

Result for Set.11-Traffic:

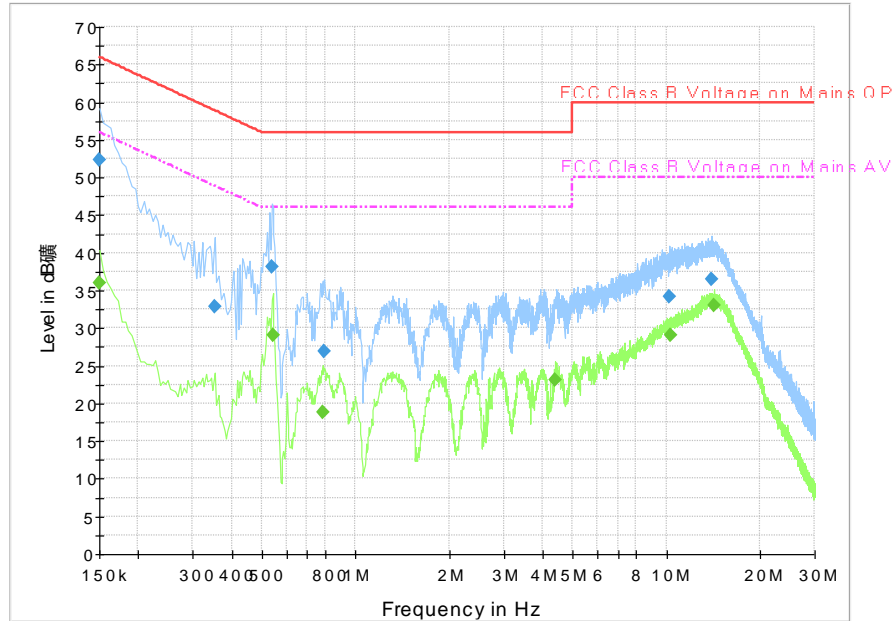


Fig. 87 Conducted Emission(802.11a, Ch40, TX)

Final Result 1

| Frequency (MHz) | QuasiPeak (dBµV) | Meas. Time (ms) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) | Comment |
|-----------------|------------------|-----------------|-----------------|--------|------|------------|-------------|--------------|---------|
| 0.150000        | 52.4             | 2000.0          | 9.000           | On     | L1   | 30.7       | 13.6        | 66.0         |         |
| 0.352500        | 32.9             | 2000.0          | 9.000           | On     | N    | 19.8       | 26.0        | 58.9         |         |
| 0.537000        | 38.1             | 2000.0          | 9.000           | On     | N    | 19.8       | 17.9        | 56.0         |         |
| 0.793500        | 26.9             | 2000.0          | 9.000           | On     | N    | 19.7       | 29.1        | 56.0         |         |
| 10.266000       | 34.2             | 2000.0          | 9.000           | On     | N    | 19.7       | 25.8        | 60.0         |         |
| 14.037000       | 36.4             | 2000.0          | 9.000           | On     | N    | 19.8       | 23.6        | 60.0         |         |

Final Result 2

| Frequency (MHz) | Average (dBµV) | Meas. Time (ms) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) | Comment |
|-----------------|----------------|-----------------|-----------------|--------|------|------------|-------------|--------------|---------|
| 0.150000        | 36.0           | 2000.0          | 9.000           | On     | L1   | 30.7       | 20.0        | 56.0         |         |
| 0.541500        | 29.0           | 2000.0          | 9.000           | On     | N    | 19.8       | 17.0        | 46.0         |         |
| 0.784500        | 18.9           | 2000.0          | 9.000           | On     | N    | 19.7       | 27.1        | 46.0         |         |
| 4.380000        | 23.1           | 2000.0          | 9.000           | On     | N    | 19.6       | 22.9        | 46.0         |         |
| 10.311000       | 29.1           | 2000.0          | 9.000           | On     | N    | 19.7       | 20.9        | 50.0         |         |
| 14.230500       | 33.0           | 2000.0          | 9.000           | On     | N    | 19.8       | 17.0        | 50.0         |         |

Result for Set.11- Idle:

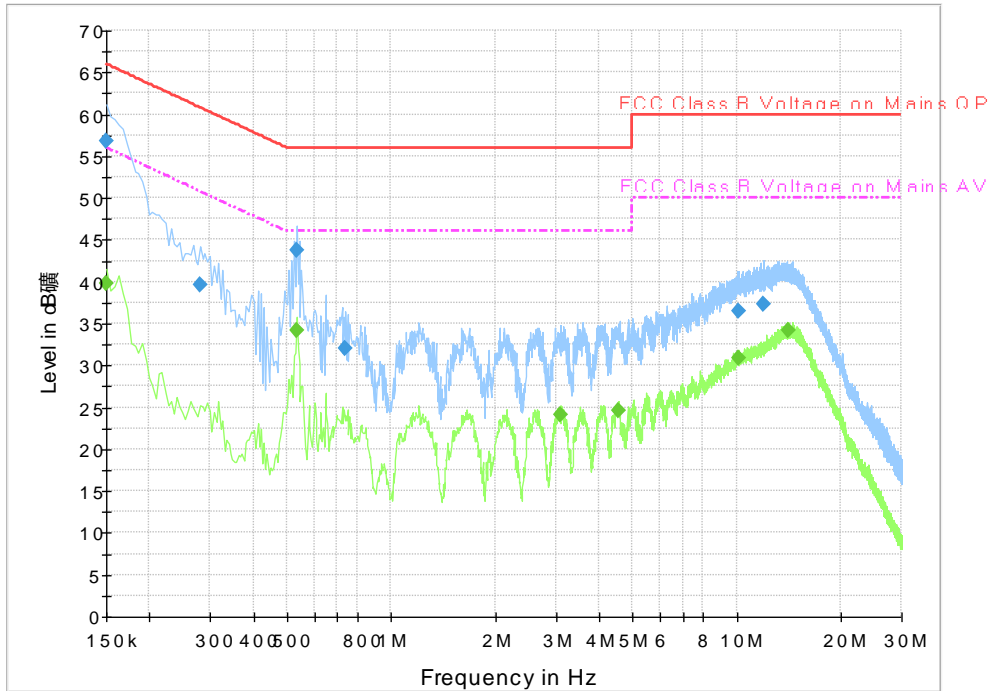


Fig. 88 Conducted Emission(802.11a, IDLE)

