

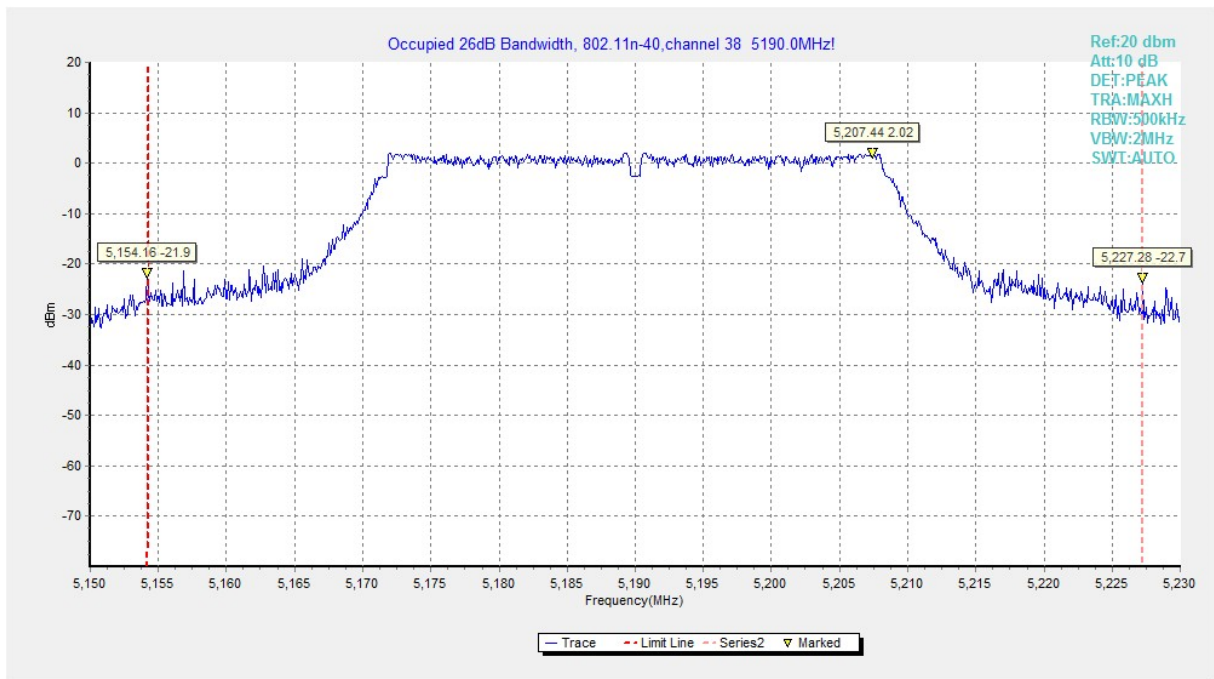


**Fig.21 Occupied 26dB Bandwidth (802.11n-HT40, 5190MHz)**

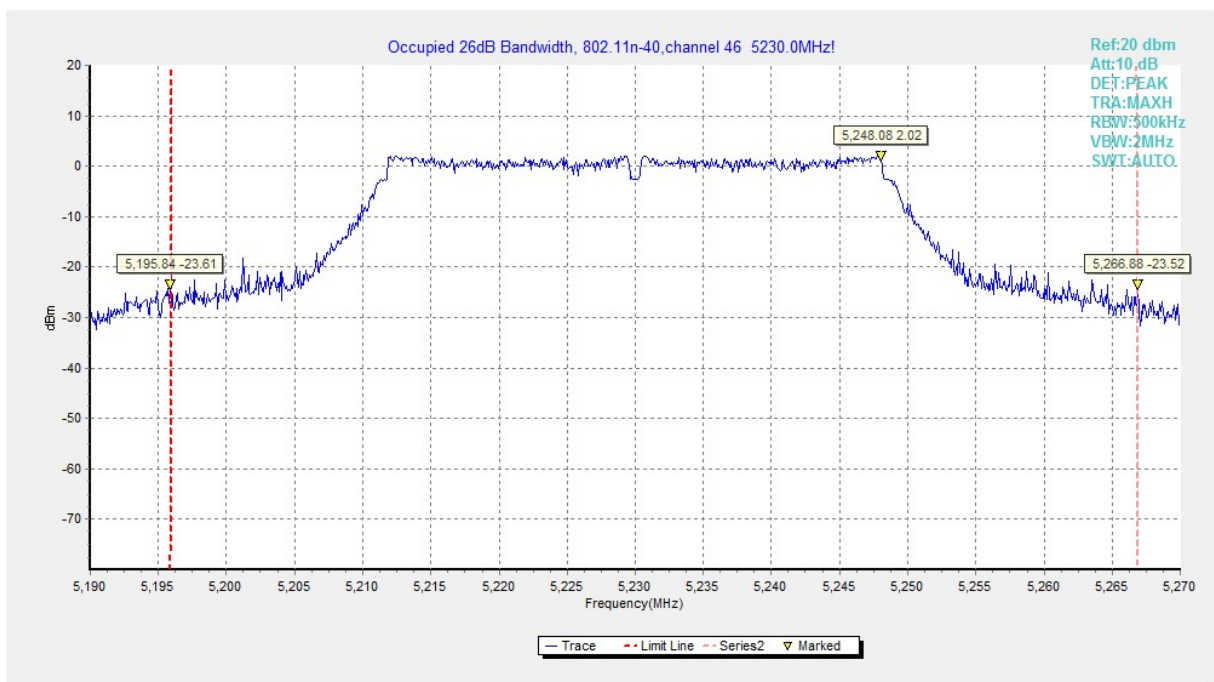


**Fig.22 Occupied 26dB Bandwidth (802.11n-HT40, 5230MHz)**

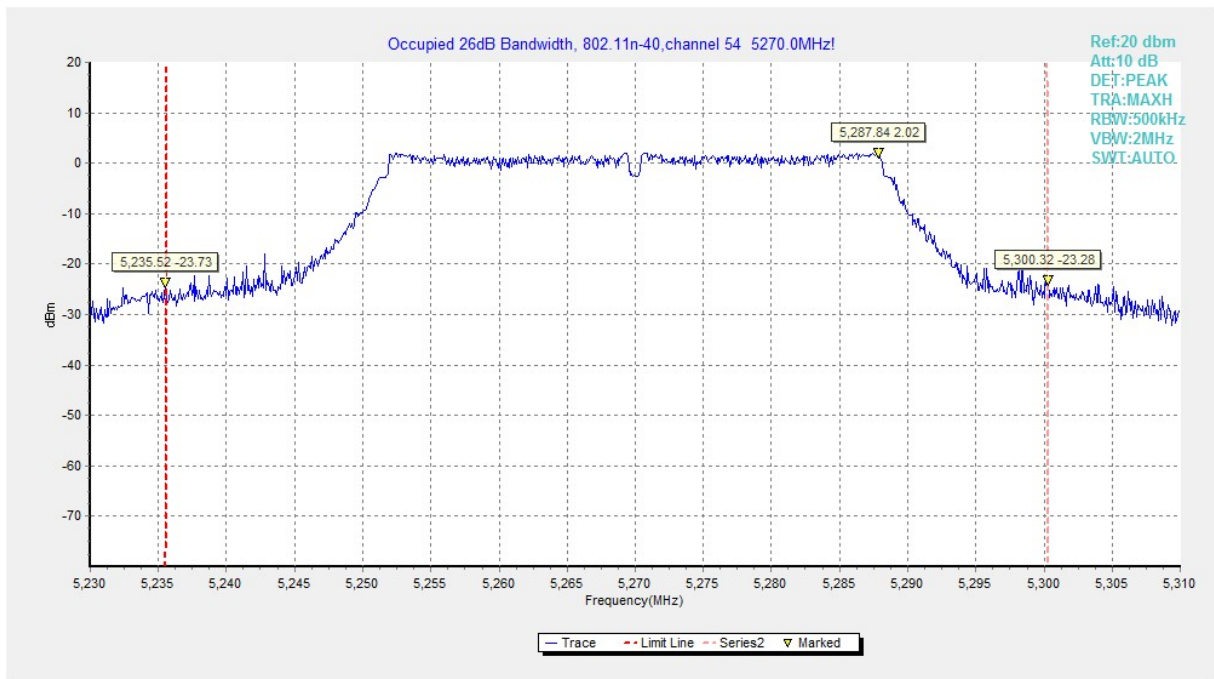


**Fig.23 Occupied 26dB Bandwidth (802.11n-HT40, 5270MHz)**

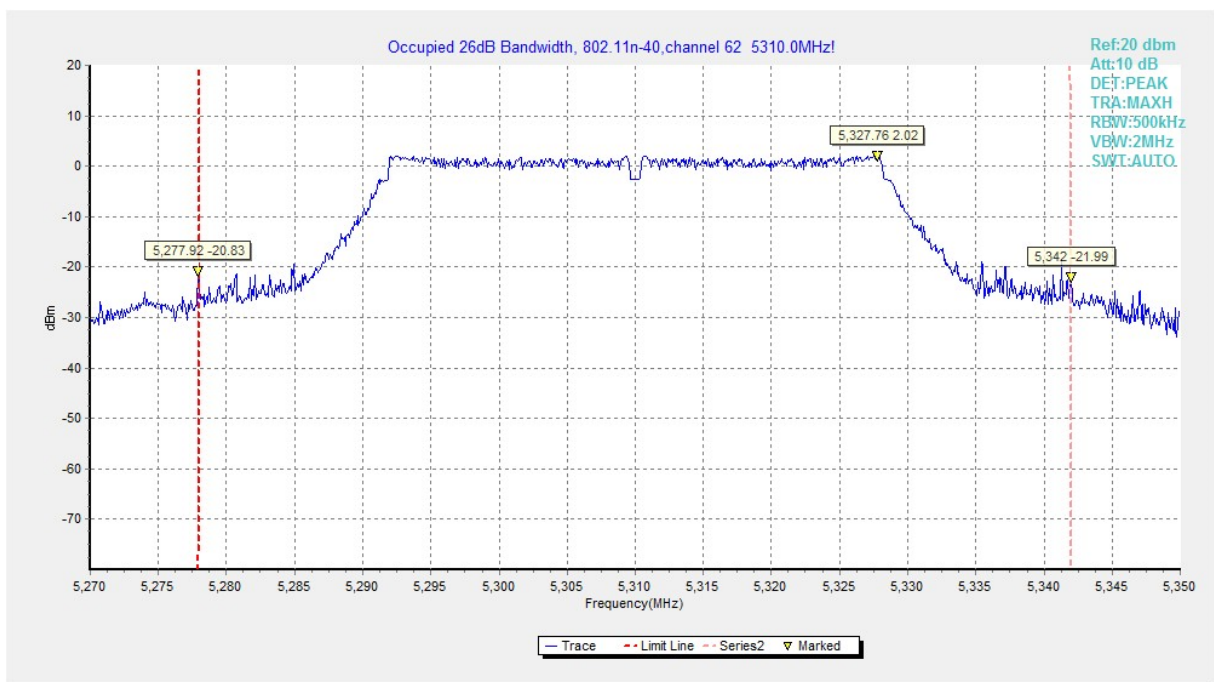


**Fig.24 Occupied 26dB Bandwidth (802.11n-HT40, 5310MHz)**

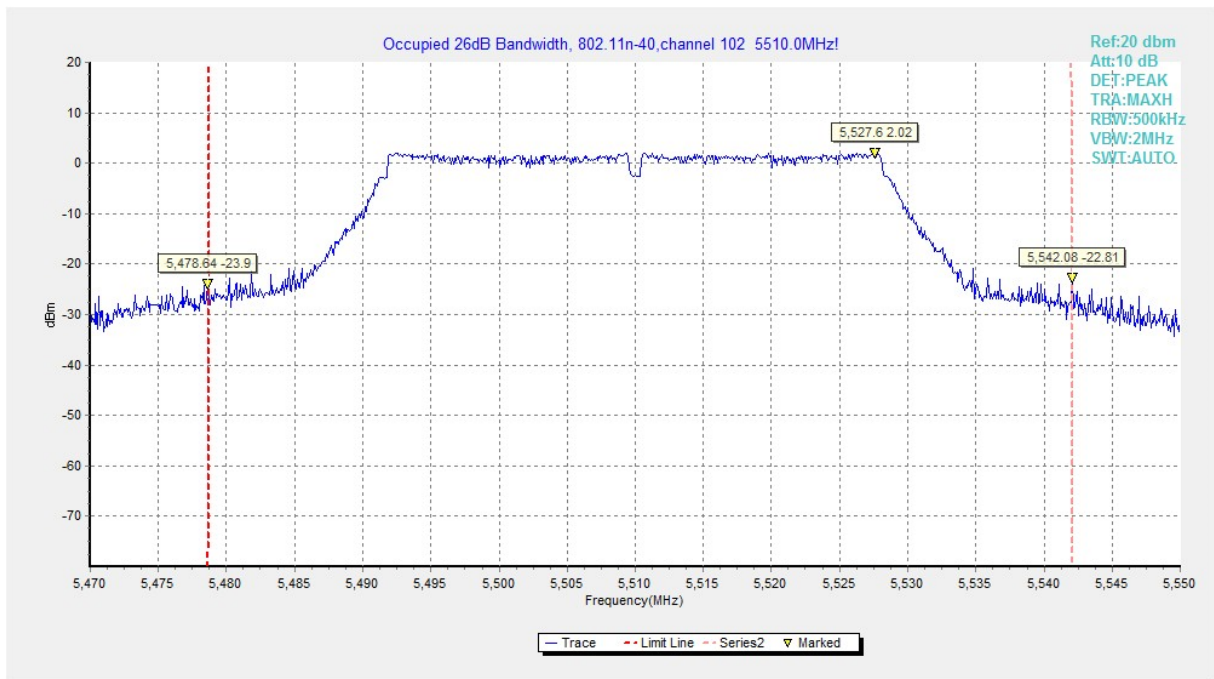


**Fig.25 Occupied 26dB Bandwidth (802. 11n-HT40, 5510MHz)**

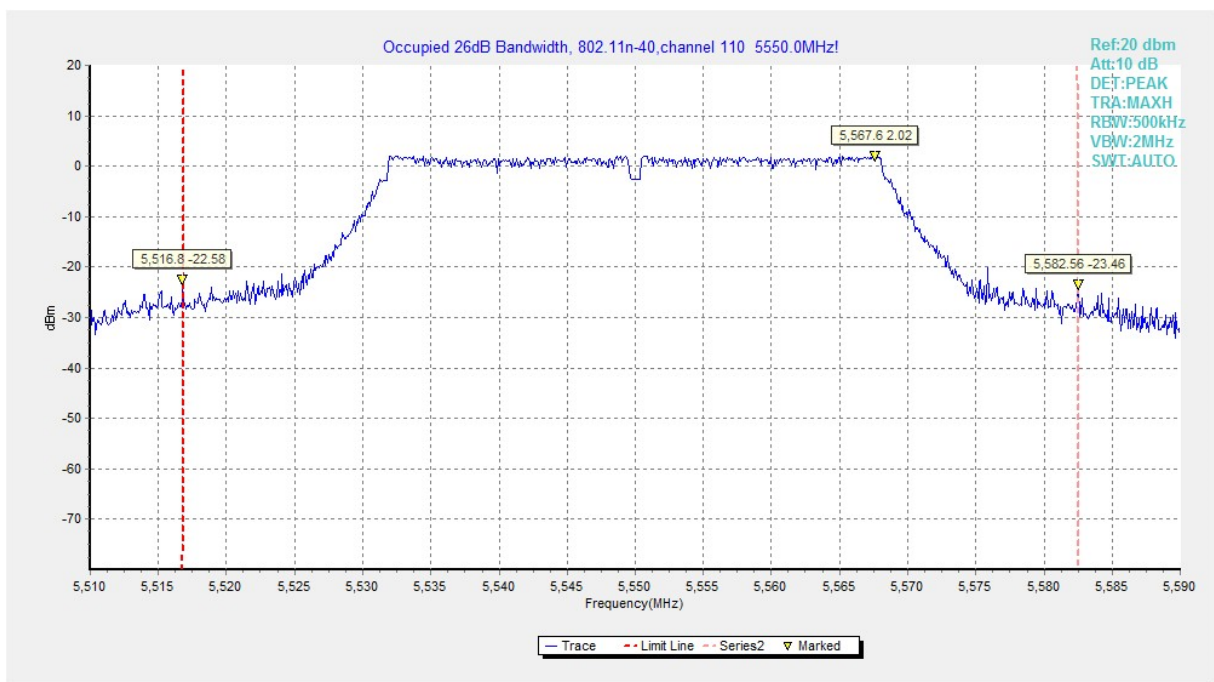


**Fig.26 Occupied 26dB Bandwidth (802. 11n-HT40, 5590MHz)**

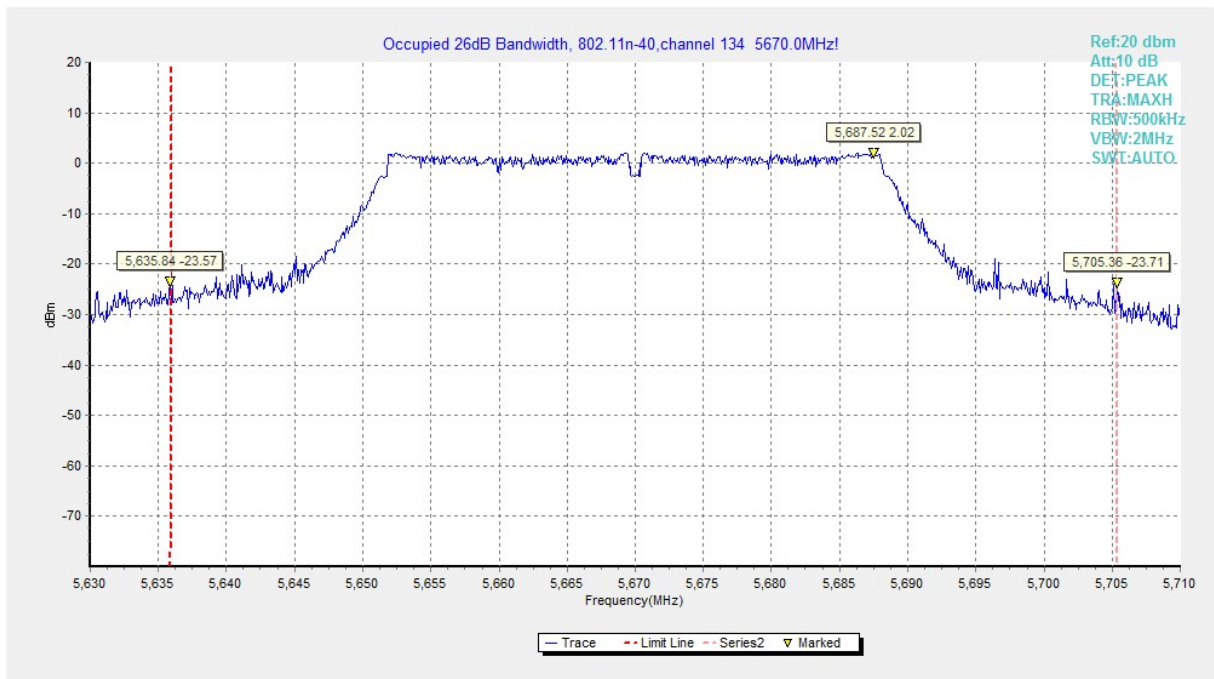


**Fig.27 Occupied 26dB Bandwidth (802. 11n-HT40, 5670MHz)**

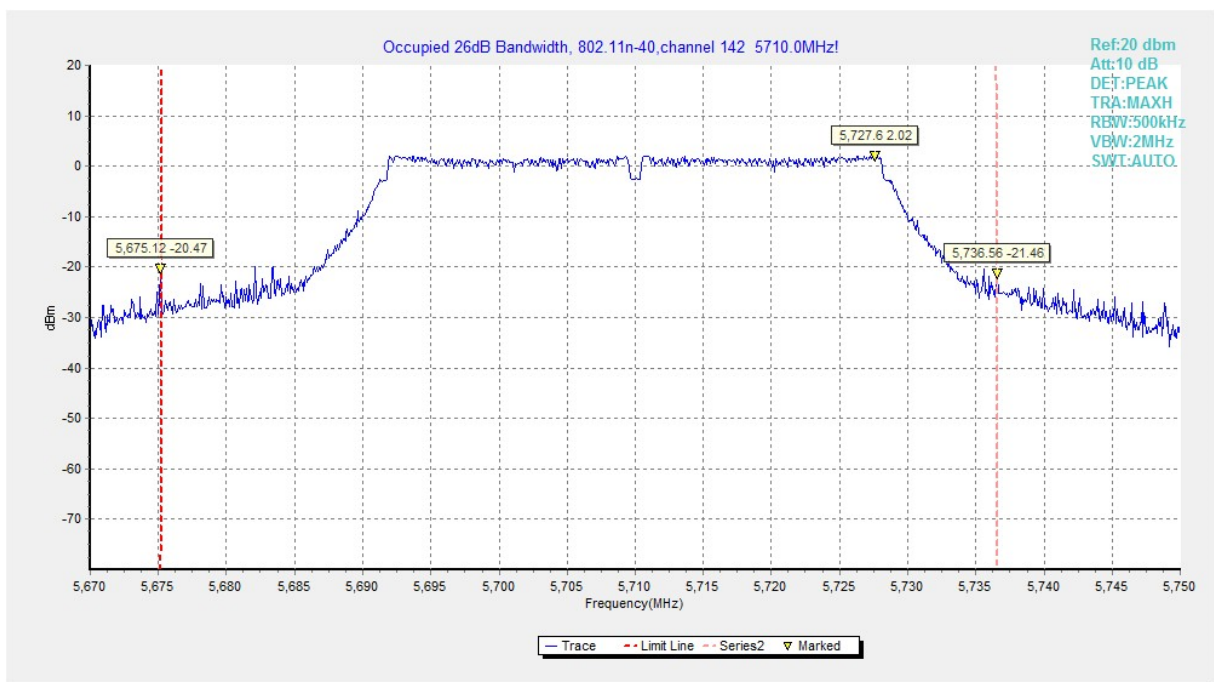


**Fig.28 Occupied 26dB Bandwidth (802. 11n-HT40, 5710MHz)**

## A.5. Band Edges Compliance

### A5.1 Band Edges - Radiated

#### Measurement Limit:

| Standard               | Limit (dBm/MHz) |
|------------------------|-----------------|
| FCC 47 CFR Part 15.407 | < -27           |

The measurement is made according to KDB 789033

In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

#### Measurement Uncertainty:

|                         |        |
|-------------------------|--------|
| Measurement Uncertainty | 5.40dB |
|-------------------------|--------|

#### Measurement Result:

| Mode            | Channel  | Test Results | Conclusion |
|-----------------|----------|--------------|------------|
| 802.11a         | 5180 MHz | Fig.29       | P          |
|                 | 5320 MHz | Fig.30       | P          |
|                 | 5500 MHz | Fig.31       | P          |
|                 | 5700 MHz | Fig.32       | P          |
|                 | 5720 MHz | Fig.33       | P          |
|                 | 5720 MHz | Fig.34       | P          |
| 802.11n<br>HT20 | 5180 MHz | Fig.35       | P          |
|                 | 5320 MHz | Fig.36       | P          |
|                 | 5500 MHz | Fig.37       | P          |
|                 | 5700 MHz | Fig.38       | P          |
|                 | 5720 MHz | Fig.39       | P          |
|                 | 5720 MHz | Fig.40       | P          |
| 802.11n<br>HT40 | 5190 MHz | Fig.41       | P          |
|                 | 5310 MHz | Fig.42       | P          |
|                 | 5510 MHz | Fig.43       | P          |
|                 | 5670 MHz | Fig.44       | P          |
|                 | 5710 MHz | Fig.45       | P          |
|                 | 5710 MHz | Fig.46       | P          |

