Radio Test Report

C9115AXI-B, C9115AXI-T

FCC ID: LDKSLTSP1905

5250-5350 MHz

Against the following Specifications:

LP0002 (2018-01-10)

CFR47 Part 15.407

Applicant: Cisco Systems, Inc.
170 West Tasman Drive San Jose, CA
95134

Author: Julian Land **Tested By:** Julian Land	**Approved By:** Gerard Thorpe **Title:** Compliance Manager **Revision:** 1.1

This report replaces any previously entered test report under EDCS – 15596108**.** This test report has been electronically authorized and archived using the CISCO Engineering Document Control system. Test Report Template EDCS# 1526149.

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Section 1: Overview

1.1 Test Summary

The samples were assessed against the tests detailed in section 3 under the requirements of the following specifications:

Specifications
CFR47 15.407 LP0002 (2018-01-10)

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Section 2: Assessment Information

2.1 General

This report contains an assessment of an apparatus against Radio Standards based upon tests carried out on the samples submitted. The testing was performed by and for the use of Cisco systems Inc:

With regard to this assessment, the following points should be noted:

a) The results contained in this report relate only to the items tested and were obtained in the period between the date of the initial assessment and the date of issue of the report. Manufactured products will not necessarily give identical results due to production and measurement tolerances.

b) The apparatus was set up and exercised using the configuration and modes of operation defined in this report only.

c) Where relevant, the apparatus was only assessed using the susceptibility criteria defined in this report and the Test Assessment Plan (TAP).

d) All testing was performed under the following environmental conditions:

Temperature	15°C to 35°C (54°F to 95°F)
Atmospheric Pressure	860mbar to 1060mbar (25.4" to 31.3")
Humidity	10% to 75*%

e) All AC testing was performed at one or more of the following supply voltages:
110V 60 Hz (+/-20%)

2.2 Units of Measurement

The units of measurements defined in the appendices are reported in specific terms, which are test dependent. Where radiated measurements are concerned these are defined at a particular distance. Basic voltage measurements are defined in units of [dBuV]

As an example, the basic calculation for all measurements is as follows:

Emission level [dBuV] = Indicated voltage level [dBuV] + Cable Loss [dB] + Other correction factors [dB]

The combinations of correction factors are dependent upon the exact test configurations [see test equipment lists for further details] and may include: -

Antenna Factors, Pre Amplifier Gain, LISN Loss, Pulse Limiter Loss and Filter Insertion Loss...

Note: to convert the results from dBuV/m to uV/m use the following formula: -

Level in uV/m = Common Antilogarithm [(X dBuV/m)/20] = Y uV/m

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Measurement Uncertainty Values

voltage and power measurements	± 2 dB
conducted EIRP measurements	± 1.4 dB
radiated measurements	± 3.2 dB
frequency measurements	± 2.4 10-7
temperature measurements	± 0.54º.
humidity measurements	± 2.3%
DC and low frequency measurements	± 2.5%.

Where relevant measurement uncertainty levels have been estimated for tests performed on the apparatus. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Radiated emissions (expanded uncertainty, confidence interval 95%)

30 MHz - 300 MHz	+/- 3.8 dB
300 MHz - 1000 MHz	+/- 4.3 dB
1 GHz - 10 GHz	+/- 4.0 dB
10 GHz - 18GHz	+/- 8.2 dB
18GHz - 26.5GHz	+/- 4.1 dB
26.5GHz - 40GHz	+/- 3.9 dB

Conducted emissions (expanded uncertainty, confidence interval 95%)

30 MHz – 40GHz	+/- 0.38 dB

A product is considered to comply with a requirement if the nominal measured value is below the limit line.
The product is considered to not be in compliance in case the nominal measured value is above the limit line.

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2.3 Date of testing (initial sample receipt date to last date of testing)

04-Oct-2018 to 04-Feb-2019

2.4 Report Issue Date

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2.5 Testing facilities

This assessment was performed by: Chris Blair

A NIST Designated Phase-I and Phase-II Conformity Assessment Body (CAB) for the following economies and regulatory authorities under the terms of the stated MRAs/Treaties:

NCC (National Communications Commission) APEC Tel MRA -Phase I

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San Jose, CA 95134
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Cisco System Site	Address	Site Identifier
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Test Engineers

Julian Land

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2.6 Equipment Assessed (EUT)

C9115AXI-B(For USA), C9115AXI-T(For Taiwan)

These 2 models are using same hardware specificaiton include antennas excetp for the software.

2.7 EUT Description

The C9115AXI is a next generation access point. The dual band 2.4GHz and 5GHz WIFI radio supports the next generation WIFI protocol of 802.11ax and is backwards compatible with 802.11a, b, g, n, ac. The access point features 4 internal antennas and operates in a 4x4 configuration in both the 2.4GHz and 5GHz bands.

The following antennas are supported by this product series.

The data included in this report represent the worst-case data for all antennas.

Frequency	Part Number	Antenna Type	Antenna Gain (dBi)
2.4GHz / 5GHz	(A antenna port)	Internal Antenna	2.3 / 4.1
2.4GHz / 5GHz	(B antenna port)	Internal Antenna	2.6 / 4.2
2.4GHz / 5GHz	(C antenna port)	Internal Antenna	2.2 / 4.4
2.4GHz / 5GHz	(D antenna port)	Internal Antenna	2.4 / 4.2

	Supported Channel	Bandwidth
Low	5260MHz	20MHz
Mid	5300MHz	20MHz
High	5320MHz	20MHz
Low	5270MHz	40MHz
Mid	n/a	40MHz
High	5310MHz	40MHz
Low	n/a	80MHz
Mid	5290MHz	80MHz
High	n/a	80MHz
Low	5250MHz	160MHz
Mid	n/a	160MHz
High	n/a	160MHz

Note: Data for 160MHz channel was included in the UNII I Band test report (EDCS# 15596106)

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Section 3: Result Summary

3.1 Results Summary Table

3.1.1 Radio Port Results

Worst-case results from the tables are in bold, and are represented in plots that follow the tables.

Basic Standard	Technical Requirements / Details	Result
15.407 LP0002 (2018-01-10) (4.7.2.3)	**99% & 26 dB Bandwidth**: The 99% occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission. There is no limit for 99% OBW. The 26dB emission is the width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 26 dB relative to the maximum level measured in the fundamental emission.	Pass
15.407 LP0002 (2018-01-10) (4.7.3.2) (1)	**Output Power**: For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250mW or 11 dBm + 10 log B, where B is the 26dB emission bandwidth in megahertz. If transmitting antennas of directional gain greater than 6dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.	Pass
15.407 LP0002 (2018-01-10) (4.7.3.2) (2)	**Power Spectral Density** The maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.	Pass
15.407 LP0002 (2018-01-10) (4.7.4.1)	**Conducted Spurious Emissions / Band-Edge**: 2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.	Pass
15.407 15.205 15.209 LP0002 (2018-01-10) (4.8.1.4)	**Restricted band**: Unwanted emissions must comply with the general field strength limits set forth in §15.209.	Pass

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3.1.2 Radiated Emissions (General requirements)

Basic Standard	Technical Requirements / Details	Result
15.407 15.205 15.209 LP0002 (2018-01-10) (2.8)	**TX Spurious Emissions:** Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the field strength limits table in this section.	Pass
15.207 LP0002 (2018-01-10) (2.3)	**AC conducted Emissions:** U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.	N/A (Unit is only powered by DC power – POE)

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Section 4: Sample Details

Note: Each sample was evaluated to ensure that its condition was suitable to be used as a test sample prior to the commencement of testing.

4.1 Sample Details

Sample No.	Equipment Details	Manufacturer	Hardware Rev.	Firmware Rev.	Software Rev.	Serial Number
S01	C9115AXI	Cisco Systems, Inc.	07 (P2C)	17.10 RC25.11	8.9.1.73	FOC22204U51
S02	Catalyst 3850 48 PoE+	Cisco Systems, Inc.	M0	1.2 (cat3k_caa-universalk9)	03.03.03SE	FOC18218BFL
S03	C9115AXI	Cisco Systems, Inc.	07 (P2C)	17.10 RC25.11	AP Image: 8.8.1.10	FOC22204U4T
S04	AIR-PWRINJ6	Cisco Systems, Inc.	V01	N/A	N/A	C1545666300000625

4.2 System Details

System #	Description	Samples
1	EUT and Power Supply (Conducted Tests)	S01, S02
2	EUT and Power Supply (Radiated Tests)	S03, S04

4.3 Mode of Operation Details

Mode#	Description	Comments
1	802.11a, OFDM	Receive and Transmit (1, 2, 3, or 4 chains)
2	Duplicate mode NonHT40	Receive and Transmit (1, 2, 3, or 4 chains)
3	Duplicate mode NonHT80	Receive and Transmit (1, 2, 3, or 4 chains)
4	Duplicate mode NonHT160	Receive and Transmit (1, 2, 3, or 4 chains)
5	802.11n20, OFDM	Receive and Transmit (1, 2, 3, or 4 chains)
6	802.11n40, OFDM	Receive and Transmit (1, 2, 3, or 4 chains)
7	802.11ac20, OFDM	Receive and Transmit (1, 2, 3, or 4 chains)
8	802.11ac40, OFDM	Receive and Transmit (1, 2, 3, or 4 chains)
9	802.11ac80, OFDM	Receive and Transmit (1, 2, 3, or 4 chains)
10	802.11ac160, OFDM	Receive and Transmit (1, 2, 3, or 4 chains)
11	802.11ax20, OFDMA	Receive and Transmit (1, 2, 3, or 4 chains)
12	802.11ax40, OFDMA	Receive and Transmit (1, 2, 3, or 4 chains)
13	802.11ax80, OFDMA	Receive and Transmit (1, 2, 3, or 4 chains)
14	802.11ax160, OFDMA	Receive and Transmit (1, 2, 3, or 4 chains)

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Section 5: Radio Port Results

5.1 Duty Cycle

5.1.1 Duty Cycle Test Requirement

From KDB 789033 D02 General UNII Test Procedures New Rules v01r02

B. Duty Cycle (x), Transmission Duration (T), and Maximum Power Control Level

1. All measurements are to be performed with the EUT transmitting at 100 percent duty cycle at its maximum power control level; however, if 100 percent duty cycle cannot be achieved, measurements of duty cycle, x, and maximum-power transmission duration, *T*, are required for each tested mode of operation.

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5.1.2 Duty Cycle Test Method

From KDB 789033 D02 General UNII Test Procedures New Rules v01r02:

B. Duty Cycle (x), Transmission Duration (T), and Maximum Power Control Level

The zero-span mode on a spectrum analyzer or EMI receiver, if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on and off times of the transmitted signal. Set the center frequency of the instrument to the center frequency of the transmission. Set RBW ≥ EBW if possible; otherwise, set RBW to the largest available value. Set VBW ≥ RBW. Set detector = peak or average. The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T, where T is defined in section II.B.1.a), and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if T ≤ 16.7 microseconds.)

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5.1.3 Duty Cycle Test Information

Samples, Systems, and Modes

System Number	Description	Samples	System under test	Support equipment
1	EUT	S01	☑	☐
	Support	S02	☐	☑

Tested By: Julian Land	Date of testing: January 19, 2019
Test Result: Pass	

Test Equipment

See Appendix A for list of test equipment

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5.1.4 Duty Cycle Data Table

Duty Cycle table and screen captures are shown below for power/psd modes.

Mode	Data Rate	On-time (ms)	Total Time (ms)	Duty Cycle (%)	Correction Factor (dB)
NonHT20	6Mbps	2.393	2.413	99.171	0.036
NonHT40	6Mbps	2.393	2.413	99.171	0.036
NonHT80	6Mbps	2.393	2.413	99.171	0.036
HT20/VHT20	M0	2.228	2.252	98.934	0.047
HT40/VHT40	M0	1.096	1.116	98.208	0.079
VHT80	M0x1	0.534	0.558	95.699	0.191
HE20	M0h1	1.716	1.740	98.621	0.060
HE40	M0h1	0.890	0.916	97.162	0.125
HE80	M0h1	0.457	0.482	94.813	0.231

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5.1.5 Duty Cycle Data Screenshots

5260MHz 6Mbps NonHT20

5270MHz 6Mbps NonHT40

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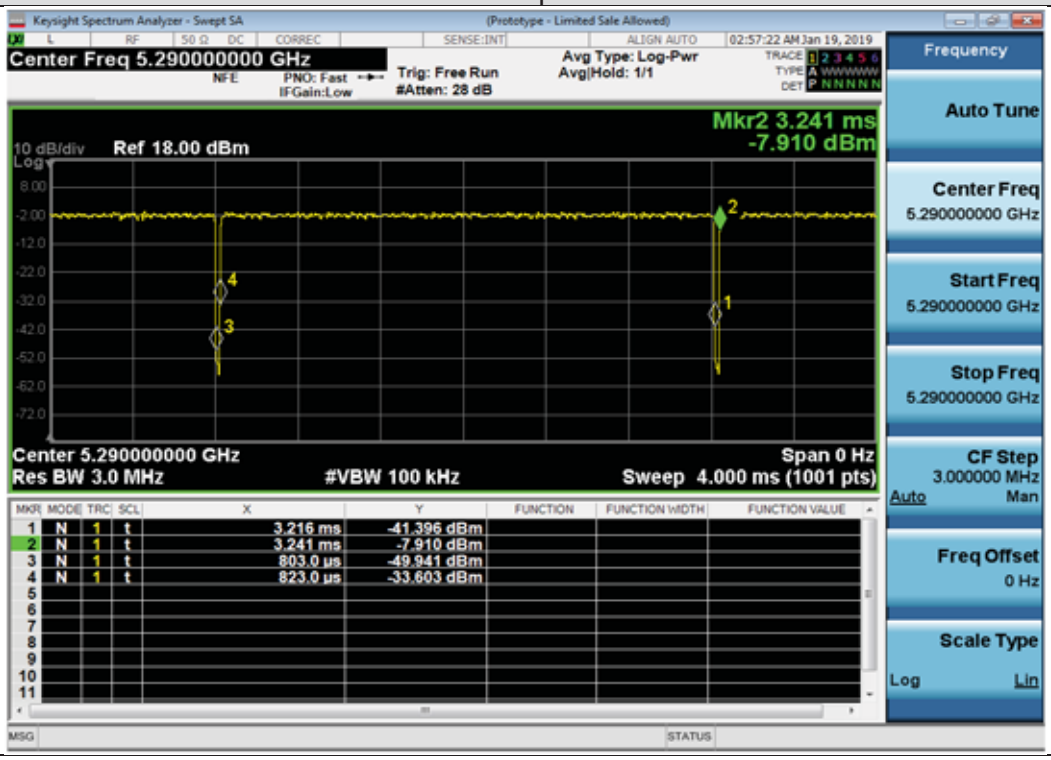
5290MHz 6Mbps NonHT80



5260MHz M0 HT20

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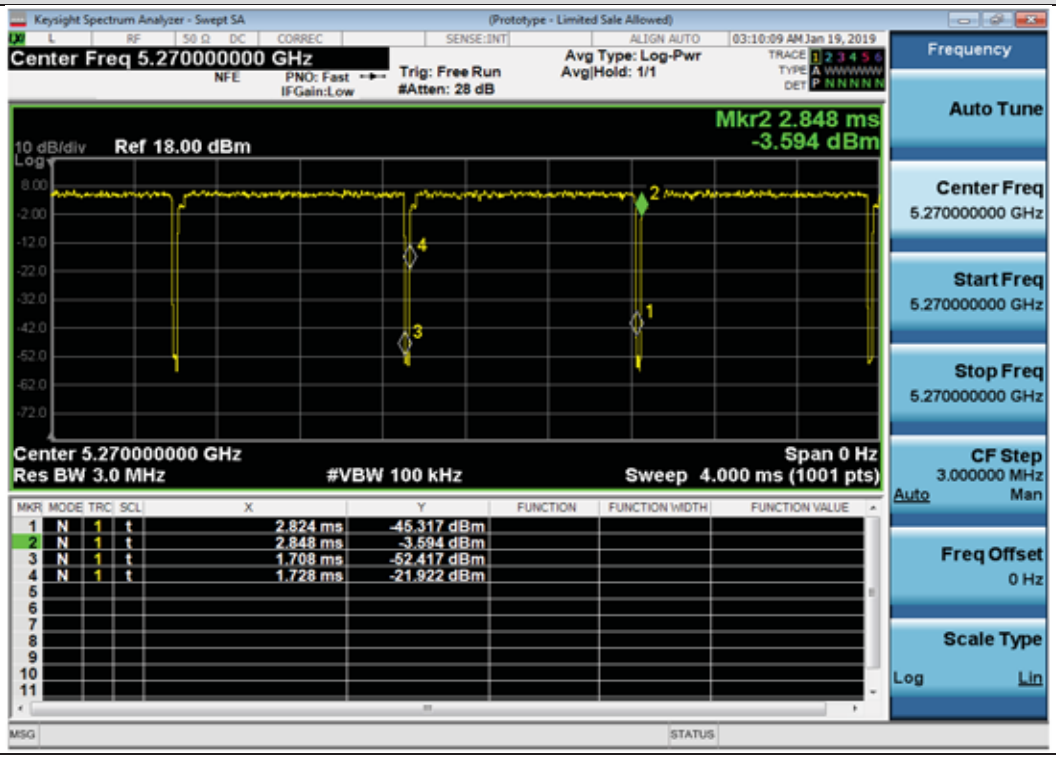
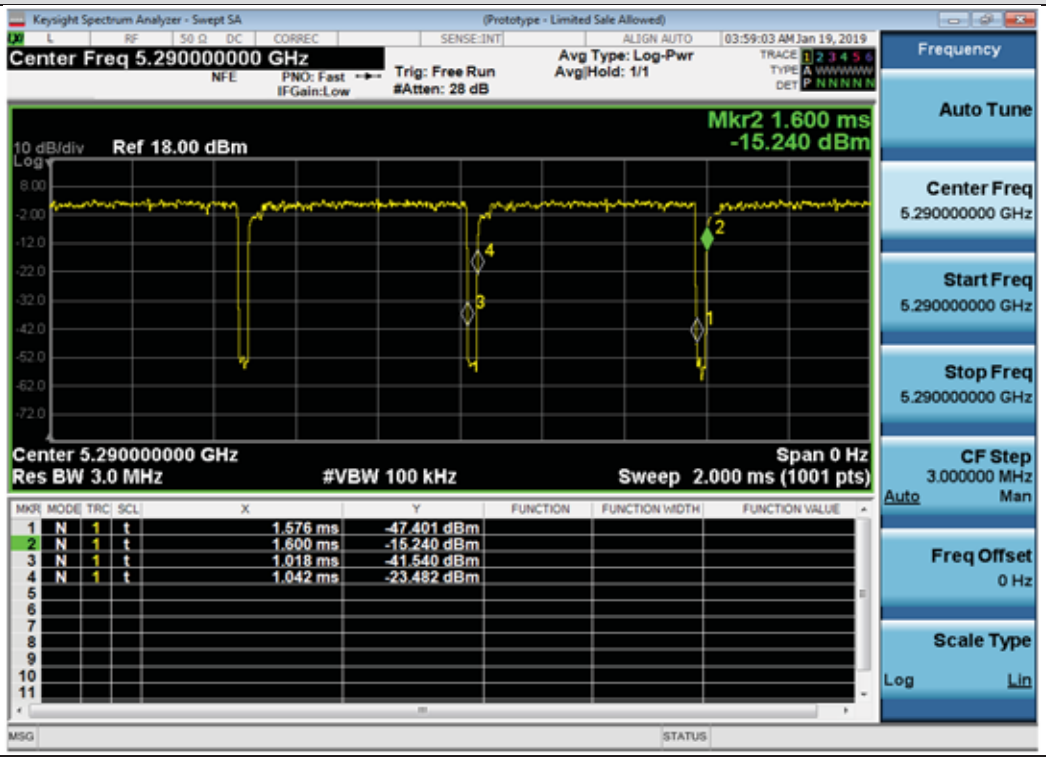
5270MHz M0 HT40



5290MHz M0x1 VHT80



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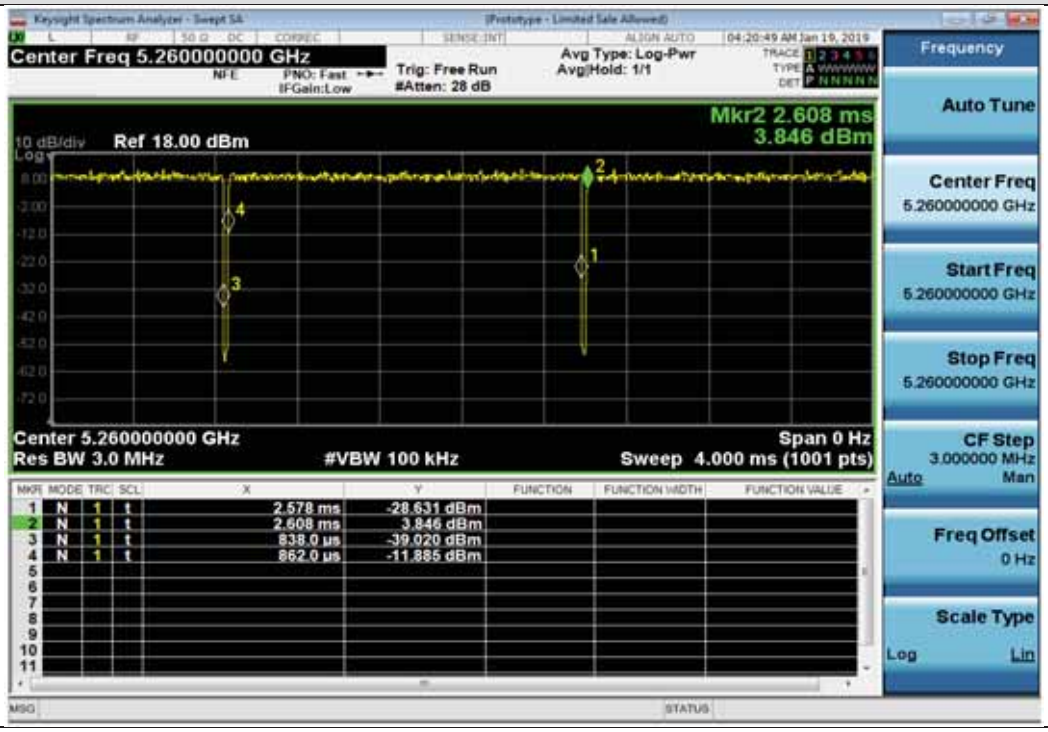
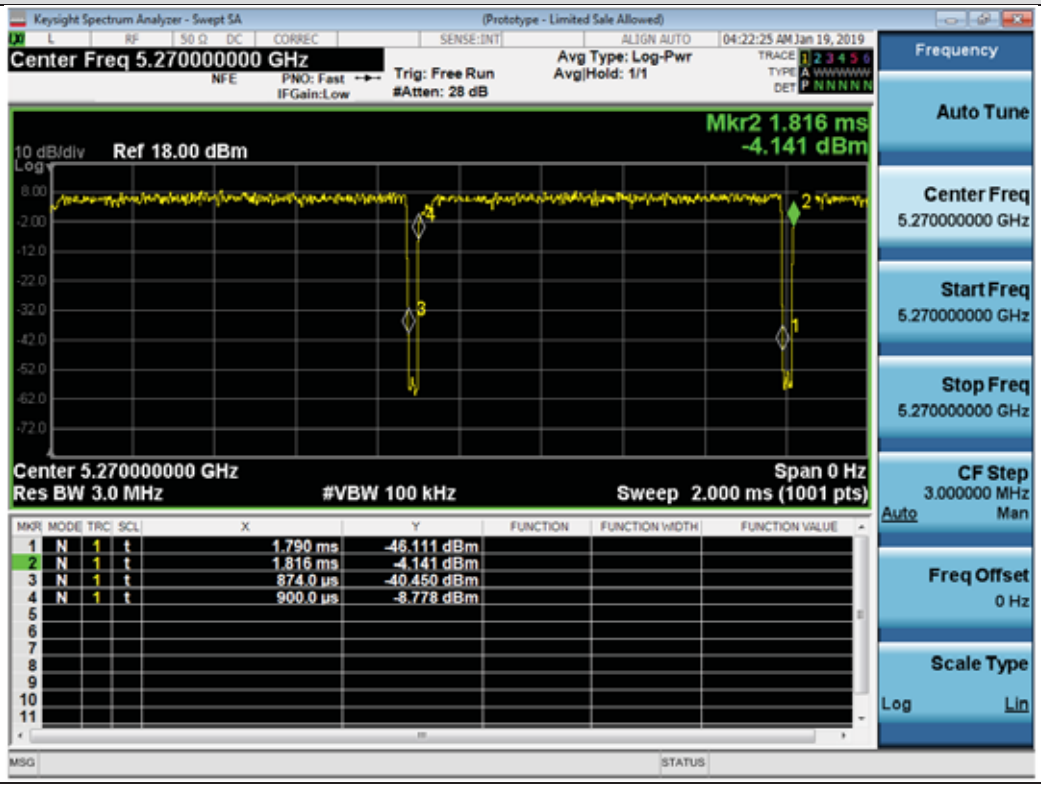
5260MHz M0h1 HE20



5270MHz M0h1 HE40



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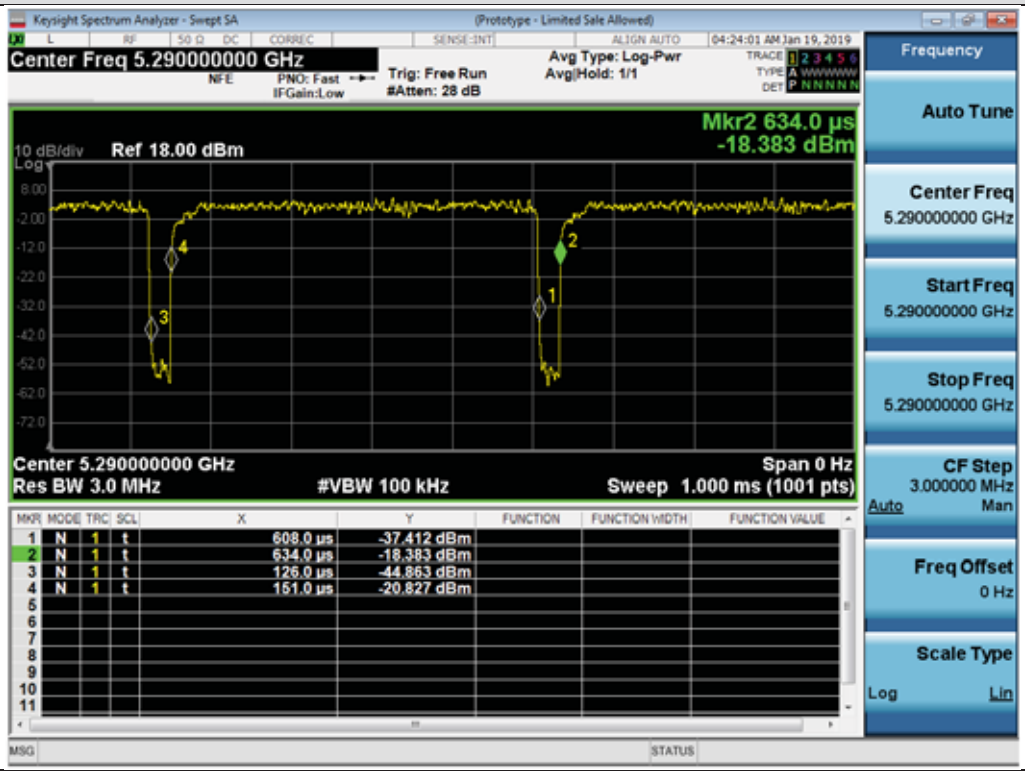
5290MHz M0h1 HE80



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5.2 99% and 26dB Bandwidth

5.2.1 99% and 26dB Bandwidth Test Requirement

For the FCC

There is no requirement for the value of bandwidth.
However, the 26dB BW (EBW) is used to calculate the power limits in 15.407 (a) (2). Power measurements are made using the 99% Bandwidth as the integration bandwidth.

LP0002 (2018-01-10) (4.7.2.3)

The 26dB emission is the width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 26 dB relative to the maximum level measured in the fundamental emission.

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5.2.2 99% and 26dB Bandwidth Test Procedure

The 99-percent occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5 % of the total mean power of the given emission. Measurement of the 99-percent occupied bandwidth is required only as a condition for using the optional band-edge measurement techniques described in section II.G.3.d). Measurements of 99-percent occupied bandwidth may also optionally be used in lieu of the EBW to define the minimum frequency range over which the spectrum is integrated when measuring maximum conducted output power as described in section II.E. However, the EBW must be measured to determine bandwidth dependent limits on maximum conducted output power in accordance with 15.407(a).

Ref. KDB 789033 Section D. 99 Percent Occupied Bandwidth

99% BW Test Parameters
1. Set center frequency to the nominal EUT channel center frequency. 2. Set span = 1.5 times to 5.0 times the OBW. 3. Set RBW = 1 % to 5 % of the OBW 4. Set VBW ≥ 3 · RBW 5. 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. 6. Use the 99 % power bandwidth function of the instrument (if available).

Ref KDB 789033 in Section C. Measurement Bandwidth, Section 1

26 BW Test parameters
X dB BW = -26dB (using the OBW function of the spectrum analyzer) Emission Bandwidth (EBW) a) Set RBW = approximately 1% of the emission bandwidth. b) Set the VBW > RBW. c) Detector = Peak. d) Trace mode = max hold. e) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

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5.2.3 99% and 26dB Bandwidth Test Information

5.2.3 99% Bandwidth Test Information

Samples, Systems, and Modes

System Number	Description	Samples	System under test	Support equipment
1	EUT	S01	☑	☐
	Support	S02	☐	☑

Tested By: Julian Land	Date of testing: November 12, 2018 – December 12, 2018
Test Result: PASS	

Test Equipment

See Appendix A for list of test equipment

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5.2.4 99% and 26dB Bandwidth Data Table

Frequency (MHz)	Mode	Index Power (dBm)	Data Rate (Mbps)	26dB BW (MHz)	99% BW (MHz)
5260	Non HT20 Beam Forming, 6 to 54 Mbps	9	6	21.2	16.798
	HT/VHT20 Beam Forming, M0 to M7	15	m0	21.8	18.038
	HE20 STBC, M0 to M7	14	m0	21.4	19.122
5270	Non HT40, 6 to 54 Mbps	14	6	39.7	36.359
	HT/VHT40 Beam Forming, M0 to M7	12	m0	40.1	36.431
	HE40, M0 to M7	14	m0	39.9	37.569
5290	Non HT80, 6 to 54 Mbps	13	6	82	76.211
	VHT80 Beam Forming, M0 to M9 1ss	8	m0x1	82.3	76.055
	HE80 Beam Forming, M0 to M9 3ss	14	m0x1	82.1	77.117
5300	Non HT20, 6 to 54 Mbps	13	6	21.2	16.787
	HT/VHT20, M0 to M7	11	m0	21.8	18.031
	HE20 Beam Forming, M0 to M7	9	m0	21.5	19.107
5310	Non HT40, 6 to 54 Mbps	14	6	39.8	36.348
	HT/VHT40 Beam Forming, M0 to M7	12	m0	40.1	36.405
	HE40 STBC, M0 to M7	13	m0	39.9	37.559
5320	Non HT20 Beam Forming, 6 to 54 Mbps	12	6	21.2	16.78
	HT/VHT20 Beam Forming, M0 to M7	15	m0	21.8	18.037
	HE20 Beam Forming, M0 to M7	9	m0	21.5	19.119

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5.2.5 99% and 26dB Bandwidth Plots

5300MHz, NonHT20, 6Mbps

5310MHz, HT40, M0

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5290MHz, HE80 Beamforming, M0h1

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5.3 Maximum Conducted Output Power

5.3.1 Maximum Conducted Output Power Test Requirement

15.407 (2), LP0002 (2018-01-10) (4.7.3.2) (1)

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250mW or 11 dBm + 10 log B, where B is the 26dB emission bandwidth in megahertz. … If transmitting antennas of directional gain greater than 6dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

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5.3.2 Maximum Conducted Output Power Test Procedure

15.407 (5), LP0002 (2018-01-10) (4.7.3.2) (2)

The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.

Referencing "644545 D03 Guidance for IEEE 802.11ac v01", covering signals that cross the boundary between two adjacent UNII bands, the FCC describes a procedure to measure EBW, power, and PSD in each UNII band. For the case of a 160MHz signal equally distributed between UNII-1 and UNII-2a, we apply the following alternate procedure.
Rather than measure:

- The half of the signal in UNII-1, measured against the 30dBm power / 17dBm/MHz PSD limits
- The half of the signal in UNII-2a, measured against the 24dBm power / 11dBm/MHz PSD limits

If a 160MHz signal (equally distributed between the two bands) produces a total power of 27dBm across the entire 160 MHz EBW, the total power in each band would be half of the total, or 24dBm (which meets both the UNII-1 and UNII-2a limits) and would have a PSD no greater than 11dBm/MHz in either sub-band.

Given these facts, we have measured the complete 160 MHz EBW (across both sub-bands) against 27dBm power and 11dBm/MHz PSD limits, rather than individual sub band measurements against the individual sub band limits."

Ref. KDB 789033 D02 General UNII Test Procedures New Rules v01r02
ANSI C63.10: 2013

Maximum Conducted Output Power Test Procedure
1. Set the radio in the continuous transmitting mode at full power 2. Compute power by integrating the spectrum across the EBW (or alternatively entire 99% OBW) of the signal using the instrument's band power measurement function. The integration shall be performed using the spectrum analyzer band-power measurement function with band limits set equal to the EBW or the OBW band edges. 3. Capture graphs and record pertinent measurement data.

Ref. KDB 789033 D02 General UNII Test Procedures New Rules v01r02
2. Measurement using a Spectrum Analyzer or EMI Receiver (SA), (d) Method SA-2

Maximum Conducted Output Power Test parameters
Method SA-2 (trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction). (i) Measure the duty cycle, x, of the transmitter output signal as described in section II.B. (ii) Set span to encompass the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.

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(iii) Set RBW = 1MHz.
(iv) Set VBW ≥ 3MHz.
(v) Number of points in sweep ≥ 2 Span / RBW. (This ensures that bin-to-bin spacing is ≤ RBW/2, so that narrowband signals are not lost between frequency bins.)
(vi) Sweep time = auto.
(vii) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
(viii) Do not use sweep triggering. Allow the sweep to "free run".
(ix) Trace average at least 100 traces in power averaging (i.e., RMS) mode; however, the number of traces to be averaged shall be increased above 100 as needed to ensure that the average accurately represents the true average over the on and off periods of the transmitter.
(x) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth)

The "measure-and-sum technique" is used for measuring in-band transmit power of a device. In the measure-and-sum approach, the conducted emission level is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically to determine the total emission level from the device. Summing is performed in linear power units. ANSI C63.10 section 14.3.2.2

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5.3.3 Maximum Conducted Output Power Test Information

Samples, Systems, and Modes

System Number	Description	Samples	System under test	Support equipment
1	EUT	S01	☑	☐
	Support	S02	☐	☑

Tested By: Julian Land	Date of testing: November 19, 2018 – December 12, 2018
Test Result: PASS	

Test Equipment

See Appendix A for list of test equipment

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5.3.4 Maximum Conducted Output Power Data Table

Frequency (MHz)	Mode	Tx Paths	Index Power (dBm)	Correlated Antenna Gain (dBi)	Duty Cycle (%)	Tx 1 Max Power (dBm)	Tx 2 Max Power (dBm)	Tx 3 Max Power (dBm)	Tx 4 Max Power (dBm)	Total Conducted Channel Power (dBm)	Limit (dBm)	Margin (dB)
5260	Non HT20, 6 to 54 Mbps	1	17	4.4	99.17	17.5				17.54	24	6.46
	Non HT20, 6 to 54 Mbps	2	17	4.4	99.17	17.5	16.9			20.26	24	3.74
	Non HT20, 6 to 54 Mbps	3	13	4.4	99.17	13.2	12.8	12.5		17.65	24	6.35
	Non HT20, 6 to 54 Mbps	4	11	4.4	99.17	11.4	10.5	10.3	11.4	16.99	24	7.01
	Non HT20 Beam Forming, 6 to 54 Mbps	2	15	7.4	99.17	15.5	14.6			18.12	22.6	4.48
	Non HT20 Beam Forming, 6 to 54 Mbps	3	12	9.4	99.17	12.3	11.7	11.4		16.62	20.6	3.98
	Non HT20 Beam Forming, 6 to 54 Mbps	4	9	10.4	99.17	9.3	8.6	8.4	9.3	14.98	19.6	4.62
	HT/VHT20, M0 to M7	1	17	4.4	98.93	17.5				17.55	24	6.45
	HT/VHT20, M0 to M7	2	17	4.4	98.93	17.5	16.9			20.27	24	3.73
	HT/VHT20, M8 to M15	2	17	4.4	98.93	17.5	16.9			20.27	24	3.73
	HT/VHT20, M0 to M7	3	14	4.4	98.93	14.5	13.9	13.8		18.9	24	5.1
	HT/VHT20, M8 to M15	3	17	4.4	98.93	17.5	16.9	17		21.96	24	2.04
	HT/VHT20, M16 to M23	3	17	4.4	98.93	17.5	16.9	17		21.96	24	2.04
	HT/VHT20, M0 to M7	4	12	4.4	98.93	12.4	11.8	11.4	12.2	18.03	24	5.97
	HT/VHT20, M8 to M15	4	14	4.4	98.93	14.5	13.9	13.8	14.1	20.15	24	3.85
	HT/VHT20, M16 to M23	4	16	4.4	98.93	16.3	15.9	15.8	16.1	22.1	24	1.9
	HT/VHT20, M24 to M31	4	16	4.4	98.93	16.3	15.9	15.8	16.1	22.1	24	1.9
	HT/VHT20 Beam Forming, M0 to M7	2	15	7.4	98.93	15.5	14.8			18.22	22.6	4.38
	HT/VHT20 Beam Forming, M8 to M15	2	17	4.4	98.93	17.5	16.9			20.27	24	3.73
	HT/VHT20 Beam Forming, M0 to M7	3	12	9.4	98.93	12.4	11.8	11.4		16.7	20.6	3.9
	HT/VHT20 Beam Forming, M8 to M15	3	15	6.4	98.93	15.5	14.8	14.8		19.86	23.6	3.74
	HT/VHT20 Beam Forming, M16 to M23	3	17	4.4	98.93	17.5	16.9	17		21.96	24	2.04
	HT/VHT20 Beam Forming, M0 to M7	4	9	10.4	98.93	9.3	8.6	8.4	9.1	14.93	19.6	4.67
	HT/VHT20 Beam Forming, M8 to M15	4	12	7.4	98.93	12.4	11.8	11.4	12.2	18.03	22.6	4.57
	HT/VHT20 Beam Forming, M16 to M23	4	14	5.4	98.93	14.5	13.9	13.8	14.1	20.15	24	3.85

