | 25.78                        | ≤ 30.00                   | Pass   |
| 11ax-HE20   | MCS0              | 44          | 5220        | 20.22                        | 19.57                        | 20.31                        | 20.30                        | 26.13                        | ≤ 30.00                   | Pass   |
| 11ax-HE20   | MCS0              | 48          | 5240        | 20.06                        | 19.61                        | 20.26                        | 19.96                        | 26.00                        | ≤ 30.00                   | Pass   |
| 11ax-HE20   | MCS0              | 52          | 5260        | 14.30                        | 13.93                        | 14.82                        | 14.85                        | 20.51                        | ≤ 23.98                   | Pass   |
| 11ax-HE20   | MCS0              | 60          | 5300        | 14.43                        | 13.92                        | 14.78                        | 14.68                        | 20.49                        | ≤ 23.98                   | Pass   |
| 11ax-HE20   | MCS0              | 64          | 5320        | 14.40                        | 14.04                        | 14.87                        | 14.82                        | 20.57                        | ≤ 23.98                   | Pass   |
| 11ax-HE20   | MCS0              | 100         | 5500        | 13.78                        | 13.95                        | 13.94                        | 14.16                        | 19.98                        | ≤ 23.98                   | Pass   |
| 11ax-HE20   | MCS0              | 120         | 5600        | 14.53                        | 14.09                        | 14.28                        | 14.46                        | 20.36                        | ≤ 23.98                   | Pass   |
| 11ax-HE20   | MCS0              | 140         | 5700        | 15.54                        | 14.92                        | 15.21                        | 15.49                        | 21.32                        | ≤ 23.98                   | Pass   |
| 11ax-HE20   | MCS0              | 149         | 5745        | 23.71                        | 24.15                        | 23.68                        | 23.77                        | 29.85                        | ≤ 30.00                   | Pass   |
| 11ax-HE20   | MCS0              | 157         | 5785        | 23.89                        | 23.92                        | 23.46                        | 23.72                        | 29.77                        | ≤ 30.00                   | Pass   |
| 11ax-HE20   | MCS0              | 165         | 5825        | 23.63                        | 23.86                        | 23.46                        | 23.78                        | 29.71                        | ≤ 30.00                   | Pass   |

| Test Mode  | Data Rate/<br>MCS | Channel No. | Freq. (MHz) | Ant 0 Average Power (dBm) | Ant 1 Average Power (dBm) | Ant 2 Average Power (dBm) | Ant 3 Average Power (dBm) | Total Average Power (dBm) | Average Power Limit (dBm) | Result |
|------------|-------------------|-------------|-------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|--------|
| CDD Mode   |                   |             |             |                           |                           |                           |                           |                           |                           |        |
| 11ax-HE40  | MCS0              | 38          | 5190        | 19.10                     | 18.76                     | 19.07                     | 19.02                     | 25.01                     | ≤ 30.00                   | Pass   |
| 11ax-HE40  | MCS0              | 46          | 5230        | 22.76                     | 22.76                     | 22.85                     | 22.70                     | 28.79                     | ≤ 30.00                   | Pass   |
| 11ax-HE40  | MCS0              | 54          | 5270        | 17.39                     | 16.91                     | 17.13                     | 17.67                     | 23.30                     | ≤ 23.98                   | Pass   |
| 11ax-HE40  | MCS0              | 62          | 5310        | 17.04                     | 16.89                     | 17.02                     | 17.35                     | 23.10                     | ≤ 23.98                   | Pass   |
| 11ax-HE40  | MCS0              | 102         | 5510        | 16.48                     | 16.34                     | 16.45                     | 16.51                     | 22.47                     | ≤ 23.98                   | Pass   |
| 11ax-HE40  | MCS0              | 118         | 5590        | 16.63                     | 16.23                     | 16.22                     | 16.39                     | 22.39                     | ≤ 23.98                   | Pass   |
| 11ax-HE40  | MCS0              | 134         | 5670        | 17.03                     | 17.07                     | 17.03                     | 17.57                     | 23.20                     | ≤ 23.98                   | Pass   |
| 11ax-HE40  | MCS0              | 151         | 5755        | 23.48                     | 23.48                     | 23.34                     | 23.74                     | 29.53                     | ≤ 30.00                   | Pass   |
| 11ax-HE40  | MCS0              | 159         | 5795        | 23.45                     | 23.44                     | 23.40                     | 24.01                     | 29.60                     | ≤ 30.00                   | Pass   |
| 11ax-HE80  | MCS0              | 42          | 5210        | 18.23                     | 17.89                     | 18.13                     | 18.19                     | 24.13                     | ≤ 30.00                   | Pass   |
| 11ax-HE80  | MCS0              | 58          | 5290        | 17.62                     | 17.14                     | 17.34                     | 17.81                     | 23.51                     | ≤ 23.98                   | Pass   |
| 11ax-HE80  | MCS0              | 106         | 5530        | 17.75                     | 17.38                     | 17.45                     | 17.71                     | 23.60                     | ≤ 23.98                   | Pass   |
| 11ax-HE80  | MCS0              | 122         | 5610        | 17.84                     | 17.79                     | 17.51                     | 17.60                     | 23.71                     | ≤ 23.98                   | Pass   |
| 11ax-HE80  | MCS0              | 155         | 5775        | 21.19                     | 21.39                     | 21.19                     | 21.59                     | 27.36                     | ≤ 30.00                   | Pass   |
| 11ax-HE160 | MCS0              | 50          | 5250        | 17.09                     | 17.10                     | 17.27                     | 17.29                     | 23.21                     | ≤ 23.98                   | Pass   |
| 11ax-HE160 | MCS0              | 114         | 5570        | 17.37                     | 17.25                     | 16.99                     | 17.29                     | 23.25                     | ≤ 23.98                   | Pass   |

Note 1: The Total Average Power (dBm) =  $10 \cdot \log \{10^{(\text{Ant 0 Average Power} / 10)} + 10^{(\text{Ant 1 Average Power} / 10)} + 10^{(\text{Ant 2 Average Power} / 10)} + 10^{(\text{Ant 3 Average Power} / 10)}\}$ .

Note 2:

For 5150 - 5250MHz and 5725 - 5850MHz Bands: Average Power Limit (dBm) = 30 dBm.

For 5250 - 5350MHz and 5470 - 5725MHz Bands: Average Power Limit (dBm) = 23.98 dBm.

| Test Mode         | Data Rate/<br>MCS | Channel No. | Freq. (MHz) | Ant 0<br>Average Power (dBm) | Ant 1<br>Average Power (dBm) | Ant 2<br>Average Power (dBm) | Ant 3<br>Average Power (dBm) | Total<br>Average Power (dBm) | Average Power Limit (dBm) | Result |
|-------------------|-------------------|-------------|-------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|---------------------------|--------|
| Beam-Forming Mode |                   |             |             |                              |                              |                              |                              |                              |                           |        |
| 11ac-VHT20        | MCS0              | 36          | 5180        | 20.34                        | 19.70                        | 20.24                        | 20.28                        | 26.17                        | ≤ 27.70                   | Pass   |
| 11ac-VHT20        | MSC0              | 40          | 5220        | 19.95                        | 19.53                        | 19.95                        | 20.12                        | 25.91                        | ≤ 27.70                   | Pass   |
| 11ac-VHT20        | MCS0              | 48          | 5240        | 19.92                        | 19.47                        | 20.05                        | 19.79                        | 25.83                        | ≤ 27.70                   | Pass   |
| 11ac-VHT20        | MSC0              | 52          | 5260        | 14.35                        | 13.99                        | 14.41                        | 14.62                        | 20.37                        | ≤ 21.68                   | Pass   |
| 11ac-VHT20        | MCS0              | 60          | 5300        | 14.13                        | 13.87                        | 14.41                        | 14.42                        | 20.23                        | ≤ 21.68                   | Pass   |
| 11ac-VHT20        | MSC0              | 64          | 5320        | 14.05                        | 13.84                        | 14.41                        | 14.35                        | 20.19                        | ≤ 21.68                   | Pass   |
| 11ac-VHT20        | MCS0              | 100         | 5500        | 13.49                        | 13.54                        | 13.42                        | 14.03                        | 19.65                        | ≤ 21.68                   | Pass   |
| 11ac-VHT20        | MSC0              | 120         | 5600        | 14.22                        | 13.76                        | 13.92                        | 14.45                        | 20.12                        | ≤ 21.68                   | Pass   |
| 11ac-VHT20        | MCS0              | 140         | 5700        | 15.42                        | 14.99                        | 15.19                        | 15.26                        | 21.24                        | ≤ 21.68                   | Pass   |
| 11ac-VHT20        | MCS0              | 149         | 5745        | 21.42                        | 21.51                        | 21.17                        | 21.44                        | 27.41                        | ≤ 27.70                   | Pass   |
| 11ac-VHT20        | MCS0              | 157         | 5785        | 21.53                        | 21.49                        | 21.26                        | 21.50                        | 27.47                        | ≤ 27.70                   | Pass   |
| 11ac-VHT20        | MCS0              | 165         | 5825        | 18.89                        | 18.92                        | 18.76                        | 18.73                        | 24.85                        | ≤ 27.70                   | Pass   |
| 11ac-VHT40        | MCS0              | 38          | 5190        | 15.29                        | 14.99                        | 15.57                        | 15.34                        | 21.32                        | ≤ 27.70                   | Pass   |
| 11ac-VHT40        | MCS0              | 46          | 5230        | 21.36                        | 21.00                        | 21.47                        | 21.41                        | 27.33                        | ≤ 27.70                   | Pass   |
| 11ac-VHT40        | MCS0              | 54          | 5270        | 15.33                        | 15.14                        | 15.32                        | 15.84                        | 21.44                        | ≤ 21.68                   | Pass   |
| 11ac-VHT40        | MCS0              | 62          | 5310        | 13.57                        | 13.30                        | 13.72                        | 13.89                        | 19.65                        | ≤ 21.68                   | Pass   |
| 11ac-VHT40        | MCS0              | 102         | 5510        | 15.61                        | 15.18                        | 15.10                        | 15.50                        | 21.37                        | ≤ 21.68                   | Pass   |
| 11ac-VHT40        | MCS0              | 118         | 5590        | 15.56                        | 15.00                        | 15.24                        | 15.49                        | 21.35                        | ≤ 21.68                   | Pass   |
| 11ac-VHT40        | MCS0              | 134         | 5670        | 14.93                        | 15.32                        | 15.06                        | 15.72                        | 21.29                        | ≤ 21.68                   | Pass   |
| 11ac-VHT40        | MCS0              | 151         | 5755        | 21.76                        | 21.01                        | 21.01                        | 21.61                        | 27.38                        | ≤ 27.70                   | Pass   |
| 11ac-VHT40        | MCS0              | 159         | 5795        | 21.34                        | 20.95                        | 21.25                        | 21.61                        | 27.31                        | ≤ 27.70                   | Pass   |
| 11ac-VHT80        | MCS0              | 42          | 5210        | 17.56                        | 17.28                        | 17.30                        | 17.79                        | 23.51                        | ≤ 27.70                   | Pass   |
| 11ac-VHT80        | MCS0              | 58          | 5290        | 13.99                        | 13.35                        | 14.09                        | 13.81                        | 19.84                        | ≤ 21.68                   | Pass   |
| 11ac-VHT80        | MCS0              | 106         | 5530        | 15.35                        | 15.44                        | 15.20                        | 15.37                        | 21.36                        | ≤ 21.68                   | Pass   |
| 11ac-VHT80        | MCS0              | 122         | 5610        | 15.41                        | 15.35                        | 15.29                        | 15.21                        | 21.34                        | ≤ 21.68                   | Pass   |
| 11ac-VHT80        | MCS0              | 155         | 5775        | 20.58                        | 20.40                        | 20.27                        | 20.37                        | 26.43                        | ≤ 27.70                   | Pass   |
| 11ac-VHT160       | MCS0              | 50          | 5250        | 15.56                        | 15.23                        | 15.42                        | 15.59                        | 21.47                        | ≤ 21.68                   | Pass   |
| 11ac-VHT160       | MCS0              | 114         | 5570        | 14.24                        | 14.56                        | 14.36                        | 14.51                        | 20.44                        | ≤ 21.68                   | Pass   |

