Test Report

Model: C9120AXI-(X)

Cisco Catalyst C9120AX Series 802.11ax Access Point

(x=B)

FCC ID: LDKVCVER1937

5150-5250 MHz

Against the following Specifications:

CFR47 Part 15.407

ACCREDITED

Cisco Systems
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San Jose, CA 95134

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This report replaces any previously entered test report under EDCS – 17656962.This test report has been electronically authorized and archived using the CISCO Engineering Document Control system. Test Report Template EDCS# 11644122.

This test report has been electronically authorized and archived using the CISCO Engineering Document Control system.

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Section 1: Overview

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

Specifications:
CFR47 Part 15.407

Section 2: Assessment Information

2.1 General

This report contains an assessment of an apparatus against Electromagnetic Compatibility 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%)

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

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	± 0.54°
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.

2.2 Date of testing

24-Apr-19 - 02-May-19

14-Mar-19 to 29-Mar-19 (duty cycle)

02-May-19 (upper CSE)

2.3 Report Issue Date

29-May-19

Cisco uses an electronic system to issue, store and control the revision of test reports. This system is called the Engineering Document Control System (EDCS). The actual report issue date is embedded into the original file on EDCS. Any copies of this report, either electronic or paper, that are not on EDCS must be considered uncontrolled.

2.4 Testing facilities

This assessment was performed by: Chris Blair

Testing Laboratory

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San Jose, CA 95134
USA

Headquarters

Cisco Systems, Inc.,
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Registration Numbers for Industry Canada

Cisco System Site	Address	Site Identifier
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Building P, 5m Chamber	125 West Tasman Dr San Jose, CA 95134	Company #: 2461N-1
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Building 7, 5m Chamber	425 E. Tasman Drive San Jose, California 95134	Company #: 2461N-3

Test Engineers

Chris Blair

2.5 Equipment Assessed (EUT)

Catalyst C9120AXI-B

2.6 EUT Description

Mid-tier 8x8 802.11ax Access Point with Dual 4x4 MIMO with 4 Spatial Streams

The radio supports the following modes of operation. The modes are further defined in the radio Theory of Operation. The modes included in this report represent the worst-case data for all modes.

802.11a - Non HT20, Two Antennas, 6 to 54 Mbps, 1ss
802.11a - Non HT20, Three Antennas, 6 to 54 Mbps, 1ss
802.11a - Non HT20, Four Antennas, 6 to 54 Mbps, 1ss

802.11a - Non HT20 Beam Forming, Two Antennas, 6 to 54 Mbps, 1ss
802.11a - Non HT20 Beam Forming, Three Antennas, 6 to 54 Mbps, 1ss
802.11a - Non HT20 Beam Forming, Four Antennas, 6 to 54 Mbps, 1ss

802.11n/ac - HT/VHT20, One Antenna, M0 to M7, 1ss
802.11n/ac - HT/VHT20, Two Antennas, M0 to M7, 1ss
802.11n/ac - HT/VHT20, Two Antennas, M8 to M15, 2ss
802.11n/ac - HT/VHT20, Three Antennas, M0 to M7, 1ss
802.11n/ac - HT/VHT20, Three Antennas, M8 to M15, 2ss
802.11n/ac - HT/VHT20, Three Antennas, M16 to M23, 3ss
802.11n/ac - HT/VHT20, Four Antennas, M0 to M7, 1ss
802.11n/ac - HT/VHT20, Four Antennas, M8 to M15, 2ss
802.11n/ac - HT/VHT20, Four Antennas, M16 to M23, 3ss
802.11n/ac - HT/VHT20, Four Antennas, M24 to M31, 4ss

802.11n/ac - HT/VHT20 Beam Forming, Two Antennas, M0 to M7, 1ss
802.11n/ac - HT/VHT20 Beam Forming, Two Antennas, M8 to M15, 2ss
802.11n/ac - HT/VHT20 Beam Forming, Three Antennas, M0 to M7, 1ss
802.11n/ac - HT/VHT20 Beam Forming, Three Antennas, M8 to M15, 2ss
802.11n/ac - HT/VHT20 Beam Forming, Three Antennas, M16 to M23, 3ss
802.11n/ac - HT/VHT20 Beam Forming, Four Antennas, M0 to M7, 1ss
802.11n/ac - HT/VHT20 Beam Forming, Four Antennas, M8 to M15, 2ss
802.11n/ac - HT/VHT20 Beam Forming, Four Antennas, M16 to M23, 3ss
802.11n/ac - HT/VHT20 Beam Forming, Four Antennas, M24 to M31, 4ss

802.11n/ac - HT/VHT20 STBC, Two Antennas, M0 to M7, 2ss
802.11n/ac - HT/VHT20 STBC, Three Antennas, M0 to M7, 2ss
802.11n/ac - HT/VHT20 STBC, Four Antennas, M0 to M7, 2ss
802.11ax - HE20, One Antenna, M0 to M7, 1ss
802.11ax - HE20, Two Antennas, M0 to M7, 1ss
802.11ax - HE20, Two Antennas, M8 to M15, 2ss
802.11ax - HE20, Three Antennas, M0 to M7, 1ss
802.11ax - HE20, Three Antennas, M8 to M15, 2ss
802.11ax - HE20, Three Antennas, M16 to M23, 3ss

802.11ax - HE20, Four Antennas, M0 to M7, 1ss
802.11ax - HE20, Four Antennas, M8 to M15, 2ss
802.11ax - HE20, Four Antennas, M16 to M23, 3ss
802.11ax - HE20, Four Antennas, M24 to M31, 4ss

802.11ax - HE20 Beam Forming, Two Antennas, M0 to M7, 1ss
802.11ax - HE20 Beam Forming, Two Antennas, M8 to M15, 2ss
802.11ax - HE20 Beam Forming, Three Antennas, M0 to M7, 1ss
802.11ax - HE20 Beam Forming, Three Antennas, M8 to M15, 2ss
802.11ax - HE20 Beam Forming, Three Antennas, M16 to M23, 3ss
802.11ax - HE20 Beam Forming, Four Antennas, M0 to M7, 1ss
802.11ax - HE20 Beam Forming, Four Antennas, M8 to M15, 2ss
802.11ax - HE20 Beam Forming, Four Antennas, M16 to M23, 3ss
802.11ax - HE20 Beam Forming, Four Antennas, M24 to M31, 4ss

802.11ax - HE20 STBC, Two Antennas, M0 to M7, 2ss
802.11ax - HE20 STBC, Three Antennas, M0 to M7, 2ss
802.11ax - HE20 STBC, Four Antennas, M0 to M7, 2ss

802.11a - Non HT40, One Antenna, 6 to 54 Mbps, 1ss
802.11a - Non HT40, Two Antennas, 6 to 54 Mbps, 1ss
802.11a - Non HT40, Three Antennas, 6 to 54 Mbps, 1ss
802.11a - Non HT40, Four Antennas, 6 to 54 Mbps, 1ss

802.11n/ac - HT/VHT40, One Antenna, M0 to M7, 1ss
802.11n/ac - HT/VHT40, Two Antennas, M0 to M7, 1ss
802.11n/ac - HT/VHT40, Two Antennas, M8 to M15, 2ss
802.11n/ac - HT/VHT40, Three Antennas, M0 to M7, 1ss
802.11n/ac - HT/VHT40, Three Antennas, M8 to M15, 2ss
802.11n/ac - HT/VHT40, Three Antennas, M16 to M23, 3ss
802.11n/ac - HT/VHT40, Four Antennas, M0 to M7, 1ss
802.11n/ac - HT/VHT40, Four Antennas, M8 to M15, 2ss
802.11n/ac - HT/VHT40, Four Antennas, M16 to M23, 3ss
802.11n/ac - HT/VHT40, Four Antennas, M24 to M31, 4ss

802.11n/ac - HT/VHT40 Beam Forming, Two Antennas, M0 to M7, 1ss
802.11n/ac - HT/VHT40 Beam Forming, Two Antennas, M8 to M15, 2ss
802.11n/ac - HT/VHT40 Beam Forming, Three Antennas, M0 to M7, 1ss
802.11n/ac - HT/VHT40 Beam Forming, Three Antennas, M8 to M15, 2ss
802.11n/ac - HT/VHT40 Beam Forming, Three Antennas, M16 to M23, 3ss
802.11n/ac - HT/VHT40 Beam Forming, Four Antennas, M0 to M7, 1ss
802.11n/ac - HT/VHT40 Beam Forming, Four Antennas, M8 to M15, 2ss
802.11n/ac - HT/VHT40 Beam Forming, Four Antennas, M16 to M23, 3ss
802.11n/ac - HT/VHT40 Beam Forming, Four Antennas, M24 to M31, 4ss

802.11n/ac - HT/VHT40 STBC, Two Antennas, M0 to M7, 2ss
802.11n/ac - HT/VHT40 STBC, Three Antennas, M0 to M7, 2ss
802.11n/ac - HT/VHT40 STBC, Four Antennas, M0 to M7, 2ss

802.11ax - HE40, One Antenna, M0 to M7, 1ss
802.11ax - HE40, Two Antennas, M0 to M7, 1ss
802.11ax - HE40, Two Antennas, M8 to M15, 2ss
802.11ax - HE40, Three Antennas, M0 to M7, 1ss
802.11ax - HE40, Three Antennas, M8 to M15, 2ss
802.11ax - HE40, Three Antennas, M16 to M23, 3ss
802.11ax - HE40, Four Antennas, M0 to M7, 1ss
802.11ax - HE40, Four Antennas, M8 to M15, 2ss
802.11ax - HE40, Four Antennas, M16 to M23, 3ss
802.11ax - HE40, Four Antennas, M24 to M31, 4ss

802.11ax - HE40 Beam Forming, Two Antennas, M0 to M7, 1ss
802.11ax - HE40 Beam Forming, Two Antennas, M8 to M15, 2ss
802.11ax - HE40 Beam Forming, Three Antennas, M0 to M7, 1ss
802.11ax - HE40 Beam Forming, Three Antennas, M8 to M15, 2ss
802.11ax - HE40 Beam Forming, Three Antennas, M16 to M23, 3ss
802.11ax - HE40 Beam Forming, Four Antennas, M0 to M7, 1ss
802.11ax - HE40 Beam Forming, Four Antennas, M8 to M15, 2ss
802.11ax - HE40 Beam Forming, Four Antennas, M16 to M23, 3ss
802.11ax - HE40 Beam Forming, Four Antennas, M24 to M31, 4ss

802.11ax - HE40 STBC, Two Antennas, M0 to M7, 2ss
802.11ax - HE40 STBC, Three Antennas, M0 to M7, 2ss
802.11ax - HE40 STBC, Four Antennas, M0 to M7, 2ss

802.11a - Non HT80, One Antenna, 6 to 54 Mbps, 1ss
802.11a - Non HT80, Two Antennas, 6 to 54 Mbps, 1ss
802.11a - Non HT80, Three Antennas, 6 to 54 Mbps, 1ss
802.11a - Non HT80, Four Antennas, 6 to 54 Mbps, 1ss

802.11ac - VHT80, One Antenna, M0 to M9 1ss
802.11ac - VHT80, Two Antennas, M0 to M9 1ss
802.11ac - VHT80, Two Antennas, M0 to M9 2ss
802.11ac - VHT80, Three Antennas, M0 to M9 1ss
802.11ac - VHT80, Three Antennas, M0 to M9 2ss
802.11ac - VHT80, Three Antennas, M0 to M9 3ss
802.11ac - VHT80, Four Antennas, M0 to M9 1ss
802.11ac - VHT80, Four Antennas, M0 to M9 2ss
802.11ac - VHT80, Four Antennas, M0 to M9 3ss
802.11ac - VHT80, Four Antennas, M0 to M9 4ss

802.11ac - VHT80 Beam Forming, Two Antennas, M0 to M9 1ss
802.11ac - VHT80 Beam Forming, Two Antennas, M0 to M9 2ss
802.11ac - VHT80 Beam Forming, Three Antennas, M0 to M9 1ss
802.11ac - VHT80 Beam Forming, Three Antennas, M0 to M9 2ss
802.11ac - VHT80 Beam Forming, Three Antennas, M0 to M9 3ss
802.11ac - VHT80 Beam Forming, Four Antennas, M0 to M9 1ss

802.11ac - VHT80 Beam Forming, Four Antennas, M0 to M9 2ss
802.11ac - VHT80 Beam Forming, Four Antennas, M0 to M9 3ss
802.11ac - VHT80 Beam Forming, Four Antennas, M0 to M9 4ss

802.11ac - VHT80 STBC, Two Antennas, M0 to M9 2ss
802.11ac - VHT80 STBC, Three Antennas, M0 to M9 2ss
802.11ac - VHT80 STBC, Four Antennas, M0 to M9 2ss

802.11ax - HE80, One Antenna, M0 to M9 1ss
802.11ax - HE80, Two Antennas, M0 to M9 1ss
802.11ax - HE80, Two Antennas, M0 to M9 2ss
802.11ax - HE80, Three Antennas, M0 to M9 1ss
802.11ax - HE80, Three Antennas, M0 to M9 2ss
802.11ax - HE80, Three Antennas, M0 to M9 3ss
802.11ax - HE80, Four Antennas, M0 to M9 1ss
802.11ax - HE80, Four Antennas, M0 to M9 2ss
802.11ax - HE80, Four Antennas, M0 to M9 3ss
802.11ax - HE80, Four Antennas, M0 to M9 4ss

802.11ax - HE80 Beam Forming, Two Antennas, M0 to M9 1ss
802.11ax - HE80 Beam Forming, Two Antennas, M0 to M9 2ss
802.11ax - HE80 Beam Forming, Three Antennas, M0 to M9 1ss
802.11ax - HE80 Beam Forming, Three Antennas, M0 to M9 2ss
802.11ax - HE80 Beam Forming, Three Antennas, M0 to M9 3ss
802.11ax - HE80 Beam Forming, Four Antennas, M0 to M9 1ss
802.11ax - HE80 Beam Forming, Four Antennas, M0 to M9 2ss
802.11ax - HE80 Beam Forming, Four Antennas, M0 to M9 3ss
802.11ax - HE80 Beam Forming, Four Antennas, M0 to M9 4ss

802.11ax - HE80 STBC, Two Antennas, M0 to M9 2ss
802.11ax - HE80 STBC, Three Antennas, M0 to M9 2ss
802.11ax - HE80 STBC, Four Antennas, M0 to M9 2ss

802.11a - Non HT20, One Antenna, 6 to 54 Mbps, 1ss

802.11a - Non HT160, One Antenna, 6 to 54 Mbps, 1ss
802.11a - Non HT160, Two Antennas, 6 to 54 Mbps, 1ss
802.11a - Non HT160, Three Antennas, 6 to 54 Mbps, 1ss
802.11a - Non HT160, Four Antennas, 6 to 54 Mbps, 1ss

802.11ac - VHT160, One Antenna, M0 to M9 1ss
802.11ac - VHT160, Two Antennas, M0 to M9 1ss
802.11ac - VHT160, Two Antennas, M0 to M9 2ss
802.11ac - VHT160, Three Antennas, M0 to M9 1ss
802.11ac - VHT160, Three Antennas, M0 to M9 2ss
802.11ac - VHT160, Three Antennas, M0 to M9 3ss
802.11ac - VHT160, Four Antennas, M0 to M9 1ss
802.11ac - VHT160, Four Antennas, M0 to M9 2ss

802.11ac - VHT160, Four Antennas, M0 to M9 3ss
802.11ac - VHT160, Four Antennas, M0 to M9 4ss

802.11ac - VHT160 Beam Forming, Two Antennas, M0 to M9 1ss
802.11ac - VHT160 Beam Forming, Two Antennas, M0 to M9 2ss
802.11ac - VHT160 Beam Forming, Three Antennas, M0 to M9 1ss
802.11ac - VHT160 Beam Forming, Three Antennas, M0 to M9 2ss
802.11ac - VHT160 Beam Forming, Three Antennas, M0 to M9 3ss
802.11ac - VHT160 Beam Forming, Four Antennas, M0 to M9 1ss
802.11ac - VHT160 Beam Forming, Four Antennas, M0 to M9 2ss
802.11ac - VHT160 Beam Forming, Four Antennas, M0 to M9 3ss
802.11ac - VHT160 Beam Forming, Four Antennas, M0 to M9 4ss

802.11ac - VHT160 STBC, Two Antennas, M0 to M9 2ss
802.11ac - VHT160 STBC, Three Antennas, M0 to M9 2ss
802.11ac - VHT160 STBC, Four Antennas, M0 to M9 2ss

802.11ax - HE160, One Antenna, M0 to M9 1ss
802.11ax - HE160, Two Antennas, M0 to M9 1ss
802.11ax - HE160, Two Antennas, M0 to M9 2ss
802.11ax - HE160, Three Antennas, M0 to M9 1ss
802.11ax - HE160, Three Antennas, M0 to M9 2ss
802.11ax - HE160, Three Antennas, M0 to M9 3ss
802.11ax - HE160, Four Antennas, M0 to M9 1ss
802.11ax - HE160, Four Antennas, M0 to M9 2ss
802.11ax - HE160, Four Antennas, M0 to M9 3ss
802.11ax - HE160, Four Antennas, M0 to M9 4ss

802.11ax - HE160 Beam Forming, Two Antennas, M0 to M9 1ss
802.11ax - HE160 Beam Forming, Two Antennas, M0 to M9 2ss
802.11ax - HE160 Beam Forming, Three Antennas, M0 to M9 1ss
802.11ax - HE160 Beam Forming, Three Antennas, M0 to M9 2ss
802.11ax - HE160 Beam Forming, Three Antennas, M0 to M9 3ss
802.11ax - HE160 Beam Forming, Four Antennas, M0 to M9 1ss
802.11ax - HE160 Beam Forming, Four Antennas, M0 to M9 2ss
802.11ax - HE160 Beam Forming, Four Antennas, M0 to M9 3ss
802.11ax - HE160 Beam Forming, Four Antennas, M0 to M9 4ss

802.11ax - HE160 STBC, Two Antennas, M0 to M9 2ss
802.11ax - HE160 STBC, Three Antennas, M0 to M9 2ss
802.11ax - HE160 STBC, Four Antennas, M0 to M9 2ss

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)
5150-5250	-	Internal, HPOL	5

Section 3: Result Summary

3.1 Results Summary Table

Conducted emissions

Basic Standard	Technical Requirements / Details	Result
FCC 15.407	**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 26-dB 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

FCC 15.407	**Output Power**: (1) For the band 5.15-5.25 GHz. (i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. …If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power …shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm). (ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. … If transmitting antennas of directional gain greater than 6 dBi 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 6 dBi. (iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. …Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations. (iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1-megahertz band. If transmitting antennas of directional gain greater than 6 dBi 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 6 dBi.	Pass

FCC 15.407	**Power Spectral Density** (i) For an outdoor access point operating in the band 5.15-5.25 GHz…the maximum power spectral density shall not exceed 17 dBm in any 1-megahertz band. If transmitting antennas of directional gain greater than 6 dBi 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 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm). (ii) For an indoor access point operating in the band 5.15-5.25 GHz… the maximum power spectral density shall not exceed 17 dBm in any 1-megahertz band. If transmitting antennas of directional gain greater than 6 dBi 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 6 dBi. (iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz …the maximum power spectral density shall not exceed 17 dBm in any 1-megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the … maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations. (iv) For mobile and portable client devices in the 5.15-5.25 GHz band…the maximum power spectral density shall not exceed 11 dBm in any 1-megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used… the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.	Pass
FCC 15.407	**Conducted Spurious Emissions / Band-Edge**: For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27dBm/MHz.	Pass
FCC 15.407 FCC 15.209 FCC 15.205	**Restricted band**: Unwanted emissions falling within the restricted bands, as defined in FCC 15.205 (a) must also comply with the radiated emission limits specified in FCC 15.209 (a)	Pass

Radiated Emissions (General requirements)

Basic Standard	Technical Requirements / Details	Result
FCC 15.209 FCC 15.205	**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.	Not Tested
FCC 15.207	**AC Conducted Emissions:** Except when the requirements applicable to a given device state otherwise, for any radio apparatus equipped to operate from the public utility AC power supply, either directly or indirectly (such as with a battery charger), the radio frequency voltage of emissions conducted back onto the AC power lines in the frequency range of 0.15 MHz to 30 MHz shall not exceed the limits shown in the table in these sections. The more stringent limit applies at the frequency range boundaries.	Not Tested

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	C9120AXI-B	Cisco Systems	P3C	svn base: 161d279e12e6ede43e1005ea511bed938de6923e commit: 161d279e12e6ede43e1005ea511bed938de6923e tree c433767fb7ea6e49ba91057416fbff23bdd54695	Fri Mar 1 03:06:48 PST 2019 cheetah-build6 /san2/BUILD/workspace/Nightly-Cheetah-axel-bcm-mfg-c8_9_throttle * (HEAD detached at 161d279e12)	FOC23070L3Q
S02	AIR-PWRINJ6	Cisco	V01	N/A	N/A	C16036663000000272
S03	C9120AXI-B	Cisco Systems	P3C	svn base: 1f6f4048ecbb66599142da892931a7ad499a2ba2 commit: 1f6f4048ecbb66599142da892931a7ad499a2ba2 tree 1a99c087d0e4d3b13a635301797e24d54316c31d	Mon Apr 22 03:10:10 PDT 2019 cheetah-build6 /san2/BUILD/workspace/Nightly-Cheetah-axel-bcm-mfg-c8_9_throttle * (HEAD detached at 1f6f4048ec)	FOC23070L3Q

4.2 System Details

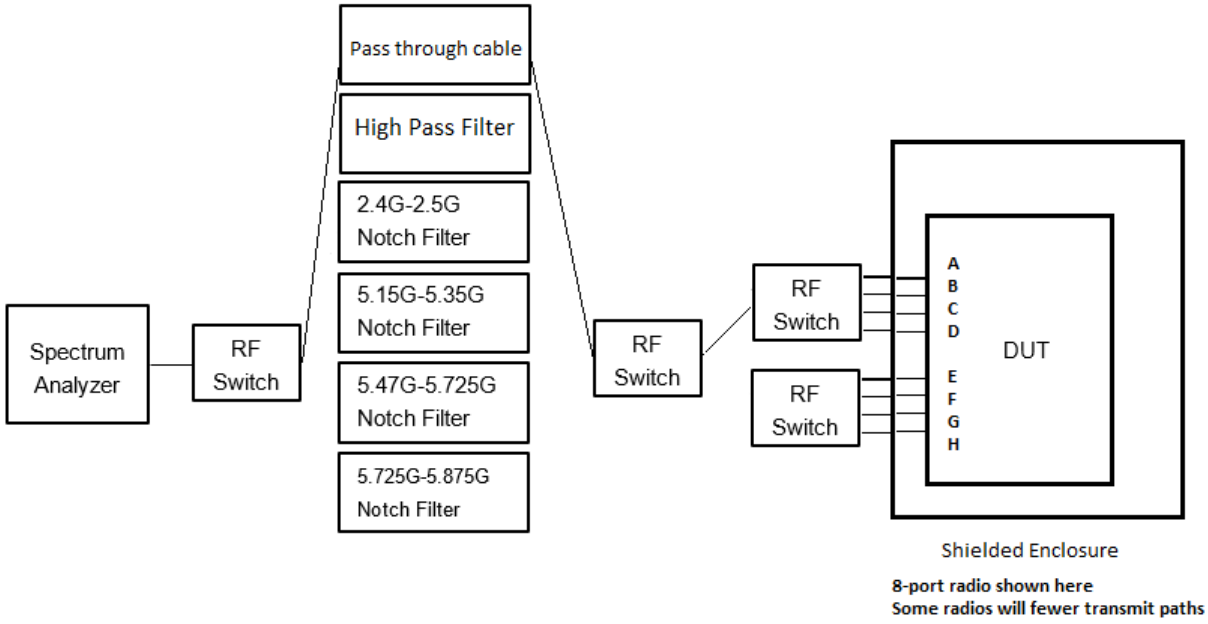
System #	Description	Samples
1	AP and PSU – duty cycle	S01+S02
2	AP and PSU – all other tests	S03+S02

4.3 Mode of Operation Details

Mode#	Description	Comments
1	Continuously Transmitting	

Appendix A: Emission Test Results

Conducted Test Setup Diagram



Target Maximum Channel Power

The following table details the maximum supported Total Channel Power for all operating modes.

	Maximum Channel Power (dBm)		
	Frequency (MHz)		
Operating Mode	**5250**		
Non HT160, 6 to 54 Mbps	**15**		
VHT160, M0 to M9, M0 to M9 1-2ss	**18**		
VHT160 Beam Forming, M0 to M9, M0 to M9 1-2ss	**18**		
VHT160 STBC, M0 to M9 1ss	**18**		
HE160, M0 to M9, M0 to M9 1-2ss	**19**		
HE160 Beam Forming, M0 to M9, M0 to M9 1-2ss	**19**		
HE160 STBC, M0 to M9 1ss	**19**		
	5180	**5220**	**5240**
Non HT20, 6 to 54 Mbps	**23**	**23**	**22**
Non HT20 Beam Forming, 6 to 54 Mbps	**20**	**23**	**22**
HT/VHT20, M0 to M31	**23**	**24**	**24**
HT/VHT20 Beam Forming, M0 to M31	**23**	**24**	**24**
HT/VHT20 STBC, M0 to M7	**23**	**24**	**24**
HE20, M0 to M31	**23**	**24**	**24**
HE20 Beam Forming, M0 to M31	**23**	**24**	**24**

HE20 STBC, M0 to M7	**23**	**24**	**24**
	5190	**5230**	
Non HT40, 6 to 54 Mbps	**20**	**24**	
HT/VHT40, M0 to M31	**20**	**24**	
HT/VHT40 Beam Forming, M0 to M31	**20**	**24**	
HT/VHT40 STBC, M0 to M7	**20**	**24**	
HE40, M0 to M31	**20**	**24**	
HE40 Beam Forming, M0 to M31	**20**	**24**	
HE40 STBC, M0 to M7	**20**	**24**	
	5210		
Non HT80, 6 to 54 Mbps	**19**		
VHT80, M0 to M9, M0 to M9 1-2ss	**19**		
VHT80 Beam Forming, M0 to M9, M0 to M9 1-2ss	**19**		
VHT80 STBC, M0 to M9 1ss	**19**		
HE80, M0 to M9, M0 to M9 1-2ss	**19**		
HE80 Beam Forming, M0 to M9, M0 to M9 1-2ss	**19**		
HE80 STBC, M0 to M9 1ss	**19**		

A.1 Duty Cycle

Duty Cycle Test Requirement

From KDB 789033 D02 General UNII Test Procedures New Rules v02r01

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.

Duty Cycle Test Method

From KDB 789033 D02 General UNII Test Procedures New Rules v02r01:

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.)

Duty Cycle Test Information

Tested By: Chris Blair	**Date of testing:** 14-Mar-19 to 29-Mar-19
Test Result: PASS	

Test Equipment

See Appendix C for list of test equipment

Samples, Systems, and Modes

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

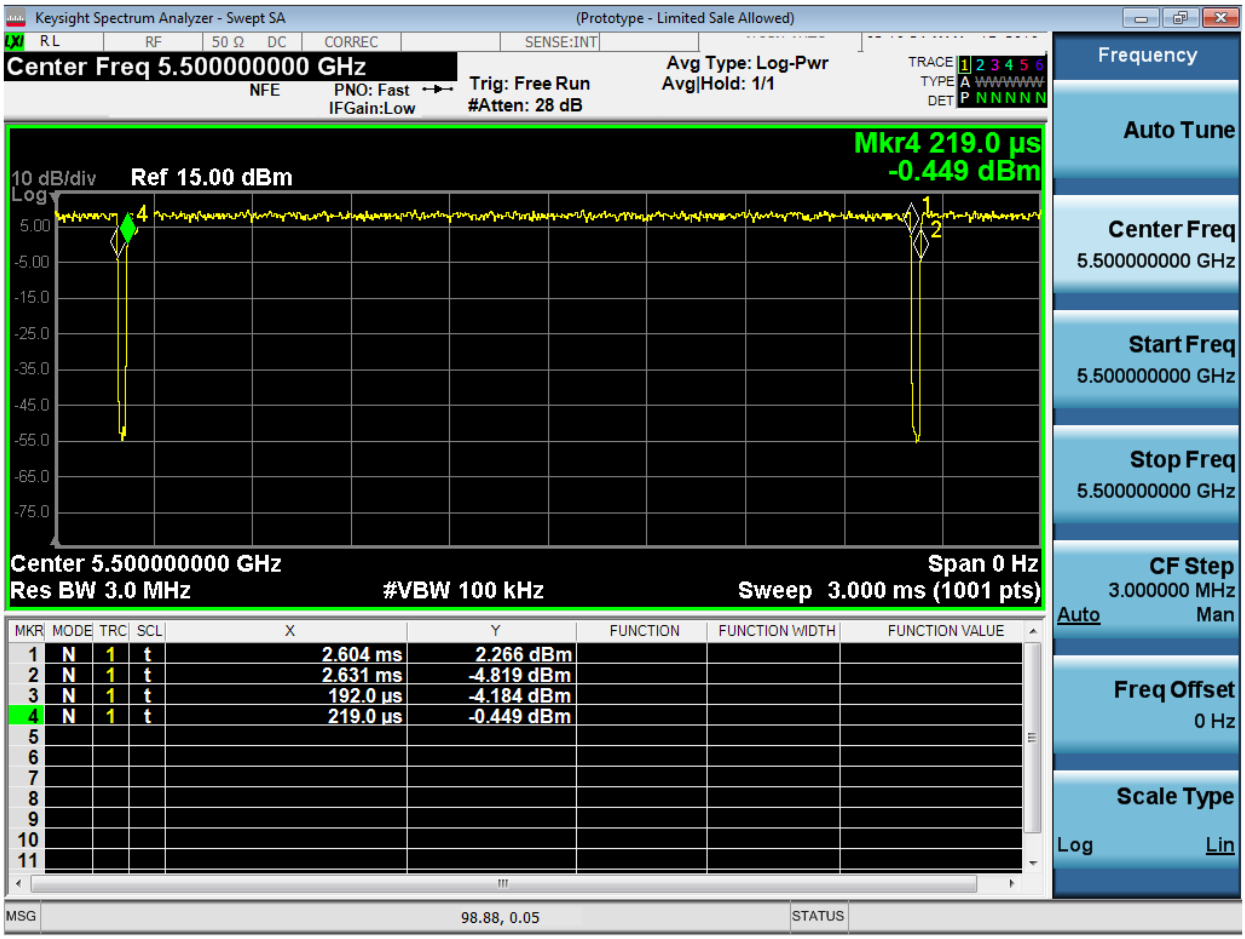
Duty Cycle Data Table

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

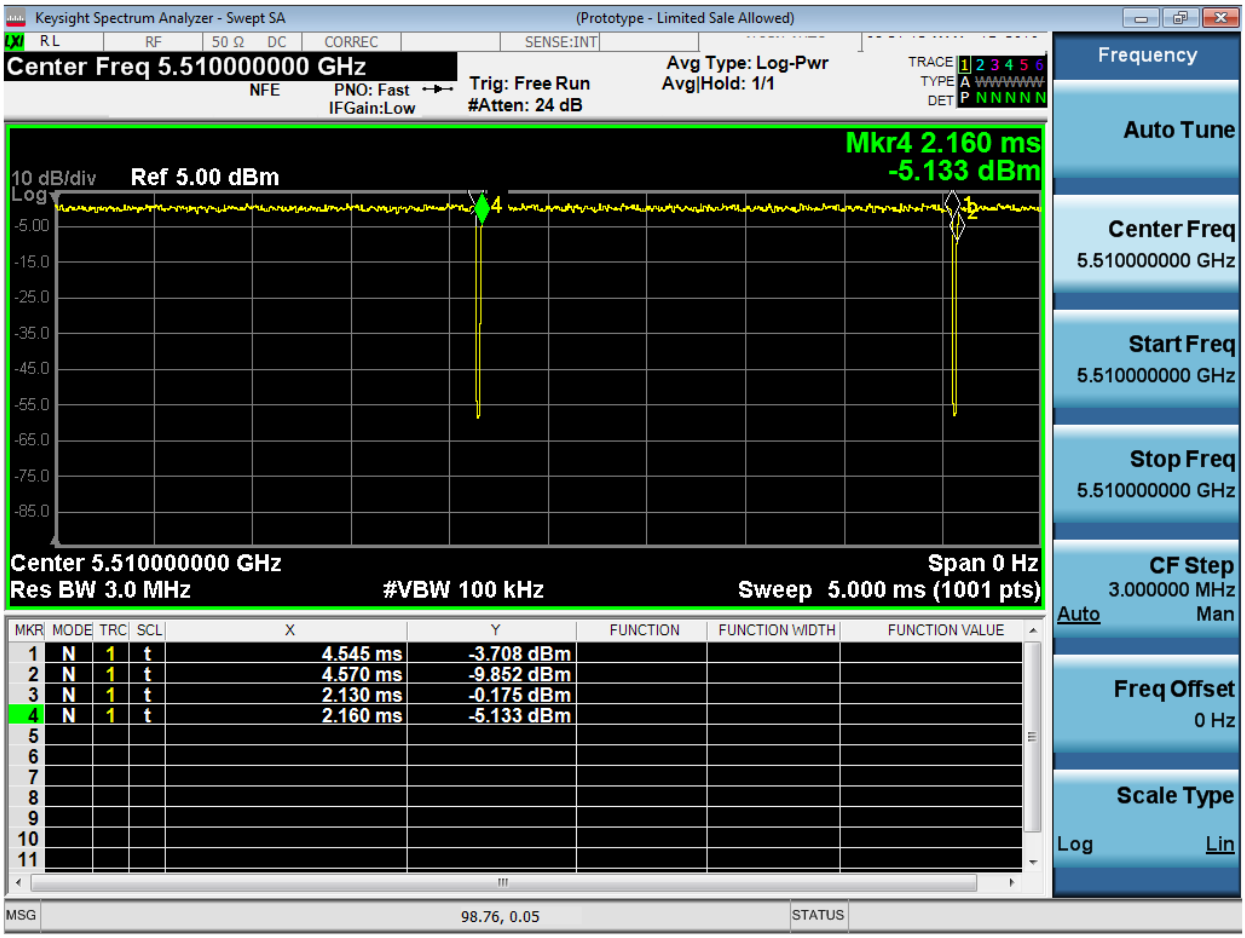
Mode	Data Rate	Duty Cycle (%)	Correction Factor (dB)
NonHT20	6Mbps	98.88	0.0
NonHT40		98.76	0.0
NonHT80		98.76	0.0
NonHT160		99.00	0.0
HT20	M0	98.80	0.0
HT40		97.67	0.1
VHT80	m0x1	95.15	0.2
VHT160		91.37	0.4
HE20	m0h1	98.45	0.0
HE40		97.15	0.1
HE80		94.41	0.3
HE160		90.49	0.4