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	HT/VHT20 Beam Forming, M24 to M31	4	16	4.4	98.93	16.3	15.9	15.8	16.1	22.1	24	1.9
	HT/VHT20 STBC, M0 to M7	2	17	4.4	98.93	17.5	16.9			20.27	24	3.73
	HT/VHT20 STBC, M0 to M7	3	17	4.4	98.93	17.5	16.9	17		21.96	24	2.04
	HT/VHT20 STBC, M0 to M7	4	14	4.4	98.93	14.5	13.9	13.8	14.1	20.15	24	3.85
	HE20, M0 to M7	1	17	4.4	98.62	17.9				17.96	24	6.04
	HE20, M0 to M7	2	17	4.4	98.62	17.9	17.2			20.63	24	3.37
	HE20, M8 to M15	2	17	4.4	98.62	17.9	17.2			20.63	24	3.37
	HE20, M0 to M7	3	14	4.4	98.62	14.6	14.2	14		19.11	24	4.89
	HE20, M8 to M15	3	16	4.4	98.62	16.8	16.1	16.1		21.18	24	2.82
	HE20, M16 to M23	3	17	4.4	98.62	17.9	17.2	17.2		22.28	24	1.72
	HE20, M0 to M7	4	11	4.4	98.62	11.8	10.8	10.6	11.6	17.31	24	6.69
	HE20, M8 to M15	4	14	4.4	98.62	14.6	14.2	14	14.4	20.39	24	3.61
	HE20, M16 to M23	4	16	4.4	98.62	16.8	16.1	16.1	16.4	22.44	24	1.56
	HE20, M24 to M31	4	16	4.4	98.62	16.8	16.1	16.1	16.4	22.44	24	1.56
	HE20 Beam Forming, M0 to M7	2	15	7.4	98.62	15.8	15			18.49	22.6	4.11
	HE20 Beam Forming, M8 to M15	2	17	4.4	98.62	17.9	17.2			20.63	24	3.37
	HE20 Beam Forming, M0 to M7	3	12	9.4	98.62	12.9	11.9	11.7		17.03	20.6	3.57
	HE20 Beam Forming, M8 to M15	3	15	6.4	98.62	15.8	15	15.1		20.15	23.6	3.45
	HE20 Beam Forming, M16 to M23	3	17	4.4	98.62	17.9	17.2	17.2		22.28	24	1.72
	HE20 Beam Forming, M0 to M7	4	9	10.4	98.62	9.6	9	8.6	9.5	15.27	19.6	4.33
	HE20 Beam Forming, M8 to M15	4	12	7.4	98.62	12.9	11.9	11.7	12.5	18.36	22.6	4.24
	HE20 Beam Forming, M16 to M23	4	14	5.4	98.62	14.6	14.2	14	14.4	20.39	24	3.61
	HE20 Beam Forming, M24 to M31	4	16	4.4	98.62	16.8	16.1	16.1	16.4	22.44	24	1.56
	HE20 STBC, M0 to M7	2	17	4.4	98.62	17.9	17.2			20.63	24	3.37
	HE20 STBC, M0 to M7	3	16	4.4	98.62	16.8	16.1	16.1		21.18	24	2.82
	HE20 STBC, M0 to M7	4	14	4.4	98.62	14.6	14.2	14	14.4	20.39	24	3.61
5270	Non HT40, 6 to 54 Mbps	1	17	4.4	99.17	17.5				17.54	24	6.46
	Non HT40, 6 to 54 Mbps	2	17	4.4	99.17	17.5	17			20.3	24	3.7
	Non HT40, 6 to 54 Mbps	3	16	4.4	99.17	16.4	16.1	15.9		20.95	24	3.05
	Non HT40, 6 to 54 Mbps	4	14	4.4	99.17	14.6	14	13.6	14.1	20.15	24	3.85
	HT/VHT40, M0 to M7	1	17	4.4	98.21	17.7				17.78	24	6.22
	HT/VHT40, M0 to M7	2	17	4.4	98.21	17.7	17.1			20.5	24	3.5
	HT/VHT40, M8 to M15	2	17	4.4	98.21	17.7	17.1			20.5	24	3.5
	HT/VHT40, M0 to M7	3	16	4.4	98.21	16.6	16.1	16		21.09	24	2.91
	HT/VHT40, M8 to M15	3	17	4.4	98.21	17.7	17.1	17.2		22.19	24	1.81
	HT/VHT40, M16 to M23	3	17	4.4	98.21	17.7	17.1	17.2		22.19	24	1.81
	HT/VHT40, M0 to M7	4	14	4.4	98.21	14.4	13.8	13.7	13.9	20.06	24	3.94
	HT/VHT40, M8 to M15	4	16	4.4	98.21	16.6	16.1	16	16.2	22.33	24	1.67
	HT/VHT40, M16 to M23	4	16	4.4	98.21	16.6	16.1	16	16.2	22.33	24	1.67
	HT/VHT40, M24 to M31	4	16	4.4	98.21	16.6	16.1	16	16.2	22.33	24	1.67

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	HT/VHT40 Beam Forming, M0 to M7	2	15	7.4	98.21	15.4	15.1			18.34	22.6	4.26
	HT/VHT40 Beam Forming, M8 to M15	2	17	4.4	98.21	17.7	17.1			20.5	24	3.5
	HT/VHT40 Beam Forming, M0 to M7	3	12	9.4	98.21	12.5	11.9	11.5		16.84	20.6	3.76
	HT/VHT40 Beam Forming, M8 to M15	3	15	6.4	98.21	15.4	15.1	14.8		19.96	23.6	3.64
	HT/VHT40 Beam Forming, M16 to M23	3	17	4.4	98.21	17.7	17.1	17.2		22.19	24	1.81
	HT/VHT40 Beam Forming, M0 to M7	4	9	10.4	98.21	9.4	8.9	8.1	9.1	15	19.6	4.6
	HT/VHT40 Beam Forming, M8 to M15	4	12	7.4	98.21	12.5	11.9	11.5	12	18.09	22.6	4.51
	HT/VHT40 Beam Forming, M16 to M23	4	14	5.4	98.21	14.4	13.8	13.7	13.9	20.06	24	3.94
	HT/VHT40 Beam Forming, M24 to M31	4	16	4.4	98.21	16.6	16.1	16	16.2	22.33	24	1.67
	HT/VHT40 STBC, M0 to M7	2	17	4.4	98.21	17.7	17.1			20.5	24	3.5
	HT/VHT40 STBC, M0 to M7	3	17	4.4	98.21	17.7	17.1	17.2		22.19	24	1.81
	HT/VHT40 STBC, M0 to M7	4	16	4.4	98.21	16.6	16.1	16	16.2	22.33	24	1.67
	HE40, M0 to M7	1	17	4.4	97.16	18.1				18.23	24	5.77
	HE40, M0 to M7	2	17	4.4	97.16	18.1	17.3			20.85	24	3.15
	HE40, M8 to M15	2	17	4.4	97.16	18.1	17.3			20.85	24	3.15
	HE40, M0 to M7	3	16	4.4	97.16	16.6	16.4	16.2		21.3	24	2.7
	HE40, M8 to M15	3	17	4.4	97.16	18.1	17.3	17.4		22.51	24	1.49
	HE40, M16 to M23	3	17	4.4	97.16	18.1	17.3	17.4		22.51	24	1.49
	HE40, M0 to M7	4	14	4.4	97.16	14.7	14.1	14	14.3	20.43	24	3.57
	HE40, M8 to M15	4	16	4.4	97.16	16.6	16.4	16.2	16.4	22.55	24	1.45
	HE40, M16 to M23	4	16	4.4	97.16	16.6	16.4	16.2	16.4	22.55	24	1.45
	HE40, M24 to M31	4	16	4.4	97.16	16.6	16.4	16.2	16.4	22.55	24	1.45
	HE40 Beam Forming, M0 to M7	2	15	7.4	97.16	15.6	15.3			18.59	22.6	4.01
	HE40 Beam Forming, M8 to M15	2	17	4.4	97.16	18.1	17.3			20.85	24	3.15
	HE40 Beam Forming, M0 to M7	3	12	9.4	97.16	12.8	12.2	11.8		17.18	20.6	3.42
	HE40 Beam Forming, M8 to M15	3	15	6.4	97.16	15.6	15.3	15.3		20.3	23.6	3.3
	HE40 Beam Forming, M16 to M23	3	17	4.4	97.16	18.1	17.3	17.4		22.51	24	1.49
	HE40 Beam Forming, M0 to M7	4	9	10.4	97.16	9.7	9.1	8.3	9.3	15.27	19.6	4.33
	HE40 Beam Forming, M8 to M15	4	12	7.4	97.16	12.8	12.2	11.8	12.3	18.44	22.6	4.16
	HE40 Beam Forming, M16 to M23	4	14	5.4	97.16	14.7	14.1	14	14.3	20.43	24	3.57
	HE40 Beam Forming, M24 to M31	4	16	4.4	97.16	16.6	16.4	16.2	16.4	22.55	24	1.45
	HE40 STBC, M0 to M7	2	17	4.4	97.16	18.1	17.3			20.85	24	3.15
	HE40 STBC, M0 to M7	3	17	4.4	97.16	18.1	17.3	17.4		22.51	24	1.49
	HE40 STBC, M0 to M7	4	16	4.4	97.16	16.6	16.4	16.2	16.4	22.55	24	1.45
5290	Non HT80, 6 to 54 Mbps	1	15	4.4	99.17	15.1				15.14	24	8.86
	Non HT80, 6 to 54 Mbps	2	13	4.4	99.17	13	12.6			15.85	24	8.15
	Non HT80, 6 to 54 Mbps	3	13	4.4	99.17	13	12.6	12.4		17.48	24	6.52
	Non HT80, 6 to 54 Mbps	4	13	4.4	99.17	13	12.6	12.4	12.7	18.74	24	5.26
	VHT80, M0 to M9 1ss	1	15	4.4	95.7	14.9				15.09	24	8.91
	VHT80, M0 to M9 1ss	2	14	4.4	95.7	14.1	13.5			17.01	24	6.99

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VHT80, M0 to M9 2ss	2	14	4.4	95.7	14.1	13.5			17.01	24	6.99
VHT80, M0 to M9 1ss	3	14	4.4	95.7	14.1	13.5	13		18.52	24	5.48
VHT80, M0 to M9 2ss	3	14	4.4	95.7	14.1	13.5	13		18.52	24	5.48
VHT80, M0 to M9 3ss	3	14	4.4	95.7	14.1	13.5	13		18.52	24	5.48
VHT80, M0 to M9 1ss	4	14	4.4	95.7	14.1	13.5	13	13.6	19.78	24	4.22
VHT80, M0 to M9 2ss	4	14	4.4	95.7	14.1	13.5	13	13.6	19.78	24	4.22
VHT80, M0 to M9 3ss	4	14	4.4	95.7	14.1	13.5	13	13.6	19.78	24	4.22
VHT80, M0 to M9 4ss	4	14	4.4	95.7	14.1	13.5	13	13.6	19.78	24	4.22
VHT80 Beam Forming, M0 to M9 1ss	2	14	7.4	95.7	14.1	13.5			17.01	22.6	5.59
VHT80 Beam Forming, M0 to M9 2ss	2	14	4.4	95.7	14.1	13.5			17.01	24	6.99
VHT80 Beam Forming, M0 to M9 1ss	3	11	9.4	95.7	10.9	10.6	9.9		15.45	20.6	5.15
VHT80 Beam Forming, M0 to M9 2ss	3	13	6.4	95.7	12.9	12.3	12.1		17.41	23.6	6.19
VHT80 Beam Forming, M0 to M9 3ss	3	14	4.4	95.7	14.1	13.5	13		18.52	24	5.48
VHT80 Beam Forming, M0 to M9 1ss	4	8	10.4	95.7	7.9	7.4	6.8	7.7	13.68	19.6	5.92
VHT80 Beam Forming, M0 to M9 2ss	4	12	7.4	95.7	11.9	11.5	11	11.7	17.75	22.6	4.85
VHT80 Beam Forming, M0 to M9 3ss	4	13	5.4	95.7	12.9	12.3	12.1	12.4	18.65	24	5.35
VHT80 Beam Forming, M0 to M9 4ss	4	14	4.4	95.7	14.1	13.5	13	13.6	19.78	24	4.22
VHT80 STBC, M0 to M9 1ss	2	14	4.4	95.7	14.1	13.5			17.01	24	6.99
VHT80 STBC, M0 to M9 1ss	3	14	4.4	95.7	14.1	13.5	13		18.52	24	5.48
VHT80 STBC, M0 to M9 1ss	4	14	4.4	95.7	14.1	13.5	13	13.6	19.78	24	4.22
HE80, M0 to M9 1ss	1	16	4.4	94.81	16.2				16.43	24	7.57
HE80, M0 to M9 1ss	2	15	4.4	94.81	15.3	15.1			18.44	24	5.56
HE80, M0 to M9 2ss	2	15	4.4	94.81	15.3	15.1			18.44	24	5.56
HE80, M0 to M9 1ss	3	14	4.4	94.81	14.5	13.9	13.5		18.99	24	5.01
HE80, M0 to M9 2ss	3	14	4.4	94.81	14.5	13.9	13.5		18.99	24	5.01
HE80, M0 to M9 3ss	3	14	4.4	94.81	14.5	13.9	13.5		18.99	24	5.01
HE80, M0 to M9 1ss	4	14	4.4	94.81	14.5	13.9	13.5	13.8	20.19	24	3.81
HE80, M0 to M9 2ss	4	14	4.4	94.81	14.5	13.9	13.5	13.8	20.19	24	3.81
HE80, M0 to M9 3ss	4	14	4.4	94.81	14.5	13.9	13.5	13.8	20.19	24	3.81
HE80, M0 to M9 4ss	4	14	4.4	94.81	14.5	13.9	13.5	13.8	20.19	24	3.81
HE80 Beam Forming, M0 to M9 1ss	2	14	7.4	94.81	14.5	13.9			17.45	22.6	5.15
HE80 Beam Forming, M0 to M9 2ss	2	15	4.4	94.81	15.3	15.1			18.44	24	5.56
HE80 Beam Forming, M0 to M9 1ss	3	11	9.4	94.81	11.4	10.7	10.3		15.83	20.6	4.77
HE80 Beam Forming, M0 to M9 2ss	3	13	6.4	94.81	13.3	12.6	12.6		17.85	23.6	5.75
HE80 Beam Forming, M0 to M9 3ss	3	14	4.4	94.81	14.5	13.9	13.5		18.99	24	5.01
HE80 Beam Forming, M0 to M9 1ss	4	8	10.4	94.81	8.2	7.7	6.8	7.8	13.91	19.6	5.69
HE80 Beam Forming, M0 to M9 2ss	4	11	7.4	94.81	11.4	10.7	10.3	10.8	17.07	22.6	5.53
HE80 Beam Forming, M0 to M9 3ss	4	13	5.4	94.81	13.3	12.6	12.6	12.9	19.11	24	4.89
HE80 Beam Forming, M0 to M9 4ss	4	14	4.4	94.81	14.5	13.9	13.5	13.8	20.19	24	3.81
HE80 STBC, M0 to M9 1ss	2	15	4.4	94.81	15.3	15.1			18.44	24	5.56
HE80 STBC, M0 to M9 1ss	3	14	4.4	94.81	14.5	13.9	13.5		18.99	24	5.01

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	HE80 STBC, M0 to M9 1ss	4	14	4.4	94.81	14.5	13.9	13.5	13.8	20.19	24	3.81
5300	Non HT20, 6 to 54 Mbps	1	17	4.4	99.17	17.3				17.34	24	6.66
	Non HT20, 6 to 54 Mbps	2	17	4.4	99.17	17.3	16.8			20.1	24	3.9
	Non HT20, 6 to 54 Mbps	3	13	4.4	99.17	12.9	12.6	12.5		17.48	24	6.52
	Non HT20, 6 to 54 Mbps	4	11	4.4	99.17	11.2	10.5	10.3	11.5	16.96	24	7.04
	Non HT20 Beam Forming, 6 to 54 Mbps	2	15	7.4	99.17	15.3	14.6			18.01	22.6	4.59
	Non HT20 Beam Forming, 6 to 54 Mbps	3	12	9.4	99.17	12.3	11.6	11.3		16.56	20.6	4.04
	Non HT20 Beam Forming, 6 to 54 Mbps	4	9	10.4	99.17	9.3	8.7	8.3	9.3	14.98	19.6	4.62
	HT/VHT20, M0 to M7	1	17	4.4	98.93	17.3				17.35	24	6.65
	HT/VHT20, M0 to M7	2	17	4.4	98.93	17.3	16.8			20.11	24	3.89
	HT/VHT20, M8 to M15	2	17	4.4	98.93	17.3	16.8			20.11	24	3.89
	HT/VHT20, M0 to M7	3	14	4.4	98.93	14.3	13.7	13.6		18.7	24	5.3
	HT/VHT20, M8 to M15	3	17	4.4	98.93	17.3	16.8	16.9		21.82	24	2.18
	HT/VHT20, M16 to M23	3	17	4.4	98.93	17.3	16.8	16.9		21.82	24	2.18
	HT/VHT20, M0 to M7	4	11	4.4	98.93	11.2	10.6	10.2	11.3	16.92	24	7.08
	HT/VHT20, M8 to M15	4	14	4.4	98.93	14.3	13.7	13.6	14.1	20	24	4
	HT/VHT20, M16 to M23	4	16	4.4	98.93	16.4	15.7	15.6	16.1	22.03	24	1.97
	HT/VHT20, M24 to M31	4	16	4.4	98.93	16.4	15.7	15.6	16.1	22.03	24	1.97
	HT/VHT20 Beam Forming, M0 to M7	2	15	7.4	98.93	15.2	14.6			17.97	22.6	4.63
	HT/VHT20 Beam Forming, M8 to M15	2	17	4.4	98.93	17.3	16.8			20.11	24	3.89
	HT/VHT20 Beam Forming, M0 to M7	3	12	9.4	98.93	12.3	11.6	11.2		16.54	20.6	4.06
	HT/VHT20 Beam Forming, M8 to M15	3	15	6.4	98.93	15.2	14.6	14.8		19.69	23.6	3.91
	HT/VHT20 Beam Forming, M16 to M23	3	17	4.4	98.93	17.3	16.8	16.9		21.82	24	2.18
	HT/VHT20 Beam Forming, M0 to M7	4	9	10.4	98.93	9.4	8.6	8.3	9.2	14.96	19.6	4.64
	HT/VHT20 Beam Forming, M8 to M15	4	12	7.4	98.93	12.3	11.6	11.2	12.2	17.92	22.6	4.68
	HT/VHT20 Beam Forming, M16 to M23	4	14	5.4	98.93	14.3	13.7	13.6	14.1	20	24	4
	HT/VHT20 Beam Forming, M24 to M31	4	16	4.4	98.93	16.4	15.7	15.6	16.1	22.03	24	1.97
	HT/VHT20 STBC, M0 to M7	2	17	4.4	98.93	17.3	16.8			20.11	24	3.89
	HT/VHT20 STBC, M0 to M7	3	17	4.4	98.93	17.3	16.8	16.9		21.82	24	2.18
	HT/VHT20 STBC, M0 to M7	4	14	4.4	98.93	14.3	13.7	13.6	14.1	20	24	4
	HE20, M0 to M7	1	17	4.4	98.62	17.7				17.76	24	6.24
	HE20, M0 to M7	2	17	4.4	98.62	17.7	17			20.43	24	3.57
	HE20, M8 to M15	2	17	4.4	98.62	17.7	17			20.43	24	3.57
	HE20, M0 to M7	3	13	4.4	98.62	13.2	12.9	12.8		17.8	24	6.2
	HE20, M8 to M15	3	16	4.4	98.62	16.4	15.7	15.8		20.81	24	3.19
	HE20, M16 to M23	3	17	4.4	98.62	17.7	17	17.2		22.14	24	1.86
	HE20, M0 to M7	4	11	4.4	98.62	11.5	10.8	10.4	11.5	17.16	24	6.84
	HE20, M8 to M15	4	14	4.4	98.62	14.4	14	13.8	14.3	20.21	24	3.79
	HE20, M16 to M23	4	16	4.4	98.62	16.4	15.7	15.8	16.3	22.14	24	1.86
	HE20, M24 to M31	4	16	4.4	98.62	16.4	15.7	15.8	16.3	22.14	24	1.86

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	HE20 Beam Forming, M0 to M7	2	15	7.4	98.62	15.3	14.8			18.13	22.6	4.47
	HE20 Beam Forming, M8 to M15	2	17	4.4	98.62	17.7	17			20.43	24	3.57
	HE20 Beam Forming, M0 to M7	3	12	9.4	98.62	12.3	11.8	11.5		16.71	20.6	3.89
	HE20 Beam Forming, M8 to M15	3	15	6.4	98.62	15.3	14.8	14.9		19.84	23.6	3.76
	HE20 Beam Forming, M16 to M23	3	17	4.4	98.62	17.7	17	17.2		22.14	24	1.86
	HE20 Beam Forming, M0 to M7	4	9	10.4	98.62	9.6	8.9	8.6	9.5	15.25	19.6	4.35
	HE20 Beam Forming, M8 to M15	4	12	7.4	98.62	12.3	11.8	11.5	12.4	18.1	22.6	4.5
	HE20 Beam Forming, M16 to M23	4	14	5.4	98.62	14.4	14	13.8	14.3	20.21	24	3.79
	HE20 Beam Forming, M24 to M31	4	16	4.4	98.62	16.4	15.7	15.8	16.3	22.14	24	1.86
	HE20 STBC, M0 to M7	2	17	4.4	98.62	17.7	17			20.43	24	3.57
	HE20 STBC, M0 to M7	3	16	4.4	98.62	16.4	15.7	15.8		20.81	24	3.19
	HE20 STBC, M0 to M7	4	14	4.4	98.62	14.4	14	13.8	14.3	20.21	24	3.79
5310	Non HT40, 6 to 54 Mbps	1	15	4.4	99.17	15.7				15.74	24	8.26
	Non HT40, 6 to 54 Mbps	2	14	4.4	99.17	14.1	13.9			17.05	24	6.95
	Non HT40, 6 to 54 Mbps	3	14	4.4	99.17	14.1	13.9	13.5		18.65	24	5.35
	Non HT40, 6 to 54 Mbps	4	14	4.4	99.17	14.1	13.9	13.5	14.1	19.96	24	4.04
	HT/VHT40, M0 to M7	1	16	4.4	98.21	16.3				16.38	24	7.62
	HT/VHT40, M0 to M7	2	15	4.4	98.21	15.6	14.9			18.35	24	5.65
	HT/VHT40, M8 to M15	2	15	4.4	98.21	15.6	14.9			18.35	24	5.65
	HT/VHT40, M0 to M7	3	15	4.4	98.21	15.6	14.9	14.7		19.93	24	4.07
	HT/VHT40, M8 to M15	3	15	4.4	98.21	15.6	14.9	14.7		19.93	24	4.07
	HT/VHT40, M16 to M23	3	15	4.4	98.21	15.6	14.9	14.7		19.93	24	4.07
	HT/VHT40, M0 to M7	4	14	4.4	98.21	14.4	13.7	13.5	14	20.01	24	3.99
	HT/VHT40, M8 to M15	4	14	4.4	98.21	14.4	13.7	13.5	14	20.01	24	3.99
	HT/VHT40, M16 to M23	4	14	4.4	98.21	14.4	13.7	13.5	14	20.01	24	3.99
	HT/VHT40, M24 to M31	4	14	4.4	98.21	14.4	13.7	13.5	14	20.01	24	3.99
	HT/VHT40 Beam Forming, M0 to M7	2	14	7.4	98.21	14.4	13.7			17.15	22.6	5.45
	HT/VHT40 Beam Forming, M8 to M15	2	15	4.4	98.21	15.6	14.9			18.35	24	5.65
	HT/VHT40 Beam Forming, M0 to M7	3	12	9.4	98.21	12	11.7	11.3		16.53	20.6	4.07
	HT/VHT40 Beam Forming, M8 to M15	3	14	6.4	98.21	14.4	13.7	13.5		18.73	23.6	4.87
	HT/VHT40 Beam Forming, M16 to M23	3	15	4.4	98.21	15.6	14.9	14.7		19.93	24	4.07
	HT/VHT40 Beam Forming, M0 to M7	4	9	10.4	98.21	9.2	8.9	7.9	9.1	14.9	19.6	4.7
	HT/VHT40 Beam Forming, M8 to M15	4	12	7.4	98.21	12	11.7	11.3	12	17.86	22.6	4.74
	HT/VHT40 Beam Forming, M16 to M23	4	14	5.4	98.21	14.4	13.7	13.5	14	20.01	24	3.99
	HT/VHT40 Beam Forming, M24 to M31	4	14	4.4	98.21	14.4	13.7	13.5	14	20.01	24	3.99
	HT/VHT40 STBC, M0 to M7	2	15	4.4	98.21	15.6	14.9			18.35	24	5.65
	HT/VHT40 STBC, M0 to M7	3	15	4.4	98.21	15.6	14.9	14.7		19.93	24	4.07
	HT/VHT40 STBC, M0 to M7	4	14	4.4	98.21	14.4	13.7	13.5	14	20.01	24	3.99
	HE40, M0 to M7	1	14	4.4	97.16	14.4				14.53	24	9.47
	HE40, M0 to M7	2	14	4.4	97.16	14.4	14			17.34	24	6.66

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	HE40, M8 to M15	2	14	4.4	97.16	14.4	14			17.34	24	6.66
	HE40, M0 to M7	3	13	4.4	97.16	13.4	13.2	13		18.1	24	5.9
	HE40, M8 to M15	3	13	4.4	97.16	13.4	13.2	13		18.1	24	5.9
	HE40, M16 to M23	3	13	4.4	97.16	13.4	13.2	13		18.1	24	5.9
	HE40, M0 to M7	4	13	4.4	97.16	13.4	13.2	13	13.1	19.32	24	4.68
	HE40, M8 to M15	4	13	4.4	97.16	13.4	13.2	13	13.1	19.32	24	4.68
	HE40, M16 to M23	4	13	4.4	97.16	13.4	13.2	13	13.1	19.32	24	4.68
	HE40, M24 to M31	4	13	4.4	97.16	13.4	13.2	13	13.1	19.32	24	4.68
	HE40 Beam Forming, M0 to M7	2	13	7.4	97.16	13.4	13.2			16.44	22.6	6.16
	HE40 Beam Forming, M8 to M15	2	14	4.4	97.16	14.4	14			17.34	24	6.66
	HE40 Beam Forming, M0 to M7	3	11	9.4	97.16	11.5	11	10.4		15.89	20.6	4.71
	HE40 Beam Forming, M8 to M15	3	13	6.4	97.16	13.4	13.2	13		18.1	23.6	5.5
	HE40 Beam Forming, M16 to M23	3	13	4.4	97.16	13.4	13.2	13		18.1	24	5.9
	HE40 Beam Forming, M0 to M7	4	7	10.4	97.16	7.8	6.9	6.2	7.2	13.21	19.6	6.39
	HE40 Beam Forming, M8 to M15	4	11	7.4	97.16	11.5	11	10.4	11.2	17.19	22.6	5.41
	HE40 Beam Forming, M16 to M23	4	13	5.4	97.16	13.4	13.2	13	13.1	19.32	24	4.68
	HE40 Beam Forming, M24 to M31	4	13	4.4	97.16	13.4	13.2	13	13.1	19.32	24	4.68
	HE40 STBC, M0 to M7	2	14	4.4	97.16	14.4	14			17.34	24	6.66
	HE40 STBC, M0 to M7	3	13	4.4	97.16	13.4	13.2	13		18.1	24	5.9
	HE40 STBC, M0 to M7	4	13	4.4	97.16	13.4	13.2	13	13.1	19.32	24	4.68
5320	Non HT20, 6 to 54 Mbps	1	17	4.4	99.17	17.2				17.24	24	6.76
	Non HT20, 6 to 54 Mbps	2	17	4.4	99.17	17.2	16.8			20.05	24	3.95
	Non HT20, 6 to 54 Mbps	3	13	4.4	99.17	13.1	12.7	12.5		17.58	24	6.42
	Non HT20, 6 to 54 Mbps	4	11	4.4	99.17	11.2	10.4	10.2	11.3	16.86	24	7.14
	Non HT20 Beam Forming, 6 to 54 Mbps	2	15	7.4	99.17	15.2	14.6			17.96	22.6	4.64
	Non HT20 Beam Forming, 6 to 54 Mbps	3	12	9.4	99.17	12.3	11.4	11.3		16.5	20.6	4.1
	Non HT20 Beam Forming, 6 to 54 Mbps	4	9	10.4	99.17	9.3	8.5	8.2	9.1	14.85	19.6	4.75
	HT/VHT20, M0 to M7	1	17	4.4	98.93	17.1				17.15	24	6.85
	HT/VHT20, M0 to M7	2	17	4.4	98.93	17.1	16.8			20.01	24	3.99
	HT/VHT20, M8 to M15	2	17	4.4	98.93	17.1	16.8			20.01	24	3.99
	HT/VHT20, M0 to M7	3	13	4.4	98.93	13	12.6	12.4		17.49	24	6.51
	HT/VHT20, M8 to M15	3	16	4.4	98.93	16.3	15.8	15.6		20.73	24	3.27
	HT/VHT20, M16 to M23	3	17	4.4	98.93	17.1	16.8	16.6		21.66	24	2.34
	HT/VHT20, M0 to M7	4	11	4.4	98.93	11	10.5	10.3	11.1	16.8	24	7.2
	HT/VHT20, M8 to M15	4	14	4.4	98.93	14.3	13.7	13.6	14	19.98	24	4.02
	HT/VHT20, M16 to M23	4	16	4.4	98.93	16.3	15.8	15.6	16	22	24	2
	HT/VHT20, M24 to M31	4	16	4.4	98.93	16.3	15.8	15.6	16	22	24	2
	HT/VHT20 Beam Forming, M0 to M7	2	15	7.4	98.93	15	14.7			17.91	22.6	4.69
	HT/VHT20 Beam Forming, M8 to M15	2	17	4.4	98.93	17.1	16.8			20.01	24	3.99
	HT/VHT20 Beam Forming, M0 to M7	3	12	9.4	98.93	12	11.4	11.4		16.43	20.6	4.17

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	HT/VHT20 Beam Forming, M8 to M15	3	15	6.4	98.93	15	14.7	14.6		19.59	23.6	4.01
	HT/VHT20 Beam Forming, M16 to M23	3	17	4.4	98.93	17.1	16.8	16.6		21.66	24	2.34
	HT/VHT20 Beam Forming, M0 to M7	4	9	10.4	98.93	9.4	8.7	8.2	8.9	14.89	19.6	4.71
	HT/VHT20 Beam Forming, M8 to M15	4	12	7.4	98.93	12	11.4	11.4	12.3	17.86	22.6	4.74
	HT/VHT20 Beam Forming, M16 to M23	4	14	5.4	98.93	14.3	13.7	13.6	14	19.98	24	4.02
	HT/VHT20 Beam Forming, M24 to M31	4	16	4.4	98.93	16.3	15.8	15.6	16	22	24	2
	HT/VHT20 STBC, M0 to M7	2	17	4.4	98.93	17.1	16.8			20.01	24	3.99
	HT/VHT20 STBC, M0 to M7	3	16	4.4	98.93	16.3	15.8	15.6		20.73	24	3.27
	HT/VHT20 STBC, M0 to M7	4	14	4.4	98.93	14.3	13.7	13.6	14	19.98	24	4.02
	HE20, M0 to M7	1	17	4.4	98.62	17.6				17.66	24	6.34
	HE20, M0 to M7	2	16	4.4	98.62	16.5	15.9			19.28	24	4.72
	HE20, M8 to M15	2	16	4.4	98.62	16.5	15.9			19.28	24	4.72
	HE20, M0 to M7	3	13	4.4	98.62	13.7	12.8	12.6		17.89	24	6.11
	HE20, M8 to M15	3	16	4.4	98.62	16.5	15.9	15.9		20.94	24	3.06
	HE20, M16 to M23	3	16	4.4	98.62	16.5	15.9	15.9		20.94	24	3.06
	HE20, M0 to M7	4	11	4.4	98.62	11.4	10.6	10.5	11.4	17.08	24	6.92
	HE20, M8 to M15	4	14	4.4	98.62	14.5	13.9	13.7	14.3	20.19	24	3.81
	HE20, M16 to M23	4	15	4.4	98.62	15.2	14.9	14.9	15.3	21.16	24	2.84
	HE20, M24 to M31	4	15	4.4	98.62	15.2	14.9	14.9	15.3	21.16	24	2.84
	HE20 Beam Forming, M0 to M7	2	15	7.4	98.62	15.2	14.9			18.12	22.6	4.48
	HE20 Beam Forming, M8 to M15	2	16	4.4	98.62	16.5	15.9			19.28	24	4.72
	HE20 Beam Forming, M0 to M7	3	12	9.4	98.62	12.7	11.7	11.6		16.86	20.6	3.74
	HE20 Beam Forming, M8 to M15	3	15	6.4	98.62	15.2	14.9	14.9		19.83	23.6	3.77
	HE20 Beam Forming, M16 to M23	3	16	4.4	98.62	16.5	15.9	15.9		20.94	24	3.06
	HE20 Beam Forming, M0 to M7	4	9	10.4	98.62	9.4	9	8.4	9.3	15.12	19.6	4.48
	HE20 Beam Forming, M8 to M15	4	12	7.4	98.62	12.7	11.7	11.6	12.4	18.21	22.6	4.39
	HE20 Beam Forming, M16 to M23	4	14	5.4	98.62	14.5	13.9	13.7	14.3	20.19	24	3.81
	HE20 Beam Forming, M24 to M31	4	15	4.4	98.62	15.2	14.9	14.9	15.3	21.16	24	2.84
	HE20 STBC, M0 to M7	2	16	4.4	98.62	16.5	15.9			19.28	24	4.72
	HE20 STBC, M0 to M7	3	16	4.4	98.62	16.5	15.9	15.9		20.94	24	3.06
	HE20 STBC, M0 to M7	4	14	4.4	98.62	14.5	13.9	13.7	14.3	20.19	24	3.81

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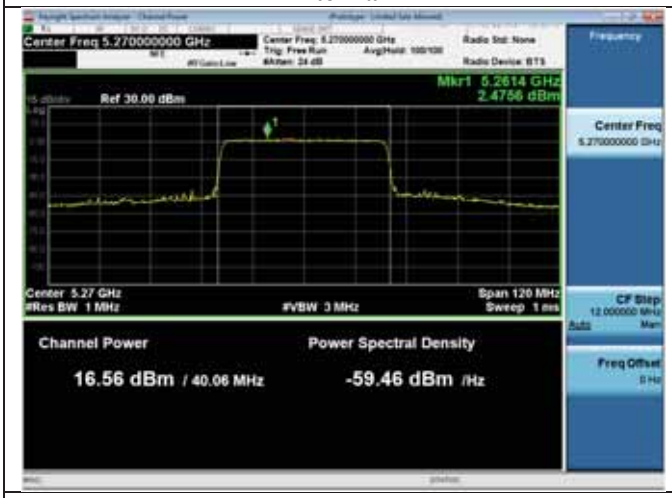
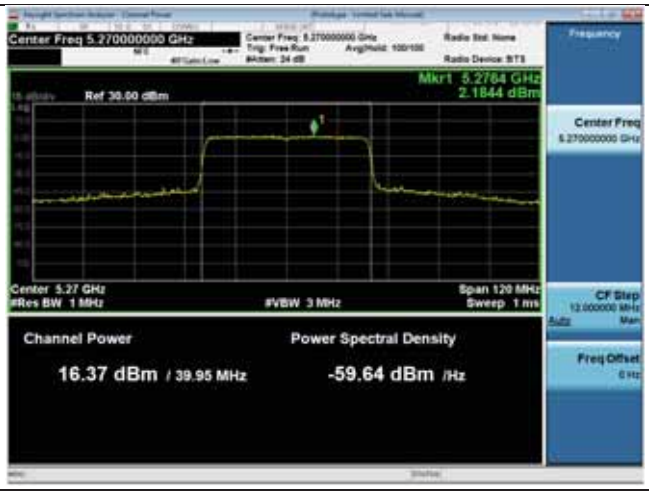
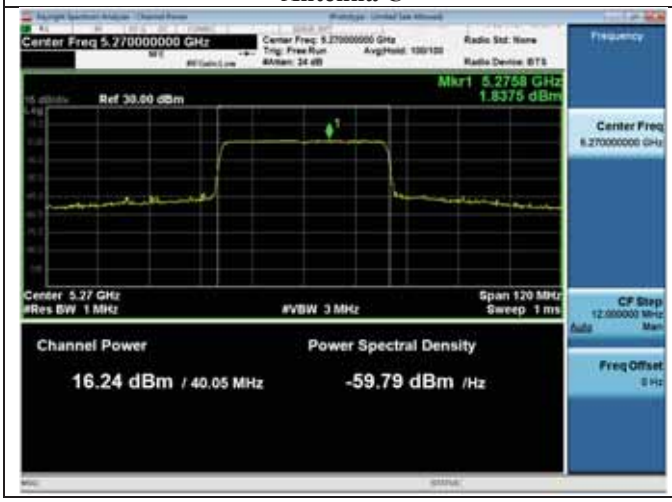
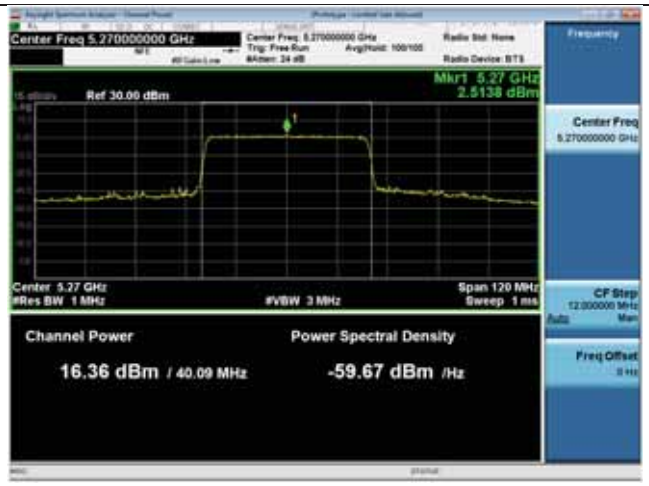
5.3.5 Maximum Conducted Output Power Plots

5270MHz, HE40, M0h1	
Antenna A	**Antenna B**
	
Antenna C	**Antenna D**
	

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5.4 Power Spectral Density

5.4.1 Power Spectral Density Test Requirement

15.407 (2), LP0002 (2018-01-10) (4.7.3.2) (1)

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands … the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

15.407 (5), LP0002 (2018-01-10) (4.7.3.2) (2)

The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.

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5.4.2 Power Spectral Density Test Procedure

Referencing "644545 D03 Guidance for IEEE 802.11ac v01", covering signals that cross the boundary between two adjacent UNII bands, the FCC describes a procedure to measure EBW, power, and PSD in each UNII band. For the case of a 160MHz signal equally distributed between UNII-1 and UNII-2a, we apply the following alternate procedure.
Rather than measure:

- The half of the signal in UNII-1, measured against the 30dBm power / 17dBm/MHz PSD limits
- The half of the signal in UNII-2a, measured against the 24dBm power / 11dBm/MHz PSD limits

If a 160MHz signal (equally distributed between the two bands) produces a total power of 27dBm across the entire 160 MHz EBW, the total power in each band would be half of the total, or 24dBm (which meets both the UNII-1 and UNII-2a limits) and would have a PSD no greater than 11dBm/MHz in either sub-band.

Given these facts, we have measured the complete 160 MHz EBW (across both sub-bands) against 27dBm power and 11dBm/MHz PSD limits, rather than individual sub band measurements against the individual sub band limits."

Ref. KDB 789033 D02 General UNII Test Procedures New Rules v01r02
F. Maximum Power Spectral Density (PSD)

Power Spectral Density Test Procedure
The rules require "maximum power spectral density" measurements where the intent is to measure the maximum value of the time average of the power spectral density measured during a period of continuous transmission. 1. Create an average power spectrum for the EUT operating mode being tested by following the instructions in section II.E.2. for measuring maximum conducted output power using a spectrum analyzer or EMI receiver: select the appropriate test method (SA-1, SA-2, SA-3, or alternatives to each) and apply it up to, but not including, the step labeled, "Compute power…". (This procedure is required even if the maximum conducted output power measurement was performed using a power meter, method PM.) 2. Use the peak search function on the instrument to find the peak of the spectrum and record its value. 3. Make the following adjustments to the peak value of the spectrum, if applicable: a) If Method SA-2 or SA-2 Alternative was used, add 10 log(1/x), where x is the duty cycle, to the peak of the spectrum. b) If Method SA-3 Alternative was used and the linear mode was used in step II.E.2.g)(viii), add 1 dB to the final result to compensate for the difference between linear averaging and power averaging. 4. The result is the Maximum PSD over 1 MHz reference bandwidth.

Ref. KDB 789033 D02 General UNII Test Procedures New Rules v01r02
2. Measurement using a Spectrum Analyzer or EMI Receiver (SA), (d) Method SA-2

Power Spectral Density Test parameters

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Method SA-2 (trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).
(i) Measure the duty cycle, x, of the transmitter output signal as described in section II.B.
(ii) Set span to encompass the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
(iii) Set RBW = 1MHz.
(iv) Set VBW ≥ 3MHz.
(v) Number of points in sweep ≥ 2 Span / RBW. (This ensures that bin-to-bin spacing is ≤ RBW/2, so that narrowband signals are not lost between frequency bins.)
(vi) Sweep time = auto.
(vii) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
(viii) Do not use sweep triggering. Allow the sweep to "free run".
(ix) Trace average at least 100 traces in power averaging (i.e., RMS) mode; however, the number of traces to be averaged shall be increased above 100 as needed to ensure that the average accurately represents the true average over the on and off periods of the transmitter.
(x) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth)

F. Maximum Power Spectral Density (PSD)

2. Use the peak search function on the instrument to find the peak of the spectrum and record its value.
3. Make the following adjustments to the peak value of the spectrum, if applicable: a) If Method SA-2 or SA-2 Alternative was used, add 10 log(1/x), where x is the duty cycle, to the peak of the spectrum.