| Test Mode         | Data Rate/<br>MCS | Channel No. | Freq. (MHz) | Ant 0 Average Power (dBm) | Ant 1 Average Power (dBm) | Ant 2 Average Power (dBm) | Ant 3 Average Power (dBm) | Total Average Power (dBm) | Average Power Limit (dBm) | Result |
|-------------------|-------------------|-------------|-------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|--------|
| Beam-Forming Mode |                   |             |             |                           |                           |                           |                           |                           |                           |        |
| 11ax-HE20         | MCS0              | 36          | 5180        | 19.98                     | 19.66                     | 20.18                     | 20.04                     | 25.99                     | ≤ 27.70                   | Pass   |
| 11ax-HE20         | MCS0              | 44          | 5220        | 20.01                     | 19.47                     | 20.08                     | 20.22                     | 25.97                     | ≤ 27.70                   | Pass   |
| 11ax-HE20         | MCS0              | 48          | 5240        | 20.18                     | 19.69                     | 20.13                     | 20.11                     | 26.05                     | ≤ 27.70                   | Pass   |
| 11ax-HE20         | MCS0              | 52          | 5260        | 14.37                     | 13.88                     | 14.53                     | 14.56                     | 20.36                     | ≤ 21.68                   | Pass   |
| 11ax-HE20         | MCS0              | 60          | 5300        | 14.55                     | 13.85                     | 14.46                     | 14.64                     | 20.41                     | ≤ 21.68                   | Pass   |
| 11ax-HE20         | MCS0              | 64          | 5320        | 14.19                     | 13.96                     | 14.57                     | 14.47                     | 20.32                     | ≤ 21.68                   | Pass   |
| 11ax-HE20         | MCS0              | 100         | 5500        | 13.57                     | 13.80                     | 13.55                     | 14.01                     | 19.76                     | ≤ 21.68                   | Pass   |
| 11ax-HE20         | MCS0              | 120         | 5600        | 14.31                     | 14.10                     | 14.16                     | 14.33                     | 20.25                     | ≤ 21.68                   | Pass   |
| 11ax-HE20         | MCS0              | 140         | 5700        | 15.27                     | 15.03                     | 15.13                     | 15.50                     | 21.26                     | ≤ 21.68                   | Pass   |
| 11ax-HE20         | MCS0              | 149         | 5745        | 21.43                     | 21.26                     | 21.18                     | 21.47                     | 27.36                     | ≤ 27.70                   | Pass   |
| 11ax-HE20         | MCS0              | 157         | 5785        | 21.34                     | 21.49                     | 21.45                     | 21.48                     | 27.46                     | ≤ 27.70                   | Pass   |
| 11ax-HE20         | MCS0              | 165         | 5825        | 21.35                     | 21.30                     | 21.27                     | 21.21                     | 27.30                     | ≤ 27.70                   | Pass   |
| 11ax-HE40         | MCS0              | 38          | 5190        | 14.32                     | 13.94                     | 14.62                     | 14.54                     | 20.38                     | ≤ 27.70                   | Pass   |
| 11ax-HE40         | MCS0              | 46          | 5230        | 21.27                     | 21.27                     | 21.37                     | 21.28                     | 27.32                     | ≤ 27.70                   | Pass   |
| 11ax-HE40         | MCS0              | 54          | 5270        | 15.41                     | 14.75                     | 15.17                     | 15.74                     | 21.30                     | ≤ 21.68                   | Pass   |
| 11ax-HE40         | MCS0              | 62          | 5310        | 13.79                     | 13.55                     | 13.88                     | 14.04                     | 19.84                     | ≤ 21.68                   | Pass   |
| 11ax-HE40         | MCS0              | 102         | 5510        | 15.57                     | 15.38                     | 15.49                     | 15.60                     | 21.53                     | ≤ 21.68                   | Pass   |
| 11ax-HE40         | MCS0              | 118         | 5590        | 15.52                     | 15.26                     | 15.18                     | 15.57                     | 21.41                     | ≤ 21.68                   | Pass   |
| 11ax-HE40         | MCS0              | 134         | 5670        | 15.10                     | 15.38                     | 15.42                     | 15.77                     | 21.44                     | ≤ 21.68                   | Pass   |
| 11ax-HE40         | MCS0              | 151         | 5755        | 21.41                     | 21.06                     | 21.50                     | 21.63                     | 27.43                     | ≤ 27.70                   | Pass   |
| 11ax-HE40         | MCS0              | 159         | 5795        | 21.28                     | 21.12                     | 21.19                     | 21.62                     | 27.33                     | ≤ 27.70                   | Pass   |
| 11ax-HE80         | MCS0              | 42          | 5210        | 15.64                     | 15.18                     | 15.64                     | 15.49                     | 21.51                     | ≤ 27.70                   | Pass   |
| 11ax-HE80         | MCS0              | 58          | 5290        | 15.45                     | 14.82                     | 15.24                     | 15.54                     | 21.29                     | ≤ 21.68                   | Pass   |
| 11ax-HE80         | MCS0              | 106         | 5530        | 14.54                     | 14.53                     | 14.79                     | 14.41                     | 20.59                     | ≤ 21.68                   | Pass   |
| 11ax-HE80         | MCS0              | 122         | 5610        | 15.84                     | 15.40                     | 15.23                     | 15.38                     | 21.49                     | ≤ 21.68                   | Pass   |
| 11ax-HE80         | MCS0              | 155         | 5775        | 20.06                     | 20.09                     | 20.35                     | 20.30                     | 26.22                     | ≤ 27.70                   | Pass   |
| 11ax-HE160        | MCS0              | 50          | 5250        | 15.57                     | 14.91                     | 15.63                     | 15.51                     | 21.43                     | ≤ 21.68                   | Pass   |
| 11ax-HE160        | MCS0              | 114         | 5570        | 13.86                     | 13.71                     | 13.72                     | 14.06                     | 19.86                     | ≤ 21.68                   | Pass   |

Note 1: The Total Average Power (dBm) =  $10 \cdot \log \{10^{(\text{Ant 0 Average Power} / 10)} + 10^{(\text{Ant 1 Average Power} / 10)} + 10^{(\text{Ant 2 Average Power} / 10)} + 10^{(\text{Ant 3 Average Power} / 10)}\}$ .

Note 2: For 5150 - 5250MHz and 5725 - 5850MHz Bands: Average Power Limit (dBm) =  $30 - (8.3 - 6)$   
= 27.70dBm.

For 5250 - 5350MHz and 5470 - 5725MHz Bands: Average Power Limit (dBm) =  $23.98 - (8.3 - 6)$   
= 21.68dBm.