**Conclusion: PASS**

**Test graphs as below:**

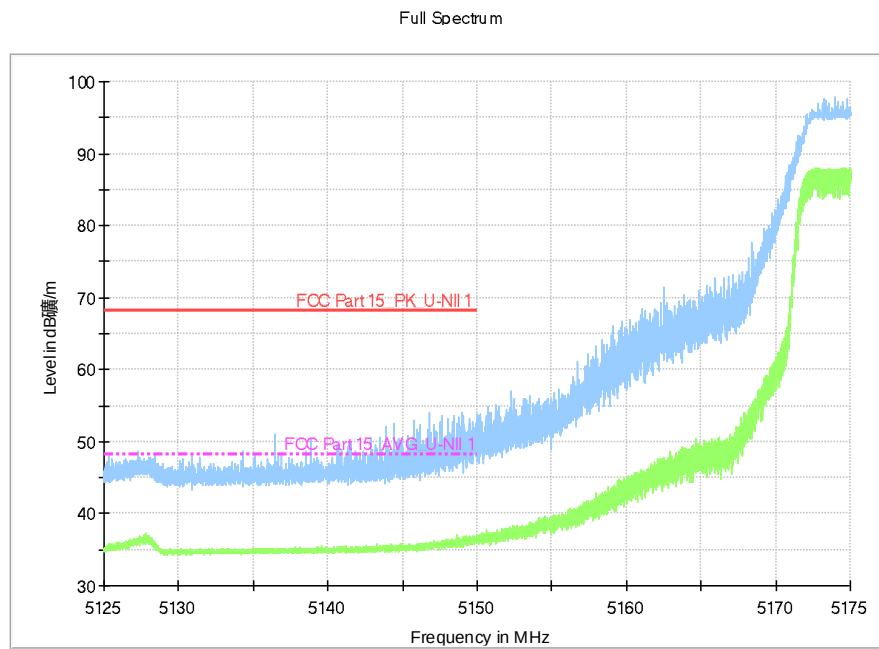


**Fig.29 Band Edges (802.11a, 5180MHz)**

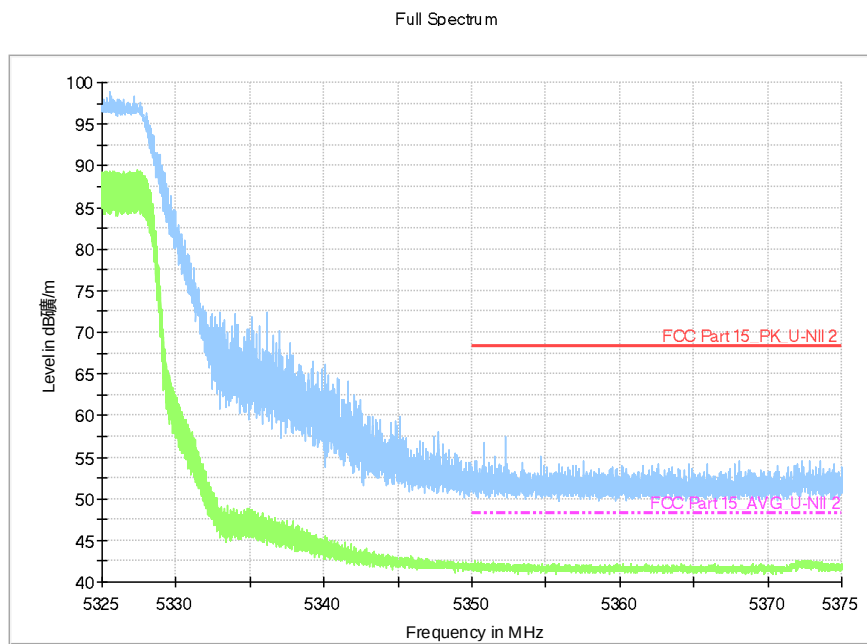


**Fig.30 Band Edges (802.11a, 5320MHz)**

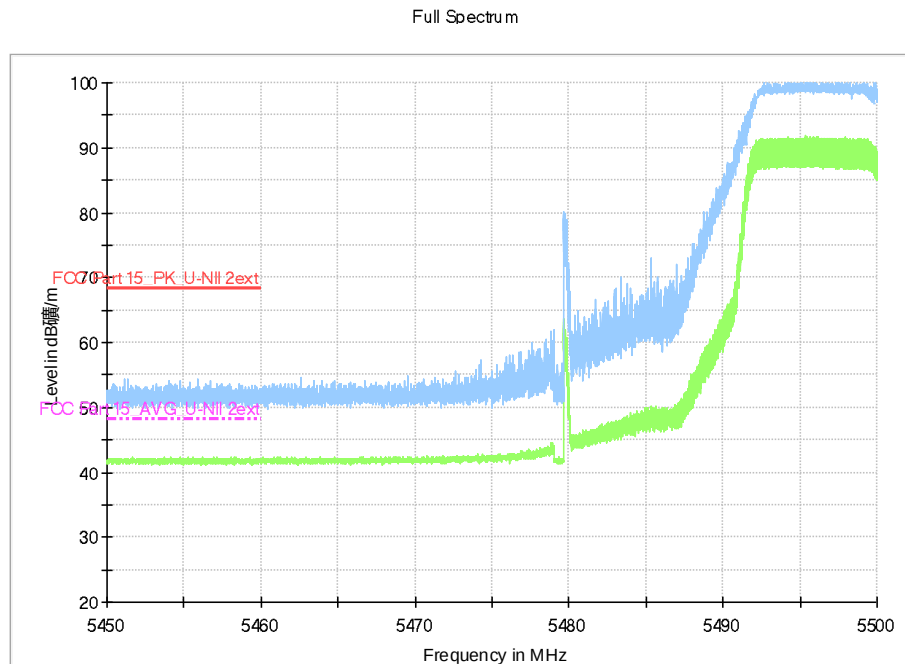


**Fig.31 Band Edges (802.11a, 5500MHz)**

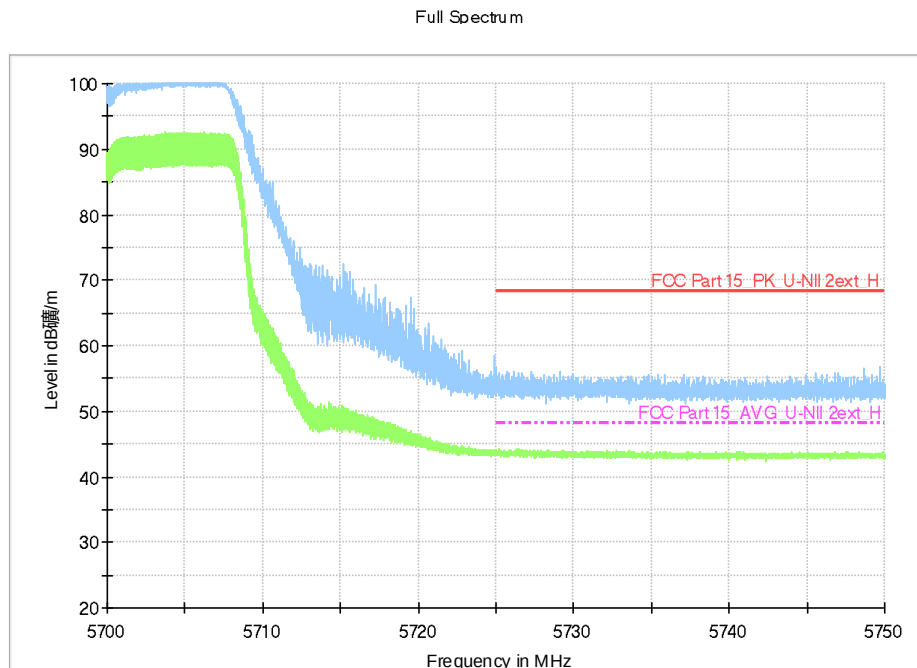


**Fig.32 Band Edges (802.11a, 5700MHz)**

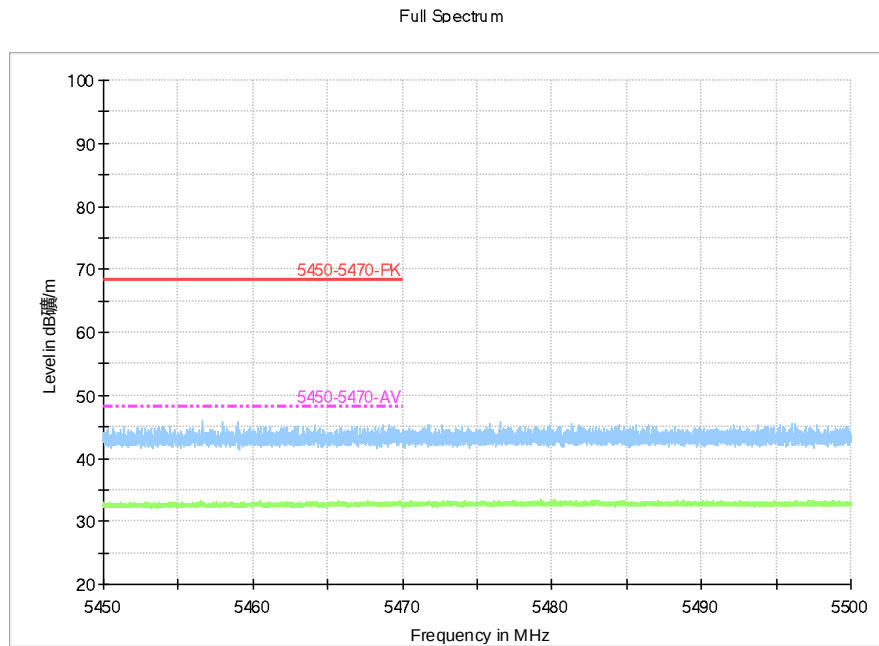


**Fig.33 Band Edges (802.11a, 5720MHz)**

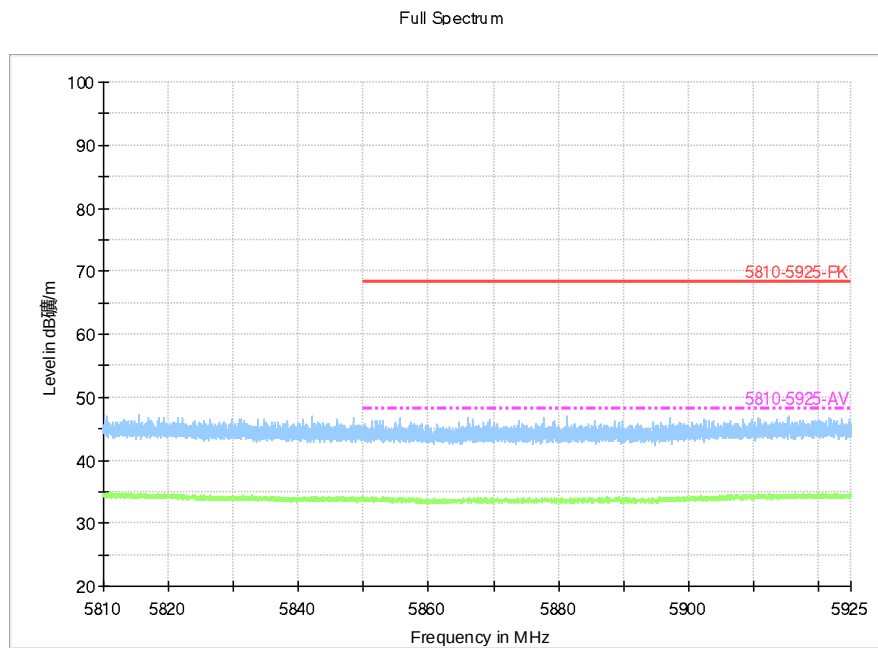


**Fig.34 Band Edges (802.11a, 5720MHz)**

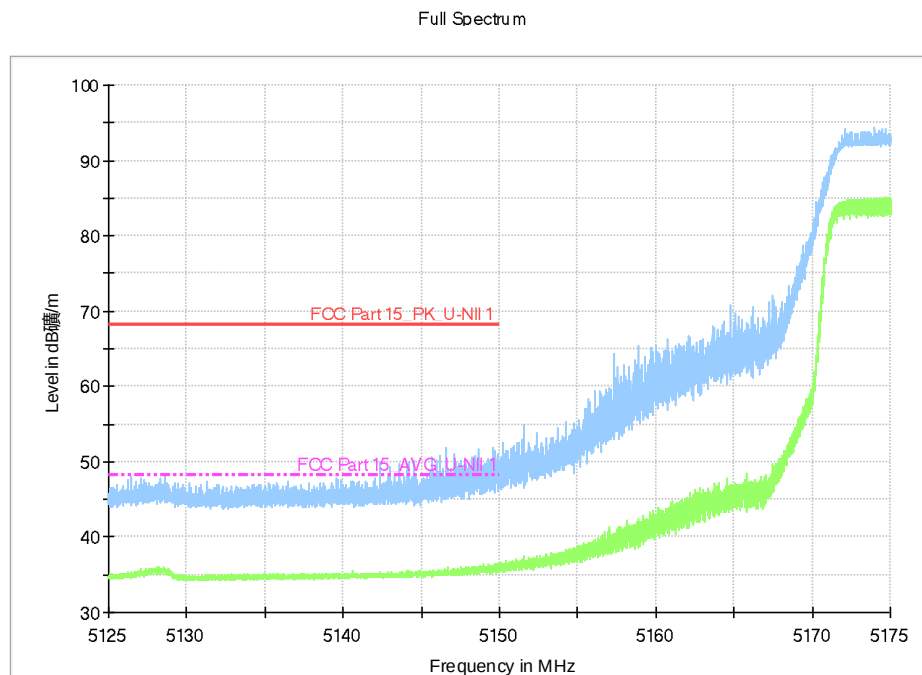


**Fig.35 Band Edges (802.11n-HT20, 5180MHz)**

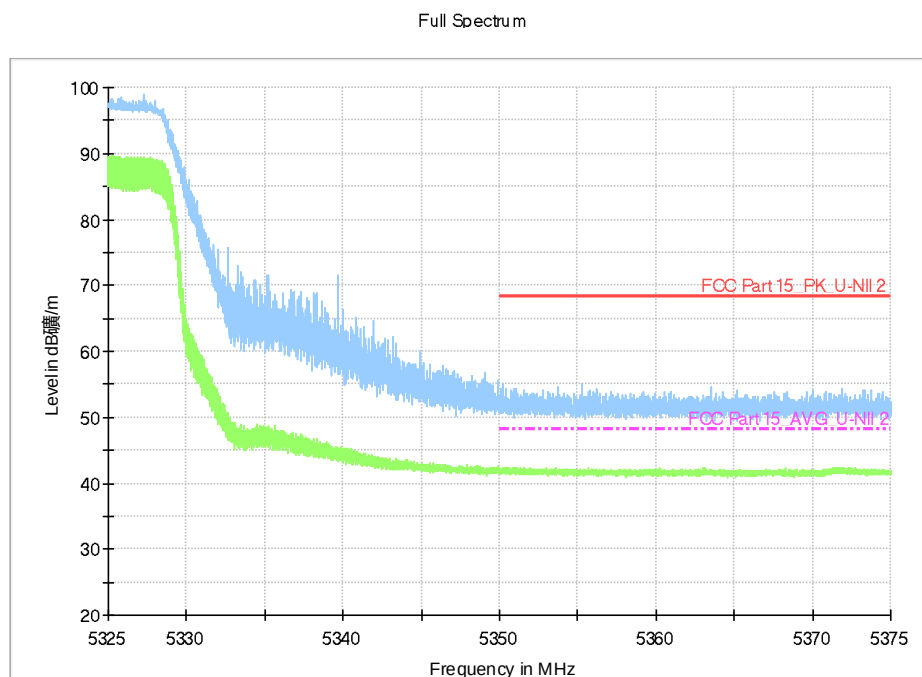


**Fig.36 Band Edges (802.11n-HT20, 5320MHz)**

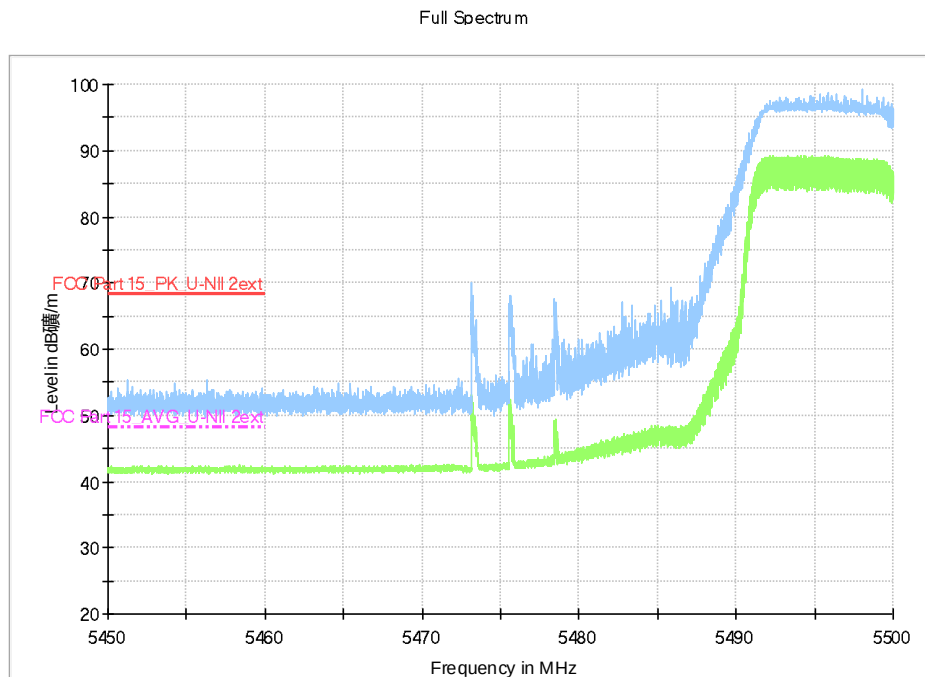


**Fig.37 Band Edges (802.11n-HT20, 5500MHz)**

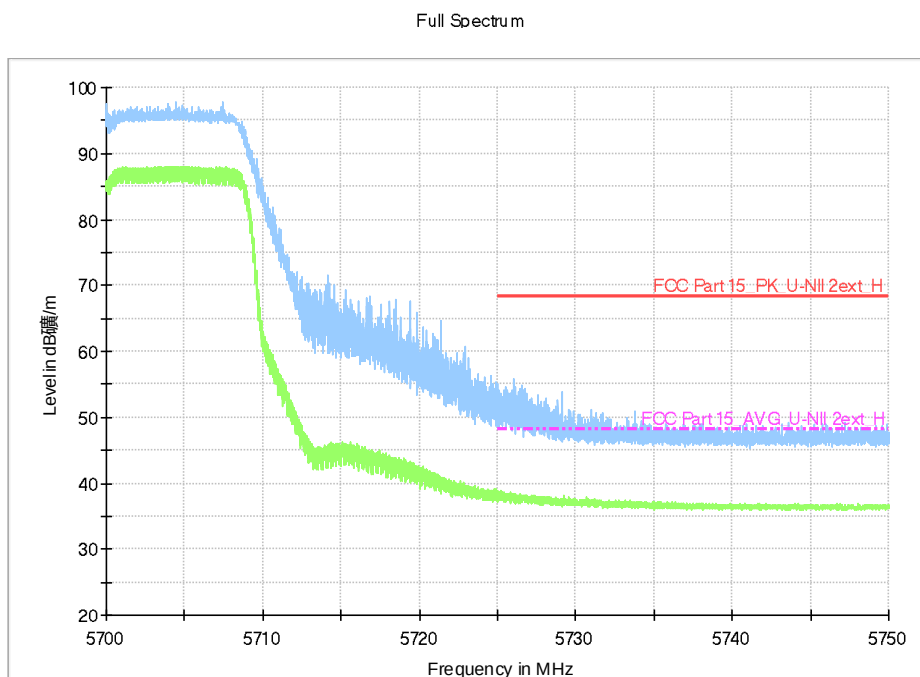


**Fig.38 Band Edges (802.11n-HT20, 5700MHz)**

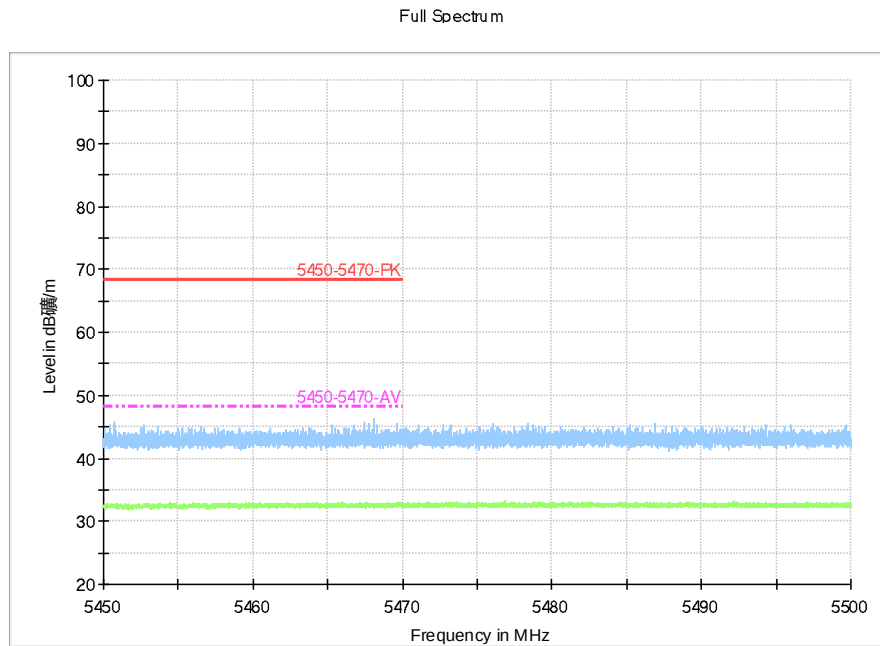


**Fig.39 Band Edges (802.11n, 5720MHz)**

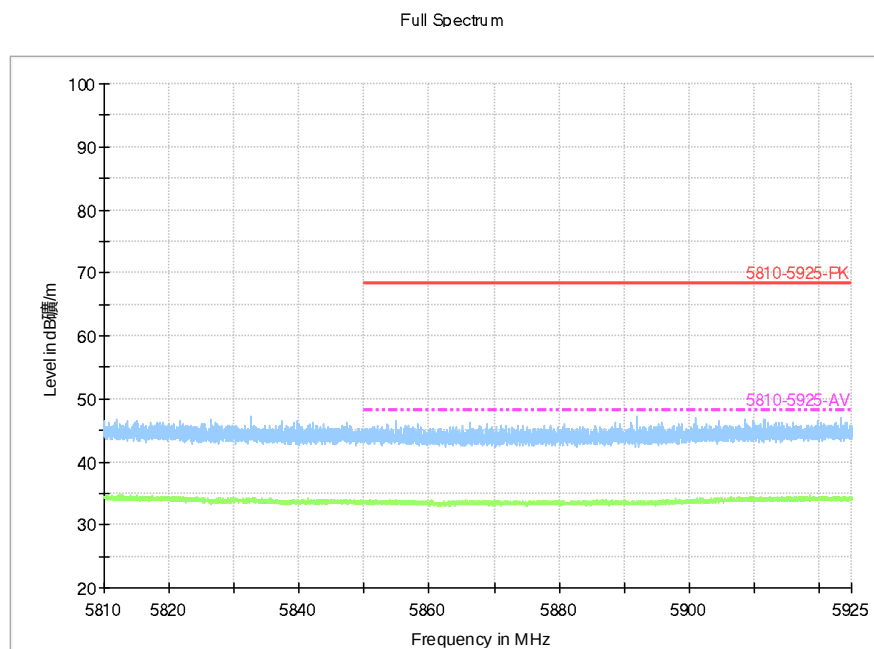


**Fig.40 Band Edges (802.11n, 5720MHz)**

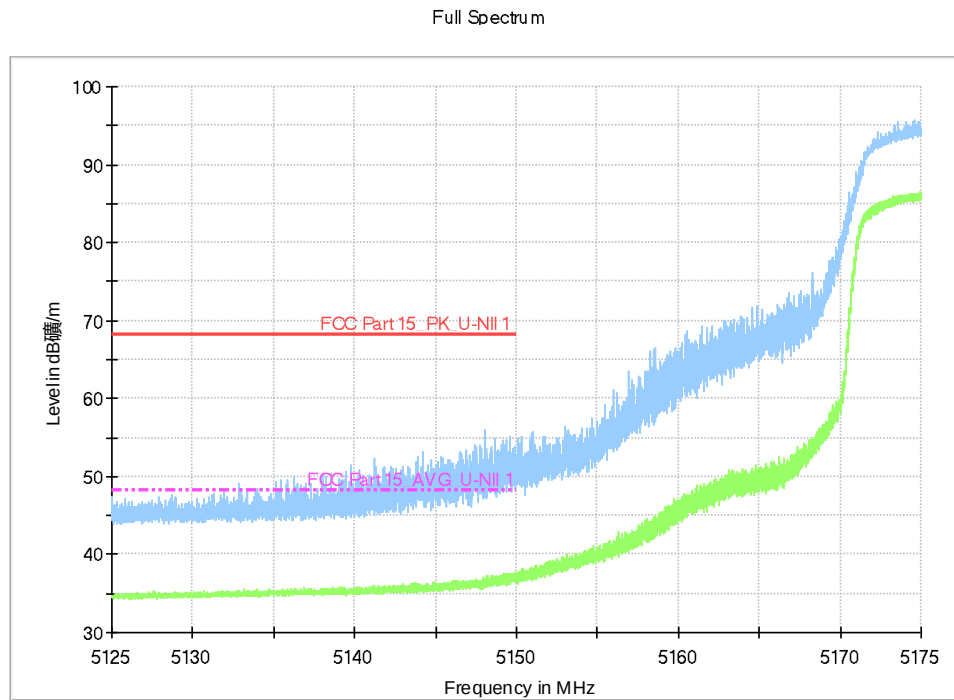


**Fig.41 Band Edges (802.11n-HT40, 5190MHz)**

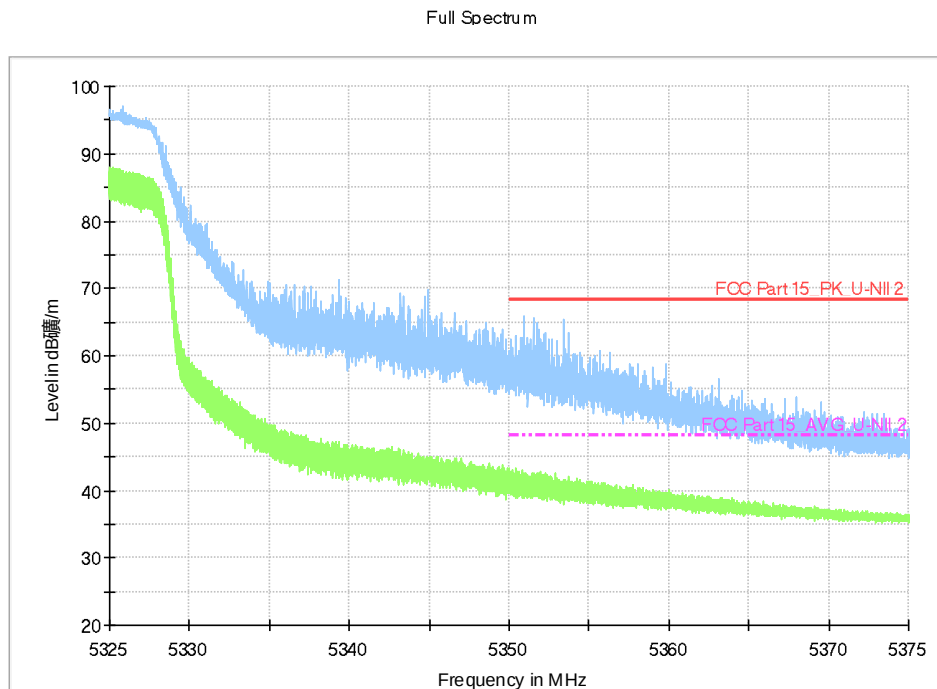


**Fig.42 Band Edges (802.11n-HT40, 5310MHz)**

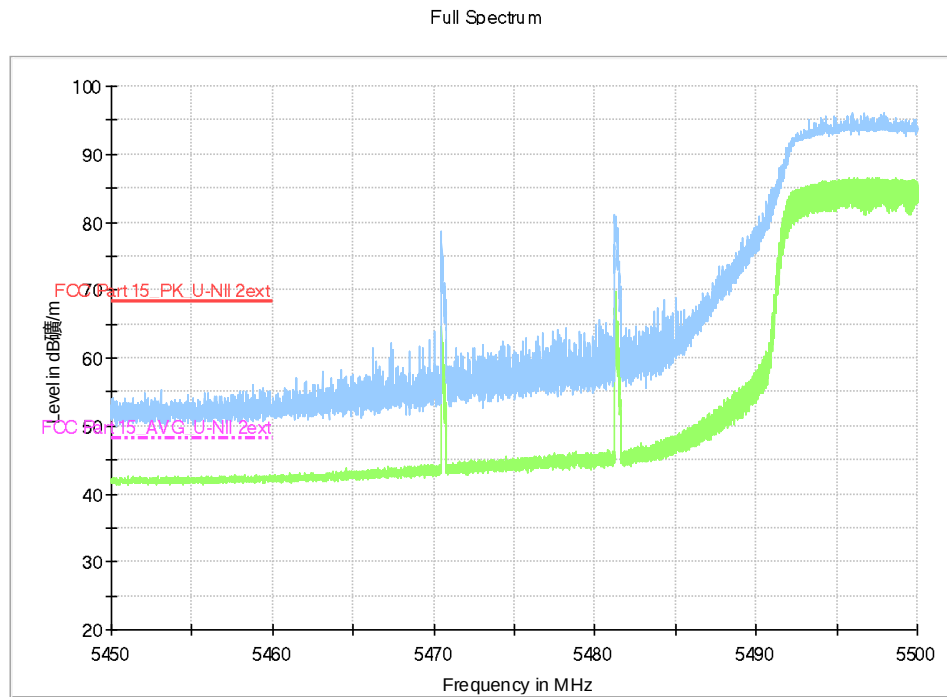


**Fig.43 Band Edges (802.11n-HT40, 5510MHz)**

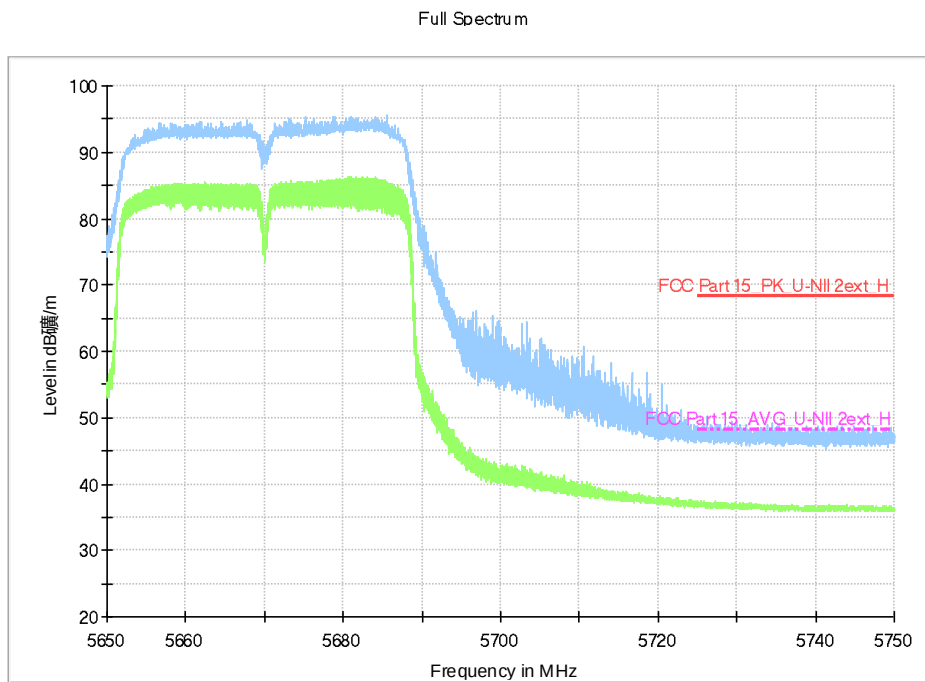


**Fig.44 Band Edges (802.11n-HT40, 5670MHz)**

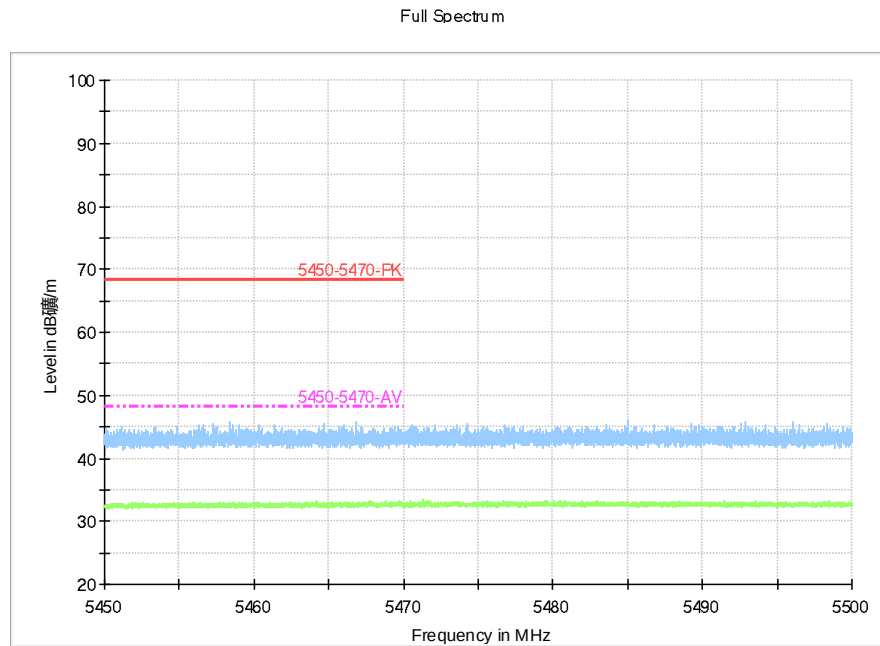