The "measure-and-sum technique" is used for measuring in-band transmit power of a device. In the measure-and-sum approach, the conducted emission level is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically to determine the total emission level from the device. Summing is performed in linear power units. ANSI C63.10 section 14.3.2.2

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5.4.3 Power Spectral Density Test Information

Samples, Systems, and Modes

System Number	Description	Samples	System under test	Support equipment
1	EUT	S01	☑	☐
	Support	S02	☐	☑

Tested By: Julian Land	Date of testing: November 19, 2018 – December 12, 2018
Test Result: PASS	

Test Equipment

See Appendix A for list of test equipment

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5.4.4 Power Spectral Density Data Table

Frequency (MHz)	Mode	Tx Paths	Index Power (dBm)	Correlated Antenna Gain (dBi)	Duty Cycle (%)	Tx 1 PSD (dBm/MHz)	Tx 2 PSD (dBm/MHz)	Tx 3 PSD (dBm/MHz)	Tx 4 PSD (dBm/MHz)	Total Conducted PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)
5260	Non HT20, 6 to 54 Mbps	1	17	4.4	99.17	5.7				5.74	11	5.26
	Non HT20, 6 to 54 Mbps	2	17	4.4	99.17	5.7	5.2			8.5	11	2.5
	Non HT20, 6 to 54 Mbps	3	13	4.4	99.17	1.2	1	0.8		5.81	11	5.19
	Non HT20, 6 to 54 Mbps	4	11	4.4	99.17	-0.5	-1.2	-1.4	-0.5	5.18	11	5.82
	Non HT20 Beam Forming, 6 to 54 Mbps	2	15	7.4	99.17	3.9	2.8			6.43	9.6	3.17
	Non HT20 Beam Forming, 6 to 54 Mbps	3	12	9.4	99.17	0.5	-0.4	-0.3		4.76	7.6	2.84
	Non HT20 Beam Forming, 6 to 54 Mbps	4	9	10.4	99.17	-2.1	-2.8	-3.1	-2.4	3.47	6.6	3.13
	HT/VHT20, M0 to M7	1	17	4.4	98.93	5.8				5.85	11	5.15
	HT/VHT20, M0 to M7	2	17	4.4	98.93	5.8	5			8.48	11	2.52
	HT/VHT20, M8 to M15	2	17	4.4	98.93	5.8	5			8.48	11	2.52
	HT/VHT20, M0 to M7	3	14	4.4	98.93	2.6	2.2	1.5		6.94	11	4.06
	HT/VHT20, M8 to M15	3	17	4.4	98.93	5.8	5	4.7		10.01	11	0.99
	HT/VHT20, M16 to M23	3	17	4.4	98.93	5.8	5	4.7		10.01	11	0.99
	HT/VHT20, M0 to M7	4	12	4.4	98.93	0.5	-0.1	-0.7	0	6.01	11	4.99
	HT/VHT20, M8 to M15	4	14	4.4	98.93	2.6	2.2	1.5	2.1	8.18	11	2.82
	HT/VHT20, M16 to M23	4	16	4.4	98.93	4.4	3.9	3.6	4.1	10.08	11	0.92
	HT/VHT20, M24 to M31	4	16	4.4	98.93	4.4	3.9	3.6	4.1	10.08	11	0.92
	HT/VHT20 Beam Forming, M0 to M7	2	15	7.4	98.93	3.5	2.7			6.18	9.6	3.42
	HT/VHT20 Beam Forming, M8 to M15	2	17	4.4	98.93	5.8	5			8.48	11	2.52
	HT/VHT20 Beam Forming, M0 to M7	3	12	9.4	98.93	0.5	-0.1	-0.7		4.75	7.6	2.85
	HT/VHT20 Beam Forming, M8 to M15	3	15	6.4	98.93	3.5	2.7	2.7		7.8	10.6	2.8
	HT/VHT20 Beam Forming, M16 to M23	3	17	4.4	98.93	5.8	5	4.7		10.01	11	0.99
	HT/VHT20 Beam Forming, M0 to M7	4	9	10.4	98.93	-2.9	-3.3	-3.7	-2.8	2.91	6.6	3.69
	HT/VHT20 Beam Forming, M8 to M15	4	12	7.4	98.93	0.5	-0.1	-0.7	0	6.01	9.6	3.59
	HT/VHT20 Beam Forming, M16 to M23	4	14	5.4	98.93	2.6	2.2	1.5	2.1	8.18	11	2.82
	HT/VHT20 Beam Forming, M24 to M31	4	16	4.4	98.93	4.4	3.9	3.6	4.1	10.08	11	0.92
	HT/VHT20 STBC, M0 to M7	2	17	4.4	98.93	5.8	5			8.48	11	2.52

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	HT/VHT20 STBC, M0 to M7	3	17	4.4	98.93	5.8	5	4.7		10.01	11	0.99
	HT/VHT20 STBC, M0 to M7	4	14	4.4	98.93	2.6	2.2	1.5	2.1	8.18	11	2.82
	HE20, M0 to M7	1	17	4.4	98.62	5.9				5.96	11	5.04
	HE20, M0 to M7	2	17	4.4	98.62	5.9	4.9			8.5	11	2.5
	HE20, M8 to M15	2	17	4.4	98.62	5.9	4.9			8.5	11	2.5
	HE20, M0 to M7	3	14	4.4	98.62	2.5	2	1.6		6.88	11	4.12
	HE20, M8 to M15	3	16	4.4	98.62	4.7	3.7	3.6		8.86	11	2.14
	HE20, M16 to M23	3	17	4.4	98.62	5.9	4.9	5.1		10.15	11	0.85
	HE20, M0 to M7	4	11	4.4	98.62	-0.4	-1.2	-1.5	-0.7	5.15	11	5.85
	HE20, M8 to M15	4	14	4.4	98.62	2.5	2	1.6	2.1	8.14	11	2.86
	HE20, M16 to M23	4	16	4.4	98.62	4.7	3.7	3.6	4.2	10.15	11	0.85
	HE20, M24 to M31	4	16	4.4	98.62	4.7	3.7	3.6	4.2	10.15	11	0.85
	HE20 Beam Forming, M0 to M7	2	15	7.4	98.62	3.7	3.1			6.48	9.6	3.12
	HE20 Beam Forming, M8 to M15	2	17	4.4	98.62	5.9	4.9			8.5	11	2.5
	HE20 Beam Forming, M0 to M7	3	12	9.4	98.62	0.7	-0.2	-0.8		4.78	7.6	2.82
	HE20 Beam Forming, M8 to M15	3	15	6.4	98.62	3.7	3.1	2.7		8.02	10.6	2.58
	HE20 Beam Forming, M16 to M23	3	17	4.4	98.62	5.9	4.9	5.1		10.15	11	0.85
	HE20 Beam Forming, M0 to M7	4	9	10.4	98.62	-2.8	-3.2	-3.4	-2.9	3.01	6.6	3.59
	HE20 Beam Forming, M8 to M15	4	12	7.4	98.62	0.7	-0.2	-0.8	0.3	6.12	9.6	3.48
	HE20 Beam Forming, M16 to M23	4	14	5.4	98.62	2.5	2	1.6	2.1	8.14	11	2.86
	HE20 Beam Forming, M24 to M31	4	16	4.4	98.62	4.7	3.7	3.6	4.2	10.15	11	0.85
	HE20 STBC, M0 to M7	2	17	4.4	98.62	5.9	4.9			8.5	11	2.5
	HE20 STBC, M0 to M7	3	16	4.4	98.62	4.7	3.7	3.6		8.86	11	2.14
	HE20 STBC, M0 to M7	4	14	4.4	98.62	2.5	2	1.6	2.1	8.14	11	2.86
5270	Non HT40, 6 to 54 Mbps	1	17	4.4	99.17	2.9				2.94	11	8.06
	Non HT40, 6 to 54 Mbps	2	17	4.4	99.17	2.9	2.3			5.66	11	5.34
	Non HT40, 6 to 54 Mbps	3	16	4.4	99.17	1.7	1.4	1.2		6.25	11	4.75
	Non HT40, 6 to 54 Mbps	4	14	4.4	99.17	0	-0.5	-0.6	-0.7	5.62	11	5.38
	HT/VHT40, M0 to M7	1	17	4.4	98.21	2.7				2.78	11	8.22
	HT/VHT40, M0 to M7	2	17	4.4	98.21	2.7	2			5.45	11	5.55
	HT/VHT40, M8 to M15	2	17	4.4	98.21	2.7	2			5.45	11	5.55
	HT/VHT40, M0 to M7	3	16	4.4	98.21	1.6	1.3	1.2		6.22	11	4.78
	HT/VHT40, M8 to M15	3	17	4.4	98.21	2.7	2	2.3		7.19	11	3.81
	HT/VHT40, M16 to M23	3	17	4.4	98.21	2.7	2	2.3		7.19	11	3.81
	HT/VHT40, M0 to M7	4	14	4.4	98.21	-0.5	-1	-1.2	-0.9	5.21	11	5.79
	HT/VHT40, M8 to M15	4	16	4.4	98.21	1.6	1.3	1.2	1.3	7.45	11	3.55
	HT/VHT40, M16 to M23	4	16	4.4	98.21	1.6	1.3	1.2	1.3	7.45	11	3.55
	HT/VHT40, M24 to M31	4	16	4.4	98.21	1.6	1.3	1.2	1.3	7.45	11	3.55
	HT/VHT40 Beam Forming, M0 to M7	2	15	7.4	98.21	0.8	0.5			3.74	9.6	5.86
	HT/VHT40 Beam Forming, M8 to M15	2	17	4.4	98.21	2.7	2			5.45	11	5.55

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	HT/VHT40 Beam Forming, M0 to M7	3	12	9.4	98.21	-2.6	-3.3	-3.1		1.86	7.6	5.74
	HT/VHT40 Beam Forming, M8 to M15	3	15	6.4	98.21	0.8	0.5	-0.1		5.27	10.6	5.33
	HT/VHT40 Beam Forming, M16 to M23	3	17	4.4	98.21	2.7	2	2.3		7.19	11	3.81
	HT/VHT40 Beam Forming, M0 to M7	4	9	10.4	98.21	-5.4	-6.1	-6.5	-5.8	0.17	6.6	6.43
	HT/VHT40 Beam Forming, M8 to M15	4	12	7.4	98.21	-2.6	-3.3	-3.1	-3	3.11	9.6	6.49
	HT/VHT40 Beam Forming, M16 to M23	4	14	5.4	98.21	-0.5	-1	-1.2	-0.9	5.21	11	5.79
	HT/VHT40 Beam Forming, M24 to M31	4	16	4.4	98.21	1.6	1.3	1.2	1.3	7.45	11	3.55
	HT/VHT40 STBC, M0 to M7	2	17	4.4	98.21	2.7	2			5.45	11	5.55
	HT/VHT40 STBC, M0 to M7	3	17	4.4	98.21	2.7	2	2.3		7.19	11	3.81
	HT/VHT40 STBC, M0 to M7	4	16	4.4	98.21	1.6	1.3	1.2	1.3	7.45	11	3.55
	HE40, M0 to M7	1	17	4.4	97.16	2.9				3.03	11	7.97
	HE40, M0 to M7	2	17	4.4	97.16	2.9	2.3			5.75	11	5.25
	HE40, M8 to M15	2	17	4.4	97.16	2.9	2.3			5.75	11	5.25
	HE40, M0 to M7	3	16	4.4	97.16	1.9	1.6	1.1		6.44	11	4.56
	HE40, M8 to M15	3	17	4.4	97.16	2.9	2.3	2.5		7.47	11	3.53
	HE40, M16 to M23	3	17	4.4	97.16	2.9	2.3	2.5		7.47	11	3.53
	HE40, M0 to M7	4	14	4.4	97.16	-0.1	-0.8	-1	0	5.69	11	5.31
	HE40, M8 to M15	4	16	4.4	97.16	1.9	1.6	1.1	1.8	7.76	11	3.24
	HE40, M16 to M23	4	16	4.4	97.16	1.9	1.6	1.1	1.8	7.76	11	3.24
	HE40, M24 to M31	4	16	4.4	97.16	1.9	1.6	1.1	1.8	7.76	11	3.24
	HE40 Beam Forming, M0 to M7	2	15	7.4	97.16	0.4	0.3			3.49	9.6	6.11
	HE40 Beam Forming, M8 to M15	2	17	4.4	97.16	2.9	2.3			5.75	11	5.25
	HE40 Beam Forming, M0 to M7	3	12	9.4	97.16	-2.2	-3	-2.7		2.28	7.6	5.32
	HE40 Beam Forming, M8 to M15	3	15	6.4	97.16	0.4	0.3	0.3		5.23	10.6	5.37
	HE40 Beam Forming, M16 to M23	3	17	4.4	97.16	2.9	2.3	2.5		7.47	11	3.53
	HE40 Beam Forming, M0 to M7	4	9	10.4	97.16	-5.3	-6.1	-6.5	-5.1	0.43	6.6	6.17
	HE40 Beam Forming, M8 to M15	4	12	7.4	97.16	-2.2	-3	-2.7	-2.1	3.66	9.6	5.94
	HE40 Beam Forming, M16 to M23	4	14	5.4	97.16	-0.1	-0.8	-1	0	5.69	11	5.31
	HE40 Beam Forming, M24 to M31	4	16	4.4	97.16	1.9	1.6	1.1	1.8	7.76	11	3.24
	HE40 STBC, M0 to M7	2	17	4.4	97.16	2.9	2.3			5.75	11	5.25
	HE40 STBC, M0 to M7	3	17	4.4	97.16	2.9	2.3	2.5		7.47	11	3.53
	HE40 STBC, M0 to M7	4	16	4.4	97.16	1.9	1.6	1.1	1.8	7.76	11	3.24
5290	Non HT80, 6 to 54 Mbps	1	15	4.4	99.17	-2.2				-2.16	11	13.16
	Non HT80, 6 to 54 Mbps	2	13	4.4	99.17	-4	-4.7			-1.29	11	12.29
	Non HT80, 6 to 54 Mbps	3	13	4.4	99.17	-4	-4.7	-4.6		0.39	11	10.61
	Non HT80, 6 to 54 Mbps	4	13	4.4	99.17	-4	-4.7	-4.6	-4.7	1.57	11	9.43
	VHT80, M0 to M9 1ss	1	15	4.4	95.7	-2.8				-2.61	11	13.61
	VHT80, M0 to M9 1ss	2	14	4.4	95.7	-3.6	-4.5			-0.83	11	11.83
	VHT80, M0 to M9 2ss	2	14	4.4	95.7	-3.6	-4.5			-0.83	11	11.83
	VHT80, M0 to M9 1ss	3	14	4.4	95.7	-3.6	-4.5	-4.8		0.69	11	10.31

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VHT80, M0 to M9 2ss	3	14	4.4	95.7	-3.6	-4.5	-4.8		0.69	11	10.31
VHT80, M0 to M9 3ss	3	14	4.4	95.7	-3.6	-4.5	-4.8		0.69	11	10.31
VHT80, M0 to M9 1ss	4	14	4.4	95.7	-3.6	-4.5	-4.8	-3.7	2.09	11	8.91
VHT80, M0 to M9 2ss	4	14	4.4	95.7	-3.6	-4.5	-4.8	-3.7	2.09	11	8.91
VHT80, M0 to M9 3ss	4	14	4.4	95.7	-3.6	-4.5	-4.8	-3.7	2.09	11	8.91
VHT80, M0 to M9 4ss	4	14	4.4	95.7	-3.6	-4.5	-4.8	-3.7	2.09	11	8.91
VHT80 Beam Forming, M0 to M9 1ss	2	14	7.4	95.7	-3.6	-4.5			-0.83	9.6	10.43
VHT80 Beam Forming, M0 to M9 2ss	2	14	4.4	95.7	-3.6	-4.5			-0.83	11	11.83
VHT80 Beam Forming, M0 to M9 1ss	3	11	9.4	95.7	-7.1	-7.2	-7.7		-2.36	7.6	9.96
VHT80 Beam Forming, M0 to M9 2ss	3	13	6.4	95.7	-4.9	-5.5	-5.8		-0.42	10.6	11.02
VHT80 Beam Forming, M0 to M9 3ss	3	14	4.4	95.7	-3.6	-4.5	-4.8		0.69	11	10.31
VHT80 Beam Forming, M0 to M9 1ss	4	8	10.4	95.7	-9.7	-10.6	-11.3	-10	-4.15	6.6	10.75
VHT80 Beam Forming, M0 to M9 2ss	4	12	7.4	95.7	-5.8	-6	-6.7	-5.7	0.18	9.6	9.42
VHT80 Beam Forming, M0 to M9 3ss	4	13	5.4	95.7	-4.9	-5.5	-5.8	-4.9	0.95	11	10.05
VHT80 Beam Forming, M0 to M9 4ss	4	14	4.4	95.7	-3.6	-4.5	-4.8	-3.7	2.09	11	8.91
VHT80 STBC, M0 to M9 1ss	2	14	4.4	95.7	-3.6	-4.5			-0.83	11	11.83
VHT80 STBC, M0 to M9 1ss	3	14	4.4	95.7	-3.6	-4.5	-4.8		0.69	11	10.31
VHT80 STBC, M0 to M9 1ss	4	14	4.4	95.7	-3.6	-4.5	-4.8	-3.7	2.09	11	8.91
HE80, M0 to M9 1ss	1	16	4.4	94.81	-1.5				-1.27	11	12.27
HE80, M0 to M9 1ss	2	15	4.4	94.81	-2.5	-2.8			0.59	11	10.41
HE80, M0 to M9 2ss	2	15	4.4	94.81	-2.5	-2.8			0.59	11	10.41
HE80, M0 to M9 1ss	3	14	4.4	94.81	-3.3	-3.8	-4		1.31	11	9.69
HE80, M0 to M9 2ss	3	14	4.4	94.81	-3.3	-3.8	-4		1.31	11	9.69
HE80, M0 to M9 3ss	3	14	4.4	94.81	-3.3	-3.8	-4		1.31	11	9.69
HE80, M0 to M9 1ss	4	14	4.4	94.81	-3.3	-3.8	-4	-2.1	3.02	11	7.98
HE80, M0 to M9 2ss	4	14	4.4	94.81	-3.3	-3.8	-4	-2.1	3.02	11	7.98
HE80, M0 to M9 3ss	4	14	4.4	94.81	-3.3	-3.8	-4	-2.1	3.02	11	7.98
HE80, M0 to M9 4ss	4	14	4.4	94.81	-3.3	-3.8	-4	-2.1	3.02	11	7.98
HE80 Beam Forming, M0 to M9 1ss	2	14	7.4	94.81	-3.3	-3.8			-0.3	9.6	9.9
HE80 Beam Forming, M0 to M9 2ss	2	15	4.4	94.81	-2.5	-2.8			0.59	11	10.41
HE80 Beam Forming, M0 to M9 1ss	3	11	9.4	94.81	-6.4	-7	-7.6		-1.97	7.6	9.57
HE80 Beam Forming, M0 to M9 2ss	3	13	6.4	94.81	-4.4	-5.4	-5.4		-0.04	10.6	10.64
HE80 Beam Forming, M0 to M9 3ss	3	14	4.4	94.81	-3.3	-3.8	-4		1.31	11	9.69
HE80 Beam Forming, M0 to M9 1ss	4	8	10.4	94.81	-9.5	-10	-11.2	-8.3	-3.37	6.6	9.97
HE80 Beam Forming, M0 to M9 2ss	4	11	7.4	94.81	-6.4	-7	-7.6	-5.3	-0.24	9.6	9.84
HE80 Beam Forming, M0 to M9 3ss	4	13	5.4	94.81	-4.4	-5.4	-5.4	-3.4	1.68	11	9.32
HE80 Beam Forming, M0 to M9 4ss	4	14	4.4	94.81	-3.3	-3.8	-4	-2.1	3.02	11	7.98
HE80 STBC, M0 to M9 1ss	2	15	4.4	94.81	-2.5	-2.8			0.59	11	10.41
HE80 STBC, M0 to M9 1ss	3	14	4.4	94.81	-3.3	-3.8	-4		1.31	11	9.69
HE80 STBC, M0 to M9 1ss	4	14	4.4	94.81	-3.3	-3.8	-4	-2.1	3.02	11	7.98

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5300	Non HT20, 6 to 54 Mbps	1	17	4.4	99.17	5.7				5.74	11	5.26
	Non HT20, 6 to 54 Mbps	2	17	4.4	99.17	5.7	5.2			8.5	11	2.5
	Non HT20, 6 to 54 Mbps	3	13	4.4	99.17	1.3	1.3	1.1		6.04	11	4.96
	Non HT20, 6 to 54 Mbps	4	11	4.4	99.17	-0.3	-0.9	-1.4	-0.2	5.38	11	5.62
	Non HT20 Beam Forming, 6 to 54 Mbps	2	15	7.4	99.17	3.8	3			6.46	9.6	3.14
	Non HT20 Beam Forming, 6 to 54 Mbps	3	12	9.4	99.17	1.1	-0.1	-0.2		5.12	7.6	2.48
	Non HT20 Beam Forming, 6 to 54 Mbps	4	9	10.4	99.17	-2.6	-2.8	-3.5	-2.4	3.25	6.6	3.35
	HT/VHT20, M0 to M7	1	17	4.4	98.93	5.3				5.35	11	5.65
	HT/VHT20, M0 to M7	2	17	4.4	98.93	5.3	5			8.21	11	2.79
	HT/VHT20, M8 to M15	2	17	4.4	98.93	5.3	5			8.21	11	2.79
	HT/VHT20, M0 to M7	3	14	4.4	98.93	2.6	2.1	1.6		6.94	11	4.06
	HT/VHT20, M8 to M15	3	17	4.4	98.93	5.3	5	5.1		9.95	11	1.05
	HT/VHT20, M16 to M23	3	17	4.4	98.93	5.3	5	5.1		9.95	11	1.05
	HT/VHT20, M0 to M7	4	11	4.4	98.93	-0.7	-1.3	-1.7	-0.7	4.99	11	6.01
	HT/VHT20, M8 to M15	4	14	4.4	98.93	2.6	2.1	1.6	2.4	8.26	11	2.74
	HT/VHT20, M16 to M23	4	16	4.4	98.93	4.8	4	4.2	4.1	10.35	11	0.65
	HT/VHT20, M24 to M31	4	16	4.4	98.93	4.8	4	4.2	4.1	10.35	11	0.65
	HT/VHT20 Beam Forming, M0 to M7	2	15	7.4	98.93	3.6	2.8			6.28	9.6	3.32
	HT/VHT20 Beam Forming, M8 to M15	2	17	4.4	98.93	5.3	5			8.21	11	2.79
	HT/VHT20 Beam Forming, M0 to M7	3	12	9.4	98.93	0.5	-0.2	-0.5		4.77	7.6	2.83
	HT/VHT20 Beam Forming, M8 to M15	3	15	6.4	98.93	3.6	2.8	3		7.96	10.6	2.64
	HT/VHT20 Beam Forming, M16 to M23	3	17	4.4	98.93	5.3	5	5.1		9.95	11	1.05
	HT/VHT20 Beam Forming, M0 to M7	4	9	10.4	98.93	-2.4	-3.1	-3.5	-2.7	3.16	6.6	3.44
	HT/VHT20 Beam Forming, M8 to M15	4	12	7.4	98.93	0.5	-0.2	-0.5	0.6	6.19	9.6	3.41
	HT/VHT20 Beam Forming, M16 to M23	4	14	5.4	98.93	2.6	2.1	1.6	2.4	8.26	11	2.74
	HT/VHT20 Beam Forming, M24 to M31	4	16	4.4	98.93	4.8	4	4.2	4.1	10.35	11	0.65
	HT/VHT20 STBC, M0 to M7	2	17	4.4	98.93	5.3	5			8.21	11	2.79
	HT/VHT20 STBC, M0 to M7	3	17	4.4	98.93	5.3	5	5.1		9.95	11	1.05
	HT/VHT20 STBC, M0 to M7	4	14	4.4	98.93	2.6	2.1	1.6	2.4	8.26	11	2.74
	HE20, M0 to M7	1	17	4.4	98.62	5.7				5.76	11	5.24
	HE20, M0 to M7	2	17	4.4	98.62	5.7	5.2			8.53	11	2.47
	HE20, M8 to M15	2	17	4.4	98.62	5.7	5.2			8.53	11	2.47
	HE20, M0 to M7	3	13	4.4	98.62	1.5	1.2	1.2		6.13	11	4.87
	HE20, M8 to M15	3	16	4.4	98.62	4.8	4	4.1		9.15	11	1.85
	HE20, M16 to M23	3	17	4.4	98.62	5.7	5.2	5.2		10.2	11	0.8
	HE20, M0 to M7	4	11	4.4	98.62	-0.1	-1.3	-1.5	-0.4	5.3	11	5.7
	HE20, M8 to M15	4	14	4.4	98.62	2.7	2	2	2.6	8.42	11	2.58
	HE20, M16 to M23	4	16	4.4	98.62	4.8	4	4.1	4.6	10.47	11	0.53
	HE20, M24 to M31	4	16	4.4	98.62	4.8	4	4.1	4.6	10.47	11	0.53
	HE20 Beam Forming, M0 to M7	2	15	7.4	98.62	3.8	3			6.49	9.6	3.11

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	HE20 Beam Forming, M8 to M15	2	17	4.4	98.62	5.7	5.2			8.53	11	2.47
	HE20 Beam Forming, M0 to M7	3	12	9.4	98.62	0.5	-0.1	-0.5		4.82	7.6	2.78
	HE20 Beam Forming, M8 to M15	3	15	6.4	98.62	3.8	3	3		8.11	10.6	2.49
	HE20 Beam Forming, M16 to M23	3	17	4.4	98.62	5.7	5.2	5.2		10.2	11	0.8
	HE20 Beam Forming, M0 to M7	4	9	10.4	98.62	-2.2	-3	-3.5	-2.6	3.28	6.6	3.32
	HE20 Beam Forming, M8 to M15	4	12	7.4	98.62	0.5	-0.1	-0.5	0.5	6.2	9.6	3.4
	HE20 Beam Forming, M16 to M23	4	14	5.4	98.62	2.7	2	2	2.6	8.42	11	2.58
	HE20 Beam Forming, M24 to M31	4	16	4.4	98.62	4.8	4	4.1	4.6	10.47	11	0.53
	HE20 STBC, M0 to M7	2	17	4.4	98.62	5.7	5.2			8.53	11	2.47
	HE20 STBC, M0 to M7	3	16	4.4	98.62	4.8	4	4.1		9.15	11	1.85
	HE20 STBC, M0 to M7	4	14	4.4	98.62	2.7	2	2	2.6	8.42	11	2.58
5310	Non HT40, 6 to 54 Mbps	1	15	4.4	99.17	1.2				1.24	11	9.76
	Non HT40, 6 to 54 Mbps	2	14	4.4	99.17	-0.5	-0.6			2.5	11	8.5
	Non HT40, 6 to 54 Mbps	3	14	4.4	99.17	-0.5	-0.6	-1		4.11	11	6.89
	Non HT40, 6 to 54 Mbps	4	14	4.4	99.17	-0.5	-0.6	-1	-0.3	5.46	11	5.54
	HT/VHT40, M0 to M7	1	16	4.4	98.21	1.5				1.58	11	9.42
	HT/VHT40, M0 to M7	2	15	4.4	98.21	0.6	0			3.4	11	7.6
	HT/VHT40, M8 to M15	2	15	4.4	98.21	0.6	0			3.4	11	7.6
	HT/VHT40, M0 to M7	3	15	4.4	98.21	0.6	0	0.1		5.09	11	5.91
	HT/VHT40, M8 to M15	3	15	4.4	98.21	0.6	0	0.1		5.09	11	5.91
	HT/VHT40, M16 to M23	3	15	4.4	98.21	0.6	0	0.1		5.09	11	5.91
	HT/VHT40, M0 to M7	4	14	4.4	98.21	-0.4	-1	-1.2	-0.9	5.23	11	5.77
	HT/VHT40, M8 to M15	4	14	4.4	98.21	-0.4	-1	-1.2	-0.9	5.23	11	5.77
	HT/VHT40, M16 to M23	4	14	4.4	98.21	-0.4	-1	-1.2	-0.9	5.23	11	5.77
	HT/VHT40, M24 to M31	4	14	4.4	98.21	-0.4	-1	-1.2	-0.9	5.23	11	5.77
	HT/VHT40 Beam Forming, M0 to M7	2	14	7.4	98.21	-0.4	-1			2.4	9.6	7.2
	HT/VHT40 Beam Forming, M8 to M15	2	15	4.4	98.21	0.6	0			3.4	11	7.6
	HT/VHT40 Beam Forming, M0 to M7	3	12	9.4	98.21	-2.5	-2.9	-3.5		1.9	7.6	5.7
	HT/VHT40 Beam Forming, M8 to M15	3	14	6.4	98.21	-0.4	-1	-1.2		4	10.6	6.6
	HT/VHT40 Beam Forming, M16 to M23	3	15	4.4	98.21	0.6	0	0.1		5.09	11	5.91
	HT/VHT40 Beam Forming, M0 to M7	4	9	10.4	98.21	-5.7	-6	-6.6	-5.9	0.06	6.6	6.54
	HT/VHT40 Beam Forming, M8 to M15	4	12	7.4	98.21	-2.5	-2.9	-3.5	-3	3.14	9.6	6.46
	HT/VHT40 Beam Forming, M16 to M23	4	14	5.4	98.21	-0.4	-1	-1.2	-0.9	5.23	11	5.77
	HT/VHT40 Beam Forming, M24 to M31	4	14	4.4	98.21	-0.4	-1	-1.2	-0.9	5.23	11	5.77
	HT/VHT40 STBC, M0 to M7	2	15	4.4	98.21	0.6	0			3.4	11	7.6
	HT/VHT40 STBC, M0 to M7	3	15	4.4	98.21	0.6	0	0.1		5.09	11	5.91
	HT/VHT40 STBC, M0 to M7	4	14	4.4	98.21	-0.4	-1	-1.2	-0.9	5.23	11	5.77
	HE40, M0 to M7	1	14	4.4	97.16	-0.3				-0.17	11	11.17
	HE40, M0 to M7	2	14	4.4	97.16	-0.3	-0.5			2.74	11	8.26
	HE40, M8 to M15	2	14	4.4	97.16	-0.3	-0.5			2.74	11	8.26

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	HE40, M0 to M7	3	13	4.4	97.16	-1.6	-1.8	-2.1		3.07	11	7.93
	HE40, M8 to M15	3	13	4.4	97.16	-1.6	-1.8	-2.1		3.07	11	7.93
	HE40, M16 to M23	3	13	4.4	97.16	-1.6	-1.8	-2.1		3.07	11	7.93
	HE40, M0 to M7	4	13	4.4	97.16	-1.6	-1.8	-2.1	-1	4.54	11	6.46
	HE40, M8 to M15	4	13	4.4	97.16	-1.6	-1.8	-2.1	-1	4.54	11	6.46
	HE40, M16 to M23	4	13	4.4	97.16	-1.6	-1.8	-2.1	-1	4.54	11	6.46
	HE40, M24 to M31	4	13	4.4	97.16	-1.6	-1.8	-2.1	-1	4.54	11	6.46
	HE40 Beam Forming, M0 to M7	2	13	7.4	97.16	-1.6	-1.8			1.44	9.6	8.16
	HE40 Beam Forming, M8 to M15	2	14	4.4	97.16	-0.3	-0.5			2.74	11	8.26
	HE40 Beam Forming, M0 to M7	3	11	9.4	97.16	-3.6	-3.9	-4.5		0.91	7.6	6.69
	HE40 Beam Forming, M8 to M15	3	13	6.4	97.16	-1.6	-1.8	-2.1		3.07	10.6	7.53
	HE40 Beam Forming, M16 to M23	3	13	4.4	97.16	-1.6	-1.8	-2.1		3.07	11	7.93
	HE40 Beam Forming, M0 to M7	4	7	10.4	97.16	-7.1	-7.8	-8.3	-6.6	-1.26	6.6	7.86
	HE40 Beam Forming, M8 to M15	4	11	7.4	97.16	-3.6	-3.9	-4.5	-3	2.43	9.6	7.17
	HE40 Beam Forming, M16 to M23	4	13	5.4	97.16	-1.6	-1.8	-2.1	-1	4.54	11	6.46
	HE40 Beam Forming, M24 to M31	4	13	4.4	97.16	-1.6	-1.8	-2.1	-1	4.54	11	6.46
	HE40 STBC, M0 to M7	2	14	4.4	97.16	-0.3	-0.5			2.74	11	8.26
	HE40 STBC, M0 to M7	3	13	4.4	97.16	-1.6	-1.8	-2.1		3.07	11	7.93
	HE40 STBC, M0 to M7	4	13	4.4	97.16	-1.6	-1.8	-2.1	-1	4.54	11	6.46
5320	Non HT20, 6 to 54 Mbps	1	17	4.4	99.17	5.7				5.74	11	5.26
	Non HT20, 6 to 54 Mbps	2	17	4.4	99.17	5.7	5.6			8.7	11	2.3
	Non HT20, 6 to 54 Mbps	3	13	4.4	99.17	1.4	0.9	1.1		5.95	11	5.05
	Non HT20, 6 to 54 Mbps	4	11	4.4	99.17	-0.2	-1	-1.3	-0.3	5.38	11	5.62
	Non HT20 Beam Forming, 6 to 54 Mbps	2	15	7.4	99.17	4	3			6.58	9.6	3.02
	Non HT20 Beam Forming, 6 to 54 Mbps	3	12	9.4	99.17	1.2	-0.3	-0.4		5.04	7.6	2.56
	Non HT20 Beam Forming, 6 to 54 Mbps	4	9	10.4	99.17	-2.1	-2.9	-3.1	-2.5	3.42	6.6	3.18
	HT/VHT20, M0 to M7	1	17	4.4	98.93	5.4				5.45	11	5.55
	HT/VHT20, M0 to M7	2	17	4.4	98.93	5.4	5.1			8.31	11	2.69
	HT/VHT20, M8 to M15	2	17	4.4	98.93	5.4	5.1			8.31	11	2.69
	HT/VHT20, M0 to M7	3	13	4.4	98.93	1	0.7	0.4		5.52	11	5.48
	HT/VHT20, M8 to M15	3	16	4.4	98.93	4.8	3.9	3.8		9.01	11	1.99
	HT/VHT20, M16 to M23	3	17	4.4	98.93	5.4	5.1	5.3		10.09	11	0.91
	HT/VHT20, M0 to M7	4	11	4.4	98.93	-0.6	-1.3	-1.8	-0.8	4.97	11	6.03
	HT/VHT20, M8 to M15	4	14	4.4	98.93	2.7	2.2	2.3	2.3	8.45	11	2.55
	HT/VHT20, M16 to M23	4	16	4.4	98.93	4.8	3.9	3.8	4.2	10.26	11	0.74
	HT/VHT20, M24 to M31	4	16	4.4	98.93	4.8	3.9	3.8	4.2	10.26	11	0.74
	HT/VHT20 Beam Forming, M0 to M7	2	15	7.4	98.93	3.3	2.9			6.16	9.6	3.44
	HT/VHT20 Beam Forming, M8 to M15	2	17	4.4	98.93	5.4	5.1			8.31	11	2.69
	HT/VHT20 Beam Forming, M0 to M7	3	12	9.4	98.93	0.1	-0.3	0		4.75	7.6	2.85
	HT/VHT20 Beam Forming, M8 to M15	3	15	6.4	98.93	3.3	2.9	2.9		7.86	10.6	2.74

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HT/VHT20 Beam Forming, M16 to M23	3	17	4.4	98.93	5.4	5.1	5.3		10.09	11	0.91
HT/VHT20 Beam Forming, M0 to M7	4	9	10.4	98.93	-2.5	-3.1	-3.5	-2.7	3.13	6.6	3.47
HT/VHT20 Beam Forming, M8 to M15	4	12	7.4	98.93	0.1	-0.3	0	0.3	6.1	9.6	3.5
HT/VHT20 Beam Forming, M16 to M23	4	14	5.4	98.93	2.7	2.2	2.3	2.3	8.45	11	2.55
HT/VHT20 Beam Forming, M24 to M31	4	16	4.4	98.93	4.8	3.9	3.8	4.2	10.26	11	0.74
HT/VHT20 STBC, M0 to M7	2	17	4.4	98.93	5.4	5.1			8.31	11	2.69
HT/VHT20 STBC, M0 to M7	3	16	4.4	98.93	4.8	3.9	3.8		9.01	11	1.99
HT/VHT20 STBC, M0 to M7	4	14	4.4	98.93	2.7	2.2	2.3	2.3	8.45	11	2.55
HE20, M0 to M7	1	17	4.4	98.62	5.8				5.86	11	5.14
HE20, M0 to M7	2	16	4.4	98.62	4.8	4.3			7.63	11	3.37
HE20, M8 to M15	2	16	4.4	98.62	4.8	4.3			7.63	11	3.37
HE20, M0 to M7	3	13	4.4	98.62	1.7	1	1		6.08	11	4.92
HE20, M8 to M15	3	16	4.4	98.62	4.8	4.3	3.9		9.18	11	1.82
HE20, M16 to M23	3	16	4.4	98.62	4.8	4.3	3.9		9.18	11	1.82
HE20, M0 to M7	4	11	4.4	98.62	-0.6	-1.3	-1.3	-0.3	5.23	11	5.77
HE20, M8 to M15	4	14	4.4	98.62	3	1.9	1.7	2.3	8.33	11	2.67
HE20, M16 to M23	4	15	4.4	98.62	3.3	3.2	3	3.3	9.28	11	1.72
HE20, M24 to M31	4	15	4.4	98.62	3.3	3.2	3	3.3	9.28	11	1.72
HE20 Beam Forming, M0 to M7	2	15	7.4	98.62	3.3	3.2			6.32	9.6	3.28
HE20 Beam Forming, M8 to M15	2	16	4.4	98.62	4.8	4.3			7.63	11	3.37
HE20 Beam Forming, M0 to M7	3	12	9.4	98.62	0.8	-0.1	0		5.08	7.6	2.52
HE20 Beam Forming, M8 to M15	3	15	6.4	98.62	3.3	3.2	3		8	10.6	2.6
HE20 Beam Forming, M16 to M23	3	16	4.4	98.62	4.8	4.3	3.9		9.18	11	1.82
HE20 Beam Forming, M0 to M7	4	9	10.4	98.62	-2.5	-3.2	-3.4	-2.5	3.2	6.6	3.4
HE20 Beam Forming, M8 to M15	4	12	7.4	98.62	0.8	-0.1	0	0.4	6.37	9.6	3.23
HE20 Beam Forming, M16 to M23	4	14	5.4	98.62	3	1.9	1.7	2.3	8.33	11	2.67
HE20 Beam Forming, M24 to M31	4	15	4.4	98.62	3.3	3.2	3	3.3	9.28	11	1.72
HE20 STBC, M0 to M7	2	16	4.4	98.62	4.8	4.3			7.63	11	3.37
HE20 STBC, M0 to M7	3	16	4.4	98.62	4.8	4.3	3.9		9.18	11	1.82
HE20 STBC, M0 to M7	4	14	4.4	98.62	3	1.9	1.7	2.3	8.33	11	2.67

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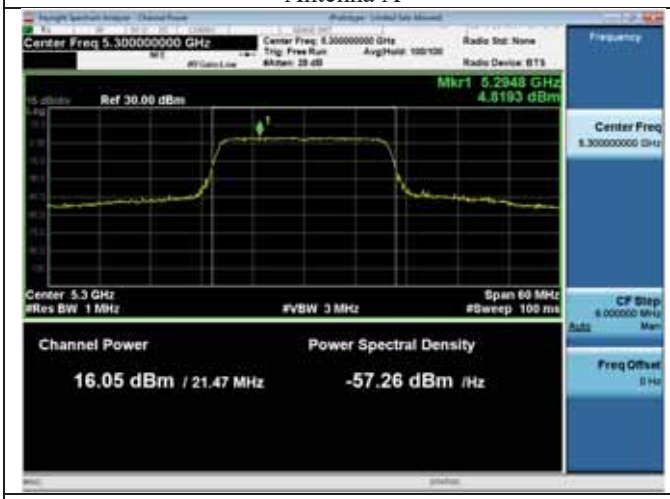
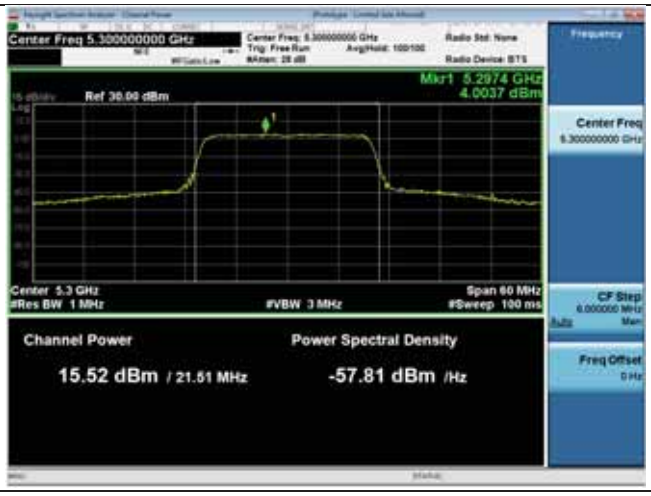
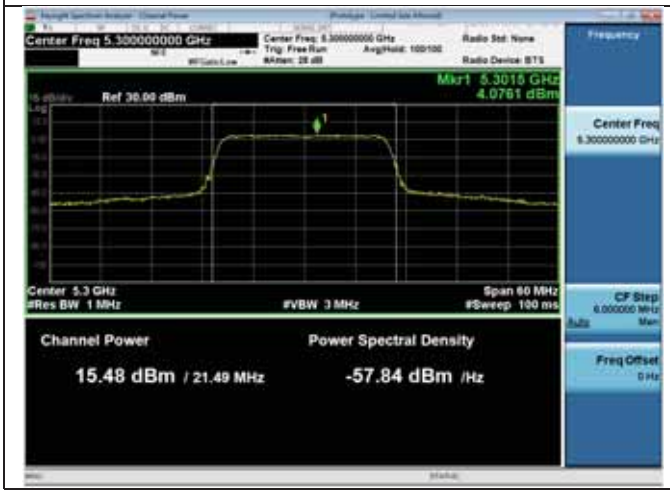
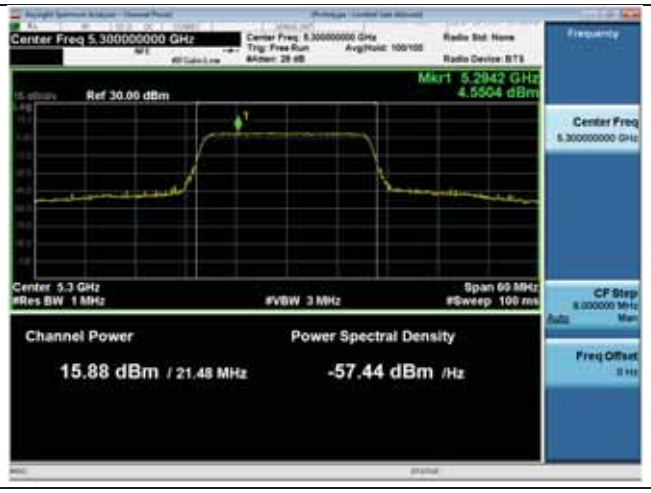
5.4.5 Power Spectral Density Plots

HE20, 5300 MHz, M0h1	
Antenna A	Antenna B
	
Antenna C	Antenna D
	

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5.5 Conducted Spurious Emissions

5.5.1 Conducted Spurious Emissions Test Requirement

15.407(b), LP0002 (2018-01-10) (4.7.4.1)

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

(**7)** The provisions of §15.205 apply to intentional radiators operating under this section.