Duty Cycle Data Screenshots

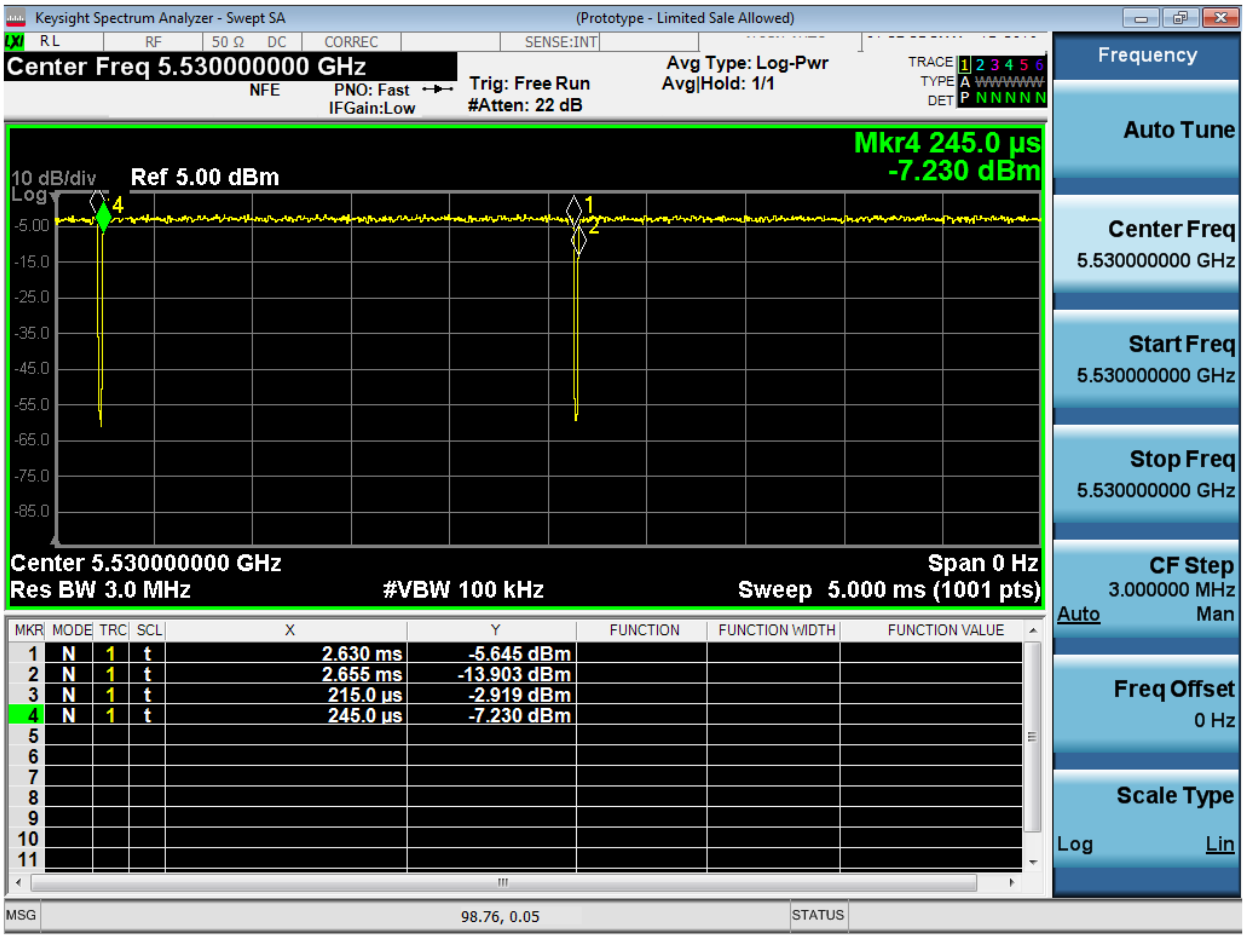
Duty Cycle, NonHT20



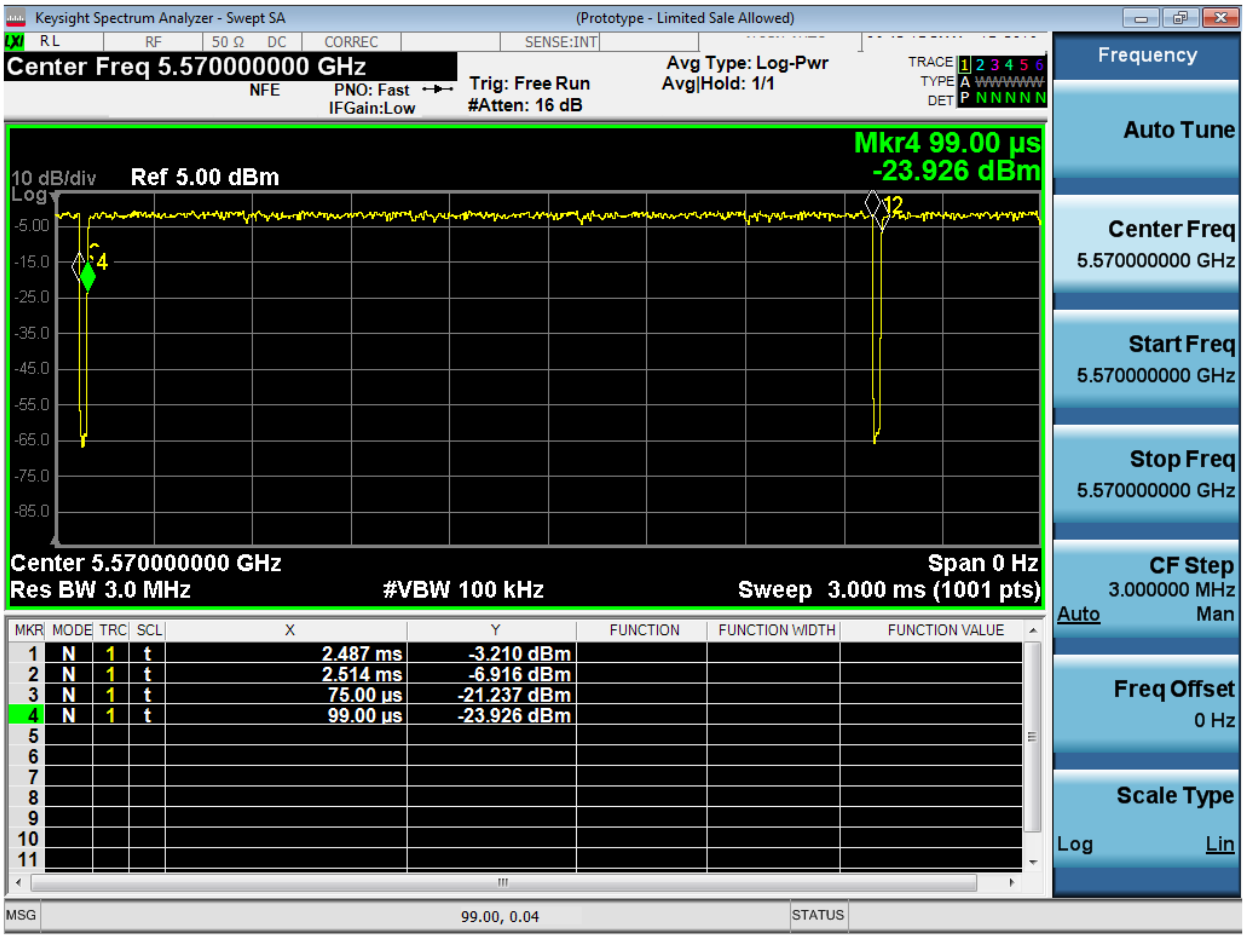
Duty Cycle, NonHT40



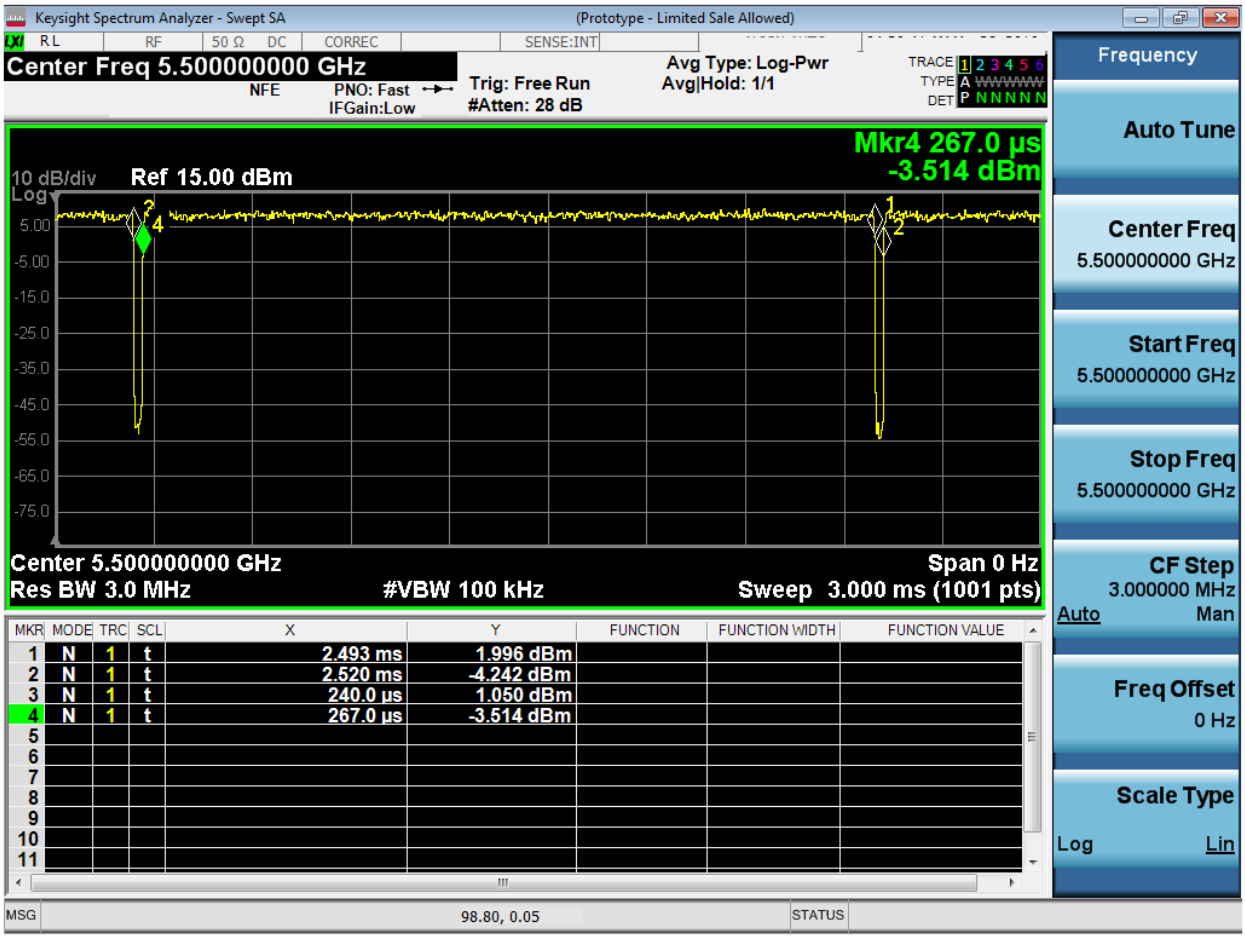
Duty Cycle, NonHT80



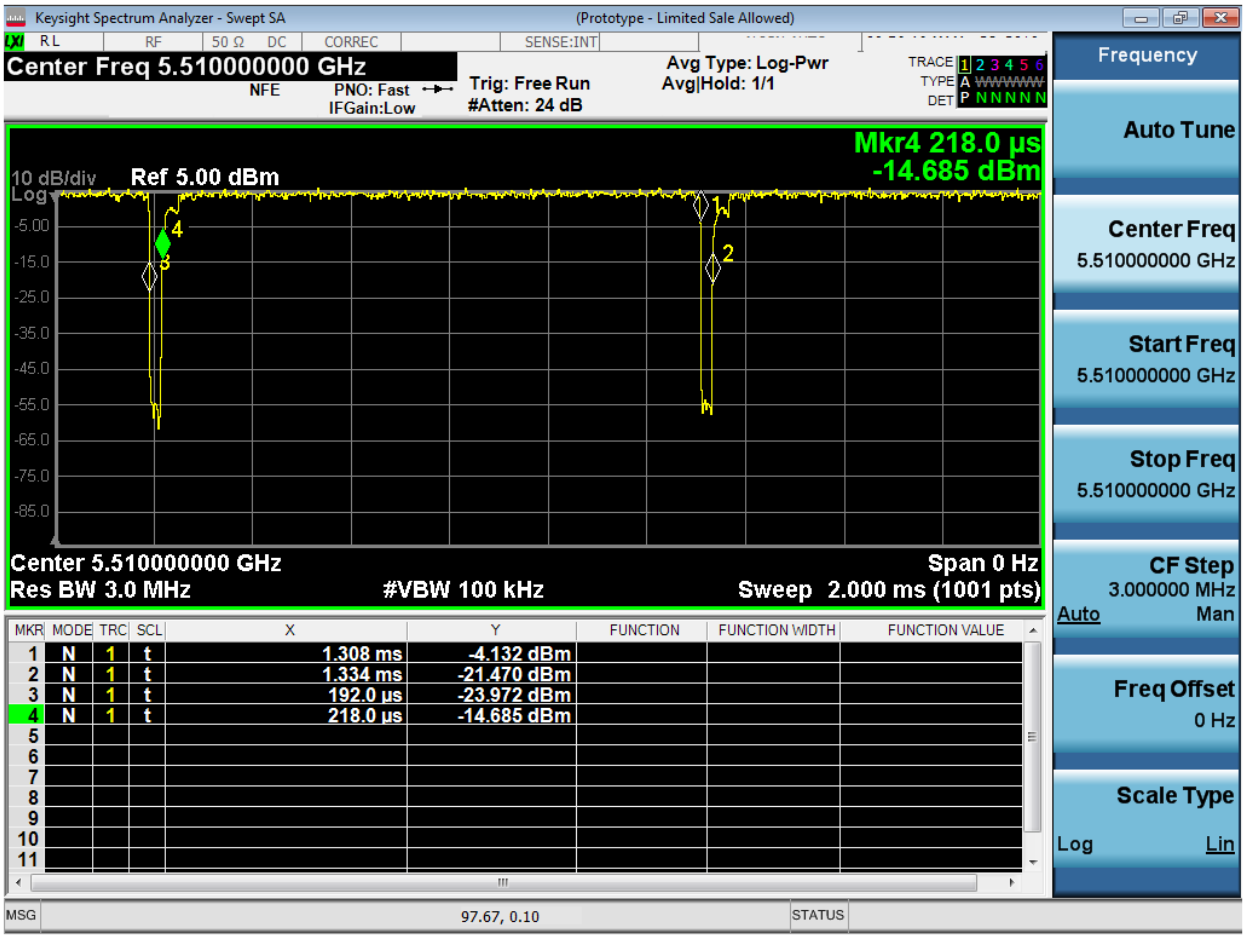
Duty Cycle, NonHT160



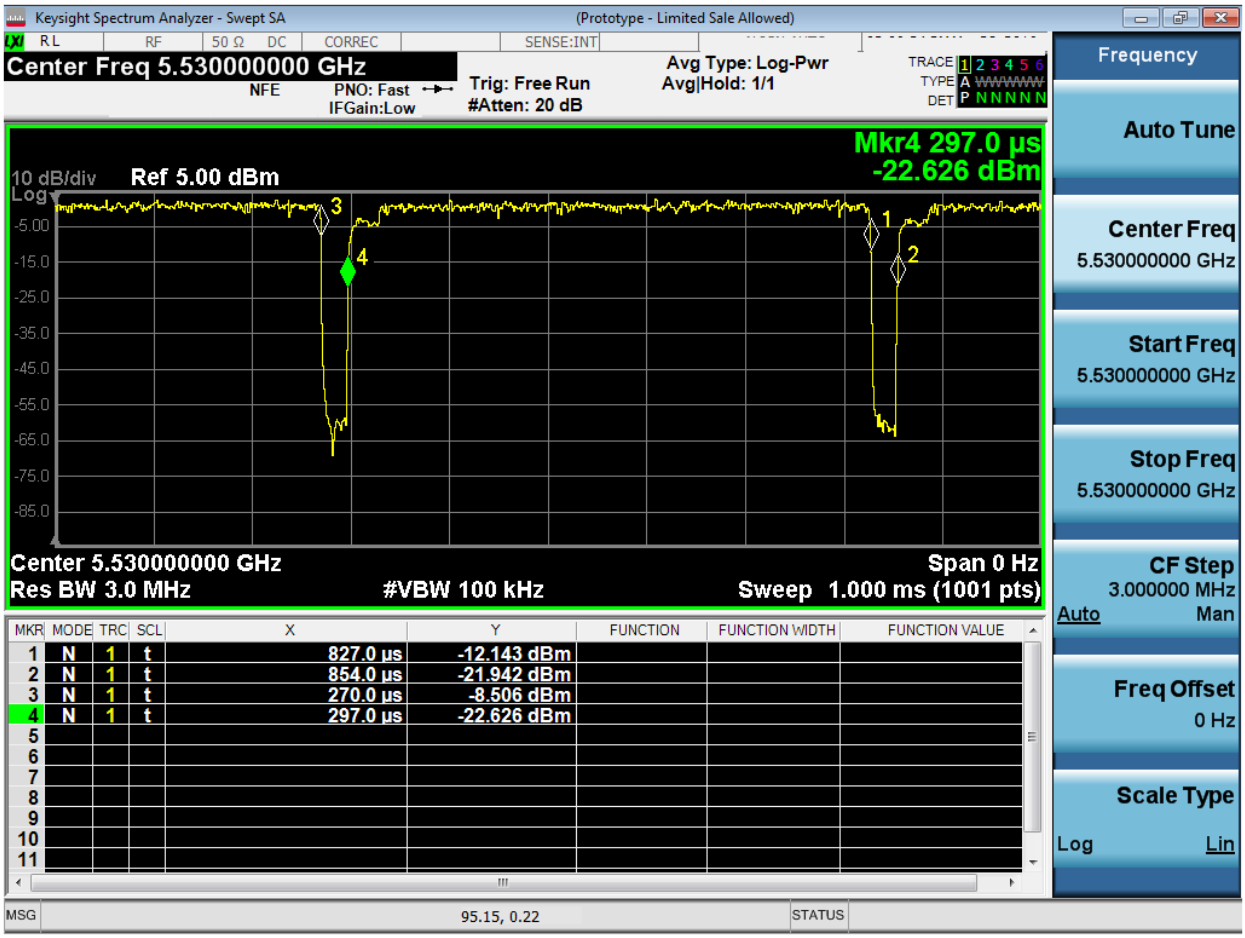
Duty Cycle, HT20



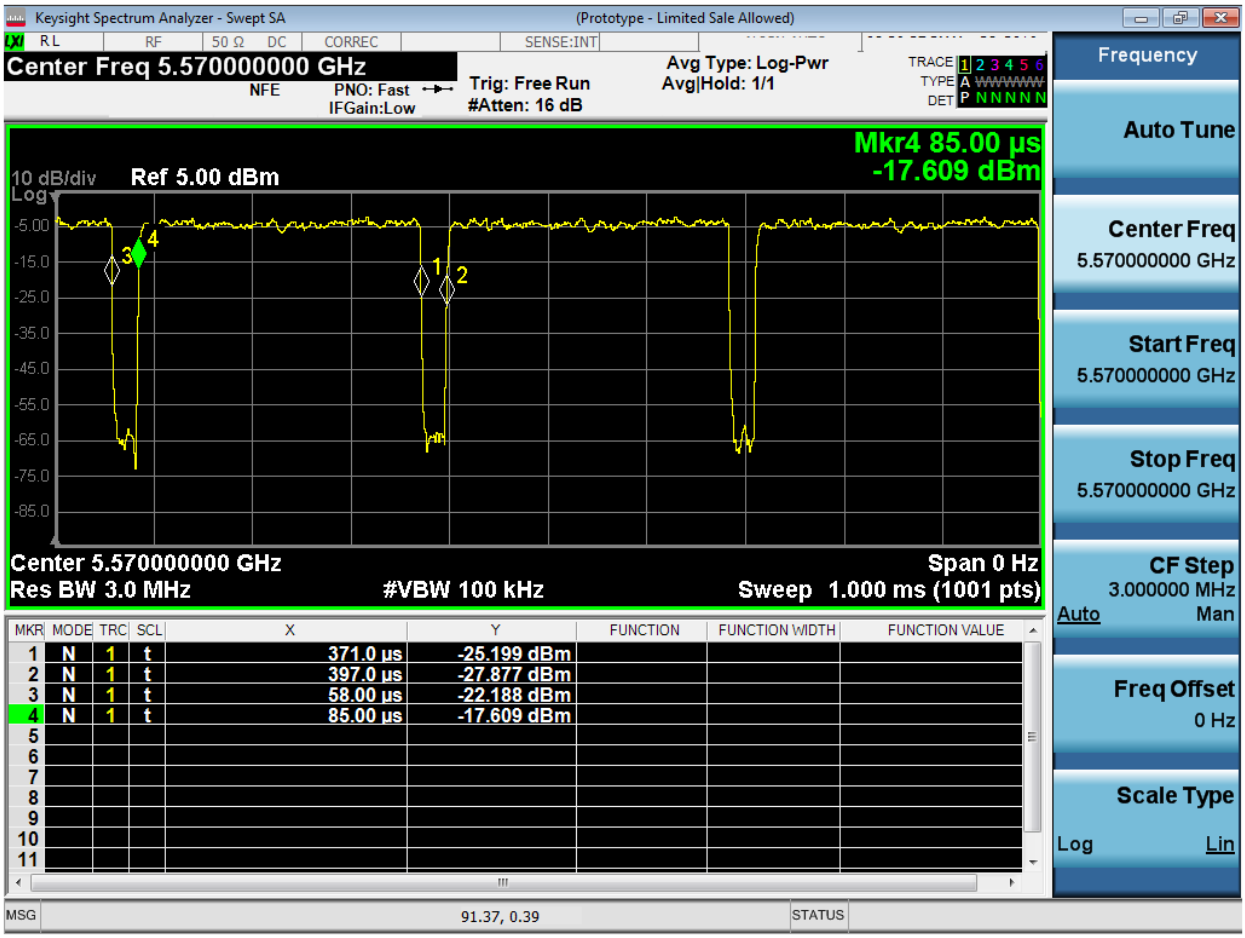
Duty Cycle, HT40



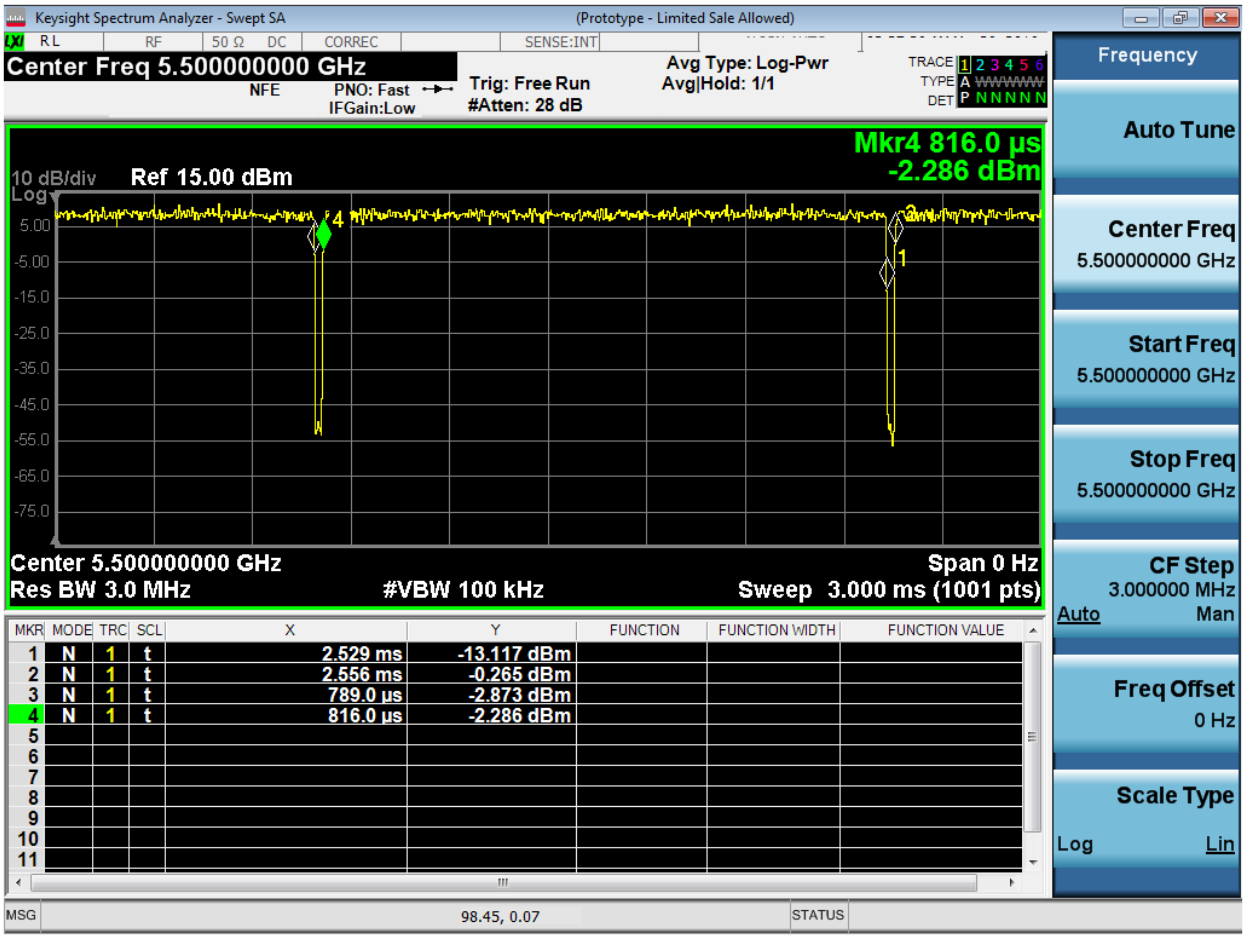
Duty Cycle, VHT80



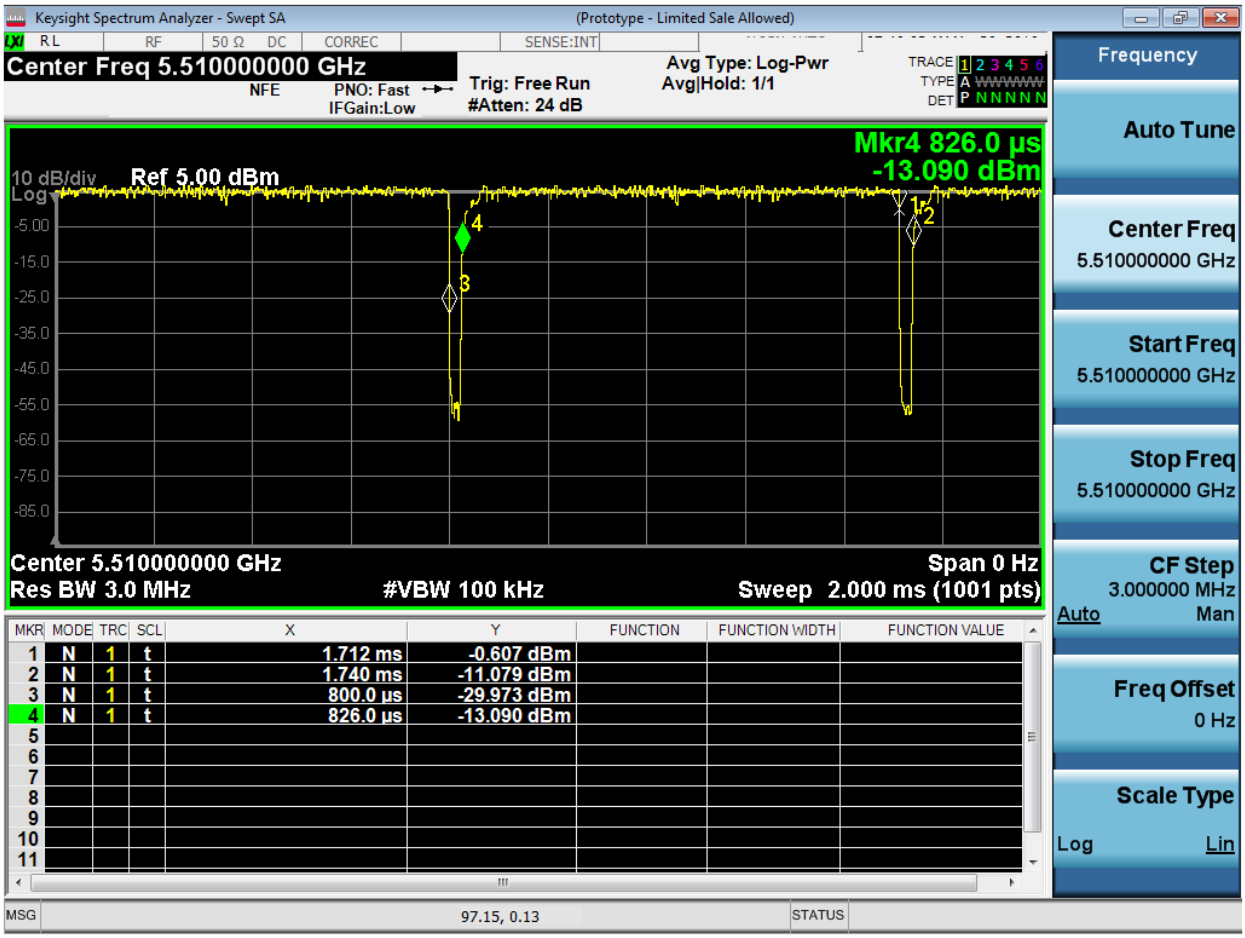
Duty Cycle, VHT160



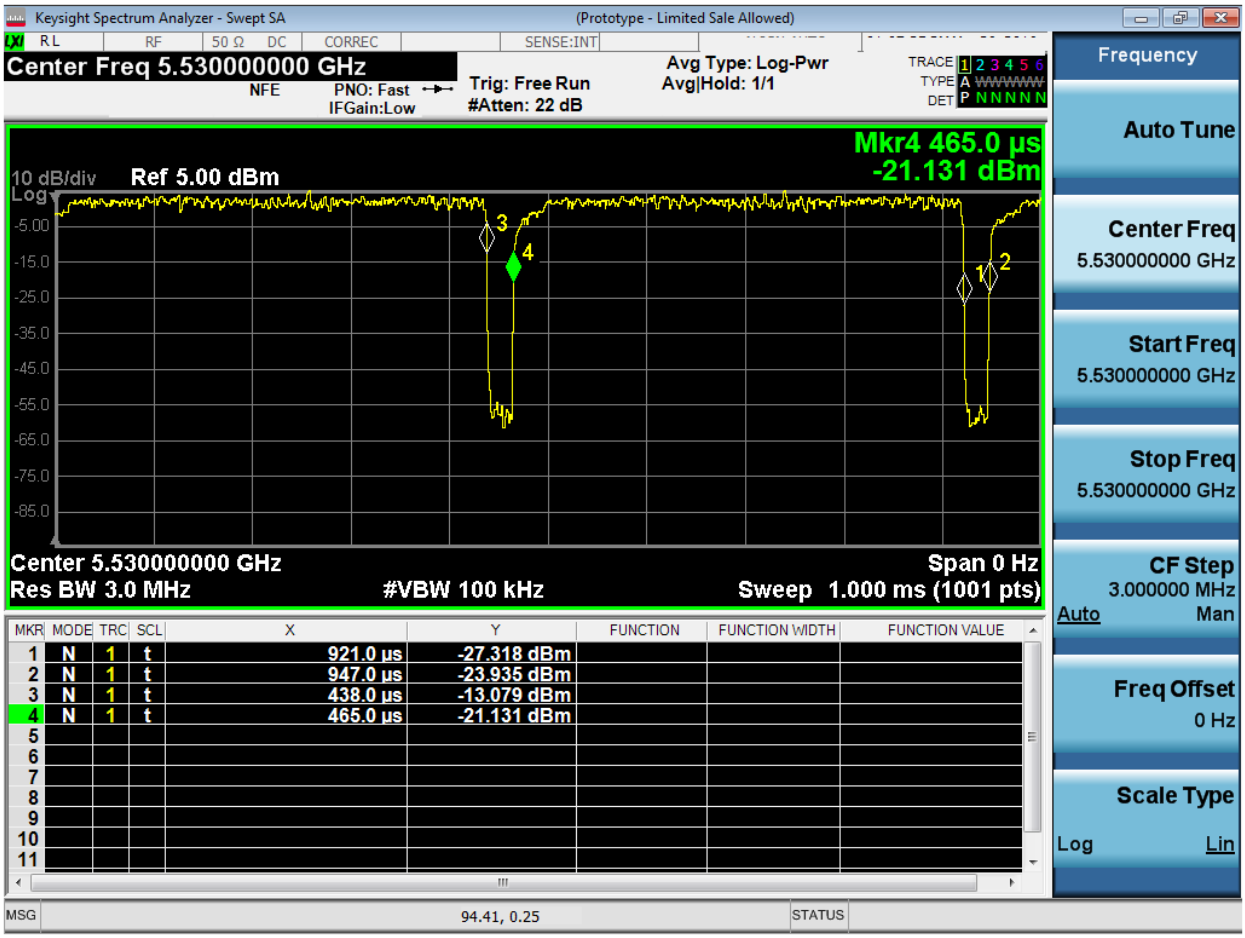
Duty Cycle, HE20



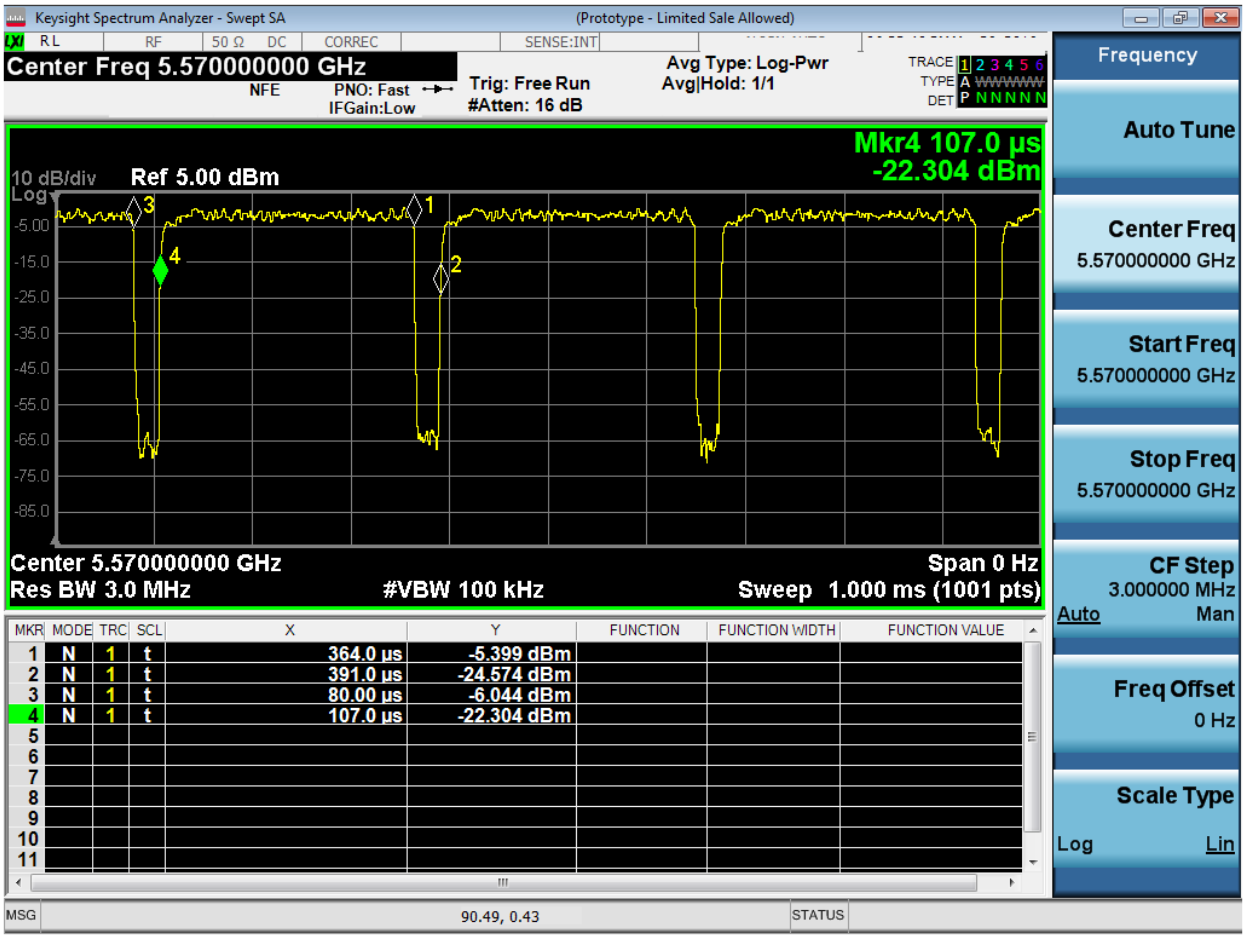
Duty Cycle, HE40



Duty Cycle, HE80



Duty Cycle, HE160



A.2 99% and 26dB Bandwidth

99% and 26dB Bandwidth Test Requirement

For the FCC:
There is no requirement for the value of bandwidth.
Power measurements are made using the 99% Bandwidth as the integration bandwidth.

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%.

Samples, Systems, and Modes

System Number	Description	Samples	System under test	Support equipment

2	EUT	S03	☑	☐
	Support	S02	☐	☑

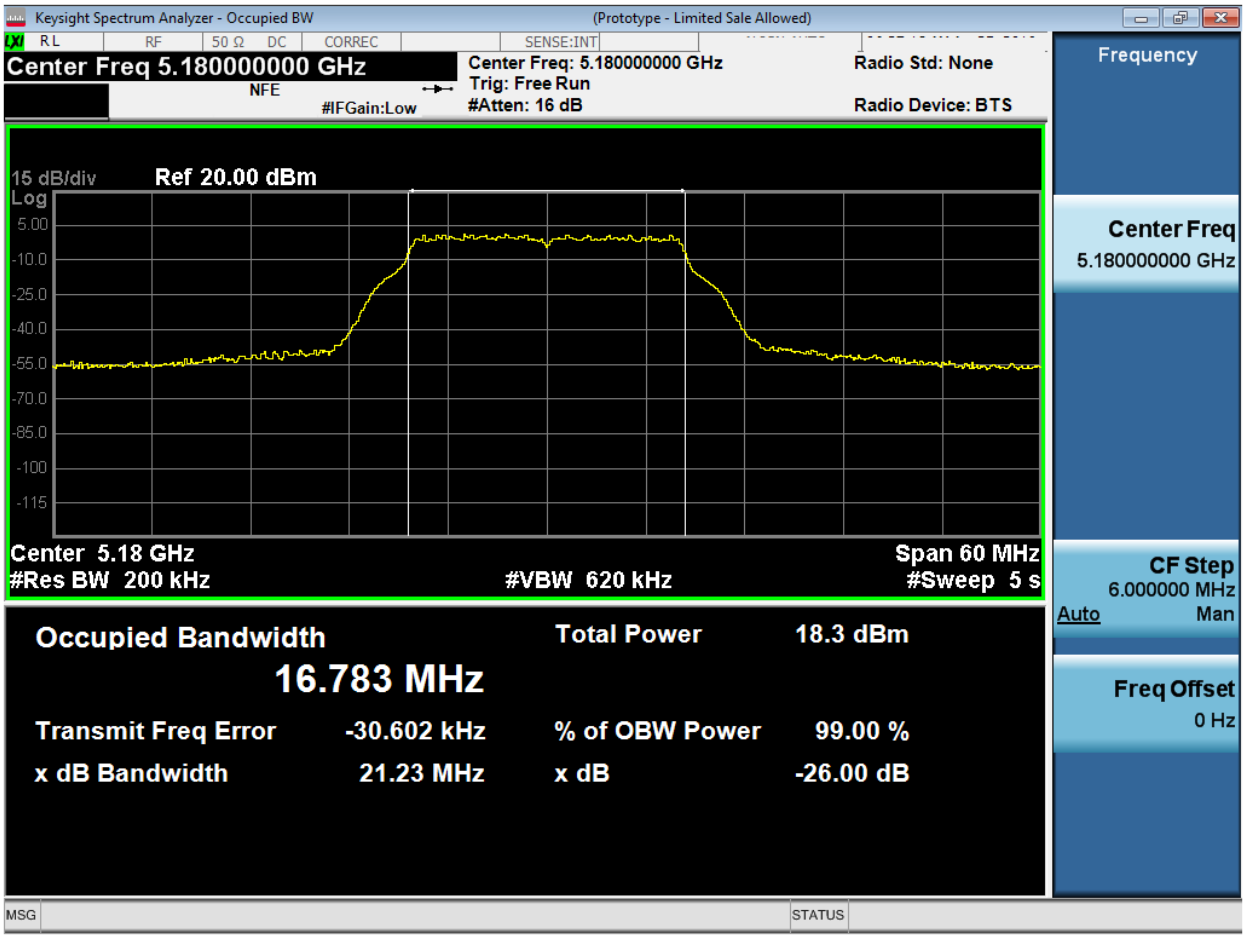
Tested By:	**Date of testing:**
Chris Blair	24-Apr-19 - 02-May-19
Test Result: PASS	

Test Equipment

See Appendix C for list of test equipment

Frequency (MHz)	Mode	Data Rate (Mbps)	26dB BW (MHz)	99% BW (MHz)
5180	**Non HT20, 6 to 54 Mbps**	**6**	**21.2**	**16.783**
	HT/VHT20, M0 to M31	m0	21.8	18.040
	HE20, M0 to M9, M0 to M9 1-2ss	m0h1	21.4	19.110
5190	Non HT40, 6 to 54 Mbps	6	39.9	36.374
	HT/VHT40, M0 to M31	m0	40.1	36.446
	HE40, M0 to M9, M0 to M9 1-2ss	m0h1	40.0	37.630
5210	Non HT80, 6 to 54 Mbps	6	81.9	76.217
	VHT80, M0 to M9, M0 to M9 1-2ss	m0x1	82.4	76.060
	HE80, M0 to M9, M0 to M9 1-2ss	m0h1	82.1	77.094
5220	Non HT20, 6 to 54 Mbps	6	21.2	16.787
	HT/VHT20, M0 to M31	m0	21.8	18.038
	HE20, M0 to M9, M0 to M9 1-2ss	m0h1	21.4	19.113
5230	Non HT40, 6 to 54 Mbps	6	39.7	36.370
	HT/VHT40, M0 to M31	m0	40.1	36.453
	HE40, M0 to M9, M0 to M9 1-2ss	m0h1	39.8	37.604
5240	Non HT20, 6 to 54 Mbps	6	21.3	16.792
	HT/VHT20, M0 to M31	m0	21.8	18.045
	HE20, M0 to M9, M0 to M9 1-2ss	m0h1	21.4	19.110
5250	Non HT160, 6 to 54 Mbps	6	163.7	154.225
	VHT160, M0 to M9, M0 to M9 1-2ss	m0x1	165.3	154.790
	HE160, M0 to M9, M0 to M9 1-2ss	m0h1	164.3	155.198

26dB / 99% Bandwidth, 5180 MHz, Non HT20, 6 to 54 Mbps



A.3 Maximum Conducted Output Power

Maximum Conducted Output Power Test Requirement

15.407 General technical requirements, (a) *Power limits:* (1) For the band 5.15-5.25 GHz.

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. .... If transmitting antennas of directional gain greater than 6 dBi 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 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. …If transmitting antennas of directional gain greater than 6 dBi 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 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. …Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi 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 6 dBi.