**Fig.45 Band Edges (802.11n-HT40, 5710MHz)**

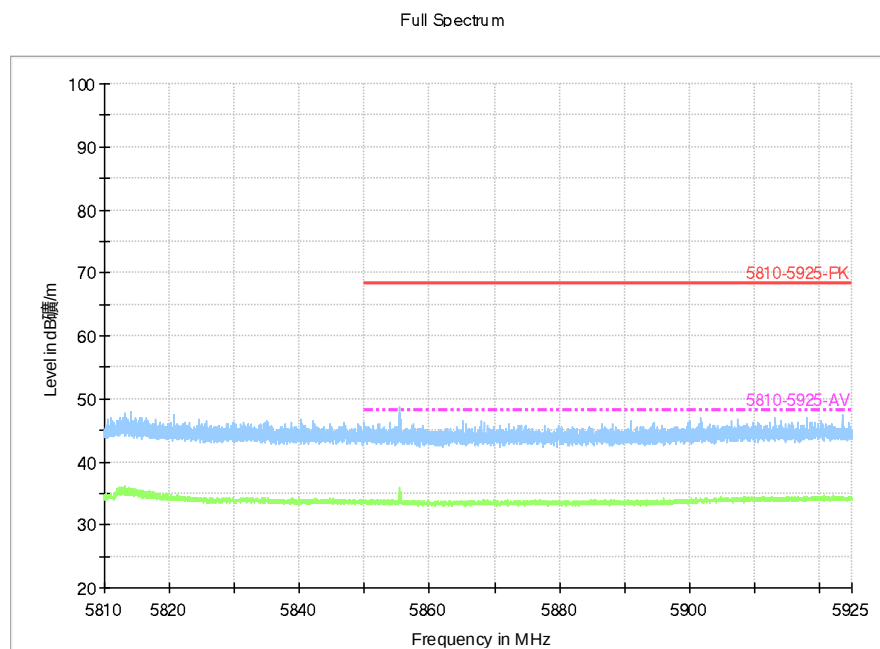


**Fig.46 Band Edges (802.11n-HT40, 5710MHz)**

## A.6. Transmitter Spurious Emission

### Measurement Limit:

| Standard               | Limit      |
|------------------------|------------|
| FCC 47 CFR Part 15.407 | -27dBm/MHz |

The measurement is made according to KDB 789033

In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

### Limit in restricted band:

| Frequency of emission (MHz) | Field strength(dBμV/m) | Measurement distance(m) |
|-----------------------------|------------------------|-------------------------|
| 30-88                       | 40.0                   | 3                       |
| 88-216                      | 43.5                   | 3                       |
| 216-960                     | 46.0                   | 3                       |
| Above 960                   | 54.0                   | 3                       |

Note: for frequency range below 960MHz, the limit in 15.209 is defined in 10m test distance. The limit used above is calculated from 10m to 3m.

### Measurement uncertainty:

Expanded measurement uncertainty for this test item is  $U = 3.9\text{dB}$ ,  $k=2$ .

### Measurement Results:

**Conclusion: PASS**

### Note:

A "reference path loss" is established and the  $A_{Rpl}$  is the attenuation of "reference path loss", and including the cable loss(the gain of the preamplifier), the gain of receive antenna.

$P_{Mea}$  is the field strength recorded from the instrument.