### 5.3. 天線之要求

#### 5.3.1. 適用標準

低功率射頻電機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AX6000次世代Wi-Fi路由器其天線為半固定式Dipole Antenna，使用Fast plug SMA特殊接頭，(檢附天線規格書)

| Antenna Type               | Frequency<br>Band (MHz) | TX<br>Paths | Max Antenna<br>Gain (dBi) | BF Directional<br>Gain (dBi) | CDD Directional Gain (dBi) |         |
|----------------------------|-------------------------|-------------|---------------------------|------------------------------|----------------------------|---------|
|                            |                         |             |                           |                              | For Power                  | For PSD |
| Wi-Fi External Antenna     |                         |             |                           |                              |                            |         |
| Dipole Antenna             | 2412 ~ 2462             | 4           | 1.16                      | 7.18                         | 1.16                       | 7.18    |
|                            | 5150 ~ 5850             | 4           | 2.28                      | 8.30                         | 2.28                       | 8.30    |
| Bluetooth Internal Antenna |                         |             |                           |                              |                            |         |
| PCB Antenna                | 2402 ~ 2480             | 1           | 4.05                      | --                           | --                         | --      |

Note:

- The EUT supports Cyclic Delay Diversity (CDD) mode, and CDD signals are correlated.  
For CDD transmissions, directional gain is calculated as follows,  $N_{ANT} = 4$ ,  $N_{SS} = 1$ .  
If all antennas have the same gain,  $G_{ANT}$ , Directional gain =  $G_{ANT} + \text{Array Gain}$ , where Array Gain is as follows.
  - For power spectral density (PSD) measurements on all devices,  
Array Gain =  $10 \log (N_{ANT} / N_{SS})$  dB = 6.02;
  - For power measurements on IEEE 802.11 devices,  
Array Gain = 0 dB for  $N_{ANT} \leq 4$ ;
- The EUT also supports Beam Forming mode, and the Beam Forming support 802.11ac/ax, not include 802.11a/b/g/n. BF Directional gain =  $G_{ANT} + 10 \log (N_{ANT})$ .

## 5.4. 26dB 佔用頻寬

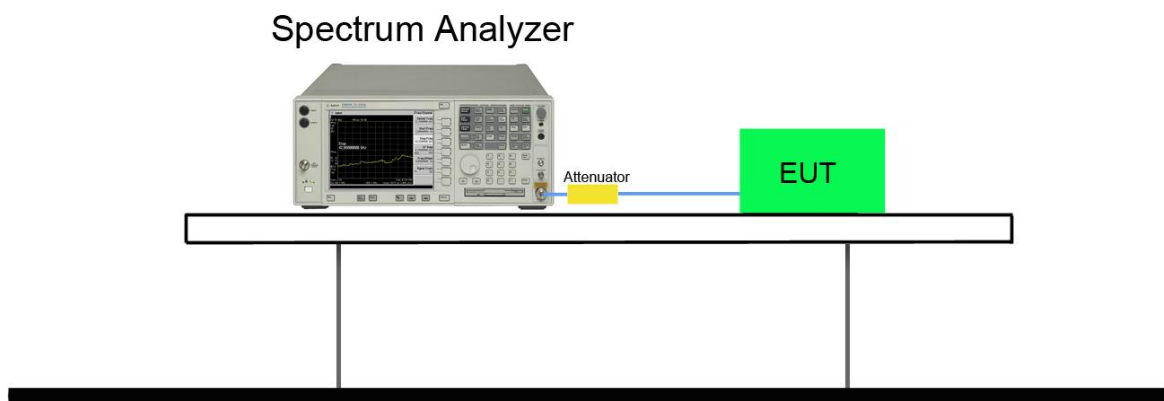
### 5.4.1. 適用標準

N/A

### 5.4.2. 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，峰值發射功率必須使用依據均方根等效電壓校準之儀器量測於任何連續傳輸之時段，量測結果須依儀器限制(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量測或使用峰值功率表。

### 5.4.3. 測試架構圖



#### 5. 4. 4. 26dB 佔用頻寬測試結果

|       |                      |      |            |
|-------|----------------------|------|------------|
| 待測物名稱 | AX6000 次世代 Wi-Fi 路由器 | 溫度   | 24°C       |
| 測試工程師 | Kevin Ker            | 濕度   | 56%        |
| 測試場地  | SR2                  | 測試日期 | 2019/02/13 |

| Test Mode                 | Data Rate/<br>MCS | Channel No. | Frequency<br>(MHz) | 26dB Bandwidth<br>(MHz) | 99% Bandwidth<br>(MHz) |
|---------------------------|-------------------|-------------|--------------------|-------------------------|------------------------|
| Ant 0 / Ant 0 + 1 + 2 + 3 |                   |             |                    |                         |                        |
| 802.11a                   | 6Mbps             | 36          | 5180               | 21.06                   | 16.70                  |
| 802.11a                   | 6Mbps             | 44          | 5220               | 21.29                   | 16.70                  |
| 802.11a                   | 6Mbps             | 48          | 5240               | 21.09                   | 16.70                  |
| 802.11a                   | 6Mbps             | 52          | 5260               | 21.13                   | 16.73                  |
| 802.11a                   | 6Mbps             | 60          | 5300               | 21.14                   | 16.75                  |
| 802.11a                   | 6Mbps             | 64          | 5320               | 21.17                   | 16.71                  |
| 802.11a                   | 6Mbps             | 100         | 5500               | 21.06                   | 16.73                  |
| 802.11a                   | 6Mbps             | 120         | 5600               | 21.17                   | 16.76                  |
| 802.11a                   | 6Mbps             | 140         | 5700               | 20.87                   | 16.69                  |
| 802.11a                   | 6Mbps             | 149         | 5745               | 21.11                   | 16.70                  |
| 802.11a                   | 6Mbps             | 157         | 5785               | 20.95                   | 16.82                  |
| 802.11a                   | 6Mbps             | 165         | 5825               | 21.01                   | 16.81                  |
| 802.11n-HT20              | MCS0              | 36          | 5180               | 21.39                   | 17.79                  |
| 802.11n-HT20              | MCS0              | 44          | 5220               | 21.15                   | 17.78                  |
| 802.11n-HT20              | MCS0              | 48          | 5240               | 21.17                   | 17.78                  |
| 802.11n-HT20              | MCS0              | 52          | 5260               | 21.39                   | 17.84                  |
| 802.11n-HT20              | MCS0              | 60          | 5300               | 21.12                   | 17.80                  |
| 802.11n-HT20              | MCS0              | 64          | 5320               | 21.08                   | 17.81                  |
| 802.11n-HT20              | MCS0              | 100         | 5500               | 21.25                   | 17.81                  |
| 802.11n-HT20              | MCS0              | 120         | 5600               | 21.21                   | 17.84                  |
| 802.11n-HT20              | MCS0              | 140         | 5700               | 21.21                   | 17.78                  |
| 802.11n-HT20              | MCS0              | 149         | 5745               | 21.11                   | 17.80                  |
| 802.11n-HT20              | MCS0              | 157         | 5785               | 21.21                   | 17.83                  |
| 802.11n-HT20              | MCS0              | 165         | 5825               | 21.05                   | 17.82                  |

| Test Mode                 | Data Rate/<br>MCS | Channel No. | Frequency<br>(MHz) | 26dB Bandwidth<br>(MHz) | 99% Bandwidth<br>(MHz) |
|---------------------------|-------------------|-------------|--------------------|-------------------------|------------------------|
| Ant 0 / Ant 0 + 1 + 2 + 3 |                   |             |                    |                         |                        |
| 802.11n-HT40              | MCS0              | 38          | 5190               | 39.35                   | 36.31                  |
| 802.11n-HT40              | MCS0              | 46          | 5230               | 39.76                   | 36.24                  |
| 802.11n-HT40              | MCS0              | 54          | 5270               | 39.41                   | 36.28                  |
| 802.11n-HT40              | MCS0              | 62          | 5310               | 39.37                   | 36.28                  |
| 802.11n-HT40              | MCS0              | 102         | 5510               | 39.05                   | 36.31                  |
| 802.11n-HT40              | MCS0              | 118         | 5590               | 39.32                   | 36.30                  |
| 802.11n-HT40              | MCS0              | 134         | 5670               | 39.47                   | 36.24                  |
| 802.11n-HT40              | MCS0              | 151         | 5755               | 39.27                   | 36.23                  |
| 802.11n-HT40              | MCS0              | 159         | 5795               | 40.02                   | 36.25                  |
| 802.11ac-VHT20            | MCS0              | 36          | 5180               | 21.27                   | 17.84                  |
| 802.11ac-VHT20            | MCS0              | 44          | 5220               | 21.22                   | 17.88                  |
| 802.11ac-VHT20            | MCS0              | 48          | 5240               | 21.39                   | 17.80                  |
| 802.11ac-VHT20            | MCS0              | 52          | 5260               | 21.34                   | 17.85                  |
| 802.11ac-VHT20            | MCS0              | 60          | 5300               | 21.15                   | 17.84                  |
| 802.11ac-VHT20            | MCS0              | 64          | 5320               | 21.22                   | 17.85                  |
| 802.11ac-VHT20            | MCS0              | 100         | 5500               | 21.38                   | 17.85                  |
| 802.11ac-VHT20            | MCS0              | 120         | 5600               | 21.26                   | 17.84                  |
| 802.11ac-VHT20            | MCS0              | 140         | 5700               | 21.11                   | 17.83                  |
| 802.11ac-VHT20            | MCS0              | 149         | 5745               | 21.39                   | 17.85                  |
| 802.11ac-VHT20            | MCS0              | 157         | 5785               | 21.36                   | 17.88                  |
| 802.11ac-VHT20            | MCS0              | 165         | 5825               | 21.39                   | 17.87                  |
| 802.11ac-VHT40            | MCS0              | 38          | 5190               | 39.56                   | 36.36                  |
| 802.11ac-VHT40            | MCS0              | 46          | 5230               | 39.63                   | 36.32                  |
| 802.11ac-VHT40            | MCS0              | 54          | 5270               | 39.57                   | 36.37                  |
| 802.11ac-VHT40            | MCS0              | 62          | 5310               | 39.59                   | 36.19                  |
| 802.11ac-VHT40            | MCS0              | 102         | 5510               | 39.38                   | 36.37                  |
| 802.11ac-VHT40            | MCS0              | 118         | 5590               | 39.65                   | 36.29                  |
| 802.11ac-VHT40            | MCS0              | 134         | 5670               | 39.37                   | 36.34                  |
| 802.11ac-VHT40            | MCS0              | 151         | 5755               | 39.57                   | 36.21                  |
| 802.11ac-VHT40            | MCS0              | 159         | 5795               | 39.72                   | 36.31                  |