Maximum Conducted Output Power Test Procedure

Ref. KDB 789033 D02 General UNII Test Procedures New Rules v02r01
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 v02r01
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. (iii) Set RBW = 1 MHz. (iv) Set VBW ≥ 3 MHz. (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

Samples, Systems, and Modes

System Number	Description	Samples	System under test	Support equipment
2	EUT	S03	☑	☐
	Support	S02	☐	☑

Tested By:	**Date of testing:**
Chris Blair	24-Apr-19 - 02-May-19
Test Result: PASS	

Test Equipment

See Appendix C for list of test equipment

Maximum Output Power

Frequency (MHz)	Mode	Tx Paths	Correlated Antenna Gain (dBi)	Tx 1 Max Power (dBm)	Tx 2 Max Power (dBm)	Tx 3 Max Power (dBm)	Tx 4 Max Power (dBm)	Total Tx Channel Power (dBm)	Limit (dBm)	Margin (dB)
5180	Non HT20, 6 to 54 Mbps	1	5	17.7				17.7	30.0	12.3
	Non HT20, 6 to 54 Mbps	2	5	16.7	16.8			19.8	30.0	10.2
	Non HT20, 6 to 54 Mbps	3	5	16.7	16.8	17.0		21.6	30.0	8.4
	Non HT20, 6 to 54 Mbps	4	5	16.7	16.8	17.0	16.6	22.8	30.0	7.2
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	16.7	16.8			19.8	28.0	8.2
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	14.0	14.0	13.7		18.7	26.0	7.3
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	12.1	11.6	11.6	11.7	17.8	25.0	7.2
	HT/VHT20, M0 to M7	1	5	18.0				18.0	30.0	12.0
	HT/VHT20, M0 to M7	2	5	18.0	17.7			20.9	30.0	9.1
	HT/VHT20, M8 to M15	2	5	18.0	17.7			20.9	30.0	9.1
	HT/VHT20, M0 to M7	3	5	18.0	17.7	18.0		22.7	30.0	7.3
	HT/VHT20, M8 to M15	3	5	18.0	17.7	18.0		22.7	30.0	7.3
	HT/VHT20, M16 to M23	3	5	18.0	17.7	18.0		22.7	30.0	7.3
	HT/VHT20, M0 to M7	4	5	17.1	16.9	17.0	16.6	22.9	30.0	7.1
	HT/VHT20, M8 to M15	4	5	17.1	16.9	17.0	16.6	22.9	30.0	7.1
	HT/VHT20, M16 to M23	4	5	17.1	16.9	17.0	16.6	22.9	30.0	7.1
	HT/VHT20, M24 to M31	4	5	17.1	16.9	17.0	16.6	22.9	30.0	7.1
	HT/VHT20 Beam Forming, M0 to M7	2	8	17.1	16.9			20.0	28.0	8.0
	HT/VHT20 Beam Forming, M8 to M15	2	5	18.0	17.7			20.9	30.0	9.1
	HT/VHT20 Beam Forming, M0 to M7	3	10	14.0	13.7	13.7		18.6	26.0	7.4
	HT/VHT20 Beam Forming, M8 to M15	3	7	17.1	16.9	17.0		21.8	29.0	7.2
	HT/VHT20 Beam Forming, M16 to M23	3	5	18.0	17.7	18.0		22.7	30.0	7.3
	HT/VHT20 Beam Forming, M0 to M7	4	11	12.0	11.7	11.7	11.6	17.8	25.0	7.2
	HT/VHT20 Beam Forming, M8 to M15	4	8	14.8	14.7	14.9	14.5	20.7	28.0	7.3
	HT/VHT20 Beam Forming, M16 to M23	4	6	17.1	16.9	17.0	16.6	22.9	30.0	7.1
	HT/VHT20 Beam Forming, M24 to M31	4	5	17.1	16.9	17.0	16.6	22.9	30.0	7.1

	HT/VHT20 STBC, M0 to M7	2	5	18.0	17.7			20.9	30.0	9.1
	HT/VHT20 STBC, M0 to M7	3	5	18.0	17.7	18.0		22.7	30.0	7.3
	HT/VHT20 STBC, M0 to M7	4	5	17.1	16.9	17.0	16.6	22.9	30.0	7.1
	HE20, M0 to M9 1ss	1	5	18.3				18.3	30.0	11.7
	HE20, M0 to M9 1ss	2	5	18.3	18.1			21.2	30.0	8.8
	HE20, M0 to M9 2ss	2	5	18.3	18.1			21.2	30.0	8.8
	HE20, M0 to M9 1ss	3	5	17.1	17.4	17.5		22.1	30.0	7.9
	HE20, M0 to M9 2ss	3	5	17.1	17.4	17.5		22.1	30.0	7.9
	HE20, M0 to M9 3ss	3	5	17.1	17.4	17.5		22.1	30.0	7.9
	HE20, M0 to M9 1ss	4	5	17.1	17.4	17.5	17.1	23.3	30.0	6.7
	HE20, M0 to M9 2ss	4	5	17.1	17.4	17.5	17.1	23.3	30.0	6.7
	HE20, M0 to M9 3ss	4	5	17.1	17.4	17.5	17.1	23.3	30.0	6.7
	HE20, M0 to M9 4ss	4	5	17.1	17.4	17.5	17.1	23.3	30.0	6.7
	HE20 Beam Forming, M0 to M9 1ss	2	8	17.1	17.4			20.3	28.0	7.7
	HE20 Beam Forming, M0 to M9 2ss	2	5	18.3	18.1			21.2	30.0	8.8
	HE20 Beam Forming, M0 to M9 1ss	3	10	14.4	14.4	14.3		19.1	26.0	6.9
	HE20 Beam Forming, M0 to M9 2ss	3	7	16.5	16.0	16.2		21.0	29.0	8.0
	HE20 Beam Forming, M0 to M9 3ss	3	5	17.1	17.4	17.5		22.1	30.0	7.9
	HE20 Beam Forming, M0 to M9 1ss	4	11	12.3	12.2	12.2	12.1	18.2	25.0	6.8
	HE20 Beam Forming, M0 to M9 2ss	4	8	15.3	15.2	15.4	15.2	21.3	28.0	6.7
	HE20 Beam Forming, M0 to M9 3ss	4	6	16.5	16.0	16.2	15.9	22.2	30.0	7.8
	HE20 Beam Forming, M0 to M9 4ss	4	5	17.1	17.4	17.5	17.1	23.3	30.0	6.7
	HE20 STBC, M0 to M9 2ss	2	5	18.3	18.1			21.2	30.0	8.8
	HE20 STBC, M0 to M9 2ss	3	5	17.1	17.4	17.5		22.1	30.0	7.9
	HE20 STBC, M0 to M9 2ss	4	5	17.1	17.4	17.5	17.1	23.3	30.0	6.7

5190	Non HT40, 6 to 54 Mbps	1	5	15.4				15.4	30.0	14.6
	Non HT40, 6 to 54 Mbps	2	5	14.5	14.1			17.3	30.0	12.7
	Non HT40, 6 to 54 Mbps	3	5	13.5	13.3	14.4		18.5	30.0	11.5
	Non HT40, 6 to 54 Mbps	4	5	13.5	13.3	14.4	13.5	19.7	30.0	10.3
	HT/VHT40, M0 to M7	1	5	16.4				16.5	30.0	13.5
	HT/VHT40, M0 to M7	2	5	15.8	15.0			18.5	30.0	11.5
	HT/VHT40, M8 to M15	2	5	15.8	15.0			18.5	30.0	11.5
	HT/VHT40, M0 to M7	3	5	14.6	14.0	15.0		19.4	30.0	10.6
	HT/VHT40, M8 to M15	3	5	14.6	14.0	15.0		19.4	30.0	10.6
	HT/VHT40, M16 to M23	3	5	14.6	14.0	15.0		19.4	30.0	10.6
	HT/VHT40, M0 to M7	4	5	13.5	12.9	13.9	13.3	19.5	30.0	10.5
	HT/VHT40, M8 to M15	4	5	13.5	12.9	13.9	13.3	19.5	30.0	10.5
	HT/VHT40, M16 to M23	4	5	13.5	12.9	13.9	13.3	19.5	30.0	10.5

	HT/VHT40, M24 to M31	4	5	13.5	12.9	13.9	13.3	19.5	30.0	10.5
	HT/VHT40 Beam Forming, M0 to M7	2	8	13.5	12.9			16.3	28.0	11.7
	HT/VHT40 Beam Forming, M8 to M15	2	5	15.8	15.0			18.5	30.0	11.5
	HT/VHT40 Beam Forming, M0 to M7	3	10	11.8	11.2	11.8		16.5	26.0	9.5
	HT/VHT40 Beam Forming, M8 to M15	3	7	13.5	12.9	13.9		18.3	29.0	10.7
	HT/VHT40 Beam Forming, M16 to M23	3	5	14.6	14.0	15.0		19.4	30.0	10.6
	HT/VHT40 Beam Forming, M0 to M7	4	11	9.1	8.3	8.8	8.6	14.8	25.0	10.2
	HT/VHT40 Beam Forming, M8 to M15	4	8	11.8	11.2	11.8	11.3	17.7	28.0	10.3
	HT/VHT40 Beam Forming, M16 to M23	4	6	13.5	12.9	13.9	13.3	19.5	30.0	10.5
	HT/VHT40 Beam Forming, M24 to M31	4	5	13.5	12.9	13.9	13.3	19.5	30.0	10.5
	HT/VHT40 STBC, M0 to M7	2	5	15.8	15.0			18.5	30.0	11.5
	HT/VHT40 STBC, M0 to M7	3	5	14.6	14.0	15.0		19.4	30.0	10.6
	HT/VHT40 STBC, M0 to M7	4	5	13.5	12.9	13.9	13.3	19.5	30.0	10.5
	HE40, M0 to M9 1ss	1	5	16.8				16.9	30.0	13.1
	HE40, M0 to M9 1ss	2	5	16.1	15.5			19.0	30.0	11.0
	HE40, M0 to M9 2ss	2	5	16.1	15.5			19.0	30.0	11.0
	HE40, M0 to M9 1ss	3	5	14.8	14.3	15.3		19.7	30.0	10.3
	HE40, M0 to M9 2ss	3	5	14.8	14.3	15.3		19.7	30.0	10.3
	HE40, M0 to M9 3ss	3	5	14.8	14.3	15.3		19.7	30.0	10.3
	HE40, M0 to M9 1ss	4	5	13.8	13.1	14.0	13.3	19.7	30.0	10.3
	HE40, M0 to M9 2ss	4	5	13.8	13.1	14.0	13.3	19.7	30.0	10.3
	HE40, M0 to M9 3ss	4	5	13.8	13.1	14.0	13.3	19.7	30.0	10.3
	HE40, M0 to M9 4ss	4	5	13.8	13.1	14.0	13.3	19.7	30.0	10.3
	HE40 Beam Forming, M0 to M9 1ss	2	8	13.8	13.1			16.6	28.0	11.4
	HE40 Beam Forming, M0 to M9 2ss	2	5	16.1	15.5			19.0	30.0	11.0
	HE40 Beam Forming, M0 to M9 1ss	3	10	11.1	10.2	11.1		15.7	26.0	10.3
	HE40 Beam Forming, M0 to M9 2ss	3	7	13.8	13.1	14.0		18.6	29.0	10.4
	HE40 Beam Forming, M0 to M9 3ss	3	5	14.8	14.3	15.3		19.7	30.0	10.3
	HE40 Beam Forming, M0 to M9 1ss	4	11	9.3	8.4	9.0	8.7	15.0	25.0	10.0
	HE40 Beam Forming, M0 to M9 2ss	4	8	12.0	11.2	11.9	11.3	17.8	28.0	10.2
	HE40 Beam Forming, M0 to M9 3ss	4	6	13.0	12.1	13.2	12.2	18.8	30.0	11.2
	HE40 Beam Forming, M0 to M9 4ss	4	5	13.8	13.1	14.0	13.3	19.7	30.0	10.3
	HE40 STBC, M0 to M9 2ss	2	5	16.1	15.5			19.0	30.0	11.0
	HE40 STBC, M0 to M9 2ss	3	5	14.8	14.3	15.3		19.7	30.0	10.3
	HE40 STBC, M0 to M9 2ss	4	5	13.8	13.1	14.0	13.3	19.7	30.0	10.3

5210	Non HT80, 6 to 54 Mbps	1	5	15.4				15.4	30.0	14.6
	Non HT80, 6 to 54 Mbps	2	5	14.4	14.0			17.2	30.0	12.8
	Non HT80, 6 to 54 Mbps	3	5	14.4	14.0	13.7		18.8	30.0	11.2

	Non HT80, 6 to 54 Mbps	4	5	13.7	12.9	12.8	12.9	19.1	30.0	10.9
	VHT80, M0 to M9 1ss	1	5	14.9				15.1	30.0	14.9
	VHT80, M0 to M9 1ss	2	5	14.3	13.8			17.3	30.0	12.7
	VHT80, M0 to M9 2ss	2	5	14.3	13.8			17.3	30.0	12.7
	VHT80, M0 to M9 1ss	3	5	13.3	12.7	12.5		17.8	30.0	12.2
	VHT80, M0 to M9 2ss	3	5	13.3	12.7	12.5		17.8	30.0	12.2
	VHT80, M0 to M9 3ss	3	5	13.3	12.7	12.5		17.8	30.0	12.2
	VHT80, M0 to M9 1ss	4	5	13.3	12.7	12.5	12.6	19.0	30.0	11.0
	VHT80, M0 to M9 2ss	4	5	13.3	12.7	12.5	12.6	19.0	30.0	11.0
	VHT80, M0 to M9 3ss	4	5	13.3	12.7	12.5	12.6	19.0	30.0	11.0
	VHT80, M0 to M9 4ss	4	5	13.3	12.7	12.5	12.6	19.0	30.0	11.0
	VHT80 Beam Forming, M0 to M9 1ss	2	8	13.3	12.7			16.2	28.0	11.8
	VHT80 Beam Forming, M0 to M9 2ss	2	5	14.3	13.8			17.3	30.0	12.7
	VHT80 Beam Forming, M0 to M9 1ss	3	10	11.4	10.7	10.6		15.9	26.0	10.1
	VHT80 Beam Forming, M0 to M9 2ss	3	7	12.4	11.8	11.4		16.9	29.0	12.1
	VHT80 Beam Forming, M0 to M9 3ss	3	5	13.3	12.7	12.5		17.8	30.0	12.2
	VHT80 Beam Forming, M0 to M9 1ss	4	11	9.3	8.9	8.6	8.8	15.1	25.0	9.9
	VHT80 Beam Forming, M0 to M9 2ss	4	8	11.4	10.7	10.6	10.8	17.1	28.0	10.9
	VHT80 Beam Forming, M0 to M9 3ss	4	6	12.4	11.8	11.4	11.8	18.1	30.0	11.9
	VHT80 Beam Forming, M0 to M9 4ss	4	5	13.3	12.7	12.5	12.6	19.0	30.0	11.0
	VHT80 STBC, M0 to M9 1ss	2	5	14.3	13.8			17.3	30.0	12.7
	VHT80 STBC, M0 to M9 1ss	3	5	13.3	12.7	12.5		17.8	30.0	12.2
	VHT80 STBC, M0 to M9 1ss	4	5	13.3	12.7	12.5	12.6	19.0	30.0	11.0
	HE80, M0 to M9 1ss	1	5	15.6				15.8	30.0	14.2
	HE80, M0 to M9 1ss	2	5	14.6	14.2			17.7	30.0	12.3
	HE80, M0 to M9 2ss	2	5	14.6	14.2			17.7	30.0	12.3
	HE80, M0 to M9 1ss	3	5	13.3	13.0	12.8		18.0	30.0	12.0
	HE80, M0 to M9 2ss	3	5	13.3	13.0	12.8		18.0	30.0	12.0
	HE80, M0 to M9 3ss	3	5	13.3	13.0	12.8		18.0	30.0	12.0
	HE80, M0 to M9 1ss	4	5	13.3	13.0	12.8	13.0	19.3	30.0	10.7
	HE80, M0 to M9 2ss	4	5	13.3	13.0	12.8	13.0	19.3	30.0	10.7
	HE80, M0 to M9 3ss	4	5	13.3	13.0	12.8	13.0	19.3	30.0	10.7
	HE80, M0 to M9 4ss	4	5	13.3	13.0	12.8	13.0	19.3	30.0	10.7
	HE80 Beam Forming, M0 to M9 1ss	2	8	12.3	12.2			15.5	28.0	12.5
	HE80 Beam Forming, M0 to M9 2ss	2	5	14.6	14.2			17.7	30.0	12.3
	HE80 Beam Forming, M0 to M9 1ss	3	10	11.4	11.0	10.7		16.1	26.0	9.9
	HE80 Beam Forming, M0 to M9 2ss	3	7	12.3	12.2	11.8		17.1	29.0	11.9
	HE80 Beam Forming, M0 to M9 3ss	3	5	13.3	13.0	12.8		18.0	30.0	12.0
	HE80 Beam Forming, M0 to M9 1ss	4	11	8.9	8.4	7.9	8.3	14.7	25.0	10.3

	HE80 Beam Forming, M0 to M9 2ss	4	8	11.4	11.0	10.7	11.1	17.3	28.0	10.7
	HE80 Beam Forming, M0 to M9 3ss	4	6	12.3	12.2	11.8	12.1	18.4	30.0	11.6
	HE80 Beam Forming, M0 to M9 4ss	4	5	13.3	13.0	12.8	13.0	19.3	30.0	10.7
	HE80 STBC, M0 to M9 1ss	2	5	14.6	14.2			17.7	30.0	12.3
	HE80 STBC, M0 to M9 1ss	3	5	13.3	13.0	12.8		18.0	30.0	12.0
	HE80 STBC, M0 to M9 1ss	4	5	13.3	13.0	12.8	13.0	19.3	30.0	10.7

5220	Non HT20, 6 to 54 Mbps	1	5	17.8				17.8	30.0	12.2
	Non HT20, 6 to 54 Mbps	2	5	17.8	17.8			20.8	30.0	9.2
	Non HT20, 6 to 54 Mbps	3	5	17.8	17.8	17.9		22.6	30.0	7.4
	Non HT20, 6 to 54 Mbps	4	5	16.8	16.9	16.9	16.6	22.8	30.0	7.2
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	17.8	17.8			20.8	28.0	7.2
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	17.8	17.8	17.9		22.6	26.0	3.4
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	15.1	14.7	14.9	14.8	20.9	25.0	4.1
	HT/VHT20, M0 to M7	1	5	17.9				17.9	30.0	12.1
	HT/VHT20, M0 to M7	2	5	17.9	17.8			20.9	30.0	9.1
	HT/VHT20, M8 to M15	2	5	17.9	17.8			20.9	30.0	9.1
	HT/VHT20, M0 to M7	3	5	17.9	17.8	17.9		22.6	30.0	7.4
	HT/VHT20, M8 to M15	3	5	17.9	17.8	17.9		22.6	30.0	7.4
	HT/VHT20, M16 to M23	3	5	17.9	17.8	17.9		22.6	30.0	7.4
	HT/VHT20, M0 to M7	4	5	16.7	16.7	16.9	16.6	22.7	30.0	7.3
	HT/VHT20, M8 to M15	4	5	17.9	17.8	17.9	17.7	23.8	30.0	6.2
	HT/VHT20, M16 to M23	4	5	17.9	17.8	17.9	17.7	23.8	30.0	6.2
	HT/VHT20, M24 to M31	4	5	17.9	17.8	17.9	17.7	23.8	30.0	6.2
	HT/VHT20 Beam Forming, M0 to M7	2	8	17.9	17.8			20.9	28.0	7.1
	HT/VHT20 Beam Forming, M8 to M15	2	5	17.9	17.8			20.9	30.0	9.1
	HT/VHT20 Beam Forming, M0 to M7	3	10	17.9	17.8	17.9		22.6	26.0	3.4
	HT/VHT20 Beam Forming, M8 to M15	3	7	17.9	17.8	17.9		22.6	29.0	6.4
	HT/VHT20 Beam Forming, M16 to M23	3	5	17.9	17.8	17.9		22.6	30.0	7.4
	HT/VHT20 Beam Forming, M0 to M7	4	11	14.9	14.5	14.8	14.7	20.7	25.0	4.3
	HT/VHT20 Beam Forming, M8 to M15	4	8	17.9	17.8	17.9	17.7	23.8	28.0	4.2
	HT/VHT20 Beam Forming, M16 to M23	4	6	17.9	17.8	17.9	17.7	23.8	30.0	6.2
	HT/VHT20 Beam Forming, M24 to M31	4	5	17.9	17.8	17.9	17.7	23.8	30.0	6.2
	HT/VHT20 STBC, M0 to M7	2	5	17.9	17.8			20.9	30.0	9.1
	HT/VHT20 STBC, M0 to M7	3	5	17.9	17.8	17.9		22.6	30.0	7.4
	HT/VHT20 STBC, M0 to M7	4	5	17.9	17.8	17.9	17.7	23.8	30.0	6.2
	HE20, M0 to M9 1ss	1	5	17.7				17.7	30.0	12.3
	HE20, M0 to M9 1ss	2	5	17.7	17.7			20.7	30.0	9.3
	HE20, M0 to M9 2ss	2	5	17.7	17.7			20.7	30.0	9.3

	HE20, M0 to M9 1ss	3	5	17.7	17.7	17.9		22.5	30.0	7.5
	HE20, M0 to M9 2ss	3	5	17.7	17.7	17.9		22.5	30.0	7.5
	HE20, M0 to M9 3ss	3	5	17.7	17.7	17.9		22.5	30.0	7.5
	HE20, M0 to M9 1ss	4	5	16.8	16.8	16.8	16.6	22.8	30.0	7.2
	HE20, M0 to M9 2ss	4	5	17.7	17.7	17.9	17.7	23.8	30.0	6.2
	HE20, M0 to M9 3ss	4	5	17.7	17.7	17.9	17.7	23.8	30.0	6.2
	HE20, M0 to M9 4ss	4	5	17.7	17.7	17.9	17.7	23.8	30.0	6.2
	HE20 Beam Forming, M0 to M9 1ss	2	8	17.7	17.7			20.7	28.0	7.3
	HE20 Beam Forming, M0 to M9 2ss	2	5	17.7	17.7			20.7	30.0	9.3
	HE20 Beam Forming, M0 to M9 1ss	3	10	17.7	17.7	17.9		22.5	26.0	3.5
	HE20 Beam Forming, M0 to M9 2ss	3	7	17.7	17.7	17.9		22.5	29.0	6.5
	HE20 Beam Forming, M0 to M9 3ss	3	5	17.7	17.7	17.9		22.5	30.0	7.5
	HE20 Beam Forming, M0 to M9 1ss	4	11	14.9	14.8	14.8	14.7	20.8	25.0	4.2
	HE20 Beam Forming, M0 to M9 2ss	4	8	17.7	17.7	17.9	17.7	23.8	28.0	4.2
	HE20 Beam Forming, M0 to M9 3ss	4	6	17.7	17.7	17.9	17.7	23.8	30.0	6.2
	HE20 Beam Forming, M0 to M9 4ss	4	5	17.7	17.7	17.9	17.7	23.8	30.0	6.2
	HE20 STBC, M0 to M9 2ss	2	5	17.7	17.7			20.7	30.0	9.3
	HE20 STBC, M0 to M9 2ss	3	5	17.7	17.7	17.9		22.5	30.0	7.5
	HE20 STBC, M0 to M9 2ss	4	5	17.7	17.7	17.9	17.7	23.8	30.0	6.2

5230	Non HT40, 6 to 54 Mbps	1	5	17.4				17.4	30.0	12.6
	Non HT40, 6 to 54 Mbps	2	5	17.4	17.0			20.2	30.0	9.8
	Non HT40, 6 to 54 Mbps	3	5	17.4	17.0	18.3		22.4	30.0	7.6
	Non HT40, 6 to 54 Mbps	4	5	17.4	17.0	18.3	17.6	23.6	30.0	6.4
	HT/VHT40, M0 to M7	1	5	17.7				17.8	30.0	12.2
	HT/VHT40, M0 to M7	2	5	17.7	16.8			20.4	30.0	9.6
	HT/VHT40, M8 to M15	2	5	17.7	16.8			20.4	30.0	9.6
	HT/VHT40, M0 to M7	3	5	17.7	16.8	18.2		22.5	30.0	7.5
	HT/VHT40, M8 to M15	3	5	17.7	16.8	18.2		22.5	30.0	7.5
	HT/VHT40, M16 to M23	3	5	17.7	16.8	18.2		22.5	30.0	7.5
	HT/VHT40, M0 to M7	4	5	17.7	16.8	18.2	17.4	23.7	30.0	6.3
	HT/VHT40, M8 to M15	4	5	17.7	16.8	18.2	17.4	23.7	30.0	6.3
	HT/VHT40, M16 to M23	4	5	17.7	16.8	18.2	17.4	23.7	30.0	6.3
	HT/VHT40, M24 to M31	4	5	17.7	16.8	18.2	17.4	23.7	30.0	6.3
	HT/VHT40 Beam Forming, M0 to M7	2	8	17.7	16.8			20.4	28.0	7.6
	HT/VHT40 Beam Forming, M8 to M15	2	5	17.7	16.8			20.4	30.0	9.6
	HT/VHT40 Beam Forming, M0 to M7	3	10	17.7	16.8	18.2		22.5	26.0	3.5
	HT/VHT40 Beam Forming, M8 to M15	3	7	17.7	16.8	18.2		22.5	29.0	6.5
	HT/VHT40 Beam Forming, M16 to M23	3	5	17.7	16.8	18.2		22.5	30.0	7.5

	HT/VHT40 Beam Forming, M0 to M7	4	11	15.7	14.9	16.1	15.5	21.7	25.0	3.3
	HT/VHT40 Beam Forming, M8 to M15	4	8	17.7	16.8	18.2	17.4	23.7	28.0	4.3
	HT/VHT40 Beam Forming, M16 to M23	4	6	17.7	16.8	18.2	17.4	23.7	30.0	6.3
	HT/VHT40 Beam Forming, M24 to M31	4	5	17.7	16.8	18.2	17.4	23.7	30.0	6.3
	HT/VHT40 STBC, M0 to M7	2	5	17.7	16.8			20.4	30.0	9.6
	HT/VHT40 STBC, M0 to M7	3	5	17.7	16.8	18.2		22.5	30.0	7.5
	HT/VHT40 STBC, M0 to M7	4	5	17.7	16.8	18.2	17.4	23.7	30.0	6.3
	HE40, M0 to M9 1ss	1	5	18.0				18.1	30.0	11.9
	HE40, M0 to M9 1ss	2	5	18.0	17.4			20.9	30.0	9.1
	HE40, M0 to M9 2ss	2	5	18.0	17.4			20.9	30.0	9.1
	HE40, M0 to M9 1ss	3	5	18.0	17.4	18.5		22.9	30.0	7.1
	HE40, M0 to M9 2ss	3	5	18.0	17.4	18.5		22.9	30.0	7.1
	HE40, M0 to M9 3ss	3	5	18.0	17.4	18.5		22.9	30.0	7.1
	HE40, M0 to M9 1ss	4	5	18.0	17.4	18.5	17.9	24.1	30.0	5.9
	HE40, M0 to M9 2ss	4	5	18.0	17.4	18.5	17.9	24.1	30.0	5.9
	HE40, M0 to M9 3ss	4	5	18.0	17.4	18.5	17.9	24.1	30.0	5.9
	HE40, M0 to M9 4ss	4	5	18.0	17.4	18.5	17.9	24.1	30.0	5.9
	HE40 Beam Forming, M0 to M9 1ss	2	8	18.0	17.4			20.9	28.0	7.1
	HE40 Beam Forming, M0 to M9 2ss	2	5	18.0	17.4			20.9	30.0	9.1
	HE40 Beam Forming, M0 to M9 1ss	3	10	18.0	17.4	18.5		22.9	26.0	3.1
	HE40 Beam Forming, M0 to M9 2ss	3	7	18.0	17.4	18.5		22.9	29.0	6.1
	HE40 Beam Forming, M0 to M9 3ss	3	5	18.0	17.4	18.5		22.9	30.0	7.1
	HE40 Beam Forming, M0 to M9 1ss	4	11	15.9	15.3	16.4	15.7	22.0	25.0	3.0
	HE40 Beam Forming, M0 to M9 2ss	4	8	18.0	17.4	18.5	17.9	24.1	28.0	3.9
	HE40 Beam Forming, M0 to M9 3ss	4	6	18.0	17.4	18.5	17.9	24.1	30.0	5.9
	HE40 Beam Forming, M0 to M9 4ss	4	5	18.0	17.4	18.5	17.9	24.1	30.0	5.9
	HE40 STBC, M0 to M9 2ss	2	5	18.0	17.4			20.9	30.0	9.1
	HE40 STBC, M0 to M9 2ss	3	5	18.0	17.4	18.5		22.9	30.0	7.1
	HE40 STBC, M0 to M9 2ss	4	5	18.0	17.4	18.5	17.9	24.1	30.0	5.9

5240	Non HT20, 6 to 54 Mbps	1	5	17.5				17.5	30.0	12.5
	Non HT20, 6 to 54 Mbps	2	5	17.5	17.2			20.4	30.0	9.6
	Non HT20, 6 to 54 Mbps	3	5	17.5	17.2	17.5		22.2	30.0	7.8
	Non HT20, 6 to 54 Mbps	4	5	16.3	16.5	16.5	16.3	22.4	30.0	7.6
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	17.5	17.2			20.4	28.0	7.6
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	17.5	17.2	17.5		22.2	26.0	3.8
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	16.3	16.5	16.5	16.3	22.4	25.0	2.6
	HT/VHT20, M0 to M7	1	5	17.8				17.8	30.0	12.2
	HT/VHT20, M0 to M7	2	5	17.8	17.5			20.7	30.0	9.3

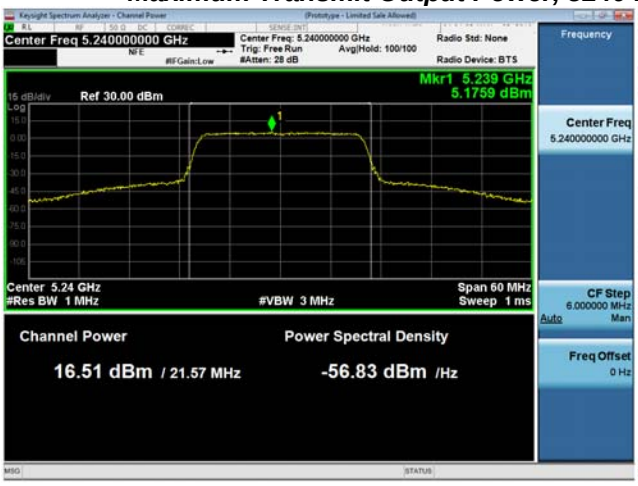
	HT/VHT20, M8 to M15	2	5	17.8	17.5			20.7	30.0	9.3
	HT/VHT20, M0 to M7	3	5	17.8	17.5	17.7		22.4	30.0	7.6
	HT/VHT20, M8 to M15	3	5	17.8	17.5	17.7		22.4	30.0	7.6
	HT/VHT20, M16 to M23	3	5	17.8	17.5	17.7		22.4	30.0	7.6
	HT/VHT20, M0 to M7	4	5	16.2	16.4	16.5	16.2	22.3	30.0	7.7
	HT/VHT20, M8 to M15	4	5	17.8	17.5	17.7	17.2	23.6	30.0	6.4
	HT/VHT20, M16 to M23	4	5	17.8	17.5	17.7	17.2	23.6	30.0	6.4
	HT/VHT20, M24 to M31	4	5	17.8	17.5	17.7	17.2	23.6	30.0	6.4
	HT/VHT20 Beam Forming, M0 to M7	2	8	17.8	17.5			20.7	28.0	7.3
	HT/VHT20 Beam Forming, M8 to M15	2	5	17.8	17.5			20.7	30.0	9.3
	HT/VHT20 Beam Forming, M0 to M7	3	10	17.8	17.5	17.7		22.4	26.0	3.6
	HT/VHT20 Beam Forming, M8 to M15	3	7	17.8	17.5	17.7		22.4	29.0	6.6
	HT/VHT20 Beam Forming, M16 to M23	3	5	17.8	17.5	17.7		22.4	30.0	7.6
	HT/VHT20 Beam Forming, M0 to M7	4	11	16.2	16.4	16.5	16.2	22.3	25.0	2.7
	HT/VHT20 Beam Forming, M8 to M15	4	8	17.8	17.5	17.7	17.2	23.6	28.0	4.4
	HT/VHT20 Beam Forming, M16 to M23	4	6	17.8	17.5	17.7	17.2	23.6	30.0	6.4
	HT/VHT20 Beam Forming, M24 to M31	4	5	17.8	17.5	17.7	17.2	23.6	30.0	6.4
	HT/VHT20 STBC, M0 to M7	2	5	17.8	17.5			20.7	30.0	9.3
	HT/VHT20 STBC, M0 to M7	3	5	17.8	17.5	17.7		22.4	30.0	7.6
	HT/VHT20 STBC, M0 to M7	4	5	17.8	17.5	17.7	17.2	23.6	30.0	6.4
	HE20, M0 to M9 1ss	1	5	17.6				17.6	30.0	12.4
	HE20, M0 to M9 1ss	2	5	17.6	17.6			20.6	30.0	9.4
	HE20, M0 to M9 2ss	2	5	17.6	17.6			20.6	30.0	9.4
	HE20, M0 to M9 1ss	3	5	17.6	17.6	18.1		22.5	30.0	7.5
	HE20, M0 to M9 2ss	3	5	17.6	17.6	18.1		22.5	30.0	7.5
	HE20, M0 to M9 3ss	3	5	17.6	17.6	18.1		22.5	30.0	7.5
	HE20, M0 to M9 1ss	4	5	16.5	16.5	16.7	16.5	22.6	30.0	7.4
	HE20, M0 to M9 2ss	4	5	17.6	17.6	18.1	17.6	23.8	30.0	6.2
	HE20, M0 to M9 3ss	4	5	17.6	17.6	18.1	17.6	23.8	30.0	6.2
	HE20, M0 to M9 4ss	4	5	17.6	17.6	18.1	17.6	23.8	30.0	6.2
	HE20 Beam Forming, M0 to M9 1ss	2	8	17.6	17.6			20.6	28.0	7.4
	HE20 Beam Forming, M0 to M9 2ss	2	5	17.6	17.6			20.6	30.0	9.4
	HE20 Beam Forming, M0 to M9 1ss	3	10	17.6	17.6	18.1		22.5	26.0	3.5
	HE20 Beam Forming, M0 to M9 2ss	3	7	17.6	17.6	18.1		22.5	29.0	6.5
	HE20 Beam Forming, M0 to M9 3ss	3	5	17.6	17.6	18.1		22.5	30.0	7.5
	HE20 Beam Forming, M0 to M9 1ss	4	11	16.5	16.5	16.7	16.5	22.6	25.0	2.4
	HE20 Beam Forming, M0 to M9 2ss	4	8	17.6	17.6	18.1	17.6	23.8	28.0	4.2
	HE20 Beam Forming, M0 to M9 3ss	4	6	17.6	17.6	18.1	17.6	23.8	30.0	6.2
	HE20 Beam Forming, M0 to M9 4ss	4	5	17.6	17.6	18.1	17.6	23.8	30.0	6.2

	HE20 STBC, M0 to M9 2ss	2	5	17.6	17.6			20.6	30.0	9.4
	HE20 STBC, M0 to M9 2ss	3	5	17.6	17.6	18.1		22.5	30.0	7.5
	HE20 STBC, M0 to M9 2ss	4	5	17.6	17.6	18.1	17.6	23.8	30.0	6.2

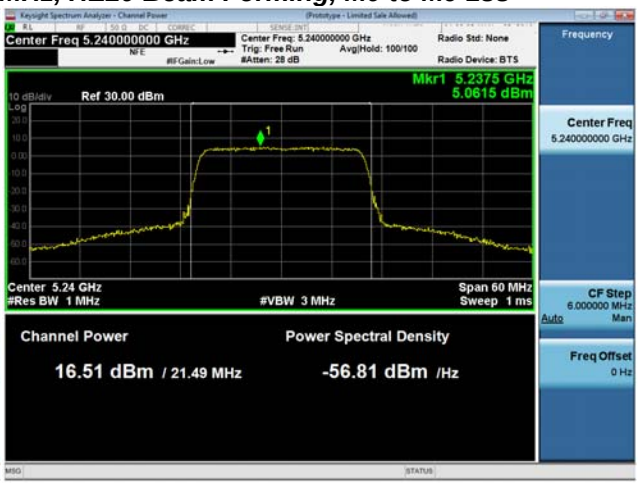
5250	Non HT160, 6 to 54 Mbps	1	5	12.8				12.8	24.0	11.2
	Non HT160, 6 to 54 Mbps	2	5	10.9	10.8			13.9	24.0	10.1
	Non HT160, 6 to 54 Mbps	3	5	10.9	10.8	10.3		15.4	24.0	8.6
	Non HT160, 6 to 54 Mbps	4	5	10.0	10.1	9.1	9.2	15.6	24.0	8.4
	VHT160, M0 to M9 1ss	1	5	14.4				14.8	24.0	9.2
	VHT160, M0 to M9 1ss	2	5	13.1	13.5			16.7	24.0	7.3
	VHT160, M0 to M9 2ss	2	5	13.1	13.5			16.7	24.0	7.3
	VHT160, M0 to M9 1ss	3	5	12.3	12.7	12.1		17.5	24.0	6.5
	VHT160, M0 to M9 2ss	3	5	12.3	12.7	12.1		17.5	24.0	6.5
	VHT160, M0 to M9 3ss	3	5	12.3	12.7	12.1		17.5	24.0	6.5
	VHT160, M0 to M9 1ss	4	5	12.3	12.7	12.1	12.2	18.7	24.0	5.3
	VHT160, M0 to M9 2ss	4	5	12.3	12.7	12.1	12.2	18.7	24.0	5.3
	VHT160, M0 to M9 3ss	4	5	12.3	12.7	12.1	12.2	18.7	24.0	5.3
	VHT160, M0 to M9 4ss	4	5	12.3	12.7	12.1	12.2	18.7	24.0	5.3
	VHT160 Beam Forming, M0 to M9 1ss	2	8	12.3	12.7			15.9	22.0	6.1
	VHT160 Beam Forming, M0 to M9 2ss	2	5	13.1	13.5			16.7	24.0	7.3
	VHT160 Beam Forming, M0 to M9 1ss	3	10	10.5	10.7	10.2		15.6	20.0	4.4
	VHT160 Beam Forming, M0 to M9 2ss	3	7	11.2	11.7	11.2		16.5	23.0	6.5
	VHT160 Beam Forming, M0 to M9 3ss	3	5	12.3	12.7	12.1		17.5	24.0	6.5
	VHT160 Beam Forming, M0 to M9 1ss	4	11	8.7	8.7	8.0	8.1	14.8	19.0	4.2
	VHT160 Beam Forming, M0 to M9 2ss	4	8	10.5	10.7	10.2	10.3	16.8	22.0	5.2
	VHT160 Beam Forming, M0 to M9 3ss	4	6	11.2	11.7	11.2	11.1	17.7	24.0	6.3
	VHT160 Beam Forming, M0 to M9 4ss	4	5	12.3	12.7	12.1	12.2	18.7	24.0	5.3
	VHT160 STBC, M0 to M9 1ss	2	5	13.1	13.5			16.7	24.0	7.3
	VHT160 STBC, M0 to M9 1ss	3	5	12.3	12.7	12.1		17.5	24.0	6.5
	VHT160 STBC, M0 to M9 1ss	4	5	12.3	12.7	12.1	12.2	18.7	24.0	5.3
	HE160, M0 to M9 1ss	1	5	14.5				14.9	24.0	9.1
	HE160, M0 to M9 1ss	2	5	13.6	13.8			17.1	24.0	6.9
	HE160, M0 to M9 2ss	2	5	13.6	13.8			17.1	24.0	6.9
	HE160, M0 to M9 1ss	3	5	12.7	13.0	12.3		17.9	24.0	6.1
	HE160, M0 to M9 2ss	3	5	12.7	13.0	12.3		17.9	24.0	6.1
	HE160, M0 to M9 3ss	3	5	12.7	13.0	12.3		17.9	24.0	6.1
	HE160, M0 to M9 1ss	4	5	12.7	13.0	12.3	12.5	19.1	24.0	4.9
	HE160, M0 to M9 2ss	4	5	12.7	13.0	12.3	12.5	19.1	24.0	4.9
	HE160, M0 to M9 3ss	4	5	12.7	13.0	12.3	12.5	19.1	24.0	4.9

	HE160, M0 to M9 4ss	4	5	12.7	13.0	12.3	12.5	19.1	24.0	4.9
	HE160 Beam Forming, M0 to M9 1ss	2	8	11.8	11.9			15.3	22.0	6.7
	HE160 Beam Forming, M0 to M9 2ss	2	5	13.6	13.8			17.1	24.0	6.9
	HE160 Beam Forming, M0 to M9 1ss	3	10	10.6	10.9	10.1		15.7	20.0	4.3
	HE160 Beam Forming, M0 to M9 2ss	3	7	11.8	11.9	11.3		16.9	23.0	6.1
	HE160 Beam Forming, M0 to M9 3ss	3	5	12.7	13.0	12.3		17.9	24.0	6.1
	HE160 Beam Forming, M0 to M9 1ss	4	11	8.0	7.9	7.3	7.2	14.1	19.0	4.9
	HE160 Beam Forming, M0 to M9 2ss	4	8	10.6	10.9	10.1	10.4	17.0	22.0	5.0
	HE160 Beam Forming, M0 to M9 3ss	4	6	11.8	11.9	11.3	11.4	18.0	24.0	6.0
	HE160 Beam Forming, M0 to M9 4ss	4	5	12.7	13.0	12.3	12.5	19.1	24.0	4.9
	HE160 STBC, M0 to M9 1ss	2	5	13.6	13.8			17.1	24.0	6.9
	HE160 STBC, M0 to M9 1ss	3	5	12.7	13.0	12.3		17.9	24.0	6.1
	HE160 STBC, M0 to M9 1ss	4	5	12.7	13.0	12.3	12.5	19.1	24.0	4.9

Maximum Transmit Output Power, 5240 MHz, HE20 Beam Forming, M0 to M9 1ss



Antenna A



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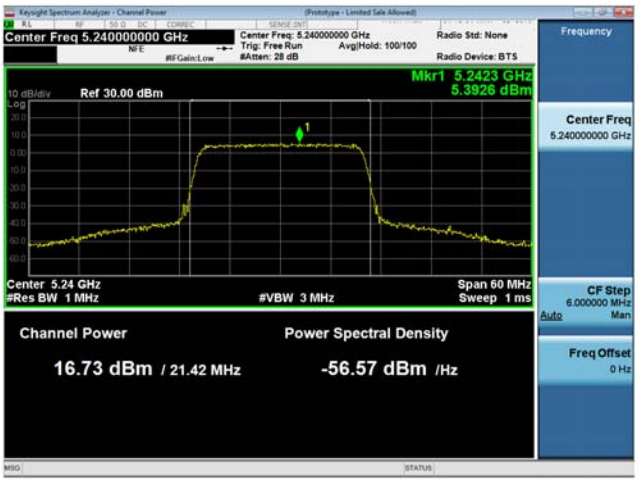

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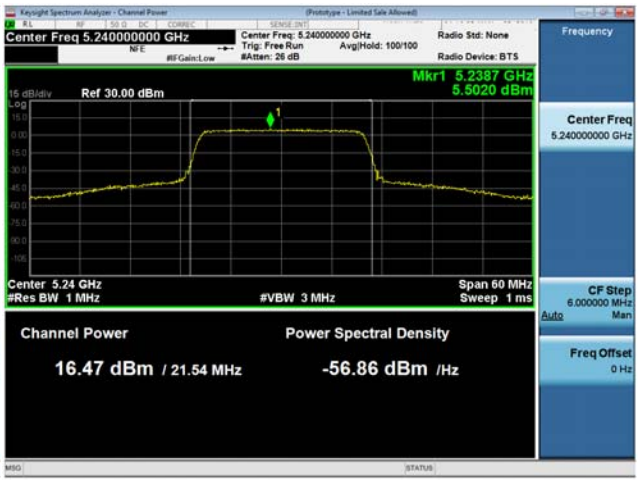


Antenna D

A.4 Power Spectral Density

Power Spectral Density Test Requirement

15.407 General technical requirements, (a) *Power limits:* (1) For the band 5.15-5.25 GHz.

(i) For an outdoor access point operating in the band 5.15-5.25 GHz … the maximum power spectral density shall not exceed 17 dBm in any 1-megahertz band. If transmitting antennas of directional gain greater than 6 dBi 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 6 dBi.

(ii) For an indoor access point operating in the band 5.15-5.25 GHz… the maximum power spectral density shall not exceed 17 dBm in any 1-megahertz band. If transmitting antennas of directional gain greater than 6 dBi 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 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz…the maximum power spectral density shall not exceed 17 dBm in any 1-megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For client devices in the 5.15-5.25 GHz band, …. the maximum power spectral density shall not exceed 11 dBm in any 1-megahertz band. If transmitting antennas of directional gain greater than 6 dBi 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 6 dBi.