The measurement results are obtained as described below:

Result= $P_{Mea}+A_{Rpl}= P_{Mea}+Cable\ Loss+Antenna\ Factor$

**Average**
**802.11a**
**Channel 36**

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17964.8         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17974.7         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17983.5         | 36.2                        | -25.5           | 43.4                  | 18.3                    | H                  |
| 17992.3         | 36.2                        | -25.5           | 43.4                  | 18.3                    | H                  |
| 17951.6         | 36.1                        | -25.5           | 43.4                  | 18.2                    | H                  |
| 5127.7          | 37.1                        | -17.0           | 33.4                  | 20.7                    | V                  |

**Channel 40**

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17971.4         | 36.3                        | -25.5           | 43.4                  | 18.4                    | H                  |
| 17976.9         | 36.3                        | -25.5           | 43.4                  | 18.4                    | H                  |
| 17987.9         | 36.3                        | -25.5           | 43.4                  | 18.4                    | H                  |
| 17909.8         | 36.2                        | -25.5           | 43.4                  | 18.3                    | H                  |
| 17962.6         | 36.2                        | -25.5           | 43.4                  | 18.3                    | H                  |
| 17965.9         | 36.2                        | -25.5           | 43.4                  | 18.3                    | H                  |

**Channel 48**

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17995.6         | 36.4                        | -25.5           | 43.4                  | 18.5                    | V                  |
| 17981.3         | 36.3                        | -25.5           | 43.4                  | 18.4                    | H                  |
| 17991.2         | 36.3                        | -25.5           | 43.4                  | 18.4                    | H                  |
| 17993.4         | 36.3                        | -25.5           | 43.4                  | 18.4                    | V                  |
| 17996.7         | 36.3                        | -25.5           | 43.4                  | 18.4                    | H                  |
| 17969.2         | 36.2                        | -25.5           | 43.4                  | 18.3                    | H                  |

## Channel 52

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17994.5         | 36.6                        | -25.5           | 43.4                  | 18.7                    | V                  |
| 17985.7         | 36.3                        | -25.5           | 43.4                  | 18.4                    | V                  |
| 17991.2         | 36.3                        | -25.5           | 43.4                  | 18.4                    | V                  |
| 17975.8         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17986.8         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17898.8         | 36.1                        | -25.5           | 43.4                  | 18.2                    | V                  |

## Channel 56

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17986.8         | 36.5                        | -25.5           | 43.4                  | 18.6                    | V                  |
| 17958.2         | 36.3                        | -25.5           | 43.4                  | 18.4                    | V                  |
| 17990.1         | 36.3                        | -25.5           | 43.4                  | 18.4                    | V                  |
| 17901.0         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17996.7         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17942.8         | 36.1                        | -25.5           | 43.4                  | 18.2                    | H                  |

## Channel 64

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17971.4         | 36.3                        | -25.5           | 43.4                  | 18.4                    | H                  |
| 17975.8         | 36.3                        | -25.5           | 43.4                  | 18.4                    | V                  |
| 17995.6         | 36.3                        | -25.5           | 43.4                  | 18.4                    | V                  |
| 17885.6         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17965.9         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 5350.2          | 42.6                        | -16.9           | 33.4                  | 26.1                    | V                  |

## Channel 100

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17974.7         | 36.3                        | -25.5           | 43.4                  | 18.4                    | V                  |
| 17943.9         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17973.6         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17995.6         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17956.0         | 36.1                        | -25.5           | 43.4                  | 18.2                    | H                  |
| 5457.2          | 42.4                        | -16.8           | 33.4                  | 25.8                    | V                  |

## Channel 120

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17970.3         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17991.2         | 36.2                        | -25.5           | 43.4                  | 18.3                    | H                  |
| 17995.6         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17947.2         | 36.1                        | -25.5           | 43.4                  | 18.2                    | H                  |
| 17961.5         | 36.1                        | -25.5           | 43.4                  | 18.2                    | V                  |
| 17978.0         | 36.1                        | -25.5           | 43.4                  | 18.2                    | V                  |

## Channel 140

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17975.8         | 36.5                        | -25.5           | 43.4                  | 18.6                    | V                  |
| 17982.4         | 36.4                        | -25.5           | 43.4                  | 18.5                    | H                  |
| 17989.0         | 36.4                        | -25.5           | 43.4                  | 18.5                    | V                  |
| 17951.6         | 36.3                        | -25.5           | 43.4                  | 18.4                    | V                  |
| 17984.6         | 36.3                        | -25.5           | 43.4                  | 18.4                    | H                  |
| 5725.2          | 44.3                        | -16.3           | 34.2                  | 26.4                    | V                  |

**802.11n-HT20**
**Channel 36**

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17982.4         | 36.6                        | -25.5           | 43.4                  | 18.7                    | H                  |
| 17972.5         | 36.5                        | -25.5           | 43.4                  | 18.6                    | H                  |
| 17923.0         | 36.2                        | -25.5           | 43.4                  | 18.3                    | H                  |
| 17963.7         | 36.2                        | -25.5           | 43.4                  | 18.3                    | H                  |
| 17971.4         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 5149.8          | 36.5                        | -17.0           | 33.4                  | 20.1                    | V                  |

**Channel 40**

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17982.4         | 36.5                        | -25.5           | 43.4                  | 18.6                    | H                  |
| 17947.2         | 36.4                        | -25.5           | 43.4                  | 18.5                    | H                  |
| 17973.6         | 36.4                        | -25.5           | 43.4                  | 18.5                    | V                  |
| 17978.0         | 36.4                        | -25.5           | 43.4                  | 18.5                    | H                  |
| 17980.2         | 36.4                        | -25.5           | 43.4                  | 18.5                    | H                  |
| 17993.4         | 36.4                        | -25.5           | 43.4                  | 18.5                    | H                  |

**Channel 48**

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17973.6         | 36.5                        | -25.5           | 43.4                  | 18.6                    | H                  |
| 17995.6         | 36.5                        | -25.5           | 43.4                  | 18.6                    | H                  |
| 17993.4         | 36.4                        | -25.5           | 43.4                  | 18.5                    | H                  |
| 17968.1         | 36.3                        | -25.5           | 43.4                  | 18.4                    | H                  |
| 17971.4         | 36.3                        | -25.5           | 43.4                  | 18.4                    | H                  |
| 17986.8         | 36.3                        | -25.5           | 43.4                  | 18.4                    | H                  |

## Channel 52

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17945.0         | 36.4                        | -25.5           | 43.4                  | 18.5                    | V                  |
| 17972.5         | 36.3                        | -25.5           | 43.4                  | 18.4                    | V                  |
| 17989.0         | 36.3                        | -25.5           | 43.4                  | 18.4                    | V                  |
| 17956.0         | 36.1                        | -25.5           | 43.4                  | 18.2                    | V                  |
| 17963.7         | 36.1                        | -25.5           | 43.4                  | 18.2                    | H                  |
| 17967.0         | 36.1                        | -25.5           | 43.4                  | 18.2                    | V                  |

## Channel 56

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17994.5         | 36.3                        | -25.5           | 43.4                  | 18.4                    | V                  |
| 17963.7         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17986.8         | 36.2                        | -25.5           | 43.4                  | 18.3                    | H                  |
| 17993.4         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17972.5         | 36.1                        | -25.5           | 43.4                  | 18.2                    | V                  |
| 17989.0         | 36.1                        | -25.5           | 43.4                  | 18.2                    | V                  |

## Channel 64

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17970.3         | 36.4                        | -25.5           | 43.4                  | 18.5                    | V                  |
| 17978.0         | 36.3                        | -25.5           | 43.4                  | 18.4                    | V                  |
| 17959.3         | 36.2                        | -25.5           | 43.4                  | 18.3                    | H                  |
| 17975.8         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17952.7         | 36.1                        | -25.5           | 43.4                  | 18.2                    | V                  |
| 5350.4          | 42.4                        | -16.9           | 33.4                  | 25.9                    | V                  |

## Channel 100

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17978.0         | 36.3                        | -25.5           | 43.4                  | 18.4                    | H                  |
| 17986.8         | 36.2                        | -25.5           | 43.4                  | 18.3                    | H                  |
| 17996.7         | 36.2                        | -25.5           | 43.4                  | 18.3                    | H                  |
| 17974.7         | 36.1                        | -25.5           | 43.4                  | 18.2                    | V                  |
| 17985.7         | 36.1                        | -25.5           | 43.4                  | 18.2                    | H                  |
| 5458.4          | 42.5                        | -16.8           | 33.4                  | 25.9                    | V                  |

## Channel 120

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17969.2         | 36.3                        | -25.5           | 43.4                  | 18.4                    | V                  |
| 17978.0         | 36.3                        | -25.5           | 43.4                  | 18.4                    | V                  |
| 17982.4         | 36.3                        | -25.5           | 43.4                  | 18.4                    | V                  |
| 17984.6         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17992.3         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17974.7         | 36.1                        | -25.5           | 43.4                  | 18.2                    | H                  |

## Channel 140

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17978.0         | 36.4                        | -25.5           | 43.4                  | 18.5                    | H                  |
| 17993.4         | 36.3                        | -25.5           | 43.4                  | 18.4                    | V                  |
| 17950.5         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17963.7         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17958.2         | 36.1                        | -25.5           | 43.4                  | 18.2                    | V                  |
| 5725.0          | 38.9                        | -16.3           | 34.2                  | 21.0                    | V                  |

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**Channel 38**

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17997.8         | 36.3                        | -25.5           | 43.4                  | 18.4                    | H                  |
| 17971.4         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17991.2         | 36.2                        | -25.5           | 43.4                  | 18.3                    | H                  |
| 17992.3         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17883.4         | 36.1                        | -25.5           | 43.4                  | 18.2                    | V                  |
| 5149.9          | 37.8                        | -17.0           | 33.4                  | 21.4                    | V                  |

**Channel 46**

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17978.0         | 36.3                        | -25.5           | 43.4                  | 18.4                    | V                  |
| 17984.6         | 36.3                        | -25.5           | 43.4                  | 18.4                    | V                  |
| 17948.3         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17969.2         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17979.1         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17980.2         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |

**Channel 54**

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17923.0         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17935.1         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17974.7         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17997.8         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17964.8         | 36.1                        | -25.5           | 43.4                  | 18.2                    | V                  |
| 17979.1         | 36.1                        | -25.5           | 43.4                  | 18.2                    | H                  |

## Channel 62

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17976.9         | 36.3                        | -25.5           | 43.4                  | 18.4                    | V                  |
| 17983.5         | 36.2                        | -25.5           | 43.4                  | 18.3                    | V                  |
| 17997.8         | 36.2                        | -25.5           | 43.4                  | 18.3                    | H                  |
| 17956.0         | 36.1                        | -25.5           | 43.4                  | 18.2                    | V                  |
| 17960.4         | 36.1                        | -25.5           | 43.4                  | 18.2                    | H                  |
| 5350.0          | 43.4                        | -16.9           | 33.4                  | 26.9                    | V                  |

## Channel 102

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 11341.7         | 40.0                        | -32.4           | 38.2                  | 34.2                    | V                  |
| 11347.2         | 39.2                        | -32.4           | 38.2                  | 33.4                    | V                  |
| 11336.2         | 39.1                        | -32.4           | 38.2                  | 33.3                    | V                  |
| 11330.7         | 38.7                        | -32.4           | 38.2                  | 32.9                    | V                  |
| 11343.9         | 38.3                        | -32.4           | 38.2                  | 32.5                    | V                  |
| 5458.2          | 42.8                        | -16.8           | 33.4                  | 26.2                    | V                  |

## Channel 118

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 11338.4         | 39.9                        | -32.4           | 38.2                  | 34.1                    | V                  |
| 11346.1         | 38.9                        | -32.4           | 38.2                  | 33.1                    | V                  |
| 11332.9         | 38.8                        | -32.4           | 38.2                  | 33.0                    | V                  |
| 11340.6         | 38.7                        | -32.4           | 38.2                  | 32.9                    | V                  |
| 11335.1         | 38.5                        | -32.4           | 38.2                  | 32.7                    | V                  |
| 11343.9         | 38.4                        | -32.4           | 38.2                  | 32.6                    | V                  |

## Channel 134

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 11339.5         | 39.5                        | -32.4           | 38.2                  | 33.7                    | V                  |
| 11345.0         | 38.9                        | -32.4           | 38.2                  | 33.1                    | V                  |
| 11334.0         | 38.7                        | -32.4           | 38.2                  | 32.9                    | V                  |
| 11336.2         | 38.6                        | -32.4           | 38.2                  | 32.8                    | V                  |
| 11341.7         | 38.1                        | -32.4           | 38.2                  | 32.3                    | V                  |
| 5725.3          | 37.4                        | -16.3           | 34.2                  | 19.5                    | V                  |

**Peak**
**802.11a**

## Channel 36

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17848.2         | 47.9                        | -25.5           | 43.4                  | 30.0                    | V                  |
| 17983.5         | 47.9                        | -25.5           | 43.4                  | 30.0                    | H                  |
| 17938.4         | 47.8                        | -25.5           | 43.4                  | 29.9                    | H                  |
| 17958.2         | 47.8                        | -25.5           | 43.4                  | 29.9                    | V                  |
| 17997.8         | 47.8                        | -25.5           | 43.4                  | 29.9                    | V                  |
| 5146.8          | 54.1                        | -17.0           | 33.4                  | 37.7                    | V                  |

## Channel 40

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17939.5         | 48.1                        | -25.5           | 43.4                  | 30.2                    | H                  |
| 17919.7         | 48.0                        | -25.5           | 43.4                  | 30.1                    | V                  |
| 17631.5         | 47.9                        | -25.7           | 43.4                  | 30.2                    | H                  |
| 17836.1         | 47.7                        | -25.5           | 43.4                  | 29.8                    | H                  |
| 17899.9         | 47.7                        | -25.5           | 43.4                  | 29.8                    | H                  |
| 17986.8         | 47.7                        | -25.5           | 43.4                  | 29.8                    | H                  |

## Channel 48

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17945.0         | 47.9                        | -25.5           | 43.4                  | 30.0                    | V                  |
| 17940.6         | 47.8                        | -25.5           | 43.4                  | 29.9                    | H                  |
| 17565.5         | 47.7                        | -25.7           | 43.4                  | 30.0                    | V                  |
| 17425.8         | 47.6                        | -26.9           | 43.4                  | 31.1                    | V                  |
| 17428.0         | 47.6                        | -26.9           | 43.4                  | 31.1                    | H                  |
| 17495.1         | 47.6                        | -26.9           | 43.4                  | 31.1                    | V                  |

## Channel 52

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17996.7         | 48.5                        | -25.5           | 43.4                  | 30.6                    | H                  |
| 17399.4         | 48.3                        | -26.9           | 43.4                  | 31.8                    | V                  |
| 17986.8         | 47.9                        | -25.5           | 43.4                  | 30.0                    | V                  |
| 17980.2         | 47.8                        | -25.5           | 43.4                  | 29.9                    | V                  |
| 17991.2         | 47.8                        | -25.5           | 43.4                  | 29.9                    | V                  |
| 17924.1         | 47.7                        | -25.5           | 43.4                  | 29.8                    | V                  |

## Channel 56

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17385.1         | 48.2                        | -25.9           | 40.1                  | 34.0                    | V                  |
| 17897.7         | 47.9                        | -25.5           | 43.4                  | 30.0                    | H                  |
| 17943.9         | 47.8                        | -25.5           | 43.4                  | 29.9                    | V                  |
| 17969.2         | 47.8                        | -25.5           | 43.4                  | 29.9                    | H                  |
| 17995.6         | 47.8                        | -25.5           | 43.4                  | 29.9                    | H                  |
| 17655.7         | 47.7                        | -25.7           | 43.4                  | 30.0                    | V                  |

## Channel 64

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17888.9         | 48.1                        | -25.5           | 43.4                  | 30.2                    | V                  |
| 17929.6         | 48.0                        | -25.5           | 43.4                  | 30.1                    | H                  |
| 17402.7         | 47.8                        | -26.9           | 43.4                  | 31.3                    | V                  |
| 17898.8         | 47.7                        | -25.5           | 43.4                  | 29.8                    | V                  |
| 17994.5         | 47.7                        | -25.5           | 43.4                  | 29.8                    | H                  |
| 5352.3          | 57.5                        | -16.9           | 33.4                  | 41.0                    | V                  |

## Channel 100

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17983.5         | 49.0                        | -25.5           | 43.4                  | 31.1                    | H                  |
| 17730.5         | 48.1                        | -25.7           | 43.4                  | 30.4                    | V                  |
| 17964.8         | 48.1                        | -25.5           | 43.4                  | 30.2                    | V                  |
| 17949.4         | 47.8                        | -25.5           | 43.4                  | 29.9                    | V                  |
| 17993.4         | 47.8                        | -25.5           | 43.4                  | 29.9                    | V                  |
| 5451.1          | 54.3                        | -16.8           | 33.4                  | 37.7                    | V                  |