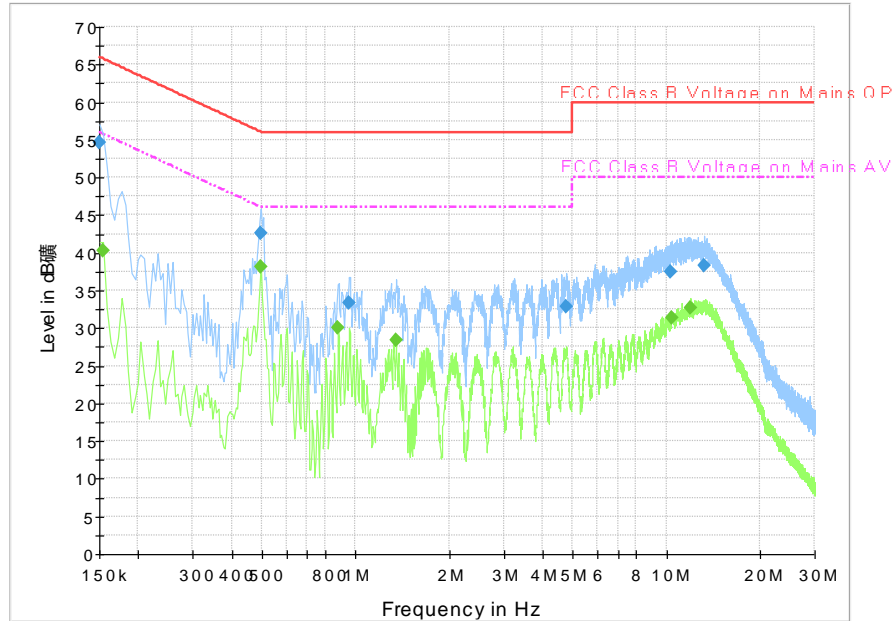
Final Result 1

| Frequency (MHz) | QuasiPeak (dBμV) | Meas. Time (ms) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) | Comment |
|-----------------|------------------|-----------------|-----------------|--------|------|------------|-------------|--------------|---------|
| 0.150000        | 56.8             | 2000.0          | 9.000           | On     | L1   | 30.7       | 9.2         | 66.0         |         |
| 0.280500        | 39.6             | 2000.0          | 9.000           | On     | L1   | 19.8       | 21.2        | 60.8         |         |
| 0.532500        | 43.7             | 2000.0          | 9.000           | On     | N    | 19.8       | 12.3        | 56.0         |         |
| 0.739500        | 32.0             | 2000.0          | 9.000           | On     | N    | 19.8       | 24.0        | 56.0         |         |
| 10.153500       | 36.5             | 2000.0          | 9.000           | On     | N    | 19.7       | 23.5        | 60.0         |         |
| 11.958000       | 37.3             | 2000.0          | 9.000           | On     | N    | 19.8       | 22.7        | 60.0         |         |

Final Result 2

| Frequency (MHz) | Average (dBμV) | Meas. Time (ms) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) | Comment |
|-----------------|----------------|-----------------|-----------------|--------|------|------------|-------------|--------------|---------|
| 0.150000        | 39.7           | 2000.0          | 9.000           | On     | L1   | 30.7       | 16.3        | 56.0         |         |
| 0.532500        | 34.2           | 2000.0          | 9.000           | On     | L1   | 19.8       | 11.8        | 46.0         |         |
| 3.106500        | 24.1           | 2000.0          | 9.000           | On     | N    | 19.6       | 21.9        | 46.0         |         |
| 4.551000        | 24.6           | 2000.0          | 9.000           | On     | N    | 19.6       | 21.4        | 46.0         |         |
| 10.126500       | 30.8           | 2000.0          | 9.000           | On     | N    | 19.7       | 19.2        | 50.0         |         |
| 14.059500       | 34.2           | 2000.0          | 9.000           | On     | N    | 19.8       | 15.8        | 50.0         |         |

**Result for Set.12-Traffic:**



**Fig. 89 Conducted Emission(802.11a, Ch40, TX)**

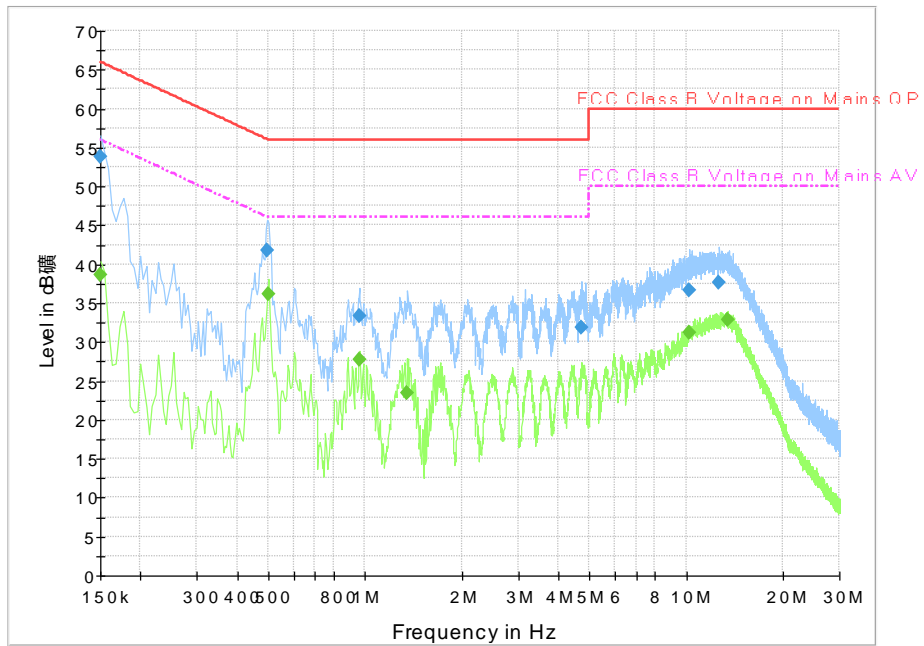
**Final Result 1**

| Frequency (MHz) | QuasiPeak (dBμV) | Meas. Time (ms) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) | Comment |
|-----------------|------------------|-----------------|-----------------|--------|------|------------|-------------|--------------|---------|
| 0.150000        | 54.6             | 2000.0          | 9.000           | On     | N    | 30.6       | 11.4        | 66.0         |         |
| 0.496500        | 42.6             | 2000.0          | 9.000           | On     | N    | 19.8       | 13.4        | 56.1         |         |
| 0.951000        | 33.4             | 2000.0          | 9.000           | On     | N    | 19.7       | 22.6        | 56.0         |         |
| 4.744500        | 32.9             | 2000.0          | 9.000           | On     | N    | 19.6       | 23.1        | 56.0         |         |
| 10.324500       | 37.4             | 2000.0          | 9.000           | On     | N    | 19.7       | 22.6        | 60.0         |         |
| 13.191000       | 38.2             | 2000.0          | 9.000           | On     | N    | 19.8       | 21.8        | 60.0         |         |

**Final Result 2**

| Frequency (MHz) | Average (dBμV) | Meas. Time (ms) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) | Comment |
|-----------------|----------------|-----------------|-----------------|--------|------|------------|-------------|--------------|---------|
| 0.154500        | 40.3           | 2000.0          | 9.000           | On     | N    | 29.6       | 15.4        | 55.8         |         |
| 0.496500        | 38.1           | 2000.0          | 9.000           | On     | N    | 19.8       | 8.0         | 46.1         |         |
| 0.879000        | 30.1           | 2000.0          | 9.000           | On     | N    | 19.7       | 15.9        | 46.0         |         |
| 1.351500        | 28.4           | 2000.0          | 9.000           | On     | N    | 19.6       | 17.6        | 46.0         |         |
| 10.378500       | 31.3           | 2000.0          | 9.000           | On     | N    | 19.7       | 18.7        | 50.0         |         |
| 12.012000       | 32.8           | 2000.0          | 9.000           | On     | N    | 19.8       | 17.2        | 50.0         |         |