Use formula below to substitute conducted measurements in place of radiated measurements

E[dBμV/m] = EIRP[dBm] - 20 log(d[meters]) + 104.77, where E = field strength and d = 3 meter

1) Average Plot, Limit= -41.25 dBm eirp
2) Peak plot, Limit = -21.25 dBm eirp

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5.5.2 Conducted Spurious Emissions Test Procedure

Ref. 789033 D02 General UNII Test Procedures New Rules v01r02
ANSI C63.10: 2013

Conducted Spurious Emissions Test Procedure
1. Connect the antenna port(s) to the spectrum analyzer input. 2. Place the radio in continuous transmit mode. Use the procedures in KDB 789033 D02 General UNII Test Procedures New Rules v01r02 to substitute conducted measurements in place of radiated measurements. 3. Configure Spectrum analyzer as per test parameters below below (be sure to enter all losses between the transmitter output and the spectrum analyzer). 4. Record the marker waveform peak to spur difference. Also measure any emissions in the restricted bands.. 5. The "measure-and-sum technique" is used for measuring in-band transmit power of a device. In the measure-and-sum approach, the conducted emission level is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically to determine the total emission level from the device. Summing is performed in linear power units. The worst case output is recorded. 6. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands 7. Capture graphs and record pertinent measurement data.

Ref. KDB 789033 D02 General UNII Test Procedures New Rules v01r04
Peak: KDB 789033 Section 5, Average (Method AD): KDB 789033 Section 6

Conducted Spurious Emissions Test parameters	
Peak RBW = 1 MHz VBW ≥ 3 MHz Sweep = Auto Detector = Peak Trace = Max Hold.	**Average** RBW = 1 MHz VBW ≥ 3 MHz Sweep = Auto Detector = RMS Power Averaging

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5.5.3 Conducted Spurious Test Information

Samples, Systems, and Modes

System Number	Description	Samples	System under test	Support equipment
1	EUT	S01	☑	☐
	Support	S02	☐	☑

Tested By: Julian Land	Date of testing: November 19, 2018 – December 12, 2018, and February 4, 2019
Test Result: PASS	

Test Equipment

See Appendix A for list of test equipment

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5.5.4 Conducted Spurious Emissions Data Tables - Peak

Frequency (MHz)	Mode	Tx Paths	Index Power (dBm)	Correlated Antenna Gain (dBi)	Tx 1 Spur Power (dBm)	Tx 2 Spur Power (dBm)	Tx 3 Spur Power (dBm)	Tx 4 Spur Power (dBm)	Total Conducted Spur (dBm)	Total EIRP Spur (dBm)	Limit (dB)	Margin (dB)
5260	Non HT20, 6 to 54 Mbps	1	17	4.4	-46.9				-46.86	-42.46	-21.25	21.21
	Non HT20, 6 to 54 Mbps	2	17	4.4	-46.9	-46.4			-43.6	-39.2	-21.25	17.95
	Non HT20, 6 to 54 Mbps	3	13	4.4	-50.6	-48.5	-51.2		-45.13	-40.73	-21.25	19.48
	Non HT20, 6 to 54 Mbps	4	11	4.4	-52.1	-49.6	-52.8	-51.1	-45.17	-40.77	-21.25	19.52
	Non HT20 Beam Forming, 6 to 54 Mbps	2	15	7.4	-48.4	-47.8			-45.04	-37.64	-21.25	16.39
	Non HT20 Beam Forming, 6 to 54 Mbps	3	12	9.4	-51.6	-49.9	-50.6		-45.84	-36.44	-21.25	15.19
	Non HT20 Beam Forming, 6 to 54 Mbps	4	9	10.4	-52.5	-52.1	-54.4	-52.4	-46.71	-36.31	-21.25	15.06
	HT/VHT20, M0 to M7	1	17	4.4	-47.2				-47.15	-42.75	-21.25	21.5
	HT/VHT20, M0 to M7	2	17	4.4	-47.2	-45.3			-43.09	-38.69	-21.25	17.44
	HT/VHT20, M8 to M15	2	17	4.4	-47.2	-45.3			-43.09	-38.69	-21.25	17.44
	HT/VHT20, M0 to M7	3	14	4.4	-49.4	-48	-49.1		-43.97	-39.57	-21.25	18.32
	HT/VHT20, M8 to M15	3	17	4.4	-47.2	-45.3	-47		-41.6	-37.2	-21.25	15.95
	HT/VHT20, M16 to M23	3	17	4.4	-47.2	-45.3	-47		-41.6	-37.2	-21.25	15.95
	HT/VHT20, M0 to M7	4	12	4.4	-50.3	-49.2	-50.6	-49	-43.65	-39.25	-21.25	18
	HT/VHT20, M8 to M15	4	14	4.4	-49.4	-48	-49.1	-48.7	-42.7	-38.3	-21.25	17.05
	HT/VHT20, M16 to M23	4	16	4.4	-47.4	-47.2	-48.5	-47.8	-41.63	-37.23	-21.25	15.98
	HT/VHT20, M24 to M31	4	16	4.4	-47.4	-47.2	-48.5	-47.8	-41.63	-37.23	-21.25	15.98
	HT/VHT20 Beam Forming, M0 to M7	2	15	7.4	-48.9	-47.4			-45.03	-37.63	-21.25	16.38
	HT/VHT20 Beam Forming, M8 to M15	2	17	4.4	-47.2	-45.3			-43.09	-38.69	-21.25	17.44
	HT/VHT20 Beam Forming, M0 to M7	3	12	9.4	-50.3	-49.2	-50.6		-45.17	-35.77	-21.25	14.52
	HT/VHT20 Beam Forming, M8 to M15	3	15	6.4	-48.9	-47.4	-49.3		-43.64	-37.24	-21.25	15.99
	HT/VHT20 Beam Forming, M16 to M23	3	17	4.4	-47.2	-45.3	-47		-41.6	-37.2	-21.25	15.95
	HT/VHT20 Beam Forming, M0 to M7	4	9	10.4	-52.6	-53	-53.5	-52	-46.67	-36.27	-21.25	15.02
	HT/VHT20 Beam Forming, M8 to M15	4	12	7.4	-50.3	-49.2	-50.6	-49	-43.65	-36.25	-21.25	15
	HT/VHT20 Beam Forming, M16 to M23	4	14	5.4	-49.4	-48	-49.1	-48.7	-42.7	-37.3	-21.25	16.05
	HT/VHT20 Beam Forming, M24 to M31	4	16	4.4	-47.4	-47.2	-48.5	-47.8	-41.63	-37.23	-21.25	15.98
	HT/VHT20 STBC, M0 to M7	2	17	4.4	-47.2	-45.3			-43.09	-38.69	-21.25	17.44
	HT/VHT20 STBC, M0 to M7	3	17	4.4	-47.2	-45.3	-47		-41.6	-37.2	-21.25	15.95
	HT/VHT20 STBC, M0 to M7	4	14	4.4	-49.4	-48	-49.1	-48.7	-42.7	-38.3	-21.25	17.05

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	HE20, M0 to M7	1	17	4.4	-47.7				-47.64	-43.24	-21.25	21.99
	HE20, M0 to M7	2	17	4.4	-47.7	-46.8			-44.16	-39.76	-21.25	18.51
	HE20, M8 to M15	2	17	4.4	-47.7	-46.8			-44.16	-39.76	-21.25	18.51
	HE20, M0 to M7	3	14	4.4	-49.8	-48.3	-49		-44.16	-39.76	-21.25	18.51
	HE20, M8 to M15	3	16	4.4	-48.4	-46.7	-47.8		-42.74	-38.34	-21.25	17.09
	HE20, M16 to M23	3	17	4.4	-47.7	-46.8	-45.9		-41.91	-37.51	-21.25	16.26
	HE20, M0 to M7	4	11	4.4	-51.1	-49.5	-53	-50.7	-44.82	-40.42	-21.25	19.17
	HE20, M8 to M15	4	14	4.4	-49.8	-48.3	-49	-48.7	-42.84	-38.44	-21.25	17.19
	HE20, M16 to M23	4	16	4.4	-48.4	-46.7	-47.8	-46.3	-41.14	-36.74	-21.25	15.49
	HE20, M24 to M31	4	16	4.4	-48.4	-46.7	-47.8	-46.3	-41.14	-36.74	-21.25	15.49
	HE20 Beam Forming, M0 to M7	2	15	7.4	-48.2	-47.5			-44.77	-37.37	-21.25	16.12
	HE20 Beam Forming, M8 to M15	2	17	4.4	-47.7	-46.8			-44.16	-39.76	-21.25	18.51
	HE20 Beam Forming, M0 to M7	3	12	9.4	-50.7	-50	-51.5		-45.86	-36.46	-21.25	15.21
	HE20 Beam Forming, M8 to M15	3	15	6.4	-48.2	-47.5	-49.2		-43.41	-37.01	-21.25	15.76
	HE20 Beam Forming, M16 to M23	3	17	4.4	-47.7	-46.8	-45.9		-41.91	-37.51	-21.25	16.26
	HE20 Beam Forming, M0 to M7	4	9	10.4	-53.4	-52.9	-53.8	-51.9	-46.86	-36.46	-21.25	15.21
	HE20 Beam Forming, M8 to M15	4	12	7.4	-50.7	-50	-51.5	-49.4	-44.25	-36.85	-21.25	15.6
	HE20 Beam Forming, M16 to M23	4	14	5.4	-49.8	-48.3	-49	-48.7	-42.84	-37.44	-21.25	16.19
	HE20 Beam Forming, M24 to M31	4	16	4.4	-48.4	-46.7	-47.8	-46.3	-41.14	-36.74	-21.25	15.49
	HE20 STBC, M0 to M7	2	17	4.4	-47.7	-46.8			-44.16	-39.76	-21.25	18.51
	HE20 STBC, M0 to M7	3	16	4.4	-48.4	-46.7	-47.8		-42.74	-38.34	-21.25	17.09
	HE20 STBC, M0 to M7	4	14	4.4	-49.8	-48.3	-49	-48.7	-42.84	-38.44	-21.25	17.19
5270	Non HT40, 6 to 54 Mbps	1	17	4.4	-45.6				-45.56	-41.16	-21.25	19.91
	Non HT40, 6 to 54 Mbps	2	17	4.4	-45.6	-45.9			-42.7	-38.3	-21.25	17.05
	Non HT40, 6 to 54 Mbps	3	16	4.4	-47.5	-45.2	-47.6		-41.81	-37.41	-21.25	16.16
	Non HT40, 6 to 54 Mbps	4	14	4.4	-49.1	-48.8	-50.3	-48.1	-42.95	-38.55	-21.25	17.3
	HT/VHT40, M0 to M7	1	17	4.4	-46.9				-46.82	-42.42	-21.25	21.17
	HT/VHT40, M0 to M7	2	17	4.4	-46.9	-46.2			-43.45	-39.05	-21.25	17.8
	HT/VHT40, M8 to M15	2	17	4.4	-46.9	-46.2			-43.45	-39.05	-21.25	17.8
	HT/VHT40, M0 to M7	3	16	4.4	-47.6	-46.4	-48.9		-42.66	-38.26	-21.25	17.01
	HT/VHT40, M8 to M15	3	17	4.4	-46.9	-46.2	-47.2		-41.9	-37.5	-21.25	16.25
	HT/VHT40, M16 to M23	3	17	4.4	-46.9	-46.2	-47.2		-41.9	-37.5	-21.25	16.25
	HT/VHT40, M0 to M7	4	14	4.4	-49.1	-48.6	-50.1	-49.1	-43.09	-38.69	-21.25	17.44
	HT/VHT40, M8 to M15	4	16	4.4	-47.6	-46.4	-48.9	-47.9	-41.51	-37.11	-21.25	15.86
	HT/VHT40, M16 to M23	4	16	4.4	-47.6	-46.4	-48.9	-47.9	-41.51	-37.11	-21.25	15.86
	HT/VHT40, M24 to M31	4	16	4.4	-47.6	-46.4	-48.9	-47.9	-41.51	-37.11	-21.25	15.86
	HT/VHT40 Beam Forming, M0 to M7	2	15	7.4	-49.4	-47			-44.95	-37.55	-21.25	16.3
	HT/VHT40 Beam Forming, M8 to M15	2	17	4.4	-46.9	-46.2			-43.45	-39.05	-21.25	17.8
	HT/VHT40 Beam Forming, M0 to M7	3	12	9.4	-49.9	-49.8	-50.7		-45.27	-35.87	-21.25	14.62
	HT/VHT40 Beam Forming, M8 to M15	3	15	6.4	-49.4	-47	-47.4		-42.96	-36.56	-21.25	15.31

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	HT/VHT40 Beam Forming, M16 to M23	3	17	4.4	-46.9	-46.2	-47.2		-41.9	-37.5	-21.25	16.25
	HT/VHT40 Beam Forming, M0 to M7	4	9	10.4	-53.3	-51.7	-54	-51.5	-46.4	-36	-21.25	14.75
	HT/VHT40 Beam Forming, M8 to M15	4	12	7.4	-49.9	-49.8	-50.7	-49.9	-43.96	-36.56	-21.25	15.31
	HT/VHT40 Beam Forming, M16 to M23	4	14	5.4	-49.1	-48.6	-50.1	-49.1	-43.09	-37.69	-21.25	16.44
	HT/VHT40 Beam Forming, M24 to M31	4	16	4.4	-47.6	-46.4	-48.9	-47.9	-41.51	-37.11	-21.25	15.86
	HT/VHT40 STBC, M0 to M7	2	17	4.4	-46.9	-46.2			-43.45	-39.05	-21.25	17.8
	HT/VHT40 STBC, M0 to M7	3	17	4.4	-46.9	-46.2	-47.2		-41.9	-37.5	-21.25	16.25
	HT/VHT40 STBC, M0 to M7	4	16	4.4	-47.6	-46.4	-48.9	-47.9	-41.51	-37.11	-21.25	15.86
	HE40, M0 to M7	1	17	4.4	-47.6				-47.47	-43.07	-21.25	21.82
	HE40, M0 to M7	2	17	4.4	-47.6	-45.4			-43.23	-38.83	-21.25	17.58
	HE40, M8 to M15	2	17	4.4	-47.6	-45.4			-43.23	-38.83	-21.25	17.58
	HE40, M0 to M7	3	16	4.4	-48.2	-46.2	-47.7		-42.38	-37.98	-21.25	16.73
	HE40, M8 to M15	3	17	4.4	-47.6	-45.4	-47.7		-41.87	-37.47	-21.25	16.22
	HE40, M16 to M23	3	17	4.4	-47.6	-45.4	-47.7		-41.87	-37.47	-21.25	16.22
	HE40, M0 to M7	4	14	4.4	-49.4	-48.2	-49.5	-46.7	-42.15	-37.75	-21.25	16.5
	HE40, M8 to M15	4	16	4.4	-48.2	-46.2	-47.7	-47.4	-41.16	-36.76	-21.25	15.51
	HE40, M16 to M23	4	16	4.4	-48.2	-46.2	-47.7	-47.4	-41.16	-36.76	-21.25	15.51
	HE40, M24 to M31	4	16	4.4	-48.2	-46.2	-47.7	-47.4	-41.16	-36.76	-21.25	15.51
	HE40 Beam Forming, M0 to M7	2	15	7.4	-47.9	-47.8			-44.71	-37.31	-21.25	16.06
	HE40 Beam Forming, M8 to M15	2	17	4.4	-47.6	-45.4			-43.23	-38.83	-21.25	17.58
	HE40 Beam Forming, M0 to M7	3	12	9.4	-50.2	-50.6	-51.3		-45.78	-36.38	-21.25	15.13
	HE40 Beam Forming, M8 to M15	3	15	6.4	-47.9	-47.8	-49.1		-43.33	-36.93	-21.25	15.68
	HE40 Beam Forming, M16 to M23	3	17	4.4	-47.6	-45.4	-47.7		-41.87	-37.47	-21.25	16.22
	HE40 Beam Forming, M0 to M7	4	9	10.4	-53.3	-52.5	-54.4	-52.7	-47.02	-36.62	-21.25	15.37
	HE40 Beam Forming, M8 to M15	4	12	7.4	-50.2	-50.6	-51.3	-49.9	-44.32	-36.92	-21.25	15.67
	HE40 Beam Forming, M16 to M23	4	14	5.4	-49.4	-48.2	-49.5	-46.7	-42.15	-36.75	-21.25	15.5
	HE40 Beam Forming, M24 to M31	4	16	4.4	-48.2	-46.2	-47.7	-47.4	-41.16	-36.76	-21.25	15.51
	HE40 STBC, M0 to M7	2	17	4.4	-47.6	-45.4			-43.23	-38.83	-21.25	17.58
	HE40 STBC, M0 to M7	3	17	4.4	-47.6	-45.4	-47.7		-41.87	-37.47	-21.25	16.22
	HE40 STBC, M0 to M7	4	16	4.4	-48.2	-46.2	-47.7	-47.4	-41.16	-36.76	-21.25	15.51
5290	Non HT80, 6 to 54 Mbps	1	15	4.4	-46.8				-46.76	-42.36	-21.25	21.11
	Non HT80, 6 to 54 Mbps	2	13	4.4	-50.3	-48			-45.95	-41.55	-21.25	20.3
	Non HT80, 6 to 54 Mbps	3	13	4.4	-50.3	-48	-51.1		-44.79	-40.39	-21.25	19.14
	Non HT80, 6 to 54 Mbps	4	13	4.4	-50.3	-48	-51.1	-49.1	-43.41	-39.01	-21.25	17.76
	VHT80, M0 to M9 1ss	1	15	4.4	-49.7				-49.51	-45.11	-21.25	23.86
	VHT80, M0 to M9 1ss	2	14	4.4	-50.1	-48.4			-45.97	-41.57	-21.25	20.32
	VHT80, M0 to M9 2ss	2	14	4.4	-50.1	-48.4			-45.97	-41.57	-21.25	20.32
	VHT80, M0 to M9 1ss	3	14	4.4	-50.1	-48.4	-50.1		-44.49	-40.09	-21.25	18.84
	VHT80, M0 to M9 2ss	3	14	4.4	-50.1	-48.4	-50.1		-44.49	-40.09	-21.25	18.84
	VHT80, M0 to M9 3ss	3	14	4.4	-50.1	-48.4	-50.1		-44.49	-40.09	-21.25	18.84

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	VHT80, M0 to M9 1ss	4	14	4.4	-50.1	-48.4	-50.1	-48.6	-43.01	-38.61	-21.25	17.36
	VHT80, M0 to M9 2ss	4	14	4.4	-50.1	-48.4	-50.1	-48.6	-43.01	-38.61	-21.25	17.36
	VHT80, M0 to M9 3ss	4	14	4.4	-50.1	-48.4	-50.1	-48.6	-43.01	-38.61	-21.25	17.36
	VHT80, M0 to M9 4ss	4	14	4.4	-50.1	-48.4	-50.1	-48.6	-43.01	-38.61	-21.25	17.36
	VHT80 Beam Forming, M0 to M9 1ss	2	14	7.4	-50.1	-48.4			-45.97	-38.57	-21.25	17.32
	VHT80 Beam Forming, M0 to M9 2ss	2	14	4.4	-50.1	-48.4			-45.97	-41.57	-21.25	20.32
	VHT80 Beam Forming, M0 to M9 1ss	3	11	9.4	-52.3	-51.2	-53.1		-47.17	-37.77	-21.25	16.52
	VHT80 Beam Forming, M0 to M9 2ss	3	13	6.4	-50.3	-49.3	-51.3		-45.26	-38.86	-21.25	17.61
	VHT80 Beam Forming, M0 to M9 3ss	3	14	4.4	-50.1	-48.4	-50.1		-44.49	-40.09	-21.25	18.84
	VHT80 Beam Forming, M0 to M9 1ss	4	8	10.4	-53.4	-53	-54.1	-52.1	-46.88	-36.48	-21.25	15.23
	VHT80 Beam Forming, M0 to M9 2ss	4	12	7.4	-51	-48.5	-51.5	-49.6	-43.78	-36.38	-21.25	15.13
	VHT80 Beam Forming, M0 to M9 3ss	4	13	5.4	-50.3	-49.3	-51.3	-49.5	-43.82	-38.42	-21.25	17.17
	VHT80 Beam Forming, M0 to M9 4ss	4	14	4.4	-50.1	-48.4	-50.1	-48.6	-43.01	-38.61	-21.25	17.36
	VHT80 STBC, M0 to M9 1ss	2	14	4.4	-50.1	-48.4			-45.97	-41.57	-21.25	20.32
	VHT80 STBC, M0 to M9 1ss	3	14	4.4	-50.1	-48.4	-50.1		-44.49	-40.09	-21.25	18.84
	VHT80 STBC, M0 to M9 1ss	4	14	4.4	-50.1	-48.4	-50.1	-48.6	-43.01	-38.61	-21.25	17.36
	HE80, M0 to M9 1ss	1	16	4.4	-48.2				-47.97	-43.57	-21.25	22.32
	HE80, M0 to M9 1ss	2	15	4.4	-49.2	-47.2			-44.84	-40.44	-21.25	19.19
	HE80, M0 to M9 2ss	2	15	4.4	-49.2	-47.2			-44.84	-40.44	-21.25	19.19
	HE80, M0 to M9 1ss	3	14	4.4	-49.2	-48	-50.7		-44.16	-39.76	-21.25	18.51
	HE80, M0 to M9 2ss	3	14	4.4	-49.2	-48	-50.7		-44.16	-39.76	-21.25	18.51
	HE80, M0 to M9 3ss	3	14	4.4	-49.2	-48	-50.7		-44.16	-39.76	-21.25	18.51
	HE80, M0 to M9 1ss	4	14	4.4	-49.2	-48	-50.7	-48.9	-42.84	-38.44	-21.25	17.19
	HE80, M0 to M9 2ss	4	14	4.4	-49.2	-48	-50.7	-48.9	-42.84	-38.44	-21.25	17.19
	HE80, M0 to M9 3ss	4	14	4.4	-49.2	-48	-50.7	-48.9	-42.84	-38.44	-21.25	17.19
	HE80, M0 to M9 4ss	4	14	4.4	-49.2	-48	-50.7	-48.9	-42.84	-38.44	-21.25	17.19
	HE80 Beam Forming, M0 to M9 1ss	2	14	7.4	-49.2	-48			-45.32	-37.92	-21.25	16.67
	HE80 Beam Forming, M0 to M9 2ss	2	15	4.4	-49.2	-47.2			-44.84	-40.44	-21.25	19.19
	HE80 Beam Forming, M0 to M9 1ss	3	11	9.4	-52.2	-50.3	-53.9		-46.88	-37.48	-21.25	16.23
	HE80 Beam Forming, M0 to M9 2ss	3	13	6.4	-49.5	-48.9	-51		-44.71	-38.31	-21.25	17.06
	HE80 Beam Forming, M0 to M9 3ss	3	14	4.4	-49.2	-48	-50.7		-44.16	-39.76	-21.25	18.51
	HE80 Beam Forming, M0 to M9 1ss	4	8	10.4	-52.7	-52.4	-54.6	-51.9	-46.54	-36.14	-21.25	14.89
	HE80 Beam Forming, M0 to M9 2ss	4	11	7.4	-52.2	-50.3	-53.9	-49.8	-45.01	-37.61	-21.25	16.36
	HE80 Beam Forming, M0 to M9 3ss	4	13	5.4	-49.5	-48.9	-51	-48.3	-43.06	-37.66	-21.25	16.41
	HE80 Beam Forming, M0 to M9 4ss	4	14	4.4	-49.2	-48	-50.7	-48.9	-42.84	-38.44	-21.25	17.19
	HE80 STBC, M0 to M9 1ss	2	15	4.4	-49.2	-47.2			-44.84	-40.44	-21.25	19.19
	HE80 STBC, M0 to M9 1ss	3	14	4.4	-49.2	-48	-50.7		-44.16	-39.76	-21.25	18.51
	HE80 STBC, M0 to M9 1ss	4	14	4.4	-49.2	-48	-50.7	-48.9	-42.84	-38.44	-21.25	17.19
5300	Non HT20, 6 to 54 Mbps	1	17	4.4	-47.7				-47.66	-43.26	-21.25	22.01
	Non HT20, 6 to 54 Mbps	2	17	4.4	-47.7	-46.8			-44.18	-39.78	-21.25	18.53

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Non HT20, 6 to 54 Mbps	3	13	4.4	-51	-48.8	-51.5		-45.46	-41.06	-21.25	19.81
Non HT20, 6 to 54 Mbps	4	11	4.4	-52.1	-50.4	-53.1	-51.4	-45.58	-41.18	-21.25	19.93
Non HT20 Beam Forming, 6 to 54 Mbps	2	15	7.4	-49.6	-48.7			-46.08	-38.68	-21.25	17.43
Non HT20 Beam Forming, 6 to 54 Mbps	3	12	9.4	-51.6	-50.6	-53.1		-46.84	-37.44	-21.25	16.19
Non HT20 Beam Forming, 6 to 54 Mbps	4	9	10.4	-53.6	-52.7	-55	-52.6	-47.32	-36.92	-21.25	15.67
HT/VHT20, M0 to M7	1	17	4.4	-48.1				-48.05	-43.65	-21.25	22.4
HT/VHT20, M0 to M7	2	17	4.4	-48.1	-46.8			-44.34	-39.94	-21.25	18.69
HT/VHT20, M8 to M15	2	17	4.4	-48.1	-46.8			-44.34	-39.94	-21.25	18.69
HT/VHT20, M0 to M7	3	14	4.4	-50.2	-48.8	-51.1		-45.11	-40.71	-21.25	19.46
HT/VHT20, M8 to M15	3	17	4.4	-48.1	-46.8	-48.9		-43.03	-38.63	-21.25	17.38
HT/VHT20, M16 to M23	3	17	4.4	-48.1	-46.8	-48.9		-43.03	-38.63	-21.25	17.38
HT/VHT20, M0 to M7	4	11	4.4	-52.5	-51.9	-53.2	-51.7	-46.22	-41.82	-21.25	20.57
HT/VHT20, M8 to M15	4	14	4.4	-50.2	-48.8	-51.1	-49.6	-43.78	-39.38	-21.25	18.13
HT/VHT20, M16 to M23	4	16	4.4	-47.6	-47.9	-49.4	-47.3	-41.91	-37.51	-21.25	16.26
HT/VHT20, M24 to M31	4	16	4.4	-47.6	-47.9	-49.4	-47.3	-41.91	-37.51	-21.25	16.26
HT/VHT20 Beam Forming, M0 to M7	2	15	7.4	-49.3	-48			-45.54	-38.14	-21.25	16.89
HT/VHT20 Beam Forming, M8 to M15	2	17	4.4	-48.1	-46.8			-44.34	-39.94	-21.25	18.69
HT/VHT20 Beam Forming, M0 to M7	3	12	9.4	-51.9	-50.2	-53.4		-46.82	-37.42	-21.25	16.17
HT/VHT20 Beam Forming, M8 to M15	3	15	6.4	-49.3	-48	-49.6		-44.09	-37.69	-21.25	16.44
HT/VHT20 Beam Forming, M16 to M23	3	17	4.4	-48.1	-46.8	-48.9		-43.03	-38.63	-21.25	17.38
HT/VHT20 Beam Forming, M0 to M7	4	9	10.4	-53.2	-53.5	-54.4	-52.7	-47.34	-36.94	-21.25	15.69
HT/VHT20 Beam Forming, M8 to M15	4	12	7.4	-51.9	-50.2	-53.4	-51.5	-45.54	-38.14	-21.25	16.89
HT/VHT20 Beam Forming, M16 to M23	4	14	5.4	-50.2	-48.8	-51.1	-49.6	-43.78	-38.38	-21.25	17.13
HT/VHT20 Beam Forming, M24 to M31	4	16	4.4	-47.6	-47.9	-49.4	-47.3	-41.91	-37.51	-21.25	16.26
HT/VHT20 STBC, M0 to M7	2	17	4.4	-48.1	-46.8			-44.34	-39.94	-21.25	18.69
HT/VHT20 STBC, M0 to M7	3	17	4.4	-48.1	-46.8	-48.9		-43.03	-38.63	-21.25	17.38
HT/VHT20 STBC, M0 to M7	4	14	4.4	-50.2	-48.8	-51.1	-49.6	-43.78	-39.38	-21.25	18.13
HE20, M0 to M7	1	17	4.4	-46.8				-46.74	-42.34	-21.25	21.09
HE20, M0 to M7	2	17	4.4	-46.8	-46.5			-43.58	-39.18	-21.25	17.93
HE20, M8 to M15	2	17	4.4	-46.8	-46.5			-43.58	-39.18	-21.25	17.93
HE20, M0 to M7	3	13	4.4	-51.4	-49.3	-51.6		-45.8	-41.4	-21.25	20.15
HE20, M8 to M15	3	16	4.4	-49.1	-48.3	-48.4		-43.75	-39.35	-21.25	18.1
HE20, M16 to M23	3	17	4.4	-46.8	-46.5	-48.8		-42.42	-38.02	-21.25	16.77
HE20, M0 to M7	4	11	4.4	-51.8	-52.4	-53.1	-51.5	-46.08	-41.68	-21.25	20.43
HE20, M8 to M15	4	14	4.4	-49.7	-49.2	-50.2	-48.3	-43.21	-38.81	-21.25	17.56
HE20, M16 to M23	4	16	4.4	-49.1	-48.3	-48.4	-47.9	-42.32	-37.92	-21.25	16.67
HE20, M24 to M31	4	16	4.4	-49.1	-48.3	-48.4	-47.9	-42.32	-37.92	-21.25	16.67
HE20 Beam Forming, M0 to M7	2	15	7.4	-49.1	-48.7			-45.82	-38.42	-21.25	17.17
HE20 Beam Forming, M8 to M15	2	17	4.4	-46.8	-46.5			-43.58	-39.18	-21.25	17.93
HE20 Beam Forming, M0 to M7	3	12	9.4	-52.4	-51	-53.2		-47.27	-37.87	-21.25	16.62
HE20 Beam Forming, M8 to M15	3	15	6.4	-49.1	-48.7	-49.7		-44.32	-37.92	-21.25	16.67

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	HE20 Beam Forming, M16 to M23	3	17	4.4	-46.8	-46.5	-48.8		-42.42	-38.02	-21.25	16.77
	HE20 Beam Forming, M0 to M7	4	9	10.4	-53.4	-52.5	-55	-51.7	-46.9	-36.5	-21.25	15.25
	HE20 Beam Forming, M8 to M15	4	12	7.4	-52.4	-51	-53.2	-50.8	-45.66	-38.26	-21.25	17.01
	HE20 Beam Forming, M16 to M23	4	14	5.4	-49.7	-49.2	-50.2	-48.3	-43.21	-37.81	-21.25	16.56
	HE20 Beam Forming, M24 to M31	4	16	4.4	-49.1	-48.3	-48.4	-47.9	-42.32	-37.92	-21.25	16.67
	HE20 STBC, M0 to M7	2	17	4.4	-46.8	-46.5			-43.58	-39.18	-21.25	17.93
	HE20 STBC, M0 to M7	3	16	4.4	-49.1	-48.3	-48.4		-43.75	-39.35	-21.25	18.1
	HE20 STBC, M0 to M7	4	14	4.4	-49.7	-49.2	-50.2	-48.3	-43.21	-38.81	-21.25	17.56
5310	Non HT40, 6 to 54 Mbps	1	15	4.4	-49				-48.96	-44.56	-21.25	23.31
	Non HT40, 6 to 54 Mbps	2	14	4.4	-49.5	-47.7			-45.46	-41.06	-21.25	19.81
	Non HT40, 6 to 54 Mbps	3	14	4.4	-49.5	-47.7	-50.3		-44.22	-39.82	-21.25	18.57
	Non HT40, 6 to 54 Mbps	4	14	4.4	-49.5	-47.7	-50.3	-48.6	-42.86	-38.46	-21.25	17.21
	HT/VHT40, M0 to M7	1	16	4.4	-48.4				-48.32	-43.92	-21.25	22.67
	HT/VHT40, M0 to M7	2	15	4.4	-49.1	-48.2			-45.54	-41.14	-21.25	19.89
	HT/VHT40, M8 to M15	2	15	4.4	-49.1	-48.2			-45.54	-41.14	-21.25	19.89
	HT/VHT40, M0 to M7	3	15	4.4	-49.1	-48.2	-49		-43.9	-39.5	-21.25	18.25
	HT/VHT40, M8 to M15	3	15	4.4	-49.1	-48.2	-49		-43.9	-39.5	-21.25	18.25
	HT/VHT40, M16 to M23	3	15	4.4	-49.1	-48.2	-49		-43.9	-39.5	-21.25	18.25
	HT/VHT40, M0 to M7	4	14	4.4	-49.3	-48.7	-49.8	-49.6	-43.23	-38.83	-21.25	17.58
	HT/VHT40, M8 to M15	4	14	4.4	-49.3	-48.7	-49.8	-49.6	-43.23	-38.83	-21.25	17.58
	HT/VHT40, M16 to M23	4	14	4.4	-49.3	-48.7	-49.8	-49.6	-43.23	-38.83	-21.25	17.58
	HT/VHT40, M24 to M31	4	14	4.4	-49.3	-48.7	-49.8	-49.6	-43.23	-38.83	-21.25	17.58
	HT/VHT40 Beam Forming, M0 to M7	2	14	7.4	-49.3	-48.7			-45.9	-38.5	-21.25	17.25
	HT/VHT40 Beam Forming, M8 to M15	2	15	4.4	-49.1	-48.2			-45.54	-41.14	-21.25	19.89
	HT/VHT40 Beam Forming, M0 to M7	3	12	9.4	-51.3	-49	-51.4		-45.57	-36.17	-21.25	14.92
	HT/VHT40 Beam Forming, M8 to M15	3	14	6.4	-49.3	-48.7	-49.8		-44.39	-37.99	-21.25	16.74
	HT/VHT40 Beam Forming, M16 to M23	3	15	4.4	-49.1	-48.2	-49		-43.9	-39.5	-21.25	18.25
	HT/VHT40 Beam Forming, M0 to M7	4	9	10.4	-53.5	-52.4	-54.4	-52.4	-47	-36.6	-21.25	15.35
	HT/VHT40 Beam Forming, M8 to M15	4	12	7.4	-51.3	-49	-51.4	-50.4	-44.31	-36.91	-21.25	15.66
	HT/VHT40 Beam Forming, M16 to M23	4	14	5.4	-49.3	-48.7	-49.8	-49.6	-43.23	-37.83	-21.25	16.58
	HT/VHT40 Beam Forming, M24 to M31	4	14	4.4	-49.3	-48.7	-49.8	-49.6	-43.23	-38.83	-21.25	17.58
	HT/VHT40 STBC, M0 to M7	2	15	4.4	-49.1	-48.2			-45.54	-41.14	-21.25	19.89
	HT/VHT40 STBC, M0 to M7	3	15	4.4	-49.1	-48.2	-49		-43.9	-39.5	-21.25	18.25
	HT/VHT40 STBC, M0 to M7	4	14	4.4	-49.3	-48.7	-49.8	-49.6	-43.23	-38.83	-21.25	17.58
	HE40, M0 to M7	1	14	4.4	-49.9				-49.77	-45.37	-21.25	24.12
	HE40, M0 to M7	2	14	4.4	-49.9	-48.9			-46.24	-41.84	-21.25	20.59
	HE40, M8 to M15	2	14	4.4	-49.9	-48.9			-46.24	-41.84	-21.25	20.59
	HE40, M0 to M7	3	13	4.4	-49.6	-49.4	-51		-45.05	-40.65	-21.25	19.4
	HE40, M8 to M15	3	13	4.4	-49.6	-49.4	-51		-45.05	-40.65	-21.25	19.4
	HE40, M16 to M23	3	13	4.4	-49.6	-49.4	-51		-45.05	-40.65	-21.25	19.4

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	HE40, M0 to M7	4	13	4.4	-49.6	-49.4	-51	-49.6	-43.71	-39.31	-21.25	18.06
	HE40, M8 to M15	4	13	4.4	-49.6	-49.4	-51	-49.6	-43.71	-39.31	-21.25	18.06
	HE40, M16 to M23	4	13	4.4	-49.6	-49.4	-51	-49.6	-43.71	-39.31	-21.25	18.06
	HE40, M24 to M31	4	13	4.4	-49.6	-49.4	-51	-49.6	-43.71	-39.31	-21.25	18.06
	HE40 Beam Forming, M0 to M7	2	13	7.4	-49.6	-49.4			-46.36	-38.96	-21.25	17.71
	HE40 Beam Forming, M8 to M15	2	14	4.4	-49.9	-48.9			-46.24	-41.84	-21.25	20.59
	HE40 Beam Forming, M0 to M7	3	11	9.4	-52.5	-49.9	-53.1		-46.7	-37.3	-21.25	16.05
	HE40 Beam Forming, M8 to M15	3	13	6.4	-49.6	-49.4	-51		-45.05	-38.65	-21.25	17.4
	HE40 Beam Forming, M16 to M23	3	13	4.4	-49.6	-49.4	-51		-45.05	-40.65	-21.25	19.4
	HE40 Beam Forming, M0 to M7	4	7	10.4	-53.2	-53.7	-54.9	-52.8	-47.44	-37.04	-21.25	15.79
	HE40 Beam Forming, M8 to M15	4	11	7.4	-52.5	-49.9	-53.1	-51.1	-45.32	-37.92	-21.25	16.67
	HE40 Beam Forming, M16 to M23	4	13	5.4	-49.6	-49.4	-51	-49.6	-43.71	-38.31	-21.25	17.06
	HE40 Beam Forming, M24 to M31	4	13	4.4	-49.6	-49.4	-51	-49.6	-43.71	-39.31	-21.25	18.06
	HE40 STBC, M0 to M7	2	14	4.4	-49.9	-48.9			-46.24	-41.84	-21.25	20.59
	HE40 STBC, M0 to M7	3	13	4.4	-49.6	-49.4	-51		-45.05	-40.65	-21.25	19.4
	HE40 STBC, M0 to M7	4	13	4.4	-49.6	-49.4	-51	-49.6	-43.71	-39.31	-21.25	18.06
5320	Non HT20, 6 to 54 Mbps	1	17	4.4	-46.9				-46.86	-42.46	-21.25	21.21
	Non HT20, 6 to 54 Mbps	2	17	4.4	-46.9	-46.8			-43.8	-39.4	-21.25	18.15
	Non HT20, 6 to 54 Mbps	3	13	4.4	-49.2	-49.7	-51.7		-45.27	-40.87	-21.25	19.62
	Non HT20, 6 to 54 Mbps	4	11	4.4	-51.3	-51.1	-53.1	-50.4	-45.31	-40.91	-21.25	19.66
	Non HT20 Beam Forming, 6 to 54 Mbps	2	15	7.4	-48.3	-47.9			-45.05	-37.65	-21.25	16.4
	Non HT20 Beam Forming, 6 to 54 Mbps	3	12	9.4	-50.5	-50.6	-51.9		-46.15	-36.75	-21.25	15.5
	Non HT20 Beam Forming, 6 to 54 Mbps	4	9	10.4	-53.3	-52.8	-54.3	-52.1	-47	-36.6	-21.25	15.35
	HT/VHT20, M0 to M7	1	17	4.4	-48.3				-48.25	-43.85	-21.25	22.6
	HT/VHT20, M0 to M7	2	17	4.4	-48.3	-47.2			-44.66	-40.26	-21.25	19.01
	HT/VHT20, M8 to M15	2	17	4.4	-48.3	-47.2			-44.66	-40.26	-21.25	19.01
	HT/VHT20, M0 to M7	3	13	4.4	-49.8	-49.8	-52.1		-45.62	-41.22	-21.25	19.97
	HT/VHT20, M8 to M15	3	16	4.4	-48.4	-47.7	-48.2		-43.27	-38.87	-21.25	17.62
	HT/VHT20, M16 to M23	3	17	4.4	-48.3	-47.2	-48.1		-43.02	-38.62	-21.25	17.37
	HT/VHT20, M0 to M7	4	11	4.4	-52.6	-50.8	-54.2	-50.5	-45.72	-41.32	-21.25	20.07
	HT/VHT20, M8 to M15	4	14	4.4	-49.8	-47.3	-50.9	-48.6	-42.88	-38.48	-21.25	17.23
	HT/VHT20, M16 to M23	4	16	4.4	-48.4	-47.7	-48.2	-47.8	-41.95	-37.55	-21.25	16.3
	HT/VHT20, M24 to M31	4	16	4.4	-48.4	-47.7	-48.2	-47.8	-41.95	-37.55	-21.25	16.3
	HT/VHT20 Beam Forming, M0 to M7	2	15	7.4	-49.4	-48.4			-45.81	-38.41	-21.25	17.16
	HT/VHT20 Beam Forming, M8 to M15	2	17	4.4	-48.3	-47.2			-44.66	-40.26	-21.25	19.01
	HT/VHT20 Beam Forming, M0 to M7	3	12	9.4	-51.5	-50.2	-51.9		-46.32	-36.92	-21.25	15.67
	HT/VHT20 Beam Forming, M8 to M15	3	15	6.4	-49.4	-48.4	-49.4		-44.22	-37.82	-21.25	16.57
	HT/VHT20 Beam Forming, M16 to M23	3	17	4.4	-48.3	-47.2	-48.1		-43.02	-38.62	-21.25	17.37
	HT/VHT20 Beam Forming, M0 to M7	4	9	10.4	-53.1	-52.3	-54.7	-52.8	-47.07	-36.67	-21.25	15.42
	HT/VHT20 Beam Forming, M8 to M15	4	12	7.4	-51.5	-50.2	-51.9	-50.6	-44.93	-37.53	-21.25	16.28

