Test Report XOR Radio

FCC ID: LDKBRB4K1779

AIR-AP4800-B-K9

IC: 2461N-BRB4K1779

AIR-AP4800-A-K9

AIR-AP4800-K-K9

Cisco Aironet 802.11ac Dual Band Access Points

5725-5850 MHz

Against the following Specifications:

CFR47 Part 15.407

RSS-247

ACCREDITED

Cisco Systems

170 West Tasman Drive

San Jose, CA 95134

	
Author: Jose Aguirre **Tested By:** Jose Aguirre	**Approved By:** Gerard Thorpe **Title:** Mgr, Engineering **Revision:** 2

This report replaces any previously entered test report under EDCS – **12774391**.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 RSS-247

Measurements were made in accordance with

- ANSI C63.10:2013
- KDB 789033 D02 General UNII Test Procedures New Rules v02r01
- KDB 662911 D01 Multiple Transmitter Output v02r01

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	± 0.54º
humidity measurements	± 2.3%
DC and low frequency measurements	± 2.5%

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

Radiated emissions (expanded uncertainty, confidence interval 95%)

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

Conducted emissions (expanded uncertainty, confidence interval 95%)

30 MHz – 40GHz	+/- 0.38 dB

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

2.2 Date of testing

1-Nov-17 - 19-Mar-18

2.3 Report Issue Date

22-Mar-18

Cisco uses an electronic system to issue, store and control the revision of test reports. This system is called the Engineering Document Control System 12774391. 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:

Testing Laboratory

Cisco Systems, Inc.,
125 West Tasman Drive
San Jose, CA 95134, USA

Registration Numbers for Industry Canada

Cisco System Site	Address	Site Identifier
Building P, 10m Chamber	125 West Tasman Dr San Jose, CA 95134	Company #: 2461N-2
Building P, 5m Chamber	125 West Tasman Dr San Jose, CA 95134	Company #: 2461N-1
Building I, 5m Chamber	285 W. Tasman Drive San Jose, California 95134	Company #: 2461M-1

Test Engineers

Jose Aguirre

2.5 Equipment Assessed (EUT)

AIR-AP4800-B-K9

2.6 EUT Description

The Cisco Aironet 802.11ac 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.

802.11n/ac - Non HT20, Two Antennas, 6 to 54 Mbps
802.11n/ac - Non HT20, Three Antennas, 6 to 54 Mbps
802.11n/ac - Non HT20, Four Antennas, 6 to 54 Mbps

802.11n/ac - Non HT20 Beam Forming, Two Antennas, 6 to 54 Mbps
802.11n/ac - Non HT20 Beam Forming, Three Antennas, 6 to 54 Mbps
802.11n/ac - Non HT20 Beam Forming, Four Antennas, 6 to 54 Mbps

802.11n/ac - HT/VHT20, One Antenna, M0 to M7
802.11n/ac - HT/VHT20, Two Antennas, M0 to M7
802.11n/ac - HT/VHT20, Two Antennas, M8 to M15
802.11n/ac - HT/VHT20, Three Antennas, M0 to M7
802.11n/ac - HT/VHT20, Three Antennas, M8 to M15
802.11n/ac - HT/VHT20, Three Antennas, M16 to M23
802.11n/ac - HT/VHT20, Four Antennas, M0 to M7
802.11n/ac - HT/VHT20, Four Antennas, M8 to M15
802.11n/ac - HT/VHT20, Four Antennas, M16 to M23

802.11n/ac - HT/VHT20 Beam Forming, Two Antennas, M0 to M7
802.11n/ac - HT/VHT20 Beam Forming, Two Antennas, M8 to M15
802.11n/ac - HT/VHT20 Beam Forming, Three Antennas, M0 to M7
802.11n/ac - HT/VHT20 Beam Forming, Three Antennas, M8 to M15
802.11n/ac - HT/VHT20 Beam Forming, Three Antennas, M16 to M23
802.11n/ac - HT/VHT20 Beam Forming, Four Antennas, M0 to M7
802.11n/ac - HT/VHT20 Beam Forming, Four Antennas, M8 to M15
802.11n/ac - HT/VHT20 Beam Forming, Four Antennas, M16 to M23

802.11n/ac - HT/VHT20 STBC, Two Antennas, M0 to M7
802.11n/ac - HT/VHT20 STBC, Three Antennas, M0 to M7
802.11n/ac - HT/VHT20 STBC, Four Antennas, M0 to M7

802.11n/ac - Non HT40 Duplicate, One Antenna, 6 to 54 Mbps
802.11n/ac - Non HT40 Duplicate, Two Antennas, 6 to 54 Mbps
802.11n/ac - Non HT40 Duplicate, Three Antennas, 6 to 54 Mbps
802.11n/ac - Non HT40 Duplicate, Four Antennas, 6 to 54 Mbps

802.11n/ac - HT/VHT40, One Antenna, M0 to M7
802.11n/ac - HT/VHT40, Two Antennas, M0 to M7
802.11n/ac - HT/VHT40, Two Antennas, M8 to M15
802.11n/ac - HT/VHT40, Three Antennas, M0 to M7
802.11n/ac - HT/VHT40, Three Antennas, M8 to M15
802.11n/ac - HT/VHT40, Three Antennas, M16 to M23
802.11n/ac - HT/VHT40, Four Antennas, M0 to M7
802.11n/ac - HT/VHT40, Four Antennas, M8 to M15
802.11n/ac - HT/VHT40, Four Antennas, M16 to M23

802.11n/ac - HT/VHT40 Beam Forming, Two Antennas, M0 to M7
802.11n/ac - HT/VHT40 Beam Forming, Two Antennas, M8 to M15
802.11n/ac - HT/VHT40 Beam Forming, Three Antennas, M0 to M7
802.11n/ac - HT/VHT40 Beam Forming, Three Antennas, M8 to M15
802.11n/ac - HT/VHT40 Beam Forming, Three Antennas, M16 to M23
802.11n/ac - HT/VHT40 Beam Forming, Four Antennas, M0 to M7
802.11n/ac - HT/VHT40 Beam Forming, Four Antennas, M8 to M15
802.11n/ac - HT/VHT40 Beam Forming, Four Antennas, M16 to M23

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

802.11n/ac - Non HT80 Duplicate, One Antenna, 6 to 54 Mbps
802.11n/ac - Non HT80 Duplicate, Two Antennas, 6 to 54 Mbps
802.11n/ac - Non HT80 Duplicate, Three Antennas, 6 to 54 Mbps
802.11n/ac - Non HT80 Duplicate, Four Antennas, 6 to 54 Mbps

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

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

802.11ac - VHT80 STBC, Two Antennas, M0.1 to M9.1
802.11ac - VHT80 STBC, Three Antennas, M0.1 to M9.1
802.11ac - VHT80 STBC, Four Antennas, M0.1 to M9.1

802.11n/ac - Non HT160, One Antenna, 6 to 54 Mbps
802.11n/ac - Non HT160, Two Antennas, 6 to 54 Mbps
802.11n/ac - Non HT160, Three Antennas, 6 to 54 Mbps
802.11n/ac - Non HT160, Four Antennas, 6 to 54 Mbps

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

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

802.11ac - VHT160 STBC, Two Antennas, M0.1 to M9.1
802.11ac - VHT160 STBC, Three Antennas, M0.1 to M9.1
802.11ac - VHT160 STBC, Four Antennas, M0.1 to M9.1

The following antennas are supported by this product series.
The data included in this report represent the worst case data for all antennas.

Radio	Frequency	HOST PID | Part Number - Please align Host(s) with antenna(s)	ANTENNA PID | Part Number	Antenna Type	Antenna Gain (includes antenna cable loss)
2.4 GHz BLE	2.4 GHz	TX/RX: Internal	BLE	Single port, single band omni	2.5 dBi
WIFI: 5 GHz XOR	5 GHz	Micro-Cell: Intnernal	NA	Quad port, single band directional	5 dBi
WIFI: 2.4GHz XOR & 5 GHz Only	2.4 & 5 GHz	Macro-Cell: Internal	NA	Qual port, dual band Omni	2.5 dBi/3.5 dBi
WIFI: RX Only 2.4GHz XOR & 5 GHz XOR	2.4 & 5 GHz	Location Antenna Array	NA	Qual port | Circular Array + Omni Elements	RX Only

Section 3: Result Summary

3.1 Results Summary Table

Conducted emissions

Basic Standard	Technical Requirements / Details	Result
FCC 15.407 RSS-247	**6dB Bandwidth:** Systems using digital modulation techniques may operate in the 2400-2483.5MHz band. The minimum 6dB bandwidth shall be at least 500 kHz.	Pass
FCC 15.407 RSS-GEN	**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 RSS-247	**Output Power:** For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.	Pass
FCC 15.407 RSS-247	**Power Spectral Density:** **15.407** The maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.	Pass
FCC 15.407 RSS-247	**Conducted Spurious Emissions / Band-Edge:** For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.	Pass
FCC 15.209 FCC 152.05 RSS-GEN	**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 RSS-GEN	**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 filed strength limits table in this section.	Pass
FCC 15.207 RSS-GEN	**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.	Pass

