

4.3 Power Spectral Density Measurement

4.3.1 Limit of Power Spectral Density

Rule FCC Part 15.407(a)(1)/ Part 15.407(a)(2)/Part 15.407(a)(3)

For an indoor access point operating in the band 5.15–5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band.

For client devices in the 5.15–5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

For the 5.25-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

For Straddle Channel, According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, If the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

4.3.2 Measuring Instruments

The measuring equipment is listed in the section 3.3 of this test report.

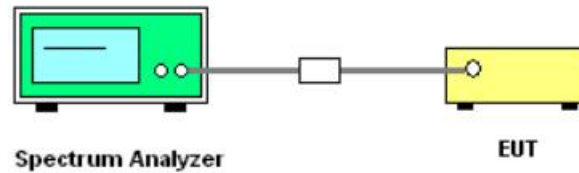
4.3.3 Test Procedures

The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Section F) Maximum power spectral density.

1. Measure the duty cycle.
2. Set span to encompass the entire emission bandwidth (EBW) of the signal.
3. Set $RBW \geq 1/T$, where T is defined in II.B.I.a).
4. Set $VBW \geq 3 RBW$.
5. If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10 \log (500 \text{ kHz}/RBW)$ to the measured result, whereas $RBW (<500 \text{ kHz})$ is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
6. If measurement bandwidth of Maximum PSD is specified in 1 MHz, add $10 \log (1\text{MHz}/RBW)$ to the measured result, whereas $RBW (< 1 \text{ MHz})$ is the reduced resolution bandwidth of spectrum analyzer set during measurement.
7. Care must be taken to ensure that the measurements are performed during a period of continuous

transmission or are corrected upward for duty cycle.

4.3.4 Test Setup



4.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.3.

4.4 Unwanted Emissions Measurement

This section is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement.

4.4.1 Limit of Unwanted Emissions

- (1) For transmitters operating in the 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27dBm/MHz.

For transmitters operating in the 5250-5350 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band must meet all applicable technical requirements for operation in the 5150-5250 MHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5150-5250 MHz band.

For transmitters operating in the 5470-5725 MHz band: all emissions outside of the 5470-5725MHz band shall not exceed an EIRP of -27 dBm/MHz.

For transmitters operating in the 5.725-5.85 GHz band:

15.407(b)(4)(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

- (2) Unwanted spurious emissions fallen in restricted bands shall comply with the general field strength limits as below table.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30-88	100	3
88 -216	150	3
216 - 960	200	3
Above 960	500	3

EIRP (dBm)	Field Strength at 3m (dB μ V/m)
- 27	68.2

Note: The following formula is used to convert the EIRP to field strength.

$$\text{EIRP} = E_{\text{Meas}} + 20\log(d_{\text{Meas}}) - 104.7$$

where

EIRP is the equivalent isotropically radiated power, in dBm

E_{Meas} is the field strength of the emission at the measurement distance, in dB μ V/m

d_{Meas} is the measurement distance, in m

4.4.2 Measuring Instruments

The measuring equipment is listed in the section 3.3 of this test report.

4.4.3 Test Procedures

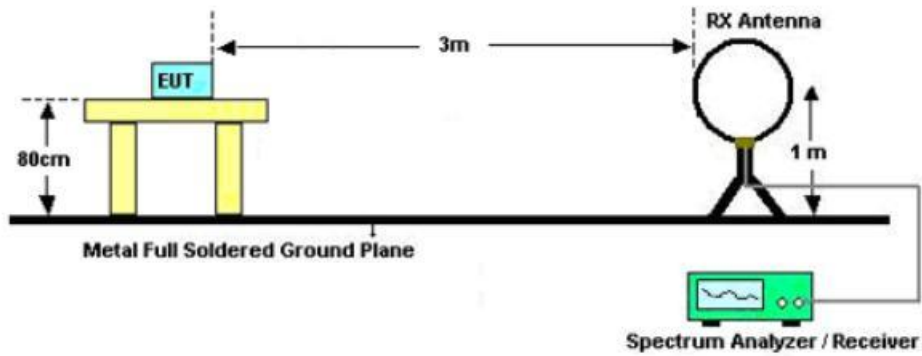
- The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Section G) Unwanted emissions measurement.
 - Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
 - RBW= 1 MHz
 - VBW \geq 3 MHz
 - Detector = Peak
 - Sweep time = auto
 - Trace mode = max hold
 - Procedures for Average Unwanted Emissions Measurements Above 1000MHz
 - RBW = 1 MHz
 - VBW = 10 Hz, when duty cycle is no less than 98 percent
 - VBW \geq 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
- The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
- The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- The antenna is a broadband antenna and its height is adjusted between one meter and four.

meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.