Power Spectral Density Test Procedure

Ref. KDB 789033 D02 General UNII Test Procedures New Rules v02r01
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 v02r01

2. Measurement using a Spectrum Analyzer or EMI Receiver (SA), (d) Method SA-2

Power Spectral Density 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. (iii) Set RBW = 1 MHz. (iv) Set VBW ≥ 3 MHz. (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

Samples, Systems, and Modes

System Number	Description	Samples	System under test	Support equipment
2	EUT	S03	☑	☐
	Support	S02	☐	☑

Tested By:	**Date of testing:**
Chris Blair	24-Apr-19 - 02-May-19
Test Result: PASS	

Test Equipment

See Appendix C for list of test equipment

Power Spectral Density

Frequency (MHz)	Mode	Tx Paths	Correlated Antenna Gain (dBi)	Tx 1 PSD (dBm/MHz)	Tx 2 PSD (dBm/MHz)	Tx 3 PSD (dBm/MHz)	Tx 4 PSD (dBm/MHz)	Total PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)
5180	Non HT20, 6 to 54 Mbps	1	5	6.7				6.7	17.0	10.3
	Non HT20, 6 to 54 Mbps	2	8	5.9	5.9			8.9	15.0	6.1
	Non HT20, 6 to 54 Mbps	3	10	5.9	5.9	6.4		10.8	13.0	2.2
	Non HT20, 6 to 54 Mbps	4	11	5.9	5.9	6.4	5.6	12.0	12.0	0.0
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	5.9	5.9			8.9	15.0	6.1
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	3.1	2.9	2.8		7.7	13.0	5.3
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	1.4	0.7	0.8	1.1	7.0	12.0	5.0
	HT/VHT20, M0 to M7	1	5	6.7				6.7	17.0	10.3
	HT/VHT20, M0 to M7	2	8	6.7	6.7			9.7	15.0	5.3
	HT/VHT20, M8 to M15	2	5	6.7	6.7			9.7	17.0	7.3
	HT/VHT20, M0 to M7	3	10	6.7	6.7	7.0		11.6	13.0	1.4
	HT/VHT20, M8 to M15	3	7	6.7	6.7	7.0		11.6	16.0	4.4
	HT/VHT20, M16 to M23	3	5	6.7	6.7	7.0		11.6	17.0	5.4
	HT/VHT20, M0 to M7	4	11	5.9	5.7	5.7	5.6	11.7	12.0	0.3
	HT/VHT20, M8 to M15	4	8	5.9	5.7	5.7	5.6	11.7	15.0	3.3
	HT/VHT20, M16 to M23	4	6	5.9	5.7	5.7	5.6	11.7	17.0	5.3
	HT/VHT20, M24 to M31	4	5	5.9	5.7	5.7	5.6	11.7	17.0	5.3
	HT/VHT20 Beam Forming, M0 to M7	2	8	5.9	5.7			8.8	15.0	6.2
	HT/VHT20 Beam Forming, M8 to M15	2	5	6.7	6.7			9.7	17.0	7.3
	HT/VHT20 Beam Forming, M0 to M7	3	10	2.6	2.4	2.4		7.2	13.0	5.8
	HT/VHT20 Beam Forming, M8 to M15	3	7	5.9	5.7	5.7		10.5	16.0	5.5
	HT/VHT20 Beam Forming, M16 to M23	3	5	6.7	6.7	7.0		11.6	17.0	5.4
	HT/VHT20 Beam Forming, M0 to M7	4	11	0.9	0.7	0.4	0.4	6.6	12.0	5.4
	HT/VHT20 Beam Forming, M8 to M15	4	8	3.7	3.5	3.5	3.3	9.5	15.0	5.5
	HT/VHT20 Beam Forming, M16 to M23	4	6	5.9	5.7	5.7	5.6	11.7	17.0	5.3
	HT/VHT20 Beam Forming, M24 to M31	4	5	5.9	5.7	5.7	5.6	11.7	17.0	5.3
	HT/VHT20 STBC, M0 to M7	2	5	6.7	6.7			9.7	17.0	7.3
	HT/VHT20 STBC, M0 to M7	3	7	6.7	6.7	7.0		11.6	16.0	4.4
	HT/VHT20 STBC, M0 to M7	4	8	5.9	5.7	5.7	5.6	11.7	15.0	3.3
	HE20, M0 to M9 1ss	1	5	6.8				6.8	17.0	10.2
	HE20, M0 to M9 1ss	2	8	6.8	6.8			9.8	15.0	5.2
	HE20, M0 to M9 2ss	2	5	6.8	6.8			9.8	17.0	7.2

	HE20, M0 to M9 1ss	3	10	5.8	5.9	6.3		10.8	13.0	2.2
	HE20, M0 to M9 2ss	3	7	5.8	5.9	6.3		10.8	16.0	5.2
	HE20, M0 to M9 3ss	3	5	5.8	5.9	6.3		10.8	17.0	6.2
	HE20, M0 to M9 1ss	4	11	5.8	5.9	6.3	5.6	11.9	12.0	0.1
	HE20, M0 to M9 2ss	4	8	5.8	5.9	6.3	5.6	11.9	15.0	3.1
	HE20, M0 to M9 3ss	4	6	5.8	5.9	6.3	5.6	11.9	17.0	5.1
	HE20, M0 to M9 4ss	4	5	5.8	5.9	6.3	5.6	11.9	17.0	5.1
	HE20 Beam Forming, M0 to M9 1ss	2	8	5.8	5.9			8.9	15.0	6.1
	HE20 Beam Forming, M0 to M9 2ss	2	5	6.8	6.8			9.8	17.0	7.2
	HE20 Beam Forming, M0 to M9 1ss	3	10	3.1	3.1	3.1		7.9	13.0	5.1
	HE20 Beam Forming, M0 to M9 2ss	3	7	5.2	4.8	4.7		9.7	16.0	6.3
	HE20 Beam Forming, M0 to M9 3ss	3	5	5.8	5.9	6.3		10.8	17.0	6.2
	HE20 Beam Forming, M0 to M9 1ss	4	11	0.9	1.0	1.1	0.6	6.9	12.0	5.1
	HE20 Beam Forming, M0 to M9 2ss	4	8	4.0	3.8	4.0	4.2	10.0	15.0	5.0
	HE20 Beam Forming, M0 to M9 3ss	4	6	5.2	4.8	4.7	4.5	10.8	17.0	6.2
	HE20 Beam Forming, M0 to M9 4ss	4	5	5.8	5.9	6.3	5.6	11.9	17.0	5.1
	HE20 STBC, M0 to M9 2ss	2	5	6.8	6.8			9.8	17.0	7.2
	HE20 STBC, M0 to M9 2ss	3	7	5.8	5.9	6.3		10.8	16.0	5.2
	HE20 STBC, M0 to M9 2ss	4	8	5.8	5.9	6.3	5.6	11.9	15.0	3.1

5190	Non HT40, 6 to 54 Mbps	1	5	1.9				1.9	17.0	15.1
	Non HT40, 6 to 54 Mbps	2	8	0.6	0.3			3.5	15.0	11.5
	Non HT40, 6 to 54 Mbps	3	10	-0.3	-0.7	0.3		4.6	13.0	8.4
	Non HT40, 6 to 54 Mbps	4	11	-0.3	-0.7	0.3	-0.2	5.8	12.0	6.2
	HT/VHT40, M0 to M7	1	5	2.3				2.4	17.0	14.6
	HT/VHT40, M0 to M7	2	8	1.5	0.7			4.2	15.0	10.8
	HT/VHT40, M8 to M15	2	5	1.5	0.7			4.2	17.0	12.8
	HT/VHT40, M0 to M7	3	10	0.5	-0.2	0.5		5.2	13.0	7.8
	HT/VHT40, M8 to M15	3	7	0.5	-0.2	0.5		5.2	16.0	10.8
	HT/VHT40, M16 to M23	3	5	0.5	-0.2	0.5		5.2	17.0	11.8
	HT/VHT40, M0 to M7	4	11	-0.8	-1.3	-0.4	-1.1	5.2	12.0	6.8
	HT/VHT40, M8 to M15	4	8	-0.8	-1.3	-0.4	-1.1	5.2	15.0	9.8
	HT/VHT40, M16 to M23	4	6	-0.8	-1.3	-0.4	-1.1	5.2	17.0	11.8
	HT/VHT40, M24 to M31	4	5	-0.8	-1.3	-0.4	-1.1	5.2	17.0	11.8
	HT/VHT40 Beam Forming, M0 to M7	2	8	-0.8	-1.3			2.1	15.0	12.9
	HT/VHT40 Beam Forming, M8 to M15	2	5	1.5	0.7			4.2	17.0	12.8
	HT/VHT40 Beam Forming, M0 to M7	3	10	-2.5	-3.2	-2.4		2.2	13.0	10.8
	HT/VHT40 Beam Forming, M8 to M15	3	7	-0.8	-1.3	-0.4		4.1	16.0	11.9
	HT/VHT40 Beam Forming, M16 to M23	3	5	0.5	-0.2	0.5		5.2	17.0	11.8
	HT/VHT40 Beam Forming, M0 to M7	4	11	-5.3	-6.1	-5.7	-5.6	0.5	12.0	11.5
	HT/VHT40 Beam Forming, M8 to M15	4	8	-2.5	-3.2	-2.4	-3.0	3.4	15.0	11.6
	HT/VHT40 Beam Forming, M16 to M23	4	6	-0.8	-1.3	-0.4	-1.1	5.2	17.0	11.8
	HT/VHT40 Beam Forming, M24 to M31	4	5	-0.8	-1.3	-0.4	-1.1	5.2	17.0	11.8
	HT/VHT40 STBC, M0 to M7	2	5	1.5	0.7			4.2	17.0	12.8
	HT/VHT40 STBC, M0 to M7	3	7	0.5	-0.2	0.5		5.2	16.0	10.8
	HT/VHT40 STBC, M0 to M7	4	8	-0.8	-1.3	-0.4	-1.1	5.2	15.0	9.8

	HE40, M0 to M9 1ss	1	5	2.6				2.7	17.0	14.3
	HE40, M0 to M9 1ss	2	8	1.8	1.3			4.7	15.0	10.3
	HE40, M0 to M9 2ss	2	5	1.8	1.3			4.7	17.0	12.3
	HE40, M0 to M9 1ss	3	10	0.4	0.1	1.1		5.5	13.0	7.5
	HE40, M0 to M9 2ss	3	7	0.4	0.1	1.1		5.5	16.0	10.5
	HE40, M0 to M9 3ss	3	5	0.4	0.1	1.1		5.5	17.0	11.5
	HE40, M0 to M9 1ss	4	11	-0.5	-0.8	0.1	-1.3	5.6	12.0	6.4
	HE40, M0 to M9 2ss	4	8	-0.5	-0.8	0.1	-1.3	5.6	15.0	9.4
	HE40, M0 to M9 3ss	4	6	-0.5	-0.8	0.1	-1.3	5.6	17.0	11.4
	HE40, M0 to M9 4ss	4	5	-0.5	-0.8	0.1	-1.3	5.6	17.0	11.4
	HE40 Beam Forming, M0 to M9 1ss	2	8	-0.5	-0.8			2.5	15.0	12.5
	HE40 Beam Forming, M0 to M9 2ss	2	5	1.8	1.3			4.7	17.0	12.3
	HE40 Beam Forming, M0 to M9 1ss	3	10	-3.3	-4.2	-3.2		1.4	13.0	11.6
	HE40 Beam Forming, M0 to M9 2ss	3	7	-0.5	-0.8	0.1		4.5	16.0	11.5
	HE40 Beam Forming, M0 to M9 3ss	3	5	0.4	0.1	1.1		5.5	17.0	11.5
	HE40 Beam Forming, M0 to M9 1ss	4	11	-5.2	-5.9	-5.4	-5.7	0.6	12.0	11.4
	HE40 Beam Forming, M0 to M9 2ss	4	8	-2.4	-3.3	-2.0	-3.1	3.5	15.0	11.5
	HE40 Beam Forming, M0 to M9 3ss	4	6	-1.4	-2.3	-0.6	-2.2	4.6	17.0	12.4
	HE40 Beam Forming, M0 to M9 4ss	4	5	-0.5	-0.8	0.1	-1.3	5.6	17.0	11.4
	HE40 STBC, M0 to M9 2ss	2	5	1.8	1.3			4.7	17.0	12.3
	HE40 STBC, M0 to M9 2ss	3	7	0.4	0.1	1.1		5.5	16.0	10.5
	HE40 STBC, M0 to M9 2ss	4	8	-0.5	-0.8	0.1	-1.3	5.6	15.0	9.4

5210	Non HT80, 6 to 54 Mbps	1	5	-1.4				-1.4	17.0	18.4
	Non HT80, 6 to 54 Mbps	2	8	-2.0	-2.5			0.8	15.0	14.2
	Non HT80, 6 to 54 Mbps	3	10	-2.0	-2.5	-3.0		2.3	13.0	10.7
	Non HT80, 6 to 54 Mbps	4	11	-2.6	-3.4	-3.9	-4.0	2.6	12.0	9.4
	VHT80, M0 to M9 1ss	1	5	-2.2				-2.0	17.0	19.0
	VHT80, M0 to M9 1ss	2	8	-3.0	-3.1			0.2	15.0	14.8
	VHT80, M0 to M9 2ss	2	5	-3.0	-3.1			0.2	17.0	16.8
	VHT80, M0 to M9 1ss	3	10	-3.9	-4.4	-4.8		0.6	13.0	12.4
	VHT80, M0 to M9 2ss	3	7	-3.9	-4.4	-4.8		0.6	16.0	15.4
	VHT80, M0 to M9 3ss	3	5	-3.9	-4.4	-4.8		0.6	17.0	16.4
	VHT80, M0 to M9 1ss	4	11	-3.9	-4.4	-4.8	-4.6	1.8	12.0	10.2
	VHT80, M0 to M9 2ss	4	8	-3.9	-4.4	-4.8	-4.6	1.8	15.0	13.2
	VHT80, M0 to M9 3ss	4	6	-3.9	-4.4	-4.8	-4.6	1.8	17.0	15.2
	VHT80, M0 to M9 4ss	4	5	-3.9	-4.4	-4.8	-4.6	1.8	17.0	15.2
	VHT80 Beam Forming, M0 to M9 1ss	2	8	-3.9	-4.4			-0.9	15.0	15.9
	VHT80 Beam Forming, M0 to M9 2ss	2	5	-3.0	-3.1			0.2	17.0	16.8
	VHT80 Beam Forming, M0 to M9 1ss	3	10	-5.5	-6.3	-6.3		-1.0	13.0	14.0
	VHT80 Beam Forming, M0 to M9 2ss	3	7	-4.5	-5.3	-5.6		-0.1	16.0	16.1
	VHT80 Beam Forming, M0 to M9 3ss	3	5	-3.9	-4.4	-4.8		0.6	17.0	16.4
	VHT80 Beam Forming, M0 to M9 1ss	4	11	-7.7	-8.2	-7.8	-8.6	-1.8	12.0	13.8
	VHT80 Beam Forming, M0 to M9 2ss	4	8	-5.5	-6.3	-6.3	-6.4	0.1	15.0	14.9
	VHT80 Beam Forming, M0 to M9 3ss	4	6	-4.5	-5.3	-5.6	-5.4	1.1	17.0	15.9
	VHT80 Beam Forming, M0 to M9 4ss	4	5	-3.9	-4.4	-4.8	-4.6	1.8	17.0	15.2

	VHT80 STBC, M0 to M9 1ss	2	5	-3.0	-3.1			0.2	17.0	16.8
	VHT80 STBC, M0 to M9 1ss	3	5	-3.9	-4.4	-4.8		0.6	17.0	16.4
	VHT80 STBC, M0 to M9 1ss	4	5	-3.9	-4.4	-4.8	-4.6	1.8	17.0	15.2
	HE80, M0 to M9 1ss	1	5	-1.5				-1.3	17.0	18.3
	HE80, M0 to M9 1ss	2	8	-2.4	-3.0			0.6	15.0	14.4
	HE80, M0 to M9 2ss	2	5	-2.4	-3.0			0.6	17.0	16.4
	HE80, M0 to M9 1ss	3	10	-4.0	-4.1	-3.6		1.1	13.0	11.9
	HE80, M0 to M9 2ss	3	7	-4.0	-4.1	-3.6		1.1	16.0	14.9
	HE80, M0 to M9 3ss	3	5	-4.0	-4.1	-3.6		1.1	17.0	15.9
	HE80, M0 to M9 1ss	4	11	-4.0	-4.1	-3.6	-4.2	2.3	12.0	9.7
	HE80, M0 to M9 2ss	4	8	-4.0	-4.1	-3.6	-4.2	2.3	15.0	12.7
	HE80, M0 to M9 3ss	4	6	-4.0	-4.1	-3.6	-4.2	2.3	17.0	14.7
	HE80, M0 to M9 4ss	4	5	-4.0	-4.1	-3.6	-4.2	2.3	17.0	14.7
	HE80 Beam Forming, M0 to M9 1ss	2	8	-4.1	-4.5			-1.0	15.0	16.0
	HE80 Beam Forming, M0 to M9 2ss	2	5	-2.4	-3.0			0.6	17.0	16.4
	HE80 Beam Forming, M0 to M9 1ss	3	10	-5.7	-6.2	-5.4		-0.7	13.0	13.7
	HE80 Beam Forming, M0 to M9 2ss	3	7	-4.1	-4.5	-4.1		0.8	16.0	15.2
	HE80 Beam Forming, M0 to M9 3ss	3	5	-4.0	-4.1	-3.6		1.1	17.0	15.9
	HE80 Beam Forming, M0 to M9 1ss	4	11	-8.3	-9.0	-7.8	-9.1	-2.3	12.0	14.3
	HE80 Beam Forming, M0 to M9 2ss	4	8	-5.7	-6.2	-5.4	-6.0	0.4	15.0	14.6
	HE80 Beam Forming, M0 to M9 3ss	4	6	-4.1	-4.5	-4.1	-5.1	1.8	17.0	15.2
	HE80 Beam Forming, M0 to M9 4ss	4	5	-4.0	-4.1	-3.6	-4.2	2.3	17.0	14.7
	HE80 STBC, M0 to M9 1ss	2	5	-2.4	-3.0			0.6	17.0	16.4
	HE80 STBC, M0 to M9 1ss	3	5	-4.0	-4.1	-3.6		1.1	17.0	15.9
	HE80 STBC, M0 to M9 1ss	4	5	-4.0	-4.1	-3.6	-4.2	2.3	17.0	14.7

5220	Non HT20, 6 to 54 Mbps	1	5	7.0				7.0	17.0	10.0
	Non HT20, 6 to 54 Mbps	2	8	7.0	7.2			10.1	15.0	4.9
	Non HT20, 6 to 54 Mbps	3	10	7.0	7.2	7.1		11.9	13.0	1.1
	Non HT20, 6 to 54 Mbps	4	11	6.0	6.0	6.1	5.6	11.9	12.0	0.1
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	7.0	7.2			10.1	15.0	4.9
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	7.0	7.2	7.1		11.9	13.0	1.1
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	4.2	3.9	3.9	3.9	10.0	12.0	2.0
	HT/VHT20, M0 to M7	1	5	6.7				6.7	17.0	10.3
	HT/VHT20, M0 to M7	2	8	6.7	6.5			9.6	15.0	5.4
	HT/VHT20, M8 to M15	2	5	6.7	6.5			9.6	17.0	7.4
	HT/VHT20, M0 to M7	3	10	6.7	6.5	6.7		11.4	13.0	1.6
	HT/VHT20, M8 to M15	3	7	6.7	6.5	6.7		11.4	16.0	4.6
	HT/VHT20, M16 to M23	3	5	6.7	6.5	6.7		11.4	17.0	5.6
	HT/VHT20, M0 to M7	4	11	5.4	5.6	5.8	5.3	11.5	12.0	0.5
	HT/VHT20, M8 to M15	4	8	6.7	6.5	6.7	6.5	12.6	15.0	2.4
	HT/VHT20, M16 to M23	4	6	6.7	6.5	6.7	6.5	12.6	17.0	4.4
	HT/VHT20, M24 to M31	4	5	6.7	6.5	6.7	6.5	12.6	17.0	4.4
	HT/VHT20 Beam Forming, M0 to M7	2	8	6.7	6.5			9.6	15.0	5.4
	HT/VHT20 Beam Forming, M8 to M15	2	5	6.7	6.5			9.6	17.0	7.4
	HT/VHT20 Beam Forming, M0 to M7	3	10	6.7	6.5	6.7		11.4	13.0	1.6

	HT/VHT20 Beam Forming, M8 to M15	3	7	6.7	6.5	6.7		11.4	16.0	4.6
	HT/VHT20 Beam Forming, M16 to M23	3	5	6.7	6.5	6.7		11.4	17.0	5.6
	HT/VHT20 Beam Forming, M0 to M7	4	11	3.8	3.4	3.5	3.7	9.6	12.0	2.4
	HT/VHT20 Beam Forming, M8 to M15	4	8	6.7	6.5	6.7	6.5	12.6	15.0	2.4
	HT/VHT20 Beam Forming, M16 to M23	4	6	6.7	6.5	6.7	6.5	12.6	17.0	4.4
	HT/VHT20 Beam Forming, M24 to M31	4	5	6.7	6.5	6.7	6.5	12.6	17.0	4.4
	HT/VHT20 STBC, M0 to M7	2	5	6.7	6.5			9.6	17.0	7.4
	HT/VHT20 STBC, M0 to M7	3	7	6.7	6.5	6.7		11.4	16.0	4.6
	HT/VHT20 STBC, M0 to M7	4	8	6.7	6.5	6.7	6.5	12.6	15.0	2.4
	HE20, M0 to M9 1ss	1	5	6.4				6.4	17.0	10.6
	HE20, M0 to M9 1ss	2	8	6.4	6.5			9.5	15.0	5.5
	HE20, M0 to M9 2ss	2	5	6.4	6.5			9.5	17.0	7.5
	HE20, M0 to M9 1ss	3	10	6.4	6.5	6.3		11.2	13.0	1.8
	HE20, M0 to M9 2ss	3	7	6.4	6.5	6.3		11.2	16.0	4.8
	HE20, M0 to M9 3ss	3	5	6.4	6.5	6.3		11.2	17.0	5.8
	HE20, M0 to M9 1ss	4	11	5.3	5.5	5.4	5.2	11.4	12.0	0.6
	HE20, M0 to M9 2ss	4	8	6.4	6.5	6.3	6.2	12.4	15.0	2.6
	HE20, M0 to M9 3ss	4	6	6.4	6.5	6.3	6.2	12.4	17.0	4.6
	HE20, M0 to M9 4ss	4	5	6.4	6.5	6.3	6.2	12.4	17.0	4.6
	HE20 Beam Forming, M0 to M9 1ss	2	8	6.4	6.5			9.5	15.0	5.5
	HE20 Beam Forming, M0 to M9 2ss	2	5	6.4	6.5			9.5	17.0	7.5
	HE20 Beam Forming, M0 to M9 1ss	3	10	6.4	6.5	6.3		11.2	13.0	1.8
	HE20 Beam Forming, M0 to M9 2ss	3	7	6.4	6.5	6.3		11.2	16.0	4.8
	HE20 Beam Forming, M0 to M9 3ss	3	5	6.4	6.5	6.3		11.2	17.0	5.8
	HE20 Beam Forming, M0 to M9 1ss	4	11	3.4	3.5	3.5	3.3	9.4	12.0	2.6
	HE20 Beam Forming, M0 to M9 2ss	4	8	6.4	6.5	6.3	6.2	12.4	15.0	2.6
	HE20 Beam Forming, M0 to M9 3ss	4	6	6.4	6.5	6.3	6.2	12.4	17.0	4.6
	HE20 Beam Forming, M0 to M9 4ss	4	5	6.4	6.5	6.3	6.2	12.4	17.0	4.6
	HE20 STBC, M0 to M9 2ss	2	5	6.4	6.5			9.5	17.0	7.5
	HE20 STBC, M0 to M9 2ss	3	7	6.4	6.5	6.3		11.2	16.0	4.8
	HE20 STBC, M0 to M9 2ss	4	8	6.4	6.5	6.3	6.2	12.4	15.0	2.6

5230	Non HT40, 6 to 54 Mbps	1	5	3.5				3.5	17.0	13.5
	Non HT40, 6 to 54 Mbps	2	8	3.5	3.6			6.6	15.0	8.4
	Non HT40, 6 to 54 Mbps	3	10	3.5	3.6	4.6		8.7	13.0	4.3
	Non HT40, 6 to 54 Mbps	4	11	3.5	3.6	4.6	3.8	9.9	12.0	2.1
	HT/VHT40, M0 to M7	1	5	3.4				3.5	17.0	13.5
	HT/VHT40, M0 to M7	2	8	3.4	2.3			6.0	15.0	9.0
	HT/VHT40, M8 to M15	2	5	3.4	2.3			6.0	17.0	11.0
	HT/VHT40, M0 to M7	3	10	3.4	2.3	4.1		8.2	13.0	4.8
	HT/VHT40, M8 to M15	3	7	3.4	2.3	4.1		8.2	16.0	7.8
	HT/VHT40, M16 to M23	3	5	3.4	2.3	4.1		8.2	17.0	8.8
	HT/VHT40, M0 to M7	4	11	3.4	2.3	4.1	3.0	9.4	12.0	2.6
	HT/VHT40, M8 to M15	4	8	3.4	2.3	4.1	3.0	9.4	15.0	5.6
	HT/VHT40, M16 to M23	4	6	3.4	2.3	4.1	3.0	9.4	17.0	7.6
	HT/VHT40, M24 to M31	4	5	3.4	2.3	4.1	3.0	9.4	17.0	7.6

	HT/VHT40 Beam Forming, M0 to M7	2	8	3.4	2.3			6.0	15.0	9.0
	HT/VHT40 Beam Forming, M8 to M15	2	5	3.4	2.3			6.0	17.0	11.0
	HT/VHT40 Beam Forming, M0 to M7	3	10	3.4	2.3	4.1		8.2	13.0	4.8
	HT/VHT40 Beam Forming, M8 to M15	3	7	3.4	2.3	4.1		8.2	16.0	7.8
	HT/VHT40 Beam Forming, M16 to M23	3	5	3.4	2.3	4.1		8.2	17.0	8.8
	HT/VHT40 Beam Forming, M0 to M7	4	11	1.8	0.5	2.0	1.6	7.6	12.0	4.4
	HT/VHT40 Beam Forming, M8 to M15	4	8	3.4	2.3	4.1	3.0	9.4	15.0	5.6
	HT/VHT40 Beam Forming, M16 to M23	4	6	3.4	2.3	4.1	3.0	9.4	17.0	7.6
	HT/VHT40 Beam Forming, M24 to M31	4	5	3.4	2.3	4.1	3.0	9.4	17.0	7.6
	HT/VHT40 STBC, M0 to M7	2	5	3.4	2.3			6.0	17.0	11.0
	HT/VHT40 STBC, M0 to M7	3	7	3.4	2.3	4.1		8.2	16.0	7.8
	HT/VHT40 STBC, M0 to M7	4	8	3.4	2.3	4.1	3.0	9.4	15.0	5.6
	HE40, M0 to M9 1ss	1	5	3.9				4.0	17.0	13.0
	HE40, M0 to M9 1ss	2	8	3.9	3.1			6.7	15.0	8.3
	HE40, M0 to M9 2ss	2	5	3.9	3.1			6.7	17.0	10.3
	HE40, M0 to M9 1ss	3	10	3.9	3.1	4.2		8.7	13.0	4.3
	HE40, M0 to M9 2ss	3	7	3.9	3.1	4.2		8.7	16.0	7.3
	HE40, M0 to M9 3ss	3	5	3.9	3.1	4.2		8.7	17.0	8.3
	HE40, M0 to M9 1ss	4	11	3.9	3.1	4.2	3.6	9.9	12.0	2.1
	HE40, M0 to M9 2ss	4	8	3.9	3.1	4.2	3.6	9.9	15.0	5.1
	HE40, M0 to M9 3ss	4	6	3.9	3.1	4.2	3.6	9.9	17.0	7.1
	HE40, M0 to M9 4ss	4	5	3.9	3.1	4.2	3.6	9.9	17.0	7.1
	HE40 Beam Forming, M0 to M9 1ss	2	8	3.9	3.1			6.7	15.0	8.3
	HE40 Beam Forming, M0 to M9 2ss	2	5	3.9	3.1			6.7	17.0	10.3
	HE40 Beam Forming, M0 to M9 1ss	3	10	3.9	3.1	4.2		8.7	13.0	4.3
	HE40 Beam Forming, M0 to M9 2ss	3	7	3.9	3.1	4.2		8.7	16.0	7.3
	HE40 Beam Forming, M0 to M9 3ss	3	5	3.9	3.1	4.2		8.7	17.0	8.3
	HE40 Beam Forming, M0 to M9 1ss	4	11	1.7	0.8	2.1	1.3	7.7	12.0	4.3
	HE40 Beam Forming, M0 to M9 2ss	4	8	3.9	3.1	4.2	3.6	9.9	15.0	5.1
	HE40 Beam Forming, M0 to M9 3ss	4	6	3.9	3.1	4.2	3.6	9.9	17.0	7.1
	HE40 Beam Forming, M0 to M9 4ss	4	5	3.9	3.1	4.2	3.6	9.9	17.0	7.1
	HE40 STBC, M0 to M9 2ss	2	5	3.9	3.1			6.7	17.0	10.3
	HE40 STBC, M0 to M9 2ss	3	7	3.9	3.1	4.2		8.7	16.0	7.3
	HE40 STBC, M0 to M9 2ss	4	8	3.9	3.1	4.2	3.6	9.9	15.0	5.1

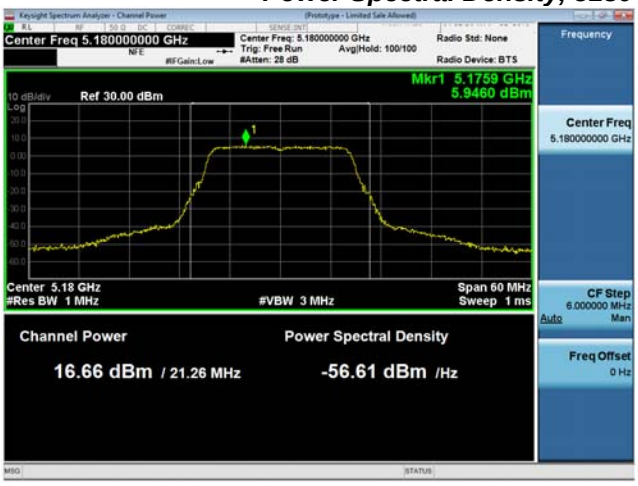
5240	Non HT20, 6 to 54 Mbps	1	5	6.6				6.6	17.0	10.4
	Non HT20, 6 to 54 Mbps	2	8	6.6	6.3			9.5	15.0	5.5
	Non HT20, 6 to 54 Mbps	3	10	6.6	6.3	6.7		11.3	13.0	1.7
	Non HT20, 6 to 54 Mbps	4	11	5.5	5.7	5.7	5.3	11.6	12.0	0.4
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	6.6	6.3			9.5	15.0	5.5
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	6.6	6.3	6.7		11.3	13.0	1.7
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	5.5	5.7	5.7	5.3	11.6	12.0	0.4
	HT/VHT20, M0 to M7	1	5	6.7				6.7	17.0	10.3
	HT/VHT20, M0 to M7	2	8	6.7	6.4			9.6	15.0	5.4
	HT/VHT20, M8 to M15	2	5	6.7	6.4			9.6	17.0	7.4
	HT/VHT20, M0 to M7	3	10	6.7	6.4	6.3		11.2	13.0	1.8

	HT/VHT20, M8 to M15	3	7	6.7	6.4	6.3		11.2	16.0	4.8
	HT/VHT20, M16 to M23	3	5	6.7	6.4	6.3		11.2	17.0	5.8
	HT/VHT20, M0 to M7	4	11	4.9	5.2	5.2	5.5	11.2	12.0	0.8
	HT/VHT20, M8 to M15	4	8	6.7	6.4	6.3	6.2	12.4	15.0	2.6
	HT/VHT20, M16 to M23	4	6	6.7	6.4	6.3	6.2	12.4	17.0	4.6
	HT/VHT20, M24 to M31	4	5	6.7	6.4	6.3	6.2	12.4	17.0	4.6
	HT/VHT20 Beam Forming, M0 to M7	2	8	6.7	6.4			9.6	15.0	5.4
	HT/VHT20 Beam Forming, M8 to M15	2	5	6.7	6.4			9.6	17.0	7.4
	HT/VHT20 Beam Forming, M0 to M7	3	10	6.7	6.4	6.3		11.2	13.0	1.8
	HT/VHT20 Beam Forming, M8 to M15	3	7	6.7	6.4	6.3		11.2	16.0	4.8
	HT/VHT20 Beam Forming, M16 to M23	3	5	6.7	6.4	6.3		11.2	17.0	5.8
	HT/VHT20 Beam Forming, M0 to M7	4	11	4.9	5.2	5.2	5.5	11.2	12.0	0.8
	HT/VHT20 Beam Forming, M8 to M15	4	8	6.7	6.4	6.3	6.2	12.4	15.0	2.6
	HT/VHT20 Beam Forming, M16 to M23	4	6	6.7	6.4	6.3	6.2	12.4	17.0	4.6
	HT/VHT20 Beam Forming, M24 to M31	4	5	6.7	6.4	6.3	6.2	12.4	17.0	4.6
	HT/VHT20 STBC, M0 to M7	2	5	6.7	6.4			9.6	17.0	7.4
	HT/VHT20 STBC, M0 to M7	3	7	6.7	6.4	6.3		11.2	16.0	4.8
	HT/VHT20 STBC, M0 to M7	4	8	6.7	6.4	6.3	6.2	12.4	15.0	2.6
	HE20, M0 to M9 1ss	1	5	6.1				6.1	17.0	10.9
	HE20, M0 to M9 1ss	2	8	6.1	6.4			9.3	15.0	5.7
	HE20, M0 to M9 2ss	2	5	6.1	6.4			9.3	17.0	7.7
	HE20, M0 to M9 1ss	3	10	6.1	6.4	6.7		11.2	13.0	1.8
	HE20, M0 to M9 2ss	3	7	6.1	6.4	6.7		11.2	16.0	4.8
	HE20, M0 to M9 3ss	3	5	6.1	6.4	6.7		11.2	17.0	5.8
	HE20, M0 to M9 1ss	4	11	5.2	5.1	5.4	5.5	11.3	12.0	0.7
	HE20, M0 to M9 2ss	4	8	6.1	6.4	6.7	6.3	12.4	15.0	2.6
	HE20, M0 to M9 3ss	4	6	6.1	6.4	6.7	6.3	12.4	17.0	4.6
	HE20, M0 to M9 4ss	4	5	6.1	6.4	6.7	6.3	12.4	17.0	4.6
	HE20 Beam Forming, M0 to M9 1ss	2	8	6.1	6.4			9.3	15.0	5.7
	HE20 Beam Forming, M0 to M9 2ss	2	5	6.1	6.4			9.3	17.0	7.7
	HE20 Beam Forming, M0 to M9 1ss	3	10	6.1	6.4	6.7		11.2	13.0	1.8
	HE20 Beam Forming, M0 to M9 2ss	3	7	6.1	6.4	6.7		11.2	16.0	4.8
	HE20 Beam Forming, M0 to M9 3ss	3	5	6.1	6.4	6.7		11.2	17.0	5.8
	HE20 Beam Forming, M0 to M9 1ss	4	11	5.2	5.1	5.4	5.5	11.3	12.0	0.7
	HE20 Beam Forming, M0 to M9 2ss	4	8	6.1	6.4	6.7	6.3	12.4	15.0	2.6
	HE20 Beam Forming, M0 to M9 3ss	4	6	6.1	6.4	6.7	6.3	12.4	17.0	4.6
	HE20 Beam Forming, M0 to M9 4ss	4	5	6.1	6.4	6.7	6.3	12.4	17.0	4.6
	HE20 STBC, M0 to M9 2ss	2	5	6.1	6.4			9.3	17.0	7.7
	HE20 STBC, M0 to M9 2ss	3	7	6.1	6.4	6.7		11.2	16.0	4.8
	HE20 STBC, M0 to M9 2ss	4	8	6.1	6.4	6.7	6.3	12.4	15.0	2.6

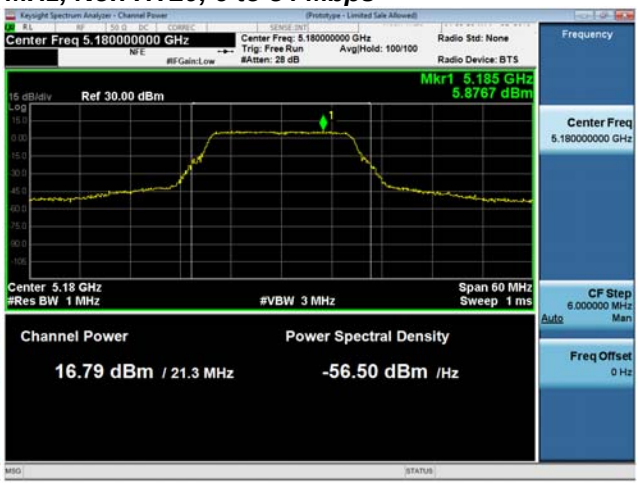
5250	Non HT160, 6 to 54 Mbps	1	5	-6.7				-6.7	11.0	17.7
	Non HT160, 6 to 54 Mbps	2	8	-8.1	-8.3			-5.2	9.0	14.2
	Non HT160, 6 to 54 Mbps	3	10	-8.1	-8.3	-5.9		-2.5	7.0	9.5
	Non HT160, 6 to 54 Mbps	4	11	-9.1	-8.6	-6.7	-9.8	-2.4	6.0	8.4
	VHT160, M0 to M9 1ss	1	5	-5.1				-4.7	11.0	15.7

	VHT160, M0 to M9 1ss	2	8	-6.8	-6.4			-3.2	9.0	12.2
	VHT160, M0 to M9 2ss	2	5	-6.8	-6.4			-3.2	11.0	14.2
	VHT160, M0 to M9 1ss	3	10	-7.5	-6.4	-5.8		-1.3	7.0	8.3
	VHT160, M0 to M9 2ss	3	7	-7.5	-6.4	-5.8		-1.3	10.0	11.3
	VHT160, M0 to M9 3ss	3	5	-7.5	-6.4	-5.8		-1.3	11.0	12.3
	VHT160, M0 to M9 1ss	4	11	-7.5	-6.4	-5.8	-7.4	-0.3	6.0	6.3
	VHT160, M0 to M9 2ss	4	8	-7.5	-6.4	-5.8	-7.4	-0.3	9.0	9.3
	VHT160, M0 to M9 3ss	4	6	-7.5	-6.4	-5.8	-7.4	-0.3	11.0	11.3
	VHT160, M0 to M9 4ss	4	5	-7.5	-6.4	-5.8	-7.4	-0.3	11.0	11.3
	VHT160 Beam Forming, M0 to M9 1ss	2	8	-7.5	-6.4			-3.5	9.0	12.5
	VHT160 Beam Forming, M0 to M9 2ss	2	5	-6.8	-6.4			-3.2	11.0	14.2
	VHT160 Beam Forming, M0 to M9 1ss	3	10	-9.6	-9.0	-8.2		-3.7	7.0	10.7
	VHT160 Beam Forming, M0 to M9 2ss	3	7	-8.5	-7.8	-7.0		-2.6	10.0	12.6
	VHT160 Beam Forming, M0 to M9 3ss	3	5	-7.5	-6.4	-5.8		-1.3	11.0	12.3
	VHT160 Beam Forming, M0 to M9 1ss	4	11	-11.0	-10.8	-9.6	-11.5	-4.3	6.0	10.3
	VHT160 Beam Forming, M0 to M9 2ss	4	8	-9.6	-9.0	-8.2	-9.3	-2.6	9.0	11.6
	VHT160 Beam Forming, M0 to M9 3ss	4	6	-8.5	-7.8	-7.0	-8.9	-1.6	11.0	12.6
	VHT160 Beam Forming, M0 to M9 4ss	4	5	-7.5	-6.4	-5.8	-7.4	-0.3	11.0	11.3
	VHT160 STBC, M0 to M9 1ss	2	5	-6.8	-6.4			-3.2	11.0	14.2
	VHT160 STBC, M0 to M9 1ss	3	5	-7.5	-6.4	-5.8		-1.3	11.0	12.3
	VHT160 STBC, M0 to M9 1ss	4	5	-7.5	-6.4	-5.8	-7.4	-0.3	11.0	11.3
	HE160, M0 to M9 1ss	1	5	-5.5				-5.1	11.0	16.1
	HE160, M0 to M9 1ss	2	8	-6.1	-5.6			-2.4	9.0	11.4
	HE160, M0 to M9 2ss	2	5	-6.1	-5.6			-2.4	11.0	13.4
	HE160, M0 to M9 1ss	3	10	-7.1	-7.0	-4.1		-0.6	7.0	7.6
	HE160, M0 to M9 2ss	3	7	-7.1	-7.0	-4.1		-0.6	10.0	10.6
	HE160, M0 to M9 3ss	3	5	-7.1	-7.0	-4.1		-0.6	11.0	11.6
	HE160, M0 to M9 1ss	4	11	-7.1	-7.0	-4.1	-6.8	0.4	6.0	5.6
	HE160, M0 to M9 2ss	4	8	-7.1	-7.0	-4.1	-6.8	0.4	9.0	8.6
	HE160, M0 to M9 3ss	4	6	-7.1	-7.0	-4.1	-6.8	0.4	11.0	10.6
	HE160, M0 to M9 4ss	4	5	-7.1	-7.0	-4.1	-6.8	0.4	11.0	10.6
	HE160 Beam Forming, M0 to M9 1ss	2	8	-8.1	-8.1			-4.7	9.0	13.7
	HE160 Beam Forming, M0 to M9 2ss	2	5	-6.1	-5.6			-2.4	11.0	13.4
	HE160 Beam Forming, M0 to M9 1ss	3	10	-9.4	-9.3	-5.9		-2.7	7.0	9.7
	HE160 Beam Forming, M0 to M9 2ss	3	7	-8.1	-8.1	-5.1		-1.7	10.0	11.7
	HE160 Beam Forming, M0 to M9 3ss	3	5	-7.1	-7.0	-4.1		-0.6	11.0	11.6
	HE160 Beam Forming, M0 to M9 1ss	4	11	-12.1	-11.8	-8.8	-12.5	-4.6	6.0	10.6
	HE160 Beam Forming, M0 to M9 2ss	4	8	-9.4	-9.3	-5.9	-9.3	-1.7	9.0	10.7
	HE160 Beam Forming, M0 to M9 3ss	4	6	-8.1	-8.1	-5.1	-8.2	-0.7	11.0	11.7
	HE160 Beam Forming, M0 to M9 4ss	4	5	-7.1	-7.0	-4.1	-6.8	0.4	11.0	10.6
	HE160 STBC, M0 to M9 1ss	2	5	-6.1	-5.6			-2.4	11.0	13.4
	HE160 STBC, M0 to M9 1ss	3	5	-7.1	-7.0	-4.1		-0.6	11.0	11.6
	HE160 STBC, M0 to M9 1ss	4	5	-7.1	-7.0	-4.1	-6.8	0.4	11.0	10.6

Power Spectral Density, 5180 MHz, Non HT20, 6 to 54 Mbps



Antenna A



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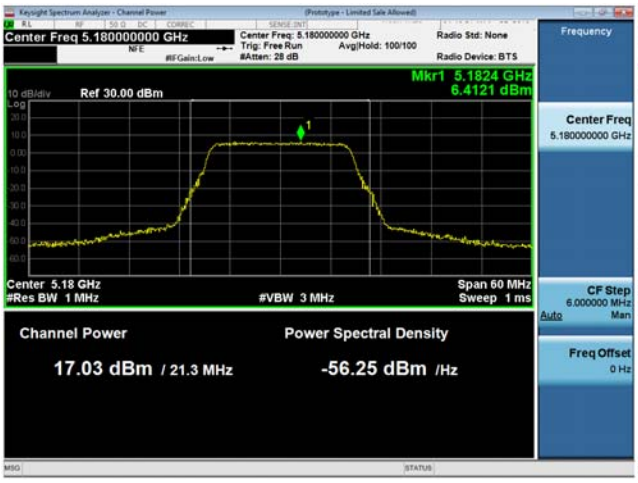

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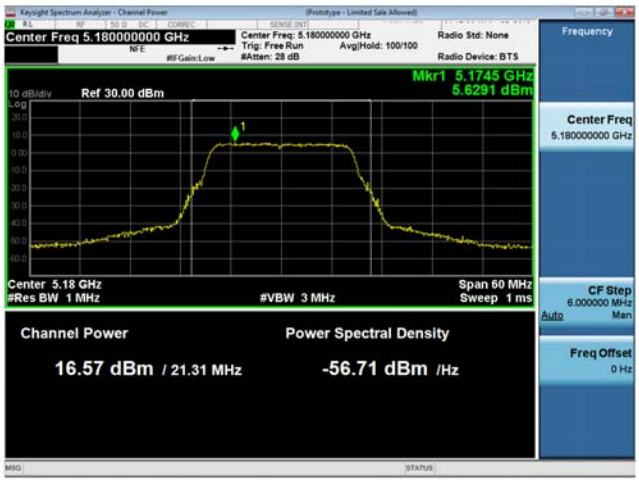


Antenna D

A.5 Conducted Spurious Emissions

Conducted Spurious Emissions Test Requirement

15.407(b) *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:

(1) For transmitters operating in the 5.15-5.25 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.

