

## 802.11g 6dB Bandwidth - Ant 0 / Ant 0 + 1

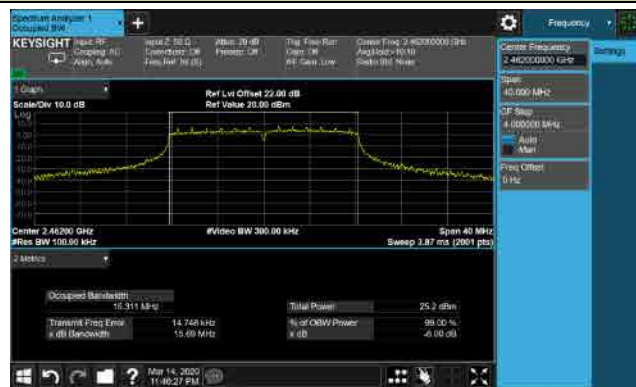
## Channel 01 (2412MHz)



## Channel 06 (2437MHz)

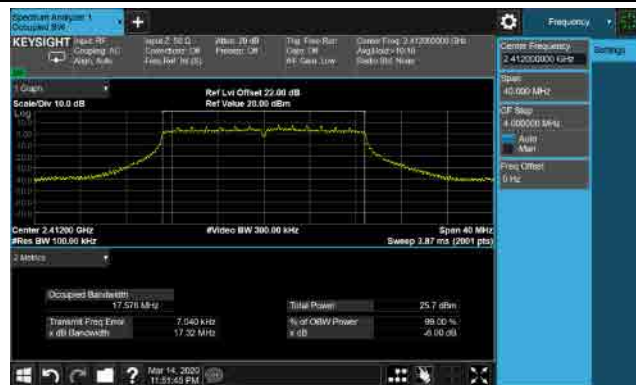


## Channel 11 (2462MHz)

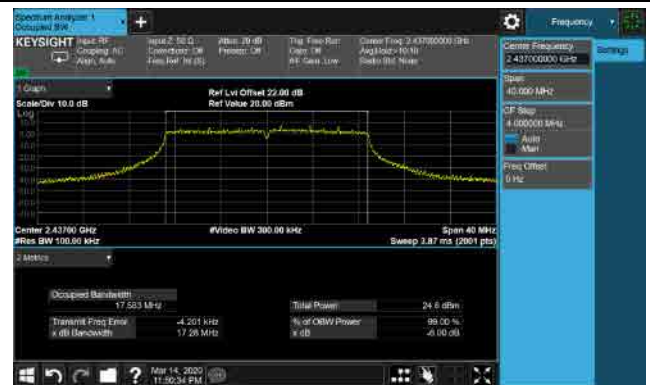


## 802.11n-HT20 6dB Bandwidth - Ant 0 / Ant 0 + 1

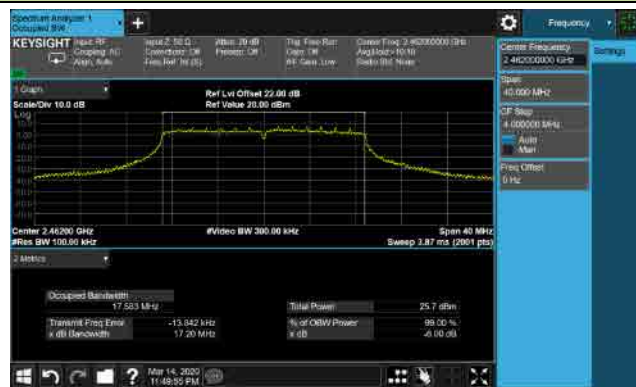
## Channel 01 (2412MHz)



## Channel 06 (2437MHz)



## Channel 11 (2462MHz)



## 802.11n-HT40 6dB Bandwidth - Ant 0 / Ant 0 + 1

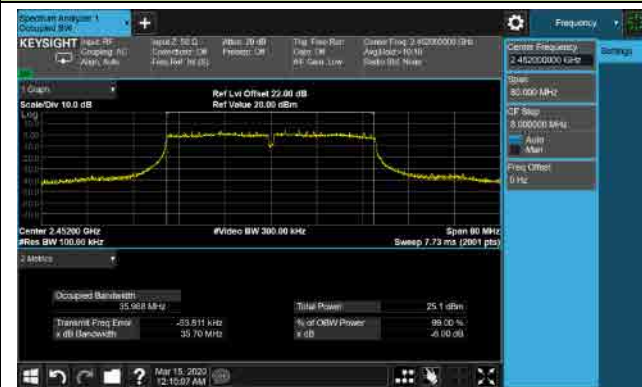
## Channel 03 (2422MHz)



## Channel 06 (2437MHz)



## Channel 09 (2452MHz)



## 802.11ax-HE20 6dB Bandwidth - Ant 0 / Ant 0 + 1

## Channel 01 (2412MHz)



## Channel 06 (2437MHz)

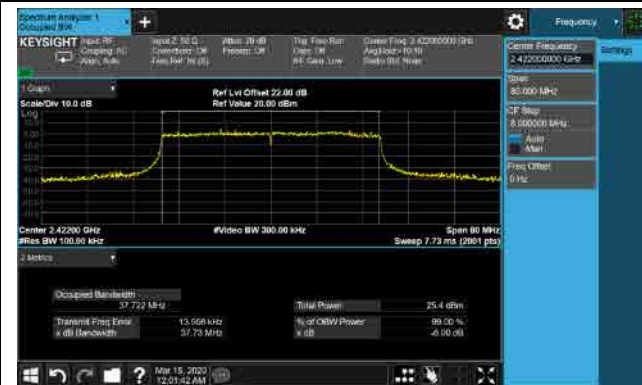


## Channel 11 (2462MHz)

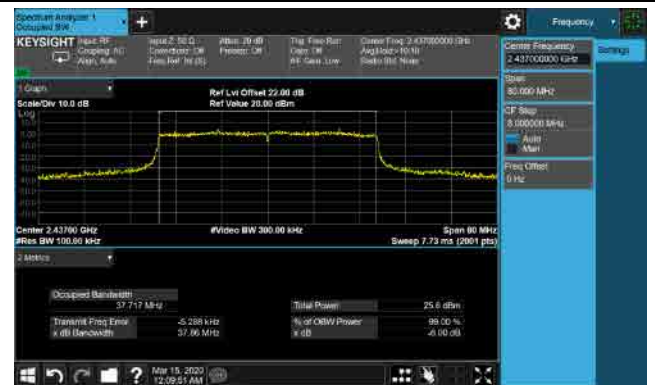


## 802.11ax-HE40 6dB Bandwidth - Ant 0 / Ant 0 + 1

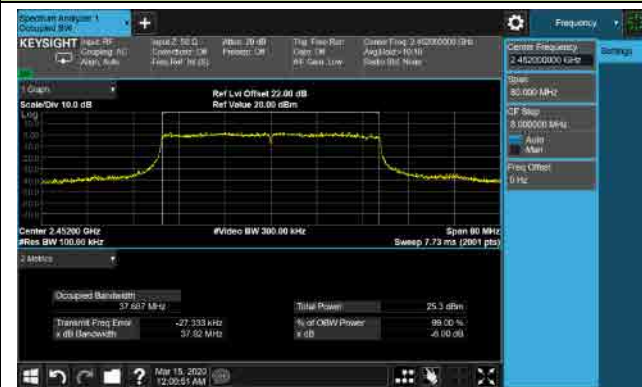
## Channel 03 (2422MHz)