## Channel 120

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17315.8         | 48.5                        | -25.9           | 40.1                  | 34.3                    | H                  |
| 17989.0         | 48.4                        | -25.5           | 43.4                  | 30.5                    | H                  |
| 17964.8         | 48.1                        | -25.5           | 43.4                  | 30.2                    | V                  |
| 17990.1         | 48.1                        | -25.5           | 43.4                  | 30.2                    | V                  |
| 17979.1         | 48.0                        | -25.5           | 43.4                  | 30.1                    | V                  |
| 17946.1         | 47.7                        | -25.5           | 43.4                  | 29.8                    | V                  |

## Channel 140

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17492.9         | 48.5                        | -26.9           | 43.4                  | 32.0                    | V                  |
| 17996.7         | 48.3                        | -25.5           | 43.4                  | 30.4                    | H                  |
| 17510.5         | 47.9                        | -26.9           | 43.4                  | 31.4                    | V                  |
| 17752.5         | 47.8                        | -25.5           | 43.4                  | 29.9                    | V                  |
| 17843.8         | 47.5                        | -25.5           | 43.4                  | 29.6                    | V                  |
| 5725.0          | 56.9                        | -16.3           | 34.2                  | 39.0                    | V                  |

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## Channel 36

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17971.4         | 48.7                        | -25.5           | 43.4                  | 30.8                    | V                  |
| 17659.0         | 48.1                        | -25.7           | 43.4                  | 30.4                    | V                  |
| 16962.7         | 48.0                        | -26.3           | 40.1                  | 34.2                    | H                  |
| 17962.6         | 47.9                        | -25.5           | 43.4                  | 30.0                    | V                  |
| 17886.7         | 47.6                        | -25.5           | 43.4                  | 29.7                    | V                  |
| 5146.6          | 51.9                        | -17.0           | 33.4                  | 35.5                    | V                  |

## Channel 40

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17937.3         | 48.6                        | -25.5           | 43.4                  | 30.7                    | H                  |
| 17981.3         | 48.2                        | -25.5           | 43.4                  | 30.3                    | H                  |
| 17984.6         | 47.9                        | -25.5           | 43.4                  | 30.0                    | H                  |
| 17987.9         | 47.9                        | -25.5           | 43.4                  | 30.0                    | V                  |
| 17909.8         | 47.8                        | -25.5           | 43.4                  | 29.9                    | V                  |
| 17952.7         | 47.8                        | -25.5           | 43.4                  | 29.9                    | V                  |

## Channel 48

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17858.1         | 48.3                        | -25.5           | 43.4                  | 30.4                    | H                  |
| 17876.8         | 48.2                        | -25.5           | 43.4                  | 30.3                    | H                  |
| 17970.3         | 48.0                        | -25.5           | 43.4                  | 30.1                    | V                  |
| 17992.3         | 47.9                        | -25.5           | 43.4                  | 30.0                    | V                  |
| 17535.8         | 47.8                        | -26.9           | 43.4                  | 31.3                    | V                  |
| 17477.5         | 47.7                        | -26.9           | 43.4                  | 31.2                    | H                  |

## Channel 52

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17890.0         | 48.8                        | -25.5           | 43.4                  | 30.9                    | V                  |
| 17945.0         | 48.6                        | -25.5           | 43.4                  | 30.7                    | V                  |
| 17989.0         | 48.5                        | -25.5           | 43.4                  | 30.6                    | V                  |
| 17972.5         | 48.1                        | -25.5           | 43.4                  | 30.2                    | V                  |
| 17990.1         | 48.1                        | -25.5           | 43.4                  | 30.2                    | V                  |
| 17393.9         | 47.8                        | -26.9           | 43.4                  | 31.3                    | V                  |

## Channel 56

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17983.5         | 48.6                        | -25.5           | 43.4                  | 30.7                    | H                  |
| 17934.0         | 48.4                        | -25.5           | 43.4                  | 30.5                    | V                  |
| 17979.1         | 48.3                        | -25.5           | 43.4                  | 30.4                    | H                  |
| 17945.0         | 48.2                        | -25.5           | 43.4                  | 30.3                    | V                  |
| 17783.3         | 47.7                        | -25.5           | 43.4                  | 29.8                    | V                  |
| 17967.0         | 47.7                        | -25.5           | 43.4                  | 29.8                    | V                  |

## Channel 64

| Frequency (MHz) | Measurement Result (dB $\mu$ V/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dB $\mu$ V) | Antenna Pol. (H/V) |
|-----------------|-----------------------------------|-----------------|-----------------------|-------------------------------|--------------------|
| 17921.9         | 48.5                              | -25.5           | 43.4                  | 30.6                          | V                  |
| 17914.2         | 48.2                              | -25.5           | 43.4                  | 30.3                          | V                  |
| 17970.3         | 47.9                              | -25.5           | 43.4                  | 30.0                          | V                  |
| 17997.8         | 47.9                              | -25.5           | 43.4                  | 30.0                          | H                  |
| 17822.9         | 47.8                              | -25.5           | 43.4                  | 29.9                          | V                  |
| 5350.2          | 55.2                              | -16.9           | 33.4                  | 38.7                          | V                  |

## Channel 100

| Frequency (MHz) | Measurement Result (dB $\mu$ V/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dB $\mu$ V) | Antenna Pol. (H/V) |
|-----------------|-----------------------------------|-----------------|-----------------------|-------------------------------|--------------------|
| 17863.6         | 48.4                              | -25.5           | 43.4                  | 30.5                          | H                  |
| 17964.8         | 48.4                              | -25.5           | 43.4                  | 30.5                          | V                  |
| 17987.9         | 48.2                              | -25.5           | 43.4                  | 30.3                          | H                  |
| 17906.5         | 48.1                              | -25.5           | 43.4                  | 30.2                          | V                  |
| 17980.2         | 48.0                              | -25.5           | 43.4                  | 30.1                          | H                  |
| 5451.2          | 55.4                              | -16.8           | 33.4                  | 38.8                          | V                  |

## Channel 120

| Frequency (MHz) | Measurement Result (dB $\mu$ V/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dB $\mu$ V) | Antenna Pol. (H/V) |
|-----------------|-----------------------------------|-----------------|-----------------------|-------------------------------|--------------------|
| 17877.9         | 48.2                              | -25.5           | 43.4                  | 30.3                          | V                  |
| 17503.9         | 47.9                              | -26.9           | 43.4                  | 31.4                          | H                  |
| 17810.8         | 47.9                              | -25.5           | 43.4                  | 30.0                          | V                  |
| 17895.5         | 47.8                              | -25.5           | 43.4                  | 29.9                          | H                  |
| 17613.9         | 47.7                              | -25.7           | 43.4                  | 30.0                          | H                  |
| 17888.9         | 47.6                              | -25.5           | 43.4                  | 29.7                          | H                  |

## Channel 140

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17649.1         | 48.1                        | -25.7           | 43.4                  | 30.4                    | V                  |
| 17965.9         | 48.1                        | -25.5           | 43.4                  | 30.2                    | V                  |
| 17898.8         | 48.0                        | -25.5           | 43.4                  | 30.1                    | H                  |
| 17755.8         | 47.9                        | -25.5           | 43.4                  | 30.0                    | V                  |
| 17723.9         | 47.8                        | -25.7           | 43.4                  | 30.1                    | V                  |
| 5726.0          | 55.7                        | -16.3           | 34.2                  | 37.8                    | V                  |

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## Channel 38

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17890.0         | 47.9                        | -25.5           | 43.4                  | 30.0                    | V                  |
| 17435.7         | 47.8                        | -26.9           | 43.4                  | 31.3                    | H                  |
| 17654.6         | 47.7                        | -25.7           | 43.4                  | 30.0                    | V                  |
| 17970.3         | 47.7                        | -25.5           | 43.4                  | 29.8                    | H                  |
| 17844.9         | 47.6                        | -25.5           | 43.4                  | 29.7                    | H                  |
| 5148.1          | 56.0                        | -17.0           | 33.4                  | 39.6                    | V                  |

## Channel 46

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17935.1         | 48.5                        | -25.5           | 43.4                  | 30.6                    | H                  |
| 17993.4         | 48.4                        | -25.5           | 43.4                  | 30.5                    | V                  |
| 17886.7         | 48.3                        | -25.5           | 43.4                  | 30.4                    | H                  |
| 17489.6         | 48.1                        | -26.9           | 43.4                  | 31.6                    | H                  |
| 17912.0         | 48.0                        | -25.5           | 43.4                  | 30.1                    | V                  |
| 17905.4         | 47.8                        | -25.5           | 43.4                  | 29.9                    | V                  |

## Channel 54

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17950.5         | 49.4                        | -25.5           | 43.4                  | 31.5                    | V                  |
| 17650.2         | 48.4                        | -25.7           | 43.4                  | 30.7                    | V                  |
| 17982.4         | 48.2                        | -25.5           | 43.4                  | 30.3                    | H                  |
| 17872.4         | 47.8                        | -25.5           | 43.4                  | 29.9                    | V                  |
| 17875.7         | 47.8                        | -25.5           | 43.4                  | 29.9                    | H                  |
| 17991.2         | 47.8                        | -25.5           | 43.4                  | 29.9                    | H                  |

## Channel 62

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 17956.0         | 48.7                        | -25.5           | 43.4                  | 30.8                    | V                  |
| 17839.4         | 48.5                        | -25.5           | 43.4                  | 30.6                    | V                  |
| 17884.5         | 48.2                        | -25.5           | 43.4                  | 30.3                    | H                  |
| 17886.7         | 48.2                        | -25.5           | 43.4                  | 30.3                    | V                  |
| 17989.0         | 48.2                        | -25.5           | 43.4                  | 30.3                    | V                  |
| 5350.9          | 65.8                        | -16.9           | 33.4                  | 49.3                    | V                  |

## Channel 102

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 11340.6         | 51.0                        | -32.4           | 38.2                  | 45.2                    | V                  |
| 11335.1         | 50.0                        | -32.4           | 38.2                  | 44.2                    | V                  |
| 11336.2         | 49.9                        | -32.4           | 38.2                  | 44.1                    | V                  |
| 11338.4         | 49.9                        | -32.4           | 38.2                  | 44.1                    | V                  |
| 11350.5         | 49.9                        | -32.4           | 38.2                  | 44.1                    | V                  |
| 5458.8          | 56.2                        | -16.8           | 33.4                  | 39.6                    | V                  |

## Channel 118

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 11349.4         | 50.4                        | -32.4           | 38.2                  | 44.6                    | V                  |
| 11350.5         | 50.4                        | -32.4           | 38.2                  | 44.6                    | V                  |
| 11338.4         | 50.3                        | -32.4           | 38.2                  | 44.5                    | V                  |
| 11340.6         | 50.1                        | -32.4           | 38.2                  | 44.3                    | V                  |
| 11334.0         | 49.8                        | -32.4           | 38.2                  | 44.0                    | V                  |
| 11341.7         | 49.8                        | -32.4           | 38.2                  | 44.0                    | V                  |

## Channel 134

| Frequency (MHz) | Measurement Result (dBμV/m) | Cable loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBμV) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|--------------------|
| 11345.0         | 51.2                        | -32.4           | 38.2                  | 45.4                    | V                  |
| 11339.5         | 51.1                        | -32.4           | 38.2                  | 45.3                    | V                  |
| 11340.6         | 51.1                        | -32.4           | 38.2                  | 45.3                    | V                  |
| 11338.4         | 50.9                        | -32.4           | 38.2                  | 45.1                    | V                  |
| 11342.8         | 50.4                        | -32.4           | 38.2                  | 44.6                    | V                  |
| 5726.1          | 50.2                        | -16.3           | 34.2                  | 32.3                    | H                  |

Sample calculation: 802.11n 40MHz CH134–Peak, 5726.1 MHz

Peak ERP(dBm) =  $P_{Mea}(32.3\text{dBuV/m}) + \text{Cable Loss}(-16.3) + \text{Antenna Factor}(34.2) = 50.2 \text{ dBuV/m}$

## A.7. AC Powerline Conducted Emission (150kHz- 30MHz)

### Test Condition:

| Voltage (V) | Frequency (Hz) |
|-------------|----------------|
| 120         | 60             |

### Measurement uncertainty:

Expanded measurement uncertainty for this test item is  $U = 3.38\text{dB}$ ,  $k=2$ .

### Measurement Result and limit:

WLAN (Quasi-peak Limit)

| Frequency range<br>(MHz)                                                                                 | Quasi-peak<br>Limit (dBμV) | Result (dBμV) |        | Conclusion |
|----------------------------------------------------------------------------------------------------------|----------------------------|---------------|--------|------------|
|                                                                                                          |                            | With charger  |        |            |
|                                                                                                          |                            | 11a mode      | Idle   |            |
| 0.15 to 0.5                                                                                              | 66 to 56                   | Fig.47        | Fig.48 | P          |
| 0.5 to 5                                                                                                 | 56                         |               |        |            |
| 5 to 30                                                                                                  | 60                         |               |        |            |
| NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz. |                            |               |        |            |

WLAN (Average Limit)

| Frequency range<br>(MHz)                                                                                 | Average Limit<br>(dBμV) | Result (dBμV) |        | Conclusion |
|----------------------------------------------------------------------------------------------------------|-------------------------|---------------|--------|------------|
|                                                                                                          |                         | With charger  |        |            |
|                                                                                                          |                         | 11a mode      | Idle   |            |
| 0.15 to 0.5                                                                                              | 56 to 46                | Fig.47        | Fig.48 | P          |
| 0.5 to 5                                                                                                 | 46                      |               |        |            |
| 5 to 30                                                                                                  | 50                      |               |        |            |
| NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz. |                         |               |        |            |

**Conclusion: PASS**

Test graphs as below:

## Result for Traffic:

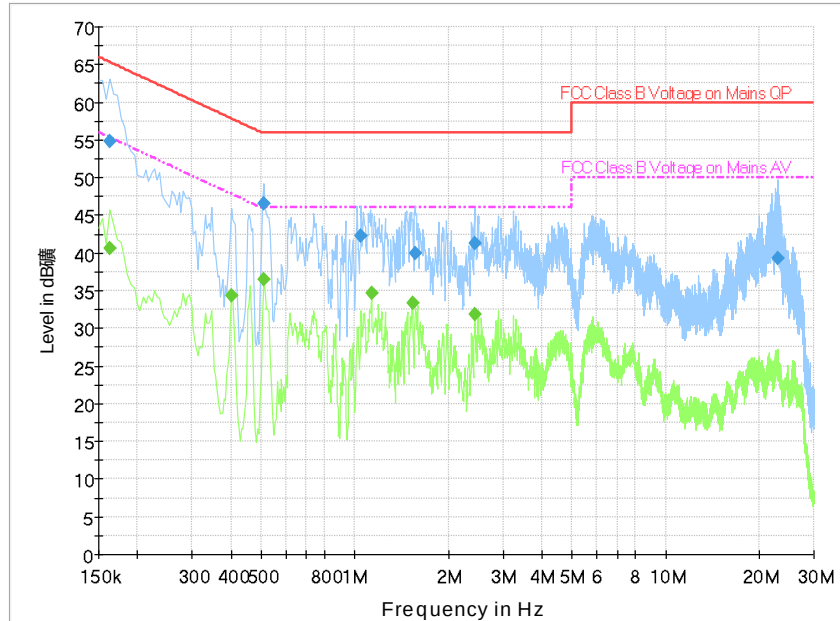


Fig.47 Conducted Emission(802.11a, Ch40, TX)