**Result for Set.12- Idle:**



**Fig. 90 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 |
|-----------------|------------------|-----------------|-----------------|--------|------|------------|-------------|--------------|---------|
| 0.150000        | 53.8             | 2000.0          | 9.000           | On     | L1   | 30.7       | 12.2        | 66.0         |         |
| 0.496500        | 41.8             | 2000.0          | 9.000           | On     | N    | 19.8       | 14.3        | 56.1         |         |
| 0.960000        | 33.3             | 2000.0          | 9.000           | On     | N    | 19.7       | 22.7        | 56.0         |         |
| 4.713000        | 31.9             | 2000.0          | 9.000           | On     | N    | 19.6       | 24.1        | 56.0         |         |
| 10.189500       | 36.6             | 2000.0          | 9.000           | On     | N    | 19.7       | 23.4        | 60.0         |         |
| 12.691500       | 37.7             | 2000.0          | 9.000           | On     | N    | 19.8       | 22.3        | 60.0         |         |

**Final Result 2**

| Frequency (MHz) | Average (dBµV) | Meas. Time (ms) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) | Comment |
|-----------------|----------------|-----------------|-----------------|--------|------|------------|-------------|--------------|---------|
| 0.150000        | 38.6           | 2000.0          | 9.000           | On     | L1   | 30.7       | 17.4        | 56.0         |         |
| 0.501000        | 36.1           | 2000.0          | 9.000           | On     | N    | 19.8       | 9.9         | 46.0         |         |
| 0.960000        | 27.7           | 2000.0          | 9.000           | On     | N    | 19.7       | 18.3        | 46.0         |         |
| 1.351500        | 23.4           | 2000.0          | 9.000           | On     | L1   | 19.6       | 22.6        | 46.0         |         |
| 10.270500       | 31.2           | 2000.0          | 9.000           | On     | N    | 19.7       | 18.8        | 50.0         |         |
| 13.474500       | 32.9           | 2000.0          | 9.000           | On     | N    | 19.8       | 17.1        | 50.0         |         |

### 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:

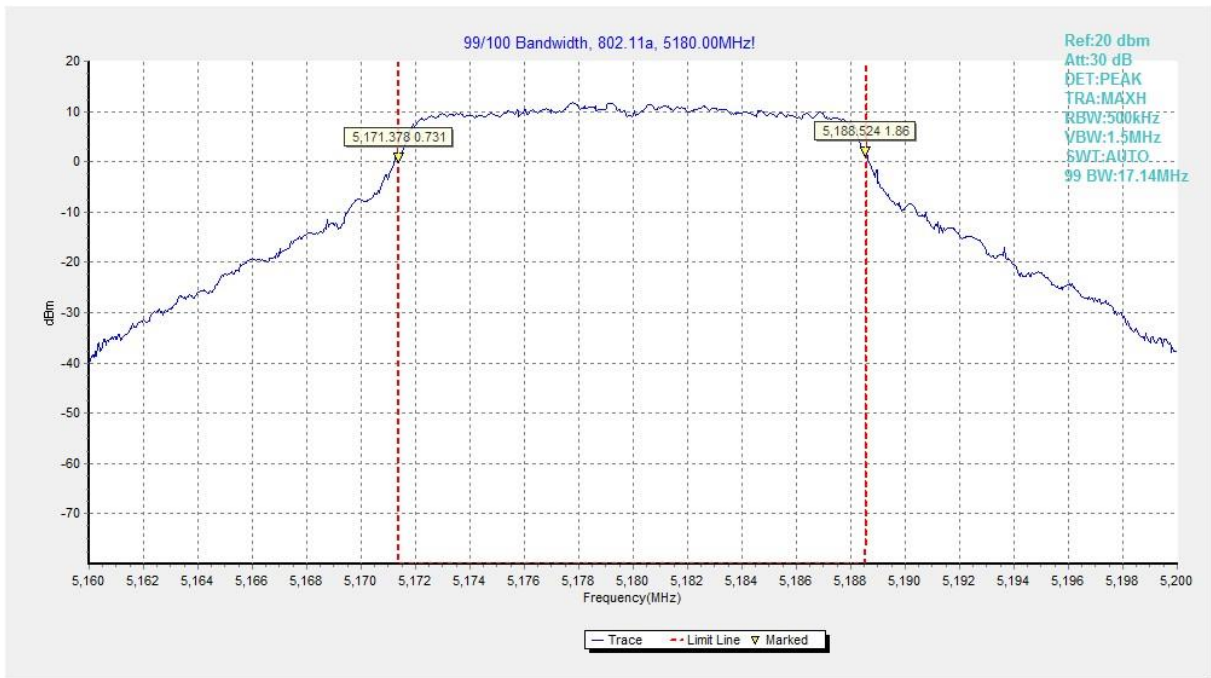
The Ant1 is selected as worse condition of Ant0+Ant1.

| Mode             | Channel  | 99% Occupied bandwidth ( MHz) |       | conclusion |
|------------------|----------|-------------------------------|-------|------------|
|                  |          | Fig.                          | Value |            |
| 802.11a          | 5180 MHz | Fig.91                        | 17.14 | P          |
|                  | 5200 MHz | Fig.92                        | 17.12 | P          |
|                  | 5240 MHz | Fig.93                        | 17.13 | P          |
| 802.11n<br>HT20  | 5180 MHz | Fig.94                        | 18.08 | P          |
|                  | 5200 MHz | Fig.95                        | 18.09 | P          |
|                  | 5240 MHz | Fig.96                        | 18.05 | P          |
| 802.11ac<br>HT20 | 5180 MHz | Fig.97                        | 18.62 | P          |
|                  | 5200 MHz | Fig.98                        | 18.62 | P          |
|                  | 5240 MHz | Fig.99                        | 18.61 | P          |
| 802.11n<br>HT40  | 5190 MHz | Fig.100                       | 36.83 | P          |
|                  | 5230 MHz | Fig.101                       | 36.71 | P          |