***** MPE calculation is recorded in a separate report

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	AIR-AP4800-B-K9	Cisco Systems	P2	9.1.8.1	build-lnx-064	FOC21291N04
S02*	AIR-PWR50 341-100460-001	Delta	A0	NA	NA	DAB2016S1GQ

(*) S02 is support equipment Power supply for EUT S01

4.2 System Details

System #	Description	Samples
1	AIR-AP4800-B-K9	S01
2	AIR-PWR50 341-100460-001	S02

4.3 Mode of Operation Details

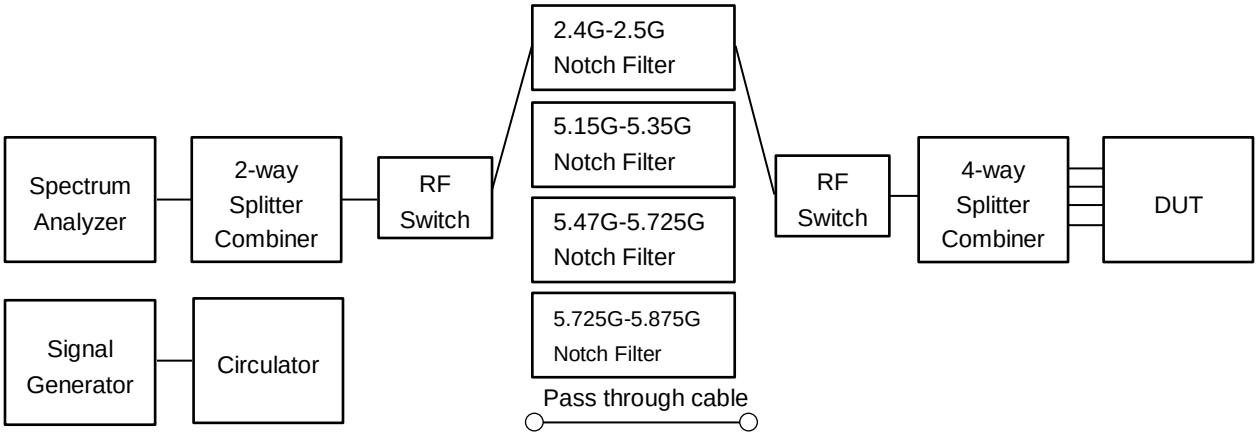
Mode#	Description	Comments
1	Continuous Transmitting	Continuous Transmitting ≥98% duty cycle

All measurements were made in accordance with

- ANSI C63.10:2013
- KDB 789033 D02 General UNII Test Procedures New Rules v02r01
- KDB 662911 D01 Multiple Transmitter Output v02r01

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.

Operating Mode	Maximum Channel Power (dBm)		
	Frequency (MHz)		
	5745	5785	5825
Non HT20, 6 to 54 Mbps	23	23	23
Non HT20 Beam Forming, 6 to 54 Mbps	20	21	20
HT/VHT20, M0 to M23	23	23	23
HT/VHT20 Beam Forming, M0 to M23	23	23	23
HT/VHT20 STBC, M0 to M7	23	23	23
	5755	5795	
Non HT40, 6 to 54 Mbps	21	24	
HT/VHT40, M0 to M23	23	23	
HT/VHT40 Beam Forming, M0 to M23	23	23	
HT/VHT40 STBC, M0 to M7	23	23	
	5775		
Non HT80, 6 to 54 Mbps	19		
VHT80, M0 to M9, M0 to M9 1-2ss	21		
VHT80 Beam Forming, M0 to M9, M0 to M9 1-2ss	21		
VHT80 STBC, M0 to M9 1ss	21		

A.1 6dB Bandwidth

15.407 / RSS-247 Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

Test Procedure

Ref. KDB 789033 D02 General UNII Test Procedures New Rules v02r01
ANSI C63.10: 2013

6 BW Test Procedure
1. Set the radio in the continuous transmitting mode. 2. Allow the trace to stabilize. 3. Setting the x-dB bandwidth mode to -6dB within the measurement set up function. 4. Select the automatic OBW measurement function of an instrument to perform bandwidth measurement. 5. Capture graphs and record pertinent measurement data.

Ref. KDB 789033 D02 General UNII Test Procedures New Rules v02r01
ANSI C63.10: 2013 section 11.8.2 Option 2

6 BW Test parameters
X dB BW = 6dB (using the OBW function of the spectrum analyzer) Span = Large enough to capture the entire EBW RBW = 100 KHz VBW ≥ 3 x RBW Sweep = Auto couple Detector = Peak or where practical sample shall be used Trace = Max. Hold

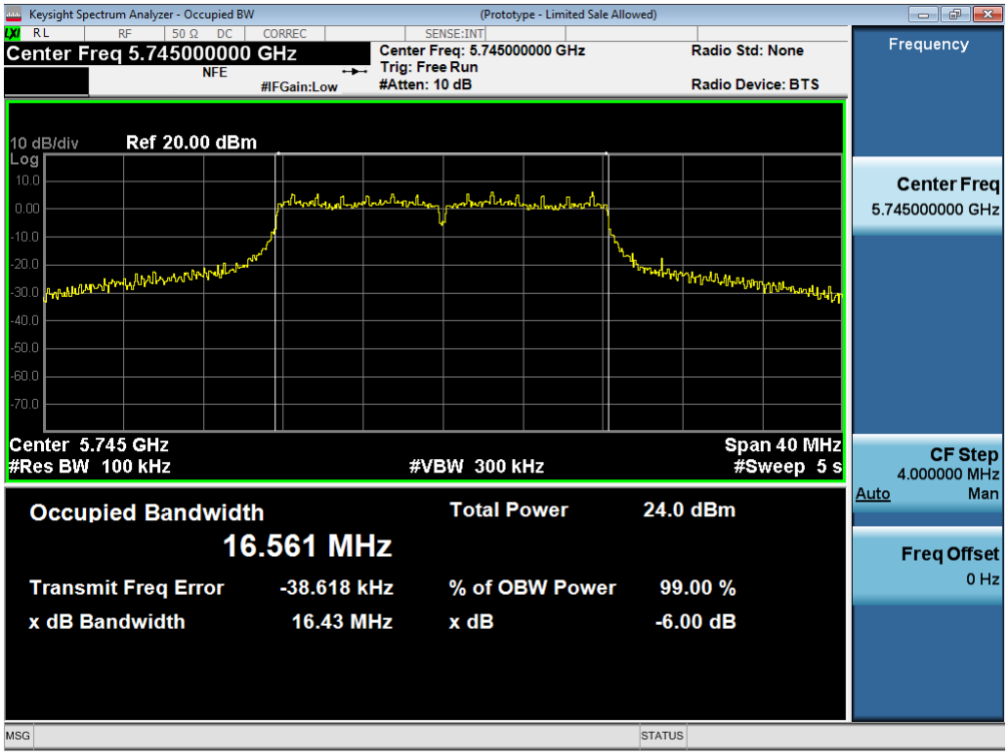
System Number	Description	Samples	System under test	Support equipment
1	EUT	S01	☑	☐
	Support	S02	☐	☑

Tested By :	**Date of testing:**
Jose Aguirre	1-Nov-17 - 19-Mar-18
Test Result : PASS	

See Appendix C for list of test equipment

Frequency (MHz)	Mode	Data Rate (Mbps)	6dB BW (MHz)	Limit (kHz)	Margin (MHz)
5745	**Non HT20, 6 to 54 Mbps**	**6**	**16.4**	**>500**	**15.9**
	HT/VHT20, M0 to M23	m0	17.6	>500	17.1
5755	Non HT40, 6 to 54 Mbps	6	35.8	>500	35.3
	HT/VHT40, M0 to M23	m0	35.5	>500	35.0
5775	Non HT80, 6 to 54 Mbps	6	76.5	>500	76.0
	VHT80, M0 to M9, M0 to M9 1-2ss	m0x1	76.4	>500	75.9
5785	Non HT20, 6 to 54 Mbps	6	16.4	>500	15.9
	HT/VHT20, M0 to M23	m0	17.6	>500	17.1
5795	Non HT40, 6 to 54 Mbps	6	35.8	>500	35.3
	HT/VHT40, M0 to M23	m0	35.7	>500	35.2
5825	Non HT20, 6 to 54 Mbps	6	16.4	>500	15.9
	HT/VHT20, M0 to M23	m0	17.6	>500	17.1

6dB Bandwidth, 5745 MHz, Non HT20, 6 to 54 Mbps



A.2 99% and 26dB Bandwidth

FCC 15.407 / RSS-GEN 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.

Test Procedure

Ref. ANSI C63.10: 2013 Section 6.9.3

99% BW and EBW (-26dB) Test Procedure
1. Set the radio in the continuous transmitting mode. 2. Allow the trace to stabilize. 3. Setting the x-dB bandwidth mode to -26dB and OBW power function to 99% within the measurement set up function. 4. Select the automatic OBW measurement function of an instrument to perform bandwidth measurement. 5. Capture graphs and record pertinent measurement data.