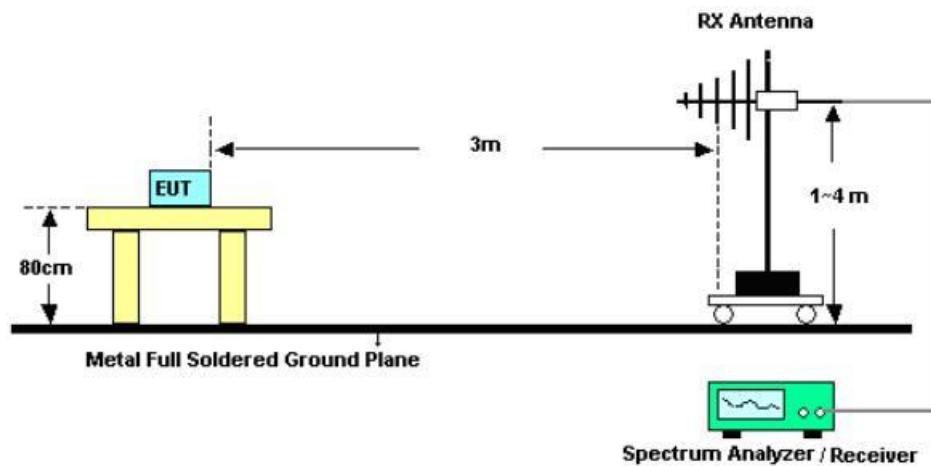
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than peak limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

4.4.4 Test Setup

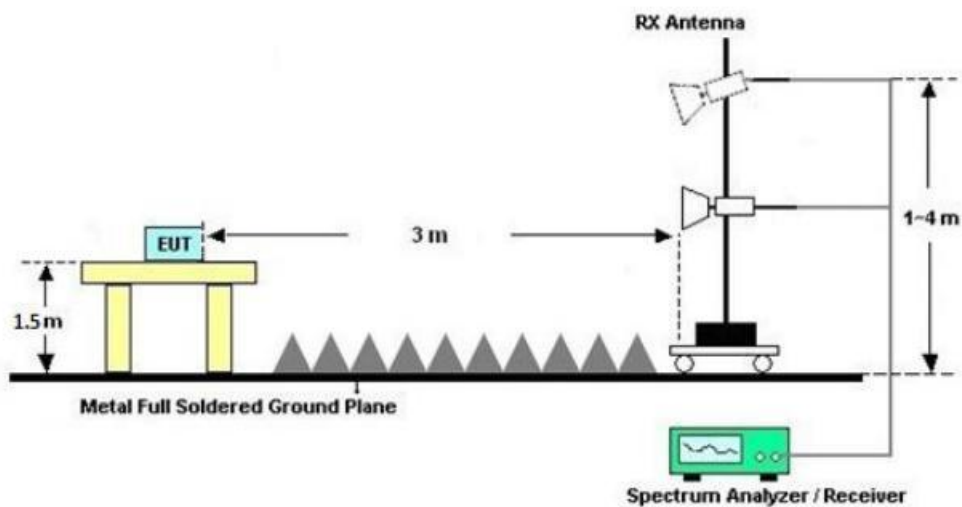
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



4.4.5 Test Results of Radiated Spurious Emissions (9 kHz - 30 MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

4.4.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix B.1.

4.4.7 Test Result of Radiated Spurious Emissions (30MHz - 10th Harmonic or 40GHz whichever is lower)

Please refer to Appendix B.1

4.4.8 Duty Cycle

Please refer to Appendix B.2.

4.5 AC Conducted Emission Measurement

4.5.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

Decreases with the logarithm of the frequency.