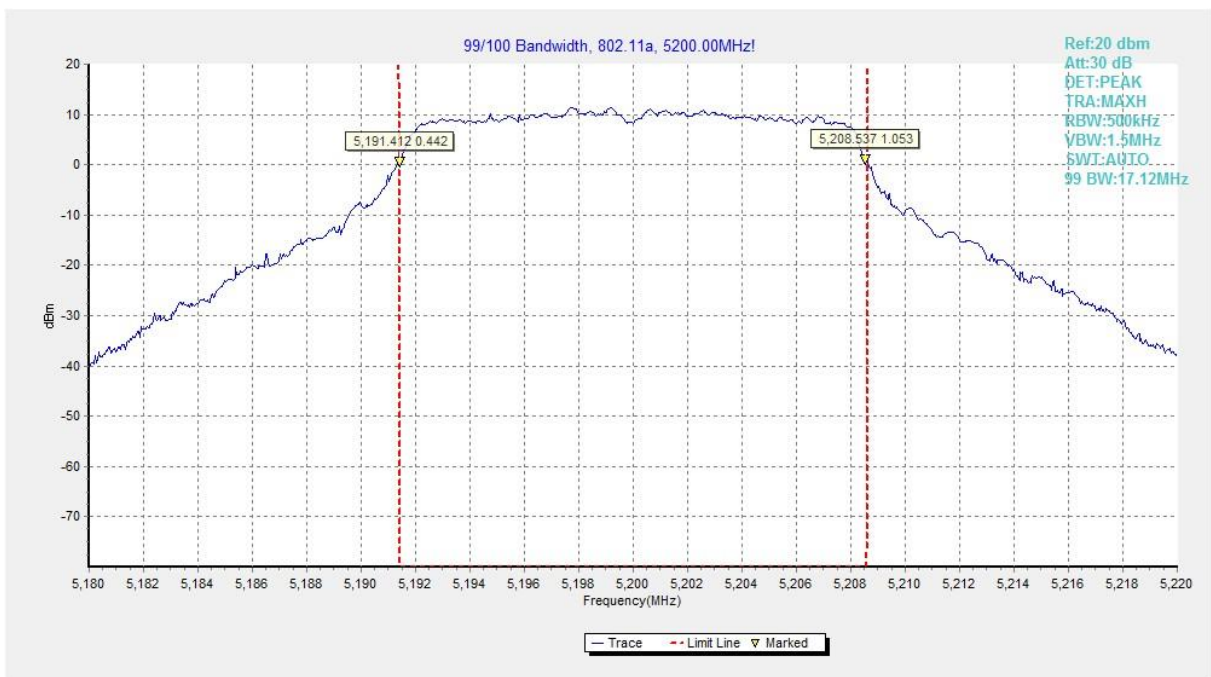
|                  |          |         |       |   |
|------------------|----------|---------|-------|---|
| 802.11ac<br>HT40 | 5190 MHz | Fig.102 | 36.77 | P |
|                  | 5230 MHz | Fig.103 | 36.69 | P |
| 802.11ac<br>HT80 | 5210 MHz | Fig.104 | 75.78 | P |

**Conclusion: PASS**

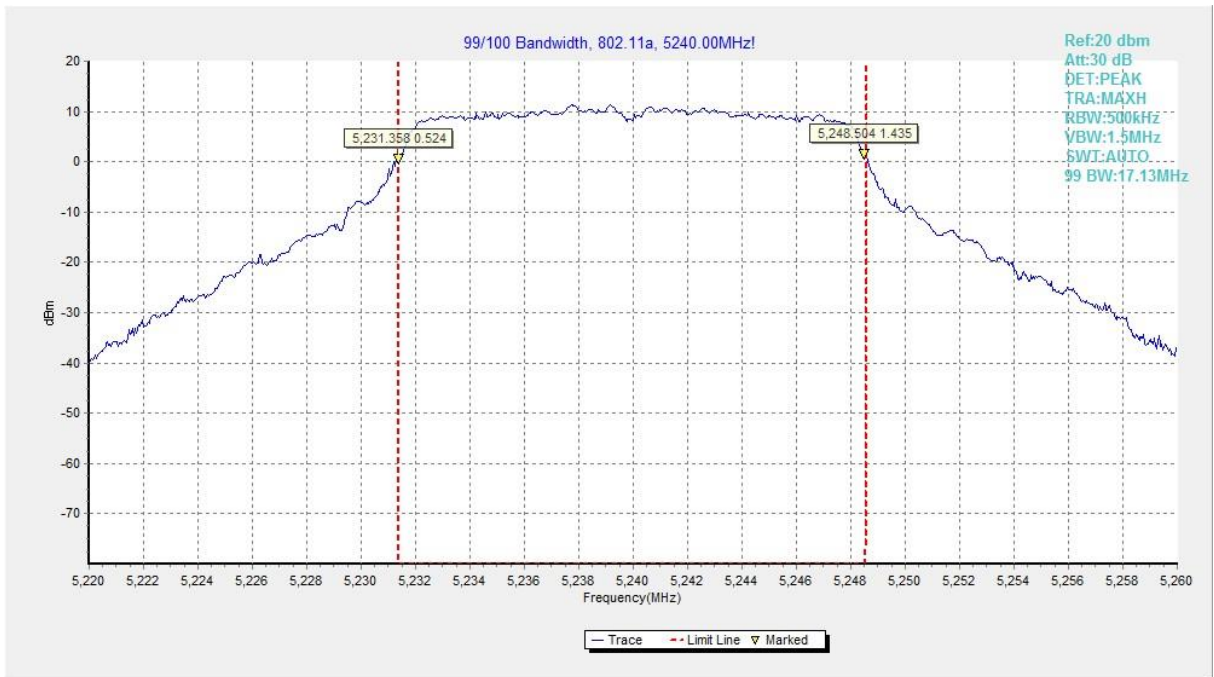
**Test graphs as below:**



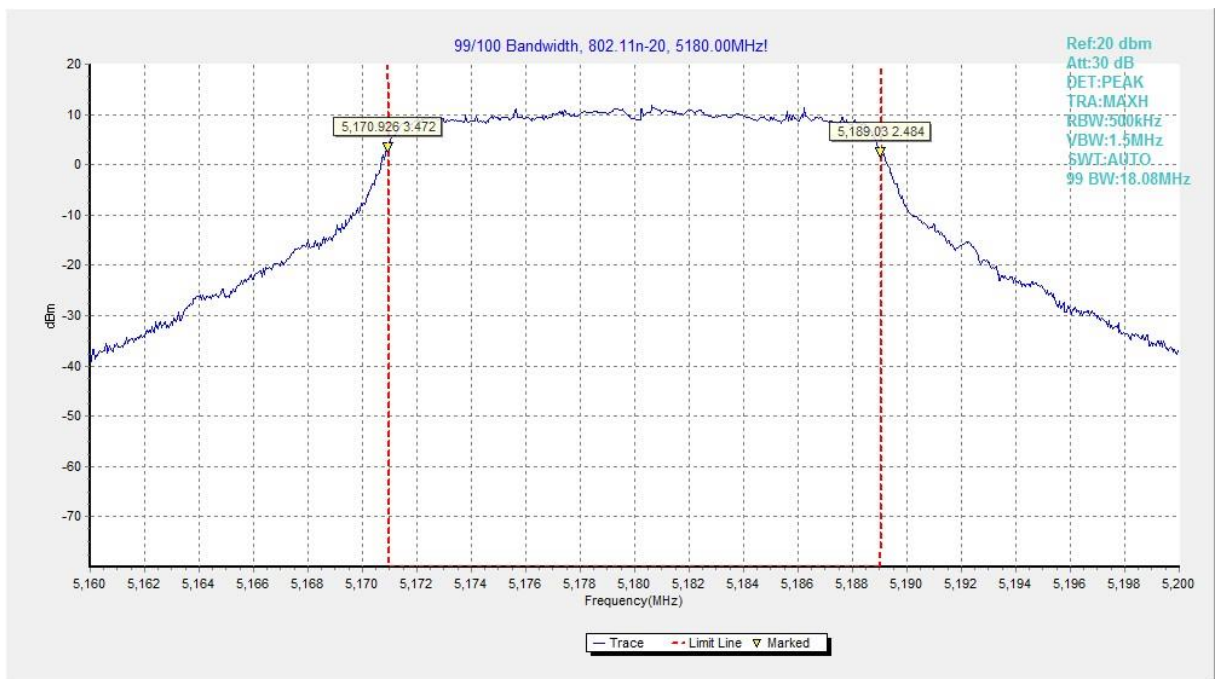
**Fig. 91 99% Occupied bandwidth (802.11a, 5180MHz)**