Ref. ANSI C63.10: 2013 Section 6.9.3

99% BW and EBW (-26dB) Test parameters
Span = 1.5 x to 5.0 times OBW RBW = approx. 1% to 5% of the OBW VBW ≥ 3 x RBW Detector = Peak or where practical sample shall be used Trace = Max. Hold

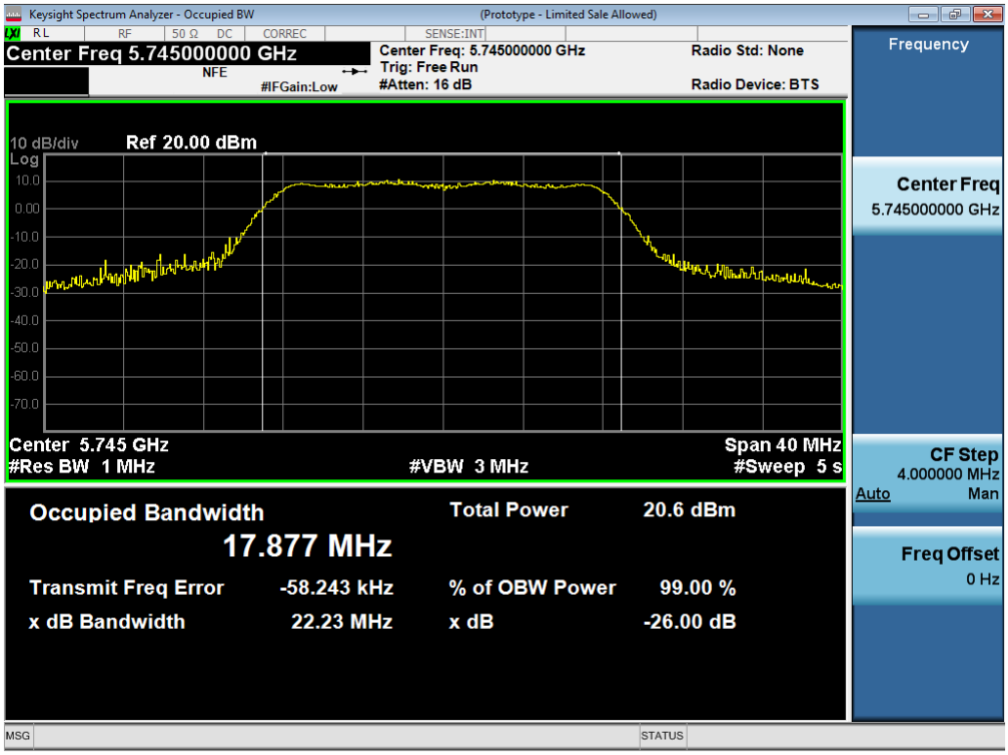
System Number	Description	Samples	System under test	Support equipment
1	EUT	S01	☑	☐
	Support	S02	☐	☑

Tested By :	**Date of testing:**
Jose Aguirre	1-Nov-17 - 19-Mar-18
Test Result : PASS	

See Appendix C for list of test equipment

Frequency (MHz)	Mode	Data Rate (Mbps)	26dB BW (MHz)	99% BW (MHz)
5745	Non HT20, 6 to 54 Mbps	6	22.2	17.877
	HT/VHT20, M0 to M23	m0	22.1	18.516
5755	Non HT40, 6 to 54 Mbps	6	75.4	38.249
	HT/VHT40, M0 to M23	m0	42.5	36.706
5775	Non HT80, 6 to 54 Mbps	6	95.9	76.702
	VHT80, M0 to M9, M0 to M9 1-2ss	m0x1	82.7	76.540
5785	Non HT20, 6 to 54 Mbps	6	25.7	17.969
	HT/VHT20, M0 to M23	m0	21.9	18.523
5795	Non HT40, 6 to 54 Mbps	6	76.8	49.149
	HT/VHT40, M0 to M23	m0	42.0	36.726
5825	**Non HT20, 6 to 54 Mbps**	**6**	**21.4**	**17.875**
	HT/VHT20, M0 to M23	m0	21.6	18.541

26dB / 99% Bandwidth, 5745 MHz, Non HT20 Beam Forming, 6 to 54 Mbps



A.3 Maximum Conducted Output Power

15.407 / RSS-247 For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. 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. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. 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.

The peak correlated gain for each mode is listed in the table below. See the Theory of Operation for details on the correlated gain for each mode.

Test Procedure

Ref. KDB 789033 D02 General UNII Test Procedures New Rules v02r01
ANSI C63.10: 2013

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
ANSI C63.10: 2013 section 12.3.2.2 Method SA-1

Output Power Test parameters
Span = >1.5 times the OBW RBW = 1MHz VBW ≥ 3 x RBW Sweep = Auto couple Detector = sample Trace = Trace Average 100

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. (See ANSI C63.10 section 14.3.2.2)

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

Tested By : Jose Aguirre	**Date of testing:** 1-Nov-17 - 19-Mar-18
Test Result : PASS	

See Appendix C for list of test equipment

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)
5745	Non HT20, 6 to 54 Mbps	1	5	16.9				16.9	30.0	13.1
	Non HT20, 6 to 54 Mbps	2	5	16.9	16.5			19.7	30.0	10.3
	Non HT20, 6 to 54 Mbps	3	5	16.9	16.5	16.6		21.4	30.0	8.6
	Non HT20, 6 to 54 Mbps	4	5	16.9	16.5	16.6	16.6	22.7	30.0	7.3
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	16.9	16.5			19.7	28.0	8.3
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	15.5	15.4	15.1		20.1	26.0	5.9
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	13.0	12.2	12.6	12.5	18.6	25.0	6.4
	HT/VHT20, M0 to M7	1	5	17.1				17.1	30.0	12.9
	HT/VHT20, M0 to M7	2	5	17.1	16.7			19.9	30.0	10.1
	HT/VHT20, M8 to M15	2	5	17.1	16.7			19.9	30.0	10.1
	HT/VHT20, M0 to M7	3	5	17.1	16.7	16.8		21.6	30.0	8.4
	HT/VHT20, M8 to M15	3	5	17.1	16.7	16.8		21.6	30.0	8.4
	HT/VHT20, M16 to M23	3	5	17.1	16.7	16.8		21.6	30.0	8.4
	HT/VHT20, M0 to M7	4	5	17.1	16.7	16.8	16.6	22.8	30.0	7.2
	HT/VHT20, M8 to M15	4	5	17.1	16.7	16.8	16.6	22.8	30.0	7.2
	HT/VHT20, M16 to M23	4	5	17.1	16.7	16.8	16.6	22.8	30.0	7.2
	HT/VHT20 Beam Forming, M0 to M7	2	8	17.1	16.7			19.9	28.0	8.1
	HT/VHT20 Beam Forming, M8 to M15	2	5	17.1	16.7			19.9	30.0	10.1
	HT/VHT20 Beam Forming, M0 to M7	3	10	15.7	15.6	15.4		20.3	26.0	5.7
	HT/VHT20 Beam Forming, M8 to M15	3	7	17.1	16.7	16.8		21.6	29.0	7.4
	HT/VHT20 Beam Forming, M16 to M23	3	5	17.1	16.7	16.8		21.6	30.0	8.4
	HT/VHT20 Beam Forming, M0 to M7	4	11	13.2	12.4	12.8	12.7	18.8	25.0	6.2
	HT/VHT20 Beam Forming, M8 to M15	4	8	15.7	15.6	15.4	15.2	21.5	28.0	6.5
	HT/VHT20 Beam Forming, M16 to M23	4	6	17.1	16.7	16.8	16.6	22.8	30.0	7.2
	HT/VHT20 STBC, M0 to M7	2	5	17.1	16.7			19.9	30.0	10.1
	HT/VHT20 STBC, M0 to M7	3	5	17.1	16.7	16.8		21.6	30.0	8.4
	HT/VHT20 STBC, M0 to M7	4	5	17.1	16.7	16.8	16.6	22.8	30.0	7.2
5755	Non HT40, 6 to 54 Mbps	1	5	15.4				15.4	29.9	14.5
	Non HT40, 6 to 54 Mbps	2	5	15.4	15.6			18.5	29.9	11.4
	Non HT40, 6 to 54 Mbps	3	5	15.4	15.6	15.7		20.3	29.9	9.6
	Non HT40, 6 to 54 Mbps	4	5	15.4	15.6	15.7	14.8	21.4	29.9	8.5
	HT/VHT40, M0 to M7	1	5	17.4				17.4	29.9	12.5
	HT/VHT40, M0 to M7	2	5	17.4	17.1			20.3	29.9	9.6
	HT/VHT40, M8 to M15	2	5	17.4	17.1			20.3	29.9	9.6
	HT/VHT40, M0 to M7	3	5	17.4	17.1	17.1		22.0	29.9	7.9