## Channel 06 (2437MHz)



## Channel 09 (2452MHz)



|       |                         |      |            |
|-------|-------------------------|------|------------|
| 待測物名稱 | 無線基地台                   | 溫度   | 23°C       |
| 測試工程師 | Peter Syu               | 濕度   | 54%        |
| 測試場地  | SR1                     | 測試日期 | 2020/03/15 |
| 型號    | OAW-AP1321-Scan Antenna |      |            |

| Test Mode | Data Rate / Mbps | Channel No. | Frequency (MHz) | 6dB Bandwidth (MHz) | Limit (MHz) | Result |
|-----------|------------------|-------------|-----------------|---------------------|-------------|--------|
| 802.11b   | 1Mbps            | 01          | 2412            | 7.10                | ≥ 0.5       | Pass   |
| 802.11b   | 1Mbps            | 06          | 2437            | 7.10                | ≥ 0.5       | Pass   |
| 802.11b   | 1Mbps            | 11          | 2462            | 7.07                | ≥ 0.5       | Pass   |
| 802.11g   | 6Mbps            | 01          | 2412            | 16.35               | ≥ 0.5       | Pass   |
| 802.11g   | 6Mbps            | 06          | 2437            | 16.33               | ≥ 0.5       | Pass   |
| 802.11g   | 6Mbps            | 11          | 2462            | 16.32               | ≥ 0.5       | Pass   |

## 802.11b 6dB Bandwidth - Ant 0 / Ant 0 + 1

## Channel 01 (2412MHz)



## Channel 06 (2437MHz)



## Channel 11 (2462MHz)



## 802.11g 6dB Bandwidth - Ant 0 / Ant 0 + 1

## Channel 01 (2412MHz)



## Channel 06 (2437MHz)



## Channel 11 (2462MHz)



## 5.8. 發射電功率密度

### 5.8.1. 適用標準

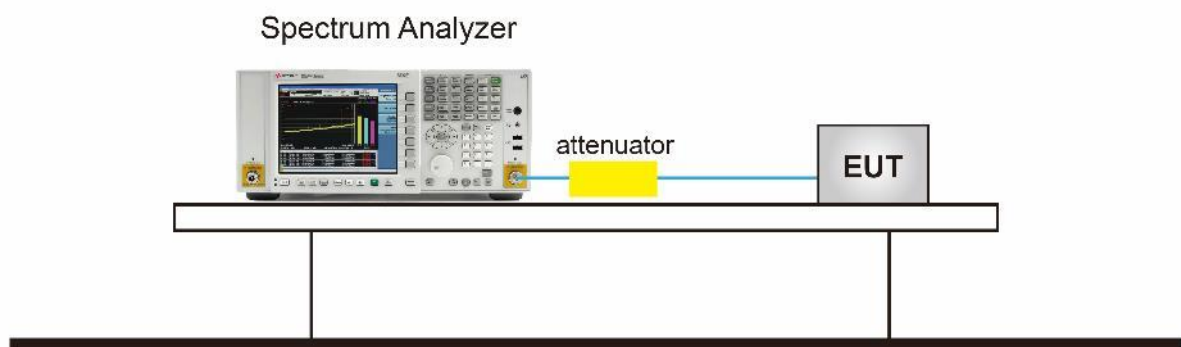
依據國家通訊傳播委員會低功率射頻電機技術規範之第 3.10.1.6(2)(B)節，在使用頻率範圍之任意 3 千赫(KHz)頻寬內，由發射機傳導至天線之峰值發射電功率密度在任意期間內，皆不得大於 8dBm。

### 5.8.2. 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。找出發射峰值並擴展於通帶內，設定頻譜分析儀之解析度頻寬為 3kHz，視訊頻寬大於解析度頻寬，掃瞄時間為頻率掃瞄範圍除以 3kHz。  
( $\text{SWEEP TIME} = \text{SPAN}/3\text{kHz}$ )。

待測物應在正常發射狀態下量測。

### 5.8.3. 測試架構圖



#### 5.8.4.功率密度量測結果

|       |                     |      |                        |
|-------|---------------------|------|------------------------|
| 待測物名稱 | Omni Access Stellar | 溫度   | 25°C                   |
| 測試工程師 | Peter Syu           | 濕度   | 56%                    |
| 測試場地  | SR1                 | 測試日期 | 2020/03/14             |
| 型號    | OAW-AP1321          | 測試項目 | Power Spectral Density |

| Test Mode     | Data Rate/<br>MCS | Channel<br>No. | Freq.<br>(MHz) | Ant 0 PSD<br>(dBm/<br>10kHz) | Ant 1 PSD<br>(dBm/<br>10kHz) | Duty Cycle<br>(%) | Total PSD<br>(dBm/<br>3kHz) | Limit<br>(dBm/<br>3kHz) | Result |
|---------------|-------------------|----------------|----------------|------------------------------|------------------------------|-------------------|-----------------------------|-------------------------|--------|
| Ant 0 + 1     |                   |                |                |                              |                              |                   |                             |                         |        |
| 802.11b       | 1Mbps             | 01             | 2412           | -6.85                        | -7.76                        | 59.62             | -7.25                       | ≤ 8.00                  | Pass   |
| 802.11b       | 1Mbps             | 06             | 2437           | -7.65                        | -7.95                        | 59.62             | -7.77                       | ≤ 8.00                  | Pass   |
| 802.11b       | 1Mbps             | 11             | 2462           | -7.56                        | -7.63                        | 59.62             | -7.57                       | ≤ 8.00                  | Pass   |
| 802.11g       | 6Mbps             | 01             | 2412           | -10.42                       | -10.74                       | 90.97             | -12.39                      | ≤ 8.00                  | Pass   |
| 802.11g       | 6Mbps             | 06             | 2437           | -10.58                       | -10.46                       | 90.97             | -12.33                      | ≤ 8.00                  | Pass   |
| 802.11g       | 6Mbps             | 11             | 2462           | -10.19                       | -11.14                       | 90.97             | -12.44                      | ≤ 8.00                  | Pass   |
| 802.11n-HT20  | MCS0              | 01             | 2412           | -10.94                       | -11.32                       | 91.36             | -12.95                      | ≤ 8.00                  | Pass   |
| 802.11n-HT20  | MCS0              | 06             | 2437           | -11.25                       | -11.48                       | 91.36             | -13.19                      | ≤ 8.00                  | Pass   |
| 802.11n-HT20  | MCS0              | 11             | 2462           | -11.36                       | -11.50                       | 91.36             | -13.25                      | ≤ 8.00                  | Pass   |
| 802.11n-HT40  | MCS0              | 03             | 2422           | -13.74                       | -14.36                       | 86.69             | -15.64                      | ≤ 8.00                  | Pass   |
| 802.11n-HT40  | MCS0              | 06             | 2437           | -13.86                       | -14.17                       | 86.69             | -15.61                      | ≤ 8.00                  | Pass   |
| 802.11n-HT40  | MCS0              | 09             | 2452           | -14.56                       | -14.28                       | 86.69             | -16.01                      | ≤ 8.00                  | Pass   |
| 802.11ax-HE20 | MCS0              | 01             | 2412           | -11.90                       | -12.70                       | 94.71             | -14.26                      | ≤ 8.00                  | Pass   |
| 802.11ax-HE20 | MCS0              | 06             | 2437           | -11.68                       | -12.52                       | 94.71             | -14.06                      | ≤ 8.00                  | Pass   |
| 802.11ax-HE20 | MCS0              | 11             | 2462           | -12.02                       | -12.42                       | 94.71             | -14.20                      | ≤ 8.00                  | Pass   |
| 802.11ax-HE40 | MCS0              | 03             | 2422           | -15.02                       | -15.29                       | 94.96             | -17.15                      | ≤ 8.00                  | Pass   |
| 802.11ax-HE40 | MCS0              | 06             | 2437           | -14.72                       | -15.33                       | 94.96             | -17.01                      | ≤ 8.00                  | Pass   |
| 802.11ax-HE40 | MCS0              | 09             | 2452           | -15.45                       | -16.28                       | 94.96             | -17.84                      | ≤ 8.00                  | Pass   |