| Test Mode                 | Data Rate/<br>MCS | Channel No. | Frequency<br>(MHz) | 26dB Bandwidth<br>(MHz) | 99% Bandwidth<br>(MHz) |
|---------------------------|-------------------|-------------|--------------------|-------------------------|------------------------|
| Ant 0 / Ant 0 + 1 + 2 + 3 |                   |             |                    |                         |                        |
| 802.11ac-VHT80            | MCS0              | 42          | 5210               | 80.66                   | 75.70                  |
| 802.11ac-VHT80            | MCS0              | 58          | 5290               | 81.23                   | 75.64                  |
| 802.11ac-VHT80            | MCS0              | 106         | 5530               | 80.70                   | 75.73                  |
| 802.11ac-VHT80            | MCS0              | 122         | 5610               | 80.60                   | 75.52                  |
| 802.11ac-VHT80            | MCS0              | 155         | 5775               | 81.15                   | 75.65                  |
| 802.11ac-VHT160           | MCS0              | 50          | 5250               | 163.10                  | 154.48                 |
| 802.11ac-VHT160           | MCS0              | 114         | 5570               | 163.00                  | 154.31                 |
| 802.11ax-HE20             | MCS0              | 36          | 5180               | 21.44                   | 19.05                  |
| 802.11ax-HE20             | MCS0              | 44          | 5220               | 21.12                   | 19.06                  |
| 802.11ax-HE20             | MCS0              | 48          | 5240               | 21.07                   | 19.04                  |
| 802.11ax-HE20             | MCS0              | 52          | 5260               | 21.03                   | 19.08                  |
| 802.11ax-HE20             | MCS0              | 60          | 5300               | 21.12                   | 19.05                  |
| 802.11ax-HE20             | MCS0              | 64          | 5320               | 21.50                   | 19.02                  |
| 802.11ax-HE20             | MCS0              | 100         | 5500               | 21.10                   | 19.01                  |
| 802.11ax-HE20             | MCS0              | 120         | 5600               | 21.35                   | 18.98                  |
| 802.11ax-HE20             | MCS0              | 140         | 5700               | 21.40                   | 19.04                  |
| 802.11ax-HE20             | MCS0              | 149         | 5745               | 21.13                   | 19.03                  |
| 802.11ax-HE20             | MCS0              | 157         | 5785               | 20.55                   | 19.10                  |
| 802.11ax-HE20             | MCS0              | 165         | 5825               | 22.66                   | 19.02                  |
| 802.11ax-HE40             | MCS0              | 38          | 5190               | 39.82                   | 37.50                  |
| 802.11ax-HE40             | MCS0              | 46          | 5230               | 39.63                   | 37.59                  |
| 802.11ax-HE40             | MCS0              | 54          | 5270               | 39.65                   | 37.49                  |
| 802.11ax-HE40             | MCS0              | 62          | 5310               | 39.42                   | 37.43                  |
| 802.11ax-HE40             | MCS0              | 102         | 5510               | 39.86                   | 37.55                  |
| 802.11ax-HE40             | MCS0              | 118         | 5590               | 39.48                   | 37.55                  |
| 802.11ax-HE40             | MCS0              | 134         | 5670               | 39.71                   | 37.59                  |
| 802.11ax-HE40             | MCS0              | 151         | 5755               | 39.61                   | 37.72                  |
| 802.11ax-HE40             | MCS0              | 159         | 5795               | 39.58                   | 37.52                  |

| Test Mode                 | Data Rate/<br>MCS | Channel No. | Frequency<br>(MHz) | 26dB Bandwidth<br>(MHz) | 99% Bandwidth<br>(MHz) |
|---------------------------|-------------------|-------------|--------------------|-------------------------|------------------------|
| Ant 0 / Ant 0 + 1 + 2 + 3 |                   |             |                    |                         |                        |
| 802.11ax-HE80             | MCS0              | 42          | 5210               | 80.86                   | 76.99                  |
| 802.11ax-HE80             | MCS0              | 58          | 5290               | 81.66                   | 77.07                  |
| 802.11ax-HE80             | MCS0              | 106         | 5530               | 80.82                   | 77.18                  |
| 802.11ax-HE80             | MCS0              | 122         | 5610               | 80.68                   | 76.97                  |
| 802.11ax-HE80             | MCS0              | 155         | 5775               | 80.93                   | 77.13                  |
| 802.11ax-HE160            | MCS0              | 50          | 5250               | 163.30                  | 155.13                 |
| 802.11ax-HE160            | MCS0              | 114         | 5570               | 164.60                  | 155.37                 |

## 802.11a 26dB Bandwidth &amp; 99% Bandwidth - Ant 0 / Ant 0 + 1 + 2 + 3

## Channel 36 (5180MHz)



## Channel 44 (5220MHz)



## Channel 48 (5240MHz)



## Channel 52 (5260MHz)

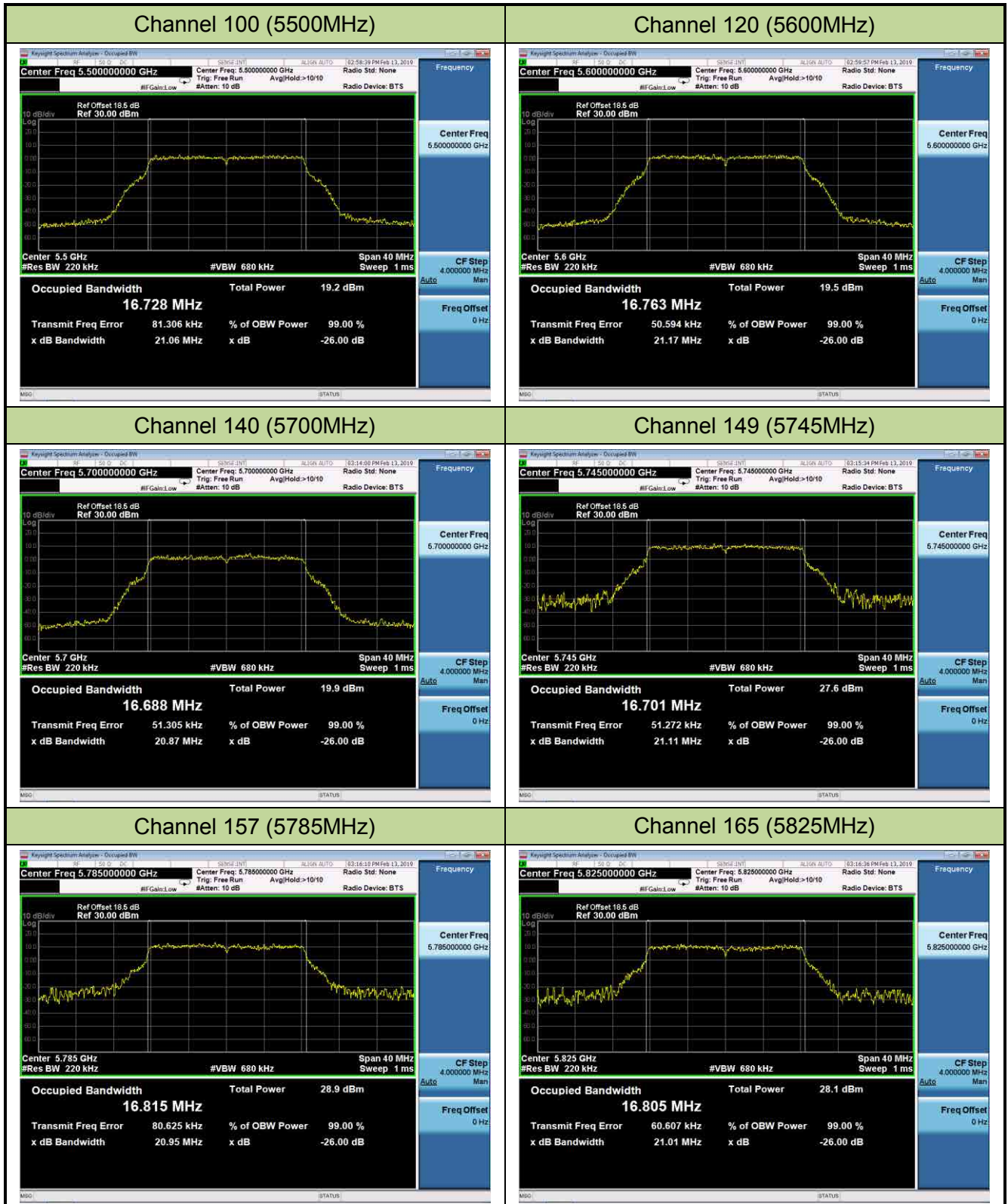


## Channel 60 (5300MHz)



## Channel 64 (5320MHz)





## 802.11n-HT20 26dB Bandwidth &amp; 99% Bandwidth - Ant 0 / Ant 0 + 1 + 2 + 3

## Channel 36 (5180MHz)



## Channel 44 (5220MHz)



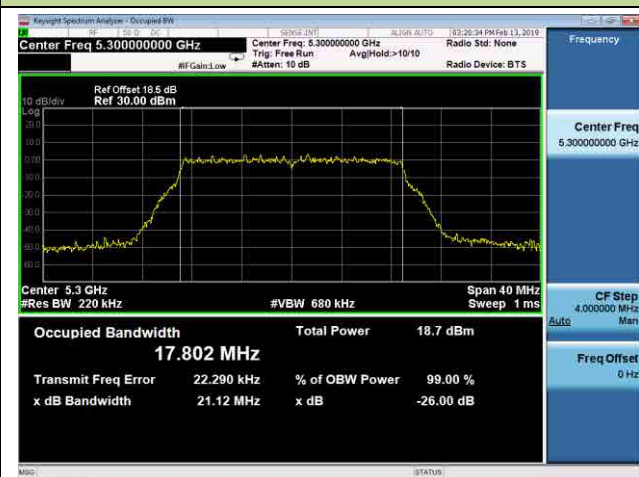
## Channel 48 (5240MHz)