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HT/VHT20 Beam Forming, M16 to M23	4	14	5.4	-49.8	-47.3	-50.9	-48.6	-42.88	-37.48	-21.25	16.23
HT/VHT20 Beam Forming, M24 to M31	4	16	4.4	-48.4	-47.7	-48.2	-47.8	-41.95	-37.55	-21.25	16.3
HT/VHT20 STBC, M0 to M7	2	17	4.4	-48.3	-47.2			-44.66	-40.26	-21.25	19.01
HT/VHT20 STBC, M0 to M7	3	16	4.4	-48.4	-47.7	-48.2		-43.27	-38.87	-21.25	17.62
HT/VHT20 STBC, M0 to M7	4	14	4.4	-49.8	-47.3	-50.9	-48.6	-42.88	-38.48	-21.25	17.23
HE20, M0 to M7	1	17	4.4	-47.3				-47.24	-42.84	-21.25	21.59
HE20, M0 to M7	2	16	4.4	-48.9	-46.7			-44.59	-40.19	-21.25	18.94
HE20, M8 to M15	2	16	4.4	-48.9	-46.7			-44.59	-40.19	-21.25	18.94
HE20, M0 to M7	3	13	4.4	-49.6	-49.5	-51.3		-45.23	-40.83	-21.25	19.58
HE20, M8 to M15	3	16	4.4	-48.9	-46.7	-49.2		-43.29	-38.89	-21.25	17.64
HE20, M16 to M23	3	16	4.4	-48.9	-46.7	-49.2		-43.29	-38.89	-21.25	17.64
HE20, M0 to M7	4	11	4.4	-52.2	-51.4	-54.2	-51	-45.96	-41.56	-21.25	20.31
HE20, M8 to M15	4	14	4.4	-49.7	-48.7	-51	-49.6	-43.59	-39.19	-21.25	17.94
HE20, M16 to M23	4	15	4.4	-49.1	-47.9	-49	-48.1	-42.41	-38.01	-21.25	16.76
HE20, M24 to M31	4	15	4.4	-49.1	-47.9	-49	-48.1	-42.41	-38.01	-21.25	16.76
HE20 Beam Forming, M0 to M7	2	15	7.4	-49.1	-47.9			-45.39	-37.99	-21.25	16.74
HE20 Beam Forming, M8 to M15	2	16	4.4	-48.9	-46.7			-44.59	-40.19	-21.25	18.94
HE20 Beam Forming, M0 to M7	3	12	9.4	-51.5	-50.8	-52.2		-46.63	-37.23	-21.25	15.98
HE20 Beam Forming, M8 to M15	3	15	6.4	-49.1	-47.9	-49		-43.8	-37.4	-21.25	16.15
HE20 Beam Forming, M16 to M23	3	16	4.4	-48.9	-46.7	-49.2		-43.29	-38.89	-21.25	17.64
HE20 Beam Forming, M0 to M7	4	9	10.4	-53.6	-51.8	-54.7	-52.5	-46.93	-36.53	-21.25	15.28
HE20 Beam Forming, M8 to M15	4	12	7.4	-51.5	-50.8	-52.2	-50.3	-45.06	-37.66	-21.25	16.41
HE20 Beam Forming, M16 to M23	4	14	5.4	-49.7	-48.7	-51	-49.6	-43.59	-38.19	-21.25	16.94
HE20 Beam Forming, M24 to M31	4	15	4.4	-49.1	-47.9	-49	-48.1	-42.41	-38.01	-21.25	16.76
HE20 STBC, M0 to M7	2	16	4.4	-48.9	-46.7			-44.59	-40.19	-21.25	18.94
HE20 STBC, M0 to M7	3	16	4.4	-48.9	-46.7	-49.2		-43.29	-38.89	-21.25	17.64
HE20 STBC, M0 to M7	4	14	4.4	-49.7	-48.7	-51	-49.6	-43.59	-39.19	-21.25	17.94

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5.5.5 Conducted Spurious Emissions Plots – Peak 30MHz – 12GHz

HT20 Beam Forming, 5260MHz, M0	
Antenna A	**Antenna B**
Antenna C	

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5.5.6 Conducted Spurious Emissions Data Tables - Average

Frequency (MHz)	Mode	Tx Paths	Index Power (dBm)	Correlated Antenna Gain (dBi)	Tx 1 Spur Power (dBm)	Tx 2 Spur Power (dBm)	Tx 3 Spur Power (dBm)	Tx 4 Spur Power (dBm)	Total Conducted Spur (dBm)	Total EIRP Spur (dBm)	Limit (dB)	Margin (dB)
5260	Non HT20, 6 to 54 Mbps	1	17	4.4	-57.6				-57.56	-53.16	-41.25	11.91
	Non HT20, 6 to 54 Mbps	2	17	4.4	-57.6	-56			-53.68	-49.28	-41.25	8.03
	Non HT20, 6 to 54 Mbps	3	13	4.4	-60.3	-59.6	-61		-55.46	-51.06	-41.25	9.81
	Non HT20, 6 to 54 Mbps	4	11	4.4	-62.4	-60.7	-63.3	-61.5	-55.81	-51.41	-41.25	10.16
	Non HT20 Beam Forming, 6 to 54 Mbps	2	15	7.4	-59	-58.4			-55.64	-48.24	-41.25	6.99
	Non HT20 Beam Forming, 6 to 54 Mbps	3	12	9.4	-61.9	-60.2	-61.6		-56.36	-46.96	-41.25	5.71
	Non HT20 Beam Forming, 6 to 54 Mbps	4	9	10.4	-63.5	-62.7	-63.9	-62.3	-57	-46.6	-41.25	5.35
	HT/VHT20, M0 to M7	1	17	4.4	-57.7				-57.65	-53.25	-41.25	12
	HT/VHT20, M0 to M7	2	17	4.4	-57.7	-56.5			-54	-49.6	-41.25	8.35
	HT/VHT20, M8 to M15	2	17	4.4	-57.7	-56.5			-54	-49.6	-41.25	8.35
	HT/VHT20, M0 to M7	3	14	4.4	-59.8	-59.1	-60.2		-54.86	-50.46	-41.25	9.21
	HT/VHT20, M8 to M15	3	17	4.4	-57.7	-56.5	-57.3		-52.32	-47.92	-41.25	6.67
	HT/VHT20, M16 to M23	3	17	4.4	-57.7	-56.5	-57.3		-52.32	-47.92	-41.25	6.67
	HT/VHT20, M0 to M7	4	12	4.4	-61.8	-60.3	-61.7	-60.4	-54.93	-50.53	-41.25	9.28
	HT/VHT20, M8 to M15	4	14	4.4	-59.8	-59.1	-60.2	-59.1	-53.46	-49.06	-41.25	7.81
	HT/VHT20, M16 to M23	4	16	4.4	-58.7	-57	-58.9	-57.9	-51.99	-47.59	-41.25	6.34
	HT/VHT20, M24 to M31	4	16	4.4	-58.7	-57	-58.9	-57.9	-51.99	-47.59	-41.25	6.34
	HT/VHT20 Beam Forming, M0 to M7	2	15	7.4	-59.3	-58.3			-55.71	-48.31	-41.25	7.06
	HT/VHT20 Beam Forming, M8 to M15	2	17	4.4	-57.7	-56.5			-54	-49.6	-41.25	8.35
	HT/VHT20 Beam Forming, M0 to M7	3	12	9.4	-61.8	-60.3	-61.7		-56.39	-46.99	-41.25	5.74
	HT/VHT20 Beam Forming, M8 to M15	3	15	6.4	-59.3	-58.3	-59.6		-54.21	-47.81	-41.25	6.56
	HT/VHT20 Beam Forming, M16 to M23	3	17	4.4	-57.7	-56.5	-57.3		-52.32	-47.92	-41.25	6.67
	HT/VHT20 Beam Forming, M0 to M7	4	9	10.4	-63.6	-63	-64.6	-62.6	-57.32	-46.92	-41.25	5.67
	HT/VHT20 Beam Forming, M8 to M15	4	12	7.4	-61.8	-60.3	-61.7	-60.4	-54.93	-47.53	-41.25	6.28
	HT/VHT20 Beam Forming, M16 to M23	4	14	5.4	-59.8	-59.1	-60.2	-59.1	-53.46	-48.06	-41.25	6.81
	HT/VHT20 Beam Forming, M24 to M31	4	16	4.4	-58.7	-57	-58.9	-57.9	-51.99	-47.59	-41.25	6.34
	HT/VHT20 STBC, M0 to M7	2	17	4.4	-57.7	-56.5			-54	-49.6	-41.25	8.35

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	HT/VHT20 STBC, M0 to M7	3	17	4.4	-57.7	-56.5	-57.3		-52.32	-47.92	-41.25	6.67
	HT/VHT20 STBC, M0 to M7	4	14	4.4	-59.8	-59.1	-60.2	-59.1	-53.46	-49.06	-41.25	7.81
	HE20, M0 to M7	1	17	4.4	-57.5				-57.44	-53.04	-41.25	11.79
	HE20, M0 to M7	2	17	4.4	-57.5	-56.4			-53.84	-49.44	-41.25	8.19
	HE20, M8 to M15	2	17	4.4	-57.5	-56.4			-53.84	-49.44	-41.25	8.19
	HE20, M0 to M7	3	14	4.4	-59.9	-59.1	-60.3		-54.91	-50.51	-41.25	9.26
	HE20, M8 to M15	3	16	4.4	-58.5	-57	-58.7		-53.17	-48.77	-41.25	7.52
	HE20, M16 to M23	3	17	4.4	-57.5	-56.4	-57.3		-52.21	-47.81	-41.25	6.56
	HE20, M0 to M7	4	11	4.4	-62.5	-60.9	-63.6	-61.6	-55.95	-51.55	-41.25	10.3
	HE20, M8 to M15	4	14	4.4	-59.9	-59.1	-60.3	-59	-53.46	-49.06	-41.25	7.81
	HE20, M16 to M23	4	16	4.4	-58.5	-57	-58.7	-57.8	-51.87	-47.47	-41.25	6.22
	HE20, M24 to M31	4	16	4.4	-58.5	-57	-58.7	-57.8	-51.87	-47.47	-41.25	6.22
	HE20 Beam Forming, M0 to M7	2	15	7.4	-59.2	-58.3			-55.66	-48.26	-41.25	7.01
	HE20 Beam Forming, M8 to M15	2	17	4.4	-57.5	-56.4			-53.84	-49.44	-41.25	8.19
	HE20 Beam Forming, M0 to M7	3	12	9.4	-61.7	-60.2	-61.9		-56.37	-46.97	-41.25	5.72
	HE20 Beam Forming, M8 to M15	3	15	6.4	-59.2	-58.3	-59.4		-54.11	-47.71	-41.25	6.46
	HE20 Beam Forming, M16 to M23	3	17	4.4	-57.5	-56.4	-57.3		-52.21	-47.81	-41.25	6.56
	HE20 Beam Forming, M0 to M7	4	9	10.4	-63.5	-63.1	-64.7	-62.6	-57.33	-46.93	-41.25	5.68
	HE20 Beam Forming, M8 to M15	4	12	7.4	-61.7	-60.2	-61.9	-60.1	-54.82	-47.42	-41.25	6.17
	HE20 Beam Forming, M16 to M23	4	14	5.4	-59.9	-59.1	-60.3	-59	-53.46	-48.06	-41.25	6.81
	HE20 Beam Forming, M24 to M31	4	16	4.4	-58.5	-57	-58.7	-57.8	-51.87	-47.47	-41.25	6.22
	HE20 STBC, M0 to M7	2	17	4.4	-57.5	-56.4			-53.84	-49.44	-41.25	8.19
	HE20 STBC, M0 to M7	3	16	4.4	-58.5	-57	-58.7		-53.17	-48.77	-41.25	7.52
	HE20 STBC, M0 to M7	4	14	4.4	-59.9	-59.1	-60.3	-59	-53.46	-49.06	-41.25	7.81
5270	Non HT40, 6 to 54 Mbps	1	17	4.4	-57.4				-57.36	-52.96	-41.25	11.71
	Non HT40, 6 to 54 Mbps	2	17	4.4	-57.4	-56			-53.6	-49.2	-41.25	7.95
	Non HT40, 6 to 54 Mbps	3	16	4.4	-58.2	-56.8	-58.5		-52.96	-48.56	-41.25	7.31
	Non HT40, 6 to 54 Mbps	4	14	4.4	-59.6	-58.8	-60.5	-59.1	-53.4	-49	-41.25	7.75
	HT/VHT40, M0 to M7	1	17	4.4	-57.8				-57.72	-53.32	-41.25	12.07
	HT/VHT40, M0 to M7	2	17	4.4	-57.8	-56.2			-53.84	-49.44	-41.25	8.19
	HT/VHT40, M8 to M15	2	17	4.4	-57.8	-56.2			-53.84	-49.44	-41.25	8.19
	HT/VHT40, M0 to M7	3	16	4.4	-58.2	-56.8	-59		-53.05	-48.65	-41.25	7.4
	HT/VHT40, M8 to M15	3	17	4.4	-57.8	-56.2	-57.6		-52.29	-47.89	-41.25	6.64
	HT/VHT40, M16 to M23	3	17	4.4	-57.8	-56.2	-57.6		-52.29	-47.89	-41.25	6.64
	HT/VHT40, M0 to M7	4	14	4.4	-59.7	-59.1	-60.7	-59.3	-53.56	-49.16	-41.25	7.91
	HT/VHT40, M8 to M15	4	16	4.4	-58.2	-56.8	-59	-57.8	-51.78	-47.38	-41.25	6.13
	HT/VHT40, M16 to M23	4	16	4.4	-58.2	-56.8	-59	-57.8	-51.78	-47.38	-41.25	6.13
	HT/VHT40, M24 to M31	4	16	4.4	-58.2	-56.8	-59	-57.8	-51.78	-47.38	-41.25	6.13
	HT/VHT40 Beam Forming, M0 to M7	2	15	7.4	-59.1	-58.1			-55.48	-48.08	-41.25	6.83
	HT/VHT40 Beam Forming, M8 to M15	2	17	4.4	-57.8	-56.2			-53.84	-49.44	-41.25	8.19

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	HT/VHT40 Beam Forming, M0 to M7	3	12	9.4	-61.3	-60.4	-62		-56.33	-46.93	-41.25	5.68
	HT/VHT40 Beam Forming, M8 to M15	3	15	6.4	-59.1	-58.1	-59.5		-54.01	-47.61	-41.25	6.36
	HT/VHT40 Beam Forming, M16 to M23	3	17	4.4	-57.8	-56.2	-57.6		-52.29	-47.89	-41.25	6.64
	HT/VHT40 Beam Forming, M0 to M7	4	9	10.4	-63.4	-62.9	-64.9	-62.9	-57.35	-46.95	-41.25	5.7
	HT/VHT40 Beam Forming, M8 to M15	4	12	7.4	-61.3	-60.4	-62	-60.3	-54.85	-47.45	-41.25	6.2
	HT/VHT40 Beam Forming, M16 to M23	4	14	5.4	-59.7	-59.1	-60.7	-59.3	-53.56	-48.16	-41.25	6.91
	HT/VHT40 Beam Forming, M24 to M31	4	16	4.4	-58.2	-56.8	-59	-57.8	-51.78	-47.38	-41.25	6.13
	HT/VHT40 STBC, M0 to M7	2	17	4.4	-57.8	-56.2			-53.84	-49.44	-41.25	8.19
	HT/VHT40 STBC, M0 to M7	3	17	4.4	-57.8	-56.2	-57.6		-52.29	-47.89	-41.25	6.64
	HT/VHT40 STBC, M0 to M7	4	16	4.4	-58.2	-56.8	-59	-57.8	-51.78	-47.38	-41.25	6.13
	HE40, M0 to M7	1	17	4.4	-57.8				-57.67	-53.27	-41.25	12.02
	HE40, M0 to M7	2	17	4.4	-57.8	-56.1			-53.73	-49.33	-41.25	8.08
	HE40, M8 to M15	2	17	4.4	-57.8	-56.1			-53.73	-49.33	-41.25	8.08
	HE40, M0 to M7	3	16	4.4	-58.5	-56.9	-59.1		-53.17	-48.77	-41.25	7.52
	HE40, M8 to M15	3	17	4.4	-57.8	-56.1	-57.8		-52.26	-47.86	-41.25	6.61
	HE40, M16 to M23	3	17	4.4	-57.8	-56.1	-57.8		-52.26	-47.86	-41.25	6.61
	HE40, M0 to M7	4	14	4.4	-59.8	-58.9	-60.9	-59.1	-53.46	-49.06	-41.25	7.81
	HE40, M8 to M15	4	16	4.4	-58.5	-56.9	-59.1	-57.9	-51.88	-47.48	-41.25	6.23
	HE40, M16 to M23	4	16	4.4	-58.5	-56.9	-59.1	-57.9	-51.88	-47.48	-41.25	6.23
	HE40, M24 to M31	4	16	4.4	-58.5	-56.9	-59.1	-57.9	-51.88	-47.48	-41.25	6.23
	HE40 Beam Forming, M0 to M7	2	15	7.4	-59.1	-58.3			-55.55	-48.15	-41.25	6.9
	HE40 Beam Forming, M8 to M15	2	17	4.4	-57.8	-56.1			-53.73	-49.33	-41.25	8.08
	HE40 Beam Forming, M0 to M7	3	12	9.4	-60.7	-60.1	-61.8		-55.91	-46.51	-41.25	5.26
	HE40 Beam Forming, M8 to M15	3	15	6.4	-59.1	-58.3	-59.7		-54.1	-47.7	-41.25	6.45
	HE40 Beam Forming, M16 to M23	3	17	4.4	-57.8	-56.1	-57.8		-52.26	-47.86	-41.25	6.61
	HE40 Beam Forming, M0 to M7	4	9	10.4	-63.4	-63.1	-64.9	-62.9	-57.36	-46.96	-41.25	5.71
	HE40 Beam Forming, M8 to M15	4	12	7.4	-60.7	-60.1	-61.8	-59.9	-54.42	-47.02	-41.25	5.77
	HE40 Beam Forming, M16 to M23	4	14	5.4	-59.8	-58.9	-60.9	-59.1	-53.46	-48.06	-41.25	6.81
	HE40 Beam Forming, M24 to M31	4	16	4.4	-58.5	-56.9	-59.1	-57.9	-51.88	-47.48	-41.25	6.23
	HE40 STBC, M0 to M7	2	17	4.4	-57.8	-56.1			-53.73	-49.33	-41.25	8.08
	HE40 STBC, M0 to M7	3	17	4.4	-57.8	-56.1	-57.8		-52.26	-47.86	-41.25	6.61
	HE40 STBC, M0 to M7	4	16	4.4	-58.5	-56.9	-59.1	-57.9	-51.88	-47.48	-41.25	6.23
5290	Non HT80, 6 to 54 Mbps	1	15	4.4	-59				-58.96	-54.56	-41.25	13.31
	Non HT80, 6 to 54 Mbps	2	13	4.4	-60.4	-59.2			-56.71	-52.31	-41.25	11.06
	Non HT80, 6 to 54 Mbps	3	13	4.4	-60.4	-59.2	-60.6		-55.21	-50.81	-41.25	9.56
	Non HT80, 6 to 54 Mbps	4	13	4.4	-60.4	-59.2	-60.6	-59.4	-53.8	-49.4	-41.25	8.15
	VHT80, M0 to M9 1ss	1	15	4.4	-59.8				-59.61	-55.21	-41.25	13.96
	VHT80, M0 to M9 1ss	2	14	4.4	-60.1	-59.2			-56.43	-52.03	-41.25	10.78
	VHT80, M0 to M9 2ss	2	14	4.4	-60.1	-59.2			-56.43	-52.03	-41.25	10.78

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VHT80, M0 to M9 1ss	3	14	4.4	-60.1	-59.2	-60.9		-55.05	-50.65	-41.25	9.4
VHT80, M0 to M9 2ss	3	14	4.4	-60.1	-59.2	-60.9		-55.05	-50.65	-41.25	9.4
VHT80, M0 to M9 3ss	3	14	4.4	-60.1	-59.2	-60.9		-55.05	-50.65	-41.25	9.4
VHT80, M0 to M9 1ss	4	14	4.4	-60.1	-59.2	-60.9	-59.5	-53.67	-49.27	-41.25	8.02
VHT80, M0 to M9 2ss	4	14	4.4	-60.1	-59.2	-60.9	-59.5	-53.67	-49.27	-41.25	8.02
VHT80, M0 to M9 3ss	4	14	4.4	-60.1	-59.2	-60.9	-59.5	-53.67	-49.27	-41.25	8.02
VHT80, M0 to M9 4ss	4	14	4.4	-60.1	-59.2	-60.9	-59.5	-53.67	-49.27	-41.25	8.02
VHT80 Beam Forming, M0 to M9 1ss	2	14	7.4	-60.1	-59.2			-56.43	-49.03	-41.25	7.78
VHT80 Beam Forming, M0 to M9 2ss	2	14	4.4	-60.1	-59.2			-56.43	-52.03	-41.25	10.78
VHT80 Beam Forming, M0 to M9 1ss	3	11	9.4	-62.7	-60.7	-63.9		-57.27	-47.87	-41.25	6.62
VHT80 Beam Forming, M0 to M9 2ss	3	13	6.4	-60.7	-59.9	-61.5		-55.69	-49.29	-41.25	8.04
VHT80 Beam Forming, M0 to M9 3ss	3	14	4.4	-60.1	-59.2	-60.9		-55.05	-50.65	-41.25	9.4
VHT80 Beam Forming, M0 to M9 1ss	4	8	10.4	-64.1	-63.5	-65.1	-62.9	-57.61	-47.21	-41.25	5.96
VHT80 Beam Forming, M0 to M9 2ss	4	12	7.4	-62.4	-60.4	-62.3	-60.3	-55.02	-47.62	-41.25	6.37
VHT80 Beam Forming, M0 to M9 3ss	4	13	5.4	-60.7	-59.9	-61.5	-60	-54.27	-48.87	-41.25	7.62
VHT80 Beam Forming, M0 to M9 4ss	4	14	4.4	-60.1	-59.2	-60.9	-59.5	-53.67	-49.27	-41.25	8.02
VHT80 STBC, M0 to M9 1ss	2	14	4.4	-60.1	-59.2			-56.43	-52.03	-41.25	10.78
VHT80 STBC, M0 to M9 1ss	3	14	4.4	-60.1	-59.2	-60.9		-55.05	-50.65	-41.25	9.4
VHT80 STBC, M0 to M9 1ss	4	14	4.4	-60.1	-59.2	-60.9	-59.5	-53.67	-49.27	-41.25	8.02
HE80, M0 to M9 1ss	1	16	4.4	-59				-58.77	-54.37	-41.25	13.12
HE80, M0 to M9 1ss	2	15	4.4	-59.3	-57.4			-55.01	-50.61	-41.25	9.36
HE80, M0 to M9 2ss	2	15	4.4	-59.3	-57.4			-55.01	-50.61	-41.25	9.36
HE80, M0 to M9 1ss	3	14	4.4	-60	-59.2	-60.5		-54.86	-50.46	-41.25	9.21
HE80, M0 to M9 2ss	3	14	4.4	-60	-59.2	-60.5		-54.86	-50.46	-41.25	9.21
HE80, M0 to M9 3ss	3	14	4.4	-60	-59.2	-60.5		-54.86	-50.46	-41.25	9.21
HE80, M0 to M9 1ss	4	14	4.4	-60	-59.2	-60.5	-59.2	-53.44	-49.04	-41.25	7.79
HE80, M0 to M9 2ss	4	14	4.4	-60	-59.2	-60.5	-59.2	-53.44	-49.04	-41.25	7.79
HE80, M0 to M9 3ss	4	14	4.4	-60	-59.2	-60.5	-59.2	-53.44	-49.04	-41.25	7.79
HE80, M0 to M9 4ss	4	14	4.4	-60	-59.2	-60.5	-59.2	-53.44	-49.04	-41.25	7.79
HE80 Beam Forming, M0 to M9 1ss	2	14	7.4	-60	-59.2			-56.34	-48.94	-41.25	7.69
HE80 Beam Forming, M0 to M9 2ss	2	15	4.4	-59.3	-57.4			-55.01	-50.61	-41.25	9.36
HE80 Beam Forming, M0 to M9 1ss	3	11	9.4	-62.7	-60.9	-63.7		-57.27	-47.87	-41.25	6.62
HE80 Beam Forming, M0 to M9 2ss	3	13	6.4	-60.5	-59.7	-61.1		-55.39	-48.99	-41.25	7.74
HE80 Beam Forming, M0 to M9 3ss	3	14	4.4	-60	-59.2	-60.5		-54.86	-50.46	-41.25	9.21
HE80 Beam Forming, M0 to M9 1ss	4	8	10.4	-64.1	-63.6	-65.4	-63.2	-57.75	-47.35	-41.25	6.1
HE80 Beam Forming, M0 to M9 2ss	4	11	7.4	-62.7	-60.9	-63.7	-61.6	-55.84	-48.44	-41.25	7.19
HE80 Beam Forming, M0 to M9 3ss	4	13	5.4	-60.5	-59.7	-61.1	-59.8	-53.99	-48.59	-41.25	7.34
HE80 Beam Forming, M0 to M9 4ss	4	14	4.4	-60	-59.2	-60.5	-59.2	-53.44	-49.04	-41.25	7.79
HE80 STBC, M0 to M9 1ss	2	15	4.4	-59.3	-57.4			-55.01	-50.61	-41.25	9.36
HE80 STBC, M0 to M9 1ss	3	14	4.4	-60	-59.2	-60.5		-54.86	-50.46	-41.25	9.21
HE80 STBC, M0 to M9 1ss	4	14	4.4	-60	-59.2	-60.5	-59.2	-53.44	-49.04	-41.25	7.79

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5300	Non HT20, 6 to 54 Mbps	1	17	4.4	-58.5				-58.46	-54.06	-41.25	12.81
	Non HT20, 6 to 54 Mbps	2	17	4.4	-58.5	-56.9			-54.58	-50.18	-41.25	8.93
	Non HT20, 6 to 54 Mbps	3	13	4.4	-61.4	-60.1	-61.6		-56.17	-51.77	-41.25	10.52
	Non HT20, 6 to 54 Mbps	4	11	4.4	-63	-61.9	-64.2	-62	-56.62	-52.22	-41.25	10.97
	Non HT20 Beam Forming, 6 to 54 Mbps	2	15	7.4	-59.8	-59			-56.34	-48.94	-41.25	7.69
	Non HT20 Beam Forming, 6 to 54 Mbps	3	12	9.4	-62.3	-60.8	-63.7		-57.3	-47.9	-41.25	6.65
	Non HT20 Beam Forming, 6 to 54 Mbps	4	9	10.4	-64	-63.5	-65.1	-63	-57.78	-47.38	-41.25	6.13
	HT/VHT20, M0 to M7	1	17	4.4	-58.5				-58.45	-54.05	-41.25	12.8
	HT/VHT20, M0 to M7	2	17	4.4	-58.5	-57.1			-54.69	-50.29	-41.25	9.04
	HT/VHT20, M8 to M15	2	17	4.4	-58.5	-57.1			-54.69	-50.29	-41.25	9.04
	HT/VHT20, M0 to M7	3	14	4.4	-60.4	-59.7	-61.3		-55.6	-51.2	-41.25	9.95
	HT/VHT20, M8 to M15	3	17	4.4	-58.5	-57.1	-59		-53.31	-48.91	-41.25	7.66
	HT/VHT20, M16 to M23	3	17	4.4	-58.5	-57.1	-59		-53.31	-48.91	-41.25	7.66
	HT/VHT20, M0 to M7	4	11	4.4	-63.1	-62.5	-64.2	-62	-56.81	-52.41	-41.25	11.16
	HT/VHT20, M8 to M15	4	14	4.4	-60.4	-59.7	-61.3	-59.7	-54.16	-49.76	-41.25	8.51
	HT/VHT20, M16 to M23	4	16	4.4	-59.3	-58.5	-60	-58.4	-52.94	-48.54	-41.25	7.29
	HT/VHT20, M24 to M31	4	16	4.4	-59.3	-58.5	-60	-58.4	-52.94	-48.54	-41.25	7.29
	HT/VHT20 Beam Forming, M0 to M7	2	15	7.4	-59.9	-59.2			-56.48	-49.08	-41.25	7.83
	HT/VHT20 Beam Forming, M8 to M15	2	17	4.4	-58.5	-57.1			-54.69	-50.29	-41.25	9.04
	HT/VHT20 Beam Forming, M0 to M7	3	12	9.4	-62.4	-60.8	-63.8		-57.34	-47.94	-41.25	6.69
	HT/VHT20 Beam Forming, M8 to M15	3	15	6.4	-59.9	-59.2	-60.6		-55.04	-48.64	-41.25	7.39
	HT/VHT20 Beam Forming, M16 to M23	3	17	4.4	-58.5	-57.1	-59		-53.31	-48.91	-41.25	7.66
	HT/VHT20 Beam Forming, M0 to M7	4	9	10.4	-63.9	-63.8	-65.2	-63	-57.84	-47.44	-41.25	6.19
	HT/VHT20 Beam Forming, M8 to M15	4	12	7.4	-62.4	-60.8	-63.8	-61.4	-55.89	-48.49	-41.25	7.24
	HT/VHT20 Beam Forming, M16 to M23	4	14	5.4	-60.4	-59.7	-61.3	-59.7	-54.16	-48.76	-41.25	7.51
	HT/VHT20 Beam Forming, M24 to M31	4	16	4.4	-59.3	-58.5	-60	-58.4	-52.94	-48.54	-41.25	7.29
	HT/VHT20 STBC, M0 to M7	2	17	4.4	-58.5	-57.1			-54.69	-50.29	-41.25	9.04
	HT/VHT20 STBC, M0 to M7	3	17	4.4	-58.5	-57.1	-59		-53.31	-48.91	-41.25	7.66
	HT/VHT20 STBC, M0 to M7	4	14	4.4	-60.4	-59.7	-61.3	-59.7	-54.16	-49.76	-41.25	8.51
	HE20, M0 to M7	1	17	4.4	-58.2				-58.14	-53.74	-41.25	12.49
	HE20, M0 to M7	2	17	4.4	-58.2	-56.5			-54.2	-49.8	-41.25	8.55
	HE20, M8 to M15	2	17	4.4	-58.2	-56.5			-54.2	-49.8	-41.25	8.55
	HE20, M0 to M7	3	13	4.4	-61.7	-60	-61.5		-56.17	-51.77	-41.25	10.52
	HE20, M8 to M15	3	16	4.4	-59.1	-58.1	-59.6		-54.06	-49.66	-41.25	8.41
	HE20, M16 to M23	3	17	4.4	-58.2	-56.5	-58.7		-52.86	-48.46	-41.25	7.21
	HE20, M0 to M7	4	11	4.4	-63	-62.4	-64	-62	-56.71	-52.31	-41.25	11.06
	HE20, M8 to M15	4	14	4.4	-60.2	-59.5	-61	-59.4	-53.9	-49.5	-41.25	8.25
	HE20, M16 to M23	4	16	4.4	-59.1	-58.1	-59.6	-58.1	-52.6	-48.2	-41.25	6.95

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	HE20, M24 to M31	4	16	4.4	-59.1	-58.1	-59.6	-58.1	-52.6	-48.2	-41.25	6.95
	HE20 Beam Forming, M0 to M7	2	15	7.4	-59.8	-58.8			-56.2	-48.8	-41.25	7.55
	HE20 Beam Forming, M8 to M15	2	17	4.4	-58.2	-56.5			-54.2	-49.8	-41.25	8.55
	HE20 Beam Forming, M0 to M7	3	12	9.4	-62.2	-60.5	-63.5		-57.06	-47.66	-41.25	6.41
	HE20 Beam Forming, M8 to M15	3	15	6.4	-59.8	-58.8	-60.3		-54.76	-48.36	-41.25	7.11
	HE20 Beam Forming, M16 to M23	3	17	4.4	-58.2	-56.5	-58.7		-52.86	-48.46	-41.25	7.21
	HE20 Beam Forming, M0 to M7	4	9	10.4	-63.9	-63.5	-64.9	-62.8	-57.63	-47.23	-41.25	5.98
	HE20 Beam Forming, M8 to M15	4	12	7.4	-62.2	-60.5	-63.5	-61.2	-55.63	-48.23	-41.25	6.98
	HE20 Beam Forming, M16 to M23	4	14	5.4	-60.2	-59.5	-61	-59.4	-53.9	-48.5	-41.25	7.25
	HE20 Beam Forming, M24 to M31	4	16	4.4	-59.1	-58.1	-59.6	-58.1	-52.6	-48.2	-41.25	6.95
	HE20 STBC, M0 to M7	2	17	4.4	-58.2	-56.5			-54.2	-49.8	-41.25	8.55
	HE20 STBC, M0 to M7	3	16	4.4	-59.1	-58.1	-59.6		-54.06	-49.66	-41.25	8.41
	HE20 STBC, M0 to M7	4	14	4.4	-60.2	-59.5	-61	-59.4	-53.9	-49.5	-41.25	8.25
5310	Non HT40, 6 to 54 Mbps	1	15	4.4	-59				-58.96	-54.56	-41.25	13.31
	Non HT40, 6 to 54 Mbps	2	14	4.4	-59.9	-58.8			-56.27	-51.87	-41.25	10.62
	Non HT40, 6 to 54 Mbps	3	14	4.4	-59.9	-58.8	-60.9		-54.97	-50.57	-41.25	9.32
	Non HT40, 6 to 54 Mbps	4	14	4.4	-59.9	-58.8	-60.9	-59	-53.52	-49.12	-41.25	7.87
	HT/VHT40, M0 to M7	1	16	4.4	-58.8				-58.72	-54.32	-41.25	13.07
	HT/VHT40, M0 to M7	2	15	4.4	-59.4	-58.3			-55.73	-51.33	-41.25	10.08
	HT/VHT40, M8 to M15	2	15	4.4	-59.4	-58.3			-55.73	-51.33	-41.25	10.08
	HT/VHT40, M0 to M7	3	15	4.4	-59.4	-58.3	-60.3		-54.41	-50.01	-41.25	8.76
	HT/VHT40, M8 to M15	3	15	4.4	-59.4	-58.3	-60.3		-54.41	-50.01	-41.25	8.76
	HT/VHT40, M16 to M23	3	15	4.4	-59.4	-58.3	-60.3		-54.41	-50.01	-41.25	8.76
	HT/VHT40, M0 to M7	4	14	4.4	-60	-59.4	-60.9	-59.3	-53.76	-49.36	-41.25	8.11
	HT/VHT40, M8 to M15	4	14	4.4	-60	-59.4	-60.9	-59.3	-53.76	-49.36	-41.25	8.11
	HT/VHT40, M16 to M23	4	14	4.4	-60	-59.4	-60.9	-59.3	-53.76	-49.36	-41.25	8.11
	HT/VHT40, M24 to M31	4	14	4.4	-60	-59.4	-60.9	-59.3	-53.76	-49.36	-41.25	8.11
	HT/VHT40 Beam Forming, M0 to M7	2	14	7.4	-60	-59.4			-56.6	-49.2	-41.25	7.95
	HT/VHT40 Beam Forming, M8 to M15	2	15	4.4	-59.4	-58.3			-55.73	-51.33	-41.25	10.08
	HT/VHT40 Beam Forming, M0 to M7	3	12	9.4	-61.5	-60.3	-62		-56.36	-46.96	-41.25	5.71
	HT/VHT40 Beam Forming, M8 to M15	3	14	6.4	-60	-59.4	-60.9		-55.21	-48.81	-41.25	7.56
	HT/VHT40 Beam Forming, M16 to M23	3	15	4.4	-59.4	-58.3	-60.3		-54.41	-50.01	-41.25	8.76
	HT/VHT40 Beam Forming, M0 to M7	4	9	10.4	-63.7	-63	-65	-63	-57.5	-47.1	-41.25	5.85
	HT/VHT40 Beam Forming, M8 to M15	4	12	7.4	-61.5	-60.3	-62	-60.3	-54.86	-47.46	-41.25	6.21
	HT/VHT40 Beam Forming, M16 to M23	4	14	5.4	-60	-59.4	-60.9	-59.3	-53.76	-48.36	-41.25	7.11
	HT/VHT40 Beam Forming, M24 to M31	4	14	4.4	-60	-59.4	-60.9	-59.3	-53.76	-49.36	-41.25	8.11
	HT/VHT40 STBC, M0 to M7	2	15	4.4	-59.4	-58.3			-55.73	-51.33	-41.25	10.08
	HT/VHT40 STBC, M0 to M7	3	15	4.4	-59.4	-58.3	-60.3		-54.41	-50.01	-41.25	8.76
	HT/VHT40 STBC, M0 to M7	4	14	4.4	-60	-59.4	-60.9	-59.3	-53.76	-49.36	-41.25	8.11

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	HE40, M0 to M7	1	14	4.4	-60				-59.87	-55.47	-41.25	14.22
	HE40, M0 to M7	2	14	4.4	-60	-59.2			-56.45	-52.05	-41.25	10.8
	HE40, M8 to M15	2	14	4.4	-60	-59.2			-56.45	-52.05	-41.25	10.8
	HE40, M0 to M7	3	13	4.4	-60.5	-59.5	-61.4		-55.5	-51.1	-41.25	9.85
	HE40, M8 to M15	3	13	4.4	-60.5	-59.5	-61.4		-55.5	-51.1	-41.25	9.85
	HE40, M16 to M23	3	13	4.4	-60.5	-59.5	-61.4		-55.5	-51.1	-41.25	9.85
	HE40, M0 to M7	4	13	4.4	-60.5	-59.5	-61.4	-59.8	-54.09	-49.69	-41.25	8.44
	HE40, M8 to M15	4	13	4.4	-60.5	-59.5	-61.4	-59.8	-54.09	-49.69	-41.25	8.44
	HE40, M16 to M23	4	13	4.4	-60.5	-59.5	-61.4	-59.8	-54.09	-49.69	-41.25	8.44
	HE40, M24 to M31	4	13	4.4	-60.5	-59.5	-61.4	-59.8	-54.09	-49.69	-41.25	8.44
	HE40 Beam Forming, M0 to M7	2	13	7.4	-60.5	-59.5			-56.84	-49.44	-41.25	8.19
	HE40 Beam Forming, M8 to M15	2	14	4.4	-60	-59.2			-56.45	-52.05	-41.25	10.8
	HE40 Beam Forming, M0 to M7	3	11	9.4	-62.8	-60.9	-64		-57.48	-48.08	-41.25	6.83
	HE40 Beam Forming, M8 to M15	3	13	6.4	-60.5	-59.5	-61.4		-55.5	-49.1	-41.25	7.85
	HE40 Beam Forming, M16 to M23	3	13	4.4	-60.5	-59.5	-61.4		-55.5	-51.1	-41.25	9.85
	HE40 Beam Forming, M0 to M7	4	7	10.4	-63.9	-63.7	-65.4	-63.2	-57.83	-47.43	-41.25	6.18
	HE40 Beam Forming, M8 to M15	4	11	7.4	-62.8	-60.9	-64	-61.9	-56.11	-48.71	-41.25	7.46
	HE40 Beam Forming, M16 to M23	4	13	5.4	-60.5	-59.5	-61.4	-59.8	-54.09	-48.69	-41.25	7.44
	HE40 Beam Forming, M24 to M31	4	13	4.4	-60.5	-59.5	-61.4	-59.8	-54.09	-49.69	-41.25	8.44
	HE40 STBC, M0 to M7	2	14	4.4	-60	-59.2			-56.45	-52.05	-41.25	10.8
	HE40 STBC, M0 to M7	3	13	4.4	-60.5	-59.5	-61.4		-55.5	-51.1	-41.25	9.85
	HE40 STBC, M0 to M7	4	13	4.4	-60.5	-59.5	-61.4	-59.8	-54.09	-49.69	-41.25	8.44
5320	Non HT20, 6 to 54 Mbps	1	17	4.4	-58.1				-58.06	-53.66	-41.25	12.41
	Non HT20, 6 to 54 Mbps	2	17	4.4	-58.1	-56.6			-54.24	-49.84	-41.25	8.59
	Non HT20, 6 to 54 Mbps	3	13	4.4	-61	-60.5	-61.3		-56.11	-51.71	-41.25	10.46
	Non HT20, 6 to 54 Mbps	4	11	4.4	-62.9	-61.2	-63.6	-60.8	-55.92	-51.52	-41.25	10.27
	Non HT20 Beam Forming, 6 to 54 Mbps	2	15	7.4	-59.7	-58.3			-55.9	-48.5	-41.25	7.25
	Non HT20 Beam Forming, 6 to 54 Mbps	3	12	9.4	-61.5	-60.9	-61.8		-56.58	-47.18	-41.25	5.93
	Non HT20 Beam Forming, 6 to 54 Mbps	4	9	10.4	-63.6	-63.3	-65.1	-62.8	-57.56	-47.16	-41.25	5.91
	HT/VHT20, M0 to M7	1	17	4.4	-58.7				-58.65	-54.25	-41.25	13
	HT/VHT20, M0 to M7	2	17	4.4	-58.7	-57.1			-54.77	-50.37	-41.25	9.12
	HT/VHT20, M8 to M15	2	17	4.4	-58.7	-57.1			-54.77	-50.37	-41.25	9.12
	HT/VHT20, M0 to M7	3	13	4.4	-61.1	-60.3	-61.6		-56.15	-51.75	-41.25	10.5
	HT/VHT20, M8 to M15	3	16	4.4	-58.9	-57.6	-58.9		-53.6	-49.2	-41.25	7.95
	HT/VHT20, M16 to M23	3	17	4.4	-58.7	-57.1	-57.5		-52.9	-48.5	-41.25	7.25
	HT/VHT20, M0 to M7	4	11	4.4	-63.3	-61.3	-64	-62.2	-56.51	-52.11	-41.25	10.86
	HT/VHT20, M8 to M15	4	14	4.4	-60.3	-59.5	-60.6	-59.6	-53.91	-49.51	-41.25	8.26
	HT/VHT20, M16 to M23	4	16	4.4	-58.9	-57.6	-58.9	-58.1	-52.27	-47.87	-41.25	6.62
	HT/VHT20, M24 to M31	4	16	4.4	-58.9	-57.6	-58.9	-58.1	-52.27	-47.87	-41.25	6.62