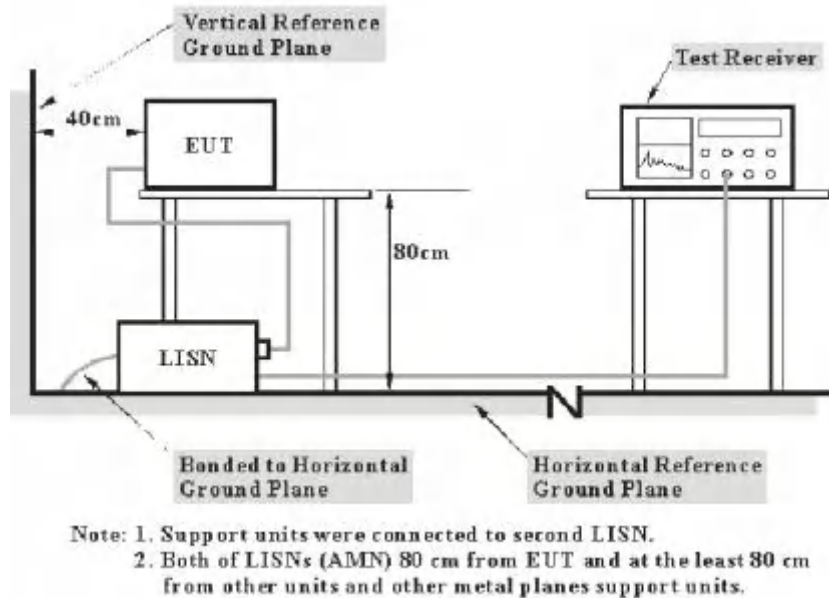
4.5.2 Measuring Instruments

The section 3.3 of List of Measuring Equipment of this test report is used for test.

4.5.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth =9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

4.5.4 Test Setup



4.5.5 Uncertainty Measurement

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT. The listed uncertainties are the worst case uncertainty for the entire range of measurement. Please note that the uncertainty values are provided for informational purposes only and are not used in determining the PASS/FAIL results.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

CASE	Uncertainty
Continuous Emission (AC port)	2.92 dB

4.5.6 Test Result

Remark: The product is DC powered, this test item is not applicable.

4.6 Antenna Requirements

4.6.1 Standard Applicable

15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(b) (4) requirement: The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and(b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6dBi.

4.6.2 Antenna Anti-Replacement Construction

The antenna is External on the main PCB and no consideration of replacement. The best case gain of the antenna is 0.40dBi(Ant0&1).

Appendix A – Test Results of Conducted Test

A.1 6dB and 26dB and 99% Occupied Bandwidth Measurement

Test Result_26dB Bandwidth

Test Mode	Antenna	Frequency[MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant0	5180	21.720	5169.320	5191.040	---	---
11A	Ant1	5180	20.600	5169.920	5190.520	---	---
11A	Ant0	5220	20.600	5209.680	5230.280	---	---
11A	Ant1	5220	20.800	5209.600	5230.400	---	---
11A	Ant0	5240	20.920	5229.760	5250.680	---	---
11A	Ant1	5240	21.280	5229.320	5250.600	---	---
11A	Ant0	5260	21.560	5248.960	5270.520	---	---
11A	Ant1	5260	20.920	5249.720	5270.640	---	---
11A	Ant0	5300	20.880	5289.680	5310.560	---	---
11A	Ant1	5300	21.280	5289.080	5310.360	---	---
11A	Ant0	5320	20.920	5309.680	5330.600	---	---
11A	Ant1	5320	20.920	5309.400	5330.320	---	---
11A	Ant0	5500	21.680	5489.320	5511.000	---	---
11A	Ant1	5500	20.760	5489.720	5510.480	---	---
11A	Ant0	5580	20.720	5569.840	5590.560	---	---
11A	Ant1	5580	20.760	5569.720	5590.480	---	---
11A	Ant0	5700	20.800	5689.760	5710.560	---	---
11A	Ant1	5700	21.040	5689.480	5710.520	---	---
11A	Ant0	5720	20.680	5709.720	5730.400	---	---
11A	Ant1	5720	20.800	5709.560	5730.360	---	---
11A	Ant0	5720_UNII-2C	15.28	5709.720	5725	---	---
11A	Ant1	5720_UNII-2C	15.44	5709.560	5725	---	---
11A	Ant0	5720_UNII-3	5.4	5725	5730.400	---	---
11A	Ant1	5720_UNII-3	5.36	5725	5730.360	---	---
11A	Ant0	5745	21.040	5734.400	5755.440	---	---
11A	Ant1	5745	21.400	5734.320	5755.720	---	---
11A	Ant0	5785	20.960	5774.360	5795.320	---	---
11A	Ant1	5785	21.040	5774.360	5795.400	---	---
11A	Ant0	5825	21.800	5813.920	5835.720	---	---
11A	Ant1	5825	21.360	5814.320	5835.680	---	---
11A-CDD	Ant0	5180	20.600	5169.880	5190.480	---	---
11A-CDD	Ant1	5180	21.440	5169.320	5190.760	---	---
11A-CDD	Ant0	5220	21.200	5209.440	5230.640	---	---