(5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 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.

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)).

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

KDB 789033 D02 General UNII Test Procedures New Rules v02r01

2. Unwanted Emissions that fall Outside of the Restricted Bands

a) For all measurements, follow the requirements in II.G.3. *"General Requirements for Unwanted Emissions Measurements."*

b) At frequencies below 1000 MHz, use the procedure described in II.G.4. *"Procedure for Unwanted Emissions Measurements Below 1000 MHz."*

c) At frequencies above 1000 MHz, use the procedure for maximum emissions described in II.G.5., *"Procedure for Unwanted Emissions Measurements Above 1000 MHz."*

(i) Sections 15.407(b)(1-3) specifies the unwanted emissions limit for the U-NII-1 and U-NII-2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of −27 dBm/MHz.[3]

Conducted Spurious Emissions Test Procedure

KDB 789033 D02 General UNII Test Procedures New Rules v02r01

Ref. 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 3. Configure Spectrum analyzer as per test parameters below (be sure to enter all losses between the transmitter output and the spectrum analyzer). 4. Use the peak marker function to determine the maximum spurs amplitude level. 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. (see ANSI C63.10:2013 section 14.3.2.2) 6. Capture graphs and record pertinent measurement data.

Ref. ANSI C63.10: 2013 section 12.7.6 (Peak) and 12.7.7.2 (Average)
KDB 789033 D02 General UNII Test Procedures New Rules v02r01, Sec. 5 (Peak), Sec. 6 (Average Method AD)

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

Add the max antenna gain + ground reflection factor (4.7 dB for frequencies between 30 MHz and 1000 MHz, and 0 dB for frequencies > 1000 MHz).

Samples, Systems, and Modes

System Number	Description	Samples	System under test	Support equipment
2	EUT	S03	☑	☐
	Support	S02	☐	☑

Tested By: Chris Blair	**Date of testing:** 24-Apr-19 - 02-May-19
Test Result: PASS	

Test Equipment
See Appendix C for list of test equipment

Conducted Spurs Average Upper, 5180 MHz, Non HT20, 6 to 54 Mbps

Conducted Spurs Peak Upper, 5180 MHz, Non HT20, 6 to 54 Mbps

Frequency (MHz)	Mode	Tx Paths	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)	Limit (dBm)	Margin (dB)
5180	Non HT20, 6 to 54 Mbps	1	5	-55.0				-50.0	-41.25	8.8
	Non HT20, 6 to 54 Mbps	2	5	-56.2	-56.8			-48.5	-41.25	7.2
	Non HT20, 6 to 54 Mbps	3	5	-56.2	-56.8	-58.3		-47.2	-41.25	6.0
	Non HT20, 6 to 54 Mbps	4	5	-56.2	-56.8	-58.3	-57.4	-46.1	-41.25	4.8
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	-56.2	-56.8			-45.5	-41.25	4.2
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	-58.0	-59.2	-61.8		-44.6	-41.25	3.4
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	-60.1	-61.5	-63.0	-62.0	-44.5	-41.25	3.3
	HT/VHT20, M0 to M7	1	5	-55.2				-50.2	-41.25	9.0
	HT/VHT20, M0 to M7	2	5	-55.2	-56.1			-47.6	-41.25	6.4
	HT/VHT20, M8 to M15	2	5	-55.2	-56.1			-47.6	-41.25	6.4
	HT/VHT20, M0 to M7	3	5	-55.2	-56.1	-57.4		-46.4	-41.25	5.1
	HT/VHT20, M8 to M15	3	5	-55.2	-56.1	-57.4		-46.4	-41.25	5.1
	HT/VHT20, M16 to M23	3	5	-55.2	-56.1	-57.4		-46.4	-41.25	5.1
	HT/VHT20, M0 to M7	4	5	-55.9	-56.8	-58.4	-57.7	-46.1	-41.25	4.8
	HT/VHT20, M8 to M15	4	5	-55.9	-56.8	-58.4	-57.7	-46.1	-41.25	4.8
	HT/VHT20, M16 to M23	4	5	-55.9	-56.8	-58.4	-57.7	-46.1	-41.25	4.8
	HT/VHT20, M24 to M31	4	5	-55.9	-56.8	-58.4	-57.7	-46.1	-41.25	4.8
	HT/VHT20 Beam Forming, M0 to M7	2	8	-55.9	-56.8			-45.3	-41.25	4.1
	HT/VHT20 Beam Forming, M8 to M15	2	5	-55.2	-56.1			-47.6	-41.25	6.4
	HT/VHT20 Beam Forming, M0 to M7	3	10	-57.8	-58.7	-61.3		-44.3	-41.25	3.0
	HT/VHT20 Beam Forming, M8 to M15	3	7	-55.9	-56.8	-58.4		-45.1	-41.25	3.9
	HT/VHT20 Beam Forming, M16 to M23	3	5	-55.2	-56.1	-57.4		-46.4	-41.25	5.1
	HT/VHT20 Beam Forming, M0 to M7	4	11	-59.9	-61.1	-62.7	-61.5	-44.2	-41.25	2.9
	HT/VHT20 Beam Forming, M8 to M15	4	8	-57.5	-58.2	-59.6	-58.7	-44.4	-41.25	3.2
	HT/VHT20 Beam Forming, M16 to M23	4	6	-55.9	-56.8	-58.4	-57.7	-45.1	-41.25	3.8
	HT/VHT20 Beam Forming, M24 to M31	4	5	-55.9	-56.8	-58.4	-57.7	-46.1	-41.25	4.8
	HT/VHT20 STBC, M0 to M7	2	5	-55.2	-56.1			-47.6	-41.25	6.4
	HT/VHT20 STBC, M0 to M7	3	5	-55.2	-56.1	-57.4		-46.4	-41.25	5.1
	HT/VHT20 STBC, M0 to M7	4	5	-55.9	-56.8	-58.4	-57.7	-46.1	-41.25	4.8
	HE20, M0 to M9 1ss	1	5	-55.2				-50.2	-41.25	9.0
	HE20, M0 to M9 1ss	2	5	-55.2	-56.1			-47.6	-41.25	6.4
	HE20, M0 to M9 2ss	2	5	-55.2	-56.1			-47.6	-41.25	6.4
	HE20, M0 to M9 1ss	3	5	-56.1	-56.9	-58.4		-47.3	-41.25	6.0
	HE20, M0 to M9 2ss	3	5	-56.1	-56.9	-58.4		-47.3	-41.25	6.0
	HE20, M0 to M9 3ss	3	5	-56.1	-56.9	-58.4		-47.3	-41.25	6.0

	HE20, M0 to M9 1ss	4	5	-56.1	-56.9	-58.4	-57.4	-46.1	-41.25	4.9
	HE20, M0 to M9 2ss	4	5	-56.1	-56.9	-58.4	-57.4	-46.1	-41.25	4.9
	HE20, M0 to M9 3ss	4	5	-56.1	-56.9	-58.4	-57.4	-46.1	-41.25	4.9
	HE20, M0 to M9 4ss	4	5	-56.1	-56.9	-58.4	-57.4	-46.1	-41.25	4.9
	HE20 Beam Forming, M0 to M9 1ss	2	8	-56.1	-56.9			-45.5	-41.25	4.2
	HE20 Beam Forming, M0 to M9 2ss	2	5	-55.2	-56.1			-47.6	-41.25	6.4
	HE20 Beam Forming, M0 to M9 1ss	3	10	-58.0	-58.9	-61.6		-44.5	-41.25	3.2
	HE20 Beam Forming, M0 to M9 2ss	3	7	-56.6	-57.2	-58.9		-45.7	-41.25	4.4
	HE20 Beam Forming, M0 to M9 3ss	3	5	-56.1	-56.9	-58.4		-47.3	-41.25	6.0
	HE20 Beam Forming, M0 to M9 1ss	4	11	-60.3	-61.4	-62.9	-61.5	-44.4	-41.25	3.2
	HE20 Beam Forming, M0 to M9 2ss	4	8	-57.1	-58.3	-59.8	-58.6	-44.3	-41.25	3.1
	HE20 Beam Forming, M0 to M9 3ss	4	6	-56.6	-57.2	-58.9	-57.5	-45.5	-41.25	4.2
	HE20 Beam Forming, M0 to M9 4ss	4	5	-56.1	-56.9	-58.4	-57.4	-46.1	-41.25	4.9
	HE20 STBC, M0 to M9 2ss	2	5	-55.2	-56.1			-47.6	-41.25	6.4
	HE20 STBC, M0 to M9 2ss	3	5	-56.1	-56.9	-58.4		-47.3	-41.25	6.0
	HE20 STBC, M0 to M9 2ss	4	5	-56.1	-56.9	-58.4	-57.4	-46.1	-41.25	4.9
5190	Non HT40, 6 to 54 Mbps	1	5	-56.8				-51.8	-41.25	10.6
	Non HT40, 6 to 54 Mbps	2	5	-57.3	-58.4			-49.8	-41.25	8.6
	Non HT40, 6 to 54 Mbps	3	5	-58.1	-59.3	-60.0		-49.3	-41.25	8.0
	Non HT40, 6 to 54 Mbps	4	5	-58.1	-59.3	-60.0	-59.4	-48.1	-41.25	6.9
	HT/VHT40, M0 to M7	1	5	-56.1				-51.0	-41.25	9.8
	HT/VHT40, M0 to M7	2	5	-56.7	-57.9			-49.1	-41.25	7.9
	HT/VHT40, M8 to M15	2	5	-56.7	-57.9			-49.1	-41.25	7.9
	HT/VHT40, M0 to M7	3	5	-57.4	-58.3	-59.1		-48.3	-41.25	7.1
	HT/VHT40, M8 to M15	3	5	-57.4	-58.3	-59.1		-48.3	-41.25	7.1
	HT/VHT40, M16 to M23	3	5	-57.4	-58.3	-59.1		-48.3	-41.25	7.1
	HT/VHT40, M0 to M7	4	5	-57.8	-59.4	-59.7	-59.1	-47.8	-41.25	6.6
	HT/VHT40, M8 to M15	4	5	-57.8	-59.4	-59.7	-59.1	-47.8	-41.25	6.6
	HT/VHT40, M16 to M23	4	5	-57.8	-59.4	-59.7	-59.1	-47.8	-41.25	6.6
	HT/VHT40, M24 to M31	4	5	-57.8	-59.4	-59.7	-59.1	-47.8	-41.25	6.6
	HT/VHT40 Beam Forming, M0 to M7	2	8	-57.8	-59.4			-47.4	-41.25	6.2
	HT/VHT40 Beam Forming, M8 to M15	2	5	-56.7	-57.9			-49.1	-41.25	7.9
	HT/VHT40 Beam Forming, M0 to M7	3	10	-60.2	-61.7	-62.4		-46.5	-41.25	5.2
	HT/VHT40 Beam Forming, M8 to M15	3	7	-57.8	-59.4	-59.7		-47.0	-41.25	5.8
	HT/VHT40 Beam Forming, M16 to M23	3	5	-57.4	-58.3	-59.1		-48.3	-41.25	7.1
	HT/VHT40 Beam Forming, M0 to M7	4	11	-61.5	-62.7	-64.2	-63.2	-45.7	-41.25	4.4
	HT/VHT40 Beam Forming, M8 to M15	4	8	-60.2	-61.7	-62.4	-61.5	-47.3	-41.25	6.0
	HT/VHT40 Beam Forming, M16 to M23	4	6	-57.8	-59.4	-59.7	-59.1	-46.8	-41.25	5.6
	HT/VHT40 Beam Forming, M24 to M31	4	5	-57.8	-59.4	-59.7	-59.1	-47.8	-41.25	6.6
	HT/VHT40 STBC, M0 to M7	2	5	-56.7	-57.9			-49.1	-41.25	7.9
	HT/VHT40 STBC, M0 to M7	3	5	-57.4	-58.3	-59.1		-48.3	-41.25	7.1
	HT/VHT40 STBC, M0 to M7	4	5	-57.8	-59.4	-59.7	-59.1	-47.8	-41.25	6.6

	HE40, M0 to M9 1ss	1	5	-56.4				-51.3	-41.25	10.0
	HE40, M0 to M9 1ss	2	5	-56.7	-57.9			-49.1	-41.25	7.9
	HE40, M0 to M9 2ss	2	5	-56.7	-57.9			-49.1	-41.25	7.9
	HE40, M0 to M9 1ss	3	5	-57.6	-58.6	-59.6		-48.6	-41.25	7.4
	HE40, M0 to M9 2ss	3	5	-57.6	-58.6	-59.6		-48.6	-41.25	7.4
	HE40, M0 to M9 3ss	3	5	-57.6	-58.6	-59.6		-48.6	-41.25	7.4
	HE40, M0 to M9 1ss	4	5	-57.8	-59.6	-59.9	-59.2	-47.9	-41.25	6.6
	HE40, M0 to M9 2ss	4	5	-57.8	-59.6	-59.9	-59.2	-47.9	-41.25	6.6
	HE40, M0 to M9 3ss	4	5	-57.8	-59.6	-59.9	-59.2	-47.9	-41.25	6.6
	HE40, M0 to M9 4ss	4	5	-57.8	-59.6	-59.9	-59.2	-47.9	-41.25	6.6
	HE40 Beam Forming, M0 to M9 1ss	2	8	-57.8	-59.6			-47.5	-41.25	6.2
	HE40 Beam Forming, M0 to M9 2ss	2	5	-56.7	-57.9			-49.1	-41.25	7.9
	HE40 Beam Forming, M0 to M9 1ss	3	10	-60.4	-62.1	-62.8		-46.7	-41.25	5.5
	HE40 Beam Forming, M0 to M9 2ss	3	7	-57.8	-59.6	-59.9		-47.1	-41.25	5.8
	HE40 Beam Forming, M0 to M9 3ss	3	5	-57.6	-58.6	-59.6		-48.6	-41.25	7.4
	HE40 Beam Forming, M0 to M9 1ss	4	11	-61.4	-62.8	-64.0	-63.0	-45.5	-41.25	4.3
	HE40 Beam Forming, M0 to M9 2ss	4	8	-60.0	-61.5	-62.2	-61.5	-47.1	-41.25	5.8
	HE40 Beam Forming, M0 to M9 3ss	4	6	-58.7	-60.8	-61.5	-60.9	-48.2	-41.25	6.9
	HE40 Beam Forming, M0 to M9 4ss	4	5	-57.8	-59.6	-59.9	-59.2	-47.9	-41.25	6.6
	HE40 STBC, M0 to M9 2ss	2	5	-56.7	-57.9			-49.1	-41.25	7.9
	HE40 STBC, M0 to M9 2ss	3	5	-57.6	-58.6	-59.6		-48.6	-41.25	7.4
	HE40 STBC, M0 to M9 2ss	4	5	-57.8	-59.6	-59.9	-59.2	-47.9	-41.25	6.6
5210	Non HT80, 6 to 54 Mbps	1	5	-56.7				-51.7	-41.25	10.5
	Non HT80, 6 to 54 Mbps	2	5	-57.2	-58.4			-49.7	-41.25	8.5
	Non HT80, 6 to 54 Mbps	3	5	-57.2	-58.4	-60.1		-48.6	-41.25	7.4
	Non HT80, 6 to 54 Mbps	4	5	-57.8	-58.8	-61.9	-59.5	-48.2	-41.25	7.0
	VHT80, M0 to M9 1ss	1	5	-57.0				-51.8	-41.25	10.5
	VHT80, M0 to M9 1ss	2	5	-57.3	-58.5			-49.6	-41.25	8.4
	VHT80, M0 to M9 2ss	2	5	-57.3	-58.5			-49.6	-41.25	8.4
	VHT80, M0 to M9 1ss	3	5	-57.8	-59.1	-62.1		-49.3	-41.25	8.1
	VHT80, M0 to M9 2ss	3	5	-57.8	-59.1	-62.1		-49.3	-41.25	8.1
	VHT80, M0 to M9 3ss	3	5	-57.8	-59.1	-62.1		-49.3	-41.25	8.1
	VHT80, M0 to M9 1ss	4	5	-57.8	-59.1	-62.1	-59.9	-48.2	-41.25	7.0
	VHT80, M0 to M9 2ss	4	5	-57.8	-59.1	-62.1	-59.9	-48.2	-41.25	7.0
	VHT80, M0 to M9 3ss	4	5	-57.8	-59.1	-62.1	-59.9	-48.2	-41.25	7.0
	VHT80, M0 to M9 4ss	4	5	-57.8	-59.1	-62.1	-59.9	-48.2	-41.25	7.0
	VHT80 Beam Forming, M0 to M9 1ss	2	8	-57.8	-59.1			-47.2	-41.25	5.9
	VHT80 Beam Forming, M0 to M9 2ss	2	5	-57.3	-58.5			-49.6	-41.25	8.4
	VHT80 Beam Forming, M0 to M9 1ss	3	10	-60.2	-61.5	-63.3		-46.5	-41.25	5.3
	VHT80 Beam Forming, M0 to M9 2ss	3	7	-58.3	-61.0	-62.7		-48.3	-41.25	7.1
	VHT80 Beam Forming, M0 to M9 3ss	3	5	-57.8	-59.1	-62.1		-49.3	-41.25	8.1
	VHT80 Beam Forming, M0 to M9 1ss	4	11	-61.3	-62.6	-64.0	-63.1	-45.4	-41.25	4.2

	VHT80 Beam Forming, M0 to M9 2ss	4	8	-60.2	-61.5	-63.3	-62.0	-47.4	-41.25	6.1
	VHT80 Beam Forming, M0 to M9 3ss	4	6	-58.3	-61.0	-62.7	-61.2	-48.3	-41.25	7.0
	VHT80 Beam Forming, M0 to M9 4ss	4	5	-57.8	-59.1	-62.1	-59.9	-48.2	-41.25	7.0
	VHT80 STBC, M0 to M9 1ss	2	5	-57.3	-58.5			-49.6	-41.25	8.4
	VHT80 STBC, M0 to M9 1ss	3	5	-57.8	-59.1	-62.1		-49.3	-41.25	8.1
	VHT80 STBC, M0 to M9 1ss	4	5	-57.8	-59.1	-62.1	-59.9	-48.2	-41.25	7.0
	HE80, M0 to M9 1ss	1	5	-57.0				-51.8	-41.25	10.5
	HE80, M0 to M9 1ss	2	5	-57.4	-58.5			-49.7	-41.25	8.4
	HE80, M0 to M9 2ss	2	5	-57.4	-58.5			-49.7	-41.25	8.4
	HE80, M0 to M9 1ss	3	5	-57.9	-59.1	-62.0		-49.3	-41.25	8.1
	HE80, M0 to M9 2ss	3	5	-57.9	-59.1	-62.0		-49.3	-41.25	8.1
	HE80, M0 to M9 3ss	3	5	-57.9	-59.1	-62.0		-49.3	-41.25	8.1
	HE80, M0 to M9 1ss	4	5	-57.9	-59.1	-62.0	-59.6	-48.2	-41.25	6.9
	HE80, M0 to M9 2ss	4	5	-57.9	-59.1	-62.0	-59.6	-48.2	-41.25	6.9
	HE80, M0 to M9 3ss	4	5	-57.9	-59.1	-62.0	-59.6	-48.2	-41.25	6.9
	HE80, M0 to M9 4ss	4	5	-57.9	-59.1	-62.0	-59.6	-48.2	-41.25	6.9
	HE80 Beam Forming, M0 to M9 1ss	2	8	-58.4	-60.6			-48.1	-41.25	6.9
	HE80 Beam Forming, M0 to M9 2ss	2	5	-57.4	-58.5			-49.7	-41.25	8.4
	HE80 Beam Forming, M0 to M9 1ss	3	10	-60.1	-61.3	-63.1		-46.3	-41.25	5.1
	HE80 Beam Forming, M0 to M9 2ss	3	7	-58.4	-60.6	-62.5		-48.2	-41.25	6.9
	HE80 Beam Forming, M0 to M9 3ss	3	5	-57.9	-59.1	-62.0		-49.3	-41.25	8.1
	HE80 Beam Forming, M0 to M9 1ss	4	11	-61.5	-62.7	-64.3	-63.3	-45.6	-41.25	4.3
	HE80 Beam Forming, M0 to M9 2ss	4	8	-60.1	-61.3	-63.1	-62.0	-47.2	-41.25	6.0
	HE80 Beam Forming, M0 to M9 3ss	4	6	-58.4	-60.6	-62.5	-61.1	-48.1	-41.25	6.9
	HE80 Beam Forming, M0 to M9 4ss	4	5	-57.9	-59.1	-62.0	-59.6	-48.2	-41.25	6.9
	HE80 STBC, M0 to M9 1ss	2	5	-57.4	-58.5			-49.7	-41.25	8.4
	HE80 STBC, M0 to M9 1ss	3	5	-57.9	-59.1	-62.0		-49.3	-41.25	8.1
	HE80 STBC, M0 to M9 1ss	4	5	-57.9	-59.1	-62.0	-59.6	-48.2	-41.25	6.9
5220	Non HT20, 6 to 54 Mbps	1	5	-55.3				-50.3	-41.25	9.1
	Non HT20, 6 to 54 Mbps	2	5	-55.3	-56.6			-47.9	-41.25	6.6
	Non HT20, 6 to 54 Mbps	3	5	-55.3	-56.6	-58.3		-46.8	-41.25	5.5
	Non HT20, 6 to 54 Mbps	4	5	-56.5	-57.3	-59.0	-58.1	-46.6	-41.25	5.4
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	-55.3	-56.6			-44.9	-41.25	3.6
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	-55.3	-56.6	-58.3		-41.8	-41.25	0.5
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	-57.8	-58.9	-60.6	-59.5	-42.1	-41.25	0.8
	HT/VHT20, M0 to M7	1	5	-55.3				-50.3	-41.25	9.1
	HT/VHT20, M0 to M7	2	5	-55.3	-56.7			-47.9	-41.25	6.7
	HT/VHT20, M8 to M15	2	5	-55.3	-56.7			-47.9	-41.25	6.7
	HT/VHT20, M0 to M7	3	5	-55.3	-56.7	-58.0		-46.8	-41.25	5.5
	HT/VHT20, M8 to M15	3	5	-55.3	-56.7	-58.0		-46.8	-41.25	5.5
	HT/VHT20, M16 to M23	3	5	-55.3	-56.7	-58.0		-46.8	-41.25	5.5
	HT/VHT20, M0 to M7	4	5	-56.5	-57.2	-59.1	-58.0	-46.6	-41.25	5.3

	HT/VHT20, M8 to M15	4	5	-55.3	-56.7	-58.0	-57.0	-45.6	-41.25	4.4
	HT/VHT20, M16 to M23	4	5	-55.3	-56.7	-58.0	-57.0	-45.6	-41.25	4.4
	HT/VHT20, M24 to M31	4	5	-55.3	-56.7	-58.0	-57.0	-45.6	-41.25	4.4
	HT/VHT20 Beam Forming, M0 to M7	2	8	-55.3	-56.7			-44.9	-41.25	3.7
	HT/VHT20 Beam Forming, M8 to M15	2	5	-55.3	-56.7			-47.9	-41.25	6.7
	HT/VHT20 Beam Forming, M0 to M7	3	10	-55.3	-56.7	-58.0		-41.8	-41.25	0.5
	HT/VHT20 Beam Forming, M8 to M15	3	7	-55.3	-56.7	-58.0		-44.8	-41.25	3.5
	HT/VHT20 Beam Forming, M16 to M23	3	5	-55.3	-56.7	-58.0		-46.8	-41.25	5.5
	HT/VHT20 Beam Forming, M0 to M7	4	11	-57.5	-58.8	-60.3	-59.4	-41.9	-41.25	0.6
	HT/VHT20 Beam Forming, M8 to M15	4	8	-55.3	-56.7	-58.0	-57.0	-42.6	-41.25	1.4
	HT/VHT20 Beam Forming, M16 to M23	4	6	-55.3	-56.7	-58.0	-57.0	-44.6	-41.25	3.4
	HT/VHT20 Beam Forming, M24 to M31	4	5	-55.3	-56.7	-58.0	-57.0	-45.6	-41.25	4.4
	HT/VHT20 STBC, M0 to M7	2	5	-55.3	-56.7			-47.9	-41.25	6.7
	HT/VHT20 STBC, M0 to M7	3	5	-55.3	-56.7	-58.0		-46.8	-41.25	5.5
	HT/VHT20 STBC, M0 to M7	4	5	-55.3	-56.7	-58.0	-57.0	-45.6	-41.25	4.4
	HE20, M0 to M9 1ss	1	5	-55.9				-50.9	-41.25	9.7
	HE20, M0 to M9 1ss	2	5	-55.9	-56.5			-48.2	-41.25	6.9
	HE20, M0 to M9 2ss	2	5	-55.9	-56.5			-48.2	-41.25	6.9
	HE20, M0 to M9 1ss	3	5	-55.9	-56.5	-57.9		-46.9	-41.25	5.7
	HE20, M0 to M9 2ss	3	5	-55.9	-56.5	-57.9		-46.9	-41.25	5.7
	HE20, M0 to M9 3ss	3	5	-55.9	-56.5	-57.9		-46.9	-41.25	5.7
	HE20, M0 to M9 1ss	4	5	-56.5	-57.2	-58.9	-57.8	-46.5	-41.25	5.2
	HE20, M0 to M9 2ss	4	5	-55.9	-56.5	-57.9	-56.8	-45.7	-41.25	4.4
	HE20, M0 to M9 3ss	4	5	-55.9	-56.5	-57.9	-56.8	-45.7	-41.25	4.4
	HE20, M0 to M9 4ss	4	5	-55.9	-56.5	-57.9	-56.8	-45.7	-41.25	4.4
	HE20 Beam Forming, M0 to M9 1ss	2	8	-55.9	-56.5			-45.2	-41.25	3.9
	HE20 Beam Forming, M0 to M9 2ss	2	5	-55.9	-56.5			-48.2	-41.25	6.9
	HE20 Beam Forming, M0 to M9 1ss	3	10	-55.9	-56.5	-57.9		-41.9	-41.25	0.7
	HE20 Beam Forming, M0 to M9 2ss	3	7	-55.9	-56.5	-57.9		-44.9	-41.25	3.7
	HE20 Beam Forming, M0 to M9 3ss	3	5	-55.9	-56.5	-57.9		-46.9	-41.25	5.7
	HE20 Beam Forming, M0 to M9 1ss	4	11	-57.7	-58.8	-60.2	-58.9	-41.8	-41.25	0.5
	HE20 Beam Forming, M0 to M9 2ss	4	8	-55.9	-56.5	-57.9	-56.8	-42.7	-41.25	1.4
	HE20 Beam Forming, M0 to M9 3ss	4	6	-55.9	-56.5	-57.9	-56.8	-44.7	-41.25	3.4
	HE20 Beam Forming, M0 to M9 4ss	4	5	-55.9	-56.5	-57.9	-56.8	-45.7	-41.25	4.4
	HE20 STBC, M0 to M9 2ss	2	5	-55.9	-56.5			-48.2	-41.25	6.9
	HE20 STBC, M0 to M9 2ss	3	5	-55.9	-56.5	-57.9		-46.9	-41.25	5.7
	HE20 STBC, M0 to M9 2ss	4	5	-55.9	-56.5	-57.9	-56.8	-45.7	-41.25	4.4
5230	Non HT40, 6 to 54 Mbps	1	5	-56.1				-51.1	-41.25	9.9
	Non HT40, 6 to 54 Mbps	2	5	-56.1	-57.4			-48.7	-41.25	7.4
	Non HT40, 6 to 54 Mbps	3	5	-56.1	-57.4	-58.1		-47.3	-41.25	6.1
	Non HT40, 6 to 54 Mbps	4	5	-56.1	-57.4	-58.1	-57.8	-46.3	-41.25	5.0
	HT/VHT40, M0 to M7	1	5	-56.0				-50.9	-41.25	9.7

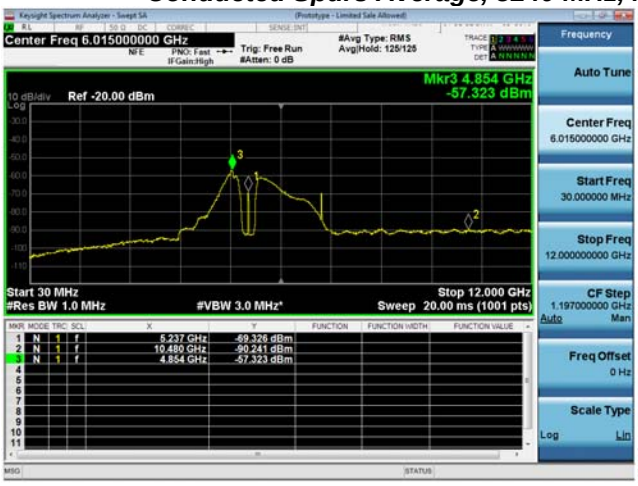
	HT/VHT40, M0 to M7	2	5	-56.0	-57.5			-48.6	-41.25	7.3
	HT/VHT40, M8 to M15	2	5	-56.0	-57.5			-48.6	-41.25	7.3
	HT/VHT40, M0 to M7	3	5	-56.0	-57.5	-58.0		-47.2	-41.25	6.0
	HT/VHT40, M8 to M15	3	5	-56.0	-57.5	-58.0		-47.2	-41.25	6.0
	HT/VHT40, M16 to M23	3	5	-56.0	-57.5	-58.0		-47.2	-41.25	6.0
	HT/VHT40, M0 to M7	4	5	-56.0	-57.5	-58.0	-57.4	-46.0	-41.25	4.8
	HT/VHT40, M8 to M15	4	5	-56.0	-57.5	-58.0	-57.4	-46.0	-41.25	4.8
	HT/VHT40, M16 to M23	4	5	-56.0	-57.5	-58.0	-57.4	-46.0	-41.25	4.8
	HT/VHT40, M24 to M31	4	5	-56.0	-57.5	-58.0	-57.4	-46.0	-41.25	4.8
	HT/VHT40 Beam Forming, M0 to M7	2	8	-56.0	-57.5			-45.6	-41.25	4.3
	HT/VHT40 Beam Forming, M8 to M15	2	5	-56.0	-57.5			-48.6	-41.25	7.3
	HT/VHT40 Beam Forming, M0 to M7	3	10	-56.0	-57.5	-58.0		-42.2	-41.25	1.0
	HT/VHT40 Beam Forming, M8 to M15	3	7	-56.0	-57.5	-58.0		-45.2	-41.25	4.0
	HT/VHT40 Beam Forming, M16 to M23	3	5	-56.0	-57.5	-58.0		-47.2	-41.25	6.0
	HT/VHT40 Beam Forming, M0 to M7	4	11	-57.6	-58.9	-60.0	-59.2	-41.7	-41.25	0.5
	HT/VHT40 Beam Forming, M8 to M15	4	8	-56.0	-57.5	-58.0	-57.4	-43.0	-41.25	1.8
	HT/VHT40 Beam Forming, M16 to M23	4	6	-56.0	-57.5	-58.0	-57.4	-45.0	-41.25	3.8
	HT/VHT40 Beam Forming, M24 to M31	4	5	-56.0	-57.5	-58.0	-57.4	-46.0	-41.25	4.8
	HT/VHT40 STBC, M0 to M7	2	5	-56.0	-57.5			-48.6	-41.25	7.3
	HT/VHT40 STBC, M0 to M7	3	5	-56.0	-57.5	-58.0		-47.2	-41.25	6.0
	HT/VHT40 STBC, M0 to M7	4	5	-56.0	-57.5	-58.0	-57.4	-46.0	-41.25	4.8
	HE40, M0 to M9 1ss	1	5	-56.3				-51.2	-41.25	9.9
	HE40, M0 to M9 1ss	2	5	-56.3	-57.8			-48.8	-41.25	7.6
	HE40, M0 to M9 2ss	2	5	-56.3	-57.8			-48.8	-41.25	7.6
	HE40, M0 to M9 1ss	3	5	-56.3	-57.8	-58.5		-47.5	-41.25	6.3
	HE40, M0 to M9 2ss	3	5	-56.3	-57.8	-58.5		-47.5	-41.25	6.3
	HE40, M0 to M9 3ss	3	5	-56.3	-57.8	-58.5		-47.5	-41.25	6.3
	HE40, M0 to M9 1ss	4	5	-56.3	-57.8	-58.5	-58.0	-46.4	-41.25	5.2
	HE40, M0 to M9 2ss	4	5	-56.3	-57.8	-58.5	-58.0	-46.4	-41.25	5.2
	HE40, M0 to M9 3ss	4	5	-56.3	-57.8	-58.5	-58.0	-46.4	-41.25	5.2
	HE40, M0 to M9 4ss	4	5	-56.3	-57.8	-58.5	-58.0	-46.4	-41.25	5.2
	HE40 Beam Forming, M0 to M9 1ss	2	8	-56.3	-57.8			-45.8	-41.25	4.6
	HE40 Beam Forming, M0 to M9 2ss	2	5	-56.3	-57.8			-48.8	-41.25	7.6
	HE40 Beam Forming, M0 to M9 1ss	3	10	-56.3	-57.8	-58.5		-42.5	-41.25	1.3
	HE40 Beam Forming, M0 to M9 2ss	3	7	-56.3	-57.8	-58.5		-45.5	-41.25	4.3
	HE40 Beam Forming, M0 to M9 3ss	3	5	-56.3	-57.8	-58.5		-47.5	-41.25	6.3
	HE40 Beam Forming, M0 to M9 1ss	4	11	-57.5	-59.0	-59.9	-59.4	-41.7	-41.25	0.5
	HE40 Beam Forming, M0 to M9 2ss	4	8	-56.3	-57.8	-58.5	-58.0	-43.4	-41.25	2.2
	HE40 Beam Forming, M0 to M9 3ss	4	6	-56.3	-57.8	-58.5	-58.0	-45.4	-41.25	4.2
	HE40 Beam Forming, M0 to M9 4ss	4	5	-56.3	-57.8	-58.5	-58.0	-46.4	-41.25	5.2
	HE40 STBC, M0 to M9 2ss	2	5	-56.3	-57.8			-48.8	-41.25	7.6
	HE40 STBC, M0 to M9 2ss	3	5	-56.3	-57.8	-58.5		-47.5	-41.25	6.3
	HE40 STBC, M0 to M9 2ss	4	5	-56.3	-57.8	-58.5	-58.0	-46.4	-41.25	5.2

5240	Non HT20, 6 to 54 Mbps	1	5	-56.4				-51.4	-41.25	10.2
	Non HT20, 6 to 54 Mbps	2	5	-56.4	-57.7			-49.0	-41.25	7.7
	Non HT20, 6 to 54 Mbps	3	5	-56.4	-57.7	-58.7		-47.7	-41.25	6.5
	Non HT20, 6 to 54 Mbps	4	5	-57.3	-58.2	-59.6	-58.5	-47.3	-41.25	6.1
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	-56.4	-57.7			-46.0	-41.25	4.7
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	-56.4	-57.7	-58.7		-42.7	-41.25	1.5
	Non HT20 Beam Forming, 6 to 54 Mbps	**4**	**11**	**-57.3**	**-58.2**	**-59.6**	**-58.5**	**-41.3**	**-41.25**	**0.1**
	HT/VHT20, M0 to M7	1	5	-56.8				-51.8	-41.25	10.6
	HT/VHT20, M0 to M7	2	5	-56.8	-57.9			-49.3	-41.25	8.1
	HT/VHT20, M8 to M15	2	5	-56.8	-57.9			-49.3	-41.25	8.1
	HT/VHT20, M0 to M7	3	5	-56.8	-57.9	-58.9		-48.0	-41.25	6.8
	HT/VHT20, M8 to M15	3	5	-56.8	-57.9	-58.9		-48.0	-41.25	6.8
	HT/VHT20, M16 to M23	3	5	-56.8	-57.9	-58.9		-48.0	-41.25	6.8
	HT/VHT20, M0 to M7	4	5	-57.3	-58.1	-59.9	-58.7	-47.4	-41.25	6.1
	HT/VHT20, M8 to M15	4	5	-56.8	-57.9	-58.9	-58.1	-46.8	-41.25	5.6
	HT/VHT20, M16 to M23	4	5	-56.8	-57.9	-58.9	-58.1	-46.8	-41.25	5.6
	HT/VHT20, M24 to M31	4	5	-56.8	-57.9	-58.9	-58.1	-46.8	-41.25	5.6
	HT/VHT20 Beam Forming, M0 to M7	2	8	-56.8	-57.9			-46.3	-41.25	5.1
	HT/VHT20 Beam Forming, M8 to M15	2	5	-56.8	-57.9			-49.3	-41.25	8.1
	HT/VHT20 Beam Forming, M0 to M7	3	10	-56.8	-57.9	-58.9		-43.0	-41.25	1.8
	HT/VHT20 Beam Forming, M8 to M15	3	7	-56.8	-57.9	-58.9		-46.0	-41.25	4.8
	HT/VHT20 Beam Forming, M16 to M23	3	5	-56.8	-57.9	-58.9		-48.0	-41.25	6.8
	HT/VHT20 Beam Forming, M0 to M7	4	11	-57.3	-58.1	-59.9	-58.7	-41.4	-41.25	0.1
	HT/VHT20 Beam Forming, M8 to M15	4	8	-56.8	-57.9	-58.9	-58.1	-43.8	-41.25	2.6
	HT/VHT20 Beam Forming, M16 to M23	4	6	-56.8	-57.9	-58.9	-58.1	-45.8	-41.25	4.6
	HT/VHT20 Beam Forming, M24 to M31	4	5	-56.8	-57.9	-58.9	-58.1	-46.8	-41.25	5.6
	HT/VHT20 STBC, M0 to M7	2	5	-56.8	-57.9			-49.3	-41.25	8.1
	HT/VHT20 STBC, M0 to M7	3	5	-56.8	-57.9	-58.9		-48.0	-41.25	6.8
	HT/VHT20 STBC, M0 to M7	4	5	-56.8	-57.9	-58.9	-58.1	-46.8	-41.25	5.6
	HE20, M0 to M9 1ss	1	5	-57.1				-52.1	-41.25	10.9
	HE20, M0 to M9 1ss	2	5	-57.1	-58.0			-49.5	-41.25	8.3
	HE20, M0 to M9 2ss	2	5	-57.1	-58.0			-49.5	-41.25	8.3
	HE20, M0 to M9 1ss	3	5	-57.1	-58.0	-59.4		-48.3	-41.25	7.0
	HE20, M0 to M9 2ss	3	5	-57.1	-58.0	-59.4		-48.3	-41.25	7.0
	HE20, M0 to M9 3ss	3	5	-57.1	-58.0	-59.4		-48.3	-41.25	7.0
	HE20, M0 to M9 1ss	4	5	-57.5	-58.3	-60.0	-59.3	-47.7	-41.25	6.4
	HE20, M0 to M9 2ss	4	5	-57.1	-58.0	-59.4	-58.5	-47.1	-41.25	5.9
	HE20, M0 to M9 3ss	4	5	-57.1	-58.0	-59.4	-58.5	-47.1	-41.25	5.9
	HE20, M0 to M9 4ss	4	5	-57.1	-58.0	-59.4	-58.5	-47.1	-41.25	5.9
	HE20 Beam Forming, M0 to M9 1ss	2	8	-57.1	-58.0			-46.5	-41.25	5.3
	HE20 Beam Forming, M0 to M9 2ss	2	5	-57.1	-58.0			-49.5	-41.25	8.3