**Fig. 92 99% Occupied bandwidth (802.11a, 5200MHz)**



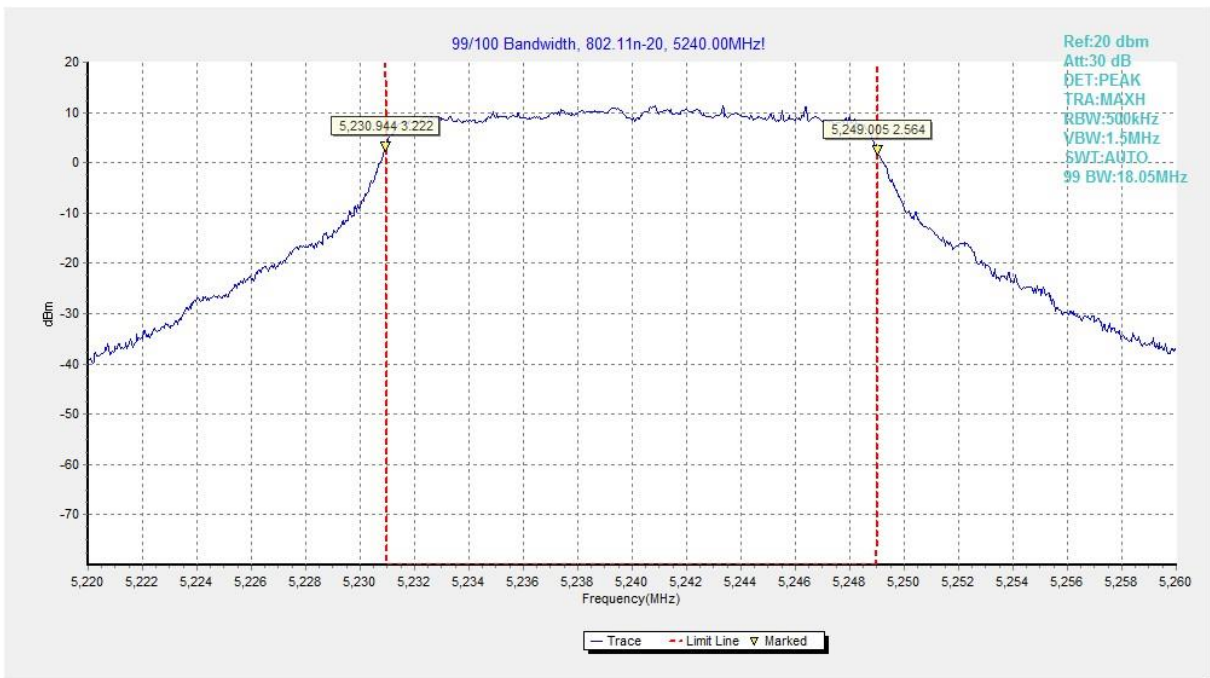
**Fig. 93 99% Occupied bandwidth (802.11a, 5240MHz)**