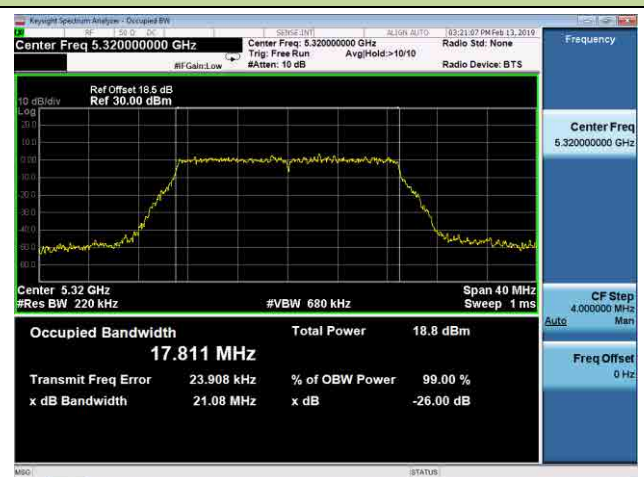
## Channel 52 (5260MHz)



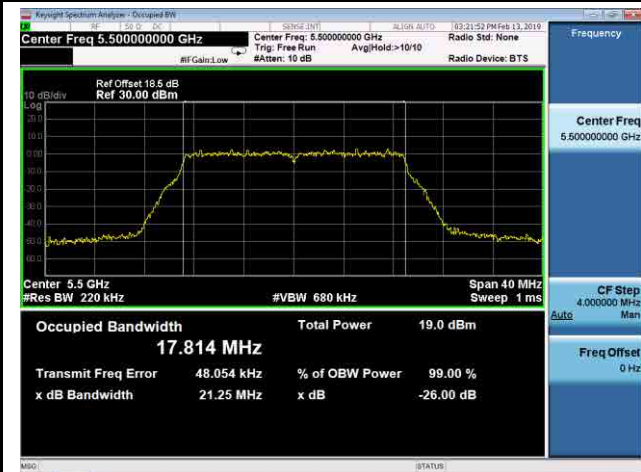
## Channel 60 (5300MHz)



## Channel 64 (5320MHz)



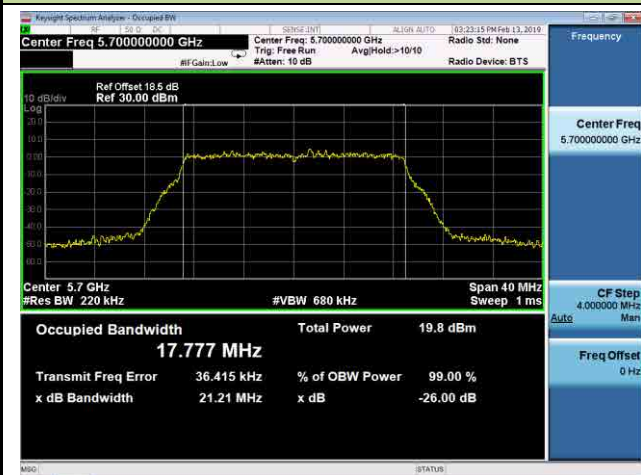
Channel 100 (5500MHz)



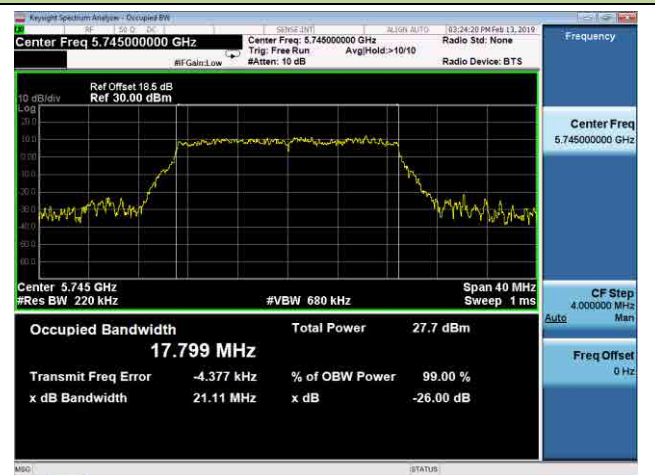
Channel 120 (5600MHz)



Channel 140 (5700MHz)



Channel 149 (5745MHz)



Channel 157 (5785MHz)



Channel 165 (5825MHz)

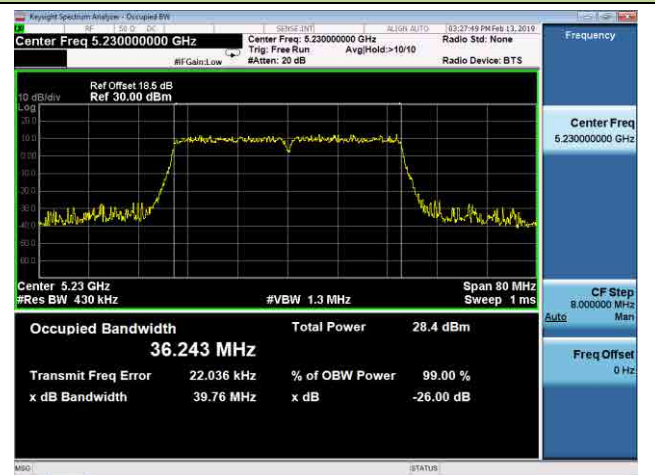


## 802.11n-HT40 26dB Bandwidth &amp; 99% Bandwidth - Ant 0 / Ant 0 + 1 + 2 + 3

## Channel 38 (5190MHz)



## Channel 46 (5230MHz)



## Channel 54 (5270MHz)



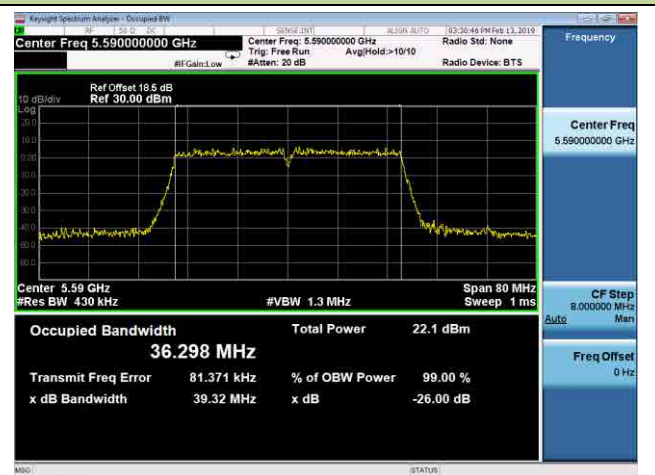
## Channel 62 (5310MHz)



## Channel 102 (5510MHz)



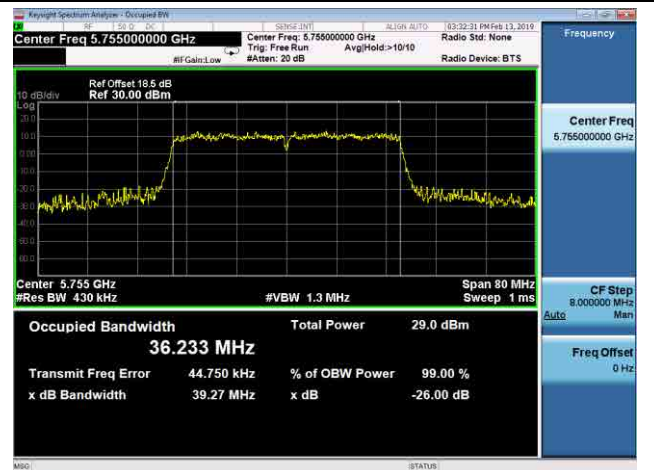
## Channel 118 (5590MHz)



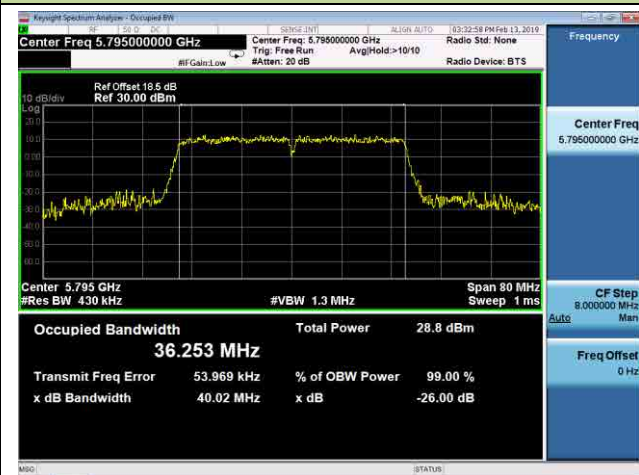
### Channel 134 (5670MHz)



### Channel 151 (5755MHz)



### Channel 159 (5795MHz)



## 802.11ac-VHT20 26dB Bandwidth &amp; 99% Bandwidth - Ant 0 / Ant 0 + 1 + 2 + 3

## Channel 36 (5180MHz)



## Channel 44 (5220MHz)



## Channel 48 (5240MHz)



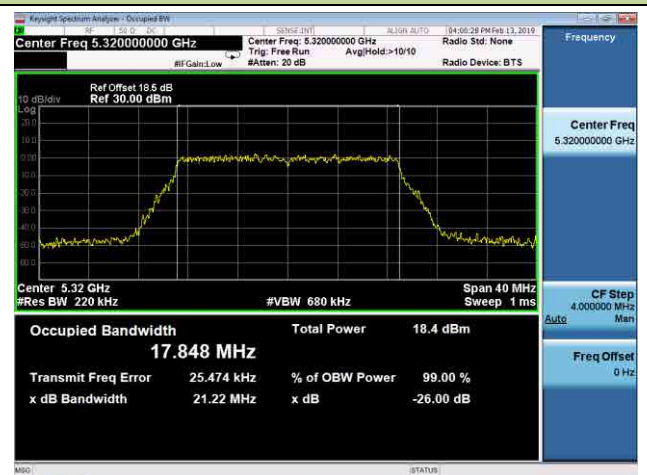
## Channel 52 (5260MHz)