	HT/VHT40, M8 to M15	3	5	17.4	17.1	17.1		22.0	29.9	7.9
	HT/VHT40, M16 to M23	3	5	17.4	17.1	17.1		22.0	29.9	7.9
	HT/VHT40, M0 to M7	4	5	17.4	17.1	17.1	16.9	23.1	29.9	6.8
	HT/VHT40, M8 to M15	4	5	17.4	17.1	17.1	16.9	23.1	29.9	6.8
	HT/VHT40, M16 to M23	4	5	17.4	17.1	17.1	16.9	23.1	29.9	6.8
	HT/VHT40 Beam Forming, M0 to M7	2	8	17.4	17.1			20.3	27.9	7.6
	HT/VHT40 Beam Forming, M8 to M15	2	5	17.4	17.1			20.3	29.9	9.6
	HT/VHT40 Beam Forming, M0 to M7	3	10	15.7	14.8	15.0		20.0	25.9	5.9
	HT/VHT40 Beam Forming, M8 to M15	3	7	17.4	17.1	17.1		22.0	28.9	6.9
	HT/VHT40 Beam Forming, M16 to M23	3	5	17.4	17.1	17.1		22.0	29.9	7.9
	HT/VHT40 Beam Forming, M0 to M7	4	11	13.3	12.4	12.5	12.7	18.8	24.9	6.1
	HT/VHT40 Beam Forming, M8 to M15	4	8	17.4	17.1	17.1	16.9	23.1	27.9	4.8
	HT/VHT40 Beam Forming, M16 to M23	4	6	17.4	17.1	17.1	16.9	23.1	29.9	6.8
	HT/VHT40 STBC, M0 to M7	2	5	17.4	17.1			20.3	29.9	9.6
	HT/VHT40 STBC, M0 to M7	3	5	17.4	17.1	17.1		22.0	29.9	7.9
	HT/VHT40 STBC, M0 to M7	4	5	17.4	17.1	17.1	16.9	23.1	29.9	6.8
5775	Non HT80, 6 to 54 Mbps	1	5	13.9				13.9	29.8	15.9
	Non HT80, 6 to 54 Mbps	2	5	13.9	14.3			17.1	29.8	12.7
	Non HT80, 6 to 54 Mbps	3	5	13.9	14.3	14.1		18.9	29.8	10.9
	Non HT80, 6 to 54 Mbps	4	5	12.6	13.3	12.7	12.1	18.7	29.8	11.1
	VHT80, M0 to M9 1ss	1	5	15.7				15.7	29.8	14.1
	VHT80, M0 to M9 1ss	2	5	15.7	15.6			18.7	29.8	11.1
	VHT80, M0 to M9 2ss	2	5	15.7	15.6			18.7	29.8	11.1
	VHT80, M0 to M9 1ss	3	5	15.7	15.6	15.4		20.3	29.8	9.5
	VHT80, M0 to M9 2ss	3	5	15.7	15.6	15.4		20.3	29.8	9.5
	VHT80, M0 to M9 3ss	3	5	15.7	15.6	15.4		20.3	29.8	9.5
	VHT80, M0 to M9 1ss	4	5	15.7	15.6	15.4	15.2	21.5	29.8	8.3
	VHT80, M0 to M9 2ss	4	5	15.7	15.6	15.4	15.2	21.5	29.8	8.3
	VHT80, M0 to M9 3ss	4	5	15.7	15.6	15.4	15.2	21.5	29.8	8.3
	VHT80 Beam Forming, M0 to M9 1ss	2	8	15.7	15.6			18.7	27.8	9.1
	VHT80 Beam Forming, M0 to M9 2ss	2	5	15.7	15.6			18.7	29.8	11.1
	VHT80 Beam Forming, M0 to M9 1ss	3	10	15.5	14.7	14.3		19.6	25.8	6.2
	VHT80 Beam Forming, M0 to M9 2ss	3	7	15.7	15.6	15.4		20.3	28.8	8.5
	VHT80 Beam Forming, M0 to M9 3ss	3	5	15.7	15.6	15.4		20.3	29.8	9.5
	VHT80 Beam Forming, M0 to M9 1ss	4	11	13.2	12.2	13.0	12.7	18.8	24.8	6.0
	VHT80 Beam Forming, M0 to M9 2ss	4	8	15.7	15.6	15.4	15.2	21.5	27.8	6.3
	VHT80 Beam Forming, M0 to M9 3ss	4	6	15.7	15.6	15.4	15.2	21.5	29.8	8.3
	VHT80 STBC, M0 to M9 1ss	2	5	15.7	15.6			18.7	29.8	11.1
	VHT80 STBC, M0 to M9 1ss	3	5	15.7	15.6	15.4		20.3	29.8	9.5
	VHT80 STBC, M0 to M9 1ss	4	5	15.7	15.6	15.4	15.2	21.5	29.8	8.3

5785	Non HT20, 6 to 54 Mbps	1	5	16.7				16.7	30.0	13.3
	Non HT20, 6 to 54 Mbps	2	5	16.7	16.2			19.5	30.0	10.5
	Non HT20, 6 to 54 Mbps	3	5	16.7	16.2	16.8		21.3	30.0	8.7
	Non HT20, 6 to 54 Mbps	4	5	16.7	16.2	16.8	16.5	22.6	30.0	7.4
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	16.7	16.2			19.5	28.0	8.5
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	16.7	16.2	16.8		21.3	26.0	4.7
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	13.8	13.2	13.2	13.8	19.5	25.0	5.5
	HT/VHT20, M0 to M7	1	5	17.0				17.0	30.0	13.0
	HT/VHT20, M0 to M7	2	5	17.0	16.5			19.8	30.0	10.2
	HT/VHT20, M8 to M15	2	5	17.0	16.5			19.8	30.0	10.2
	HT/VHT20, M0 to M7	3	5	17.0	16.5	17.1		21.6	30.0	8.4
	HT/VHT20, M8 to M15	3	5	17.0	16.5	17.1		21.6	30.0	8.4
	HT/VHT20, M16 to M23	3	5	17.0	16.5	17.1		21.6	30.0	8.4
	HT/VHT20, M0 to M7	4	5	17.0	16.5	17.1	16.8	22.9	30.0	7.1
	HT/VHT20, M8 to M15	4	5	17.0	16.5	17.1	16.8	22.9	30.0	7.1
	HT/VHT20, M16 to M23	4	5	17.0	16.5	17.1	16.8	22.9	30.0	7.1
	HT/VHT20 Beam Forming, M0 to M7	2	8	17.0	16.5			19.8	28.0	8.2
	HT/VHT20 Beam Forming, M8 to M15	2	5	17.0	16.5			19.8	30.0	10.2
	HT/VHT20 Beam Forming, M0 to M7	3	10	15.8	15.6	15.9		20.5	26.0	5.5
	HT/VHT20 Beam Forming, M8 to M15	3	7	17.0	16.5	17.1		21.6	29.0	7.4
	HT/VHT20 Beam Forming, M16 to M23	3	5	17.0	16.5	17.1		21.6	30.0	8.4
	HT/VHT20 Beam Forming, M0 to M7	4	11	13.3	12.4	13.5	13.0	19.1	25.0	5.9
	HT/VHT20 Beam Forming, M8 to M15	4	8	17.0	16.5	17.1	16.8	22.9	28.0	5.1
	HT/VHT20 Beam Forming, M16 to M23	4	6	17.0	16.5	17.1	16.8	22.9	30.0	7.1
	HT/VHT20 STBC, M0 to M7	2	5	17.0	16.5			19.8	30.0	10.2
	HT/VHT20 STBC, M0 to M7	3	5	17.0	16.5	17.1		21.6	30.0	8.4
	HT/VHT20 STBC, M0 to M7	4	5	17.0	16.5	17.1	16.8	22.9	30.0	7.1
5795	Non HT40, 6 to 54 Mbps	1	5	18.3				18.3	29.9	11.6
	Non HT40, 6 to 54 Mbps	2	5	18.3	17.8			21.1	29.9	8.8
	Non HT40, 6 to 54 Mbps	3	5	18.3	17.8	18.1		22.8	29.9	7.1
	Non HT40, 6 to 54 Mbps	4	5	18.3	17.8	18.1	18.1	24.1	29.9	5.8
	HT/VHT40, M0 to M7	1	5	17.5				17.5	29.9	12.4
	HT/VHT40, M0 to M7	2	5	17.5	17.3			20.4	29.9	9.5
	HT/VHT40, M8 to M15	2	5	17.5	17.3			20.4	29.9	9.5
	HT/VHT40, M0 to M7	3	5	17.5	17.3	17.4		22.2	29.9	7.7
	HT/VHT40, M8 to M15	3	5	17.5	17.3	17.4		22.2	29.9	7.7
	HT/VHT40, M16 to M23	3	5	17.5	17.3	17.4		22.2	29.9	7.7
	HT/VHT40, M0 to M7	4	5	17.5	17.3	17.4	17.3	23.4	29.9	6.5
	HT/VHT40, M8 to M15	4	5	17.5	17.3	17.4	17.3	23.4	29.9	6.5
	HT/VHT40, M16 to M23	4	5	17.5	17.3	17.4	17.3	23.4	29.9	6.5
	HT/VHT40 Beam Forming, M0 to M7	2	8	17.5	17.3			20.4	27.9	7.5
	HT/VHT40 Beam Forming, M8 to M15	2	5	17.5	17.3			20.4	29.9	9.5