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	HT/VHT20 Beam Forming, M0 to M7	2	15	7.4	-60	-58.9			-56.36	-48.96	-41.25	7.71
	HT/VHT20 Beam Forming, M8 to M15	2	17	4.4	-58.7	-57.1			-54.77	-50.37	-41.25	9.12
	HT/VHT20 Beam Forming, M0 to M7	3	12	9.4	-62.1	-60.9	-62.2		-56.87	-47.47	-41.25	6.22
	HT/VHT20 Beam Forming, M8 to M15	3	15	6.4	-60	-58.9	-59.6		-54.66	-48.26	-41.25	7.01
	HT/VHT20 Beam Forming, M16 to M23	3	17	4.4	-58.7	-57.1	-57.5		-52.9	-48.5	-41.25	7.25
	HT/VHT20 Beam Forming, M0 to M7	4	9	10.4	-64.1	-63.4	-65.1	-63	-57.76	-47.36	-41.25	6.11
	HT/VHT20 Beam Forming, M8 to M15	4	12	7.4	-62.1	-60.9	-62.2	-60.5	-55.29	-47.89	-41.25	6.64
	HT/VHT20 Beam Forming, M16 to M23	4	14	5.4	-60.3	-59.5	-60.6	-59.6	-53.91	-48.51	-41.25	7.26
	HT/VHT20 Beam Forming, M24 to M31	4	16	4.4	-58.9	-57.6	-58.9	-58.1	-52.27	-47.87	-41.25	6.62
	HT/VHT20 STBC, M0 to M7	2	17	4.4	-58.7	-57.1			-54.77	-50.37	-41.25	9.12
	HT/VHT20 STBC, M0 to M7	3	16	4.4	-58.9	-57.6	-58.9		-53.6	-49.2	-41.25	7.95
	HT/VHT20 STBC, M0 to M7	4	14	4.4	-60.3	-59.5	-60.6	-59.6	-53.91	-49.51	-41.25	8.26
	HE20, M0 to M7	1	17	4.4	-57.9				-57.84	-53.44	-41.25	12.19
	HE20, M0 to M7	2	16	4.4	-59.1	-57.5			-55.16	-50.76	-41.25	9.51
	HE20, M8 to M15	2	16	4.4	-59.1	-57.5			-55.16	-50.76	-41.25	9.51
	HE20, M0 to M7	3	13	4.4	-60.8	-60.1	-61.1		-55.81	-51.41	-41.25	10.16
	HE20, M8 to M15	3	16	4.4	-59.1	-57.5	-58.9		-53.61	-49.21	-41.25	7.96
	HE20, M16 to M23	3	16	4.4	-59.1	-57.5	-58.9		-53.61	-49.21	-41.25	7.96
	HE20, M0 to M7	4	11	4.4	-62.9	-61.2	-64	-62	-56.32	-51.92	-41.25	10.67
	HE20, M8 to M15	4	14	4.4	-60.4	-59.5	-60.6	-59.5	-53.89	-49.49	-41.25	8.24
	HE20, M16 to M23	4	15	4.4	-59.8	-58.7	-59.5	-58.9	-53.12	-48.72	-41.25	7.47
	HE20, M24 to M31	4	15	4.4	-59.8	-58.7	-59.5	-58.9	-53.12	-48.72	-41.25	7.47
	HE20 Beam Forming, M0 to M7	2	15	7.4	-59.8	-58.7			-56.14	-48.74	-41.25	7.49
	HE20 Beam Forming, M8 to M15	2	16	4.4	-59.1	-57.5			-55.16	-50.76	-41.25	9.51
	HE20 Beam Forming, M0 to M7	3	12	9.4	-61.2	-60.9	-61.7		-56.42	-47.02	-41.25	5.77
	HE20 Beam Forming, M8 to M15	3	15	6.4	-59.8	-58.7	-59.5		-54.48	-48.08	-41.25	6.83
	HE20 Beam Forming, M16 to M23	3	16	4.4	-59.1	-57.5	-58.9		-53.61	-49.21	-41.25	7.96
	HE20 Beam Forming, M0 to M7	4	9	10.4	-64	-63.5	-65.1	-63	-57.75	-47.35	-41.25	6.1
	HE20 Beam Forming, M8 to M15	4	12	7.4	-61.2	-60.9	-61.7	-60.5	-54.97	-47.57	-41.25	6.32
	HE20 Beam Forming, M16 to M23	4	14	5.4	-60.4	-59.5	-60.6	-59.5	-53.89	-48.49	-41.25	7.24
	HE20 Beam Forming, M24 to M31	4	15	4.4	-59.8	-58.7	-59.5	-58.9	-53.12	-48.72	-41.25	7.47
	HE20 STBC, M0 to M7	2	16	4.4	-59.1	-57.5			-55.16	-50.76	-41.25	9.51
	HE20 STBC, M0 to M7	3	16	4.4	-59.1	-57.5	-58.9		-53.61	-49.21	-41.25	7.96
	HE20 STBC, M0 to M7	4	14	4.4	-60.4	-59.5	-60.6	-59.5	-53.89	-49.49	-41.25	8.24

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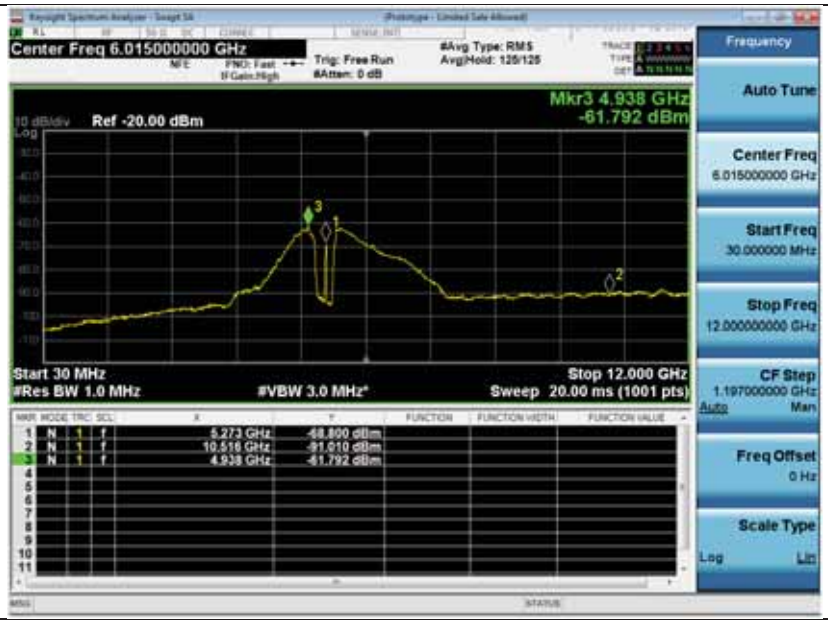
5.5.7 Conducted Spurious Emissions Data Plots – Average 30MHz – 12GHz

HE40 Beam Forming, 5270MHz, M0h1	
Antenna A	**Antenna B**
Antenna C	
	

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5.5.8 Conducted Spurious Emissions Plots 12-40GHz

Plots representative of all modes

Conducted Spurious 12GHz-40GHz index power 17dBm	
Peak	Average

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5.6 Conducted Band Edge

5.6.1 Conducted Band Edge Test Requirement

15.407(b), LP0002 (2018-01-10) (4.8.1.4)

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

(**7**) The provisions of §15.205 apply to intentional radiators operating under this section.

(8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

KDB 789033 D02 General UNII Test Procedures New Rules v01r02 2. Unwanted Emissions that fall Outside of the Restricted Bands

As specified in § 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a maximum emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in § 15.407(b)(4)). However, an out-of-band emission that complies with both the peak and average limits of § 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz maximum emission limit.

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5.6.2 Conducted Band Edge Test Procedure

Ref. 789033 D02 General UNII Test Procedures New Rules v01r02
ANSI C63.10: 2013

Conducted Spurious Emissions Test Procedure
1. Connect the antenna port(s) to the spectrum analyzer input. 2. Place the radio in continuous transmit mode. Use the procedures in KDB 789033 D02 General UNII Test Procedures New Rules v01r02 to substitute conducted measurements in place of radiated measurements. 3. Configure Spectrum analyzer as per test parameters below (be sure to enter all losses between the transmitter output and the spectrum analyzer). 4. Record the marker. Also measure any emissions in the restricted bands. 5. The "measure-and-sum technique" is used for measuring in-band transmit power of a device. In the measure-and-sum approach, the conducted emission level is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically to determine the total emission level from the device. Summing is performed in linear power units. The worst-case output is recorded. 6. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands 7. Capture graphs and record pertinent measurement data.

Ref. KDB 789033 D02 General UNII Test Procedures New Rules v01r02
Peak: KDB 789033 Section 5, Average: KDB 789033 Section 6

Conducted Spurious Emissions Test parameters
5. Procedure for Unwanted Maximum Emissions Measurements above 1000 MHz a) Follow the requirements in section II.G.3., *"General Requirements for Unwanted Emissions Measurements"*. b) Maximum emission levels are measured by setting the analyzer as follows: (i) RBW = 1 MHz. (ii) VBW ≥ 3 MHz. (iii) Detector = Peak. (iv) Sweep time = auto. (v) Trace mode = max hold. (vi) Allow sweeps to continue until the trace stabilizes. Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately 1/x, where x is the duty cycle. For example, at 50 percent duty cycle, the measurement time will increase by a factor of two relative to measurement time for continuous transmission. **6. Procedures for Average Unwanted Emissions Measurements above 1000 MHz** a) Follow the requirements in section II.G.3., *"General Requirements for Unwanted Emissions Measurements"*. b) Average emission levels shall be measured using one of the following two methods.

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d) **Method VB** (Averaging using reduced video bandwidth): Alternative method. (i) RBW = 1MHz.

(ii) Video bandwidth. • If the EUT is configured to transmit with duty cycle ≥ 98 percent, set VBW ≤ RBW/100 (*i.e.*, 10 kHz) but not less than 10 Hz.

• If the EUT duty cycle is < 98 percent, set VBW ≥ 1/*T*, where *T* is defined in section II.B.1.a).

(iii) Video bandwidth mode or display mode • The instrument shall be set to ensure that video filtering is applied in the power domain. Typically, this requires setting the detector mode to RMS and setting the Average-VBW Type to Power (RMS).

• As an alternative, the analyzer may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some analyzers require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to "Voltage" regardless of the display mode.

(iv) Detector = Peak.
(v) Sweep time = auto.
(vi) Trace mode = max hold.
(vii) Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98 percent duty cycle. For lower duty cycles, increase the minimum number of traces by a factor of 1/x, where x is the duty cycle. For example, use at least 200 traces if the duty cycle is 25 percent. (If a specific emission is demonstrated to be continuous—*i.e.*, 100 percent duty cycle—rather than turning on and off with the transmit cycle, at least 50 traces shall be averaged.)

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5.6.3 Conducted Band Edge Test Information

Samples, Systems, and Modes

System Number	Description	Samples	System under test	Support equipment
1	EUT	S01	☑	☐
	Support	S02	☐	☑

Tested By: Julian Land	Date of testing: November 19, 2018 – December 12, 2018
Test Result: PASS	

Test Equipment

See Appendix A for list of test equipment

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5.6.4 Conducted Band Edge Data Tables – Peak

Frequency (MHz)	Mode	Tx Paths	Index Power (dBm)	Correlated Antenna Gain (dBi)	Tx 1 Band edge Level (dBm)	Tx 2 Band edge Level (dBm)	Tx 3 Band edge Level (dBm)	Tx 4 Band edge Level (dBm)	Total Conducted Band Edge Level (dBm)	Total EIRP Band Edge Level (dBm)	Limit (dB)	Margin (dB)
5290	Non HT80, 6 to 54 Mbps	1	15	4.4	-33.8				-33.76	-29.36	-21.25	8.11
	Non HT80, 6 to 54 Mbps	2	13	4.4	-40.1	-38.2			-36	-31.6	-21.25	10.35
	Non HT80, 6 to 54 Mbps	3	13	4.4	-40.1	-38.2	-38.2		-33.94	-29.54	-21.25	8.29
	Non HT80, 6 to 54 Mbps	4	13	4.4	-40.1	-38.2	-38.2	-40.7	-33.1	-28.7	-21.25	7.45
	VHT80, M0 to M9 1ss	1	15	4.4	-34.9				-34.71	-30.31	-21.25	9.06
	VHT80, M0 to M9 1ss	2	14	4.4	-36.7	-40.1			-34.87	-30.47	-21.25	9.22
	VHT80, M0 to M9 2ss	2	14	4.4	-36.7	-40.1			-34.87	-30.47	-21.25	9.22
	VHT80, M0 to M9 1ss	3	14	4.4	-36.7	-40.1	-40.3		-33.74	-29.34	-21.25	8.09
	VHT80, M0 to M9 2ss	3	14	4.4	-36.7	-40.1	-40.3		-33.74	-29.34	-21.25	8.09
	VHT80, M0 to M9 3ss	3	14	4.4	-36.7	-40.1	-40.3		-33.74	-29.34	-21.25	8.09
	VHT80, M0 to M9 1ss	4	14	4.4	-36.7	-40.1	-40.3	-39.6	-32.7	-28.3	-21.25	7.05
	VHT80, M0 to M9 2ss	4	14	4.4	-36.7	-40.1	-40.3	-39.6	-32.7	-28.3	-21.25	7.05
	VHT80, M0 to M9 3ss	4	14	4.4	-36.7	-40.1	-40.3	-39.6	-32.7	-28.3	-21.25	7.05
	VHT80, M0 to M9 4ss	4	14	4.4	-36.7	-40.1	-40.3	-39.6	-32.7	-28.3	-21.25	7.05
	VHT80 Beam Forming, M0 to M9 1ss	2	14	7.4	-36.7	-40.1			-34.87	-27.47	-21.25	6.22
	VHT80 Beam Forming, M0 to M9 2ss	2	14	4.4	-36.7	-40.1			-34.87	-30.47	-21.25	9.22
	VHT80 Beam Forming, M0 to M9 1ss	3	11	9.4	-45	-46.5	-45.3		-40.59	-31.19	-21.25	9.94
	VHT80 Beam Forming, M0 to M9 2ss	3	13	6.4	-42.1	-44.1	-42.8		-37.96	-31.56	-21.25	10.31
	VHT80 Beam Forming, M0 to M9 3ss	3	14	4.4	-36.7	-40.1	-40.3		-33.74	-29.34	-21.25	8.09
	VHT80 Beam Forming, M0 to M9 1ss	4	8	10.4	-49	-49.1	-49.9	-49	-43.02	-32.62	-21.25	11.37
	VHT80 Beam Forming, M0 to M9 2ss	4	12	7.4	-43.6	-44.3	-45.1	-43	-37.72	-30.32	-21.25	9.07
	VHT80 Beam Forming, M0 to M9 3ss	4	13	5.4	-42.1	-44.1	-42.8	-44	-36.96	-31.56	-21.25	10.31
	VHT80 Beam Forming, M0 to M9 4ss	4	14	4.4	-36.7	-40.1	-40.3	-39.6	-32.7	-28.3	-21.25	7.05
	VHT80 STBC, M0 to M9 1ss	2	14	4.4	-36.7	-40.1			-34.87	-30.47	-21.25	9.22
	VHT80 STBC, M0 to M9 1ss	3	14	4.4	-36.7	-40.1	-40.3		-33.74	-29.34	-21.25	8.09

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	VHT80 STBC, M0 to M9 1ss	4	14	4.4	-36.7	-40.1	-40.3	-39.6	-32.7	-28.3	-21.25	7.05
	HE80, M0 to M9 1ss	1	16	4.4	-34				-33.77	-29.37	-21.25	8.12
	HE80, M0 to M9 1ss	2	15	4.4	-38.3	-34.5			-32.76	-28.36	-21.25	7.11
	HE80, M0 to M9 2ss	2	15	4.4	-38.3	-34.5			-32.76	-28.36	-21.25	7.11
	HE80, M0 to M9 1ss	3	14	4.4	-39.2	-41.7	-41.2		-35.56	-31.16	-21.25	9.91
	HE80, M0 to M9 2ss	3	14	4.4	-39.2	-41.7	-41.2		-35.56	-31.16	-21.25	9.91
	HE80, M0 to M9 3ss	3	14	4.4	-39.2	-41.7	-41.2		-35.56	-31.16	-21.25	9.91
	HE80, M0 to M9 1ss	4	14	4.4	-39.2	-41.7	-41.2	-40.4	-34.27	-29.87	-21.25	8.62
	HE80, M0 to M9 2ss	4	14	4.4	-39.2	-41.7	-41.2	-40.4	-34.27	-29.87	-21.25	8.62
	HE80, M0 to M9 3ss	4	14	4.4	-39.2	-41.7	-41.2	-40.4	-34.27	-29.87	-21.25	8.62
	HE80, M0 to M9 4ss	4	14	4.4	-39.2	-41.7	-41.2	-40.4	-34.27	-29.87	-21.25	8.62
	HE80 Beam Forming, M0 to M9 1ss	2	14	7.4	-39.2	-41.7			-37.03	-29.63	-21.25	8.38
	HE80 Beam Forming, M0 to M9 2ss	2	15	4.4	-38.3	-34.5			-32.76	-28.36	-21.25	7.11
	HE80 Beam Forming, M0 to M9 1ss	3	11	9.4	-43.9	-47.7	-44.7		-40.15	-30.75	-21.25	9.5
	HE80 Beam Forming, M0 to M9 2ss	3	13	6.4	-42.3	-42.6	-43.1		-37.65	-31.25	-21.25	10
	HE80 Beam Forming, M0 to M9 3ss	3	14	4.4	-39.2	-41.7	-41.2		-35.56	-31.16	-21.25	9.91
	HE80 Beam Forming, M0 to M9 1ss	4	8	10.4	-49.1	-49.9	-48.9	-49.2	-43.01	-32.61	-21.25	11.36
	HE80 Beam Forming, M0 to M9 2ss	4	11	7.4	-43.9	-47.7	-44.7	-44.9	-38.84	-31.44	-21.25	10.19
	HE80 Beam Forming, M0 to M9 3ss	4	13	5.4	-42.3	-42.6	-43.1	-43.8	-36.66	-31.26	-21.25	10.01
	HE80 Beam Forming, M0 to M9 4ss	4	14	4.4	-39.2	-41.7	-41.2	-40.4	-34.27	-29.87	-21.25	8.62
	HE80 STBC, M0 to M9 1ss	2	15	4.4	-38.3	-34.5			-32.76	-28.36	-21.25	7.11
	HE80 STBC, M0 to M9 1ss	3	14	4.4	-39.2	-41.7	-41.2		-35.56	-31.16	-21.25	9.91
	HE80 STBC, M0 to M9 1ss	4	14	4.4	-39.2	-41.7	-41.2	-40.4	-34.27	-29.87	-21.25	8.62
5310	Non HT40, 6 to 54 Mbps	1	15	4.4	-33.5				-33.46	-29.06	-21.25	7.81
	Non HT40, 6 to 54 Mbps	2	14	4.4	-41.3	-42.1			-38.64	-34.24	-21.25	12.99
	Non HT40, 6 to 54 Mbps	3	14	4.4	-41.3	-42.1	-40.8		-36.56	-32.16	-21.25	10.91
	Non HT40, 6 to 54 Mbps	4	14	4.4	-41.3	-42.1	-40.8	-39.9	-34.89	-30.49	-21.25	9.24
	HT/VHT40, M0 to M7	1	16	4.4	-34.5				-34.42	-30.02	-21.25	8.77
	HT/VHT40, M0 to M7	2	15	4.4	-36.8	-39.2			-34.75	-30.35	-21.25	9.1
	HT/VHT40, M8 to M15	2	15	4.4	-36.8	-39.2			-34.75	-30.35	-21.25	9.1
	HT/VHT40, M0 to M7	3	15	4.4	-36.8	-39.2	-40		-33.6	-29.2	-21.25	7.95
	HT/VHT40, M8 to M15	3	15	4.4	-36.8	-39.2	-40		-33.6	-29.2	-21.25	7.95
	HT/VHT40, M16 to M23	3	15	4.4	-36.8	-39.2	-40		-33.6	-29.2	-21.25	7.95
	HT/VHT40, M0 to M7	4	14	4.4	-43.9	-42.4	-44.8	-42.3	-37.13	-32.73	-21.25	11.48
	HT/VHT40, M8 to M15	4	14	4.4	-43.9	-42.4	-44.8	-42.3	-37.13	-32.73	-21.25	11.48
	HT/VHT40, M16 to M23	4	14	4.4	-43.9	-42.4	-44.8	-42.3	-37.13	-32.73	-21.25	11.48
	HT/VHT40, M24 to M31	4	14	4.4	-43.9	-42.4	-44.8	-42.3	-37.13	-32.73	-21.25	11.48
	HT/VHT40 Beam Forming, M0 to M7	2	14	7.4	-43.9	-42.4			-40	-32.6	-21.25	11.35
	HT/VHT40 Beam Forming, M8 to M15	2	15	4.4	-36.8	-39.2			-34.75	-30.35	-21.25	9.1
	HT/VHT40 Beam Forming, M0 to M7	3	12	9.4	-43.9	-46.5	-46.9		-40.7	-31.3	-21.25	10.05

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	HT/VHT40 Beam Forming, M8 to M15	3	14	6.4	-43.9	-42.4	-44.8		-38.74	-32.34	-21.25	11.09
	HT/VHT40 Beam Forming, M16 to M23	3	15	4.4	-36.8	-39.2	-40		-33.6	-29.2	-21.25	7.95
	HT/VHT40 Beam Forming, M0 to M7	4	9	10.4	-46.7	-48.5	-48.1	-49.8	-42.04	-31.64	-21.25	10.39
	HT/VHT40 Beam Forming, M8 to M15	4	12	7.4	-43.9	-46.5	-46.9	-44.3	-39.1	-31.7	-21.25	10.45
	HT/VHT40 Beam Forming, M16 to M23	4	14	5.4	-43.9	-42.4	-44.8	-42.3	-37.13	-31.73	-21.25	10.48
	HT/VHT40 Beam Forming, M24 to M31	4	14	4.4	-43.9	-42.4	-44.8	-42.3	-37.13	-32.73	-21.25	11.48
	HT/VHT40 STBC, M0 to M7	2	15	4.4	-36.8	-39.2			-34.75	-30.35	-21.25	9.1
	HT/VHT40 STBC, M0 to M7	3	15	4.4	-36.8	-39.2	-40		-33.6	-29.2	-21.25	7.95
	HT/VHT40 STBC, M0 to M7	4	14	4.4	-43.9	-42.4	-44.8	-42.3	-37.13	-32.73	-21.25	11.48
	HE40, M0 to M7	1	14	4.4	-34.6				-34.47	-30.07	-21.25	8.82
	HE40, M0 to M7	2	14	4.4	-34.6	-35.8			-32.02	-27.62	-21.25	6.37
	HE40, M8 to M15	2	14	4.4	-34.6	-35.8			-32.02	-27.62	-21.25	6.37
	HE40, M0 to M7	3	13	4.4	-43.2	-40.1	-43.4		-37.06	-32.66	-21.25	11.41
	HE40, M8 to M15	3	13	4.4	-43.2	-40.1	-43.4		-37.06	-32.66	-21.25	11.41
	HE40, M16 to M23	3	13	4.4	-43.2	-40.1	-43.4		-37.06	-32.66	-21.25	11.41
	HE40, M0 to M7	4	13	4.4	-43.2	-40.1	-43.4	-43.3	-36.11	-31.71	-21.25	10.46
	HE40, M8 to M15	4	13	4.4	-43.2	-40.1	-43.4	-43.3	-36.11	-31.71	-21.25	10.46
	HE40, M16 to M23	4	13	4.4	-43.2	-40.1	-43.4	-43.3	-36.11	-31.71	-21.25	10.46
	HE40, M24 to M31	4	13	4.4	-43.2	-40.1	-43.4	-43.3	-36.11	-31.71	-21.25	10.46
	HE40 Beam Forming, M0 to M7	2	13	7.4	-43.2	-40.1			-38.24	-30.84	-21.25	9.59
	HE40 Beam Forming, M8 to M15	2	14	4.4	-34.6	-35.8			-32.02	-27.62	-21.25	6.37
	HE40 Beam Forming, M0 to M7	3	11	9.4	-43.7	-46.8	-44.2		-39.81	-30.41	-21.25	9.16
	HE40 Beam Forming, M8 to M15	3	13	6.4	-43.2	-40.1	-43.4		-37.06	-30.66	-21.25	9.41
	HE40 Beam Forming, M16 to M23	3	13	4.4	-43.2	-40.1	-43.4		-37.06	-32.66	-21.25	11.41
	HE40 Beam Forming, M0 to M7	4	7	10.4	-47.1	-50.1	-49.1	-49.4	-42.63	-32.23	-21.25	10.98
	HE40 Beam Forming, M8 to M15	4	11	7.4	-43.7	-46.8	-44.2	-44.5	-38.51	-31.11	-21.25	9.86
	HE40 Beam Forming, M16 to M23	4	13	5.4	-43.2	-40.1	-43.4	-43.3	-36.11	-30.71	-21.25	9.46
	HE40 Beam Forming, M24 to M31	4	13	4.4	-43.2	-40.1	-43.4	-43.3	-36.11	-31.71	-21.25	10.46
	HE40 STBC, M0 to M7	2	14	4.4	-34.6	-35.8			-32.02	-27.62	-21.25	6.37
	HE40 STBC, M0 to M7	3	13	4.4	-43.2	-40.1	-43.4		-37.06	-32.66	-21.25	11.41
	HE40 STBC, M0 to M7	4	13	4.4	-43.2	-40.1	-43.4	-43.3	-36.11	-31.71	-21.25	10.46
5320	Non HT20, 6 to 54 Mbps	1	17	4.4	-38.1				-38.06	-33.66	-21.25	12.41
	Non HT20, 6 to 54 Mbps	2	17	4.4	-38.1	-40			-35.9	-31.5	-21.25	10.25
	Non HT20, 6 to 54 Mbps	3	13	4.4	-45.7	-45	-46.2		-40.8	-36.4	-21.25	15.15
	Non HT20, 6 to 54 Mbps	4	11	4.4	-47.6	-49	-48.4	-47.4	-42	-37.6	-21.25	16.35
	Non HT20 Beam Forming, 6 to 54 Mbps	2	15	7.4	-44.4	-44.5			-41.4	-34	-21.25	12.75
	Non HT20 Beam Forming, 6 to 54 Mbps	3	12	9.4	-46.8	-47.1	-46.5		-41.99	-32.59	-21.25	11.34
	Non HT20 Beam Forming, 6 to 54 Mbps	4	9	10.4	-49	-48.8	-50.3	-48.9	-43.15	-32.75	-21.25	11.5

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HT/VHT20, M0 to M7	1	17	4.4	-36.7				-36.65	-32.25	-21.25	11
HT/VHT20, M0 to M7	2	17	4.4	-36.7	-36.7			-33.64	-29.24	-21.25	7.99
HT/VHT20, M8 to M15	2	17	4.4	-36.7	-36.7			-33.64	-29.24	-21.25	7.99
HT/VHT20, M0 to M7	3	13	4.4	-45.7	-46.5	-45.7		-41.13	-36.73	-21.25	15.48
HT/VHT20, M8 to M15	3	16	4.4	-36.8	-38.1	-41.5		-33.57	-29.17	-21.25	7.92
HT/VHT20, M16 to M23	3	17	4.4	-36.7	-36.7	-38.7		-32.45	-28.05	-21.25	6.8
HT/VHT20, M0 to M7	4	11	4.4	-48.1	-48.1	-48.4	-48.2	-42.13	-37.73	-21.25	16.48
HT/VHT20, M8 to M15	4	14	4.4	-44.9	-45.7	-45.8	-45.9	-39.49	-35.09	-21.25	13.84
HT/VHT20, M16 to M23	4	16	4.4	-36.8	-38.1	-41.5	-41.3	-32.89	-28.49	-21.25	7.24
HT/VHT20, M24 to M31	4	16	4.4	-36.8	-38.1	-41.5	-41.3	-32.89	-28.49	-21.25	7.24
HT/VHT20 Beam Forming, M0 to M7	2	15	7.4	-42.5	-44.4			-40.29	-32.89	-21.25	11.64
HT/VHT20 Beam Forming, M8 to M15	2	17	4.4	-36.7	-36.7			-33.64	-29.24	-21.25	7.99
HT/VHT20 Beam Forming, M0 to M7	3	12	9.4	-46.8	-47.3	-47.5		-42.37	-32.97	-21.25	11.72
HT/VHT20 Beam Forming, M8 to M15	3	15	6.4	-42.5	-44.4	-44.4		-38.85	-32.45	-21.25	11.2
HT/VHT20 Beam Forming, M16 to M23	3	17	4.4	-36.7	-36.7	-38.7		-32.45	-28.05	-21.25	6.8
HT/VHT20 Beam Forming, M0 to M7	4	9	10.4	-49.5	-50.9	-50.2	-48.8	-43.71	-33.31	-21.25	12.06
HT/VHT20 Beam Forming, M8 to M15	4	12	7.4	-46.8	-47.3	-47.5	-46.1	-40.82	-33.42	-21.25	12.17
HT/VHT20 Beam Forming, M16 to M23	4	14	5.4	-44.9	-45.7	-45.8	-45.9	-39.49	-34.09	-21.25	12.84
HT/VHT20 Beam Forming, M24 to M31	4	16	4.4	-36.8	-38.1	-41.5	-41.3	-32.89	-28.49	-21.25	7.24
HT/VHT20 STBC, M0 to M7	2	17	4.4	-36.7	-36.7			-33.64	-29.24	-21.25	7.99
HT/VHT20 STBC, M0 to M7	3	16	4.4	-36.8	-38.1	-41.5		-33.57	-29.17	-21.25	7.92
HT/VHT20 STBC, M0 to M7	4	14	4.4	-44.9	-45.7	-45.8	-45.9	-39.49	-35.09	-21.25	13.84
HE20, M0 to M7	1	17	4.4	-36.6				-36.54	-32.14	-21.25	10.89
HE20, M0 to M7	2	16	4.4	-33.5	-42.5			-32.92	-28.52	-21.25	7.27
HE20, M8 to M15	2	16	4.4	-33.5	-42.5			-32.92	-28.52	-21.25	7.27
HE20, M0 to M7	3	13	4.4	-45.3	-45.9	-45.8		-40.83	-36.43	-21.25	15.18
HE20, M8 to M15	3	16	4.4	-33.5	-42.5	-39		-31.95	-27.55	-21.25	6.3
HE20, M16 to M23	3	16	4.4	-33.5	-42.5	-39		-31.95	-27.55	-21.25	6.3
HE20, M0 to M7	4	11	4.4	-47.2	-47.8	-46.3	-48.1	-41.21	-36.81	-21.25	15.56
HE20, M8 to M15	4	14	4.4	-44.8	-45.7	-44.8	-43.7	-38.61	-34.21	-21.25	12.96
HE20, M16 to M23	4	15	4.4	-40.3	-41.9	-42.9	-41.2	-35.39	-30.99	-21.25	9.74
HE20, M24 to M31	4	15	4.4	-40.3	-41.9	-42.9	-41.2	-35.39	-30.99	-21.25	9.74
HE20 Beam Forming, M0 to M7	2	15	7.4	-40.3	-41.9			-37.96	-30.56	-21.25	9.31
HE20 Beam Forming, M8 to M15	2	16	4.4	-33.5	-42.5			-32.92	-28.52	-21.25	7.27
HE20 Beam Forming, M0 to M7	3	12	9.4	-46.3	-46.2	-46.1		-41.37	-31.97	-21.25	10.72
HE20 Beam Forming, M8 to M15	3	15	6.4	-40.3	-41.9	-42.9		-36.73	-30.33	-21.25	9.08
HE20 Beam Forming, M16 to M23	3	16	4.4	-33.5	-42.5	-39		-31.95	-27.55	-21.25	6.3
HE20 Beam Forming, M0 to M7	4	9	10.4	-49.3	-50	-49	-49.5	-43.35	-32.95	-21.25	11.7
HE20 Beam Forming, M8 to M15	4	12	7.4	-46.3	-46.2	-46.1	-44.5	-39.63	-32.23	-21.25	10.98
HE20 Beam Forming, M16 to M23	4	14	5.4	-44.8	-45.7	-44.8	-43.7	-38.61	-33.21	-21.25	11.96

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	HE20 Beam Forming, M24 to M31	4	15	4.4	-40.3	-41.9	-42.9	-41.2	-35.39	-30.99	-21.25	9.74
	HE20 STBC, M0 to M7	2	16	4.4	-33.5	-42.5			-32.92	-28.52	-21.25	7.27
	HE20 STBC, M0 to M7	3	16	4.4	-33.5	-42.5	-39		-31.95	-27.55	-21.25	6.3
	HE20 STBC, M0 to M7	4	14	4.4	-44.8	-45.7	-44.8	-43.7	-38.61	-34.21	-21.25	12.96

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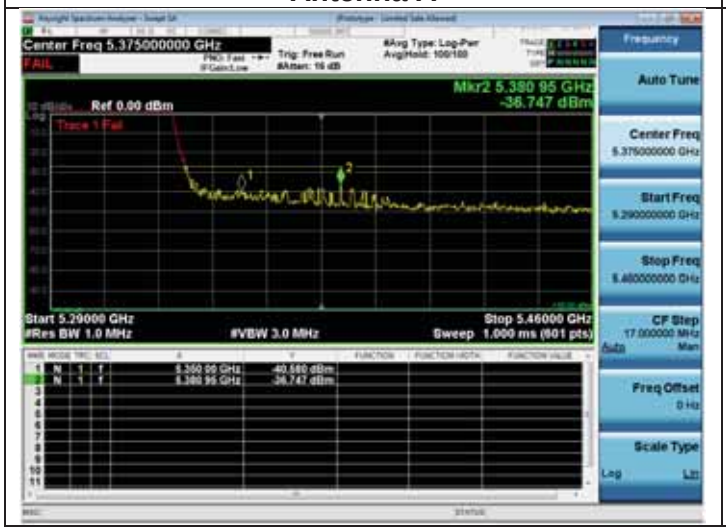
5.6.5 Conducted Band Edge Plot – Peak

VHT80, 5290MHz, M0x1	
Antenna A	**Antenna B**
	

Note: Traces say fail above because the transmitter is above an arbitrary line in the pass band

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5.6.6 Conducted Band Edge Data Tables – Average

Frequency (MHz)	Mode	Tx Paths	Index Power (dBm)	Correlated Antenna Gain (dBi)	Tx 1 Band edge Level (dBm)	Tx 2 Band edge Level (dBm)	Tx 3 Band edge Level (dBm)	Tx 4 Band edge Level (dBm)	Total Conducted Band edge Level (dBm)	Total EIRP Band edge Level (dBm)	Limit (dB)	Margin (dB)
5290	Non HT80, 6 to 54 Mbps	1	15	4.4	-49.2				-49.16	-44.76	-41.25	3.51
	Non HT80, 6 to 54 Mbps	2	13	4.4	-52.4	-54.2			-50.16	-45.76	-41.25	4.51
	Non HT80, 6 to 54 Mbps	3	13	4.4	-52.4	-54.2	-52.6		-48.19	-43.79	-41.25	2.54
	Non HT80, 6 to 54 Mbps	4	13	4.4	-52.4	-54.2	-52.6	-52.2	-46.73	-42.33	-41.25	1.08
	VHT80, M0 to M9 1ss	1	15	4.4	-51.2				-51.01	-46.61	-41.25	5.36
	VHT80, M0 to M9 1ss	2	14	4.4	-52.2	-53.4			-49.56	-45.16	-41.25	3.91
	VHT80, M0 to M9 2ss	2	14	4.4	-52.2	-53.4			-49.56	-45.16	-41.25	3.91
	VHT80, M0 to M9 1ss	3	14	4.4	-52.2	-53.4	-53.4		-48	-43.6	-41.25	2.35
	VHT80, M0 to M9 2ss	3	14	4.4	-52.2	-53.4	-53.4		-48	-43.6	-41.25	2.35
	VHT80, M0 to M9 3ss	3	14	4.4	-52.2	-53.4	-53.4		-48	-43.6	-41.25	2.35
	VHT80, M0 to M9 1ss	4	14	4.4	-52.2	-53.4	-53.4	-52.7	-46.68	-42.28	-41.25	1.03
	VHT80, M0 to M9 2ss	4	14	4.4	-52.2	-53.4	-53.4	-52.7	-46.68	-42.28	-41.25	1.03
	VHT80, M0 to M9 3ss	4	14	4.4	-52.2	-53.4	-53.4	-52.7	-46.68	-42.28	-41.25	1.03
	VHT80, M0 to M9 4ss	4	14	4.4	-52.2	-53.4	-53.4	-52.7	-46.68	-42.28	-41.25	1.03
	VHT80 Beam Forming, M0 to M9 1ss	2	14	7.4	-52.2	-53.4			-49.56	-42.16	-41.25	0.91
	VHT80 Beam Forming, M0 to M9 2ss	2	14	4.4	-52.2	-53.4			-49.56	-45.16	-41.25	3.91
	VHT80 Beam Forming, M0 to M9 1ss	3	11	9.4	-55.8	-57.3	-56		-51.36	-41.96	-41.25	0.71
	VHT80 Beam Forming, M0 to M9 2ss	3	13	6.4	-54.2	-54.7	-53.6		-49.18	-42.78	-41.25	1.53
	VHT80 Beam Forming, M0 to M9 3ss	3	14	4.4	-52.2	-53.4	-53.4		-48	-43.6	-41.25	2.35
	VHT80 Beam Forming, M0 to M9 1ss	4	8	10.4	-58.8	-59.9	-59.5	-59.2	-53.12	-42.72	-41.25	1.47
	VHT80 Beam Forming, M0 to M9 2ss	4	12	7.4	-55.4	-55.8	-55	-55	-49.08	-41.68	-41.25	0.43
	VHT80 Beam Forming, M0 to M9 3ss	4	13	5.4	-54.2	-54.7	-53.6	-54.1	-47.92	-42.52	-41.25	1.27
	VHT80 Beam Forming, M0 to M9 4ss	4	14	4.4	-52.2	-53.4	-53.4	-52.7	-46.68	-42.28	-41.25	1.03