**Fig. 94 99% Occupied bandwidth (802.11n-HT20, 5180MHz)**

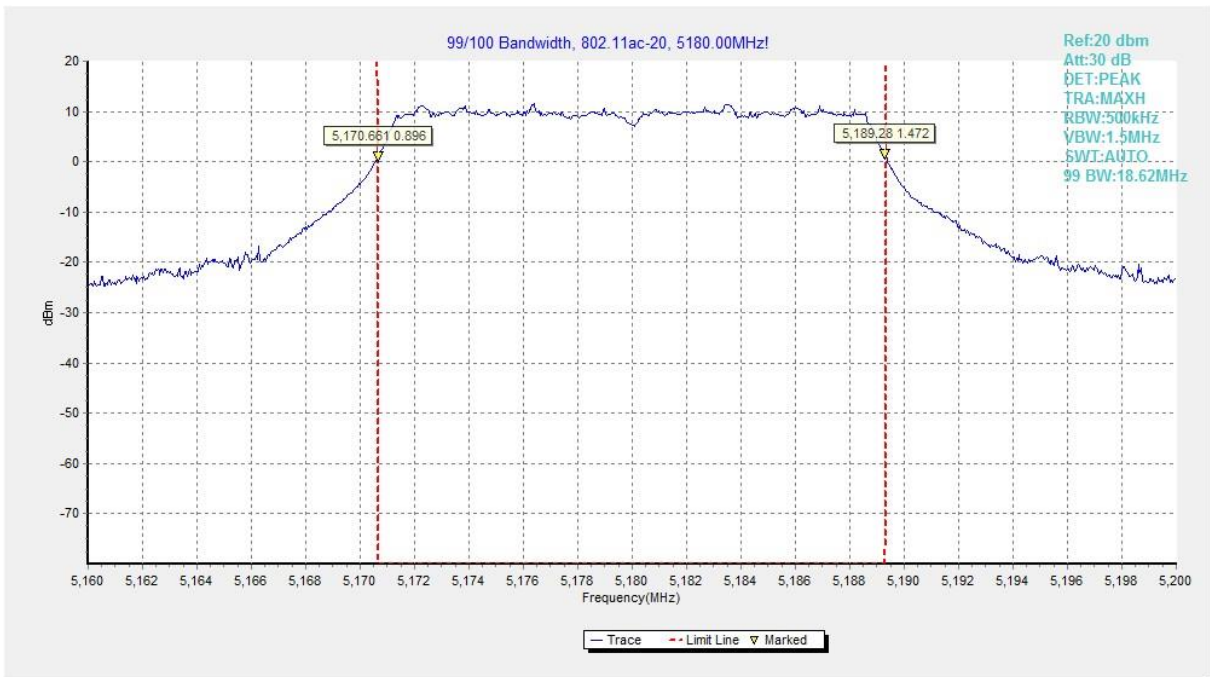


**Fig. 95 99% Occupied bandwidth (802.11n-HT20, 5200MHz)**

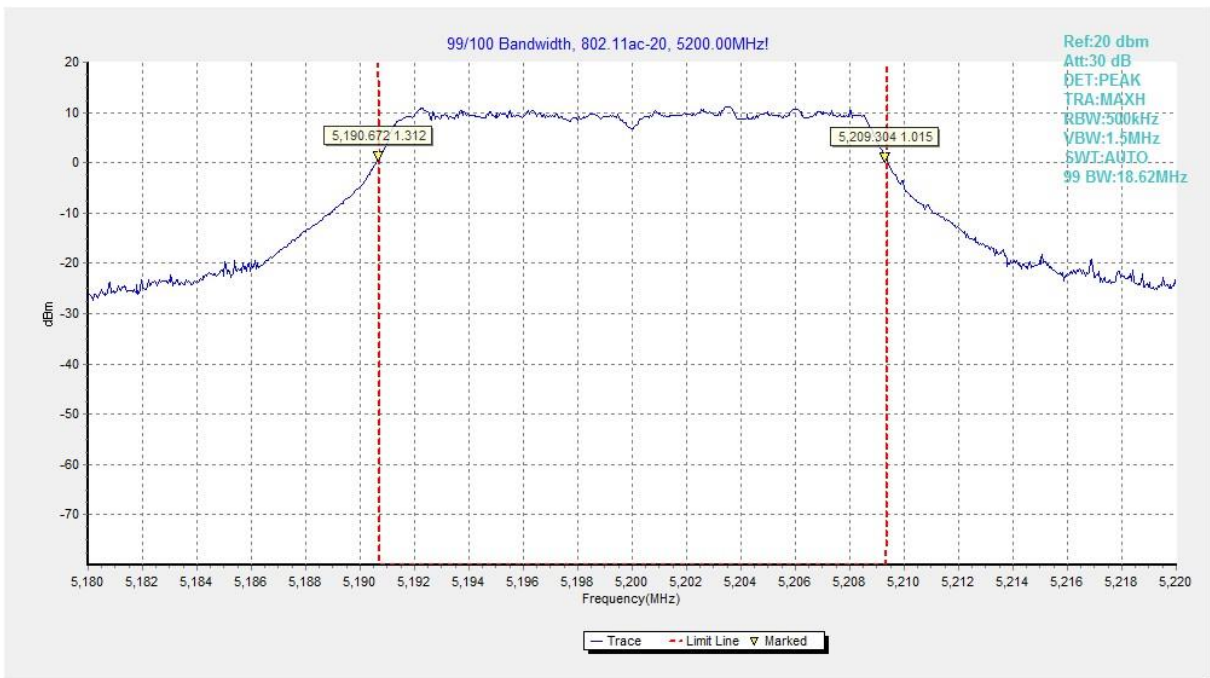


**Fig. 96 99% Occupied bandwidth (802.11n-HT20, 5240MHz)**

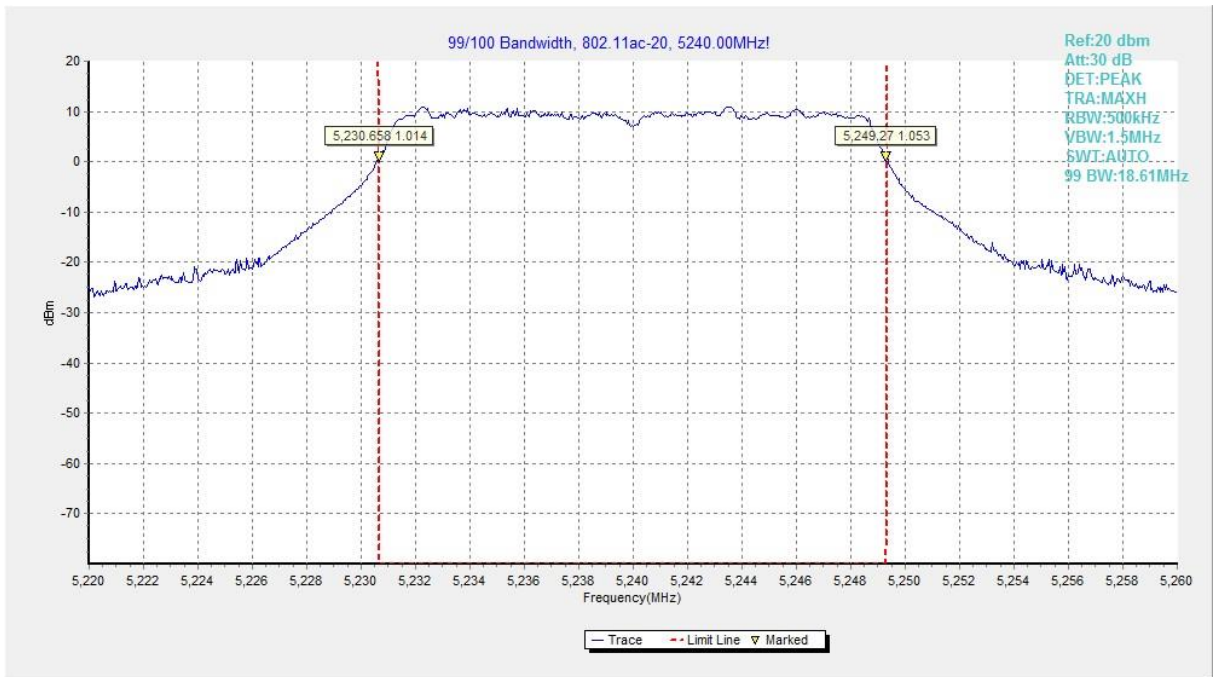




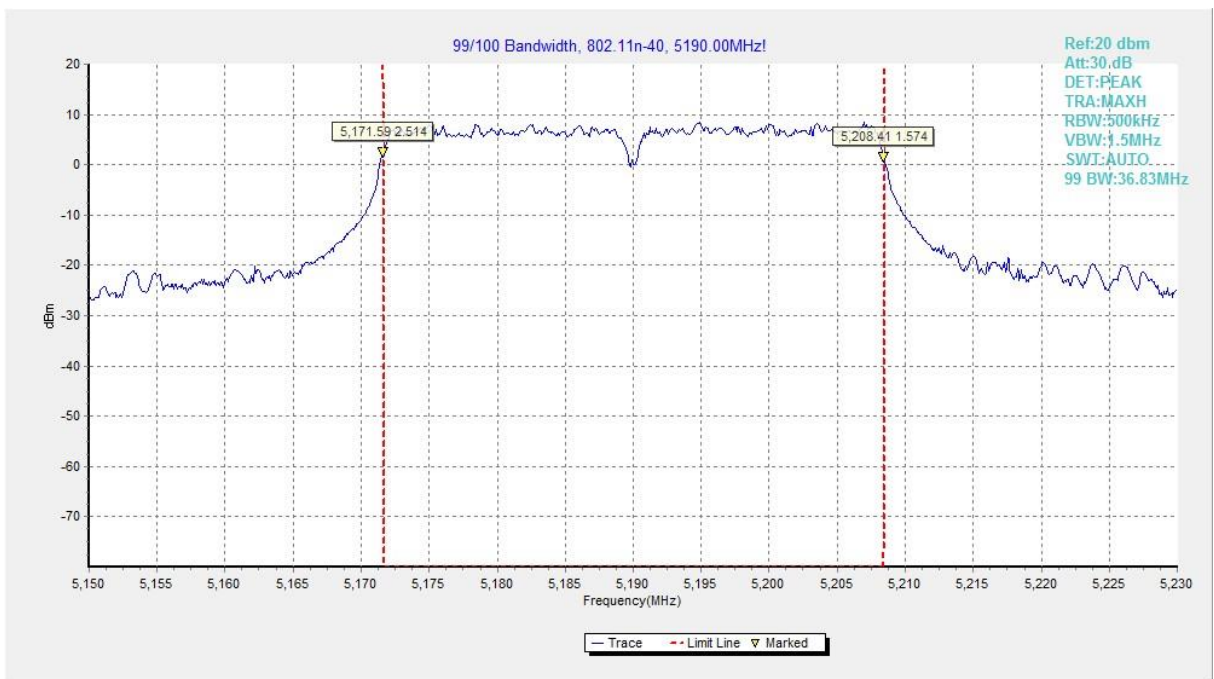
**Fig. 97 99% Occupied bandwidth (802.11ac-HT20, 5180MHz)**