Note 1: When EUT duty cycle ≥ 98%, Total AVGPSPD =  $10 \cdot \log \{10^{(\text{Ant 0 AVGPSPD}/10)} + 10^{(\text{Ant 1 AVGPSPD}/10)}\}$

Note 2: When EUT duty cycle < 98%, Total AVGPSPD =  $10 \cdot \log \{10^{(\text{Ant 0 AVGPSPD}/10)} + 10^{(\text{Ant 1 AVGPSPD}/10)}\} + 10 \cdot \log (1/\text{duty cycle})$

## 802.11b AVGPSPD - Ant 0 / Ant 0 + 1

## Channel 01 (2412MHz)



## Channel 06 (2437MHz)

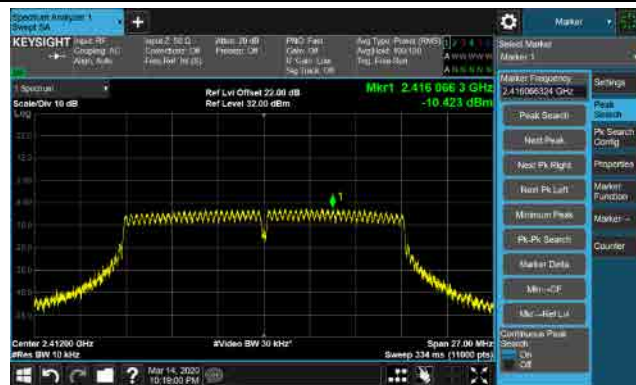


## Channel 11 (2462MHz)

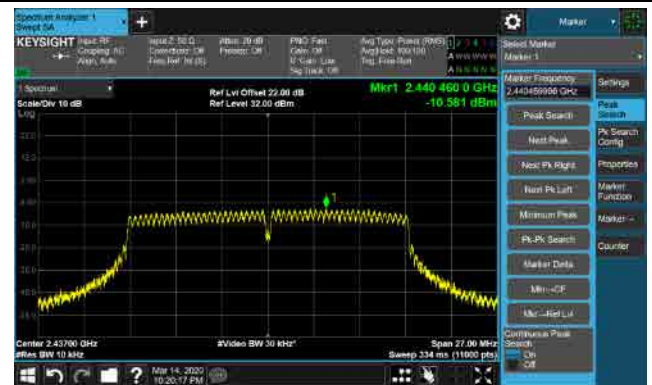


## 802.11g AVGPSPD - Ant 0 / Ant 0 + 1

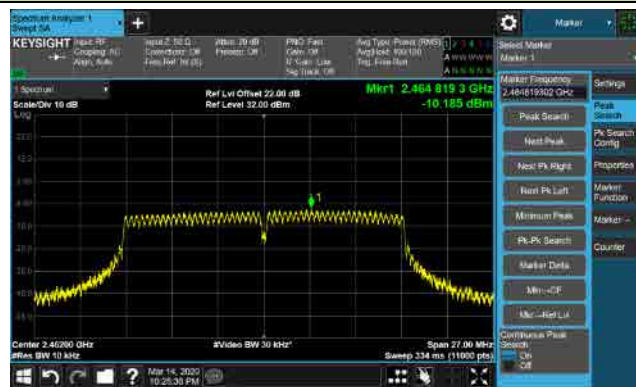
## Channel 01 (2412MHz)



## Channel 06 (2437MHz)

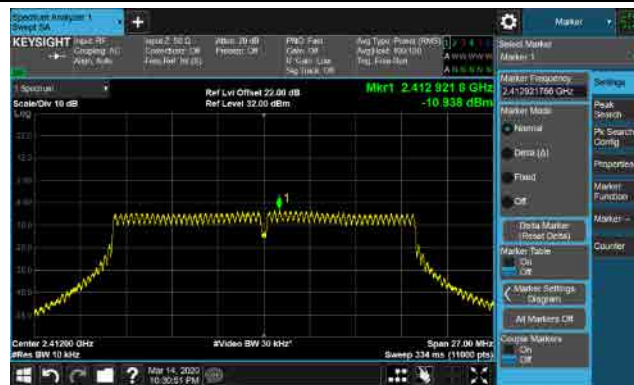


## Channel 11 (2462MHz)

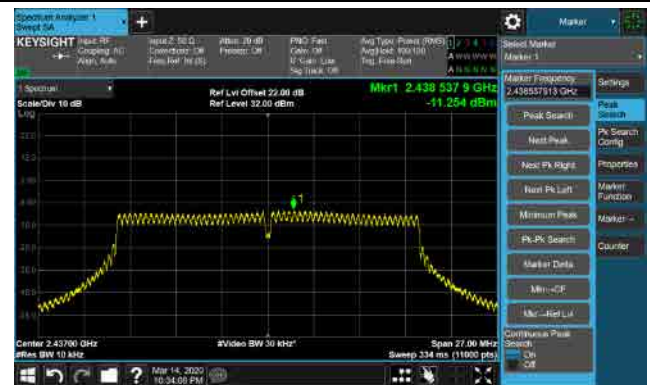


## 802.11n-HT20 AVGPSPD - Ant 0 / Ant 0 + 1

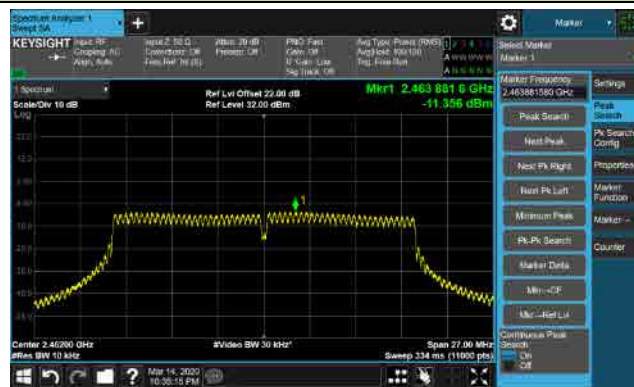
## Channel 01 (2412MHz)