## Final Result 1

| Frequency (MHz) | QuasiPeak (dBμV) | Meas. Time (ms) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) | Comment |
|-----------------|------------------|-----------------|-----------------|--------|------|------------|-------------|--------------|---------|
| 0.163500        | 54.8             | 2000.0          | 9.000           | On     | L1   | 27.7       | 10.4        | 65.3         |         |
| 0.510000        | 46.6             | 2000.0          | 9.000           | On     | L1   | 19.8       | 9.4         | 56.0         |         |
| 1.045500        | 42.2             | 2000.0          | 9.000           | On     | L1   | 19.7       | 13.8        | 56.0         |         |
| 1.563000        | 40.0             | 2000.0          | 9.000           | On     | L1   | 19.6       | 16.0        | 56.0         |         |
| 2.436000        | 41.2             | 2000.0          | 9.000           | On     | L1   | 19.6       | 14.8        | 56.0         |         |
| 23.059500       | 39.3             | 2000.0          | 9.000           | On     | N    | 20.0       | 20.7        | 60.0         |         |

## Final Result 2

| Frequency (MHz) | Average (dBμV) | Meas. Time (ms) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) | Comment |
|-----------------|----------------|-----------------|-----------------|--------|------|------------|-------------|--------------|---------|
| 0.163500        | 40.6           | 2000.0          | 9.000           | On     | L1   | 27.7       | 14.7        | 55.3         |         |
| 0.402000        | 34.3           | 2000.0          | 9.000           | On     | L1   | 19.8       | 13.5        | 47.8         |         |
| 0.510000        | 36.5           | 2000.0          | 9.000           | On     | L1   | 19.8       | 9.5         | 46.0         |         |
| 1.131000        | 34.7           | 2000.0          | 9.000           | On     | L1   | 19.7       | 11.3        | 46.0         |         |
| 1.531500        | 33.4           | 2000.0          | 9.000           | On     | L1   | 19.6       | 12.6        | 46.0         |         |
| 2.436000        | 31.8           | 2000.0          | 9.000           | On     | L1   | 19.6       | 14.2        | 46.0         |         |

### Result for Idle:

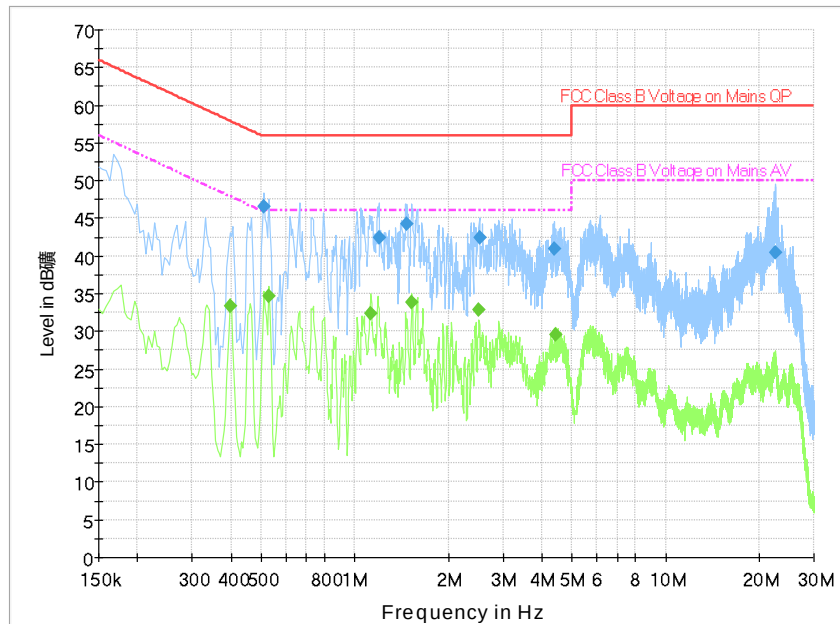


Fig.48 Conducted Emission(802.11a, IDLE)

### Final Result 1

| Frequency (MHz) | QuasiPeak (dBμV) | Meas. Time (ms) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) | Comment |
|-----------------|------------------|-----------------|-----------------|--------|------|------------|-------------|--------------|---------|
| 0.510000        | 46.5             | 2000.0          | 9.000           | On     | L1   | 19.8       | 9.5         | 56.0         |         |
| 1.194000        | 42.4             | 2000.0          | 9.000           | On     | L1   | 19.7       | 13.6        | 56.0         |         |
| 1.473000        | 44.2             | 2000.0          | 9.000           | On     | L1   | 19.6       | 11.8        | 56.0         |         |
| 2.517000        | 42.4             | 2000.0          | 9.000           | On     | L1   | 19.6       | 13.6        | 56.0         |         |
| 4.375500        | 41.0             | 2000.0          | 9.000           | On     | L1   | 19.6       | 15.0        | 56.0         |         |
| 22.569000       | 40.5             | 2000.0          | 9.000           | On     | N    | 20.0       | 19.5        | 60.0         |         |

### Final Result 2

| Frequency (MHz) | Average (dBμV) | Meas. Time (ms) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) | Comment |
|-----------------|----------------|-----------------|-----------------|--------|------|------------|-------------|--------------|---------|
| 0.397500        | 33.4           | 2000.0          | 9.000           | On     | L1   | 19.8       | 14.6        | 47.9         |         |
| 0.528000        | 34.6           | 2000.0          | 9.000           | On     | L1   | 19.8       | 11.4        | 46.0         |         |
| 1.126500        | 32.4           | 2000.0          | 9.000           | On     | L1   | 19.7       | 13.6        | 46.0         |         |
| 1.522500        | 33.8           | 2000.0          | 9.000           | On     | L1   | 19.6       | 12.2        | 46.0         |         |
| 2.512500        | 32.9           | 2000.0          | 9.000           | On     | L1   | 19.6       | 13.1        | 46.0         |         |
| 4.438500        | 29.6           | 2000.0          | 9.000           | On     | L1   | 19.6       | 16.4        | 46.0         |         |

### A.8. 99% Occupied bandwidth

Method of Measurement: See ANSI C63.10-2013-clause 12.4.2.

- a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.
- b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.
- c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than  $[10 \log (OBW/RBW)]$  below the reference level. Specific guidance is given in 4.1.5.2.
- d) Step a) through step c) might require iteration to adjust within the specified range.
- e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
- f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.
- g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.
- h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

#### Measurement Uncertainty:

|                         |         |
|-------------------------|---------|
| Measurement Uncertainty | 60.80Hz |
|-------------------------|---------|

#### Measurement Result:

| Mode            | Frequency | 99% Occupied bandwidth ( MHz) |       | conclusion |
|-----------------|-----------|-------------------------------|-------|------------|
| 802.11a         | 5180 MHz  | Fig.49                        | 18.12 | P          |
|                 | 5200 MHz  | Fig.50                        | 18.12 | P          |
|                 | 5240 MHz  | Fig.51                        | 18.12 | P          |
| 802.11n<br>HT20 | 5180 MHz  | Fig.52                        | 18.48 | P          |
|                 | 5200 MHz  | Fig.53                        | 18.56 | P          |
|                 | 5240 MHz  | Fig.54                        | 18.52 | P          |
| 802.11n<br>HT40 | 5190 MHz  | Fig.55                        | 36.48 | P          |
|                 | 5230 MHz  | Fig.56                        | 36.56 | P          |