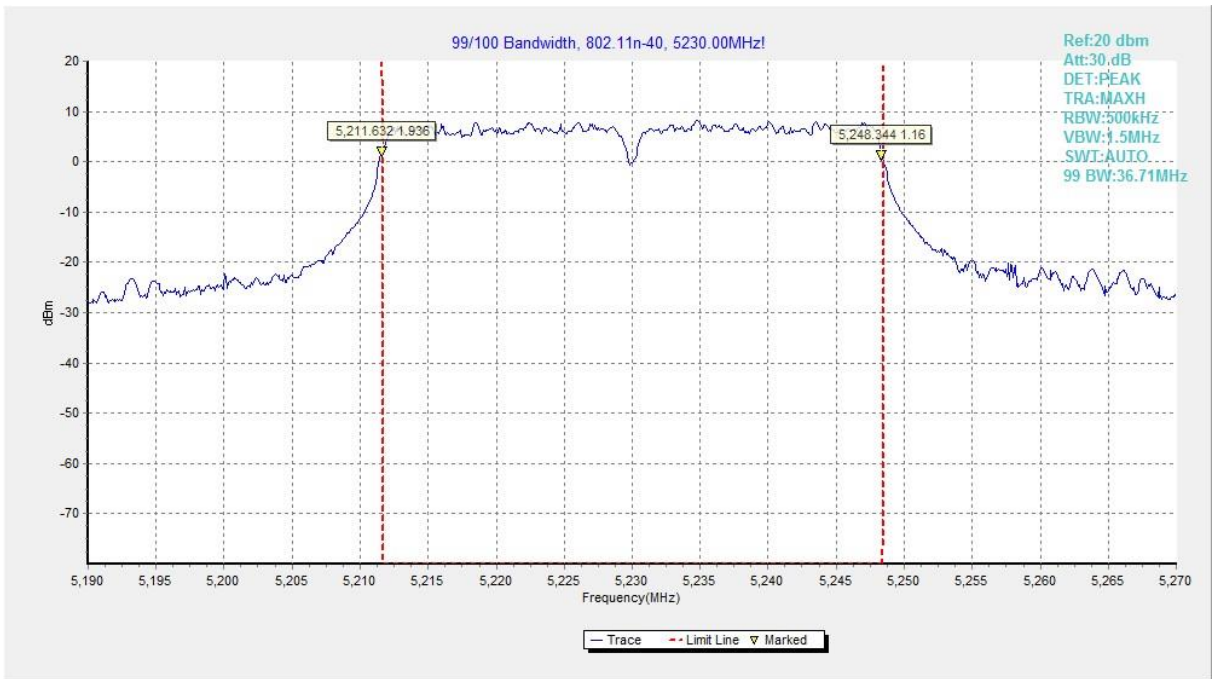
**Fig. 98 99% Occupied bandwidth (802.11ac-HT20, 5200MHz)**



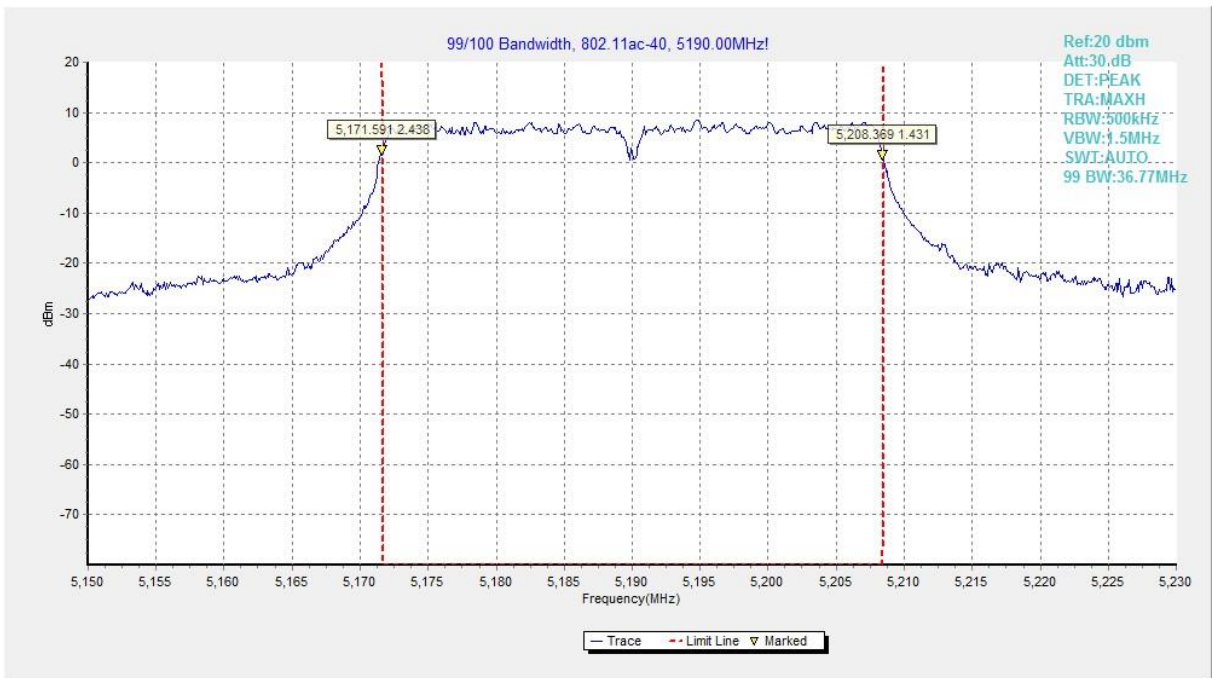
**Fig. 99 99% Occupied bandwidth (802.11ac-HT20, 5240MHz)**