	HT/VHT40 Beam Forming, M0 to M7	3	10	14.7	15.0	15.3		19.8	25.9	6.1
	HT/VHT40 Beam Forming, M8 to M15	3	7	17.5	17.3	17.4		22.2	28.9	6.7
	HT/VHT40 Beam Forming, M16 to M23	3	5	17.5	17.3	17.4		22.2	29.9	7.7
	HT/VHT40 Beam Forming, M0 to M7	4	11	13.6	12.6	12.7	13.1	19.0	24.9	5.9
	HT/VHT40 Beam Forming, M8 to M15	**4**	**8**	**17.5**	**17.3**	**17.4**	**17.3**	**23.4**	**27.9**	**4.5**
	HT/VHT40 Beam Forming, M16 to M23	4	6	17.5	17.3	17.4	17.3	23.4	29.9	6.5
	HT/VHT40 STBC, M0 to M7	2	5	17.5	17.3			20.4	29.9	9.5
	HT/VHT40 STBC, M0 to M7	3	5	17.5	17.3	17.4		22.2	29.9	7.7
	HT/VHT40 STBC, M0 to M7	4	5	17.5	17.3	17.4	17.3	23.4	29.9	6.5
5825	Non HT20, 6 to 54 Mbps	1	5	16.6				16.6	30.0	13.4
	Non HT20, 6 to 54 Mbps	2	5	16.6	16.8			19.7	30.0	10.3
	Non HT20, 6 to 54 Mbps	3	5	16.6	16.8	17.1		21.6	30.0	8.4
	Non HT20, 6 to 54 Mbps	4	5	16.6	16.8	17.1	16.8	22.8	30.0	7.2
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	16.6	16.8			19.7	28.0	8.3
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	15.3	15.7	16.0		20.4	26.0	5.6
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	12.7	12.4	12.5	12.7	18.6	25.0	6.4
	HT/VHT20, M0 to M7	1	5	16.8				16.8	30.0	13.2
	HT/VHT20, M0 to M7	2	5	16.8	16.9			19.9	30.0	10.1
	HT/VHT20, M8 to M15	2	5	16.8	16.9			19.9	30.0	10.1
	HT/VHT20, M0 to M7	3	5	16.8	16.9	17.3		21.8	30.0	8.2
	HT/VHT20, M8 to M15	3	5	16.8	16.9	17.3		21.8	30.0	8.2
	HT/VHT20, M16 to M23	3	5	16.8	16.9	17.3		21.8	30.0	8.2
	HT/VHT20, M0 to M7	4	5	16.8	16.9	17.3	16.9	23.0	30.0	7.0
	HT/VHT20, M8 to M15	4	5	16.8	16.9	17.3	16.9	23.0	30.0	7.0
	HT/VHT20, M16 to M23	4	5	16.8	16.9	17.3	16.9	23.0	30.0	7.0
	HT/VHT20 Beam Forming, M0 to M7	2	8	16.8	16.9			19.9	28.0	8.1
	HT/VHT20 Beam Forming, M8 to M15	2	5	16.8	16.9			19.9	30.0	10.1
	HT/VHT20 Beam Forming, M0 to M7	3	10	15.5	15.9	16.2		20.6	26.0	5.4
	HT/VHT20 Beam Forming, M8 to M15	3	7	16.8	16.9	17.3		21.8	29.0	7.2
	HT/VHT20 Beam Forming, M16 to M23	3	5	16.8	16.9	17.3		21.8	30.0	8.2
	HT/VHT20 Beam Forming, M0 to M7	4	11	12.9	12.6	12.8	12.9	18.8	25.0	6.2
	HT/VHT20 Beam Forming, M8 to M15	4	8	16.8	16.9	17.3	16.9	23.0	28.0	5.0
	HT/VHT20 Beam Forming, M16 to M23	4	6	16.8	16.9	17.3	16.9	23.0	30.0	7.0
	HT/VHT20 STBC, M0 to M7	2	5	16.8	16.9			19.9	30.0	10.1
	HT/VHT20 STBC, M0 to M7	3	5	16.8	16.9	17.3		21.8	30.0	8.2
	HT/VHT20 STBC, M0 to M7	4	5	16.8	16.9	17.3	16.9	23.0	30.0	7.0

Maximum Transmit Output Power, 5795 MHz, HT/VHT40 Beam Forming, M8 to M15

Antenna A

Antenna B

Antenna C

Antenna D

A.4 Power Spectral Density

15.407 / RSS-247 The power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Test Procedure

Ref. KDB 789033 D02 General UNII Test Procedures New Rules v01

Power Spectral Density Test Procedure
1. Connect the antenna port(s) to the spectrum analyzer input. 2. Set the radio in the continuous transmitting mode at full power 3. Configure Spectrum analyzer as per test parameters below and Peak search marker 4. Capture graphs and record pertinent measurement data.

Ref. KDB 789033 D02 v01 section F.5

Power Spectral Density Test parameters
Span = >1.5 times the OBW RBW = 500 kHz. VBW ≥ 3 x RBW Sweep = 10s Detector = Peak Trace = Single Sweep Marker = Peak Search

The “Measure and add 10 log(N) dB technique”, where N is the number of outputs, is used for measuring in-band Power Spectral Density. With this technique, spectrum measurements are performed at each output of the device, and the quantity 10 log(4) (or 6dB) is added to the worst case spectrum value before comparing to the emission limit. (ANSI C63.10 2013 section 14.3.2.3)

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

Tested By : Jose Aguirre	**Date of testing:** 1-Nov-17 - 19-Mar-18
Test Result : PASS	

See Appendix C for list of test equipment

Limit is reduced due to Duty Cycle (appendix A.8) and also BW correction 10 Log(500kHz / 470kHz) = 0.3dB

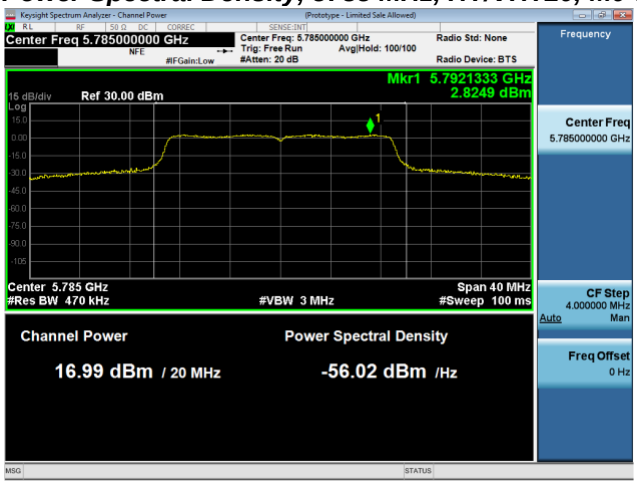
Frequency (MHz)	Mode	Tx Paths	Correlated Antenna Gain (dBi)	Tx 1 PSD (dBm/MHz)	Tx 2 PSD (dBm/MHz)	Tx 3 PSD (dBm/MHz)	Tx 4 PSD (dBm/MHz)	Total PSD (dBm/500MHz)	Limit (dBm/500MHz)	Margin (dB)
5745	Non HT20, 6 to 54 Mbps	1	5	2.7				2.7	29.7	27.0
	Non HT20, 6 to 54 Mbps	2	8	2.7	2.5			5.6	27.7	22.1
	Non HT20, 6 to 54 Mbps	3	10	2.7	2.5	2.8		7.4	25.7	18.3
	Non HT20, 6 to 54 Mbps	4	11	2.7	2.5	2.8	2.8	8.7	24.7	16.0
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	2.7	2.5			5.6	27.7	22.1
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	1.7	1.8	1.4		6.4	25.7	19.3
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	-0.4	-1.8	-1.3	-1.2	4.9	24.7	19.8
	HT/VHT20, M0 to M7	1	5	3.0				3.0	29.7	26.7
	HT/VHT20, M0 to M7	2	8	3.0	2.5			5.8	27.7	21.9
	HT/VHT20, M8 to M15	2	5	3.0	2.5			5.8	29.7	23.9
	HT/VHT20, M0 to M7	3	10	3.0	2.5	2.8		7.5	25.7	18.2
	HT/VHT20, M8 to M15	3	7	3.0	2.5	2.8		7.5	28.7	21.2
	HT/VHT20, M16 to M23	3	5	3.0	2.5	2.8		7.5	29.7	22.2
	HT/VHT20, M0 to M7	4	11	3.0	2.5	2.8	2.7	8.8	24.7	15.9
	HT/VHT20, M8 to M15	4	8	3.0	2.5	2.8	2.7	8.8	27.7	18.9
	HT/VHT20, M16 to M23	4	6	3.0	2.5	2.8	2.7	8.8	29.7	20.9
	HT/VHT20 Beam Forming, M0 to M7	2	8	3.0	2.5			5.8	27.7	21.9
	HT/VHT20 Beam Forming, M8 to M15	2	5	3.0	2.5			5.8	29.7	23.9
	HT/VHT20 Beam Forming, M0 to M7	3	10	1.6	1.6	1.2		6.2	25.7	19.5
	HT/VHT20 Beam Forming, M8 to M15	3	7	3.0	2.5	2.8		7.5	28.7	21.2
	HT/VHT20 Beam Forming, M16 to M23	3	5	3.0	2.5	2.8		7.5	29.7	22.2
	HT/VHT20 Beam Forming, M0 to M7	4	11	-0.8	-1.7	-1.3	-1.5	4.7	24.7	20.0
	HT/VHT20 Beam Forming, M8 to M15	4	8	1.6	1.6	1.2	1.1	7.4	27.7	20.3
	HT/VHT20 Beam Forming, M16 to M23	4	6	3.0	2.5	2.8	2.7	8.8	29.7	20.9
	HT/VHT20 STBC, M0 to M7	2	5	3.0	2.5			5.8	29.7	23.9
	HT/VHT20 STBC, M0 to M7	3	7	3.0	2.5	2.8		7.5	28.7	21.2
	HT/VHT20 STBC, M0 to M7	4	8	3.0	2.5	2.8	2.7	8.8	27.7	18.9
5755	Non HT40, 6 to 54 Mbps	1	5	-1.1				-1.1	29.6	30.7
	Non HT40, 6 to 54 Mbps	2	8	-1.1	-0.9			2.0	27.6	25.6
	Non HT40, 6 to 54 Mbps	3	10	-1.1	-0.9	-1.1		3.7	25.6	21.9
	Non HT40, 6 to 54 Mbps	4	11	-1.1	-0.9	-1.1	-1.9	4.8	24.6	19.8
	HT/VHT40, M0 to M7	1	5	0.2				0.2	29.6	29.4
	HT/VHT40, M0 to M7	2	8	0.2	0.0			3.1	27.6	24.5
	HT/VHT40, M8 to M15	2	5	0.2	0.0			3.1	29.6	26.5