**Conclusion: PASS**

**Test graphs as below:**

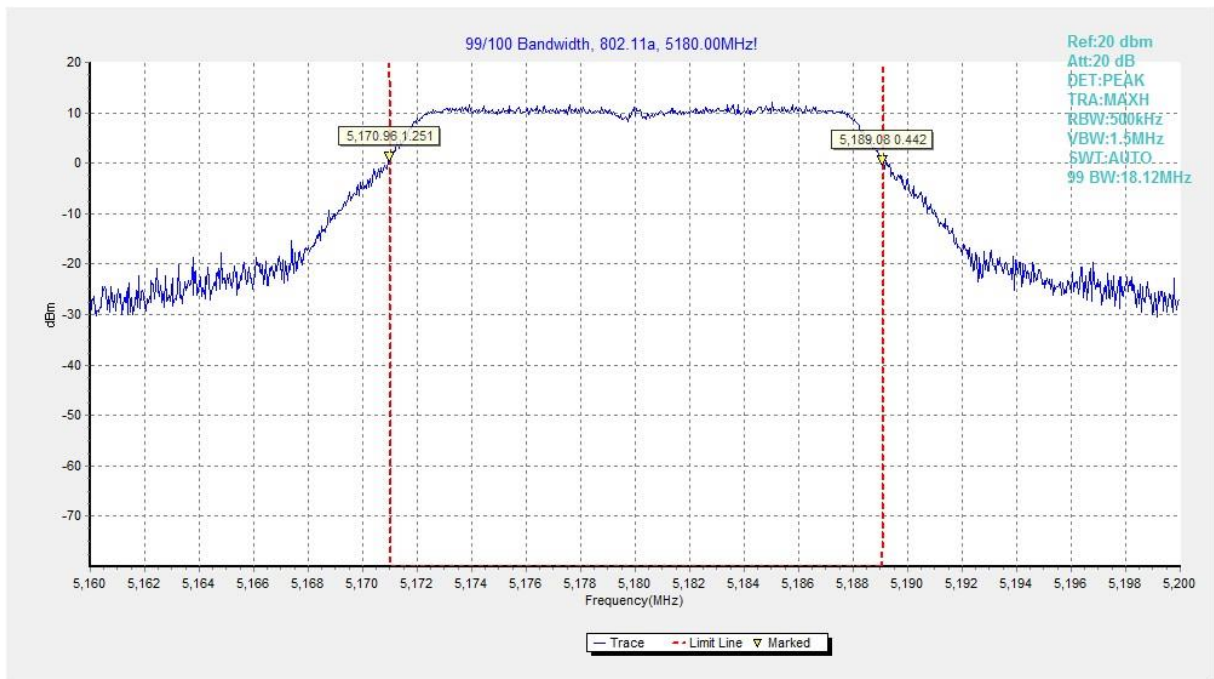


**Fig.49 99% Occupied bandwidth (802.11a, 5180MHz)**

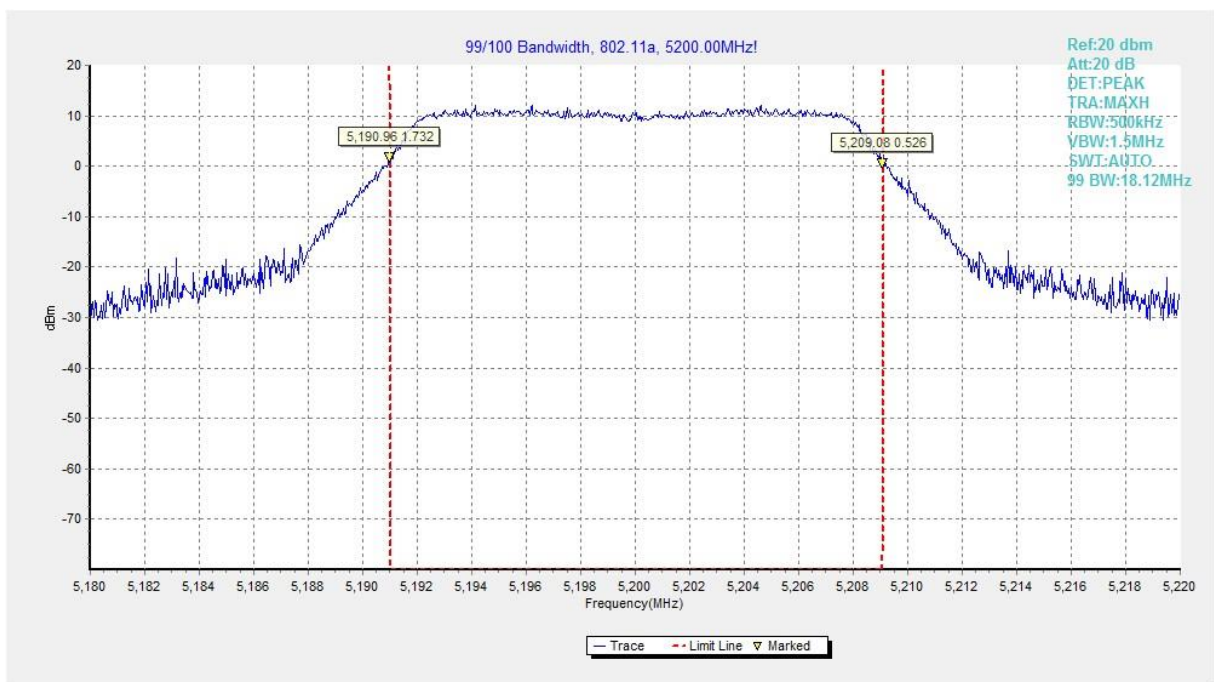


**Fig.50 99% Occupied bandwidth (802.11a, 5200MHz)**

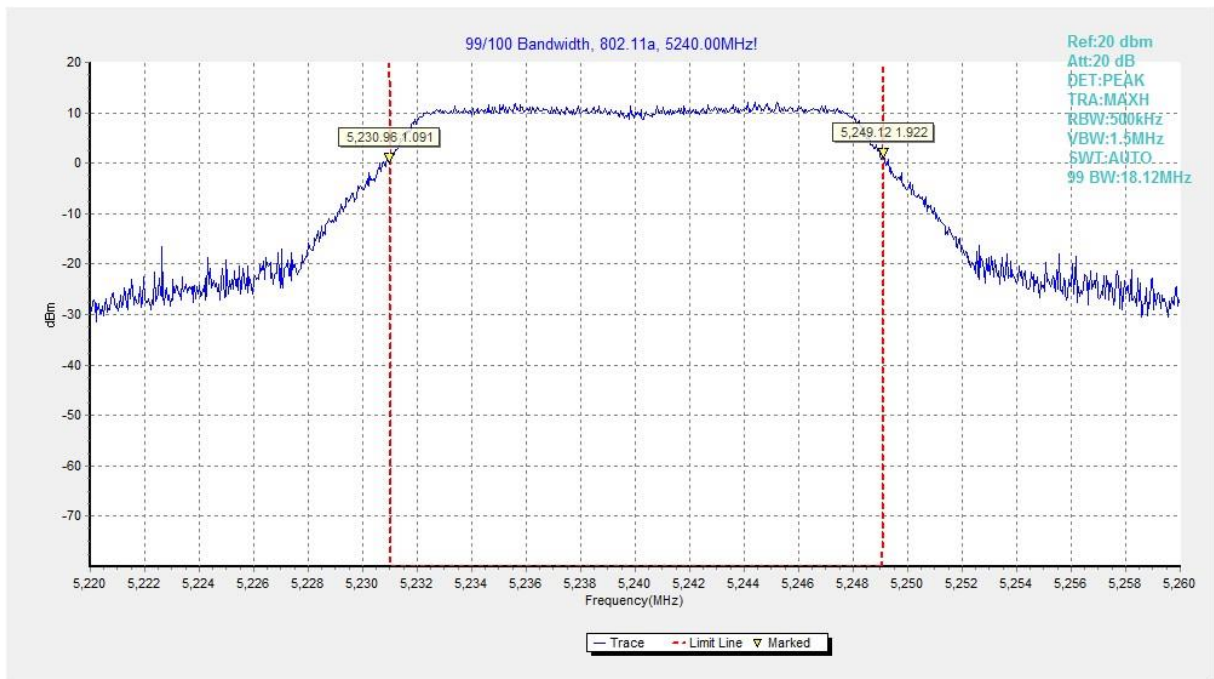


**Fig.51 99% Occupied bandwidth (802.11a, 5240MHz)**

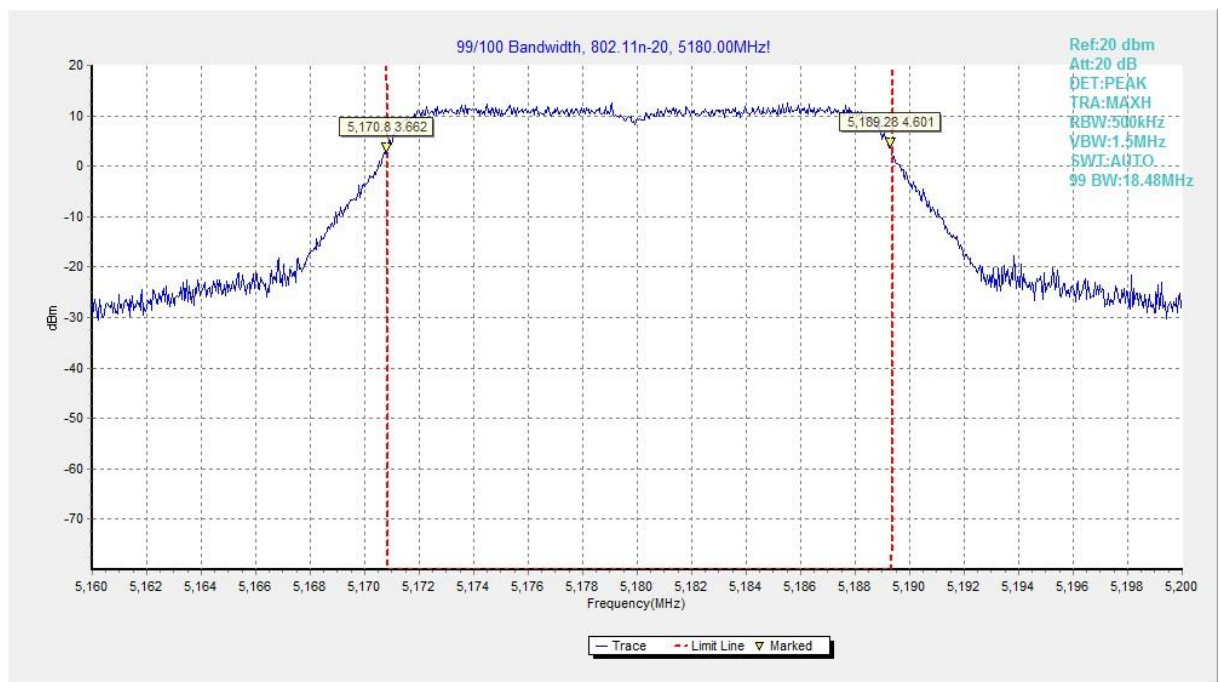


**Fig.52 99% Occupied bandwidth (802.11n-HT20, 5180MHz)**

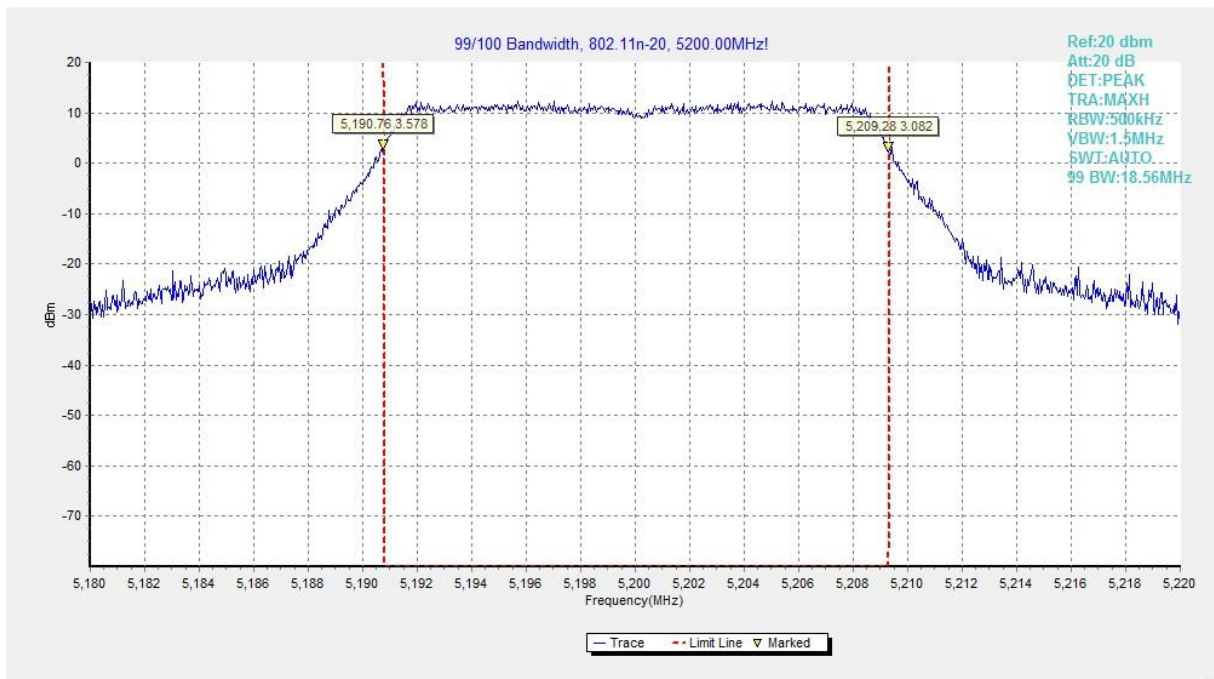


**Fig.53 99% Occupied bandwidth (802.11n-HT20, 5200MHz)**

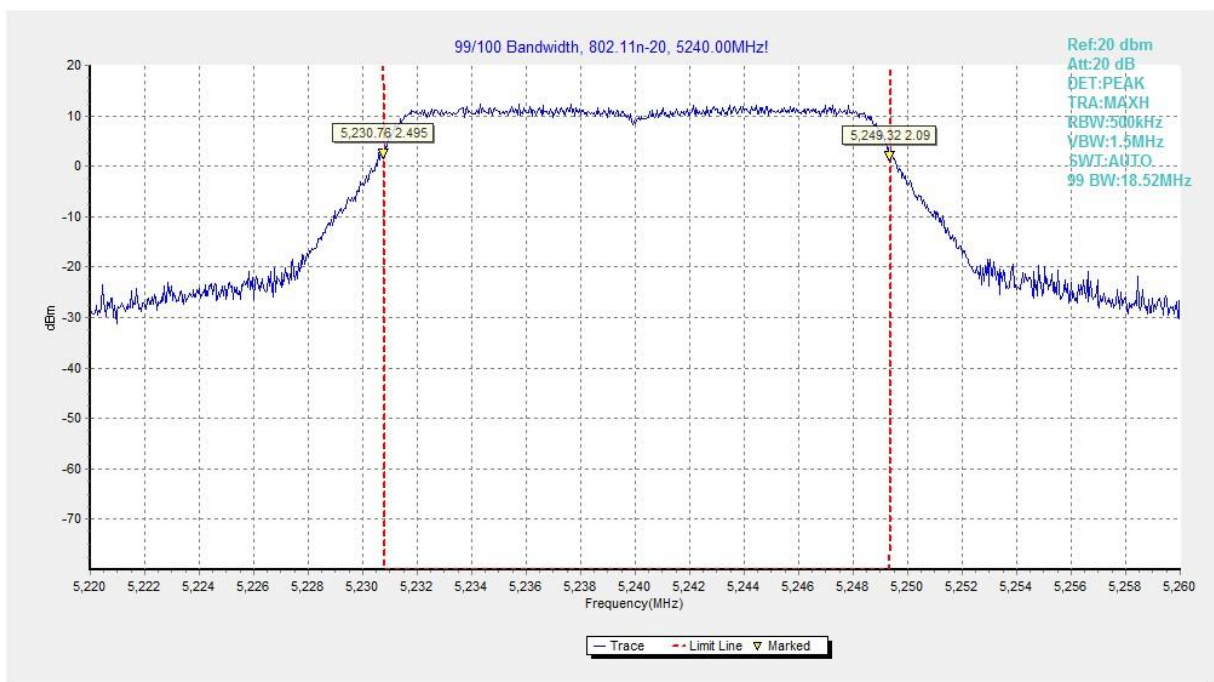


**Fig.54 99% Occupied bandwidth (802.11n-HT20, 5240MHz)**

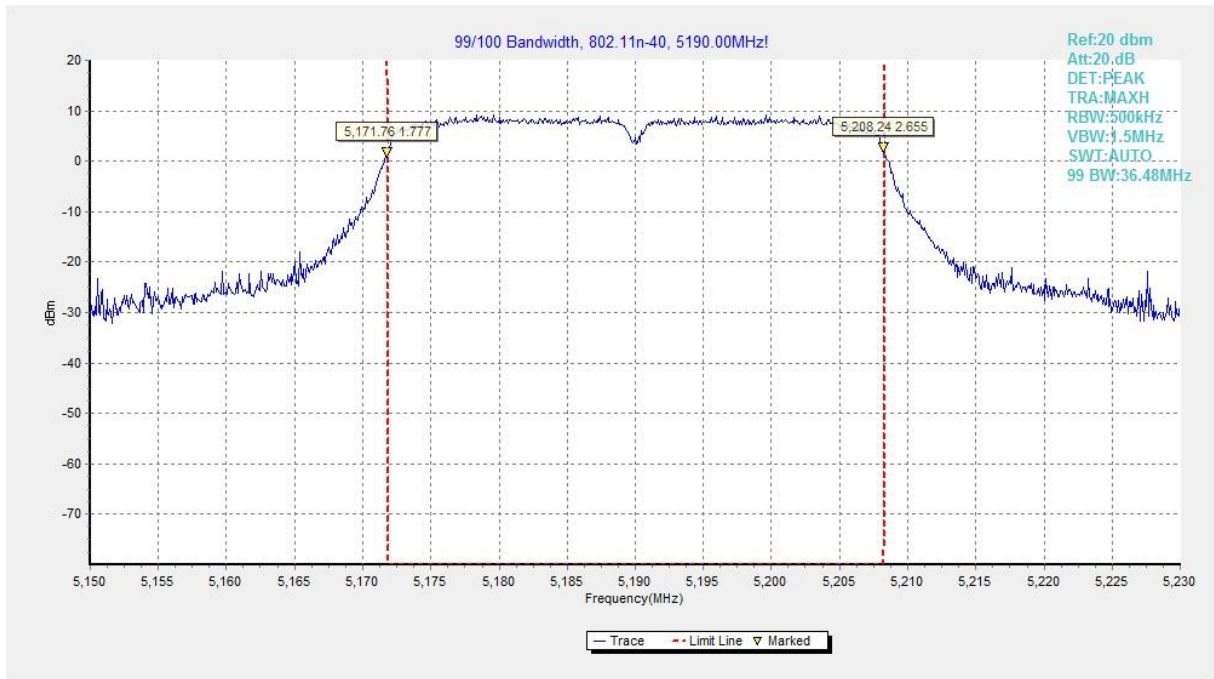


**Fig.55 99% Occupied bandwidth (802.11n-HT40, 5190MHz)**

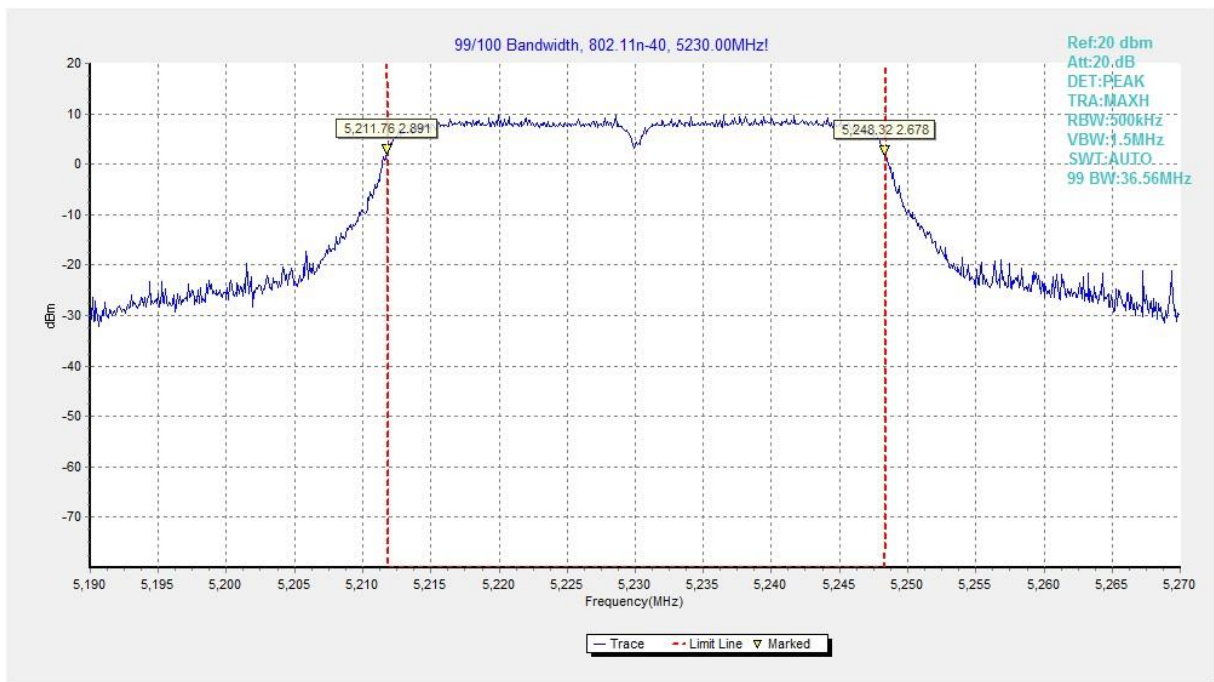


**Fig.56 99% Occupied bandwidth (802.11n-HT40, 5230MHz)**

### A.9. Frequency Stability

Manufacturers ensured the EUT meet the requirement of frequency stability, such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

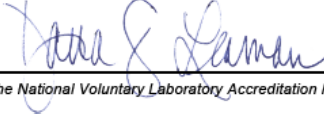
#### Measurement Result:

| Mode         | Frequency | Test Condition |      | Result(MHz) |
|--------------|-----------|----------------|------|-------------|
| 802.11n-HT40 | 5230MHz   | Tnom           | Vnom | 0.04        |
|              |           | Tmax           | Vnom |             |
|              |           | Tmin           | Vnom |             |
|              |           | Vmax           | Tnom |             |
|              |           | Vmin           | Tnom |             |
| 802.11a      | 5280MHz   | Tnom           | Vnom | 0.02        |
|              |           | Tmax           | Vnom |             |
|              |           | Tmin           | Vnom |             |
|              |           | Vmax           | Tnom |             |
|              |           | Vmin           | Tnom |             |
| 802.11a      | 5500MHz   | Tnom           | Vnom | 0.03        |
|              |           | Tmax           | Vnom |             |
|              |           | Tmin           | Vnom |             |
|              |           | Vmax           | Tnom |             |
|              |           | Vmin           | Tnom |             |

### A.10. Power control

A Transmission Power Control mechanism is not required for systems with an e.i.r.p. of less than 27dBm (500 mW).

## ANNEX B: Accreditation Certificate

|                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>United States Department of Commerce<br/>National Institute of Standards and Technology</b></p>  <hr style="border: 1px solid black;"/> <p><b>Certificate of Accreditation to ISO/IEC 17025:2005</b></p> <hr style="border: 1px solid black;"/> |                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p><b>NVLAP LAB CODE: 600118-0</b></p>                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p><b>Telecommunication Technology Labs, CAICT</b><br/>Beijing<br/>China</p>                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p><i>is accredited by the National Voluntary Laboratory Accreditation Program for specific services,<br/>listed on the Scope of Accreditation, for:</i></p>                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p><b>Electromagnetic Compatibility &amp; Telecommunications</b></p>                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p><i>This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.<br/>This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality<br/>management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).</i></p>      |                                                                                                                                                                                                                                                                                                                                                                                                               |
| <hr style="border: 1px solid black;"/> <p>2019-09-26 through 2020-09-30<br/><i>Effective Dates</i></p>                                                                                                                                                                                                                                  |  <div style="display: flex; align-items: center; justify-content: center;"><div style="margin-left: 10px;"><hr style="border: 1px solid black;"/><p><i>For the National Voluntary Laboratory Accreditation Program</i></p></div></div> |

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