11A-CDD	Ant1	5220	21.440	5209.520	5230.960	---	---
11A-CDD	Ant0	5240	20.680	5229.800	5250.480	---	---
11A-CDD	Ant1	5240	21.240	5229.560	5250.800	---	---
11A-CDD	Ant0	5260	20.840	5249.560	5270.400	---	---
11A-CDD	Ant1	5260	21.120	5249.600	5270.720	---	---
11A-CDD	Ant0	5300	21.360	5289.400	5310.760	---	---
11A-CDD	Ant1	5300	20.160	5290.000	5310.160	---	---
11A-CDD	Ant0	5320	21.840	5308.920	5330.760	---	---
11A-CDD	Ant1	5320	21.240	5309.520	5330.760	---	---
11A-CDD	Ant0	5500	22.000	5488.960	5510.960	---	---
11A-CDD	Ant1	5500	20.640	5489.720	5510.360	---	---
11A-CDD	Ant0	5580	21.120	5569.320	5590.440	---	---
11A-CDD	Ant1	5580	20.920	5569.840	5590.760	---	---
11A-CDD	Ant0	5700	20.680	5689.560	5710.240	---	---
11A-CDD	Ant1	5700	21.400	5689.320	5710.720	---	---
11A-CDD	Ant0	5720	21.240	5709.600	5730.840	---	---
11A-CDD	Ant1	5720	20.880	5709.280	5730.160	---	---
11A-CDD	Ant0	5720_UNII-2C	15.4	5709.600	5725	---	---
11A-CDD	Ant1	5720_UNII-2C	15.72	5709.280	5725	---	---
11A-CDD	Ant0	5720_UNII-3	5.84	5725	5730.840	---	---
11A-CDD	Ant1	5720_UNII-3	5.16	5725	5730.160	---	---
11A-CDD	Ant0	5745	21.000	5734.440	5755.440	---	---
11A-CDD	Ant1	5745	20.840	5734.600	5755.440	---	---
11A-CDD	Ant0	5785	21.400	5774.320	5795.720	---	---
11A-CDD	Ant1	5785	20.880	5774.640	5795.520	---	---
11A-CDD	Ant0	5825	20.800	5814.640	5835.440	---	---
11A-CDD	Ant1	5825	20.960	5814.720	5835.680	---	---
11N20SISO	Ant0	5180	21.600	5169.200	5190.800	---	---
11N20SISO	Ant1	5180	21.160	5169.400	5190.560	---	---
11N20SISO	Ant0	5220	21.200	5209.400	5230.600	---	---
11N20SISO	Ant1	5220	21.560	5209.000	5230.560	---	---
11N20SISO	Ant0	5240	21.440	5229.320	5250.760	---	---
11N20SISO	Ant1	5240	21.960	5229.000	5250.960	---	---
11N20SISO	Ant0	5260	21.440	5249.440	5270.880	---	---
11N20SISO	Ant1	5260	21.200	5249.400	5270.600	---	---
11N20SISO	Ant0	5300	21.160	5289.520	5310.680	---	---
11N20SISO	Ant1	5300	21.200	5289.440	5310.640	---	---
11N20SISO	Ant0	5320	20.960	5309.560	5330.520	---	---
11N20SISO	Ant1	5320	21.000	5309.560	5330.560	---	---