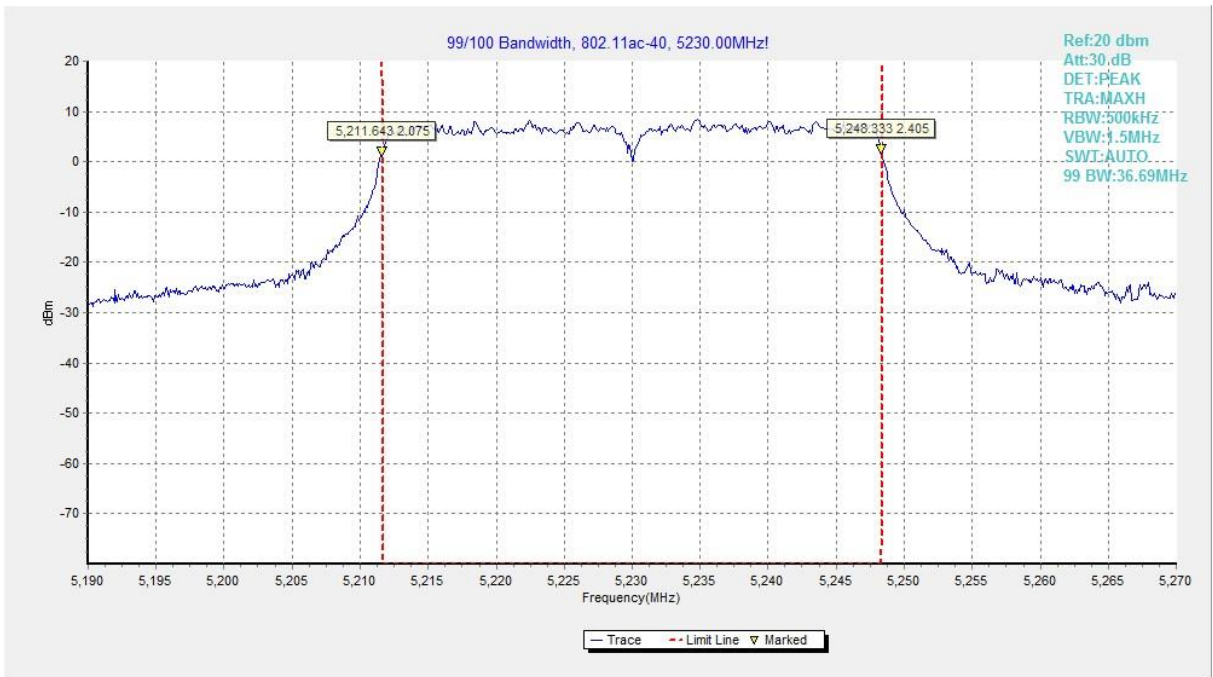
**Fig. 100 99% Occupied bandwidth (802.11n-HT40, 5190MHz)**



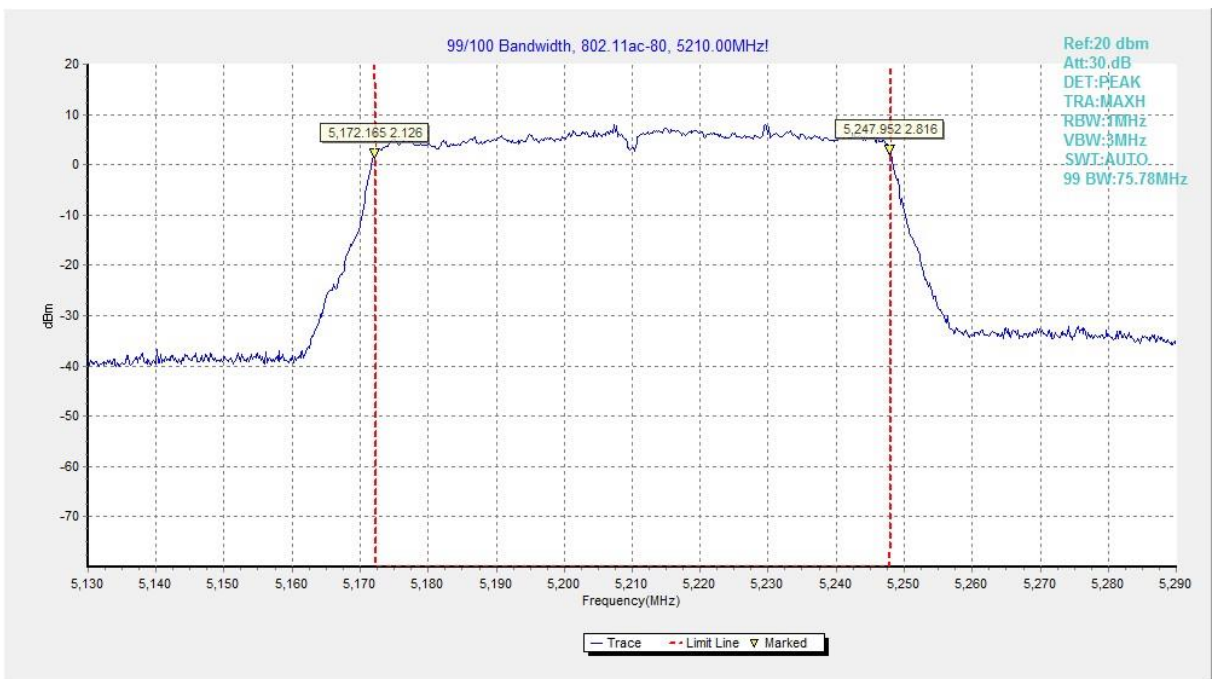
**Fig. 101 99% Occupied bandwidth (802.11n-HT40, 5230MHz)**



**Fig. 102 99% Occupied bandwidth (802.11ac-HT40, 5190MHz)**



**Fig. 103 99% Occupied bandwidth (802.11ac-HT40, 5230MHz)**



**Fig. 104 99% Occupied bandwidth (802.11ac-HT80, 5210MHz)**

### 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:

The Ant1 is selected as worse condition of Ant0+Ant1.

| Mode        | Channel | Test Condition |      | Result(MHz) |
|-------------|---------|----------------|------|-------------|
| 802.11a     | 5200MHz | Tnom           | Vnom | 0.02        |
|             |         | Tmax           | Vnom |             |
|             |         | Tmin           | Vnom |             |
|             |         | Vmax           | Tnom |             |
|             |         | Vmin           | Tnom |             |
| 802.11ac-20 | 5260MHz | Tnom           | Vnom | 0.02        |
|             |         | Tmax           | Vnom |             |
|             |         | Tmin           | Vnom |             |
|             |         | Vmax           | Tnom |             |
|             |         | Vmin           | Tnom |             |
| 802.11ac-40 | 5550MHz | 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>United States Department of Commerce<br/>National Institute of Standards and Technology</p>   |  |
| <hr/> <p><b>Certificate of Accreditation to ISO/IEC 17025:2005</b></p> <hr/>   |  |
| <p>NVLAP LAB CODE: 600118-0</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 Communique dated January 2009).</i></p> |  |
| <hr/> <p>2019-09-26 through 2020-09-30<br/><i>Effective Dates</i></p>  | <br><hr/> <p><i>[Signature]</i><br/>For the National Voluntary Laboratory Accreditation Program</p> |

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