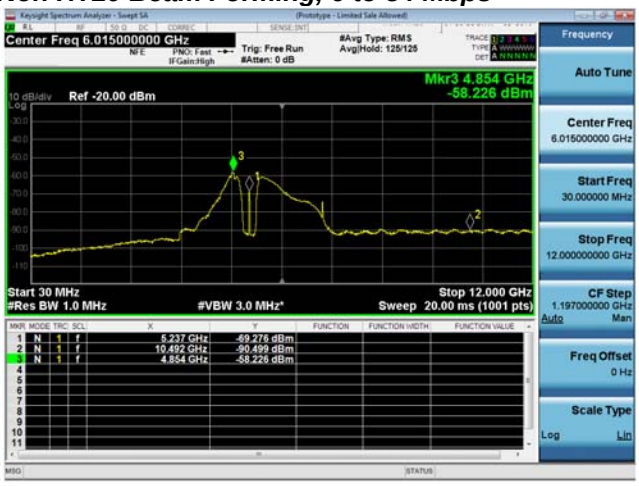
	HE20 Beam Forming, M0 to M9 1ss	3	10	-57.1	-58.0	-59.4		-43.3	-41.25	2.0
	HE20 Beam Forming, M0 to M9 2ss	3	7	-57.1	-58.0	-59.4		-46.3	-41.25	5.0
	HE20 Beam Forming, M0 to M9 3ss	3	5	-57.1	-58.0	-59.4		-48.3	-41.25	7.0
	HE20 Beam Forming, M0 to M9 1ss	4	11	-57.5	-58.3	-60.0	-59.3	-41.7	-41.25	0.4
	HE20 Beam Forming, M0 to M9 2ss	4	8	-57.1	-58.0	-59.4	-58.5	-44.1	-41.25	2.9
	HE20 Beam Forming, M0 to M9 3ss	4	6	-57.1	-58.0	-59.4	-58.5	-46.1	-41.25	4.9
	HE20 Beam Forming, M0 to M9 4ss	4	5	-57.1	-58.0	-59.4	-58.5	-47.1	-41.25	5.9
	HE20 STBC, M0 to M9 2ss	2	5	-57.1	-58.0			-49.5	-41.25	8.3
	HE20 STBC, M0 to M9 2ss	3	5	-57.1	-58.0	-59.4		-48.3	-41.25	7.0
	HE20 STBC, M0 to M9 2ss	4	5	-57.1	-58.0	-59.4	-58.5	-47.1	-41.25	5.9
5250	Non HT160, 6 to 54 Mbps	1	5	-57.8				-52.8	-41.25	11.6
	Non HT160, 6 to 54 Mbps	2	5	-58.9	-59.7			-51.3	-41.25	10.0
	Non HT160, 6 to 54 Mbps	3	5	-58.9	-59.7	-61.4		-50.1	-41.25	8.9
	Non HT160, 6 to 54 Mbps	4	5	-59.1	-60.0	-62.2	-62.0	-49.6	-41.25	8.4
	VHT160, M0 to M9 1ss	1	5	-57.5				-52.1	-41.25	10.9
	VHT160, M0 to M9 1ss	2	5	-58.3	-58.9			-50.2	-41.25	8.9
	VHT160, M0 to M9 2ss	2	5	-58.3	-58.9			-50.2	-41.25	8.9
	VHT160, M0 to M9 1ss	3	5	-58.9	-59.5	-61.4		-49.6	-41.25	8.4
	VHT160, M0 to M9 2ss	3	5	-58.9	-59.5	-61.4		-49.6	-41.25	8.4
	VHT160, M0 to M9 3ss	3	5	-58.9	-59.5	-61.4		-49.6	-41.25	8.4
	VHT160, M0 to M9 1ss	4	5	-58.9	-59.5	-61.4	-60.1	-48.5	-41.25	7.2
	VHT160, M0 to M9 2ss	4	5	-58.9	-59.5	-61.4	-60.1	-48.5	-41.25	7.2
	VHT160, M0 to M9 3ss	4	5	-58.9	-59.5	-61.4	-60.1	-48.5	-41.25	7.2
	VHT160, M0 to M9 4ss	4	5	-58.9	-59.5	-61.4	-60.1	-48.5	-41.25	7.2
	VHT160 Beam Forming, M0 to M9 1ss	2	8	-58.9	-59.5			-47.8	-41.25	6.5
	VHT160 Beam Forming, M0 to M9 2ss	2	5	-58.3	-58.9			-50.2	-41.25	8.9
	VHT160 Beam Forming, M0 to M9 1ss	3	10	-60.9	-61.8	-63.1		-46.7	-41.25	5.4
	VHT160 Beam Forming, M0 to M9 2ss	3	7	-60.0	-60.1	-62.4		-48.5	-41.25	7.3
	VHT160 Beam Forming, M0 to M9 3ss	3	5	-58.9	-59.5	-61.4		-49.6	-41.25	8.4
	VHT160 Beam Forming, M0 to M9 1ss	4	11	-61.9	-62.8	-64.4	-63.4	-45.6	-41.25	4.4
	VHT160 Beam Forming, M0 to M9 2ss	4	8	-60.9	-61.8	-63.1	-62.3	-47.5	-41.25	6.3
	VHT160 Beam Forming, M0 to M9 3ss	4	6	-60.0	-60.1	-62.4	-62.1	-48.6	-41.25	7.4
	VHT160 Beam Forming, M0 to M9 4ss	4	5	-58.9	-59.5	-61.4	-60.1	-48.5	-41.25	7.2
	VHT160 STBC, M0 to M9 1ss	2	5	-58.3	-58.9			-50.2	-41.25	8.9
	VHT160 STBC, M0 to M9 1ss	3	5	-58.9	-59.5	-61.4		-49.6	-41.25	8.4
	VHT160 STBC, M0 to M9 1ss	4	5	-58.9	-59.5	-61.4	-60.1	-48.5	-41.25	7.2
	HE160, M0 to M9 1ss	1	5	-57.7				-52.3	-41.25	11.0
	HE160, M0 to M9 1ss	2	5	-58.0	-58.8			-50.0	-41.25	8.7
	HE160, M0 to M9 2ss	2	5	-58.0	-58.8			-50.0	-41.25	8.7
	HE160, M0 to M9 1ss	3	5	-58.5	-59.3	-61.3		-49.4	-41.25	8.1
	HE160, M0 to M9 2ss	3	5	-58.5	-59.3	-61.3		-49.4	-41.25	8.1
	HE160, M0 to M9 3ss	3	5	-58.5	-59.3	-61.3		-49.4	-41.25	8.1

	HE160, M0 to M9 1ss	4	5	-58.5	-59.3	-61.3	-59.9	-48.2	-41.25	6.9
	HE160, M0 to M9 2ss	4	5	-58.5	-59.3	-61.3	-59.9	-48.2	-41.25	6.9
	HE160, M0 to M9 3ss	4	5	-58.5	-59.3	-61.3	-59.9	-48.2	-41.25	6.9
	HE160, M0 to M9 4ss	4	5	-58.5	-59.3	-61.3	-59.9	-48.2	-41.25	6.9
	HE160 Beam Forming, M0 to M9 1ss	2	8	-59.1	-59.8			-48.0	-41.25	6.8
	HE160 Beam Forming, M0 to M9 2ss	2	5	-58.0	-58.8			-50.0	-41.25	8.7
	HE160 Beam Forming, M0 to M9 1ss	3	10	-60.9	-61.8	-63.1		-46.7	-41.25	5.4
	HE160 Beam Forming, M0 to M9 2ss	3	7	-59.1	-59.8	-62.1		-48.0	-41.25	6.7
	HE160 Beam Forming, M0 to M9 3ss	3	5	-58.5	-59.3	-61.3		-49.4	-41.25	8.1
	HE160 Beam Forming, M0 to M9 1ss	4	11	-62.1	-62.8	-64.6	-63.5	-45.7	-41.25	4.5
	HE160 Beam Forming, M0 to M9 2ss	4	8	-60.9	-61.8	-63.1	-62.3	-47.5	-41.25	6.3
	HE160 Beam Forming, M0 to M9 3ss	4	6	-59.1	-59.8	-62.1	-61.7	-48.1	-41.25	6.8
	HE160 Beam Forming, M0 to M9 4ss	4	5	-58.5	-59.3	-61.3	-59.9	-48.2	-41.25	6.9
	HE160 STBC, M0 to M9 1ss	2	5	-58.0	-58.8			-50.0	-41.25	8.7
	HE160 STBC, M0 to M9 1ss	3	5	-58.5	-59.3	-61.3		-49.4	-41.25	8.1
	HE160 STBC, M0 to M9 1ss	4	5	-58.5	-59.3	-61.3	-59.9	-48.2	-41.25	6.9

Conducted Spurs Average, 5240 MHz, Non HT20 Beam Forming, 6 to 54 Mbps



Antenna A



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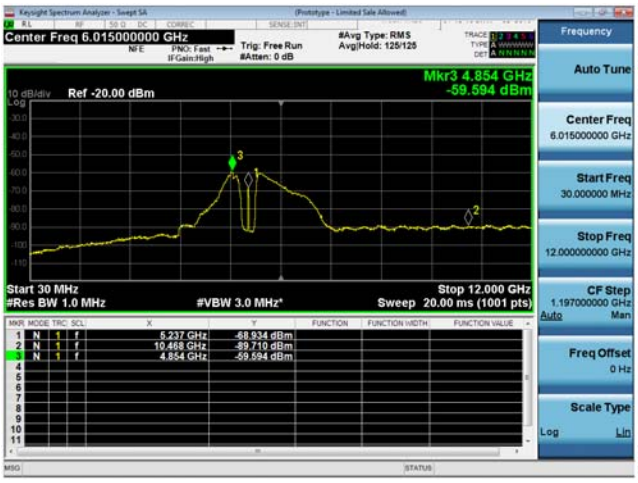

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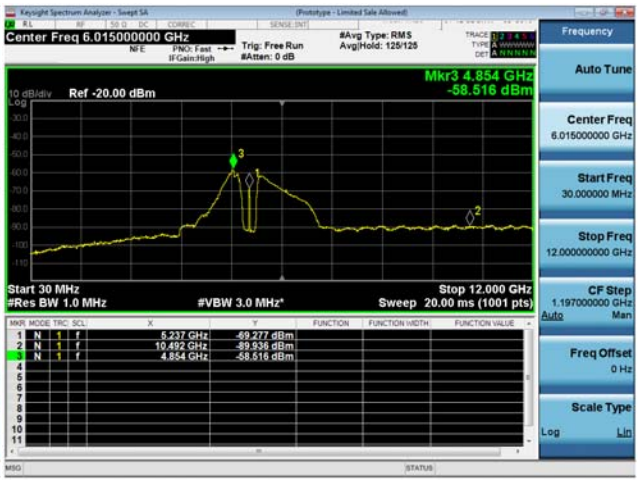


Antenna D

Frequency (MHz)	Mode	Tx Paths	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)	Limit (dBm)	Margin (dB)
5180	Non HT20, 6 to 54 Mbps	1	5	-45.0				-40.0	-21.25	18.8
	Non HT20, 6 to 54 Mbps	2	5	-46.3	-45.5			-37.9	-21.25	16.6
	Non HT20, 6 to 54 Mbps	3	5	-46.3	-45.5	-48.5		-36.8	-21.25	15.6
	Non HT20, 6 to 54 Mbps	4	5	-46.3	-45.5	-48.5	-47.1	-35.7	-21.25	14.4
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	-46.3	-45.5			-34.9	-21.25	13.6
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	-47.8	-48.9	-51.2		-34.3	-21.25	13.1
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	-50.1	-50.8	-52.0	-51.5	-34.0	-21.25	12.8
	HT/VHT20, M0 to M7	1	5	-45.2				-40.2	-21.25	19.0
	HT/VHT20, M0 to M7	2	5	-45.2	-44.9			-37.0	-21.25	15.8
	HT/VHT20, M8 to M15	2	5	-45.2	-44.9			-37.0	-21.25	15.8
	HT/VHT20, M0 to M7	3	5	-45.2	-44.9	-47.2		-35.9	-21.25	14.6
	HT/VHT20, M8 to M15	3	5	-45.2	-44.9	-47.2		-35.9	-21.25	14.6
	HT/VHT20, M16 to M23	3	5	-45.2	-44.9	-47.2		-35.9	-21.25	14.6
	HT/VHT20, M0 to M7	4	5	-45.4	-46.5	-47.5	-47.3	-35.6	-21.25	14.3
	HT/VHT20, M8 to M15	4	5	-45.4	-46.5	-47.5	-47.3	-35.6	-21.25	14.3
	HT/VHT20, M16 to M23	4	5	-45.4	-46.5	-47.5	-47.3	-35.6	-21.25	14.3
	HT/VHT20, M24 to M31	4	5	-45.4	-46.5	-47.5	-47.3	-35.6	-21.25	14.3
	HT/VHT20 Beam Forming, M0 to M7	2	8	-45.4	-46.5			-34.9	-21.25	13.7
	HT/VHT20 Beam Forming, M8 to M15	2	5	-45.2	-44.9			-37.0	-21.25	15.8
	HT/VHT20 Beam Forming, M0 to M7	3	10	-47.0	-48.4	-51.2		-33.8	-21.25	12.5
	HT/VHT20 Beam Forming, M8 to M15	3	7	-45.4	-46.5	-47.5		-34.6	-21.25	13.4
	HT/VHT20 Beam Forming, M16 to M23	3	5	-45.2	-44.9	-47.2		-35.9	-21.25	14.6
	HT/VHT20 Beam Forming, M0 to M7	4	11	-49.1	-51.2	-50.9	-51.4	-33.5	-21.25	12.3
	HT/VHT20 Beam Forming, M8 to M15	4	8	-47.8	-48.6	-49.6	-47.7	-34.3	-21.25	13.1
	HT/VHT20 Beam Forming, M16 to M23	4	6	-45.4	-46.5	-47.5	-47.3	-34.6	-21.25	13.3
	HT/VHT20 Beam Forming, M24 to M31	4	5	-45.4	-46.5	-47.5	-47.3	-35.6	-21.25	14.3
	HT/VHT20 STBC, M0 to M7	2	5	-45.2	-44.9			-37.0	-21.25	15.8
	HT/VHT20 STBC, M0 to M7	3	5	-45.2	-44.9	-47.2		-35.9	-21.25	14.6
	HT/VHT20 STBC, M0 to M7	4	5	-45.4	-46.5	-47.5	-47.3	-35.6	-21.25	14.3
	HE20, M0 to M9 1ss	1	5	-44.2				-39.2	-21.25	18.0
	HE20, M0 to M9 1ss	2	5	-44.2	-45.5			-36.8	-21.25	15.5
	HE20, M0 to M9 2ss	2	5	-44.2	-45.5			-36.8	-21.25	15.5
	HE20, M0 to M9 1ss	3	5	-44.6	-46.3	-47.8		-36.3	-21.25	15.0
	HE20, M0 to M9 2ss	3	5	-44.6	-46.3	-47.8		-36.3	-21.25	15.0
	HE20, M0 to M9 3ss	3	5	-44.6	-46.3	-47.8		-36.3	-21.25	15.0
	HE20, M0 to M9 1ss	4	5	-44.6	-46.3	-47.8	-47.5	-35.3	-21.25	14.1

	HE20, M0 to M9 2ss	4	5	-44.6	-46.3	-47.8	-47.5	-35.3	-21.25	14.1
	HE20, M0 to M9 3ss	4	5	-44.6	-46.3	-47.8	-47.5	-35.3	-21.25	14.1
	HE20, M0 to M9 4ss	4	5	-44.6	-46.3	-47.8	-47.5	-35.3	-21.25	14.1
	HE20 Beam Forming, M0 to M9 1ss	2	8	-44.6	-46.3			-34.4	-21.25	13.1
	HE20 Beam Forming, M0 to M9 2ss	2	5	-44.2	-45.5			-36.8	-21.25	15.5
	HE20 Beam Forming, M0 to M9 1ss	3	10	-47.8	-48.9	-51.4		-34.4	-21.25	13.1
	HE20 Beam Forming, M0 to M9 2ss	3	7	-45.5	-46.6	-48.8		-35.0	-21.25	13.7
	HE20 Beam Forming, M0 to M9 3ss	3	5	-44.6	-46.3	-47.8		-36.3	-21.25	15.0
	HE20 Beam Forming, M0 to M9 1ss	4	11	-50.0	-50.9	-52.8	-51.0	-34.0	-21.25	12.8
	HE20 Beam Forming, M0 to M9 2ss	4	8	-47.3	-48.0	-49.3	-48.7	-34.2	-21.25	13.0
	HE20 Beam Forming, M0 to M9 3ss	4	6	-45.5	-46.6	-48.8	-47.4	-34.9	-21.25	13.6
	HE20 Beam Forming, M0 to M9 4ss	4	5	-44.6	-46.3	-47.8	-47.5	-35.3	-21.25	14.1
	HE20 STBC, M0 to M9 2ss	2	5	-44.2	-45.5			-36.8	-21.25	15.5
	HE20 STBC, M0 to M9 2ss	3	5	-44.6	-46.3	-47.8		-36.3	-21.25	15.0
	HE20 STBC, M0 to M9 2ss	4	5	-44.6	-46.3	-47.8	-47.5	-35.3	-21.25	14.1
5190	Non HT40, 6 to 54 Mbps	1	5	-45.8				-40.8	-21.25	19.6
	Non HT40, 6 to 54 Mbps	2	5	-47.6	-47.5			-39.5	-21.25	18.3
	Non HT40, 6 to 54 Mbps	3	5	-47.3	-49.3	-49.4		-38.8	-21.25	17.5
	Non HT40, 6 to 54 Mbps	4	5	-47.3	-49.3	-49.4	-49.0	-37.6	-21.25	16.4
	HT/VHT40, M0 to M7	1	5	-45.3				-40.2	-21.25	19.0
	HT/VHT40, M0 to M7	2	5	-46.0	-47.7			-38.7	-21.25	17.4
	HT/VHT40, M8 to M15	2	5	-46.0	-47.7			-38.7	-21.25	17.4
	HT/VHT40, M0 to M7	3	5	-45.7	-47.6	-48.8		-37.3	-21.25	16.1
	HT/VHT40, M8 to M15	3	5	-45.7	-47.6	-48.8		-37.3	-21.25	16.1
	HT/VHT40, M16 to M23	3	5	-45.7	-47.6	-48.8		-37.3	-21.25	16.1
	HT/VHT40, M0 to M7	4	5	-47.7	-49.5	-49.9	-48.5	-37.7	-21.25	16.4
	HT/VHT40, M8 to M15	4	5	-47.7	-49.5	-49.9	-48.5	-37.7	-21.25	16.4
	HT/VHT40, M16 to M23	4	5	-47.7	-49.5	-49.9	-48.5	-37.7	-21.25	16.4
	HT/VHT40, M24 to M31	4	5	-47.7	-49.5	-49.9	-48.5	-37.7	-21.25	16.4
	HT/VHT40 Beam Forming, M0 to M7	2	8	-47.7	-49.5			-37.4	-21.25	16.1
	HT/VHT40 Beam Forming, M8 to M15	2	5	-46.0	-47.7			-38.7	-21.25	17.4
	HT/VHT40 Beam Forming, M0 to M7	3	10	-49.2	-51.2	-52.0		-35.8	-21.25	14.5
	HT/VHT40 Beam Forming, M8 to M15	3	7	-47.7	-49.5	-49.9		-37.1	-21.25	15.8
	HT/VHT40 Beam Forming, M16 to M23	3	5	-45.7	-47.6	-48.8		-37.3	-21.25	16.1
	HT/VHT40 Beam Forming, M0 to M7	4	11	-51.2	-52.6	-54.3	-52.7	-35.4	-21.25	14.2
	HT/VHT40 Beam Forming, M8 to M15	4	8	-49.2	-51.2	-52.0	-51.2	-36.6	-21.25	15.4
	HT/VHT40 Beam Forming, M16 to M23	4	6	-47.7	-49.5	-49.9	-48.5	-36.7	-21.25	15.4
	HT/VHT40 Beam Forming, M24 to M31	4	5	-47.7	-49.5	-49.9	-48.5	-37.7	-21.25	16.4
	HT/VHT40 STBC, M0 to M7	2	5	-46.0	-47.7			-38.7	-21.25	17.4
	HT/VHT40 STBC, M0 to M7	3	5	-45.7	-47.6	-48.8		-37.3	-21.25	16.1
	HT/VHT40 STBC, M0 to M7	4	5	-47.7	-49.5	-49.9	-48.5	-37.7	-21.25	16.4
	HE40, M0 to M9 1ss	1	5	-44.9				-39.8	-21.25	18.5

	HE40, M0 to M9 1ss	2	5	-46.4	-48.0			-39.0	-21.25	17.7
	HE40, M0 to M9 2ss	2	5	-46.4	-48.0			-39.0	-21.25	17.7
	HE40, M0 to M9 1ss	3	5	-47.3	-48.2	-49.4		-38.3	-21.25	17.1
	HE40, M0 to M9 2ss	3	5	-47.3	-48.2	-49.4		-38.3	-21.25	17.1
	HE40, M0 to M9 3ss	3	5	-47.3	-48.2	-49.4		-38.3	-21.25	17.1
	HE40, M0 to M9 1ss	4	5	-47.3	-49.5	-49.7	-47.1	-37.1	-21.25	15.8
	HE40, M0 to M9 2ss	4	5	-47.3	-49.5	-49.7	-47.1	-37.1	-21.25	15.8
	HE40, M0 to M9 3ss	4	5	-47.3	-49.5	-49.7	-47.1	-37.1	-21.25	15.8
	HE40, M0 to M9 4ss	4	5	-47.3	-49.5	-49.7	-47.1	-37.1	-21.25	15.8
	HE40 Beam Forming, M0 to M9 1ss	2	8	-47.3	-49.5			-37.1	-21.25	15.9
	HE40 Beam Forming, M0 to M9 2ss	2	5	-46.4	-48.0			-39.0	-21.25	17.7
	HE40 Beam Forming, M0 to M9 1ss	3	10	-49.7	-51.9	-52.0		-36.2	-21.25	14.9
	HE40 Beam Forming, M0 to M9 2ss	3	7	-47.3	-49.5	-49.7		-36.8	-21.25	15.5
	HE40 Beam Forming, M0 to M9 3ss	3	5	-47.3	-48.2	-49.4		-38.3	-21.25	17.1
	HE40 Beam Forming, M0 to M9 1ss	4	11	-51.2	-51.7	-53.8	-53.3	-35.2	-21.25	14.0
	HE40 Beam Forming, M0 to M9 2ss	4	8	-49.1	-51.4	-52.1	-50.3	-36.4	-21.25	15.2
	HE40 Beam Forming, M0 to M9 3ss	4	6	-48.0	-49.7	-50.0	-50.9	-37.4	-21.25	16.1
	HE40 Beam Forming, M0 to M9 4ss	4	5	-47.3	-49.5	-49.7	-47.1	-37.1	-21.25	15.8
	HE40 STBC, M0 to M9 2ss	2	5	-46.4	-48.0			-39.0	-21.25	17.7
	HE40 STBC, M0 to M9 2ss	3	5	-47.3	-48.2	-49.4		-38.3	-21.25	17.1
	HE40 STBC, M0 to M9 2ss	4	5	-47.3	-49.5	-49.7	-47.1	-37.1	-21.25	15.8
5210	Non HT80, 6 to 54 Mbps	1	5	-47.2				-42.2	-21.25	21.0
	Non HT80, 6 to 54 Mbps	2	5	-47.3	-47.6			-39.4	-21.25	18.2
	Non HT80, 6 to 54 Mbps	3	5	-47.3	-47.6	-49.4		-38.2	-21.25	17.0
	Non HT80, 6 to 54 Mbps	4	5	-47.5	-47.5	-51.5	-49.6	-37.7	-21.25	16.5
	VHT80, M0 to M9 1ss	1	5	-46.7				-41.5	-21.25	20.2
	VHT80, M0 to M9 1ss	2	5	-46.5	-47.6			-38.8	-21.25	17.5
	VHT80, M0 to M9 2ss	2	5	-46.5	-47.6			-38.8	-21.25	17.5
	VHT80, M0 to M9 1ss	3	5	-48.1	-49.2	-51.6		-39.4	-21.25	18.2
	VHT80, M0 to M9 2ss	3	5	-48.1	-49.2	-51.6		-39.4	-21.25	18.2
	VHT80, M0 to M9 3ss	3	5	-48.1	-49.2	-51.6		-39.4	-21.25	18.2
	VHT80, M0 to M9 1ss	4	5	-48.1	-49.2	-51.6	-49.2	-38.1	-21.25	16.9
	VHT80, M0 to M9 2ss	4	5	-48.1	-49.2	-51.6	-49.2	-38.1	-21.25	16.9
	VHT80, M0 to M9 3ss	4	5	-48.1	-49.2	-51.6	-49.2	-38.1	-21.25	16.9
	VHT80, M0 to M9 4ss	4	5	-48.1	-49.2	-51.6	-49.2	-38.1	-21.25	16.9
	VHT80 Beam Forming, M0 to M9 1ss	2	8	-48.1	-49.2			-37.4	-21.25	16.1
	VHT80 Beam Forming, M0 to M9 2ss	2	5	-46.5	-47.6			-38.8	-21.25	17.5
	VHT80 Beam Forming, M0 to M9 1ss	3	10	-48.2	-51.1	-52.6		-35.3	-21.25	14.0
	VHT80 Beam Forming, M0 to M9 2ss	3	7	-48.1	-50.1	-52.6		-37.9	-21.25	16.7
	VHT80 Beam Forming, M0 to M9 3ss	3	5	-48.1	-49.2	-51.6		-39.4	-21.25	18.2
	VHT80 Beam Forming, M0 to M9 1ss	4	11	-50.9	-51.7	-53.3	-52.9	-34.9	-21.25	13.6
	VHT80 Beam Forming, M0 to M9 2ss	4	8	-48.2	-51.1	-52.6	-52.5	-36.5	-21.25	15.2

	VHT80 Beam Forming, M0 to M9 3ss	4	6	-48.1	-50.1	-52.6	-50.5	-37.8	-21.25	16.6
	VHT80 Beam Forming, M0 to M9 4ss	4	5	-48.1	-49.2	-51.6	-49.2	-38.1	-21.25	16.9
	VHT80 STBC, M0 to M9 1ss	2	5	-46.5	-47.6			-38.8	-21.25	17.5
	VHT80 STBC, M0 to M9 1ss	3	5	-48.1	-49.2	-51.6		-39.4	-21.25	18.2
	VHT80 STBC, M0 to M9 1ss	4	5	-48.1	-49.2	-51.6	-49.2	-38.1	-21.25	16.9
	HE80, M0 to M9 1ss	1	5	-45.8				-40.6	-21.25	19.3
	HE80, M0 to M9 1ss	2	5	-46.6	-48.0			-39.0	-21.25	17.7
	HE80, M0 to M9 2ss	2	5	-46.6	-48.0			-39.0	-21.25	17.7
	HE80, M0 to M9 1ss	3	5	-46.8	-48.6	-50.6		-38.4	-21.25	17.1
	HE80, M0 to M9 2ss	3	5	-46.8	-48.6	-50.6		-38.4	-21.25	17.1
	HE80, M0 to M9 3ss	3	5	-46.8	-48.6	-50.6		-38.4	-21.25	17.1
	HE80, M0 to M9 1ss	4	5	-46.8	-48.6	-50.6	-49.2	-37.3	-21.25	16.1
	HE80, M0 to M9 2ss	4	5	-46.8	-48.6	-50.6	-49.2	-37.3	-21.25	16.1
	HE80, M0 to M9 3ss	4	5	-46.8	-48.6	-50.6	-49.2	-37.3	-21.25	16.1
	HE80, M0 to M9 4ss	4	5	-46.8	-48.6	-50.6	-49.2	-37.3	-21.25	16.1
	HE80 Beam Forming, M0 to M9 1ss	2	8	-46.9	-50.3			-37.0	-21.25	15.8
	HE80 Beam Forming, M0 to M9 2ss	2	5	-46.6	-48.0			-39.0	-21.25	17.7
	HE80 Beam Forming, M0 to M9 1ss	3	10	-48.4	-49.9	-53.2		-35.1	-21.25	13.8
	HE80 Beam Forming, M0 to M9 2ss	3	7	-46.9	-50.3	-51.3		-37.1	-21.25	15.8
	HE80 Beam Forming, M0 to M9 3ss	3	5	-46.8	-48.6	-50.6		-38.4	-21.25	17.1
	HE80 Beam Forming, M0 to M9 1ss	4	11	-51.4	-52.2	-52.9	-53.4	-35.1	-21.25	13.9
	HE80 Beam Forming, M0 to M9 2ss	4	8	-48.4	-49.9	-53.2	-51.2	-36.1	-21.25	14.8
	HE80 Beam Forming, M0 to M9 3ss	4	6	-46.9	-50.3	-51.3	-50.3	-37.1	-21.25	15.8
	HE80 Beam Forming, M0 to M9 4ss	4	5	-46.8	-48.6	-50.6	-49.2	-37.3	-21.25	16.1
	HE80 STBC, M0 to M9 1ss	2	5	-46.6	-48.0			-39.0	-21.25	17.7
	HE80 STBC, M0 to M9 1ss	3	5	-46.8	-48.6	-50.6		-38.4	-21.25	17.1
	HE80 STBC, M0 to M9 1ss	4	5	-46.8	-48.6	-50.6	-49.2	-37.3	-21.25	16.1
5220	Non HT20, 6 to 54 Mbps	1	5	-44.9				-39.9	-21.25	18.7
	Non HT20, 6 to 54 Mbps	2	5	-44.9	-45.4			-37.1	-21.25	15.9
	Non HT20, 6 to 54 Mbps	3	5	-44.9	-45.4	-48.1		-36.2	-21.25	14.9
	Non HT20, 6 to 54 Mbps	4	5	-44.8	-47.4	-47.7	-45.6	-35.2	-21.25	13.9
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	-44.9	-45.4			-34.1	-21.25	12.9
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	-44.9	-45.4	-48.1		-31.2	-21.25	9.9
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	-47.4	-48.9	-50.2	-49.9	-31.9	-21.25	10.7
	HT/VHT20, M0 to M7	1	5	-45.1				-40.1	-21.25	18.9
	HT/VHT20, M0 to M7	2	5	-45.1	-46.7			-37.8	-21.25	16.6
	HT/VHT20, M8 to M15	2	5	-45.1	-46.7			-37.8	-21.25	16.6
	HT/VHT20, M0 to M7	3	5	-45.1	-46.7	-47.3		-36.5	-21.25	15.2
	HT/VHT20, M8 to M15	3	5	-45.1	-46.7	-47.3		-36.5	-21.25	15.2
	HT/VHT20, M16 to M23	3	5	-45.1	-46.7	-47.3		-36.5	-21.25	15.2
	HT/VHT20, M0 to M7	4	5	-45.9	-46.9	-48.1	-47.8	-36.1	-21.25	14.8
	HT/VHT20, M8 to M15	4	5	-45.1	-46.7	-47.3	-46.4	-35.3	-21.25	14.0

	HT/VHT20, M16 to M23	4	5	-45.1	-46.7	-47.3	-46.4	-35.3	-21.25	14.0
	HT/VHT20, M24 to M31	4	5	-45.1	-46.7	-47.3	-46.4	-35.3	-21.25	14.0
	HT/VHT20 Beam Forming, M0 to M7	2	8	-45.1	-46.7			-34.8	-21.25	13.6
	HT/VHT20 Beam Forming, M8 to M15	2	5	-45.1	-46.7			-37.8	-21.25	16.6
	HT/VHT20 Beam Forming, M0 to M7	3	10	-45.1	-46.7	-47.3		-31.5	-21.25	10.2
	HT/VHT20 Beam Forming, M8 to M15	3	7	-45.1	-46.7	-47.3		-34.5	-21.25	13.2
	HT/VHT20 Beam Forming, M16 to M23	3	5	-45.1	-46.7	-47.3		-36.5	-21.25	15.2
	HT/VHT20 Beam Forming, M0 to M7	4	11	-47.6	-48.6	-48.8	-48.5	-31.3	-21.25	10.1
	HT/VHT20 Beam Forming, M8 to M15	4	8	-45.1	-46.7	-47.3	-46.4	-32.3	-21.25	11.0
	HT/VHT20 Beam Forming, M16 to M23	4	6	-45.1	-46.7	-47.3	-46.4	-34.3	-21.25	13.0
	HT/VHT20 Beam Forming, M24 to M31	4	5	-45.1	-46.7	-47.3	-46.4	-35.3	-21.25	14.0
	HT/VHT20 STBC, M0 to M7	2	5	-45.1	-46.7			-37.8	-21.25	16.6
	HT/VHT20 STBC, M0 to M7	3	5	-45.1	-46.7	-47.3		-36.5	-21.25	15.2
	HT/VHT20 STBC, M0 to M7	4	5	-45.1	-46.7	-47.3	-46.4	-35.3	-21.25	14.0
	HE20, M0 to M9 1ss	1	5	-44.5				-39.5	-21.25	18.3
	HE20, M0 to M9 1ss	2	5	-44.5	-46.1			-37.2	-21.25	16.0
	HE20, M0 to M9 2ss	2	5	-44.5	-46.1			-37.2	-21.25	16.0
	HE20, M0 to M9 1ss	3	5	-44.5	-46.1	-48.1		-36.2	-21.25	15.0
	HE20, M0 to M9 2ss	3	5	-44.5	-46.1	-48.1		-36.2	-21.25	15.0
	HE20, M0 to M9 3ss	3	5	-44.5	-46.1	-48.1		-36.2	-21.25	15.0
	HE20, M0 to M9 1ss	4	5	-46.0	-46.7	-48.4	-47.2	-36.0	-21.25	14.7
	HE20, M0 to M9 2ss	4	5	-44.5	-46.1	-48.1	-46.9	-35.2	-21.25	13.9
	HE20, M0 to M9 3ss	4	5	-44.5	-46.1	-48.1	-46.9	-35.2	-21.25	13.9
	HE20, M0 to M9 4ss	4	5	-44.5	-46.1	-48.1	-46.9	-35.2	-21.25	13.9
	HE20 Beam Forming, M0 to M9 1ss	2	8	-44.5	-46.1			-34.2	-21.25	13.0
	HE20 Beam Forming, M0 to M9 2ss	2	5	-44.5	-46.1			-37.2	-21.25	16.0
	HE20 Beam Forming, M0 to M9 1ss	3	10	-44.5	-46.1	-48.1		-31.2	-21.25	10.0
	HE20 Beam Forming, M0 to M9 2ss	3	7	-44.5	-46.1	-48.1		-34.2	-21.25	13.0
	HE20 Beam Forming, M0 to M9 3ss	3	5	-44.5	-46.1	-48.1		-36.2	-21.25	15.0
	HE20 Beam Forming, M0 to M9 1ss	4	11	-47.5	-48.5	-49.7	-48.5	-31.5	-21.25	10.2
	HE20 Beam Forming, M0 to M9 2ss	4	8	-44.5	-46.1	-48.1	-46.9	-32.2	-21.25	10.9
	HE20 Beam Forming, M0 to M9 3ss	4	6	-44.5	-46.1	-48.1	-46.9	-34.2	-21.25	12.9
	HE20 Beam Forming, M0 to M9 4ss	4	5	-44.5	-46.1	-48.1	-46.9	-35.2	-21.25	13.9
	HE20 STBC, M0 to M9 2ss	2	5	-44.5	-46.1			-37.2	-21.25	16.0
	HE20 STBC, M0 to M9 2ss	3	5	-44.5	-46.1	-48.1		-36.2	-21.25	15.0
	HE20 STBC, M0 to M9 2ss	4	5	-44.5	-46.1	-48.1	-46.9	-35.2	-21.25	13.9
5230	Non HT40, 6 to 54 Mbps	1	5	-45.9				-40.9	-21.25	19.7
	Non HT40, 6 to 54 Mbps	2	5	-45.9	-45.4			-37.6	-21.25	16.4
	Non HT40, 6 to 54 Mbps	3	5	-45.9	-45.4	-48.3		-36.6	-21.25	15.3
	Non HT40, 6 to 54 Mbps	4	5	-45.9	-45.4	-48.3	-47.3	-35.6	-21.25	14.3
	HT/VHT40, M0 to M7	1	5	-45.3				-40.2	-21.25	19.0
	HT/VHT40, M0 to M7	2	5	-45.3	-47.1			-38.0	-21.25	16.7

	HT/VHT40, M8 to M15	2	5	-45.3	-47.1			-38.0	-21.25	16.7
	HT/VHT40, M0 to M7	3	5	-45.3	-47.1	-48.4		-36.9	-21.25	15.6
	HT/VHT40, M8 to M15	3	5	-45.3	-47.1	-48.4		-36.9	-21.25	15.6
	HT/VHT40, M16 to M23	3	5	-45.3	-47.1	-48.4		-36.9	-21.25	15.6
	HT/VHT40, M0 to M7	4	5	-45.3	-47.1	-48.4	-47.1	-35.7	-21.25	14.5
	HT/VHT40, M8 to M15	4	5	-45.3	-47.1	-48.4	-47.1	-35.7	-21.25	14.5
	HT/VHT40, M16 to M23	4	5	-45.3	-47.1	-48.4	-47.1	-35.7	-21.25	14.5
	HT/VHT40, M24 to M31	4	5	-45.3	-47.1	-48.4	-47.1	-35.7	-21.25	14.5
	HT/VHT40 Beam Forming, M0 to M7	2	8	-45.3	-47.1			-35.0	-21.25	13.7
	HT/VHT40 Beam Forming, M8 to M15	2	5	-45.3	-47.1			-38.0	-21.25	16.7
	HT/VHT40 Beam Forming, M0 to M7	3	10	-45.3	-47.1	-48.4		-31.9	-21.25	10.6
	HT/VHT40 Beam Forming, M8 to M15	3	7	-45.3	-47.1	-48.4		-34.9	-21.25	13.6
	HT/VHT40 Beam Forming, M16 to M23	3	5	-45.3	-47.1	-48.4		-36.9	-21.25	15.6
	HT/VHT40 Beam Forming, M0 to M7	4	11	-47.8	-49.0	-48.8	-48.8	-31.5	-21.25	10.2
	HT/VHT40 Beam Forming, M8 to M15	4	8	-45.3	-47.1	-48.4	-47.1	-32.7	-21.25	11.5
	HT/VHT40 Beam Forming, M16 to M23	4	6	-45.3	-47.1	-48.4	-47.1	-34.7	-21.25	13.5
	HT/VHT40 Beam Forming, M24 to M31	4	5	-45.3	-47.1	-48.4	-47.1	-35.7	-21.25	14.5
	HT/VHT40 STBC, M0 to M7	2	5	-45.3	-47.1			-38.0	-21.25	16.7
	HT/VHT40 STBC, M0 to M7	3	5	-45.3	-47.1	-48.4		-36.9	-21.25	15.6
	HT/VHT40 STBC, M0 to M7	4	5	-45.3	-47.1	-48.4	-47.1	-35.7	-21.25	14.5
	HE40, M0 to M9 1ss	1	5	-45.9				-40.8	-21.25	19.5
	HE40, M0 to M9 1ss	2	5	-45.9	-47.0			-38.3	-21.25	17.0
	HE40, M0 to M9 2ss	2	5	-45.9	-47.0			-38.3	-21.25	17.0
	HE40, M0 to M9 1ss	3	5	-45.9	-47.0	-47.9		-37.0	-21.25	15.7
	HE40, M0 to M9 2ss	3	5	-45.9	-47.0	-47.9		-37.0	-21.25	15.7
	HE40, M0 to M9 3ss	3	5	-45.9	-47.0	-47.9		-37.0	-21.25	15.7
	HE40, M0 to M9 1ss	4	5	-45.9	-47.0	-47.9	-47.6	-35.9	-21.25	14.6
	HE40, M0 to M9 2ss	4	5	-45.9	-47.0	-47.9	-47.6	-35.9	-21.25	14.6
	HE40, M0 to M9 3ss	4	5	-45.9	-47.0	-47.9	-47.6	-35.9	-21.25	14.6
	HE40, M0 to M9 4ss	4	5	-45.9	-47.0	-47.9	-47.6	-35.9	-21.25	14.6
	HE40 Beam Forming, M0 to M9 1ss	2	8	-45.9	-47.0			-35.3	-21.25	14.0
	HE40 Beam Forming, M0 to M9 2ss	2	5	-45.9	-47.0			-38.3	-21.25	17.0
	HE40 Beam Forming, M0 to M9 1ss	3	10	-45.9	-47.0	-47.9		-32.0	-21.25	10.7
	HE40 Beam Forming, M0 to M9 2ss	3	7	-45.9	-47.0	-47.9		-35.0	-21.25	13.7
	HE40 Beam Forming, M0 to M9 3ss	3	5	-45.9	-47.0	-47.9		-37.0	-21.25	15.7
	HE40 Beam Forming, M0 to M9 1ss	4	11	-47.3	-48.9	-49.2	-49.3	-31.4	-21.25	10.2
	HE40 Beam Forming, M0 to M9 2ss	4	8	-45.9	-47.0	-47.9	-47.6	-32.9	-21.25	11.6
	HE40 Beam Forming, M0 to M9 3ss	4	6	-45.9	-47.0	-47.9	-47.6	-34.9	-21.25	13.6
	HE40 Beam Forming, M0 to M9 4ss	4	5	-45.9	-47.0	-47.9	-47.6	-35.9	-21.25	14.6
	HE40 STBC, M0 to M9 2ss	2	5	-45.9	-47.0			-38.3	-21.25	17.0
	HE40 STBC, M0 to M9 2ss	3	5	-45.9	-47.0	-47.9		-37.0	-21.25	15.7
	HE40 STBC, M0 to M9 2ss	4	5	-45.9	-47.0	-47.9	-47.6	-35.9	-21.25	14.6