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	VHT80 STBC, M0 to M9 1ss	2	14	4.4	-52.2	-53.4			-49.56	-45.16	-41.25	3.91
	VHT80 STBC, M0 to M9 1ss	3	14	4.4	-52.2	-53.4	-53.4		-48	-43.6	-41.25	2.35
	VHT80 STBC, M0 to M9 1ss	4	14	4.4	-52.2	-53.4	-53.4	-52.7	-46.68	-42.28	-41.25	1.03
	HE80, M0 to M9 1ss	1	16	4.4	-49.1				-48.87	-44.47	-41.25	3.22
	HE80, M0 to M9 1ss	2	15	4.4	-50.6	-49.9			-46.99	-42.59	-41.25	1.34
	HE80, M0 to M9 2ss	2	15	4.4	-50.6	-49.9			-46.99	-42.59	-41.25	1.34
	HE80, M0 to M9 1ss	3	14	4.4	-51.7	-53.2	-52.6		-47.45	-43.05	-41.25	1.8
	HE80, M0 to M9 2ss	3	14	4.4	-51.7	-53.2	-52.6		-47.45	-43.05	-41.25	1.8
	HE80, M0 to M9 3ss	3	14	4.4	-51.7	-53.2	-52.6		-47.45	-43.05	-41.25	1.8
	HE80, M0 to M9 1ss	4	14	4.4	-51.7	-53.2	-52.6	-52.4	-46.19	-41.79	-41.25	0.54
	HE80, M0 to M9 2ss	4	14	4.4	-51.7	-53.2	-52.6	-52.4	-46.19	-41.79	-41.25	0.54
	HE80, M0 to M9 3ss	4	14	4.4	-51.7	-53.2	-52.6	-52.4	-46.19	-41.79	-41.25	0.54
	HE80, M0 to M9 4ss	4	14	4.4	-51.7	-53.2	-52.6	-52.4	-46.19	-41.79	-41.25	0.54
	HE80 Beam Forming, M0 to M9 1ss	2	14	7.4	-51.7	-53.2			-49.14	-41.74	-41.25	0.49
	HE80 Beam Forming, M0 to M9 2ss	2	15	4.4	-50.6	-49.9			-46.99	-42.59	-41.25	1.34
	HE80 Beam Forming, M0 to M9 1ss	3	11	9.4	-55.6	-56.8	-55.8		-51.03	-41.63	-41.25	0.38
	HE80 Beam Forming, M0 to M9 2ss	3	13	6.4	-53.4	-54.5	-53.7		-48.84	-42.44	-41.25	1.19
	HE80 Beam Forming, M0 to M9 3ss	3	14	4.4	-51.7	-53.2	-52.6		-47.45	-43.05	-41.25	1.8
	HE80 Beam Forming, M0 to M9 1ss	4	8	10.4	-58.9	-59	-59.5	-58.6	-52.74	-42.34	-41.25	1.09
	HE80 Beam Forming, M0 to M9 2ss	4	11	7.4	-55.6	-56.8	-55.8	-55.5	-49.64	-42.24	-41.25	0.99
	HE80 Beam Forming, M0 to M9 3ss	4	13	5.4	-53.4	-54.5	-53.7	-54	-47.63	-42.23	-41.25	0.98
	HE80 Beam Forming, M0 to M9 4ss	4	14	4.4	-51.7	-53.2	-52.6	-52.4	-46.19	-41.79	-41.25	0.54
	HE80 STBC, M0 to M9 1ss	2	15	4.4	-50.6	-49.9			-46.99	-42.59	-41.25	1.34
	HE80 STBC, M0 to M9 1ss	3	14	4.4	-51.7	-53.2	-52.6		-47.45	-43.05	-41.25	1.8
	HE80 STBC, M0 to M9 1ss	4	14	4.4	-51.7	-53.2	-52.6	-52.4	-46.19	-41.79	-41.25	0.54
5310	Non HT40, 6 to 54 Mbps	1	15	4.4	-50.4				-50.36	-45.96	-41.25	4.71
	Non HT40, 6 to 54 Mbps	2	14	4.4	-53.3	-53.2			-50.2	-45.8	-41.25	4.55
	Non HT40, 6 to 54 Mbps	3	14	4.4	-53.3	-53.2	-53.7		-48.59	-44.19	-41.25	2.94
	Non HT40, 6 to 54 Mbps	4	14	4.4	-53.3	-53.2	-53.7	-53.4	-47.34	-42.94	-41.25	1.69
	HT/VHT40, M0 to M7	1	16	4.4	-50.4				-50.32	-45.92	-41.25	4.67
	HT/VHT40, M0 to M7	2	15	4.4	-51.6	-52.1			-48.75	-44.35	-41.25	3.1
	HT/VHT40, M8 to M15	2	15	4.4	-51.6	-52.1			-48.75	-44.35	-41.25	3.1
	HT/VHT40, M0 to M7	3	15	4.4	-51.6	-52.1	-52.6		-47.23	-42.83	-41.25	1.58
	HT/VHT40, M8 to M15	3	15	4.4	-51.6	-52.1	-52.6		-47.23	-42.83	-41.25	1.58
	HT/VHT40, M16 to M23	3	15	4.4	-51.6	-52.1	-52.6		-47.23	-42.83	-41.25	1.58
	HT/VHT40, M0 to M7	4	14	4.4	-52.9	-53.6	-54.9	-53.5	-47.57	-43.17	-41.25	1.92
	HT/VHT40, M8 to M15	4	14	4.4	-52.9	-53.6	-54.9	-53.5	-47.57	-43.17	-41.25	1.92

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	HT/VHT40, M16 to M23	4	14	4.4	-52.9	-53.6	-54.9	-53.5	-47.57	-43.17	-41.25	1.92
	HT/VHT40, M24 to M31	4	14	4.4	-52.9	-53.6	-54.9	-53.5	-47.57	-43.17	-41.25	1.92
	HT/VHT40 Beam Forming, M0 to M7	2	14	7.4	-52.9	-53.6			-50.15	-42.75	-41.25	1.5
	HT/VHT40 Beam Forming, M8 to M15	2	15	4.4	-51.6	-52.1			-48.75	-44.35	-41.25	3.1
	HT/VHT40 Beam Forming, M0 to M7	3	12	9.4	-56.2	-56.4	-56.1		-51.38	-41.98	-41.25	0.73
	HT/VHT40 Beam Forming, M8 to M15	3	14	6.4	-52.9	-53.6	-54.9		-48.87	-42.47	-41.25	1.22
	HT/VHT40 Beam Forming, M16 to M23	3	15	4.4	-51.6	-52.1	-52.6		-47.23	-42.83	-41.25	1.58
	HT/VHT40 Beam Forming, M0 to M7	4	9	10.4	-58.6	-59.4	-59	-59	-52.89	-42.49	-41.25	1.24
	HT/VHT40 Beam Forming, M8 to M15	4	12	7.4	-56.2	-56.4	-56.1	-55.7	-49.99	-42.59	-41.25	1.34
	HT/VHT40 Beam Forming, M16 to M23	4	14	5.4	-52.9	-53.6	-54.9	-53.5	-47.57	-42.17	-41.25	0.92
	HT/VHT40 Beam Forming, M24 to M31	4	14	4.4	-52.9	-53.6	-54.9	-53.5	-47.57	-43.17	-41.25	1.92
	HT/VHT40 STBC, M0 to M7	2	15	4.4	-51.6	-52.1			-48.75	-44.35	-41.25	3.1
	HT/VHT40 STBC, M0 to M7	3	15	4.4	-51.6	-52.1	-52.6		-47.23	-42.83	-41.25	1.58
	HT/VHT40 STBC, M0 to M7	4	14	4.4	-52.9	-53.6	-54.9	-53.5	-47.57	-43.17	-41.25	1.92
	HE40, M0 to M7	1	14	4.4	-53.2				-53.07	-48.67	-41.25	7.42
	HE40, M0 to M7	2	14	4.4	-53.2	-52.6			-49.75	-45.35	-41.25	4.1
	HE40, M8 to M15	2	14	4.4	-53.2	-52.6			-49.75	-45.35	-41.25	4.1
	HE40, M0 to M7	3	13	4.4	-54	-54.6	-54.8		-49.56	-45.16	-41.25	3.91
	HE40, M8 to M15	3	13	4.4	-54	-54.6	-54.8		-49.56	-45.16	-41.25	3.91
	HE40, M16 to M23	3	13	4.4	-54	-54.6	-54.8		-49.56	-45.16	-41.25	3.91
	HE40, M0 to M7	4	13	4.4	-54	-54.6	-54.8	-53.8	-48.13	-43.73	-41.25	2.48
	HE40, M8 to M15	4	13	4.4	-54	-54.6	-54.8	-53.8	-48.13	-43.73	-41.25	2.48
	HE40, M16 to M23	4	13	4.4	-54	-54.6	-54.8	-53.8	-48.13	-43.73	-41.25	2.48
	HE40, M24 to M31	4	13	4.4	-54	-54.6	-54.8	-53.8	-48.13	-43.73	-41.25	2.48
	HE40 Beam Forming, M0 to M7	2	13	7.4	-54	-54.6			-51.15	-43.75	-41.25	2.5
	HE40 Beam Forming, M8 to M15	2	14	4.4	-53.2	-52.6			-49.75	-45.35	-41.25	4.1
	HE40 Beam Forming, M0 to M7	3	11	9.4	-56.1	-56.9	-56.9		-51.72	-42.32	-41.25	1.07
	HE40 Beam Forming, M8 to M15	3	13	6.4	-54	-54.6	-54.8		-49.56	-43.16	-41.25	1.91
	HE40 Beam Forming, M16 to M23	3	13	4.4	-54	-54.6	-54.8		-49.56	-45.16	-41.25	3.91
	HE40 Beam Forming, M0 to M7	4	7	10.4	-60.1	-60.7	-60.3	-59.9	-54.09	-43.69	-41.25	2.44
	HE40 Beam Forming, M8 to M15	4	11	7.4	-56.1	-56.9	-56.9	-55.7	-50.22	-42.82	-41.25	1.57
	HE40 Beam Forming, M16 to M23	4	13	5.4	-54	-54.6	-54.8	-53.8	-48.13	-42.73	-41.25	1.48
	HE40 Beam Forming, M24 to M31	4	13	4.4	-54	-54.6	-54.8	-53.8	-48.13	-43.73	-41.25	2.48
	HE40 STBC, M0 to M7	2	14	4.4	-53.2	-52.6			-49.75	-45.35	-41.25	4.1
	HE40 STBC, M0 to M7	3	13	4.4	-54	-54.6	-54.8		-49.56	-45.16	-41.25	3.91
	HE40 STBC, M0 to M7	4	13	4.4	-54	-54.6	-54.8	-53.8	-48.13	-43.73	-41.25	2.48
53 20	Non HT20, 6 to 54 Mbps	1	17	4.4	-52.3				-52.26	-47.86	-41.25	6.61

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Non HT20, 6 to 54 Mbps	2	17	4.4	-52.3	-52			-49.1	-44.7	-41.25	3.45
Non HT20, 6 to 54 Mbps	3	13	4.4	-57.5	-58.1	-57.8		-52.99	-48.59	-41.25	7.34
Non HT20, 6 to 54 Mbps	4	11	4.4	-59.5	-59.3	-60.2	-59.5	-53.56	-49.16	-41.25	7.91
Non HT20 Beam Forming, 6 to 54 Mbps	2	15	7.4	-55.3	-55.7			-52.45	-45.05	-41.25	3.8
Non HT20 Beam Forming, 6 to 54 Mbps	3	12	9.4	-58	-58.4	-58.5		-53.49	-44.09	-41.25	2.84
Non HT20 Beam Forming, 6 to 54 Mbps	4	9	10.4	-61.5	-61	-61.9	-61.3	-55.36	-44.96	-41.25	3.71
HT/VHT20, M0 to M7	1	17	4.4	-52.3				-52.25	-47.85	-41.25	6.6
HT/VHT20, M0 to M7	2	17	4.4	-52.3	-52.5			-49.34	-44.94	-41.25	3.69
HT/VHT20, M8 to M15	2	17	4.4	-52.3	-52.5			-49.34	-44.94	-41.25	3.69
HT/VHT20, M0 to M7	3	13	4.4	-57.9	-57.8	-57.9		-53.05	-48.65	-41.25	7.4
HT/VHT20, M8 to M15	3	16	4.4	-53.1	-54	-54.3		-48.95	-44.55	-41.25	3.3
HT/VHT20, M16 to M23	3	17	4.4	-52.3	-52.5	-53.4		-47.89	-43.49	-41.25	2.24
HT/VHT20, M0 to M7	4	11	4.4	-59.7	-58.8	-60.5	-59.5	-53.52	-49.12	-41.25	7.87
HT/VHT20, M8 to M15	4	14	4.4	-56.2	-56.6	-57.5	-56.5	-50.61	-46.21	-41.25	4.96
HT/VHT20, M16 to M23	4	16	4.4	-53.1	-54	-54.3	-54.1	-47.78	-43.38	-41.25	2.13
HT/VHT20, M24 to M31	4	16	4.4	-53.1	-54	-54.3	-54.1	-47.78	-43.38	-41.25	2.13
HT/VHT20 Beam Forming, M0 to M7	2	15	7.4	-55.4	-55.1			-52.19	-44.79	-41.25	3.54
HT/VHT20 Beam Forming, M8 to M15	2	17	4.4	-52.3	-52.5			-49.34	-44.94	-41.25	3.69
HT/VHT20 Beam Forming, M0 to M7	3	12	9.4	-58.9	-58.9	-59.3		-54.21	-44.81	-41.25	3.56
HT/VHT20 Beam Forming, M8 to M15	3	15	6.4	-55.4	-55.1	-56.3		-50.75	-44.35	-41.25	3.1
HT/VHT20 Beam Forming, M16 to M23	3	17	4.4	-52.3	-52.5	-53.4		-47.89	-43.49	-41.25	2.24
HT/VHT20 Beam Forming, M0 to M7	4	9	10.4	-61	-61.9	-62.4	-62	-55.73	-45.33	-41.25	4.08
HT/VHT20 Beam Forming, M8 to M15	4	12	7.4	-58.9	-58.9	-59.3	-58.5	-52.82	-45.42	-41.25	4.17
HT/VHT20 Beam Forming, M16 to M23	4	14	5.4	-56.2	-56.6	-57.5	-56.5	-50.61	-45.21	-41.25	3.96
HT/VHT20 Beam Forming, M24 to M31	4	16	4.4	-53.1	-54	-54.3	-54.1	-47.78	-43.38	-41.25	2.13
HT/VHT20 STBC, M0 to M7	2	17	4.4	-52.3	-52.5			-49.34	-44.94	-41.25	3.69
HT/VHT20 STBC, M0 to M7	3	16	4.4	-53.1	-54	-54.3		-48.95	-44.55	-41.25	3.3
HT/VHT20 STBC, M0 to M7	4	14	4.4	-56.2	-56.6	-57.5	-56.5	-50.61	-46.21	-41.25	4.96
HE20, M0 to M7	1	17	4.4	-49.7				-49.64	-45.24	-41.25	3.99
HE20, M0 to M7	2	16	4.4	-52.7	-53.3			-49.92	-45.52	-41.25	4.27
HE20, M8 to M15	2	16	4.4	-52.7	-53.3			-49.92	-45.52	-41.25	4.27
HE20, M0 to M7	3	13	4.4	-56.3	-56.6	-57.1		-51.82	-47.42	-41.25	6.17
HE20, M8 to M15	3	16	4.4	-52.7	-53.3	-53.7		-48.38	-43.98	-41.25	2.73
HE20, M16 to M23	3	16	4.4	-52.7	-53.3	-53.7		-48.38	-43.98	-41.25	2.73
HE20, M0 to M7	4	11	4.4	-58.6	-58.8	-60	-59.3	-53.06	-48.66	-41.25	7.41
HE20, M8 to M15	4	14	4.4	-55.2	-56.3	-55.7	-55.3	-49.52	-45.12	-41.25	3.87
HE20, M16 to M23	4	15	4.4	-54.4	-54.7	-55.1	-54.2	-48.51	-44.11	-41.25	2.86
HE20, M24 to M31	4	15	4.4	-54.4	-54.7	-55.1	-54.2	-48.51	-44.11	-41.25	2.86

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	HE20 Beam Forming, M0 to M7	2	15	7.4	-54.4	-54.7			-51.48	-44.08	-41.25	2.83
	HE20 Beam Forming, M8 to M15	2	16	4.4	-52.7	-53.3			-49.92	-45.52	-41.25	4.27
	HE20 Beam Forming, M0 to M7	3	12	9.4	-57.9	-57.2	-58.5		-53	-43.6	-41.25	2.35
	HE20 Beam Forming, M8 to M15	3	15	6.4	-54.4	-54.7	-55.1		-49.89	-43.49	-41.25	2.24
	HE20 Beam Forming, M16 to M23	3	16	4.4	-52.7	-53.3	-53.7		-48.38	-43.98	-41.25	2.73
	HE20 Beam Forming, M0 to M7	4	9	10.4	-60.8	-60.7	-61.3	-61.4	-54.96	-44.56	-41.25	3.31
	HE20 Beam Forming, M8 to M15	4	12	7.4	-57.9	-57.2	-58.5	-57.1	-51.56	-44.16	-41.25	2.91
	HE20 Beam Forming, M16 to M23	4	14	5.4	-55.2	-56.3	-55.7	-55.3	-49.52	-44.12	-41.25	2.87
	HE20 Beam Forming, M24 to M31	4	15	4.4	-54.4	-54.7	-55.1	-54.2	-48.51	-44.11	-41.25	2.86
	HE20 STBC, M0 to M7	2	16	4.4	-52.7	-53.3			-49.92	-45.52	-41.25	4.27
	HE20 STBC, M0 to M7	3	16	4.4	-52.7	-53.3	-53.7		-48.38	-43.98	-41.25	2.73
	HE20 STBC, M0 to M7	4	14	4.4	-55.2	-56.3	-55.7	-55.3	-49.52	-45.12	-41.25	3.87

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5.6.7 Conducted Band Edge Plot – Average

HE80, 5290MHz, M0h1	
Antenna A	**Antenna B**
Antenna C	

Note: Traces say fail above because the transmitter is above an arbitrary line in the pass band

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Section 6: Emission Test Results

6.1 Transmitter Radiated Spurious Emissions

6.1.1 Radiated Spurious Emissions Test Requirement

15.407(b), LP0002 (2018-01-10) (2.8)

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

15.205 / 15.209

(**7)** The provisions of §15.205 apply to intentional radiators operating under this section.

(6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

15.209 / 15.205 / 15.407:

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

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6.1.2 Radiated Spurious Emissions Test Procedure

Ref. ANSI C63.10: 2013 section 6.5
Ref. ANSI C63.10: 2013 section 12.7.6 (peak) & 12.7.7.3 (average)

Using Vasona, configure the spectrum analyzer as shown below (be sure to enter all losses between the transmitter output and the spectrum analyzer). Place the radio in continuous transmit mode.

Span:	30MHz – 1GHz
Reference Level:	80dBuV
Attenuation:	10 dB
Sweep Time:	Coupled
Resolution Bandwidth:	100kHz
Video Bandwidth:	300kHz
Detector:	Peak for Pre-scan, Quasi-Peak
Compliance shall be determined using CISPR quasi-peak detection; however, peak detection is permitted as an alternative to quasi-peak detection.	

Span:	1GHz – 40 GHz
Reference Level:	80dBuV
Attenuation:	10 dB
Sweep Time:	Coupled
Resolution Bandwidth:	1MHz
Video Bandwidth:	3 MHz for peak, 1 kHz for average
Detector:	Peak

Terminate the access Point RF ports with 50ohm loads.

Maximize Turntable (find worst case table angle), Maximize Antenna (find worst case height)

Save 2 plots: 1) Average Plot (Vertical and Horizontal), Limit= 54dBuV/m @3m
2) Peak plot (Vertical and Horizontal), Limit = 74dBuV/m @3m

Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands.

This report represents the worst-case data for all supported operating modes and antennas. There are no measurable emissions above 18 GHz.

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6.1.3 Radiated Spurious Emissions Test Information

This report represents the worst-case data for all supported operating modes and antennas.

Samples, Systems, and Modes

System Number	Description	Samples	System under test	Support equipment
2	EUT	S03	☑	☐
	Support	S04	☐	☑

Tested By: Julian Land	Date of testing: October 5, 2018 – December 11, 2018
Test Result: PASS	

Test Equipment

See Appendix A for list of test equipment

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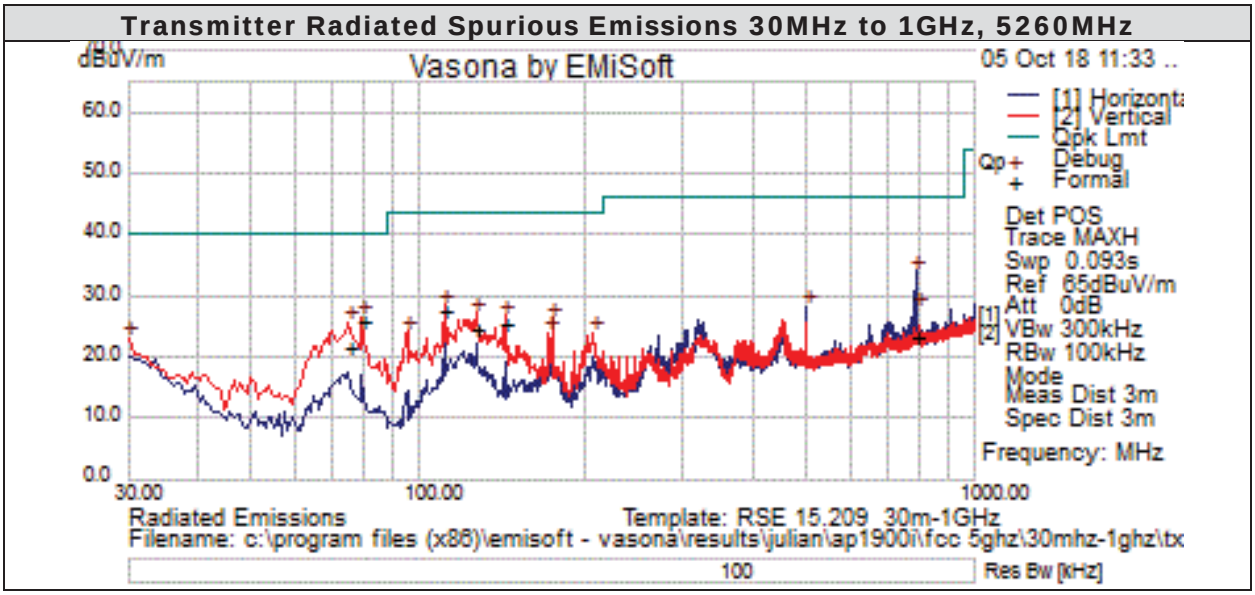
6.1.4 Radiated Transmitter Spurious Emissions Test Results

Test Results for 30MHz – 1GHz:



Frequency (MHz)	Raw (dBuV)	Cab Loss (dB)	AF (dB)	Level (dBuV)	Detector	Polarity	Height (cm)	Azt (Deg)	Limit (dBuV)	Margin (dB)	Results Pass / Fail	Comments
785.994	26.8	2.9	-6.4	23.3	Quasi Max	H	101	9	46	-22.7	Pass	
79.313	44.3	0.8	-19.2	26	Quasi Max	V	105	220	40	-14	Pass	
74.681	39.9	0.8	-18.8	21.8	Quasi Max	V	122	245	40	-18.2	Pass	
111.025	40.3	1	-13.8	27.5	Quasi Max	V	100	203	43.5	-16	Pass	
126.897	36.3	1.1	-12.7	24.7	Quasi Max	V	102	208	43.5	-18.8	Pass	
142.763	37.8	1.1	-13.6	25.3	Quasi Max	V	104	131	43.5	-18.2	Pass	

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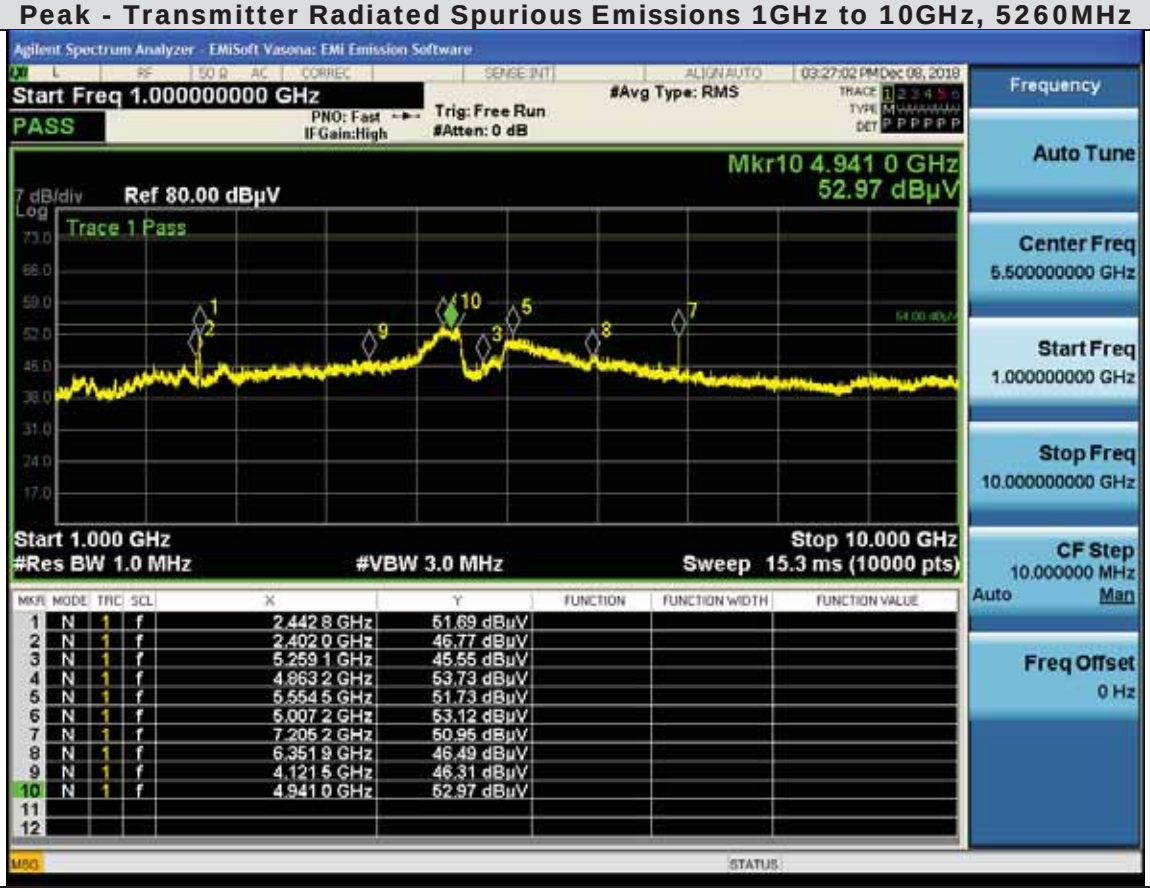
6.1.5 Radiated Transmitter Spurious Emissions – 1-10GHz

Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios)

Peak - Transmitter Radiated Spurious Emissions 1GHz to 10GHz, 5260MHz



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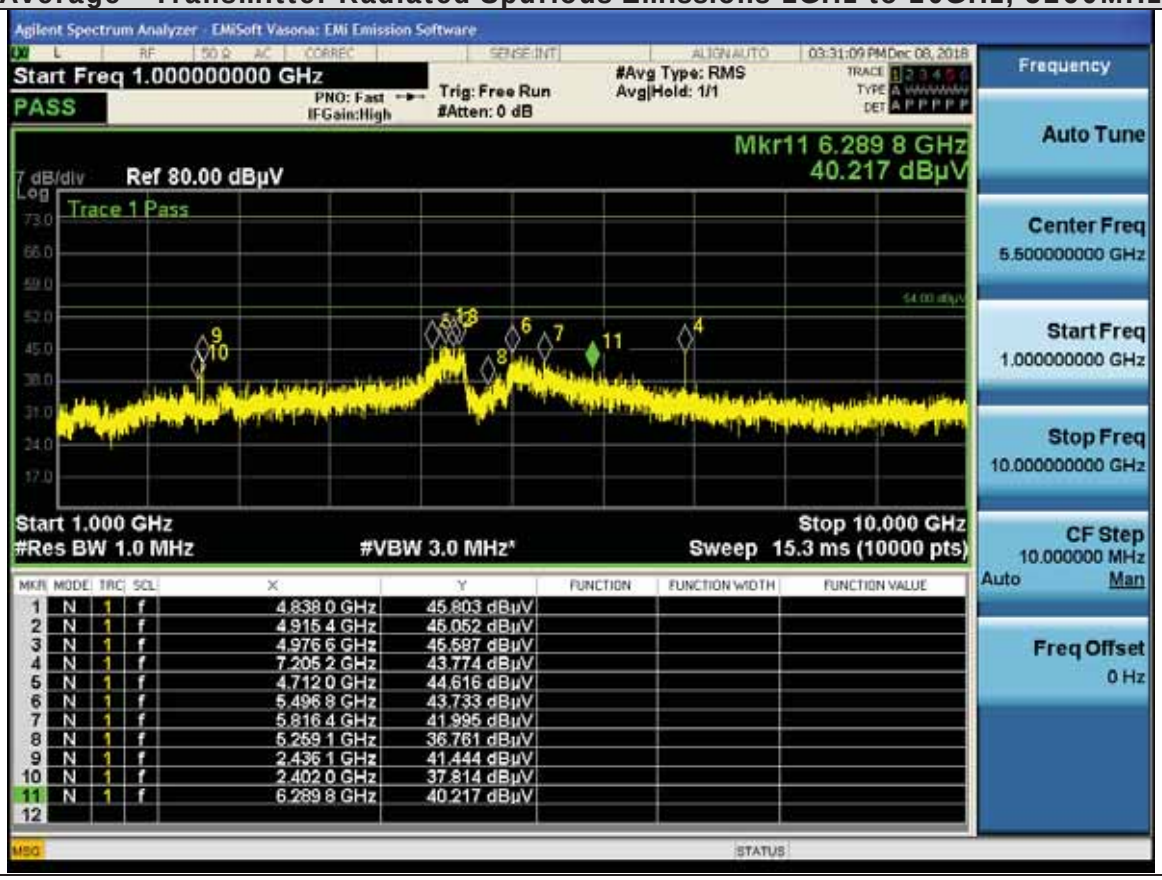
Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios)

Average - Transmitter Radiated Spurious Emissions 1GHz to 10GHz, 5260MHz



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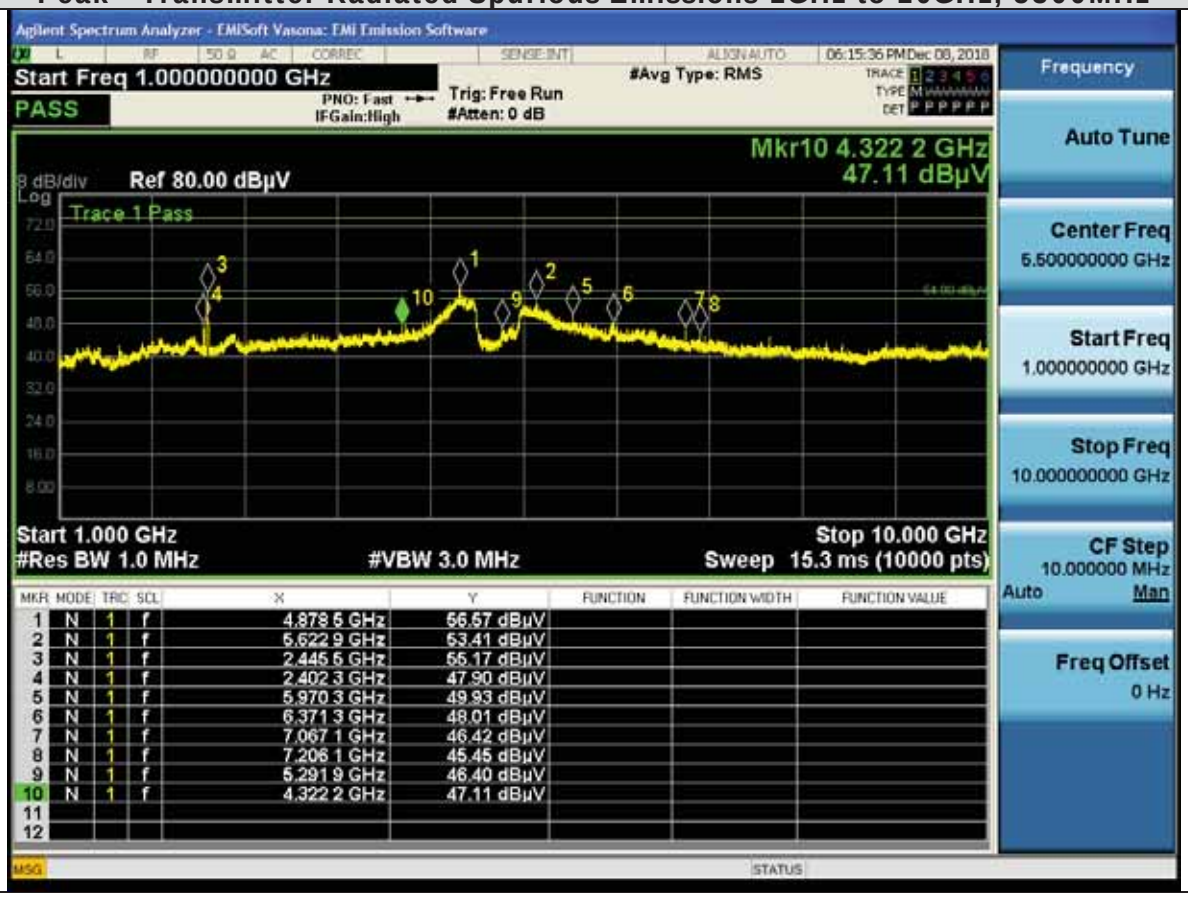
Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios)

Peak - Transmitter Radiated Spurious Emissions 1GHz to 10GHz, 5300MHz



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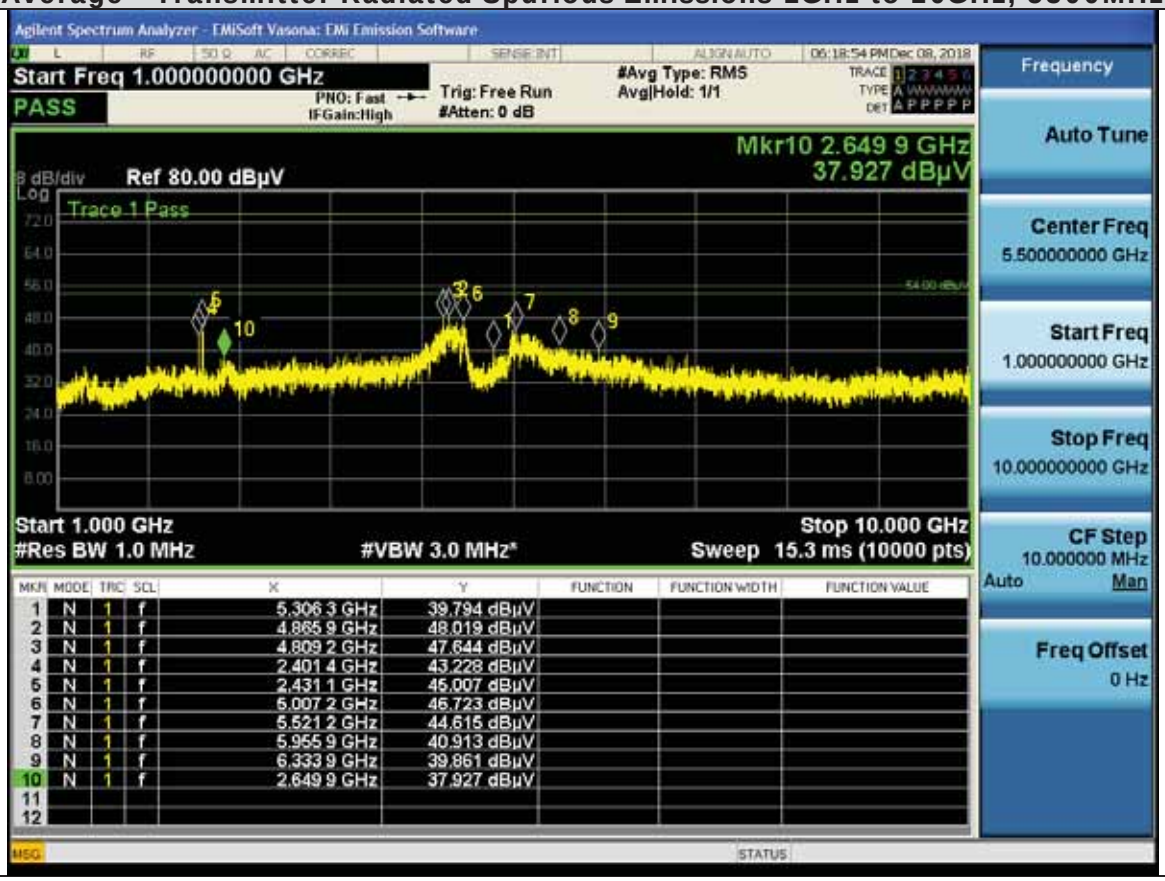
Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios)

Average - Transmitter Radiated Spurious Emissions 1GHz to 10GHz, 5300MHz



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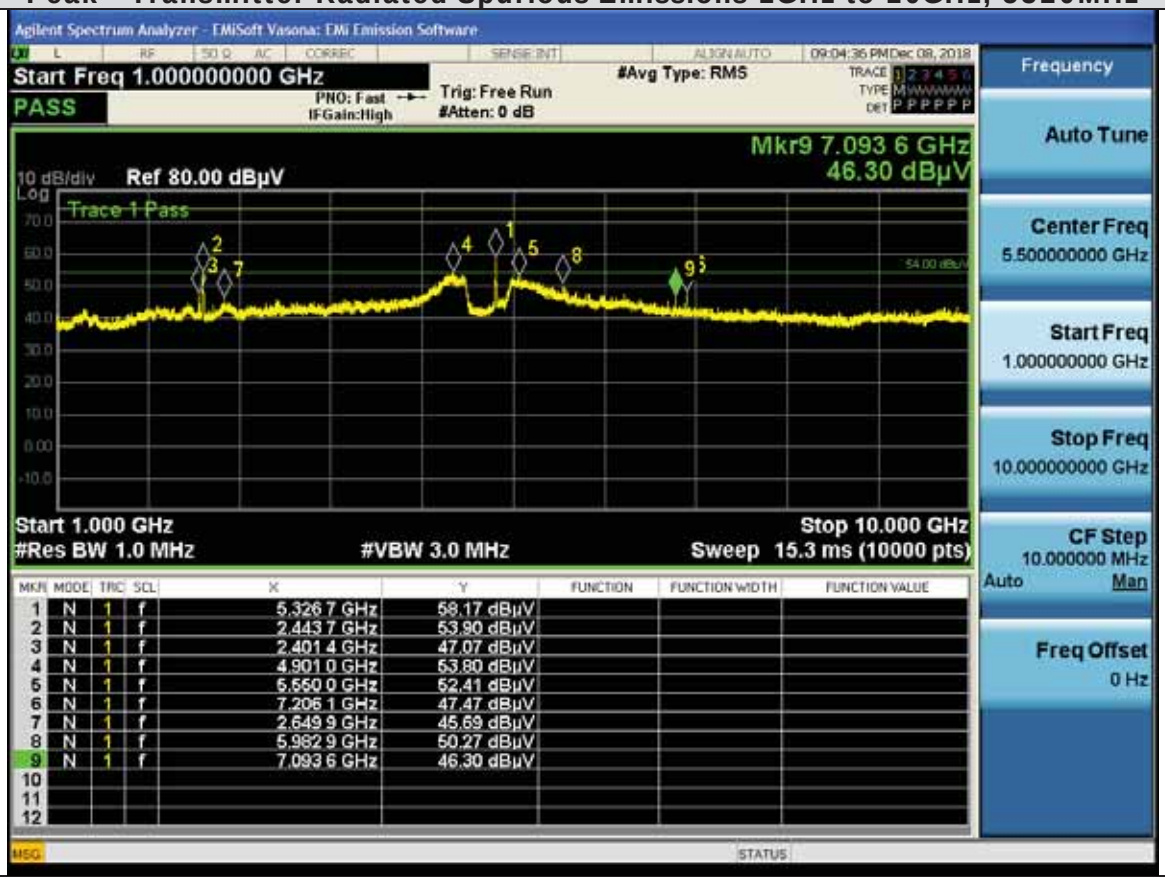
Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios)