11N20SISO	Ant0	5500	21.520	5489.240	5510.760	---	---
11N20SISO	Ant1	5500	21.320	5489.240	5510.560	---	---
11N20SISO	Ant0	5580	21.240	5569.160	5590.400	---	---
11N20SISO	Ant1	5580	21.120	5569.400	5590.520	---	---
11N20SISO	Ant0	5700	21.040	5689.640	5710.680	---	---
11N20SISO	Ant1	5700	20.960	5689.680	5710.640	---	---
11N20SISO	Ant0	5720	20.480	5709.960	5730.440	---	---
11N20SISO	Ant1	5720	21.040	5709.440	5730.480	---	---
11N20SISO	Ant0	5720_UNII-2C	15.04	5709.960	5725	---	---
11N20SISO	Ant1	5720_UNII-2C	15.56	5709.440	5725	---	---
11N20SISO	Ant0	5720_UNII-3	5.44	5725	5730.440	---	---
11N20SISO	Ant1	5720_UNII-3	5.48	5725	5730.480	---	---
11N20SISO	Ant0	5745	21.080	5734.320	5755.400	---	---
11N20SISO	Ant1	5745	21.840	5733.960	5755.800	---	---
11N20SISO	Ant0	5785	21.600	5774.080	5795.680	---	---
11N20SISO	Ant1	5785	21.480	5774.160	5795.640	---	---
11N20SISO	Ant0	5825	21.680	5813.960	5835.640	---	---
11N20SISO	Ant1	5825	21.680	5814.080	5835.760	---	---
11N20MIMO	Ant0	5180	21.040	5169.480	5190.520	---	---
11N20MIMO	Ant1	5180	21.160	5169.560	5190.720	---	---
11N20MIMO	Ant0	5220	22.000	5209.040	5231.040	---	---
11N20MIMO	Ant1	5220	20.840	5209.520	5230.360	---	---
11N20MIMO	Ant0	5240	21.960	5229.080	5251.040	---	---
11N20MIMO	Ant1	5240	21.440	5229.320	5250.760	---	---
11N20MIMO	Ant0	5260	20.400	5249.920	5270.320	---	---
11N20MIMO	Ant1	5260	21.960	5249.080	5271.040	---	---
11N20MIMO	Ant0	5300	21.640	5289.160	5310.800	---	---
11N20MIMO	Ant1	5300	22.120	5288.680	5310.800	---	---
11N20MIMO	Ant0	5320	21.680	5308.960	5330.640	---	---
11N20MIMO	Ant1	5320	21.520	5309.120	5330.640	---	---
11N20MIMO	Ant0	5500	20.680	5489.680	5510.360	---	---
11N20MIMO	Ant1	5500	20.680	5489.600	5510.280	---	---
11N20MIMO	Ant0	5580	20.920	5569.560	5590.480	---	---
11N20MIMO	Ant1	5580	22.440	5568.920	5591.360	---	---
11N20MIMO	Ant0	5700	21.520	5689.040	5710.560	---	---
11N20MIMO	Ant1	5700	21.840	5688.920	5710.760	---	---
11N20MIMO	Ant0	5720	21.080	5709.520	5730.600	---	---
11N20MIMO	Ant1	5720	21.600	5709.080	5730.680	---	---
11N20MIMO	Ant0	5720_UNII-2C	15.48	5709.520	5725	---	---