## Channel 06 (2437MHz)

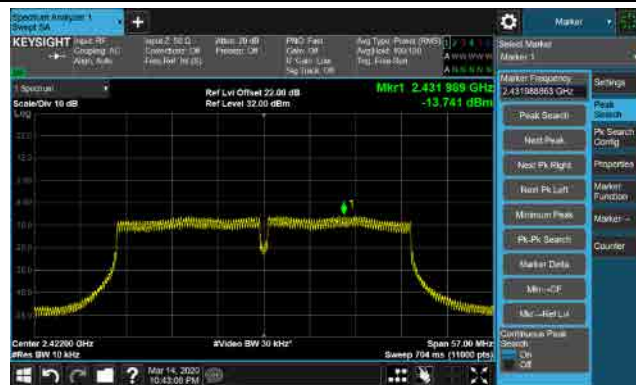


## Channel 11 (2462MHz)

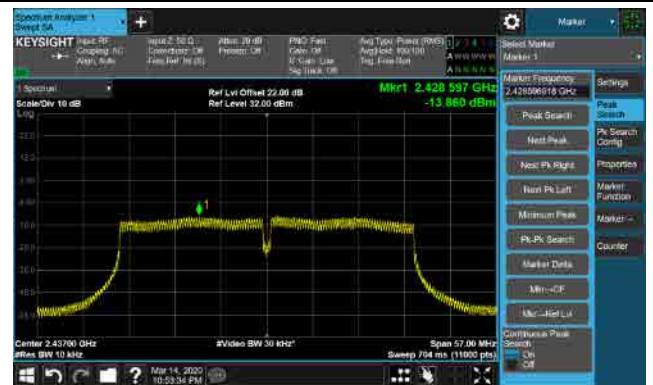


## 802.11n-HT40 AVGPSPD - Ant 0 / Ant 0 + 1

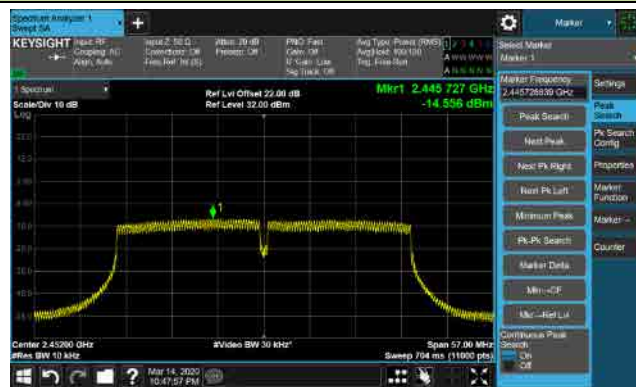
## Channel 03 (2422MHz)



## Channel 06 (2437MHz)



## Channel 09 (2452MHz)

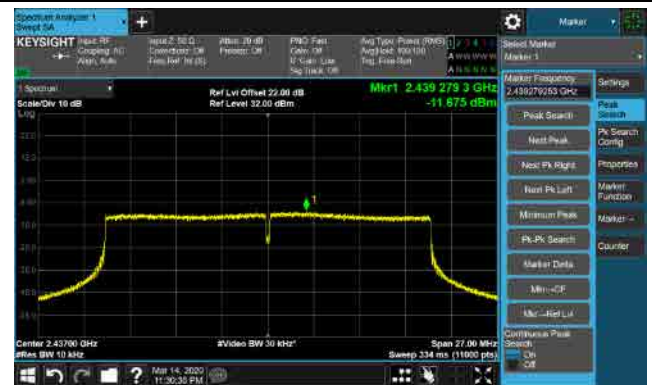


## 802.11ax-HE20 AVGPSPD - Ant 0 / Ant 0 + 1

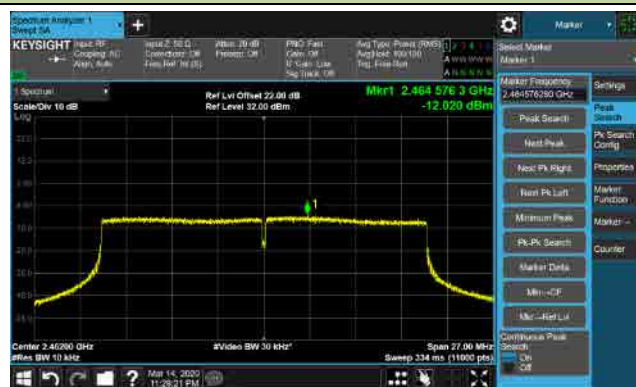
## Channel 01 (2412MHz)



## Channel 06 (2437MHz)

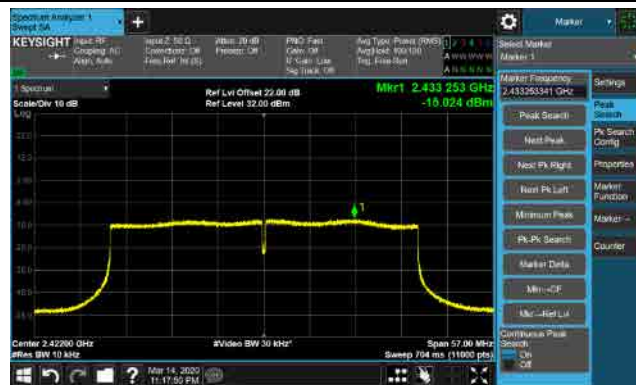


## Channel 11 (2462MHz)



## 802.11ax-HE40 AVGPSPD - Ant 0 / Ant 0 + 1

## Channel 03 (2422MHz)



## Channel 06 (2437MHz)



## Channel 09 (2452MHz)



## 802.11b AVGPSPD - Ant 1 / Ant 0 + 1

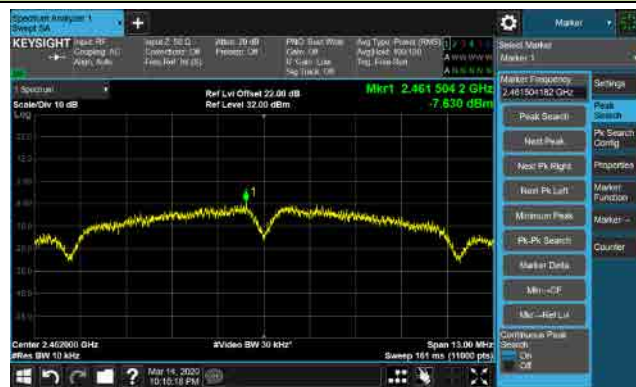
## Channel 01 (2412MHz)



## Channel 06 (2437MHz)

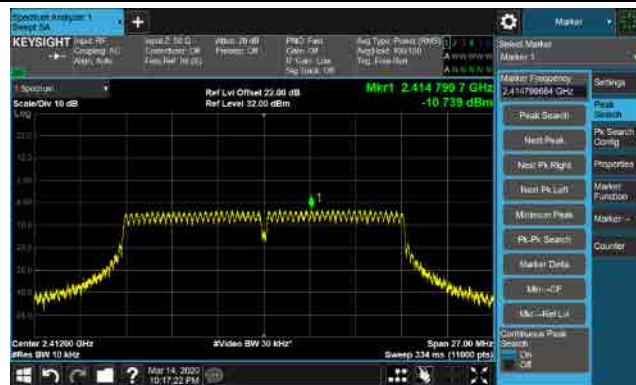


## Channel 11 (2462MHz)

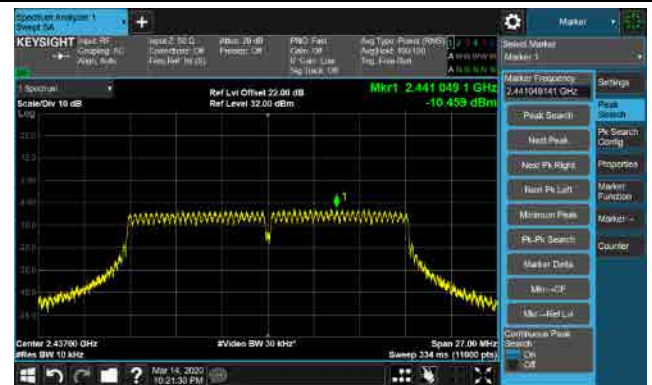


## 802.11g AVGPSPD - Ant 1 / Ant 0 + 1

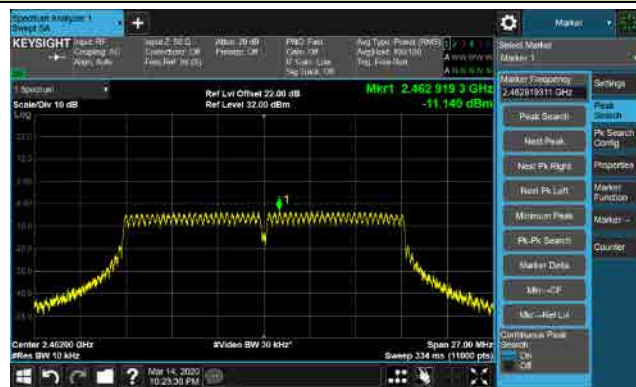
## Channel 01 (2412MHz)