	HT/VHT40, M0 to M7	3	10	0.2	0.0	0.1		4.9	25.6	20.7
	HT/VHT40, M8 to M15	3	7	0.2	0.0	0.1		4.9	28.6	23.7
	HT/VHT40, M16 to M23	3	5	0.2	0.0	0.1		4.9	29.6	24.7
	HT/VHT40, M0 to M7	4	11	0.2	0.0	0.1	-0.3	6.0	24.6	18.6
	HT/VHT40, M8 to M15	4	8	0.2	0.0	0.1	-0.3	6.0	27.6	21.6
	HT/VHT40, M16 to M23	4	6	0.2	0.0	0.1	-0.3	6.0	29.6	23.6
	HT/VHT40 Beam Forming, M0 to M7	2	8	-1.5	-2.1			1.2	27.6	26.4
	HT/VHT40 Beam Forming, M8 to M15	2	5	0.2	0.0			3.1	29.6	26.5
	HT/VHT40 Beam Forming, M0 to M7	3	10	-1.5	-2.1	-1.8		3.0	25.6	22.6
	HT/VHT40 Beam Forming, M8 to M15	3	7	0.2	0.0	0.1		4.9	28.6	23.7
	HT/VHT40 Beam Forming, M16 to M23	3	5	0.2	0.0	0.1		4.9	29.6	24.7
	HT/VHT40 Beam Forming, M0 to M7	4	11	-3.4	-4.7	-4.6	-4.6	1.7	24.6	22.9
	HT/VHT40 Beam Forming, M8 to M15	4	8	0.2	0.0	0.1	-0.3	6.0	27.6	21.6
	HT/VHT40 Beam Forming, M16 to M23	4	6	0.2	0.0	0.1	-0.3	6.0	29.6	23.6
	HT/VHT40 STBC, M0 to M7	2	5	0.2	0.0			3.1	29.6	26.5
	HT/VHT40 STBC, M0 to M7	3	7	0.2	0.0	0.1		4.9	28.6	23.7
	HT/VHT40 STBC, M0 to M7	4	8	0.2	0.0	0.1	-0.3	6.0	27.6	21.6
5775	Non HT80, 6 to 54 Mbps	1	5	-6.0				-6.0	29.5	35.5
	Non HT80, 6 to 54 Mbps	2	8	-6.0	-6.0			-3.0	27.5	30.5
	Non HT80, 6 to 54 Mbps	3	10	-6.0	-6.0	-6.2		-1.3	25.5	26.8
	Non HT80, 6 to 54 Mbps	4	11	-7.4	-7.0	-7.5	-7.9	-1.4	24.5	25.9
	VHT80, M0 to M9 1ss	1	5	-5.0				-5.0	29.5	34.5
	VHT80, M0 to M9 1ss	2	8	-5.0	-5.1			-2.0	27.5	29.5
	VHT80, M0 to M9 2ss	2	5	-5.0	-5.1			-2.0	29.5	31.5
	VHT80, M0 to M9 1ss	3	10	-5.0	-5.1	-5.0		-0.3	25.5	25.8
	VHT80, M0 to M9 2ss	3	7	-5.0	-5.1	-5.0		-0.3	28.5	28.8
	VHT80, M0 to M9 3ss	3	5	-5.0	-5.1	-5.0		-0.3	29.5	29.8
	VHT80, M0 to M9 1ss	4	11	-5.0	-5.1	-5.0	-5.6	0.9	24.5	23.6
	VHT80, M0 to M9 2ss	4	8	-5.0	-5.1	-5.0	-5.6	0.9	27.5	26.6
	VHT80, M0 to M9 3ss	4	6	-5.0	-5.1	-5.0	-5.6	0.9	29.5	28.6
	VHT80 Beam Forming, M0 to M9 1ss	2	8	-5.0	-5.1			-2.0	27.5	29.5
	VHT80 Beam Forming, M0 to M9 2ss	2	5	-5.0	-5.1			-2.0	29.5	31.5
	VHT80 Beam Forming, M0 to M9 1ss	3	10	-4.9	-6.3	-6.5		-1.1	25.5	26.6
	VHT80 Beam Forming, M0 to M9 2ss	3	7	-5.0	-5.1	-5.0		-0.3	28.5	28.8
	VHT80 Beam Forming, M0 to M9 3ss	3	5	-5.0	-5.1	-5.0		-0.3	29.5	29.8
	VHT80 Beam Forming, M0 to M9 1ss	4	11	-7.6	-8.6	-7.8	-8.3	-2.0	24.5	26.5
	VHT80 Beam Forming, M0 to M9 2ss	4	8	-5.0	-5.1	-5.0	-5.6	0.9	27.5	26.6
	VHT80 Beam Forming, M0 to M9 3ss	4	6	-5.0	-5.1	-5.0	-5.6	0.9	29.5	28.6
	VHT80 STBC, M0 to M9 1ss	2	5	-5.0	-5.1			-2.0	29.5	31.5
	VHT80 STBC, M0 to M9 1ss	3	5	-5.0	-5.1	-5.0		-0.3	29.5	29.8
	VHT80 STBC, M0 to M9 1ss	4	5	-5.0	-5.1	-5.0	-5.6	0.9	29.5	28.6