11N20MIMO	Ant1	5720_UNII-2C	15.92	5709.080	5725	---	---
11N20MIMO	Ant0	5720_UNII-3	5.6	5725	5730.600	---	---
11N20MIMO	Ant1	5720_UNII-3	5.68	5725	5730.680	---	---
11N20MIMO	Ant0	5745	21.440	5734.160	5755.600	---	---
11N20MIMO	Ant1	5745	22.080	5734.240	5756.320	---	---
11N20MIMO	Ant0	5785	21.720	5773.960	5795.680	---	---
11N20MIMO	Ant1	5785	21.400	5774.280	5795.680	---	---
11N20MIMO	Ant0	5825	21.200	5814.520	5835.720	---	---
11N20MIMO	Ant1	5825	21.320	5814.160	5835.480	---	---
11N40SISO	Ant0	5190	39.760	5170.000	5209.760	---	---
11N40SISO	Ant1	5190	41.280	5169.520	5210.800	---	---
11N40SISO	Ant0	5230	40.400	5210.080	5250.480	---	---
11N40SISO	Ant1	5230	40.480	5210.000	5250.480	---	---
11N40SISO	Ant0	5270	41.360	5249.120	5290.480	---	---
11N40SISO	Ant1	5270	40.480	5249.840	5290.320	---	---
11N40SISO	Ant0	5310	40.640	5289.360	5330.000	---	---
11N40SISO	Ant1	5310	40.080	5290.080	5330.160	---	---
11N40SISO	Ant0	5510	40.400	5490.000	5530.400	---	---
11N40SISO	Ant1	5510	40.320	5489.920	5530.240	---	---
11N40SISO	Ant0	5550	40.960	5529.680	5570.640	---	---
11N40SISO	Ant1	5550	40.640	5529.680	5570.320	---	---
11N40SISO	Ant0	5670	41.280	5649.600	5690.880	---	---
11N40SISO	Ant1	5670	40.240	5649.840	5690.080	---	---
11N40SISO	Ant0	5710	40.880	5689.520	5730.400	---	---
11N40SISO	Ant1	5710	40.080	5689.840	5729.920	---	---
11N40SISO	Ant0	5710_UNII-2C	35.48	5689.520	5725	---	---
11N40SISO	Ant1	5710_UNII-2C	35.16	5689.840	5725	---	---
11N40SISO	Ant0	5710_UNII-3	5.4	5725	5730.400	---	---
11N40SISO	Ant1	5710_UNII-3	4.92	5725	5729.920	---	---
11N40SISO	Ant0	5755	41.040	5734.280	5775.320	---	---
11N40SISO	Ant1	5755	40.960	5734.600	5775.560	---	---
11N40SISO	Ant0	5795	40.800	5774.760	5815.560	---	---
11N40SISO	Ant1	5795	41.120	5774.360	5815.480	---	---
11N40MIMO	Ant0	5190	40.800	5169.680	5210.480	---	---
11N40MIMO	Ant1	5190	40.320	5169.600	5209.920	---	---
11N40MIMO	Ant0	5230	40.400	5209.600	5250.000	---	---
11N40MIMO	Ant1	5230	39.920	5210.080	5250.000	---	---
11N40MIMO	Ant0	5270	40.240	5249.840	5290.080	---	---
11N40MIMO	Ant1	5270	40.400	5249.680	5290.080	---	---

11N40MIMO	Ant0	5310	40.080	5290.160	5330.240	---	---
11N40MIMO	Ant1	5310	39.840	5290.080	5329.920	---	---
11N40MIMO	Ant0	5510	41.440	5489.360	5530.800	---	---
11N40MIMO	Ant1	5510	40.400	5490.240	5530.640	---	---
11N40MIMO	Ant0	5550	40.800	5529.520	5570.320	---	---
11N40MIMO	Ant1	5550	40.480	5529.680	5570.160	---	---
11N40MIMO	Ant0	5670	40.800	5649.520	5690.320	---	---
11N40MIMO	Ant1	5670	40.000	5650.000	5690.000	---	---
11N40MIMO	Ant0	5710	39.920	5690.320	5730.240	---	---
11N40MIMO	Ant1	5710	41.120	5689.200	5730.320	---	---
11N40MIMO	Ant0	5710_UNII-2C	34.68	5690.320	5725	---	---
11N40MIMO	Ant1	5710_UNII-2C	35.8	5689.200	5725	---	---
11N40MIMO	Ant0	5710_UNII-3	5.24	5725	5730.240	---	---
11N40MIMO	Ant1	5710_UNII-3	5.32	5725	5730.320	---	---
11N40MIMO	Ant0	5755	40.640	5734.840	5775.480	---	---
11N40MIMO	Ant1	5755	40.560	5735.080	5775.640	---	---
11N40MIMO	Ant0	5795	40.960	5774.600	5815.560	---	---
11N40MIMO	Ant1	5795	40.480	5774.840	5815.320	---	---
11AC20SISO	Ant0	5180	21.680	5169.080	5190.760	---	---
11AC20SISO	Ant1	5180	21.400	5169.480	5190.880	---	---
11AC20SISO	Ant0	5220	21.240	5209.160	5230.400	---	---
11AC20SISO	Ant1	5220	21.800	5209.040	5230.840	---	---
11AC20SISO	Ant0	5240	21.480	5229.120	5250.600	---	---
11AC20SISO	Ant1	5240	20.920	5229.600	5250.520	---	---
11AC20SISO	Ant0	5260	21.840	5249.000	5270.840	---	---
11AC20SISO	Ant1	5260	21.480	5249.120	5270.600	---	---
11AC20SISO	Ant0	5300	21.840	5288.960	5310.800	---	---
11AC20SISO	Ant1	5300	22.120	5288.760	5310.880	---	---
11AC20SISO	Ant0	5320	21.440	5309.080	5330.520	---	---
11AC20SISO	Ant1	5320	21.880	5309.080	5330.960	---	---
11AC20SISO	Ant0	5500	21.200	5489.120	5510.320	---	---
11AC20SISO	Ant1	5500	22.360	5488.920	5511.280	---	---
11AC20SISO	Ant0	5580	21.160	5569.400	5590.560	---	---
11AC20SISO	Ant1	5580	21.200	5569.400	5590.600	---	---
11AC20SISO	Ant0	5700	22.000	5689.080	5711.080	---	---
11AC20SISO	Ant1	5700	22.120	5688.960	5711.080	---	---
11AC20SISO	Ant0	5720	22.040	5708.960	5731.000	---	---
11AC20SISO	Ant1	5720	20.720	5709.840	5730.560	---	---
11AC20SISO	Ant0	5720_UNII-2C	16.04	5708.960	5725	---	---