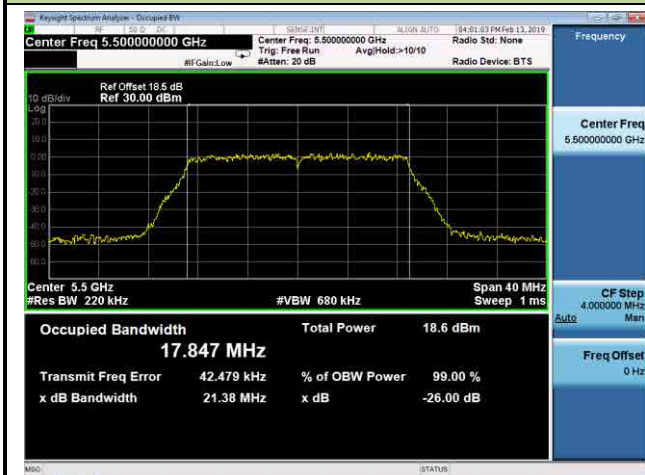
## Channel 60 (5300MHz)



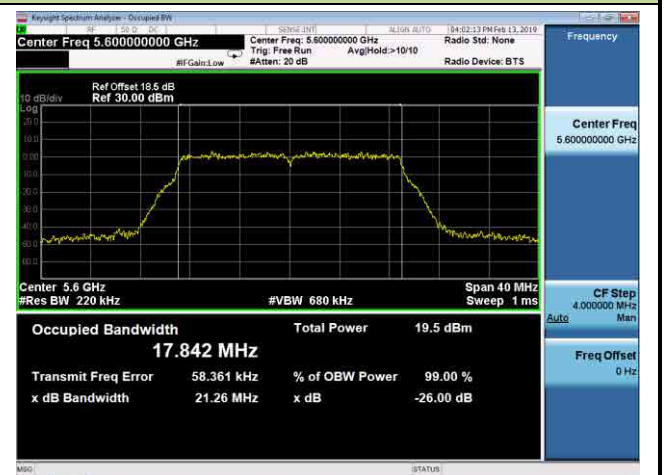
## Channel 64 (5320MHz)



Channel 100 (5500MHz)



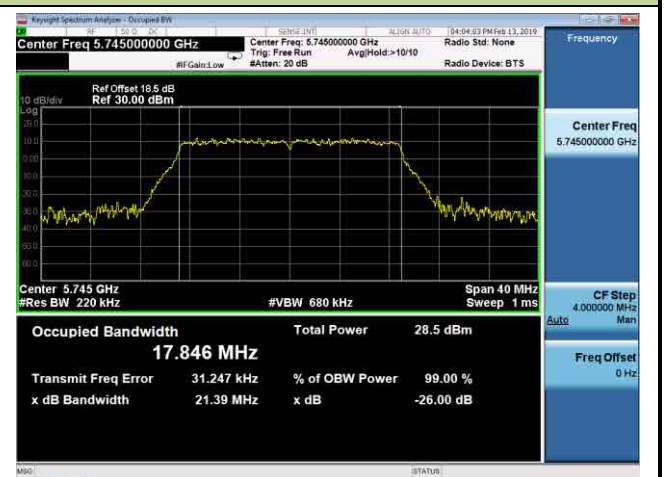
Channel 120 (5600MHz)



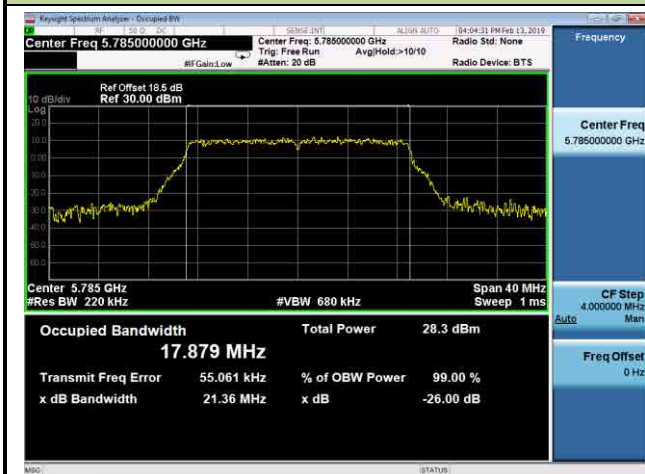
Channel 140 (5700MHz)



Channel 149 (5745MHz)



Channel 157 (5785MHz)



Channel 165 (5825MHz)

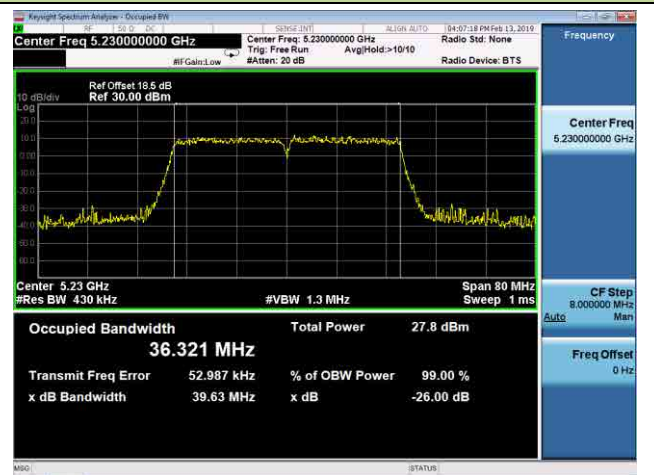


## 802.11ac-VHT40 26dB Bandwidth &amp; 99% Bandwidth - Ant 0 / Ant 0 + 1 + 2 + 3

## Channel 38 (5190MHz)



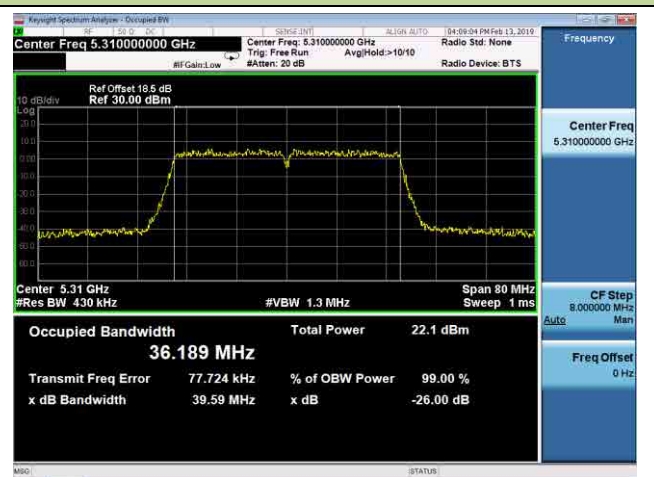
## Channel 46 (5230MHz)



## Channel 54 (5270MHz)



## Channel 62 (5310MHz)



## Channel 102 (5510MHz)



## Channel 118 (5590MHz)



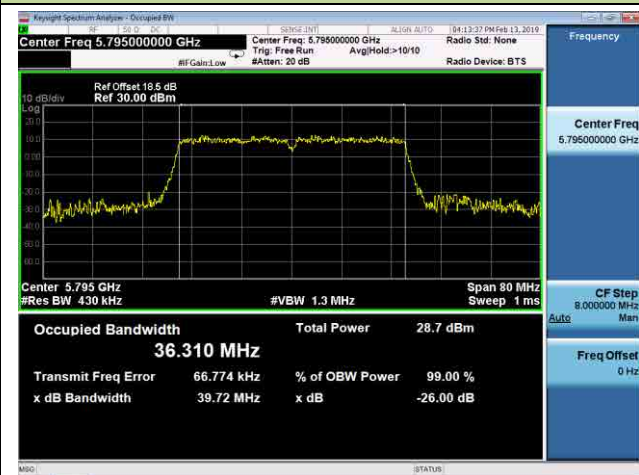
### Channel 134 (5670MHz)