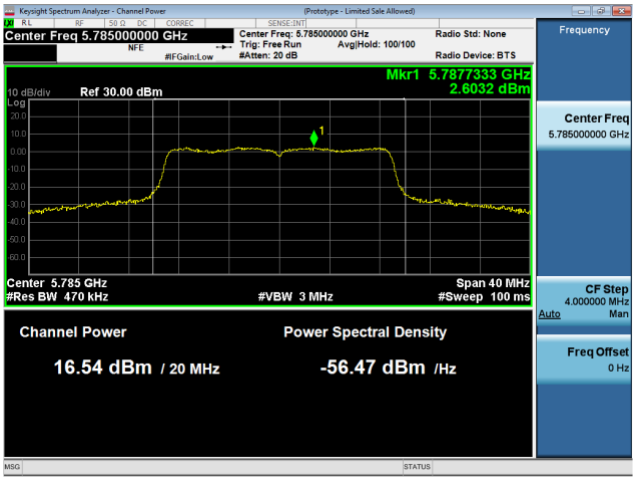
5785	Non HT20, 6 to 54 Mbps	1	5	2.9				2.9	29.7	26.8
	Non HT20, 6 to 54 Mbps	2	8	2.9	2.5			5.7	27.7	22.0
	Non HT20, 6 to 54 Mbps	3	10	2.9	2.5	2.9		7.5	25.7	18.2
	Non HT20, 6 to 54 Mbps	4	11	2.9	2.5	2.9	2.8	8.8	24.7	15.9
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	2.9	2.5			5.7	27.7	22.0
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	2.9	2.5	2.9		7.5	25.7	18.2
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	-0.1	-0.7	-0.2	-0.2	5.7	24.7	19.0
	HT/VHT20, M0 to M7	1	5	2.8				2.8	29.7	26.9
	HT/VHT20, M0 to M7	2	8	2.8	2.6			5.7	27.7	22.0
	HT/VHT20, M8 to M15	2	5	2.8	2.6			5.7	29.7	24.0
	HT/VHT20, M0 to M7	3	10	2.8	2.6	3.6		7.8	25.7	17.9
	HT/VHT20, M8 to M15	3	7	2.8	2.6	3.6		7.8	28.7	20.9
	HT/VHT20, M16 to M23	3	5	2.8	2.6	3.6		7.8	29.7	21.9
	HT/VHT20, M0 to M7	**4**	**11**	**2.8**	**2.6**	**3.6**	**2.7**	**9.0**	**24.7**	**15.7**
	HT/VHT20, M8 to M15	4	8	2.8	2.6	3.6	2.7	9.0	27.7	18.7
	HT/VHT20, M16 to M23	4	6	2.8	2.6	3.6	2.7	9.0	29.7	20.7
	HT/VHT20 Beam Forming, M0 to M7	2	8	2.8	2.6			5.7	27.7	22.0
	HT/VHT20 Beam Forming, M8 to M15	2	5	2.8	2.6			5.7	29.7	24.0
	HT/VHT20 Beam Forming, M0 to M7	3	10	1.6	1.6	1.7		6.4	25.7	19.3
	HT/VHT20 Beam Forming, M8 to M15	3	7	2.8	2.6	3.6		7.8	28.7	20.9
	HT/VHT20 Beam Forming, M16 to M23	3	5	2.8	2.6	3.6		7.8	29.7	21.9
	HT/VHT20 Beam Forming, M0 to M7	4	11	-1.0	-1.7	-0.5	-1.1	5.0	24.7	19.7
	HT/VHT20 Beam Forming, M8 to M15	4	8	2.8	2.6	3.6	2.7	9.0	27.7	18.7
	HT/VHT20 Beam Forming, M16 to M23	4	6	2.8	2.6	3.6	2.7	9.0	29.7	20.7
	HT/VHT20 STBC, M0 to M7	2	5	2.8	2.6			5.7	29.7	24.0
	HT/VHT20 STBC, M0 to M7	3	7	2.8	2.6	3.6		7.8	28.7	20.9
	HT/VHT20 STBC, M0 to M7	4	8	2.8	2.6	3.6	2.7	9.0	27.7	18.7
5795	Non HT40, 6 to 54 Mbps	1	5	1.8				1.8	29.6	27.8
	Non HT40, 6 to 54 Mbps	2	8	1.8	1.1			4.5	27.6	23.1
	Non HT40, 6 to 54 Mbps	3	10	1.8	1.1	1.4		6.2	25.6	19.4
	Non HT40, 6 to 54 Mbps	4	11	1.8	1.1	1.4	1.1	7.4	24.6	17.2
	HT/VHT40, M0 to M7	1	5	0.5				0.5	29.6	29.1
	HT/VHT40, M0 to M7	2	8	0.5	0.2			3.4	27.6	24.2
	HT/VHT40, M8 to M15	2	5	0.5	0.2			3.4	29.6	26.2
	HT/VHT40, M0 to M7	3	10	0.5	0.2	0.2		5.1	25.6	20.5
	HT/VHT40, M8 to M15	3	7	0.5	0.2	0.2		5.1	28.6	23.5
	HT/VHT40, M16 to M23	3	5	0.5	0.2	0.2		5.1	29.6	24.5
	HT/VHT40, M0 to M7	4	11	0.5	0.2	0.2	0.2	6.3	24.6	18.3
	HT/VHT40, M8 to M15	4	8	0.5	0.2	0.2	0.2	6.3	27.6	21.3
	HT/VHT40, M16 to M23	4	6	0.5	0.2	0.2	0.2	6.3	29.6	23.3
	HT/VHT40 Beam Forming, M0 to M7	2	8	0.5	0.2			3.4	27.6	24.2

	HT/VHT40 Beam Forming, M8 to M15	2	5	0.5	0.2			3.4	29.6	26.2
	HT/VHT40 Beam Forming, M0 to M7	3	10	-2.3	-1.9	-2.0		2.7	25.6	22.9
	HT/VHT40 Beam Forming, M8 to M15	3	7	0.5	0.2	0.2		5.1	28.6	23.5
	HT/VHT40 Beam Forming, M16 to M23	3	5	0.5	0.2	0.2		5.1	29.6	24.5
	HT/VHT40 Beam Forming, M0 to M7	4	11	-3.3	-4.4	-4.1	-4.2	2.0	24.6	22.6
	HT/VHT40 Beam Forming, M8 to M15	4	8	0.5	0.2	0.2	0.2	6.3	27.6	21.3
	HT/VHT40 Beam Forming, M16 to M23	4	6	0.5	0.2	0.2	0.2	6.3	29.6	23.3
	HT/VHT40 STBC, M0 to M7	2	5	0.5	0.2			3.4	29.6	26.2
	HT/VHT40 STBC, M0 to M7	3	7	0.5	0.2	0.2		5.1	28.6	23.5
	HT/VHT40 STBC, M0 to M7	4	8	0.5	0.2	0.2	0.2	6.3	27.6	21.3
5825	Non HT20, 6 to 54 Mbps	1	5	2.8				2.8	29.7	26.9
	Non HT20, 6 to 54 Mbps	2	8	2.8	2.7			5.8	27.7	21.9
	Non HT20, 6 to 54 Mbps	3	10	2.8	2.7	3.3		7.7	25.7	18.0
	Non HT20, 6 to 54 Mbps	4	11	2.8	2.7	3.3	3.1	9.0	24.7	15.7
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	2.8	2.7			5.8	27.7	21.9
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	1.5	1.9	2.3		6.7	25.7	19.0
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	-1.2	-1.1	-1.0	-1.2	4.9	24.7	19.8
	HT/VHT20, M0 to M7	1	5	2.5				2.5	29.7	27.2
	HT/VHT20, M0 to M7	2	8	2.5	2.8			5.7	27.7	22.0
	HT/VHT20, M8 to M15	2	5	2.5	2.8			5.7	29.7	24.0
	HT/VHT20, M0 to M7	3	10	2.5	2.8	3.2		7.6	25.7	18.1
	HT/VHT20, M8 to M15	3	7	2.5	2.8	3.2		7.6	28.7	21.1
	HT/VHT20, M16 to M23	3	5	2.5	2.8	3.2		7.6	29.7	22.1
	HT/VHT20, M0 to M7	4	11	2.5	2.8	3.2	3.0	8.9	24.7	15.8
	HT/VHT20, M8 to M15	4	8	2.5	2.8	3.2	3.0	8.9	27.7	18.8
	HT/VHT20, M16 to M23	4	6	2.5	2.8	3.2	3.0	8.9	29.7	20.8
	HT/VHT20 Beam Forming, M0 to M7	2	8	2.5	2.8			5.7	27.7	22.0
	HT/VHT20 Beam Forming, M8 to M15	2	5	2.5	2.8			5.7	29.7	24.0
	HT/VHT20 Beam Forming, M0 to M7	3	10	1.3	1.7	2.1		6.5	25.7	19.2
	HT/VHT20 Beam Forming, M8 to M15	3	7	2.5	2.8	3.2		7.6	28.7	21.1
	HT/VHT20 Beam Forming, M16 to M23	3	5	2.5	2.8	3.2		7.6	29.7	22.1
	HT/VHT20 Beam Forming, M0 to M7	4	11	-1.1	-1.4	-1.1	-1.1	4.8	24.7	19.9
	HT/VHT20 Beam Forming, M8 to M15	4	8	2.5	2.8	3.2	3.0	8.9	27.7	18.8
	HT/VHT20 Beam Forming, M16 to M23	4	6	2.5	2.8	3.2	3.0	8.9	29.7	20.8
	HT/VHT20 STBC, M0 to M7	2	5	2.5	2.8			5.7	29.7	24.0
	HT/VHT20 STBC, M0 to M7	3	7	2.5	2.8	3.2		7.6	28.7	21.1
	HT/VHT20 STBC, M0 to M7	4	8	2.5	2.8	3.2	3.0	8.9	27.7	18.8

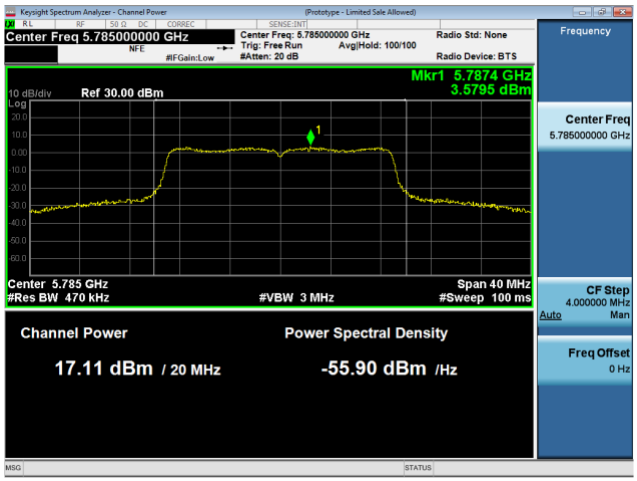
Power Spectral Density, 5785 MHz, HT/VHT20, M0 to M7