5240	Non HT20, 6 to 54 Mbps	1	5	-45.3				-40.3	-21.25	19.1
	Non HT20, 6 to 54 Mbps	2	5	-45.3	-46.5			-37.8	-21.25	16.6
	Non HT20, 6 to 54 Mbps	3	5	-45.3	-46.5	-48.3		-36.8	-21.25	15.5
	Non HT20, 6 to 54 Mbps	4	5	-47.4	-47.8	-48.9	-48.1	-37.0	-21.25	15.7
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	-45.3	-46.5			-34.8	-21.25	13.6
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	-45.3	-46.5	-48.3		-31.8	-21.25	10.5
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	-47.4	-47.8	-48.9	-48.1	-31.0	-21.25	9.7
	HT/VHT20, M0 to M7	1	5	-45.4				-40.4	-21.25	19.2
	HT/VHT20, M0 to M7	2	5	-45.4	-47.8			-38.4	-21.25	17.2
	HT/VHT20, M8 to M15	2	5	-45.4	-47.8			-38.4	-21.25	17.2
	HT/VHT20, M0 to M7	3	5	-45.4	-47.8	-49.2		-37.4	-21.25	16.2
	HT/VHT20, M8 to M15	3	5	-45.4	-47.8	-49.2		-37.4	-21.25	16.2
	HT/VHT20, M16 to M23	3	5	-45.4	-47.8	-49.2		-37.4	-21.25	16.2
	HT/VHT20, M0 to M7	4	5	-46.7	-47.6	-49.1	-49.1	-37.0	-21.25	15.7
	HT/VHT20, M8 to M15	4	5	-45.4	-47.8	-49.2	-48.2	-36.4	-21.25	15.1
	HT/VHT20, M16 to M23	4	5	-45.4	-47.8	-49.2	-48.2	-36.4	-21.25	15.1
	HT/VHT20, M24 to M31	4	5	-45.4	-47.8	-49.2	-48.2	-36.4	-21.25	15.1
	HT/VHT20 Beam Forming, M0 to M7	2	8	-45.4	-47.8			-35.4	-21.25	14.2
	HT/VHT20 Beam Forming, M8 to M15	2	5	-45.4	-47.8			-38.4	-21.25	17.2
	HT/VHT20 Beam Forming, M0 to M7	3	10	-45.4	-47.8	-49.2		-32.4	-21.25	11.2
	HT/VHT20 Beam Forming, M8 to M15	3	7	-45.4	-47.8	-49.2		-35.4	-21.25	14.2
	HT/VHT20 Beam Forming, M16 to M23	3	5	-45.4	-47.8	-49.2		-37.4	-21.25	16.2
	HT/VHT20 Beam Forming, M0 to M7	4	11	-46.7	-47.6	-49.1	-49.1	-31.0	-21.25	9.7
	HT/VHT20 Beam Forming, M8 to M15	4	8	-45.4	-47.8	-49.2	-48.2	-33.4	-21.25	12.1
	HT/VHT20 Beam Forming, M16 to M23	4	6	-45.4	-47.8	-49.2	-48.2	-35.4	-21.25	14.1
	HT/VHT20 Beam Forming, M24 to M31	4	5	-45.4	-47.8	-49.2	-48.2	-36.4	-21.25	15.1
	HT/VHT20 STBC, M0 to M7	2	5	-45.4	-47.8			-38.4	-21.25	17.2
	HT/VHT20 STBC, M0 to M7	3	5	-45.4	-47.8	-49.2		-37.4	-21.25	16.2
	HT/VHT20 STBC, M0 to M7	4	5	-45.4	-47.8	-49.2	-48.2	-36.4	-21.25	15.1
	HE20, M0 to M9 1ss	1	5	-46.7				-41.7	-21.25	20.5
	HE20, M0 to M9 1ss	2	5	-46.7	-46.0			-38.3	-21.25	17.1
	HE20, M0 to M9 2ss	2	5	-46.7	-46.0			-38.3	-21.25	17.1
	HE20, M0 to M9 1ss	3	5	-46.7	-46.0	-48.7		-37.2	-21.25	16.0
	HE20, M0 to M9 2ss	3	5	-46.7	-46.0	-48.7		-37.2	-21.25	16.0
	HE20, M0 to M9 3ss	3	5	-46.7	-46.0	-48.7		-37.2	-21.25	16.0
	HE20, M0 to M9 1ss	4	5	-46.1	-48.1	-49.6	-47.9	-36.7	-21.25	15.5
	HE20, M0 to M9 2ss	4	5	-46.7	-46.0	-48.7	-48.1	-36.2	-21.25	15.0
	HE20, M0 to M9 3ss	4	5	-46.7	-46.0	-48.7	-48.1	-36.2	-21.25	15.0
	HE20, M0 to M9 4ss	4	5	-46.7	-46.0	-48.7	-48.1	-36.2	-21.25	15.0
	HE20 Beam Forming, M0 to M9 1ss	2	8	-46.7	-46.0			-35.3	-21.25	14.1
	HE20 Beam Forming, M0 to M9 2ss	2	5	-46.7	-46.0			-38.3	-21.25	17.1
	HE20 Beam Forming, M0 to M9 1ss	3	10	-46.7	-46.0	-48.7		-32.2	-21.25	11.0

	HE20 Beam Forming, M0 to M9 2ss	3	7	-46.7	-46.0	-48.7		-35.2	-21.25	14.0
	HE20 Beam Forming, M0 to M9 3ss	3	5	-46.7	-46.0	-48.7		-37.2	-21.25	16.0
	HE20 Beam Forming, M0 to M9 1ss	**4**	**11**	**-46.1**	**-48.1**	**-49.6**	**-47.9**	**-30.7**	**-21.25**	**9.5**
	HE20 Beam Forming, M0 to M9 2ss	4	8	-46.7	-46.0	-48.7	-48.1	-33.2	-21.25	12.0
	HE20 Beam Forming, M0 to M9 3ss	4	6	-46.7	-46.0	-48.7	-48.1	-35.2	-21.25	14.0
	HE20 Beam Forming, M0 to M9 4ss	4	5	-46.7	-46.0	-48.7	-48.1	-36.2	-21.25	15.0
	HE20 STBC, M0 to M9 2ss	2	5	-46.7	-46.0			-38.3	-21.25	17.1
	HE20 STBC, M0 to M9 2ss	3	5	-46.7	-46.0	-48.7		-37.2	-21.25	16.0
	HE20 STBC, M0 to M9 2ss	4	5	-46.7	-46.0	-48.7	-48.1	-36.2	-21.25	15.0
5250	Non HT160, 6 to 54 Mbps	1	5	-47.7				-42.7	-21.25	21.5
	Non HT160, 6 to 54 Mbps	2	5	-48.5	-49.3			-40.9	-21.25	19.6
	Non HT160, 6 to 54 Mbps	3	5	-48.5	-49.3	-51.2		-39.8	-21.25	18.5
	Non HT160, 6 to 54 Mbps	4	5	-48.9	-49.0	-52.3	-51.2	-39.1	-21.25	17.8
	VHT160, M0 to M9 1ss	1	5	-45.2				-39.8	-21.25	18.6
	VHT160, M0 to M9 1ss	2	5	-48.1	-46.0			-38.5	-21.25	17.3
	VHT160, M0 to M9 2ss	2	5	-48.1	-46.0			-38.5	-21.25	17.3
	VHT160, M0 to M9 1ss	3	5	-47.8	-48.1	-51.7		-38.7	-21.25	17.5
	VHT160, M0 to M9 2ss	3	5	-47.8	-48.1	-51.7		-38.7	-21.25	17.5
	VHT160, M0 to M9 3ss	3	5	-47.8	-48.1	-51.7		-38.7	-21.25	17.5
	VHT160, M0 to M9 1ss	4	5	-47.8	-48.1	-51.7	-48.5	-37.4	-21.25	16.1
	VHT160, M0 to M9 2ss	4	5	-47.8	-48.1	-51.7	-48.5	-37.4	-21.25	16.1
	VHT160, M0 to M9 3ss	4	5	-47.8	-48.1	-51.7	-48.5	-37.4	-21.25	16.1
	VHT160, M0 to M9 4ss	4	5	-47.8	-48.1	-51.7	-48.5	-37.4	-21.25	16.1
	VHT160 Beam Forming, M0 to M9 1ss	2	8	-47.8	-48.1			-36.5	-21.25	15.3
	VHT160 Beam Forming, M0 to M9 2ss	2	5	-48.1	-46.0			-38.5	-21.25	17.3
	VHT160 Beam Forming, M0 to M9 1ss	3	10	-50.1	-51.6	-53.0		-36.2	-21.25	15.0
	VHT160 Beam Forming, M0 to M9 2ss	3	7	-48.8	-49.2	-52.4		-37.7	-21.25	16.5
	VHT160 Beam Forming, M0 to M9 3ss	3	5	-47.8	-48.1	-51.7		-38.7	-21.25	17.5
	VHT160 Beam Forming, M0 to M9 1ss	4	11	-51.3	-51.8	-54.3	-52.8	-35.0	-21.25	13.7
	VHT160 Beam Forming, M0 to M9 2ss	4	8	-50.1	-51.6	-53.0	-51.9	-37.1	-21.25	15.9
	VHT160 Beam Forming, M0 to M9 3ss	4	6	-48.8	-49.2	-52.4	-50.5	-37.6	-21.25	16.4
	VHT160 Beam Forming, M0 to M9 4ss	4	5	-47.8	-48.1	-51.7	-48.5	-37.4	-21.25	16.1
	VHT160 STBC, M0 to M9 1ss	2	5	-48.1	-46.0			-38.5	-21.25	17.3
	VHT160 STBC, M0 to M9 1ss	3	5	-47.8	-48.1	-51.7		-38.7	-21.25	17.5
	VHT160 STBC, M0 to M9 1ss	4	5	-47.8	-48.1	-51.7	-48.5	-37.4	-21.25	16.1
	HE160, M0 to M9 1ss	1	5	-46.9				-41.5	-21.25	20.2
	HE160, M0 to M9 1ss	2	5	-47.8	-48.6			-39.8	-21.25	18.5
	HE160, M0 to M9 2ss	2	5	-47.8	-48.6			-39.8	-21.25	18.5
	HE160, M0 to M9 1ss	3	5	-48.0	-48.2	-51.1		-38.7	-21.25	17.4
	HE160, M0 to M9 2ss	3	5	-48.0	-48.2	-51.1		-38.7	-21.25	17.4
	HE160, M0 to M9 3ss	3	5	-48.0	-48.2	-51.1		-38.7	-21.25	17.4
	HE160, M0 to M9 1ss	4	5	-48.0	-48.2	-51.1	-49.5	-37.6	-21.25	16.3

	HE160, M0 to M9 2ss	4	5	-48.0	-48.2	-51.1	-49.5	-37.6	-21.25	16.3
	HE160, M0 to M9 3ss	4	5	-48.0	-48.2	-51.1	-49.5	-37.6	-21.25	16.3
	HE160, M0 to M9 4ss	4	5	-48.0	-48.2	-51.1	-49.5	-37.6	-21.25	16.3
	HE160 Beam Forming, M0 to M9 1ss	2	8	-48.3	-49.5			-37.4	-21.25	16.2
	HE160 Beam Forming, M0 to M9 2ss	2	5	-47.8	-48.6			-39.8	-21.25	18.5
	HE160 Beam Forming, M0 to M9 1ss	3	10	-50.3	-51.2	-52.9		-36.1	-21.25	14.9
	HE160 Beam Forming, M0 to M9 2ss	3	7	-48.3	-49.5	-52.0		-37.5	-21.25	16.2
	HE160 Beam Forming, M0 to M9 3ss	3	5	-48.0	-48.2	-51.1		-38.7	-21.25	17.4
	HE160 Beam Forming, M0 to M9 1ss	4	11	-51.7	-52.4	-54.0	-53.0	-35.3	-21.25	14.0
	HE160 Beam Forming, M0 to M9 2ss	4	8	-50.3	-51.2	-52.9	-51.6	-37.0	-21.25	15.7
	HE160 Beam Forming, M0 to M9 3ss	4	6	-48.3	-49.5	-52.0	-51.5	-37.6	-21.25	16.4
	HE160 Beam Forming, M0 to M9 4ss	4	5	-48.0	-48.2	-51.1	-49.5	-37.6	-21.25	16.3
	HE160 STBC, M0 to M9 1ss	2	5	-47.8	-48.6			-39.8	-21.25	18.5
	HE160 STBC, M0 to M9 1ss	3	5	-48.0	-48.2	-51.1		-38.7	-21.25	17.4
	HE160 STBC, M0 to M9 1ss	4	5	-48.0	-48.2	-51.1	-49.5	-37.6	-21.25	16.3

Conducted Spurs Peak, 5240 MHz, HE20 Beam Forming, M0 to M9 1ss

Antenna A

Antenna B

Antenna C

Antenna D

A.6 Conducted Band Edge

Conducted Band Edge Test Requirement

15.407(b) *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:

(1) For transmitters operating in the 5.15-5.25 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.

(5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 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.

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)).

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

KDB 789033 D02 General UNII Test Procedures New Rules v02r01

2. Unwanted Emissions that fall Outside of the Restricted Bands

a) For all measurements, follow the requirements in II.G.3. *"General Requirements for Unwanted Emissions Measurements."*

b) At frequencies below 1000 MHz, use the procedure described in II.G.4. *"Procedure for Unwanted Emissions Measurements Below 1000 MHz."*

c) At frequencies above 1000 MHz, use the procedure for maximum emissions described in II.G.5., *"Procedure for Unwanted Emissions Measurements Above 1000 MHz."*

(i) Sections 15.407(b)(1-3) specifies the unwanted emissions limit for the U-NII-1 and U-NII-2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of −27 dBm/MHz.[3]

Conducted Band Edge Test Procedure

KDB 789033 D02 General UNII Test Procedures New Rules v02r01

Ref. 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 3. Configure Spectrum analyzer as per test parameters below (be sure to enter all losses between the transmitter output and the spectrum analyzer). 4. Use the peak marker function to determine the maximum spurs amplitude level. 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. (see ANSI C63.10:2013 section 14.3.2.2) 6. Capture graphs and record pertinent measurement data.

Ref. ANSI C63.10: 2013 section 12.7.6 (Peak) and 12.7.7.2 (Average)
KDB 789033 D02 General UNII Test Procedures New Rules v02r01, Sec. 5 (Peak), Sec. 6 (Average Method AD)

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

Samples, Systems, and Modes

System Number	Description	Samples	System under test	Support equipment
2	EUT	S03	☑	☐
	Support	S02	☐	☑

Tested By: Chris Blair	**Date of testing:** 24-Apr-19 - 02-May-19
Test Result: PASS	

Test Equipment

See Appendix C for list of test equipment

Frequency (MHz)	Mode	Tx Paths	Correlated Antenna Gain (dBi)	Tx 1 Bandedge Level (dBm)	Tx 2 Bandedge Level (dBm)	Tx 3 Bandedge Level (dBm)	Tx 4 Bandedge Level (dBm)	Total Tx Bandedge Level (dBm)	Limit (dBm)	Margin (dB)
5180	Non HT20, 6 to 54 Mbps	1	5	-51.5				-46.5	-41.25	5.3
	Non HT20, 6 to 54 Mbps	2	5	-54.3	-53.7			-46.0	-41.25	4.7
	Non HT20, 6 to 54 Mbps	3	5	-54.3	-53.7	-54.0		-44.2	-41.25	3.0
	Non HT20, 6 to 54 Mbps	4	5	-54.3	-53.7	-54.0	-53.5	-42.8	-41.25	1.6
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	-54.3	-53.7			-43.0	-41.25	1.7
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	-56.4	-56.4	-57.6		-42.0	-41.25	0.7
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	-58.5	-59.7	-59.3	-60.1	-42.3	-41.25	1.1
	HT/VHT20, M0 to M7	1	5	-50.4				-45.4	-41.25	4.2
	HT/VHT20, M0 to M7	2	5	-50.4	-51.4			-42.9	-41.25	1.6
	HT/VHT20, M8 to M15	2	5	-50.4	-51.4			-42.9	-41.25	1.6
	HT/VHT20, M0 to M7	3	5	-50.4	-51.4	-51.8		-41.4	-41.25	0.1
	HT/VHT20, M8 to M15	3	5	-50.4	-51.4	-51.8		-41.4	-41.25	0.1
	HT/VHT20, M16 to M23	3	5	-50.4	-51.4	-51.8		-41.4	-41.25	0.1
	HT/VHT20, M0 to M7	4	5	-53.4	-53.3	-53.6	-53.6	-42.5	-41.25	1.2
	HT/VHT20, M8 to M15	4	5	-53.4	-53.3	-53.6	-53.6	-42.5	-41.25	1.2
	HT/VHT20, M16 to M23	4	5	-53.4	-53.3	-53.6	-53.6	-42.5	-41.25	1.2
	HT/VHT20, M24 to M31	4	5	-53.4	-53.3	-53.6	-53.6	-42.5	-41.25	1.2
	HT/VHT20 Beam Forming, M0 to M7	2	8	-53.4	-53.3			-42.3	-41.25	1.1
	HT/VHT20 Beam Forming, M8 to M15	2	5	-50.4	-51.4			-42.9	-41.25	1.6
	HT/VHT20 Beam Forming, M0 to M7	3	10	-56.3	-56.9	-57.2		-42.0	-41.25	0.8
	HT/VHT20 Beam Forming, M8 to M15	3	7	-53.4	-53.3	-53.6		-41.7	-41.25	0.4
	HT/VHT20 Beam Forming, M16 to M23	3	5	-50.4	-51.4	-51.8		-41.4	-41.25	0.1
	HT/VHT20 Beam Forming, M0 to M7	4	11	-58.2	-58.9	-58.8	-59.4	-41.8	-41.25	0.5
	HT/VHT20 Beam Forming, M8 to M15	4	8	-55.7	-55.8	-55.5	-55.5	-41.6	-41.25	0.4
	HT/VHT20 Beam Forming, M16 to M23	4	6	-53.4	-53.3	-53.6	-53.6	-41.5	-41.25	0.2
	HT/VHT20 Beam Forming, M24 to M31	4	5	-53.4	-53.3	-53.6	-53.6	-42.5	-41.25	1.2
	HT/VHT20 STBC, M0 to M7	2	5	-50.4	-51.4			-42.9	-41.25	1.6
	HT/VHT20 STBC, M0 to M7	3	5	-50.4	-51.4	-51.8		-41.4	-41.25	0.1
	HT/VHT20 STBC, M0 to M7	4	5	-53.4	-53.3	-53.6	-53.6	-42.5	-41.25	1.2
	HE20, M0 to M9 1ss	1	5	-49.7				-44.7	-41.25	3.5
	HE20, M0 to M9 1ss	2	5	-49.7	-50.0			-41.8	-41.25	0.6
	HE20, M0 to M9 2ss	2	5	-49.7	-50.0			-41.8	-41.25	0.6
	HE20, M0 to M9 1ss	3	5	-52.8	-52.4	-51.9		-42.6	-41.25	1.3
	HE20, M0 to M9 2ss	3	5	-52.8	-52.4	-51.9		-42.6	-41.25	1.3
	HE20, M0 to M9 3ss	3	5	-52.8	-52.4	-51.9		-42.6	-41.25	1.3

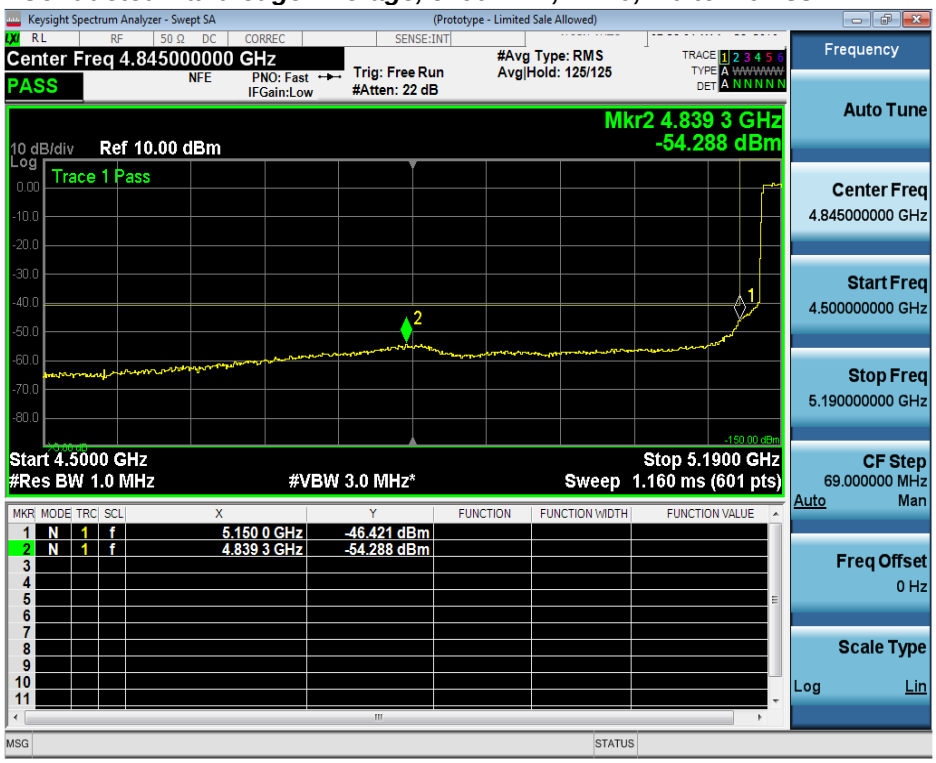
	HE20, M0 to M9 1ss	4	5	-52.8	-52.4	-51.9	-53.4	-41.6	-41.25	0.3
	HE20, M0 to M9 2ss	4	5	-52.8	-52.4	-51.9	-53.4	-41.6	-41.25	0.3
	HE20, M0 to M9 3ss	4	5	-52.8	-52.4	-51.9	-53.4	-41.6	-41.25	0.3
	HE20, M0 to M9 4ss	4	5	-52.8	-52.4	-51.9	-53.4	-41.6	-41.25	0.3
	HE20 Beam Forming, M0 to M9 1ss	2	8	-52.8	-52.4			-41.6	-41.25	0.3
	HE20 Beam Forming, M0 to M9 2ss	2	5	-49.7	-50.0			-41.8	-41.25	0.6
	HE20 Beam Forming, M0 to M9 1ss	3	10	-56.2	-56.3	-56.6		-41.6	-41.25	0.3
	HE20 Beam Forming, M0 to M9 2ss	3	7	-54.2	-53.8	-54.4		-42.4	-41.25	1.1
	HE20 Beam Forming, M0 to M9 3ss	3	5	-52.8	-52.4	-51.9		-42.6	-41.25	1.3
	HE20 Beam Forming, M0 to M9 1ss	4	11	-58.7	-58.5	-58.9	-59.4	-41.8	-41.25	0.6
	HE20 Beam Forming, M0 to M9 2ss	4	8	-55.0	-55.5	-55.1	-55.8	-41.3	-41.25	0.1
	HE20 Beam Forming, M0 to M9 3ss	4	6	-54.2	-53.8	-54.4	-54.0	-42.1	-41.25	0.8
	HE20 Beam Forming, M0 to M9 4ss	4	5	-52.8	-52.4	-51.9	-53.4	-41.6	-41.25	0.3
	HE20 STBC, M0 to M9 2ss	2	5	-49.7	-50.0			-41.8	-41.25	0.6
	HE20 STBC, M0 to M9 2ss	3	5	-52.8	-52.4	-51.9		-42.6	-41.25	1.3
	HE20 STBC, M0 to M9 2ss	4	5	-52.8	-52.4	-51.9	-53.4	-41.6	-41.25	0.3
5190	Non HT40, 6 to 54 Mbps	1	5	-48.3				-43.3	-41.25	2.1
	Non HT40, 6 to 54 Mbps	2	5	-50.5	-51.2			-42.8	-41.25	1.6
	Non HT40, 6 to 54 Mbps	3	5	-52.7	-53.1	-51.8		-42.7	-41.25	1.5
	Non HT40, 6 to 54 Mbps	4	5	-52.7	-53.1	-51.8	-52.4	-41.5	-41.25	0.2
	HT/VHT40, M0 to M7	1	5	-47.8				-42.7	-41.25	1.5
	HT/VHT40, M0 to M7	2	5	-48.8	-51.0			-41.7	-41.25	0.4
	HT/VHT40, M8 to M15	2	5	-48.8	-51.0			-41.7	-41.25	0.4
	HT/VHT40, M0 to M7	3	5	-51.7	-53.0	-51.8		-42.3	-41.25	1.0
	HT/VHT40, M8 to M15	3	5	-51.7	-53.0	-51.8		-42.3	-41.25	1.0
	HT/VHT40, M16 to M23	3	5	-51.7	-53.0	-51.8		-42.3	-41.25	1.0
	HT/VHT40, M0 to M7	4	5	-53.1	-54.3	-53.4	-54.0	-42.6	-41.25	1.3
	HT/VHT40, M8 to M15	4	5	-53.1	-54.3	-53.4	-54.0	-42.6	-41.25	1.3
	HT/VHT40, M16 to M23	4	5	-53.1	-54.3	-53.4	-54.0	-42.6	-41.25	1.3
	HT/VHT40, M24 to M31	4	5	-53.1	-54.3	-53.4	-54.0	-42.6	-41.25	1.3
	HT/VHT40 Beam Forming, M0 to M7	2	8	-53.1	-54.3			-42.5	-41.25	1.3
	HT/VHT40 Beam Forming, M8 to M15	2	5	-48.8	-51.0			-41.7	-41.25	0.4
	HT/VHT40 Beam Forming, M0 to M7	3	10	-56.7	-56.3	-55.9		-41.4	-41.25	0.2
	HT/VHT40 Beam Forming, M8 to M15	3	7	-53.1	-54.3	-53.4		-41.7	-41.25	0.4
	HT/VHT40 Beam Forming, M16 to M23	3	5	-51.7	-53.0	-51.8		-42.3	-41.25	1.0
	HT/VHT40 Beam Forming, M0 to M7	4	11	-58.7	-58.7	-59.1	-59.1	-41.8	-41.25	0.5
	HT/VHT40 Beam Forming, M8 to M15	4	8	-56.7	-56.3	-55.9	-56.5	-42.2	-41.25	1.0
	HT/VHT40 Beam Forming, M16 to M23	4	6	-53.1	-54.3	-53.4	-54.0	-41.6	-41.25	0.3
	HT/VHT40 Beam Forming, M24 to M31	4	5	-53.1	-54.3	-53.4	-54.0	-42.6	-41.25	1.3
	HT/VHT40 STBC, M0 to M7	2	5	-48.8	-51.0			-41.7	-41.25	0.4
	HT/VHT40 STBC, M0 to M7	3	5	-51.7	-53.0	-51.8		-42.3	-41.25	1.0
	HT/VHT40 STBC, M0 to M7	4	5	-53.1	-54.3	-53.4	-54.0	-42.6	-41.25	1.3

	HE40, M0 to M9 1ss	**1**	**5**	**-46.4**				**-41.3**	**-41.25**	**0.0**
	HE40, M0 to M9 1ss	2	5	-48.7	-50.3			-41.3	-41.25	0.0
	HE40, M0 to M9 2ss	2	5	-48.7	-50.3			-41.3	-41.25	0.0
	HE40, M0 to M9 1ss	3	5	-51.0	-52.5	-51.0		-41.5	-41.25	0.3
	HE40, M0 to M9 2ss	3	5	-51.0	-52.5	-51.0		-41.5	-41.25	0.3
	HE40, M0 to M9 3ss	3	5	-51.0	-52.5	-51.0		-41.5	-41.25	0.3
	HE40, M0 to M9 1ss	4	5	-53.0	-53.6	-52.9	-53.1	-42.0	-41.25	0.7
	HE40, M0 to M9 2ss	4	5	-53.0	-53.6	-52.9	-53.1	-42.0	-41.25	0.7
	HE40, M0 to M9 3ss	4	5	-53.0	-53.6	-52.9	-53.1	-42.0	-41.25	0.7
	HE40, M0 to M9 4ss	4	5	-53.0	-53.6	-52.9	-53.1	-42.0	-41.25	0.7
	HE40 Beam Forming, M0 to M9 1ss	2	8	-53.0	-53.6			-42.1	-41.25	0.9
	HE40 Beam Forming, M0 to M9 2ss	2	5	-48.7	-50.3			-41.3	-41.25	0.0
	HE40 Beam Forming, M0 to M9 1ss	3	10	-56.7	-56.6	-55.8		-41.4	-41.25	0.2
	HE40 Beam Forming, M0 to M9 2ss	3	7	-53.0	-53.6	-52.9		-41.3	-41.25	0.0
	HE40 Beam Forming, M0 to M9 3ss	3	5	-51.0	-52.5	-51.0		-41.5	-41.25	0.3
	HE40 Beam Forming, M0 to M9 1ss	4	11	-58.4	-58.7	-58.2	-58.5	-41.3	-41.25	0.0
	HE40 Beam Forming, M0 to M9 2ss	4	8	-55.9	-56.0	-55.2	-55.7	-41.5	-41.25	0.3
	HE40 Beam Forming, M0 to M9 3ss	4	6	-54.2	-54.9	-53.9	-54.5	-42.2	-41.25	1.0
	HE40 Beam Forming, M0 to M9 4ss	4	5	-53.0	-53.6	-52.9	-53.1	-42.0	-41.25	0.7
	HE40 STBC, M0 to M9 2ss	2	5	-48.7	-50.3			-41.3	-41.25	0.0
	HE40 STBC, M0 to M9 2ss	3	5	-51.0	-52.5	-51.0		-41.5	-41.25	0.3
	HE40 STBC, M0 to M9 2ss	4	5	-53.0	-53.6	-52.9	-53.1	-42.0	-41.25	0.7
5210	Non HT80, 6 to 54 Mbps	1	5	-48.0				-43.0	-41.25	1.8
	Non HT80, 6 to 54 Mbps	2	5	-50.3	-51.2			-42.7	-41.25	1.5
	Non HT80, 6 to 54 Mbps	3	5	-50.3	-51.2	-51.8		-41.3	-41.25	0.0
	Non HT80, 6 to 54 Mbps	4	5	-51.4	-53.0	-53.5	-54.2	-41.9	-41.25	0.6
	VHT80, M0 to M9 1ss	1	5	-47.6				-42.4	-41.25	1.1
	VHT80, M0 to M9 1ss	2	5	-49.7	-51.3			-42.2	-41.25	1.0
	VHT80, M0 to M9 2ss	2	5	-49.7	-51.3			-42.2	-41.25	1.0
	VHT80, M0 to M9 1ss	3	5	-52.0	-53.9	-54.0		-43.2	-41.25	2.0
	VHT80, M0 to M9 2ss	3	5	-52.0	-53.9	-54.0		-43.2	-41.25	2.0
	VHT80, M0 to M9 3ss	3	5	-52.0	-53.9	-54.0		-43.2	-41.25	2.0
	VHT80, M0 to M9 1ss	4	5	-52.0	-53.9	-54.0	-53.7	-42.1	-41.25	0.8
	VHT80, M0 to M9 2ss	4	5	-52.0	-53.9	-54.0	-53.7	-42.1	-41.25	0.8
	VHT80, M0 to M9 3ss	4	5	-52.0	-53.9	-54.0	-53.7	-42.1	-41.25	0.8
	VHT80, M0 to M9 4ss	4	5	-52.0	-53.9	-54.0	-53.7	-42.1	-41.25	0.8
	VHT80 Beam Forming, M0 to M9 1ss	2	8	-52.0	-53.9			-41.6	-41.25	0.4
	VHT80 Beam Forming, M0 to M9 2ss	2	5	-49.7	-51.3			-42.2	-41.25	1.0
	VHT80 Beam Forming, M0 to M9 1ss	3	10	-56.4	-56.6	-56.7		-41.6	-41.25	0.3
	VHT80 Beam Forming, M0 to M9 2ss	3	7	-53.9	-55.1	-55.2		-42.7	-41.25	1.5
	VHT80 Beam Forming, M0 to M9 3ss	3	5	-52.0	-53.9	-54.0		-43.2	-41.25	2.0
	VHT80 Beam Forming, M0 to M9 1ss	4	11	-58.5	-58.4	-58.8	-58.4	-41.3	-41.25	0.0

	VHT80 Beam Forming, M0 to M9 2ss	4	8	-56.4	-56.6	-56.7	-56.3	-42.3	-41.25	1.0
	VHT80 Beam Forming, M0 to M9 3ss	4	6	-53.9	-55.1	-55.2	-54.9	-42.5	-41.25	1.3
	VHT80 Beam Forming, M0 to M9 4ss	4	5	-52.0	-53.9	-54.0	-53.7	-42.1	-41.25	0.8
	VHT80 STBC, M0 to M9 1ss	2	5	-49.7	-51.3			-42.2	-41.25	1.0
	VHT80 STBC, M0 to M9 1ss	3	5	-52.0	-53.9	-54.0		-43.2	-41.25	2.0
	VHT80 STBC, M0 to M9 1ss	4	5	-52.0	-53.9	-54.0	-53.7	-42.1	-41.25	0.8
	HE80, M0 to M9 1ss	1	5	-47.7				-42.5	-41.25	1.2
	HE80, M0 to M9 1ss	2	5	-49.1	-50.9			-41.7	-41.25	0.4
	HE80, M0 to M9 2ss	2	5	-49.1	-50.9			-41.7	-41.25	0.4
	HE80, M0 to M9 1ss	3	5	-51.9	-53.1	-53.6		-42.8	-41.25	1.5
	HE80, M0 to M9 2ss	3	5	-51.9	-53.1	-53.6		-42.8	-41.25	1.5
	HE80, M0 to M9 3ss	3	5	-51.9	-53.1	-53.6		-42.8	-41.25	1.5
	HE80, M0 to M9 1ss	4	5	-51.9	-53.1	-53.6	-53.5	-41.7	-41.25	0.5
	HE80, M0 to M9 2ss	4	5	-51.9	-53.1	-53.6	-53.5	-41.7	-41.25	0.5
	HE80, M0 to M9 3ss	4	5	-51.9	-53.1	-53.6	-53.5	-41.7	-41.25	0.5
	HE80, M0 to M9 4ss	4	5	-51.9	-53.1	-53.6	-53.5	-41.7	-41.25	0.5
	HE80 Beam Forming, M0 to M9 1ss	2	8	-54.3	-55.0			-43.4	-41.25	2.1
	HE80 Beam Forming, M0 to M9 2ss	2	5	-49.1	-50.9			-41.7	-41.25	0.4
	HE80 Beam Forming, M0 to M9 1ss	3	10	-56.2	-56.5	-56.5		-41.4	-41.25	0.1
	HE80 Beam Forming, M0 to M9 2ss	3	7	-54.3	-55.0	-55.5		-42.9	-41.25	1.6
	HE80 Beam Forming, M0 to M9 3ss	3	5	-51.9	-53.1	-53.6		-42.8	-41.25	1.5
	HE80 Beam Forming, M0 to M9 1ss	4	11	-59.6	-58.9	-59.5	-59.3	-42.1	-41.25	0.8
	HE80 Beam Forming, M0 to M9 2ss	4	8	-56.2	-56.5	-56.5	-56.8	-42.2	-41.25	1.0
	HE80 Beam Forming, M0 to M9 3ss	4	6	-54.3	-55.0	-55.5	-54.9	-42.6	-41.25	1.4
	HE80 Beam Forming, M0 to M9 4ss	4	5	-51.9	-53.1	-53.6	-53.5	-41.7	-41.25	0.5
	HE80 STBC, M0 to M9 1ss	2	5	-49.1	-50.9			-41.7	-41.25	0.4
	HE80 STBC, M0 to M9 1ss	3	5	-51.9	-53.1	-53.6		-42.8	-41.25	1.5
	HE80 STBC, M0 to M9 1ss	4	5	-51.9	-53.1	-53.6	-53.5	-41.7	-41.25	0.5
5250	Non HT160, 6 to 54 Mbps	1	5	-46.8				-41.8	-41.25	0.5
	Non HT160, 6 to 54 Mbps	2	5	-51.1	-51.7			-43.4	-41.25	2.1
	Non HT160, 6 to 54 Mbps	3	5	-51.1	-51.7	-53.7		-42.3	-41.25	1.0
	Non HT160, 6 to 54 Mbps	4	5	-52.9	-53.0	-55.6	-55.1	-43.0	-41.25	1.7
	VHT160, M0 to M9 1ss	1	5	-48.3				-42.9	-41.25	1.7
	VHT160, M0 to M9 1ss	2	5	-51.2	-52.0			-43.2	-41.25	1.9
	VHT160, M0 to M9 2ss	2	5	-51.2	-52.0			-43.2	-41.25	1.9
	VHT160, M0 to M9 1ss	3	5	-52.8	-53.0	-54.2		-43.1	-41.25	1.9
	VHT160, M0 to M9 2ss	3	5	-52.8	-53.0	-54.2		-43.1	-41.25	1.9
	VHT160, M0 to M9 3ss	3	5	-52.8	-53.0	-54.2		-43.1	-41.25	1.9
	VHT160, M0 to M9 1ss	4	5	-52.8	-53.0	-54.2	-53.8	-42.0	-41.25	0.8
	VHT160, M0 to M9 2ss	4	5	-52.8	-53.0	-54.2	-53.8	-42.0	-41.25	0.8
	VHT160, M0 to M9 3ss	4	5	-52.8	-53.0	-54.2	-53.8	-42.0	-41.25	0.8
	VHT160, M0 to M9 4ss	4	5	-52.8	-53.0	-54.2	-53.8	-42.0	-41.25	0.8