## Channel 06 (2437MHz)

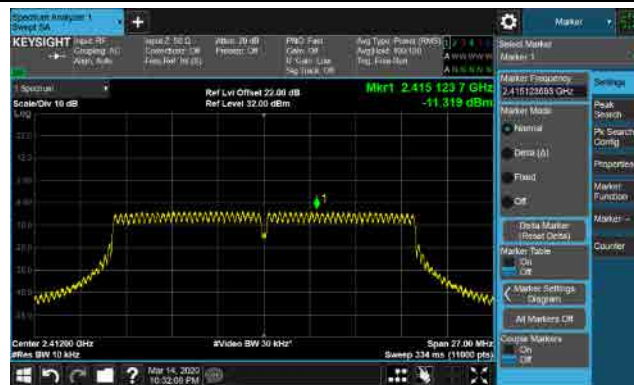


## Channel 11 (2462MHz)

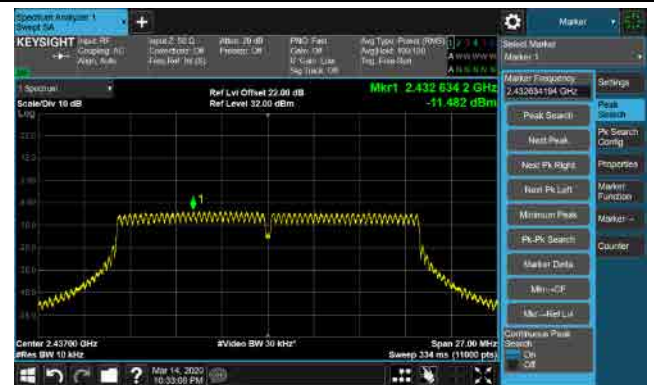


## 802.11n-HT20 AVGPSPD - Ant 1 / Ant 0 + 1

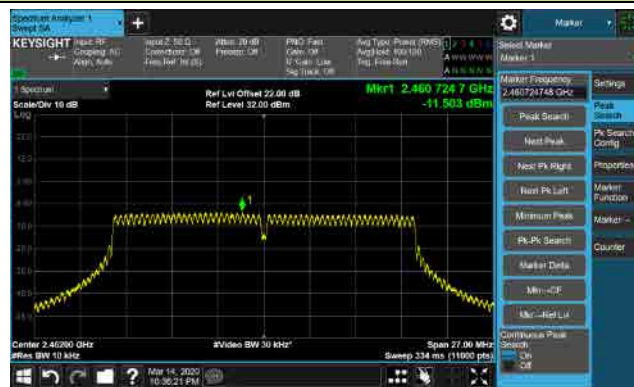
## Channel 01 (2412MHz)



## Channel 06 (2437MHz)

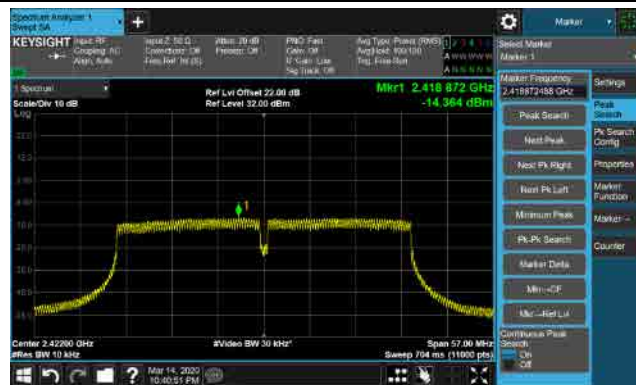


## Channel 11 (2462MHz)

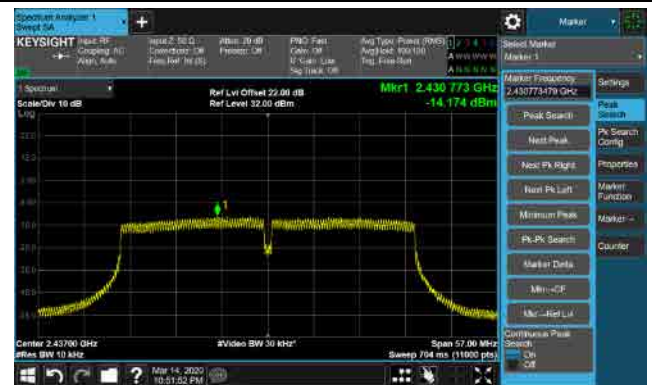


## 802.11n-HT40 AVGPSPD - Ant 1 / Ant 0 + 1

## Channel 03 (2422MHz)



## Channel 06 (2437MHz)



## Channel 09 (2452MHz)

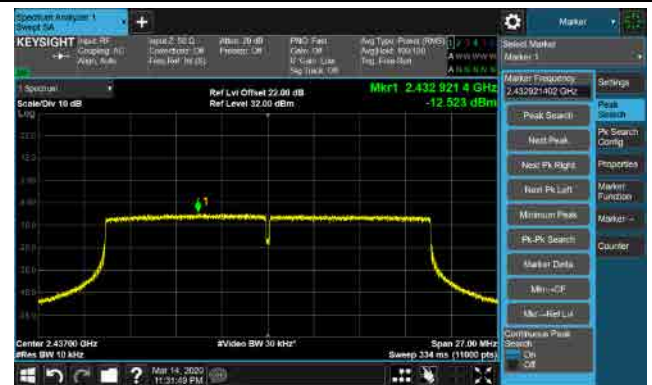


## 802.11ax-HE20 AVGPSPD - Ant 1 / Ant 0 + 1

## Channel 01 (2412MHz)



## Channel 06 (2437MHz)



## Channel 11 (2462MHz)



## 802.11ax-HE40 AVGPSPD - Ant 1 / Ant 0 + 1

## Channel 03 (2422MHz)



## Channel 06 (2437MHz)



## Channel 09 (2452MHz)



|       |                           |      |                        |
|-------|---------------------------|------|------------------------|
| 待測物名稱 | Omni Access Stellar       | 溫度   | 25°C                   |
| 測試工程師 | Peter Syu                 | 濕度   | 56%                    |
| 測試場地  | SR1                       | 測試日期 | 2020/03/23             |
| 型號    | OAW-AP1321 - Scan Antenna | 測試項目 | Power Spectral Density |

| Test Mode | Data Rate/<br>MCS | Channel No. | Freq. (MHz) | AVGSPD (dBm / 10kHz) | Duty Cycle (%) | Constant Factor | Total AVGSPD (dBm / 3kHz) | Limit (dBm / 3kHz) | Result |
|-----------|-------------------|-------------|-------------|----------------------|----------------|-----------------|---------------------------|--------------------|--------|
| 11b       | 1Mbps             | 01          | 2412        | -14.17               | 59.62          | -5.23           | -17.15                    | ≤ 8.00             | Pass   |
| 11b       | 1Mbps             | 06          | 2437        | -14.22               | 59.62          | -5.23           | -17.20                    | ≤ 8.00             | Pass   |
| 11b       | 1Mbps             | 11          | 2462        | -14.60               | 59.62          | -5.23           | -17.58                    | ≤ 8.00             | Pass   |
| 11g       | 6Mbps             | 01          | 2412        | -22.28               | 90.97          | -5.23           | -27.09                    | ≤ 8.00             | Pass   |
| 11g       | 6Mbps             | 06          | 2437        | -18.56               | 90.97          | -5.23           | -23.38                    | ≤ 8.00             | Pass   |
| 11g       | 6Mbps             | 11          | 2462        | -18.94               | 90.97          | -5.23           | -23.75                    | ≤ 8.00             | Pass   |