### Channel 151 (5755MHz)



### Channel 159 (5795MHz)



## 802.11ac-VHT80 26dB Bandwidth &amp; 99% Bandwidth - Ant 0 / Ant 0 + 1 + 2 + 3

## Channel 42 (5210MHz)



## Channel 58 (5290MHz)



## Channel 106 (5530MHz)



## Channel 122 (5610MHz)

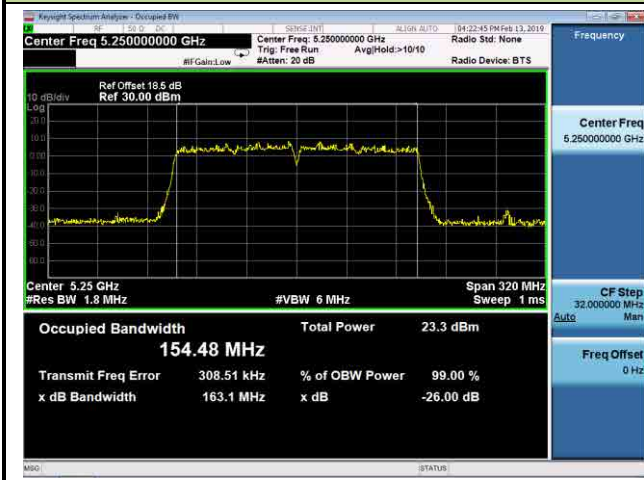


## Channel 155 (5775MHz)



## 802.11ac-VHT160 26dB Bandwidth &amp; 99% Bandwidth - Ant 0 / Ant 0 + 1 + 2 + 3

## Channel 50 (5250MHz)



## Channel 114 (5570MHz)

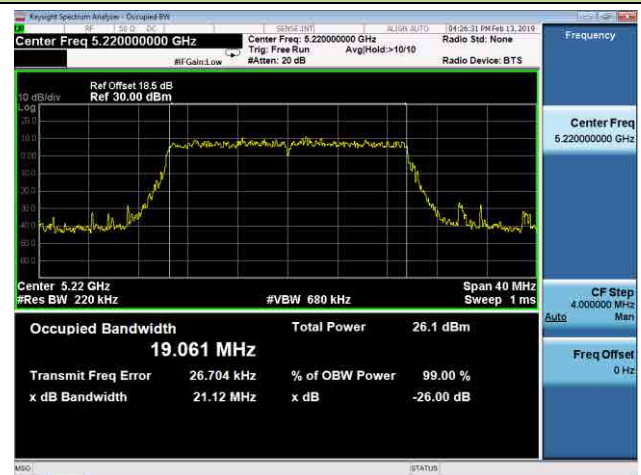


## 802.11ax-HE20 26dB Bandwidth &amp; 99% Bandwidth - Ant 0 / Ant 0 + 1 + 2 + 3

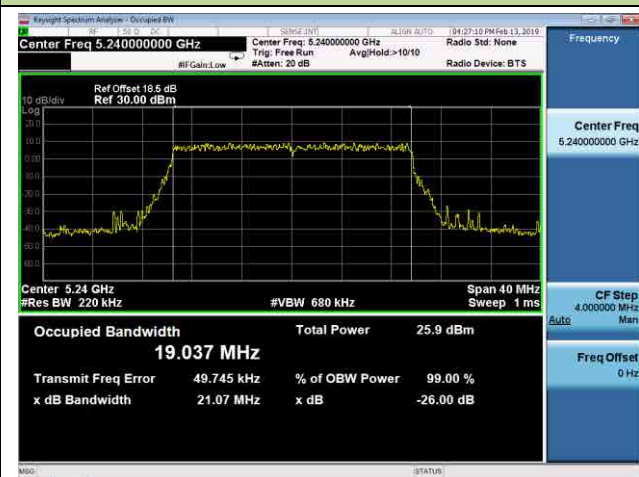
## Channel 36 (5180MHz)



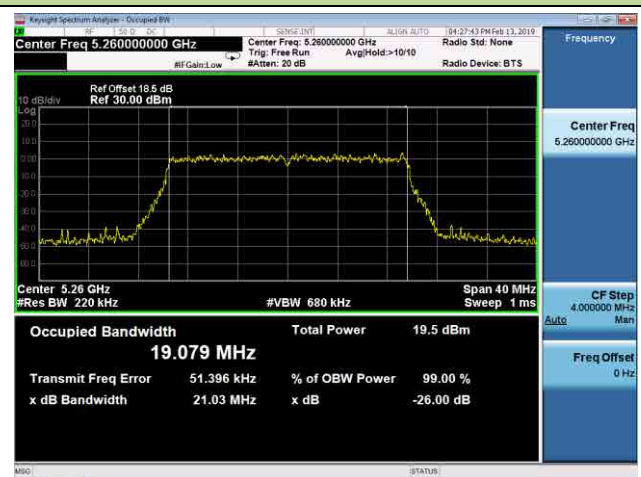
## Channel 44 (5220MHz)



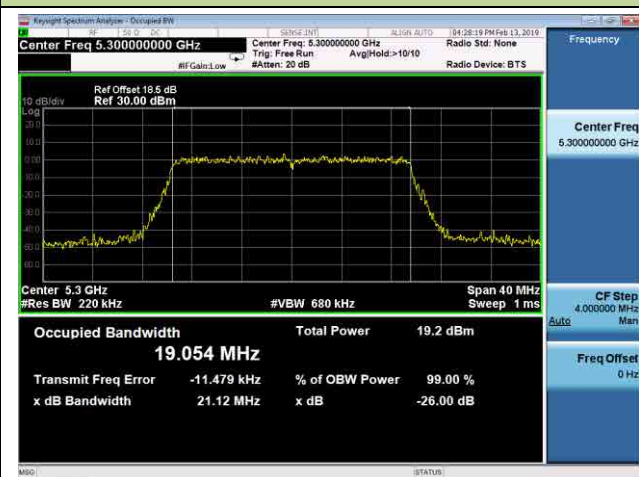
## Channel 48 (5240MHz)



## Channel 52 (5260MHz)



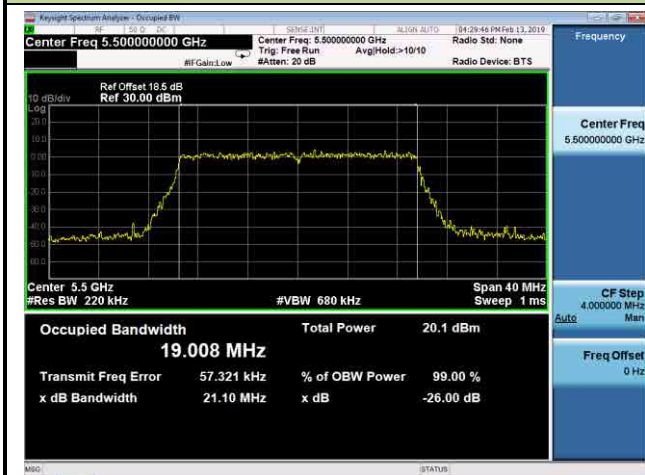
## Channel 60 (5300MHz)



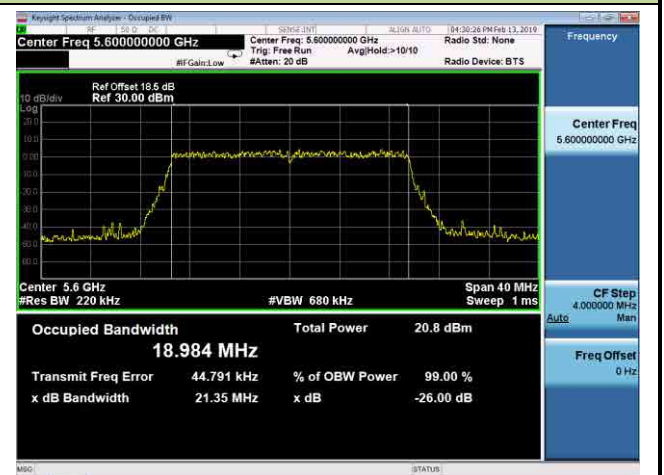
## Channel 64 (5320MHz)



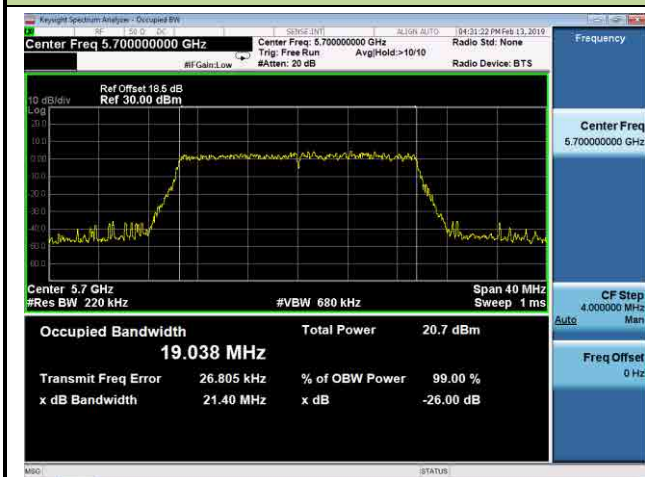
Channel 100 (5500MHz)



Channel 120 (5600MHz)



Channel 140 (5700MHz)



Channel 149 (5745MHz)



Channel 157 (5785MHz)



Channel 165 (5825MHz)

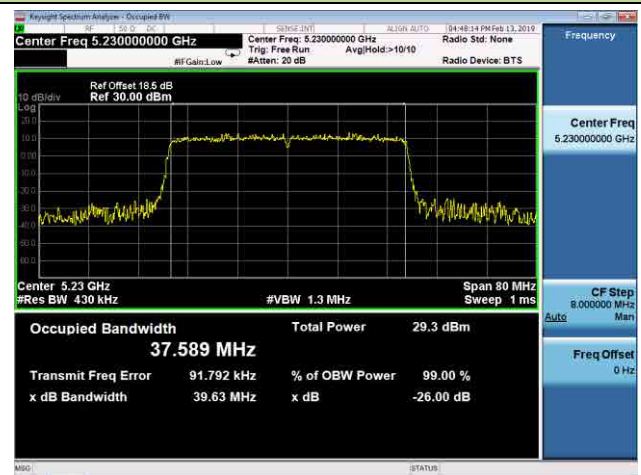


## 802.11ax-HE40 26dB Bandwidth &amp; 99% Bandwidth - Ant 0 / Ant 0 + 1 + 2 + 3

## Channel 38 (5190MHz)



## Channel 46 (5230MHz)



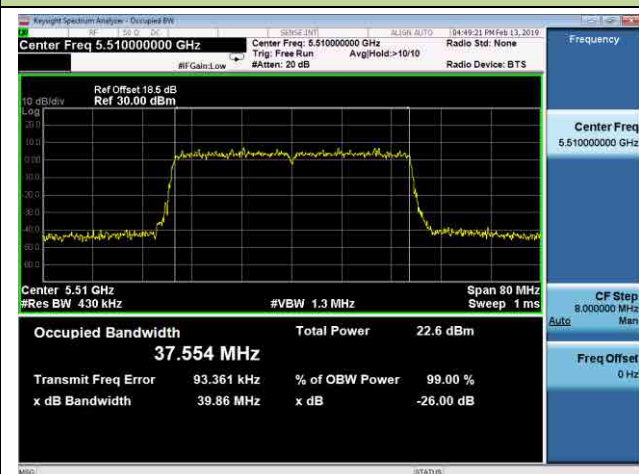
## Channel 54 (5270MHz)