	VHT160 Beam Forming, M0 to M9 1ss	2	8	-52.8	-53.0			-41.5	-41.25	0.2
	VHT160 Beam Forming, M0 to M9 2ss	2	5	-51.2	-52.0			-43.2	-41.25	1.9
	VHT160 Beam Forming, M0 to M9 1ss	3	10	-56.0	-56.8	-57.6		-41.6	-41.25	0.3
	VHT160 Beam Forming, M0 to M9 2ss	3	7	-55.4	-54.9	-55.6		-43.1	-41.25	1.9
	VHT160 Beam Forming, M0 to M9 3ss	3	5	-52.8	-53.0	-54.2		-43.1	-41.25	1.9
	VHT160 Beam Forming, M0 to M9 1ss	4	11	-59.6	-57.9	-60.0	-60.0	-41.9	-41.25	0.6
	VHT160 Beam Forming, M0 to M9 2ss	4	8	-56.0	-56.8	-57.6	-57.0	-42.4	-41.25	1.2
	VHT160 Beam Forming, M0 to M9 3ss	4	6	-55.4	-54.9	-55.6	-56.1	-43.1	-41.25	1.8
	VHT160 Beam Forming, M0 to M9 4ss	4	5	-52.8	-53.0	-54.2	-53.8	-42.0	-41.25	0.8
	VHT160 STBC, M0 to M9 1ss	2	5	-51.2	-52.0			-43.2	-41.25	1.9
	VHT160 STBC, M0 to M9 1ss	3	5	-52.8	-53.0	-54.2		-43.1	-41.25	1.9
	VHT160 STBC, M0 to M9 1ss	4	5	-52.8	-53.0	-54.2	-53.8	-42.0	-41.25	0.8
	HE160, M0 to M9 1ss	1	5	-48.9				-43.5	-41.25	2.2
	HE160, M0 to M9 1ss	2	5	-50.0	-50.9			-42.0	-41.25	0.7
	HE160, M0 to M9 2ss	2	5	-50.0	-50.9			-42.0	-41.25	0.7
	HE160, M0 to M9 1ss	3	5	-52.5	-52.3	-54.6		-42.8	-41.25	1.6
	HE160, M0 to M9 2ss	3	5	-52.5	-52.3	-54.6		-42.8	-41.25	1.6
	HE160, M0 to M9 3ss	3	5	-52.5	-52.3	-54.6		-42.8	-41.25	1.6
	HE160, M0 to M9 1ss	4	5	-52.5	-52.3	-54.6	-54.2	-41.8	-41.25	0.6
	HE160, M0 to M9 2ss	4	5	-52.5	-52.3	-54.6	-54.2	-41.8	-41.25	0.6
	HE160, M0 to M9 3ss	4	5	-52.5	-52.3	-54.6	-54.2	-41.8	-41.25	0.6
	HE160, M0 to M9 4ss	4	5	-52.5	-52.3	-54.6	-54.2	-41.8	-41.25	0.6
	HE160 Beam Forming, M0 to M9 1ss	2	8	-54.2	-54.7			-43.0	-41.25	1.8
	HE160 Beam Forming, M0 to M9 2ss	2	5	-50.0	-50.9			-42.0	-41.25	0.7
	HE160 Beam Forming, M0 to M9 1ss	3	10	-57.5	-56.4	-56.9		-41.7	-41.25	0.5
	HE160 Beam Forming, M0 to M9 2ss	3	7	-54.2	-54.7	-55.6		-42.6	-41.25	1.4
	HE160 Beam Forming, M0 to M9 3ss	3	5	-52.5	-52.3	-54.6		-42.8	-41.25	1.6
	HE160 Beam Forming, M0 to M9 1ss	4	11	-60.3	-59.4	-60.3	-60.5	-42.7	-41.25	1.4
	HE160 Beam Forming, M0 to M9 2ss	4	8	-57.5	-56.4	-56.9	-57.5	-42.6	-41.25	1.4
	HE160 Beam Forming, M0 to M9 3ss	4	6	-54.2	-54.7	-55.6	-56.3	-42.7	-41.25	1.4
	HE160 Beam Forming, M0 to M9 4ss	4	5	-52.5	-52.3	-54.6	-54.2	-41.8	-41.25	0.6
	HE160 STBC, M0 to M9 1ss	2	5	-50.0	-50.9			-42.0	-41.25	0.7
	HE160 STBC, M0 to M9 1ss	3	5	-52.5	-52.3	-54.6		-42.8	-41.25	1.6
	HE160 STBC, M0 to M9 1ss	4	5	-52.5	-52.3	-54.6	-54.2	-41.8	-41.25	0.6

Conducted Band edge Average, 5190 MHz, HE40, M0 to M9 1ss



Antenna A

Frequency (MHz)	Mode	Tx Paths	Correlated Antenna Gain (dBi)	Tx 1 Bandedge Level (dBm)	Tx 2 Bandedge Level (dBm)	Tx 3 Bandedge Level (dBm)	Tx 4 Bandedge Level (dBm)	Total Tx Bandedge Level (dBm)	Limit (dBm)	Margin (dB)
5180	Non HT20, 6 to 54 Mbps	1	5	-40.3				-35.3	-21.25	14.1
	Non HT20, 6 to 54 Mbps	2	5	-42.7	-42.9			-34.8	-21.25	13.5
	Non HT20, 6 to 54 Mbps	3	5	-42.7	-42.9	-41.7		-32.6	-21.25	11.4
	Non HT20, 6 to 54 Mbps	4	5	-42.7	-42.9	-41.7	-42.6	-31.4	-21.25	10.2
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	-42.7	-42.9			-31.8	-21.25	10.5
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	-43.8	-43.3	-44.2		-29.0	-21.25	7.7
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	-47.6	-47.6	-48.6	-46.7	-30.6	-21.25	9.3
	HT/VHT20, M0 to M7	1	5	-37.9				-32.9	-21.25	11.7
	HT/VHT20, M0 to M7	2	5	-37.9	-37.8			-29.8	-21.25	8.6
	HT/VHT20, M8 to M15	2	5	-37.9	-37.8			-29.8	-21.25	8.6
	HT/VHT20, M0 to M7	3	5	-37.9	-37.8	-37.8		-28.1	-21.25	6.8
	HT/VHT20, M8 to M15	3	5	-37.9	-37.8	-37.8		-28.1	-21.25	6.8
	HT/VHT20, M16 to M23	3	5	-37.9	-37.8	-37.8		-28.1	-21.25	6.8
	HT/VHT20, M0 to M7	4	5	-37.6	-41.6	-37.7	-41.9	-28.2	-21.25	7.0
	HT/VHT20, M8 to M15	4	5	-37.6	-41.6	-37.7	-41.9	-28.2	-21.25	7.0
	HT/VHT20, M16 to M23	4	5	-37.6	-41.6	-37.7	-41.9	-28.2	-21.25	7.0
	HT/VHT20, M24 to M31	4	5	-37.6	-41.6	-37.7	-41.9	-28.2	-21.25	7.0
	HT/VHT20 Beam Forming, M0 to M7	2	8	-37.6	-41.6			-28.1	-21.25	6.9
	HT/VHT20 Beam Forming, M8 to M15	2	5	-37.9	-37.8			-29.8	-21.25	8.6
	HT/VHT20 Beam Forming, M0 to M7	3	10	-44.4	-44.0	-47.0		-30.2	-21.25	8.9
	HT/VHT20 Beam Forming, M8 to M15	3	7	-37.6	-41.6	-37.7		-26.8	-21.25	5.6
	HT/VHT20 Beam Forming, M16 to M23	3	5	-37.9	-37.8	-37.8		-28.1	-21.25	6.8
	HT/VHT20 Beam Forming, M0 to M7	4	11	-47.1	-46.8	-46.0	-48.1	-29.9	-21.25	8.7
	HT/VHT20 Beam Forming, M8 to M15	4	8	-43.9	-44.5	-43.9	-44.5	-30.2	-21.25	8.9
	HT/VHT20 Beam Forming, M16 to M23	4	6	-37.6	-41.6	-37.7	-41.9	-27.2	-21.25	6.0
	HT/VHT20 Beam Forming, M24 to M31	4	5	-37.6	-41.6	-37.7	-41.9	-28.2	-21.25	7.0
	HT/VHT20 STBC, M0 to M7	2	5	-37.9	-37.8			-29.8	-21.25	8.6
	HT/VHT20 STBC, M0 to M7	3	5	-37.9	-37.8	-37.8		-28.1	-21.25	6.8
	HT/VHT20 STBC, M0 to M7	4	5	-37.6	-41.6	-37.7	-41.9	-28.2	-21.25	7.0
	HE20, M0 to M9 1ss	1	5	-34.1				-29.1	-21.25	7.9
	HE20, M0 to M9 1ss	2	5	-34.1	-37.1			-27.3	-21.25	6.1
	HE20, M0 to M9 2ss	2	5	-34.1	-37.1			-27.3	-21.25	6.1
	HE20, M0 to M9 1ss	3	5	-40.6	-37.2	-36.6		-28.0	-21.25	6.8
	HE20, M0 to M9 2ss	3	5	-40.6	-37.2	-36.6		-28.0	-21.25	6.8
	HE20, M0 to M9 3ss	3	5	-40.6	-37.2	-36.6		-28.0	-21.25	6.8
	HE20, M0 to M9 1ss	4	5	-40.6	-37.2	-36.6	-41.0	-27.4	-21.25	6.1

	HE20, M0 to M9 2ss	4	5	-40.6	-37.2	-36.6	-41.0	-27.4	-21.25	6.1
	HE20, M0 to M9 3ss	4	5	-40.6	-37.2	-36.6	-41.0	-27.4	-21.25	6.1
	HE20, M0 to M9 4ss	4	5	-40.6	-37.2	-36.6	-41.0	-27.4	-21.25	6.1
	HE20 Beam Forming, M0 to M9 1ss	2	8	-40.6	-37.2			-27.6	-21.25	6.3
	HE20 Beam Forming, M0 to M9 2ss	2	5	-34.1	-37.1			-27.3	-21.25	6.1
	HE20 Beam Forming, M0 to M9 1ss	3	10	-44.5	-45.1	-44.4		-29.9	-21.25	8.6
	HE20 Beam Forming, M0 to M9 2ss	3	7	-43.2	-41.8	-40.2		-29.8	-21.25	8.5
	HE20 Beam Forming, M0 to M9 3ss	3	5	-40.6	-37.2	-36.6		-28.0	-21.25	6.8
	HE20 Beam Forming, M0 to M9 1ss	4	11	-47.2	-46.3	-47.2	-46.5	-29.8	-21.25	8.5
	HE20 Beam Forming, M0 to M9 2ss	4	8	-44.3	-43.8	-44.7	-43.7	-30.1	-21.25	8.8
	HE20 Beam Forming, M0 to M9 3ss	4	6	-43.2	-41.8	-40.2	-42.7	-29.8	-21.25	8.5
	HE20 Beam Forming, M0 to M9 4ss	4	5	-40.6	-37.2	-36.6	-41.0	-27.4	-21.25	6.1
	HE20 STBC, M0 to M9 2ss	2	5	-34.1	-37.1			-27.3	-21.25	6.1
	HE20 STBC, M0 to M9 2ss	3	5	-40.6	-37.2	-36.6		-28.0	-21.25	6.8
	HE20 STBC, M0 to M9 2ss	4	5	-40.6	-37.2	-36.6	-41.0	-27.4	-21.25	6.1
5190	Non HT40, 6 to 54 Mbps	1	5	-36.1				-31.1	-21.25	9.9
	Non HT40, 6 to 54 Mbps	2	5	-40.7	-40.8			-32.7	-21.25	11.5
	Non HT40, 6 to 54 Mbps	3	5	-41.5	-42.8	-43.1		-32.6	-21.25	11.4
	Non HT40, 6 to 54 Mbps	4	5	-41.5	-42.8	-43.1	-41.9	-31.3	-21.25	10.0
	HT/VHT40, M0 to M7	1	5	-37.8				-32.7	-21.25	11.5
	HT/VHT40, M0 to M7	2	5	-40.0	-41.6			-32.6	-21.25	11.4
	HT/VHT40, M8 to M15	2	5	-40.0	-41.6			-32.6	-21.25	11.4
	HT/VHT40, M0 to M7	3	5	-42.9	-43.5	-41.3		-32.6	-21.25	11.3
	HT/VHT40, M8 to M15	3	5	-42.9	-43.5	-41.3		-32.6	-21.25	11.3
	HT/VHT40, M16 to M23	3	5	-42.9	-43.5	-41.3		-32.6	-21.25	11.3
	HT/VHT40, M0 to M7	4	5	-42.0	-42.8	-43.6	-44.8	-32.1	-21.25	10.8
	HT/VHT40, M8 to M15	4	5	-42.0	-42.8	-43.6	-44.8	-32.1	-21.25	10.8
	HT/VHT40, M16 to M23	4	5	-42.0	-42.8	-43.6	-44.8	-32.1	-21.25	10.8
	HT/VHT40, M24 to M31	4	5	-42.0	-42.8	-43.6	-44.8	-32.1	-21.25	10.8
	HT/VHT40 Beam Forming, M0 to M7	2	8	-42.0	-42.8			-31.3	-21.25	10.0
	HT/VHT40 Beam Forming, M8 to M15	2	5	-40.0	-41.6			-32.6	-21.25	11.4
	HT/VHT40 Beam Forming, M0 to M7	3	10	-47.0	-47.2	-46.9		-32.2	-21.25	10.9
	HT/VHT40 Beam Forming, M8 to M15	3	7	-42.0	-42.8	-43.6		-30.9	-21.25	9.6
	HT/VHT40 Beam Forming, M16 to M23	3	5	-42.9	-43.5	-41.3		-32.6	-21.25	11.3
	HT/VHT40 Beam Forming, M0 to M7	4	11	-49.5	-49.6	-50.0	-50.2	-32.7	-21.25	11.4
	HT/VHT40 Beam Forming, M8 to M15	4	8	-47.0	-47.2	-46.9	-46.7	-32.8	-21.25	11.6
	HT/VHT40 Beam Forming, M16 to M23	4	6	-42.0	-42.8	-43.6	-44.8	-31.1	-21.25	9.8
	HT/VHT40 Beam Forming, M24 to M31	4	5	-42.0	-42.8	-43.6	-44.8	-32.1	-21.25	10.8
	HT/VHT40 STBC, M0 to M7	2	5	-40.0	-41.6			-32.6	-21.25	11.4
	HT/VHT40 STBC, M0 to M7	3	5	-42.9	-43.5	-41.3		-32.6	-21.25	11.3
	HT/VHT40 STBC, M0 to M7	4	5	-42.0	-42.8	-43.6	-44.8	-32.1	-21.25	10.8
	HE40, M0 to M9 1ss	**1**	**5**	**-28.3**				**-23.2**	**-21.25**	**1.9**

	HE40, M0 to M9 1ss	2	5	-31.5	-35.4			-24.9	-21.25	3.6
	HE40, M0 to M9 2ss	2	5	-31.5	-35.4			-24.9	-21.25	3.6
	HE40, M0 to M9 1ss	3	5	-38.0	-40.6	-38.5		-29.0	-21.25	7.7
	HE40, M0 to M9 2ss	3	5	-38.0	-40.6	-38.5		-29.0	-21.25	7.7
	HE40, M0 to M9 3ss	3	5	-38.0	-40.6	-38.5		-29.0	-21.25	7.7
	HE40, M0 to M9 1ss	4	5	-41.3	-44.4	-43.5	-45.6	-32.3	-21.25	11.0
	HE40, M0 to M9 2ss	4	5	-41.3	-44.4	-43.5	-45.6	-32.3	-21.25	11.0
	HE40, M0 to M9 3ss	4	5	-41.3	-44.4	-43.5	-45.6	-32.3	-21.25	11.0
	HE40, M0 to M9 4ss	4	5	-41.3	-44.4	-43.5	-45.6	-32.3	-21.25	11.0
	HE40 Beam Forming, M0 to M9 1ss	2	8	-41.3	-44.4			-31.4	-21.25	10.2
	HE40 Beam Forming, M0 to M9 2ss	2	5	-31.5	-35.4			-24.9	-21.25	3.6
	HE40 Beam Forming, M0 to M9 1ss	3	10	-47.2	-46.5	-45.7		-31.5	-21.25	10.3
	HE40 Beam Forming, M0 to M9 2ss	3	7	-41.3	-44.4	-43.5		-31.0	-21.25	9.7
	HE40 Beam Forming, M0 to M9 3ss	3	5	-38.0	-40.6	-38.5		-29.0	-21.25	7.7
	HE40 Beam Forming, M0 to M9 1ss	4	11	-48.4	-48.8	-48.2	-50.0	-31.6	-21.25	10.4
	HE40 Beam Forming, M0 to M9 2ss	4	8	-46.2	-46.9	-44.6	-45.7	-31.6	-21.25	10.4
	HE40 Beam Forming, M0 to M9 3ss	4	6	-42.8	-45.8	-43.3	-45.3	-32.0	-21.25	10.7
	HE40 Beam Forming, M0 to M9 4ss	4	5	-41.3	-44.4	-43.5	-45.6	-32.3	-21.25	11.0
	HE40 STBC, M0 to M9 2ss	2	5	-31.5	-35.4			-24.9	-21.25	3.6
	HE40 STBC, M0 to M9 2ss	3	5	-38.0	-40.6	-38.5		-29.0	-21.25	7.7
	HE40 STBC, M0 to M9 2ss	4	5	-41.3	-44.4	-43.5	-45.6	-32.3	-21.25	11.0
5210	Non HT80, 6 to 54 Mbps	1	5	-35.1				-30.1	-21.25	8.9
	Non HT80, 6 to 54 Mbps	2	5	-39.3	-38.7			-31.0	-21.25	9.7
	Non HT80, 6 to 54 Mbps	3	5	-39.3	-38.7	-39.5		-29.4	-21.25	8.1
	Non HT80, 6 to 54 Mbps	4	5	-38.6	-36.5	-42.0	-38.2	-27.4	-21.25	6.1
	VHT80, M0 to M9 1ss	1	5	-38.6				-33.4	-21.25	12.1
	VHT80, M0 to M9 1ss	2	5	-41.2	-39.4			-32.0	-21.25	10.7
	VHT80, M0 to M9 2ss	2	5	-41.2	-39.4			-32.0	-21.25	10.7
	VHT80, M0 to M9 1ss	3	5	-44.1	-45.7	-45.2		-35.0	-21.25	13.7
	VHT80, M0 to M9 2ss	3	5	-44.1	-45.7	-45.2		-35.0	-21.25	13.7
	VHT80, M0 to M9 3ss	3	5	-44.1	-45.7	-45.2		-35.0	-21.25	13.7
	VHT80, M0 to M9 1ss	4	5	-44.1	-45.7	-45.2	-44.7	-33.7	-21.25	12.4
	VHT80, M0 to M9 2ss	4	5	-44.1	-45.7	-45.2	-44.7	-33.7	-21.25	12.4
	VHT80, M0 to M9 3ss	4	5	-44.1	-45.7	-45.2	-44.7	-33.7	-21.25	12.4
	VHT80, M0 to M9 4ss	4	5	-44.1	-45.7	-45.2	-44.7	-33.7	-21.25	12.4
	VHT80 Beam Forming, M0 to M9 1ss	2	8	-44.1	-45.7			-33.6	-21.25	12.4
	VHT80 Beam Forming, M0 to M9 2ss	2	5	-41.2	-39.4			-32.0	-21.25	10.7
	VHT80 Beam Forming, M0 to M9 1ss	3	10	-47.6	-47.3	-47.1		-32.3	-21.25	11.1
	VHT80 Beam Forming, M0 to M9 2ss	3	7	-42.6	-43.1	-47.0		-31.9	-21.25	10.6
	VHT80 Beam Forming, M0 to M9 3ss	3	5	-44.1	-45.7	-45.2		-35.0	-21.25	13.7
	VHT80 Beam Forming, M0 to M9 1ss	4	11	-48.3	-49.7	-50.1	-49.8	-32.2	-21.25	10.9
	VHT80 Beam Forming, M0 to M9 2ss	4	8	-47.6	-47.3	-47.1	-46.0	-32.7	-21.25	11.5

	VHT80 Beam Forming, M0 to M9 3ss	4	6	-42.6	-43.1	-47.0	-45.6	-32.0	-21.25	10.7
	VHT80 Beam Forming, M0 to M9 4ss	4	5	-44.1	-45.7	-45.2	-44.7	-33.7	-21.25	12.4
	VHT80 STBC, M0 to M9 1ss	2	5	-41.2	-39.4			-32.0	-21.25	10.7
	VHT80 STBC, M0 to M9 1ss	3	5	-44.1	-45.7	-45.2		-35.0	-21.25	13.7
	VHT80 STBC, M0 to M9 1ss	4	5	-44.1	-45.7	-45.2	-44.7	-33.7	-21.25	12.4
	HE80, M0 to M9 1ss	1	5	-38.2				-33.0	-21.25	11.7
	HE80, M0 to M9 1ss	2	5	-40.9	-42.2			-33.3	-21.25	12.0
	HE80, M0 to M9 2ss	2	5	-40.9	-42.2			-33.3	-21.25	12.0
	HE80, M0 to M9 1ss	3	5	-41.9	-43.5	-43.6		-32.9	-21.25	11.7
	HE80, M0 to M9 2ss	3	5	-41.9	-43.5	-43.6		-32.9	-21.25	11.7
	HE80, M0 to M9 3ss	3	5	-41.9	-43.5	-43.6		-32.9	-21.25	11.7
	HE80, M0 to M9 1ss	4	5	-41.9	-43.5	-43.6	-44.4	-32.0	-21.25	10.7
	HE80, M0 to M9 2ss	4	5	-41.9	-43.5	-43.6	-44.4	-32.0	-21.25	10.7
	HE80, M0 to M9 3ss	4	5	-41.9	-43.5	-43.6	-44.4	-32.0	-21.25	10.7
	HE80, M0 to M9 4ss	4	5	-41.9	-43.5	-43.6	-44.4	-32.0	-21.25	10.7
	HE80 Beam Forming, M0 to M9 1ss	2	8	-43.0	-45.1			-32.7	-21.25	11.4
	HE80 Beam Forming, M0 to M9 2ss	2	5	-40.9	-42.2			-33.3	-21.25	12.0
	HE80 Beam Forming, M0 to M9 1ss	3	10	-47.4	-47.1	-46.6		-32.0	-21.25	10.8
	HE80 Beam Forming, M0 to M9 2ss	3	7	-43.0	-45.1	-45.1		-32.3	-21.25	11.0
	HE80 Beam Forming, M0 to M9 3ss	3	5	-41.9	-43.5	-43.6		-32.9	-21.25	11.7
	HE80 Beam Forming, M0 to M9 1ss	4	11	-49.0	-49.1	-47.9	-49.8	-31.6	-21.25	10.4
	HE80 Beam Forming, M0 to M9 2ss	4	8	-47.4	-47.1	-46.6	-46.5	-32.6	-21.25	11.4
	HE80 Beam Forming, M0 to M9 3ss	4	6	-43.0	-45.1	-45.1	-44.4	-32.1	-21.25	10.8
	HE80 Beam Forming, M0 to M9 4ss	4	5	-41.9	-43.5	-43.6	-44.4	-32.0	-21.25	10.7
	HE80 STBC, M0 to M9 1ss	2	5	-40.9	-42.2			-33.3	-21.25	12.0
	HE80 STBC, M0 to M9 1ss	3	5	-41.9	-43.5	-43.6		-32.9	-21.25	11.7
	HE80 STBC, M0 to M9 1ss	4	5	-41.9	-43.5	-43.6	-44.4	-32.0	-21.25	10.7
5250	Non HT160, 6 to 54 Mbps	1	5	-36.0				-31.0	-21.25	9.8
	Non HT160, 6 to 54 Mbps	2	5	-38.6	-40.2			-31.3	-21.25	10.1
	Non HT160, 6 to 54 Mbps	3	5	-38.6	-40.2	-43.1		-30.5	-21.25	9.2
	Non HT160, 6 to 54 Mbps	4	5	-40.8	-42.6	-46.2	-44.9	-32.1	-21.25	10.9
	VHT160, M0 to M9 1ss	1	5	-31.3				-25.9	-21.25	4.7
	VHT160, M0 to M9 1ss	2	5	-36.8	-34.8			-27.3	-21.25	6.0
	VHT160, M0 to M9 2ss	2	5	-36.8	-34.8			-27.3	-21.25	6.0
	VHT160, M0 to M9 1ss	3	5	-38.4	-37.0	-42.3		-28.6	-21.25	7.3
	VHT160, M0 to M9 2ss	3	5	-38.4	-37.0	-42.3		-28.6	-21.25	7.3
	VHT160, M0 to M9 3ss	3	5	-38.4	-37.0	-42.3		-28.6	-21.25	7.3
	VHT160, M0 to M9 1ss	4	5	-38.4	-37.0	-42.3	-40.6	-27.7	-21.25	6.5
	VHT160, M0 to M9 2ss	4	5	-38.4	-37.0	-42.3	-40.6	-27.7	-21.25	6.5
	VHT160, M0 to M9 3ss	4	5	-38.4	-37.0	-42.3	-40.6	-27.7	-21.25	6.5
	VHT160, M0 to M9 4ss	4	5	-38.4	-37.0	-42.3	-40.6	-27.7	-21.25	6.5
	VHT160 Beam Forming, M0 to M9 1ss	2	8	-38.4	-37.0			-26.2	-21.25	5.0

	VHT160 Beam Forming, M0 to M9 2ss	2	5	-36.8	-34.8			-27.3	-21.25	6.0
	VHT160 Beam Forming, M0 to M9 1ss	3	10	-37.4	-40.6	-39.3		-23.7	-21.25	2.5
	VHT160 Beam Forming, M0 to M9 2ss	3	7	-38.6	-38.9	-41.0		-27.2	-21.25	6.0
	VHT160 Beam Forming, M0 to M9 3ss	3	5	-38.4	-37.0	-42.3		-28.6	-21.25	7.3
	VHT160 Beam Forming, M0 to M9 1ss	4	11	-40.0	-45.3	-44.6	-43.9	-25.5	-21.25	4.2
	VHT160 Beam Forming, M0 to M9 2ss	4	8	-37.4	-40.6	-39.3	-44.2	-25.3	-21.25	4.1
	VHT160 Beam Forming, M0 to M9 3ss	4	6	-38.6	-38.9	-41.0	-42.5	-27.6	-21.25	6.3
	VHT160 Beam Forming, M0 to M9 4ss	4	5	-38.4	-37.0	-42.3	-40.6	-27.7	-21.25	6.5
	VHT160 STBC, M0 to M9 1ss	2	5	-36.8	-34.8			-27.3	-21.25	6.0
	VHT160 STBC, M0 to M9 1ss	3	5	-38.4	-37.0	-42.3		-28.6	-21.25	7.3
	VHT160 STBC, M0 to M9 1ss	4	5	-38.4	-37.0	-42.3	-40.6	-27.7	-21.25	6.5
	HE160, M0 to M9 1ss	1	5	-35.1				-29.7	-21.25	8.4
	HE160, M0 to M9 1ss	2	5	-37.9	-37.4			-29.2	-21.25	8.0
	HE160, M0 to M9 2ss	2	5	-37.9	-37.4			-29.2	-21.25	8.0
	HE160, M0 to M9 1ss	3	5	-39.6	-38.6	-44.3		-30.0	-21.25	8.8
	HE160, M0 to M9 2ss	3	5	-39.6	-38.6	-44.3		-30.0	-21.25	8.8
	HE160, M0 to M9 3ss	3	5	-39.6	-38.6	-44.3		-30.0	-21.25	8.8
	HE160, M0 to M9 1ss	4	5	-39.6	-38.6	-44.3	-40.4	-28.8	-21.25	7.6
	HE160, M0 to M9 2ss	4	5	-39.6	-38.6	-44.3	-40.4	-28.8	-21.25	7.6
	HE160, M0 to M9 3ss	4	5	-39.6	-38.6	-44.3	-40.4	-28.8	-21.25	7.6
	HE160, M0 to M9 4ss	4	5	-39.6	-38.6	-44.3	-40.4	-28.8	-21.25	7.6
	HE160 Beam Forming, M0 to M9 1ss	2	8	-39.6	-43.2			-29.6	-21.25	8.4
	HE160 Beam Forming, M0 to M9 2ss	2	5	-37.9	-37.4			-29.2	-21.25	8.0
	HE160 Beam Forming, M0 to M9 1ss	3	10	-45.4	-44.2	-45.2		-29.7	-21.25	8.5
	HE160 Beam Forming, M0 to M9 2ss	3	7	-39.6	-43.2	-43.5		-29.5	-21.25	8.3
	HE160 Beam Forming, M0 to M9 3ss	3	5	-39.6	-38.6	-44.3		-30.0	-21.25	8.8
	HE160 Beam Forming, M0 to M9 1ss	4	11	-48.9	-48.1	-51.2	-48.3	-31.5	-21.25	10.3
	HE160 Beam Forming, M0 to M9 2ss	4	8	-45.4	-44.2	-45.2	-46.2	-30.8	-21.25	9.5
	HE160 Beam Forming, M0 to M9 3ss	4	6	-39.6	-43.2	-43.5	-43.0	-29.6	-21.25	8.3
	HE160 Beam Forming, M0 to M9 4ss	4	5	-39.6	-38.6	-44.3	-40.4	-28.8	-21.25	7.6
	HE160 STBC, M0 to M9 1ss	2	5	-37.9	-37.4			-29.2	-21.25	8.0
	HE160 STBC, M0 to M9 1ss	3	5	-39.6	-38.6	-44.3		-30.0	-21.25	8.8
	HE160 STBC, M0 to M9 1ss	4	5	-39.6	-38.6	-44.3	-40.4	-28.8	-21.25	7.6

Conducted Band edge Peak, 5190 MHz, HE40, M0 to M9 1ss

Antenna A

Appendix B: Radiated Emission Test Results

Note: Results for Transmitter Radiated Spurious Emissions are in BACL Report R1902193-407 (Cisco EDCS# 17740428).

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

Equip#	Manufacturer/ Model	Description	Last Cal	Next Due	Test Item
Test Equipment used for conducted tests					

57475	Cisco ATIL	Automation Test Insertion Loss	Cal Not Required		A1 thru A6
55095	PXI-1042 National Instruments	Chassis	Cal Not Required		A1 thru A6
53614	Agilent N9030A-550	PXA Signal Analyzer, 3Hz to 50GHz	17 Jul 2018	17 Jul 2019	A1 thru A6
57236	National Instruments PXI-8115	Embedded Controller	Cal Not Required		A1 thru A6
56090	National Instruments PXI-2796	40 GHz Dual 6x1 Multiplexer (SP6T)	Cal Not Required		A1 thru A6
57242	National Instruments PXI-2796	40 GHz Dual 6x1 Multiplexer (SP6T)	Cal Not Required		A1 thru A6
57243	National Instruments PXI-2799	Switch 1x1	Cal Not Required		A1 thru A6
56328	Pasternack PE5019-1	Torque wrench	14 Feb 2019	14 Feb 2020	A1 thru A6
6322	Lufft 5063-33W	Dial hygrometer	28 Dec 2018	28 Dec 2019	A1 thru A6
036772	Fluke 175	RMS multimeter	22 May 2018	22 May 2019	A1 thru A6

Appendix D: 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

Appendix E: Photographs of Test Setups

EUT Photos have been omitted from this test report. Photos can be found in the supplementary exhibit included in the submission and EDCS# 17749029.

Appendix F: Software Used to Perform Testing

Cisco Internal LabView Radio Test Automation Software rev46, rev49
Cisco Internal LabView Radio Test Automation Report Generator Software rev21

Appendix G:Test Procedures

Measurements were made in accordance with

- KDB 789033 - D02 General UNII Test Procedures New Rules v02r01
- 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

Appendix H: Scope of Accreditation

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

Appendix I: Test Assessment Plan

Compliance Test Plan: EDCS:16915207

Target Power Tables EDCS# 16415414

Appendix J: UUT Software Info

PD4E8.8019.4B74#show ver

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San Jose, California 95134-1706

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Cisco AP Software, (ap1g7), [cheetah-build6:/san2/BUILD/workspace/Nightly-Cheetah-axel-bcm-mfg-c8_9_throttle]
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2019 by Cisco Systems, Inc.
Compiled Mon Apr 22 03:10:10 PDT 2019

ROM: Bootstrap program is U-Boot boot loader
BOOTLDR: U-Boot boot loader Version

APD4E8.8019.4B74 uptime is 0 days, 0 hours, 8 minutes
Last reload time : Mon Apr 22 03:55:15 UTC 2019
Last reload reason : unknown

cisco C9120AXI-B with 1776976/1106088K bytes of memory.
Processor board ID 0
AP Running Image : 8.8.1.10
Primary Boot Image : 8.8.1.10
Backup Boot Image : 0.0.0.0
Primary Boot Image Hash:
Backup Boot Image Hash:
1 Gigabit Ethernet interfaces
2 802.11 Radios
Radio FW version : 17.10 RC25.2101
NSS FW version : NA

Base ethernet MAC Address : D4:E8:80:19:4B:74
Part Number : 0-000000-00
PCA Assembly Number : 800-105698-01
PCA Revision Number : 08
PCB Serial Number : FOC23070L3Q
Top Assembly Part Number : 800-105698-01
Top Assembly Serial Number : 0
Top Revision Number : 08
Product/Model Number : C9120AXI-B

APD4E8.8019.4B74#
APD4E8.8019.4B74#
APD4E8.8019.4B74#
APD4E8.8019.4B74#
APD4E8.8019.4B74#devs
EXITING CISCO SHELL. PLEASE EXECUTE EXIT IN DEVSHELL TO GET BACK TO CISCO SHELL.

BusyBox v1.23.2 (2019-04-22 02:37:53 PDT) built-in shell (ash)

Welcome to Cisco.

Usage of this device is governed by Cisco's End User License Agreement,
available at:
http://www.cisco.com/c/en/us/td/docs/general/warranty/English/EU1KEN_.html.
mD4E880194B74:/#
mD4E880194B74:/#
mD4E880194B74:/#
mD4E880194B74:/#
mD4E880194B74:/#
mD4E880194B74:/# cat MERAKI_BUILD.extra
Mon Apr 22 03:10:10 PDT 2019
cheetah-build6
/san2/BUILD/workspace/Nightly-Cheetah-axel-bcm-mfg-c8_9_throttle

* (HEAD detached at 1f6f4048ec)

svn base: 1f6f4048ecbb66599142da892931a7ad499a2ba2
commit: 1f6f4048ecbb66599142da892931a7ad499a2ba2
tree 1a99c087d0e4d3b13a635301797e24d54316c31d
mD4E880194B74:/#
mD4E880194B74:/#
mD4E880194B74:/#
mD4E880194B74:/#
mD4E880194B74:/#
mD4E880194B74:/# show_cookie
Part Number : 0-000000-00
Board Revision : 00
PCB Serial Number : FOC23070L3Q
PCB Fab Part Number : 0-000000-00
Deviation Number : 0
MAC Address : D4:E8:80:19:4B:74
MAC Address Block Size : 4
Radio 0 MAC Address : D4:E8:80:19:87:A0
Radio 0 MAC Address Block Size : 16
Radio 1 MAC Address : D4:E8:80:19:87:B0
Radio 1 MAC Address Block Size : 16
PCA Assembly Number : 800-105698-01
PCA Revision Number : 08
Product/Model Number : C9120AXI-B
Top Assembly Part Number : 800-105698-01
Top Revision Number : 08
Top Assembly Serial Number : 0
RMA Test History : 00
RMA History : 00
RMA Number : 00-00-00-00
Device Type : 4C
Max Association Allowed : 2

Radio(2.4G) Carrier Set : 0000
Radio(2.4G) Max Transmit Power Level : 100
Radio(2.4G) Antenna Diversity Support: 01
Radio(2.4G) Encryption Ability : 0002
Radio(5G) Carrier Set : 0029
Radio(5G) Max Transmit Power Level : 100
Radio(5G) Antenna Diversity Support : 01
Radio(5G) Encryption Ability : 0002
Radio(802.11g) Radio Mode : 255
PEP Product Identifier (PID) : C9120AXI-B
PEP Version Identifier (VID) : V01
System Flags : 00
Controller Type : 0000
Host Controller Type : 0000
Mfr Service Date : 2019.02.21-47:59:59
Radio(49) Carrier Set : 0000
Radio(49) Max Transmit Power Level : 0
Radio(49) Antenna Diversity Support : 00
Radio(49) Encryption Ability : 0000
Radio(58) Carrier Set : 0029
Radio(58) Max Transmit Power Level : 100
Radio(58) Antenna Diversity Support : 01
Radio(58) Encryption Ability : 0002
ACT2 ID : C9120
Static AP Mode : 0
mD4E880194B74:/#
mD4E880194B74:/#
mD4E880194B74:/#
mD4E880194B74:/# cat /storage/rxtx_mode
tx
mD4E880194B74:/# cd /usr/bin/bcm/mfg
mD4E880194B74:/usr/bin/bcm/mfg# ./dfstool.lua

Vanc dfstool
BOARD: Axel BCM !!!!!!

Display config:
wl -i apr0v0 status | head -3
"SSID: "apr0v0"
Mode: <unknown> RSSI: 0 dBm SNR: 0 dB noise: 0 dBm Channel: 34
BSSID: 00:00:00:00:00:00 Capability: "

Display config:
wl -i apr1v0 status | head -3
"SSID: "apr1v0"
Mode: <unknown> RSSI: 0 dBm SNR: 0 dB noise: 0 dBm Channel: 34
BSSID: 00:00:00:00:00:00 Capability: "

```
show_carrier_cookies | grep -o '..$'
rc:result="41"

show_carrier_cookies | cut -d ',' -f2
rc:result="0"

wl -i apr1v0 country US
wl -i apr0v0 country US
>
```

UUT software info for duty cycle test, March 14-29

APD4E8.8019.4B74#Test watchdog monitoring off
APD4E8.8019.4B74#show ver
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170 West Tasman Drive
San Jose, California 95134-1706

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http://www.gnu.org/licenses/agpl-3.0.html.

Cisco AP Software, (ap1g7), [cheetah-build6:/san2/BUILD/workspace/Nightly-Cheetah-axel-bcm-mfg-c8_9_throttle]
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2019 by Cisco Systems, Inc.
Compiled Fri Mar 1 03:06:48 PST 2019

ROM: Bootstrap program is U-Boot boot loader
BOOTLDR: U-Boot boot loader Version

APD4E8.8019.4B74 uptime is 0 days, 0 hours, 12 minutes
Last reload time : Fri Mar 1 04:54:13 UTC 2019
Last reload reason : unknown

cisco C9120AXI-B with 1776976/1104340K bytes of memory.
Processor board ID 0
AP Running Image : 8.8.1.10
Primary Boot Image : 8.8.1.10
Backup Boot Image : 0.0.0.0
Primary Boot Image Hash:
Backup Boot Image Hash:
1 Gigabit Ethernet interfaces
2 802.11 Radios
Radio FW version : 17.10 RC25.2101
NSS FW version : NA

Base ethernet MAC Address : D4:E8:80:19:4B:74
Part Number : 0-000000-00
PCA Assembly Number : 800-105698-01
PCA Revision Number : 08
PCB Serial Number : FOC23070L3Q
Top Assembly Part Number : 800-105698-01
Top Assembly Serial Number : 0
Top Revision Number : 08
Product/Model Number : C9120AXI-B

APD4E8.8019.4B74#
APD4E8.8019.4B74#
APD4E8.8019.4B74#
APD4E8.8019.4B74#
APD4E8.8019.4B74#devs
EXITING CISCO SHELL. PLEASE EXECUTE EXIT IN DEVSHELL TO GET BACK TO CISCO SHELL.

BusyBox v1.23.2 (2019-03-01 02:34:16 PST) built-in shell (ash)

Welcome to Cisco.

Usage of this device is governed by Cisco's End User License Agreement,
available at:
http://www.cisco.com/c/en/us/td/docs/general/warranty/English/EU1KEN_.html.
mD4E880194B74:/#
mD4E880194B74:/#
mD4E880194B74:/#
mD4E880194B74:/# cat MERAKI_BUILD.extra
Fri Mar 1 03:06:48 PST 2019
cheetah-build6
/san2/BUILD/workspace/Nightly-Cheetah-axel-bcm-mfg-c8_9_throttle

* (HEAD detached at 161d279e12)

svn base: 161d279e12e6ede43e1005ea511bed938de6923e
commit: 161d279e12e6ede43e1005ea511bed938de6923e
tree c433767fb7ea6e49ba91057416fbff23bdd54695
mD4E880194B74:/#
mD4E880194B74:/#
mD4E880194B74:/#
mD4E880194B74:/# show_cookie
Part Number : 0-000000-00
Board Revision : 00
PCB Serial Number : FOC23070L3Q
PCB Fab Part Number : 0-000000-00
Deviation Number : 0
MAC Address : D4:E8:80:19:4B:74
MAC Address Block Size : 4
Radio 0 MAC Address : D4:E8:80:19:87:A0
Radio 0 MAC Address Block Size : 16
Radio 1 MAC Address : D4:E8:80:19:87:B0
Radio 1 MAC Address Block Size : 16
PCA Assembly Number : 800-105698-01
PCA Revision Number : 08

Product/Model Number : C9120AXI-B
Top Assembly Part Number : 800-105698-01
Top Revision Number : 08
Top Assembly Serial Number : 0
RMA Test History : 00
RMA History : 00
RMA Number : 00-00-00-00
Device Type : 4C
Max Association Allowed : 2
Radio(2.4G) Carrier Set : 0000
Radio(2.4G) Max Transmit Power Level : 100
Radio(2.4G) Antenna Diversity Support: 01
Radio(2.4G) Encryption Ability : 0002
Radio(5G) Carrier Set : 0029
Radio(5G) Max Transmit Power Level : 100
Radio(5G) Antenna Diversity Support : 01
Radio(5G) Encryption Ability : 0002
Radio(802.11g) Radio Mode : 255
PEP Product Identifier (PID) : C9120AXI-B
PEP Version Identifier (VID) : V01
System Flags : 00
Controller Type : 0000
Host Controller Type : 0000
Mfr Service Date : 2019.02.21-47:59:59
Radio(49) Carrier Set : 0000
Radio(49) Max Transmit Power Level : 0
Radio(49) Antenna Diversity Support : 00
Radio(49) Encryption Ability : 0000
Radio(58) Carrier Set : 0029
Radio(58) Max Transmit Power Level : 100
Radio(58) Antenna Diversity Support : 01
Radio(58) Encryption Ability : 0002
ACT2 ID : C9120
Static AP Mode : 0
mD4E880194B74:/#
mD4E880194B74:/#
mD4E880194B74:/#
mD4E880194B74:/# cat /storage/rxtx_mode
tx
mD4E880194B74:/# cd /usr/bin/bcm/mfg
mD4E880194B74:/usr/bin/bcm/mfg# ./dfstool.lua

Vanc dfstool
BOARD: Axel BCM !!!!!!

Display config:
wl -i apr0v0 status | head -3
"SSID: "apr0v0"

Mode: <unknown> RSSI: 0 dBm SNR: 0 dB noise: 0 dBm Channel: 34
BSSID: 00:00:00:00:00:00 Capability: "

Display config:
wl -i apr1v0 status | head -3
"SSID: "apr1v0"
Mode: <unknown> RSSI: 0 dBm SNR: 0 dB noise: 0 dBm Channel: 34
BSSID: 00:00:00:00:00:00 Capability: "

show_carrier_cookies | grep -o '..$'
rc:result="41"

show_carrier_cookies | cut -d ',' -f2
rc:result="0"

wl -i apr1v0 country US
wl -i apr0v0 country US

End