Note 1: When EUT duty cycle ≥ 98%, Total AVGSPD = Scan antenna AVGSPD + Constant Factor.

Note 2: When EUT duty cycle < 98%, Total AVGSPD = Scan antenna AVGSPD + 10\*log (1/duty cycle) + Constant Factor.

## 802.11b PSD - Scan Antenna

Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)

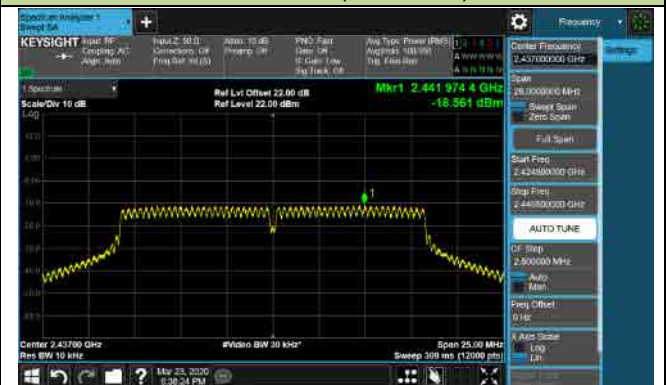


## 802.11g PSD - Scan Antenna

Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)



|       |            |      |                        |
|-------|------------|------|------------------------|
| 待測物名稱 | 無線基地台      | 溫度   | 25°C                   |
| 測試工程師 | Peter Syu  | 濕度   | 56%                    |
| 測試場地  | SR1        | 測試日期 | 2020/03/18             |
| 型號    | OAW-AP1322 | 測試項目 | Power Spectral Density |

| Test Mode     | Data Rate/<br>MCS | Channel<br>No. | Freq.<br>(MHz) | Ant 0 PSD<br>(dBm/<br>10kHz) | Ant 1 PSD<br>(dBm/<br>10kHz) | Duty Cycle<br>(%) | Total PSD<br>(dBm/<br>3kHz) | Limit<br>(dBm/<br>3kHz) | Result |
|---------------|-------------------|----------------|----------------|------------------------------|------------------------------|-------------------|-----------------------------|-------------------------|--------|
| Ant 0 + 1     |                   |                |                |                              |                              |                   |                             |                         |        |
| 802.11b       | 1Mbps             | 01             | 2412           | -16.53                       | -15.66                       | 60.38             | -13.06                      | ≤ 8.00                  | Pass   |
| 802.11b       | 1Mbps             | 06             | 2437           | -13.72                       | -13.20                       | 60.38             | -10.44                      | ≤ 8.00                  | Pass   |
| 802.11b       | 1Mbps             | 11             | 2462           | -13.94                       | -13.12                       | 60.38             | -10.50                      | ≤ 8.00                  | Pass   |
| 802.11g       | 6Mbps             | 01             | 2412           | -17.62                       | -17.45                       | 91.08             | -14.52                      | ≤ 8.00                  | Pass   |
| 802.11g       | 6Mbps             | 06             | 2437           | -16.34                       | -16.01                       | 91.08             | -13.16                      | ≤ 8.00                  | Pass   |
| 802.11g       | 6Mbps             | 11             | 2462           | -18.17                       | -17.98                       | 91.08             | -15.06                      | ≤ 8.00                  | Pass   |
| 802.11n-HT20  | MCS0              | 01             | 2412           | -18.09                       | -17.91                       | 95.26             | -14.99                      | ≤ 8.00                  | Pass   |
| 802.11n-HT20  | MCS0              | 06             | 2437           | -16.80                       | -16.29                       | 95.26             | -13.53                      | ≤ 8.00                  | Pass   |
| 802.11n-HT20  | MCS0              | 11             | 2462           | -18.61                       | -19.39                       | 95.26             | -15.97                      | ≤ 8.00                  | Pass   |
| 802.11n-HT40  | MCS0              | 03             | 2422           | -22.22                       | -21.74                       | 85.94             | -18.96                      | ≤ 8.00                  | Pass   |
| 802.11n-HT40  | MCS0              | 06             | 2437           | -19.67                       | -19.23                       | 85.94             | -16.43                      | ≤ 8.00                  | Pass   |
| 802.11n-HT40  | MCS0              | 09             | 2452           | -23.99                       | -24.04                       | 85.94             | -21.00                      | ≤ 8.00                  | Pass   |
| 802.11ax-HE20 | MCS0              | 01             | 2412           | -19.88                       | -20.06                       | 95.24             | -16.96                      | ≤ 8.00                  | Pass   |
| 802.11ax-HE20 | MCS0              | 06             | 2437           | -17.53                       | -17.42                       | 95.24             | -14.46                      | ≤ 8.00                  | Pass   |
| 802.11ax-HE20 | MCS0              | 11             | 2462           | -21.10                       | -21.07                       | 95.24             | -18.07                      | ≤ 8.00                  | Pass   |
| 802.11ax-HE40 | MCS0              | 03             | 2422           | -23.49                       | -23.18                       | 93.70             | -20.32                      | ≤ 8.00                  | Pass   |
| 802.11ax-HE40 | MCS0              | 06             | 2437           | -20.41                       | -20.28                       | 93.70             | -17.33                      | ≤ 8.00                  | Pass   |
| 802.11ax-HE40 | MCS0              | 09             | 2452           | -25.58                       | -25.39                       | 93.70             | -22.47                      | ≤ 8.00                  | Pass   |

Note 1: When EUT duty cycle ≥ 98%, Total AVGPSPD =  $10 \cdot \log \{10^{(\text{Ant 0 AVGPSPD}/10)} + 10^{(\text{Ant 1 AVGPSPD}/10)}\}$

Note 2: When EUT duty cycle < 98%, Total AVGPSPD =  $10 \cdot \log \{10^{(\text{Ant 0 AVGPSPD}/10)} + 10^{(\text{Ant 1 AVGPSPD}/10)}\} + 10 \cdot \log (1/\text{duty cycle})$