## Channel 62 (5310MHz)



## Channel 102 (5510MHz)



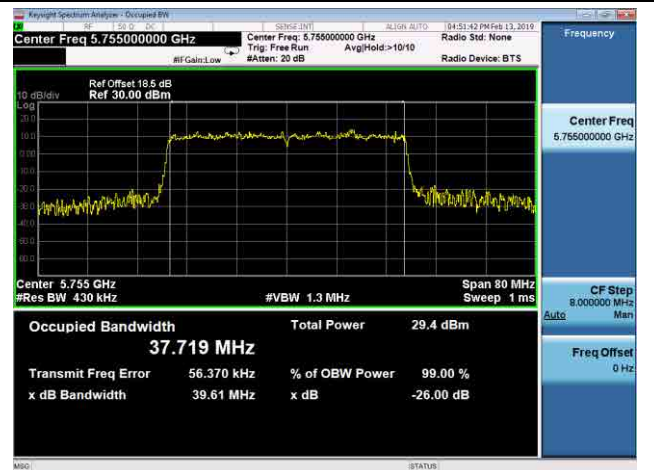
## Channel 118 (5590MHz)



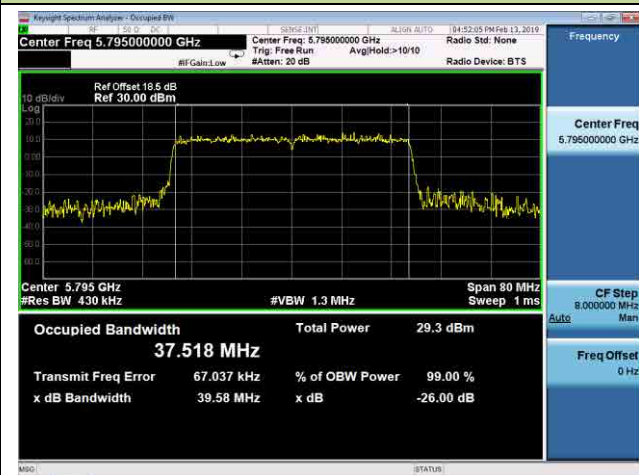
Channel 134 (5670MHz)



Channel 151 (5755MHz)

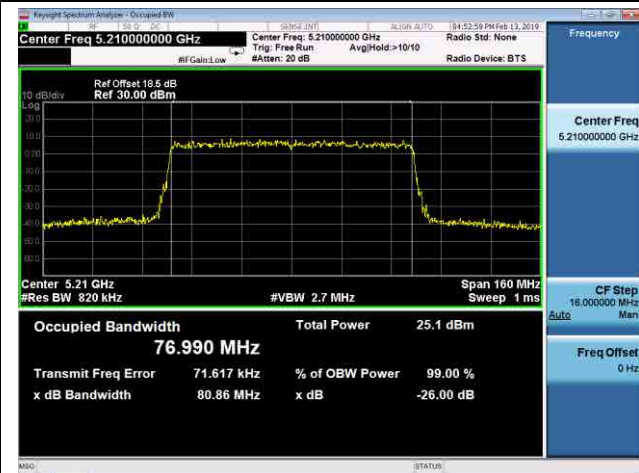


Channel 159 (5795MHz)



## 802.11ax-HE80 26dB Bandwidth &amp; 99% Bandwidth - Ant 0 / Ant 0 + 1 + 2 + 3

## Channel 42 (5210MHz)



## Channel 58 (5290MHz)



## Channel 106 (5530MHz)



## Channel 122 (5610MHz)

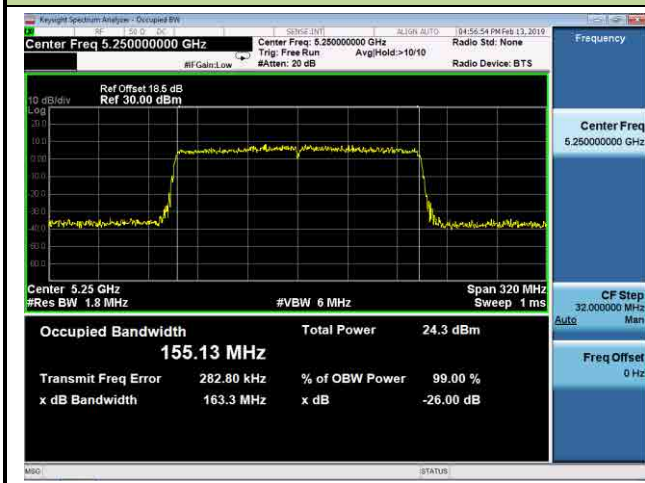


## Channel 155 (5775MHz)



## 802.11ax-HE160 26dB Bandwidth &amp; 99% Bandwidth - Ant 0 / Ant 0 + 1 + 2 + 3

## Channel 50 (5250MHz)



## Channel 114 (5570MHz)



## 5.5. 6dB 佔用頻寬

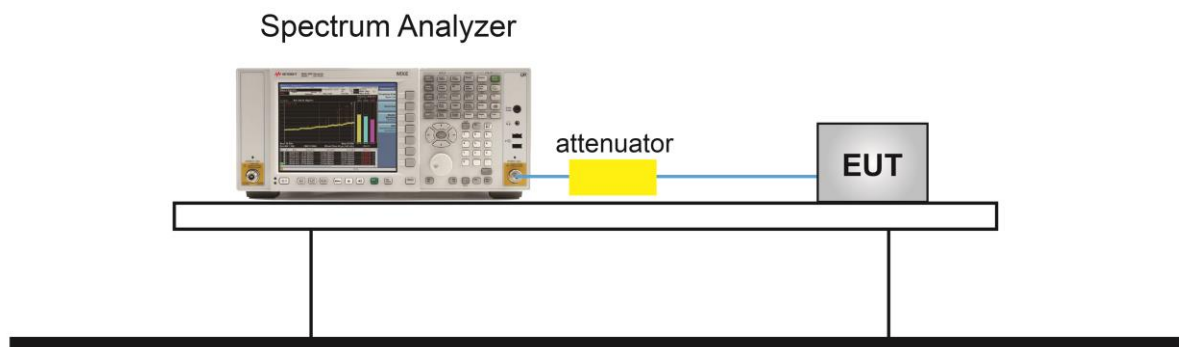
### 5.5.1. 適用標準

在 5.725 GHz~5.850 GHz 頻段操作之設備，其 6 dB 頻寬至少應有 500 kHz。

### 5.5.2. 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，峰值發射功率必須使用依據均方根等效電壓校準之儀器量測於任何連續傳輸之時段，量測結果須依儀器限制(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量測或使用峰值功率表。

### 5.5.3. 測試架構圖



#### 5.5.4. 6dB 佔用頻寬測試結果

|       |                      |      |            |
|-------|----------------------|------|------------|
| 待測物名稱 | AX6000 次世代 Wi-Fi 路由器 | 溫度   | 24°C       |
| 測試工程師 | Kevin Ker            | 濕度   | 56%        |
| 測試場地  | SR2                  | 測試日期 | 2019/02/13 |

| Test Mode                 | Data Rate/<br>MCS | Channel<br>No. | Frequency<br>(MHz) | 6dB Bandwidth<br>(MHz) | Limit<br>(MHz) | Result |
|---------------------------|-------------------|----------------|--------------------|------------------------|----------------|--------|
| Ant 0 / Ant 0 + 1 + 2 + 3 |                   |                |                    |                        |                |        |
| 802.11a                   | 6Mbps             | 149            | 5745               | 16.38                  | ≥ 0.5          | Pass   |
| 802.11a                   | 6Mbps             | 157            | 5785               | 16.43                  | ≥ 0.5          | Pass   |
| 802.11a                   | 6Mbps             | 165            | 5825               | 16.37                  | ≥ 0.5          | Pass   |
| 802.11n-HT20              | 6Mbps             | 149            | 5745               | 17.58                  | ≥ 0.5          | Pass   |
| 802.11n-HT20              | 6Mbps             | 157            | 5785               | 17.60                  | ≥ 0.5          | Pass   |
| 802.11n-HT20              | 6Mbps             | 165            | 5825               | 17.61                  | ≥ 0.5          | Pass   |
| 802.11n-HT40              | 6Mbps             | 151            | 5755               | 36.32                  | ≥ 0.5          | Pass   |
| 802.11n-HT40              | 6Mbps             | 159            | 5795               | 34.58                  | ≥ 0.5          | Pass   |
| 802.11ac-VHT20            | MCS0              | 149            | 5745               | 17.63                  | ≥ 0.5          | Pass   |
| 802.11ac-VHT20            | MCS0              | 157            | 5785               | 17.61                  | ≥ 0.5          | Pass   |
| 802.11ac-VHT20            | MCS0              | 165            | 5825               | 17.61                  | ≥ 0.5          | Pass   |
| 802.11ac-VHT40            | MCS0              | 151            | 5755               | 36.31                  | ≥ 0.5          | Pass   |
| 802.11ac-VHT40            | MCS0              | 159            | 5795               | 36.31                  | ≥ 0.5          | Pass   |
| 802.11ac-VHT80            | MCS0              | 155            | 5775               | 75.47                  | ≥ 0.5          | Pass   |
| 802.11ax-HE20             | MCS0              | 149            | 5745               | 19.00                  | ≥ 0.5          | Pass   |
| 802.11ax-HE20             | MCS0              | 157            | 5785               | 18.47                  | ≥ 0.5          | Pass   |
| 802.11ax-HE20             | MCS0              | 165            | 5825               | 18.62                  | ≥ 0.5          | Pass   |
| 802.11ax-HE40             | MCS0              | 151            | 5755               | 37.36                  | ≥ 0.5          | Pass   |
| 802.11ax-HE40             | MCS0              | 159            | 5795               | 37.61                  | ≥ 0.5          | Pass   |
| 802.11ax-HE80             | MCS0              | 155            | 5775               | 76.23                  | ≥ 0.5          | Pass   |

## 802.11a 6dB Bandwidth - Ant 0 / Ant 0 + 1 + 2 + 3

## Channel 149 (5745MHz)



## Channel 157 (5785MHz)



## Channel 165 (5825MHz)