11AC20SISO	Ant1	5720_UNII-2C	15.16	5709.840	5725	---	---
11AC20SISO	Ant0	5720_UNII-3	6	5725	5731.000	---	---
11AC20SISO	Ant1	5720_UNII-3	5.56	5725	5730.560	---	---
11AC20SISO	Ant0	5745	21.240	5734.200	5755.440	---	---
11AC20SISO	Ant1	5745	21.800	5733.760	5755.560	---	---
11AC20SISO	Ant0	5785	21.800	5773.960	5795.760	---	---
11AC20SISO	Ant1	5785	21.880	5773.840	5795.720	---	---
11AC20SISO	Ant0	5825	21.800	5813.760	5835.560	---	---
11AC20SISO	Ant1	5825	21.240	5814.320	5835.560	---	---
11AC20MIMO	Ant0	5180	21.480	5169.200	5190.680	---	---
11AC20MIMO	Ant1	5180	21.600	5169.120	5190.720	---	---
11AC20MIMO	Ant0	5220	20.880	5209.480	5230.360	---	---
11AC20MIMO	Ant1	5220	21.080	5209.600	5230.680	---	---
11AC20MIMO	Ant0	5240	21.880	5228.920	5250.800	---	---
11AC20MIMO	Ant1	5240	21.280	5229.440	5250.720	---	---
11AC20MIMO	Ant0	5260	21.360	5249.120	5270.480	---	---
11AC20MIMO	Ant1	5260	21.160	5249.440	5270.600	---	---
11AC20MIMO	Ant0	5300	21.400	5289.360	5310.760	---	---
11AC20MIMO	Ant1	5300	21.840	5288.960	5310.800	---	---
11AC20MIMO	Ant0	5320	20.680	5310.040	5330.720	---	---
11AC20MIMO	Ant1	5320	21.360	5309.400	5330.760	---	---
11AC20MIMO	Ant0	5500	22.000	5489.000	5511.000	---	---
11AC20MIMO	Ant1	5500	21.520	5489.000	5510.520	---	---
11AC20MIMO	Ant0	5580	20.800	5569.600	5590.400	---	---
11AC20MIMO	Ant1	5580	21.600	5569.160	5590.760	---	---
11AC20MIMO	Ant0	5700	21.840	5689.160	5711.000	---	---
11AC20MIMO	Ant1	5700	21.600	5689.120	5710.720	---	---
11AC20MIMO	Ant0	5720	21.800	5708.960	5730.760	---	---
11AC20MIMO	Ant1	5720	20.840	5709.520	5730.360	---	---
11AC20MIMO	Ant0	5720_UNII-2C	16.04	5708.960	5725	---	---
11AC20MIMO	Ant1	5720_UNII-2C	15.48	5709.520	5725	---	---
11AC20MIMO	Ant0	5720_UNII-3	5.76	5725	5730.760	---	---
11AC20MIMO	Ant1	5720_UNII-3	5.36	5725	5730.360	---	---
11AC20MIMO	Ant0	5745	21.920	5733.920	5755.840	---	---
11AC20MIMO	Ant1	5745	21.000	5734.680	5755.680	---	---
11AC20MIMO	Ant0	5785	21.240	5774.560	5795.800	---	---
11AC20MIMO	Ant1	5785	21.160	5774.240	5795.400	---	---
11AC20MIMO	Ant0	5825	22.200	5813.800	5836.000	---	---
11AC20MIMO	Ant1	5825	21.800	5813.960	5835.760	---	---