## 802.11b AVGPSPD - Ant 0 / Ant 0 + 1

## Channel 01 (2412MHz)



## Channel 06 (2437MHz)

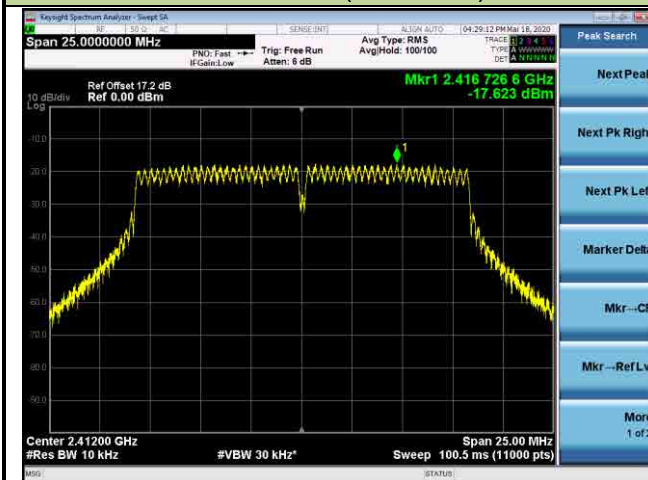


## Channel 11 (2462MHz)



## 802.11g AVGPSPD - Ant 0 / Ant 0 + 1

## Channel 01 (2412MHz)



## Channel 06 (2437MHz)

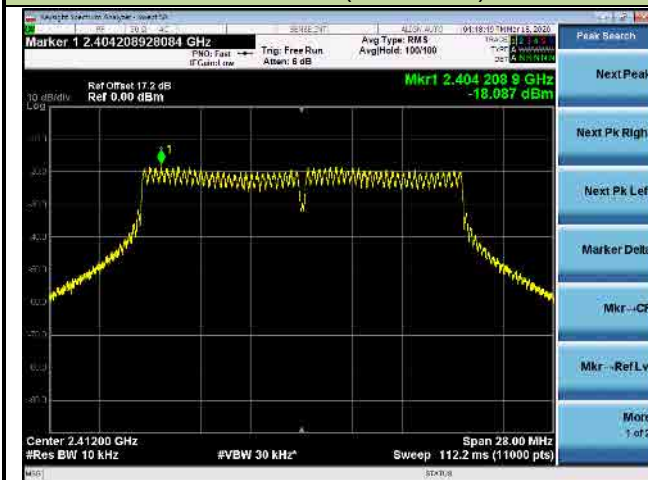


## Channel 11 (2462MHz)

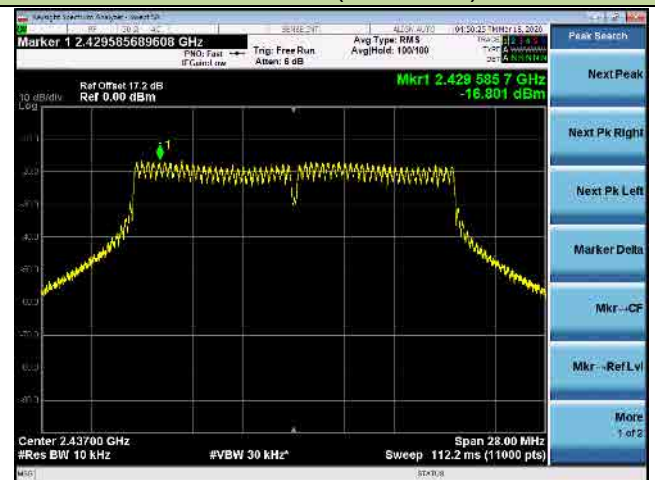


## 802.11n-HT20 AVGPSPD - Ant 0 / Ant 0 + 1

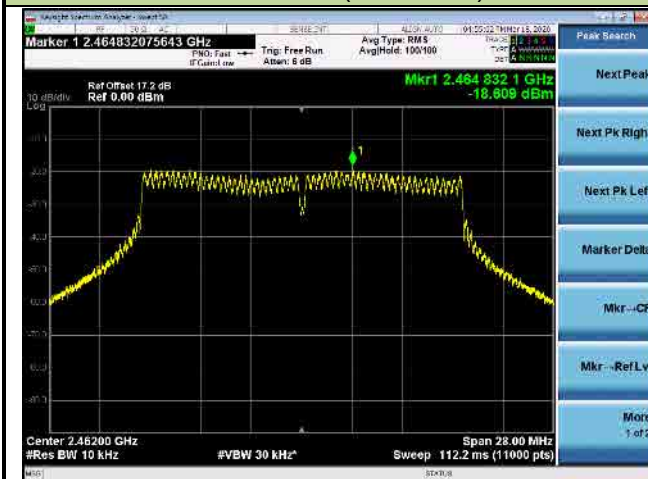
## Channel 01 (2412MHz)



## Channel 06 (2437MHz)



## Channel 11 (2462MHz)

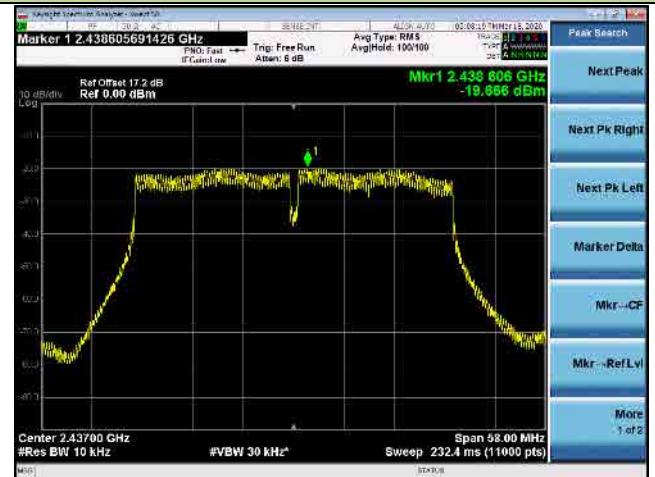


## 802.11n-HT40 AVGPSPD - Ant 0 / Ant 0 + 1

## Channel 03 (2422MHz)



## Channel 06 (2437MHz)



## Channel 09 (2452MHz)



## 802.11ax-HE20 AVGPSPD - Ant 0 / Ant 0 + 1

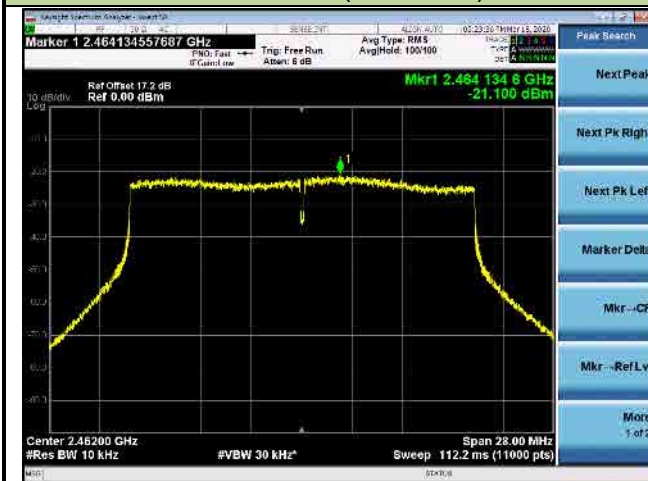
## Channel 01 (2412MHz)