Peak - Transmitter Radiated Spurious Emissions 1GHz to 10GHz, 5320MHz



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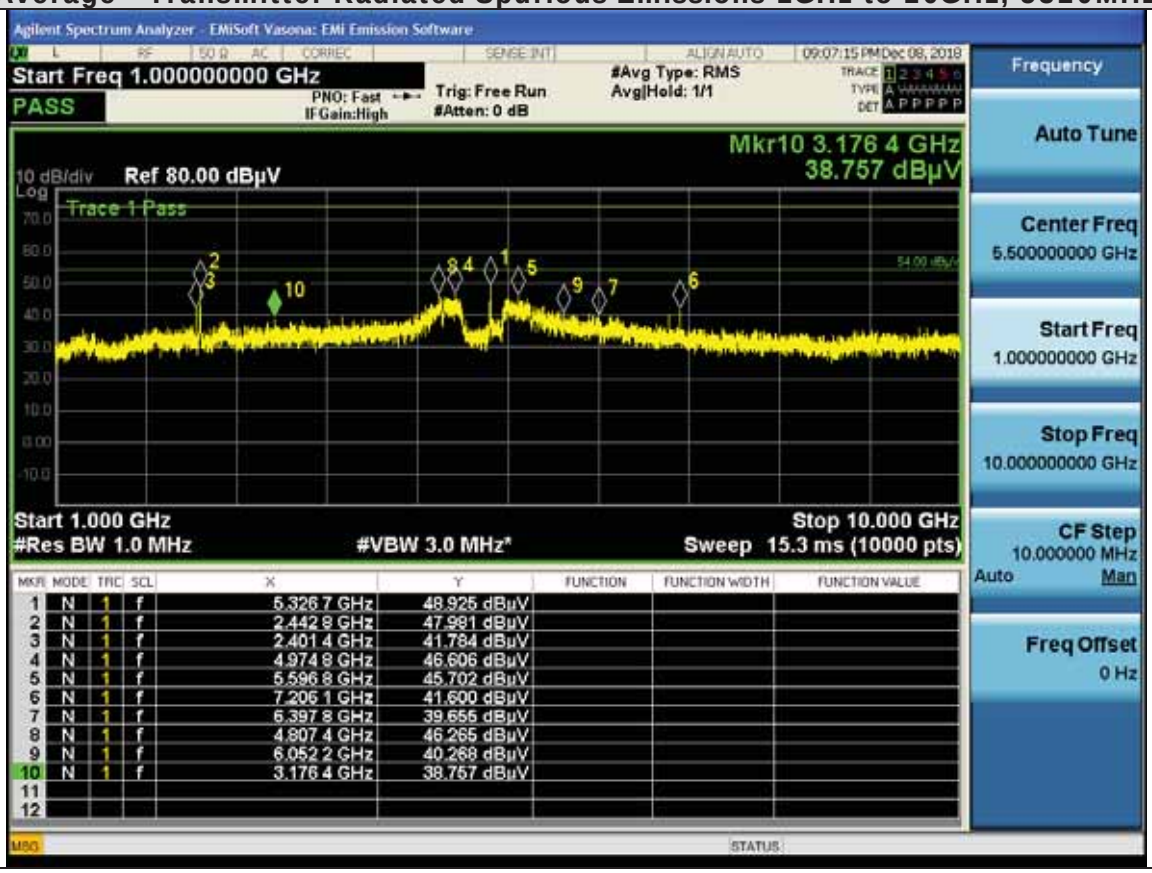
Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios)

Average - Transmitter Radiated Spurious Emissions 1GHz to 10GHz, 5320MHz



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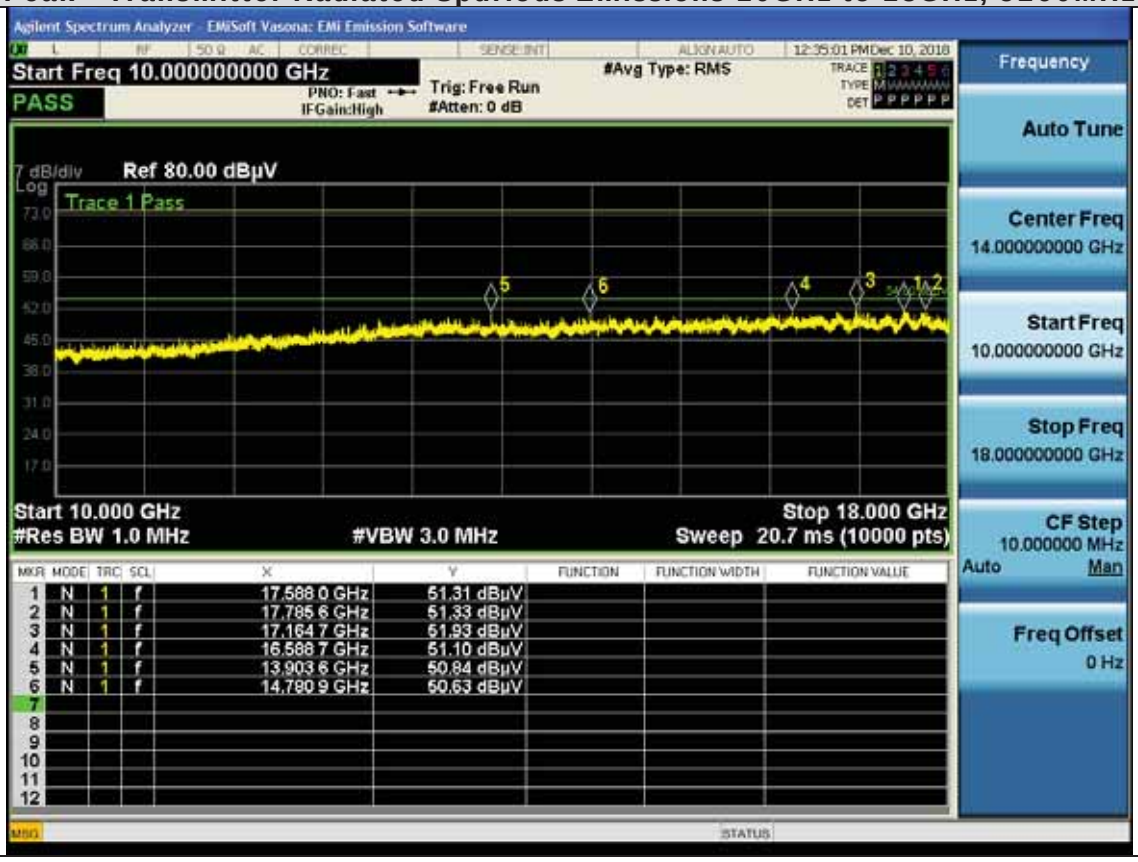
6.1.6 Radiated Transmitter Spurious Emissions – 10-18GHz

Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios)

Peak - Transmitter Radiated Spurious Emissions 10GHz to 18GHz, 5260MHz



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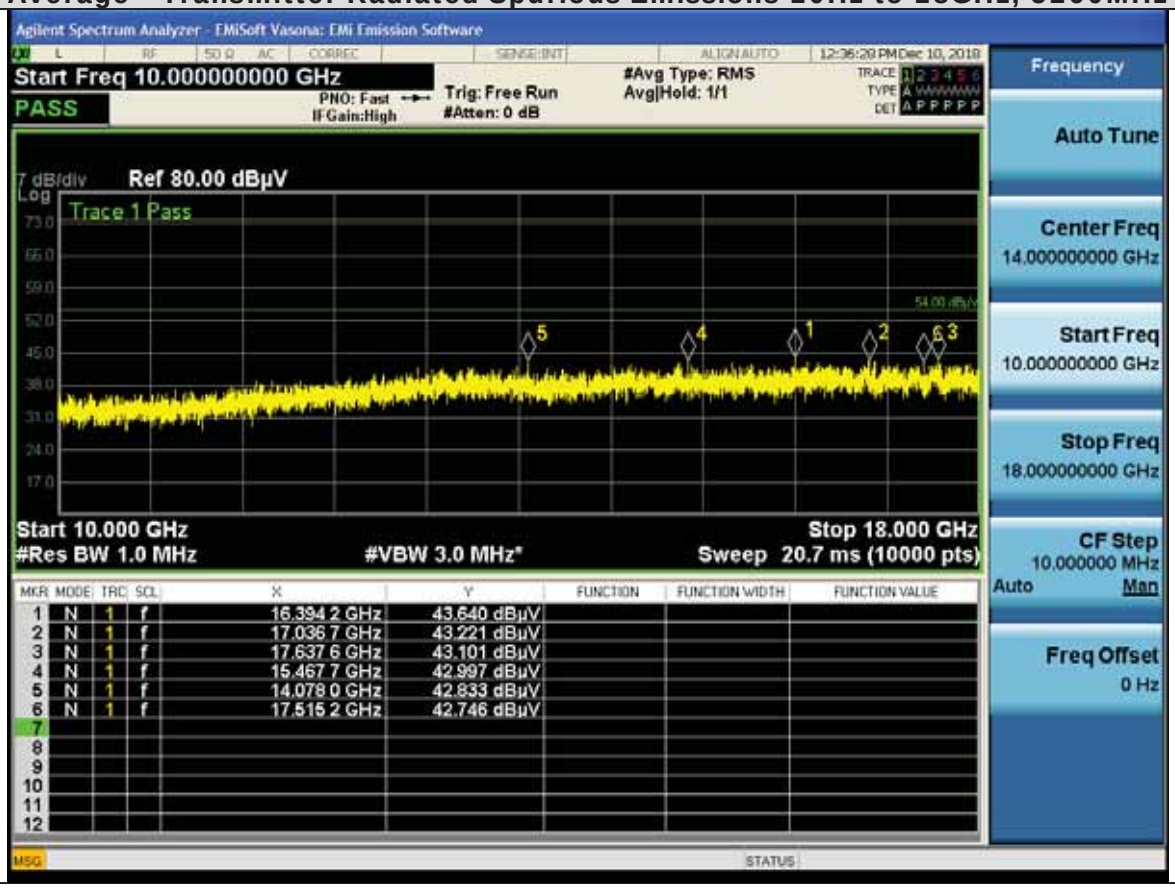
Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios)

Average - Transmitter Radiated Spurious Emissions 10Hz to 18GHz, 5260MHz



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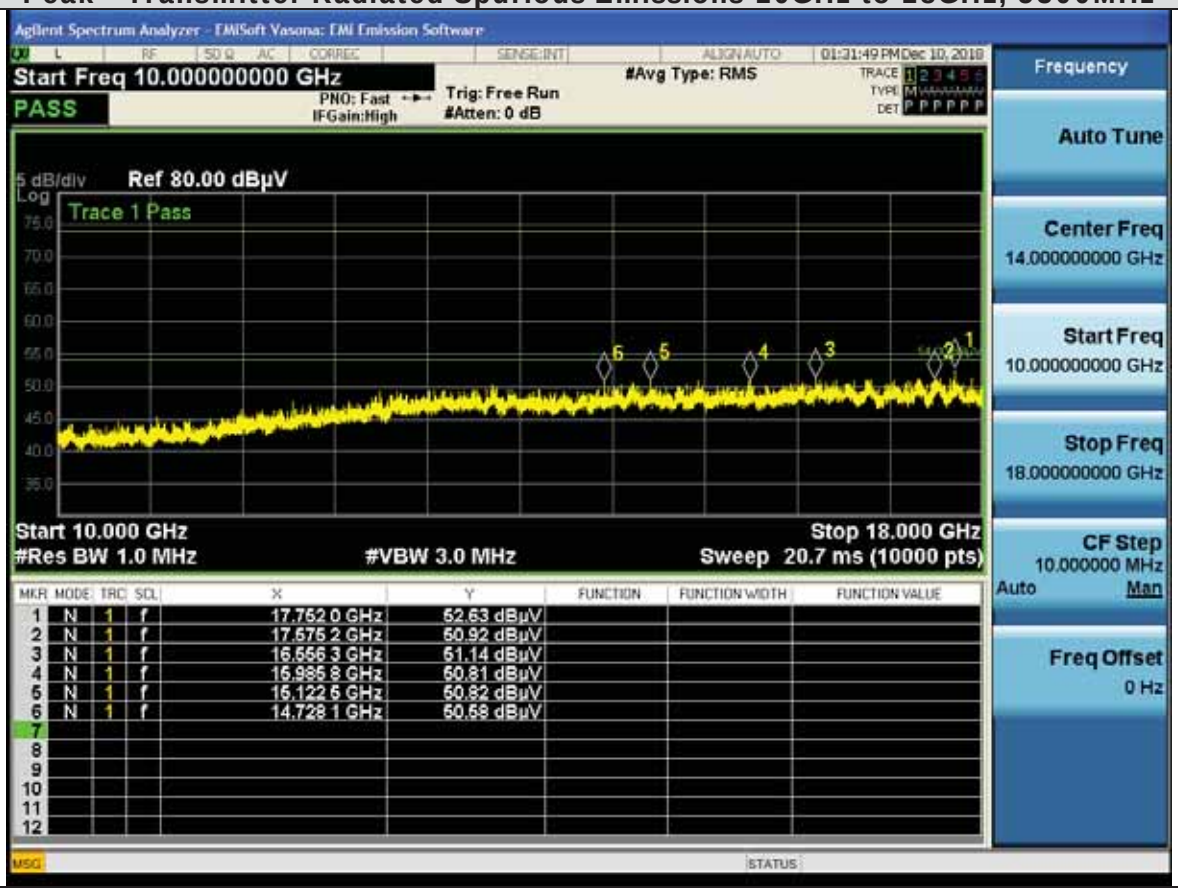
Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios)

Peak - Transmitter Radiated Spurious Emissions 10GHz to 18GHz, 5300MHz



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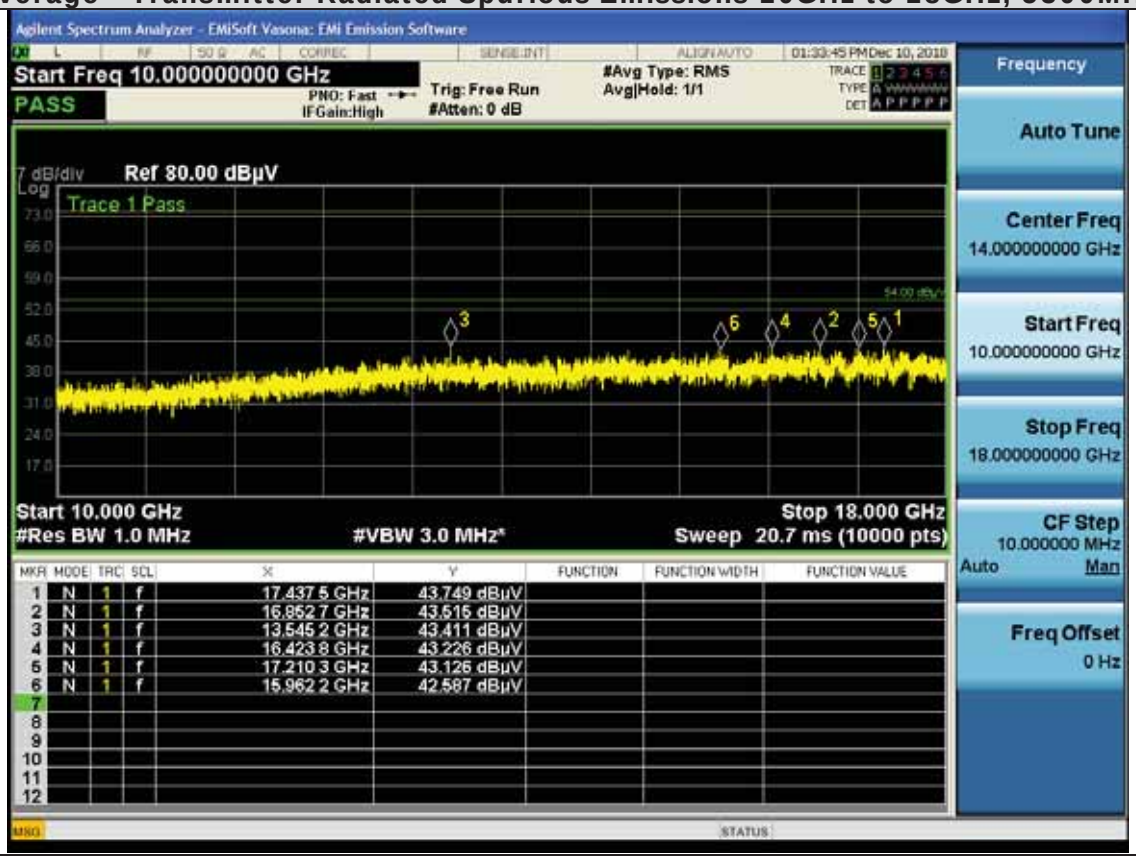
Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios)

Average - Transmitter Radiated Spurious Emissions 10GHz to 18GHz, 5300MHz



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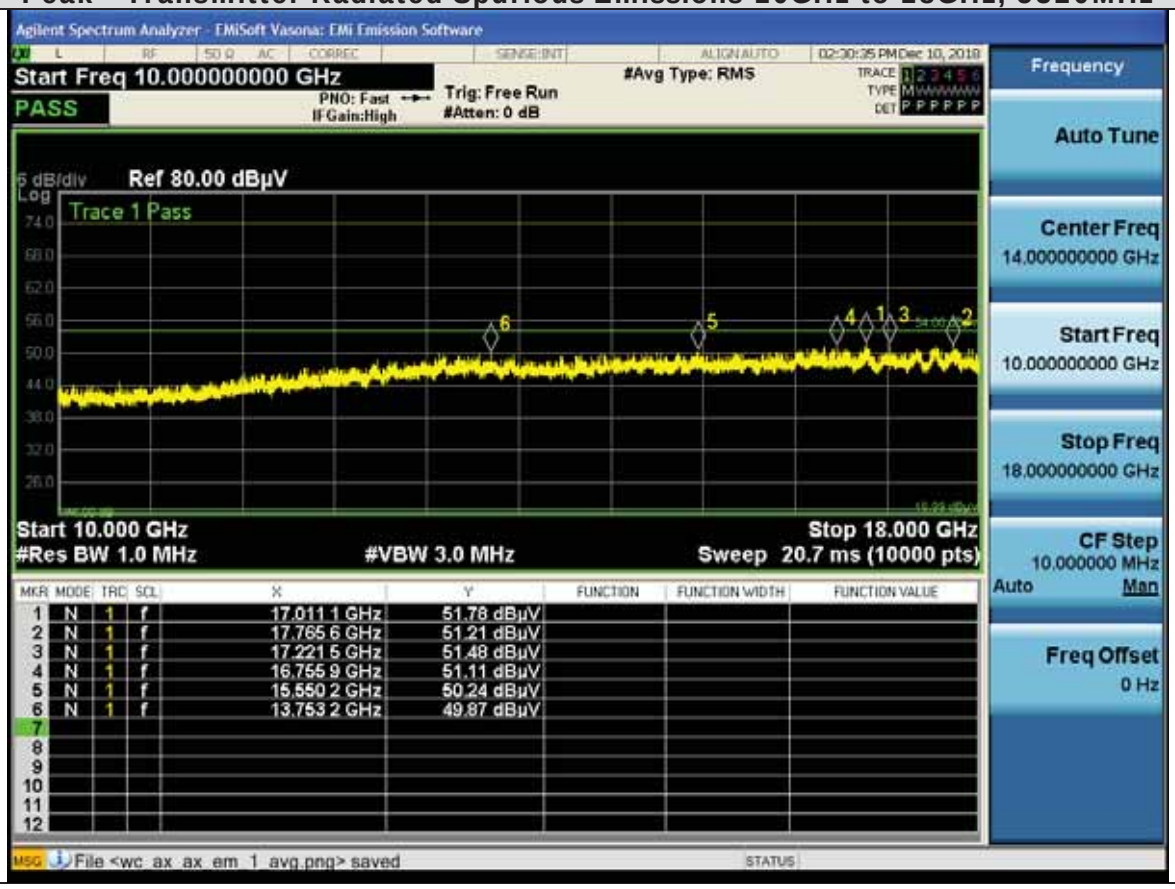
Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios)

Peak - Transmitter Radiated Spurious Emissions 10GHz to 18GHz, 5320MHz



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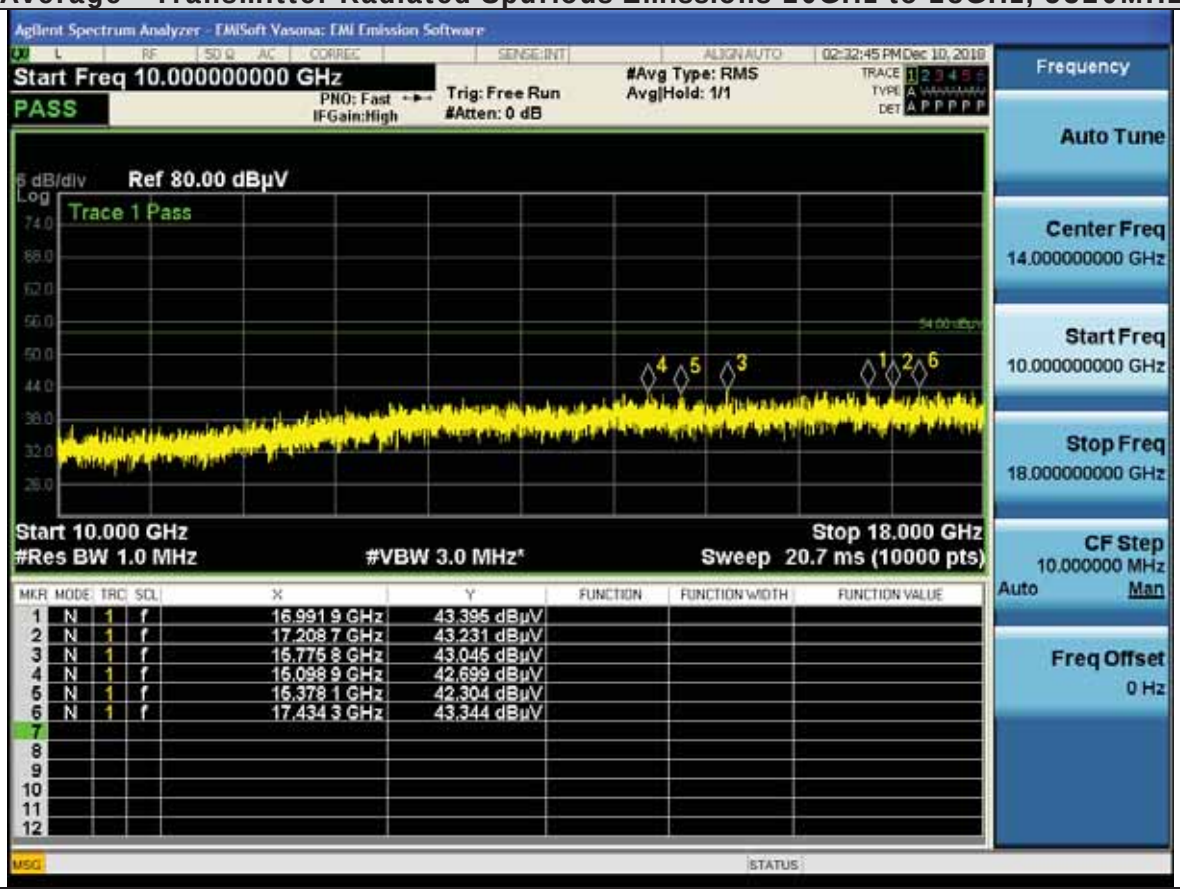
Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios)

Average - Transmitter Radiated Spurious Emissions 10GHz to 18GHz, 5320MHz



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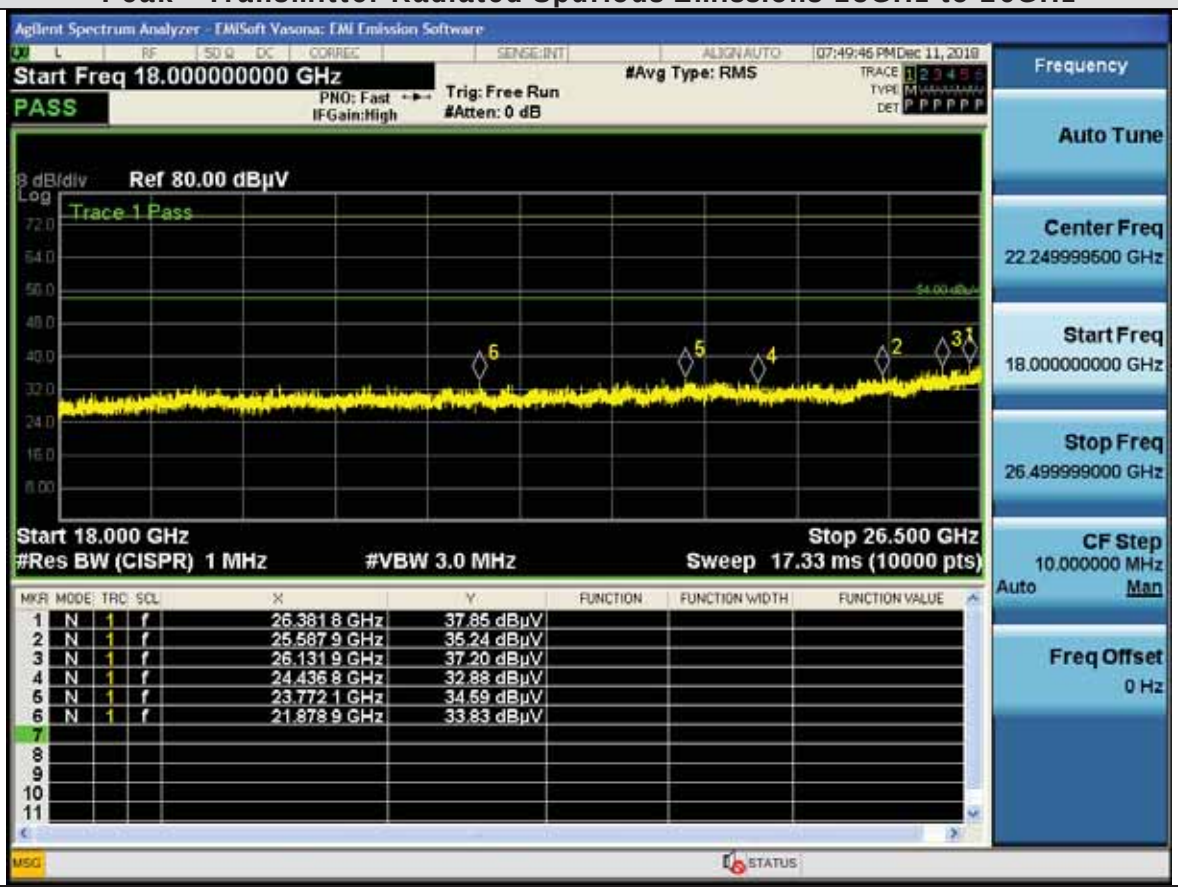
6.1.7 Radiated Transmitter Spurious Emissions – 18-26GHz

Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios). EUT is in worst case mode

Peak - Transmitter Radiated Spurious Emissions 18GHz to 26GHz



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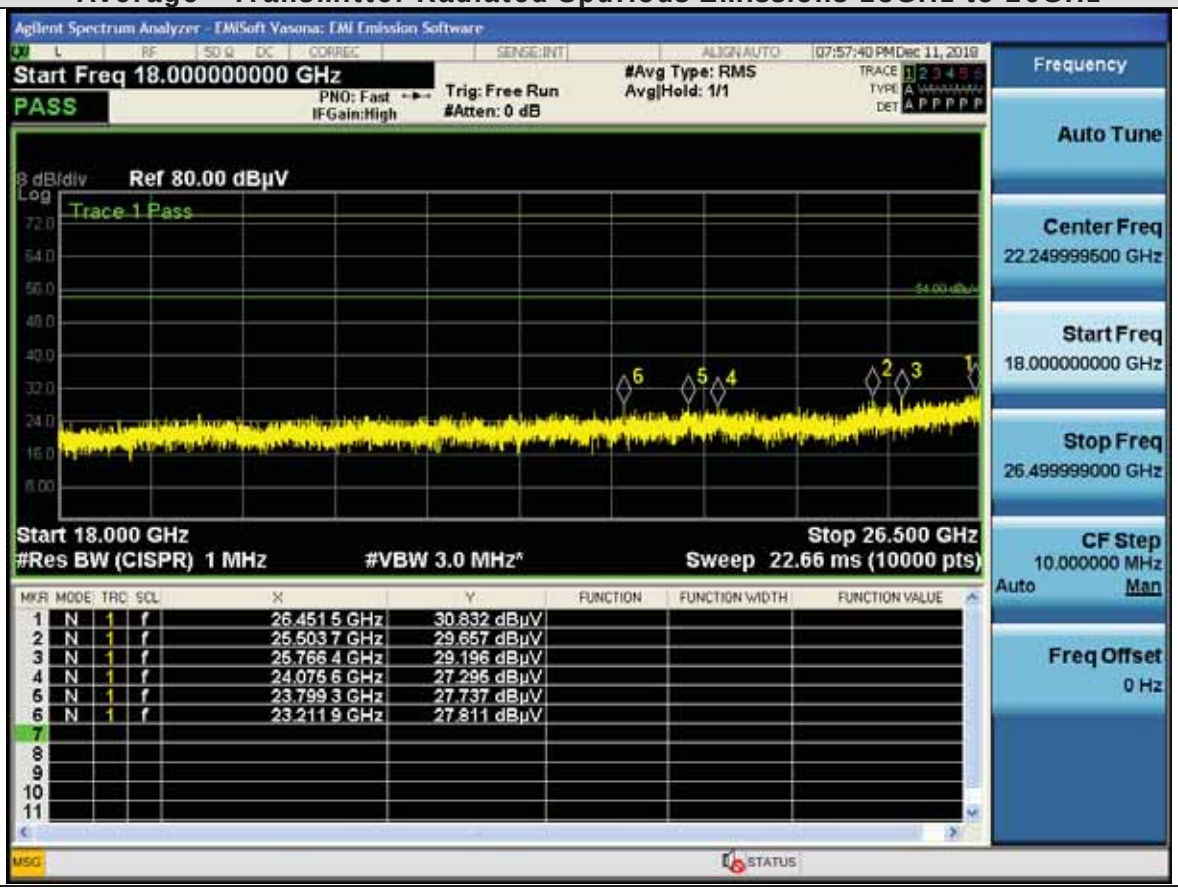
Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios). EUT is in worst case mode

Average - Transmitter Radiated Spurious Emissions 18GHz to 26GHz



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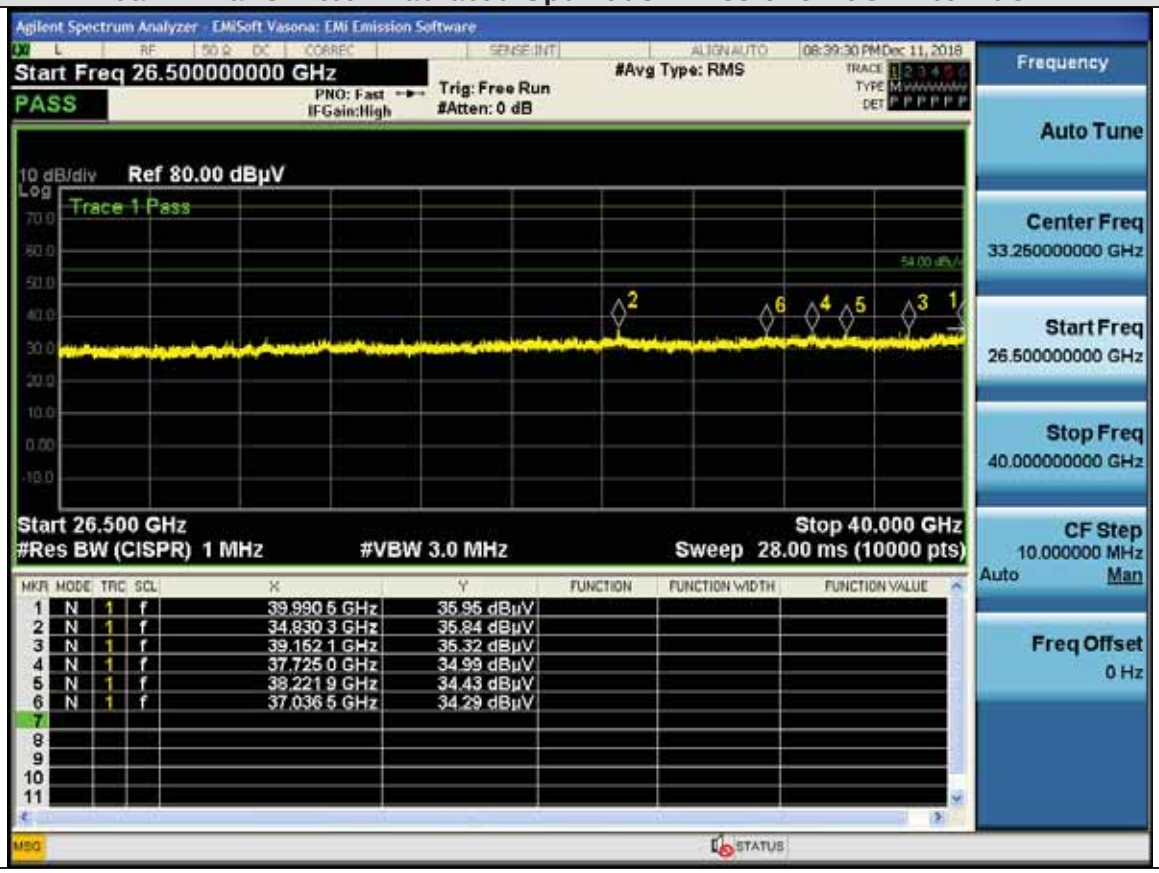
6.1.8 Radiated Transmitter Spurious Emissions – 26-40GHz

Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios). EUT is in worst case mode

Peak - Transmitter Radiated Spurious Emissions 26GHz to 40GHz



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Note: Emissions tests were done with all radios on simultaneously (i.e. BLE, 2.4GHz, and 5GHz radios). EUT is in worst case mode

Average - Transmitter Radiated Spurious Emissions 26GHz to 40GHz

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6.2 AC Conducted Emissions

Note: Only DC power is supplied to the unit.

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Appendix A: List of Test Equipment Used to perform the test

Equip#	Manufacturer/ Model	Description	Last Cal	Next Due
Test Equipment used for Radiated Emissions 10/4/2018 – 10/5/2018				
3038	Keysight (Agilent/HP) / 8447F	Amplifier	20 Jun. 2018	20 Jun. 2019
4729	Fluke / 77 III	Digital Multimeter	01 May 2018	01 May 2019
20975	Micro-Coax / UFB311A-0-1344-520520	Coaxial Cable-18GHz	19 Feb. 2018	19 Feb. 2019
25001	Micro-Coax / UFB197C-1-0240-504504	Coaxial RF Cable, 26.5 GHz	24 Apr. 2018	24 Apr. 2019
27233	York / CNE V	Comparison Noise Emitter	Cal. not required	Cal. not required
30652	Sunol Sciences / JB1	Combination Antenna, 30MHz-2GHz	20 Apr. 2018	20 Apr. 2019
44940	Rhode & Schwarz ESU 40	EMI Receiver, 40GHz	13 Dec. 2018	13 Dec. 2019
45166	Stanley / 33-428	26' Tape Measure	Cal. not required	Cal. not required
55936	Huber + Suhner / Sucoflex 106PA	RF Type N Antenna Cable 18GHz 8.5m	19 Oct. 2017	19 Oct. 2018
56154	Huber + Suhner / Sucoflex 104PEA	Sucoflex N Type blue 7ft Cable	18 Jan. 2018	18 Jan. 2019
Test Equipment used for Radiated Emissions 12/5/2018 – 12/11/2018				
5687	Fluke / 73 III	Digital Multimeter	02 Nov. 2018	02 Nov. 2019
8171	Keysight (Agilent/HP) / 8491B Opt 010	Attenuator	25 Apr. 2018	25 Apr. 2019
21117	Micro-Coax / UFB311A-0-2484-520520	Coaxial Cable – 18GHz	13 Aug. 2018	13 Aug. 2019
27233	York / CNE V	Comparison Noise Emitter	Cal. not required	Cal. not required
30654	Sunol Sciences / JB1	Combination Antenna, 30MHz – 2GHz	20 Apr. 2018	20 Apr. 2019
32544	ETS Lindgren / 3117	Double Ridged Horn Antenna	20 Sep. 2018	20 Sep. 2019
34075	Schaffner / RSG 2000	Reference Spectrum Generator, 1-18GHz	Cal. not required	Cal. not required
34304	Micro-Tronics / BRM50702-02	Band Reject Filter	26 Jun. 2018	26 Jun. 2019
35608	Micro-Tronics / BRC50703-02	Notch Filter	17 Aug. 2018	17 Aug. 2019
35616	Micro-Tronics / HPM50112-02	Notch Filter	03 Jul. 2018	03 Jul. 2019
39123	Cisco / TH0118	Mast Mount Preamplifier Array, 1-18GHz	02 Apr. 2018	02 Apr. 2019
42015	ETS Lindgren / 3117	Double Ridged Horn Antenna	03 Mar. 2018	03 Mar. 2019
47286	Huber + Suhner / Sucoflex 102E	40GHz Cable K Connector	04 Sep. 2018	04 Sep. 2019
47300	Keysight (Agilent/HP) / N9038A	EMI Receiver	19 Apr. 2018	19 Apr. 2019
49563	Huber + Suhner / Sucoflex 106A	Coaxial Cable, 8m	13 Aug. 2018	13 Aug. 2019
54611	Megaphase / RA08-S1S1-12	SMA Cable	31 Jul. 2018	31 Jul. 2019
54624	Megaphase / RA08-S1S1-18	SMA Cable	31 Jul. 2018	31 Jul. 2019
54654	Micro-Tronics / BRC50703-02	Notch Filter	07 Aug. 2018	07 Aug. 2019
55594	Megaphase / GC12-8181-16	SMA Cable	10 May 2018	10 May 2019
56066	Miteq / TTA1800-30-HG-S	18GHz SMA Pre-Amplifier	21 May 2018	21 May 2019

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56159	Huber + Suhner / Sucoflex 104PEA	Sucoflex N Type blue7ft cable	18 Jan. 2018	18 Jan. 2019
RF Conducted test equipment 11/5/2018 – 12/15/2018				
53614	Keysight (Agilent/HP) / N9030A-550	PXA Signal Analyzer, 3Hz to 50GHz	17 Jul. 2018	17 Jul. 2019
57477	Cisco	Automated Radio Testing Station	Verify Before Use	Verify Before Use
06325	Lufft / 5063-33W	Dial Hygrometer	27 Aug. 2018	27 Aug. 2019
56330	Pasternack / PE5019-1	Torque Wrench	28 Feb. 2018	28 Feb. 2019
RF Conducted test equipment 1/17/2019 – 2/4/2019				
53614	Keysight (Agilent/HP) / N9030A-550	PXA Signal Analyzer, 3Hz to 50GHz	17 Jul. 2018	17 Jul. 2019
57475	Cisco	Automated Radio Testing Station	Verify Before Use	Verify Before Use
54237	Pasternack / PE5011-1	Preset Torque Wrench, 8in/lbs	23 Feb. 2018	23 Feb. 2019
06325	Lufft / 5063-33W	Dial Hygrometer	27 Aug. 2018	27 Aug. 2019

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Appendix B: Abbreviation Key and Definitions

The following table defines abbreviations used within this test report.

Abbreviation	Description	Abbreviation	Description
EMC	Electro Magnetic Compatibility	°F	Degrees Fahrenheit
EMI	Electro Magnetic Interference	°C	Degrees Celsius
EUT	Equipment Under Test	Temp	Temperature
ITE	Information Technology Equipment	S/N	Serial Number
TAP	Test Assessment Schedule	Qty	Quantity
ESD	Electro Static Discharge	emf	Electromotive force
EFT	Electric Fast Transient	RMS	Root mean square
EDCS	Engineering Document Control System	Qp	Quasi Peak
Config	Configuration	Av	Average
CIS#	Cisco Number (unique identification number for Cisco test equipment)	Pk	Peak
Cal	**Calibration**	kHz	Kilohertz ($1x10^3$)
EN	European Norm	MHz	MegaHertz ($1x10^6$)
IEC	International Electro technical Commission	GHz	Gigahertz ($1x10^9$)
CISPR	International Special Committee on Radio Interference	H	Horizontal
CDN	Coupling/Decoupling Network	V	Vertical
LISN	Line Impedance Stabilization Network	dB	decibel
PE	Protective Earth	V	Volt
GND	Ground	kV	Kilovolt ($1x10^3$)
L1	Line 1	µV	Microvolt ($1x10^{-6}$)
L2	Line2	A	Amp
L3	Line 3	µA	Micro Amp ($1x10^{-6}$)
DC	Direct Current	mS	Milli Second ($1x10^{-3}$)
RAW	Uncorrected measurement value, as indicated by the measuring device	µS	Micro Second ($1x10^{-6}$)
RF	Radio Frequency	µS	Micro Second ($1x10^{-6}$)
SLCE	Signal Line Conducted Emissions	m	Meter
Meas dist	Measurement distance	Spec dist	Specification distance
N/A or NA	Not Applicable	SL	Signal Line (or Telecom Line)
P	Power Line	L	Live Line
N	Neutral Line	R	Return
S	Supply	AC	Alternating Current

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Appendix C: Software Used to Perform Testing

EMIsoft Vasona: version 6.047
Automated Testing Software: RF_Automation.vi version 44

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Appendix D: Test Procedures

Measurements were made in accordance with

- KDB 789033 - D02 General UNII Test Procedures New Rules v01r02
- KDB 662911 - MIMO
- ANSI C63.4 2014 Unintentional Radiators
- ANSI C63.10 2013 Intentional Radiators

Test procedures are summarized below:

FCC 5GHz Test Procedures	EDCS # 1445048
FCC 5GHz RSE Test Procedures	EDCS # 1511600

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Appendix E: Scope of Accreditation (A2LA certificate number 1178-01)

The scope of accreditation of Cisco Systems, Inc. can be found on the A2LA web page at:

http://www.a2la.org/scopepdf/1178-01.pdf

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Appendix F: Test Assessment Plan

Test Plan EDCS# 15438021
Power Tables EDCS# 11793772

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