## Channel 06 (2437MHz)



## Channel 11 (2462MHz)



## 802.11ax-HE40 AVGPSPD - Ant 0 / Ant 0 + 1

## Channel 03 (2422MHz)



## Channel 06 (2437MHz)



## Channel 09 (2452MHz)



## 802.11b AVGPSPD - Ant 1 / Ant 0 + 1

## Channel 01 (2412MHz)



## Channel 06 (2437MHz)

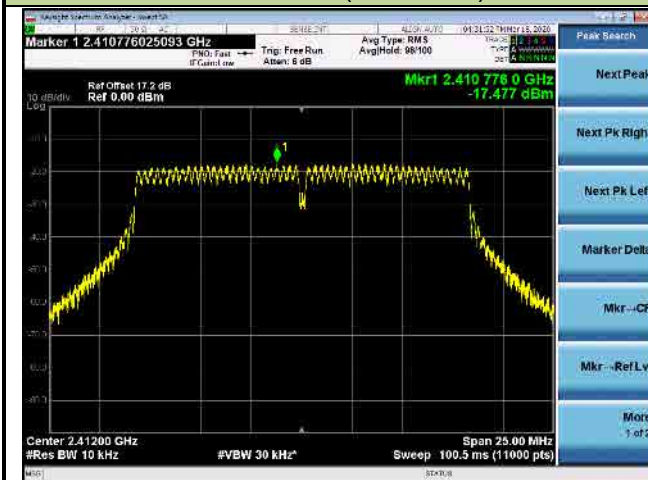


## Channel 11 (2462MHz)

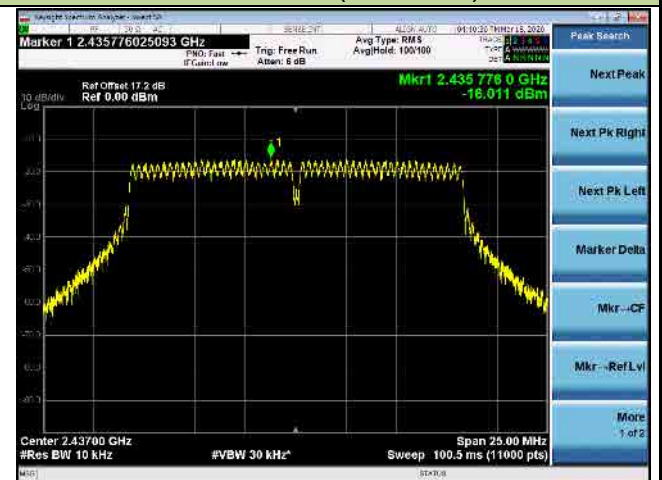


## 802.11g AVGPSPD - Ant 1 / Ant 0 + 1

## Channel 01 (2412MHz)



## Channel 06 (2437MHz)



## Channel 11 (2462MHz)

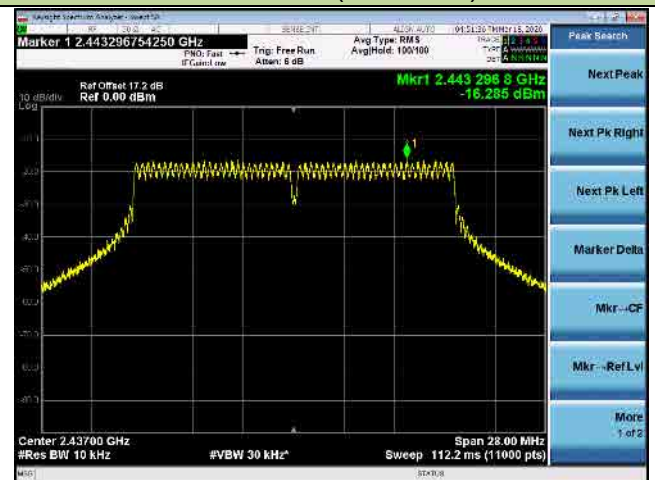


## 802.11n-HT20 AVGPSPD - Ant 1 / Ant 0 + 1

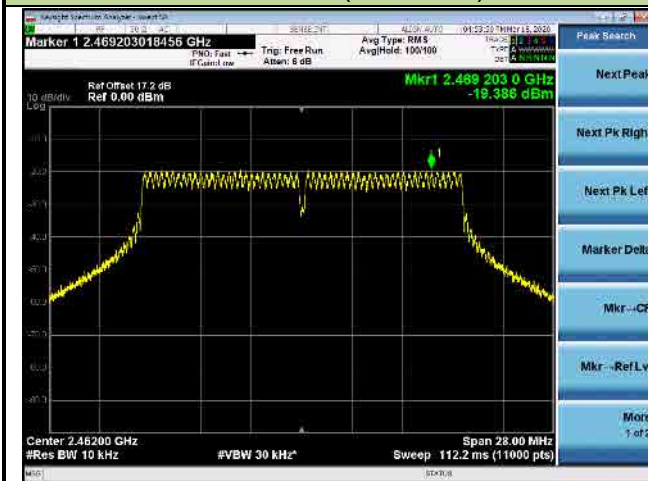
## Channel 01 (2412MHz)



## Channel 06 (2437MHz)



## Channel 11 (2462MHz)

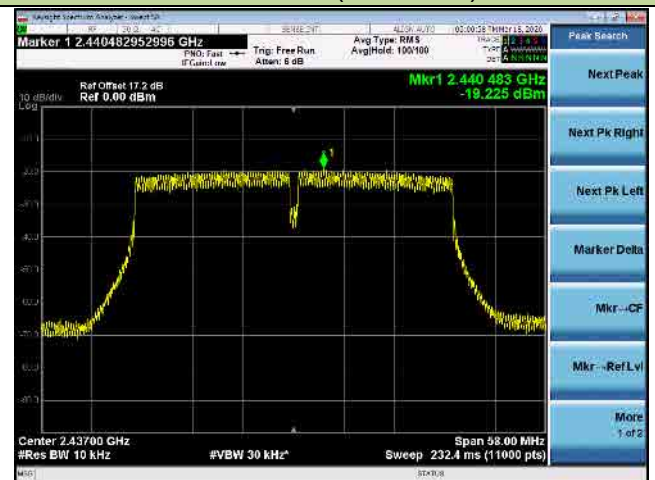


## 802.11n-HT40 AVGPSPD - Ant 1 / Ant 0 + 1

## Channel 03 (2422MHz)



## Channel 06 (2437MHz)



## Channel 09 (2452MHz)



## 802.11ax-HE20 AVGPSPD - Ant 1 / Ant 0 + 1

## Channel 01 (2412MHz)



## Channel 06 (2437MHz)



## Channel 11 (2462MHz)

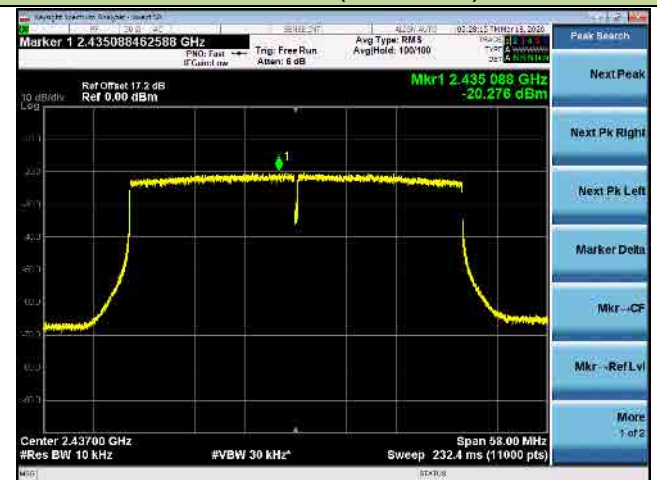


## 802.11ax-HE40 AVGPSPD - Ant 1 / Ant 0 + 1

## Channel 03 (2422MHz)



## Channel 06 (2437MHz)



## Channel 09 (2452MHz)



The End