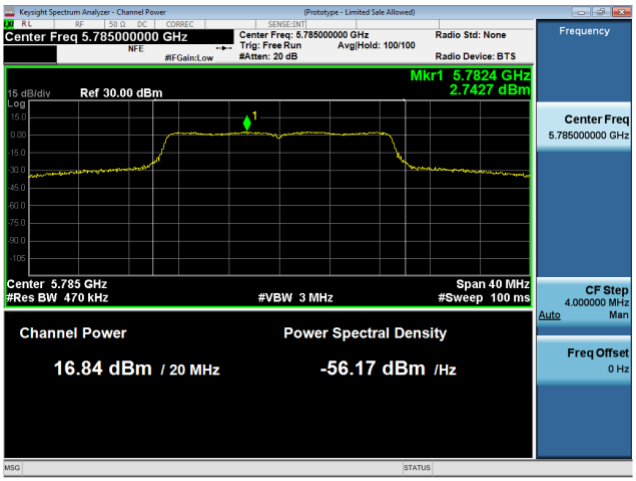
Antenna A



Antenna B



Antenna C



Antenna D

A.5 Conducted Spurious Emissions

15.205 / 15.209 / LP0002 - 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)).

RSS-Gen 8.9: Except when the requirements applicable to a given device state otherwise, emissions from licence-exempt transmitters shall comply with the field strength limits shown in Table 4 and Table 5 below. Additionally, the level of any transmitter emission shall not exceed the level of the transmitter's fundamental emission.

RSS-Gen 8.10 (**b**) Unwanted emissions that fall into restricted bands of Table 6 shall comply with the limits specified in RSS-Gen; and (**c**) Unwanted emissions that do not fall within the restricted frequency bands of Table 6 shall comply either with the limits specified in the applicable RSS or with those specified in this RSS-Gen.

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

Test Procedure

Ref. KDB 789033 D02 General UNII Test Procedures New Rules v02r01
ANSI C63.10: 2013

Conducted Spurious Emissions Test Procedure
1. Connect the antenna port(s) to the spectrum analyzer input. 2. Place the radio in continuous transmit mode. Use the procedures in KDB 789033 D02 General UNII Test Procedures New Rules v02r01 to substitute conducted measurements in place of radiated measurements. 3. Configure Spectrum analyzer as per test parameters below (be sure to enter all losses between the transmitter output and the spectrum analyzer). 4. Record the marker waveform peak to spur difference. Also measure any emissions in the restricted bands. 5. The "measure-and-sum technique" is used for measuring in-band transmit power of a device. In the measure-and-sum approach, the conducted emission level is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically to determine the total emission level from the device. Summing is performed in linear power units. The worst case output is recorded. 6. Capture graphs and record pertinent measurement data.

Ref. KDB 789033 D02 General UNII Test Procedures New Rules v02r01
ANSI C63.10: 2013 section 12.7.7.3 (average) & 12.7.6 (peak)

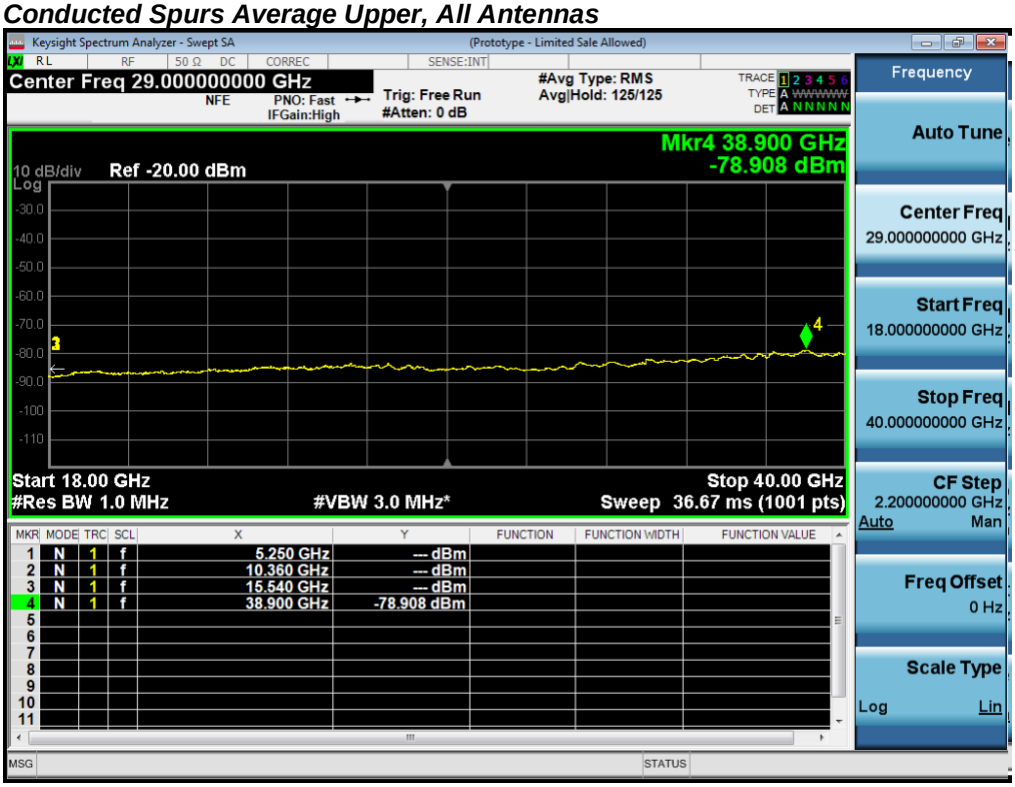
Conducted Spurious Emissions Test parameters
Span = 30MHz to 18GHz / 18GHz to 40GHz RBW = 1 MHz VBW ≥ 3 x RBW Sweep = Auto couple Detector = Peak / Average Trace = Max Hold.

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

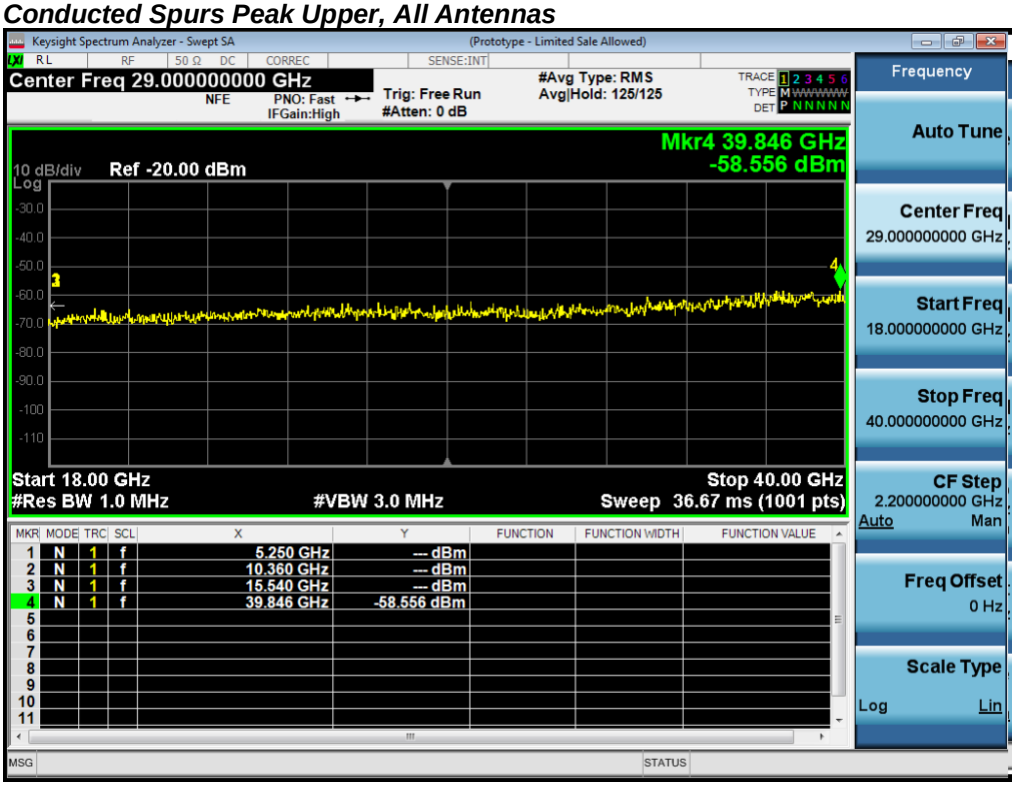
Tested By :	**Date of testing:**
Jose Aguirre	1-Nov-17 - 19-Mar-18
Test Result : PASS	

See Appendix C for list of test equipment

Conducted Spurs Average Upper, All Antennas



Conducted Spurs Peak Upper, All Antennas



No emissions seen above 18GHz. The plots above are representative of all modes / channels tested.

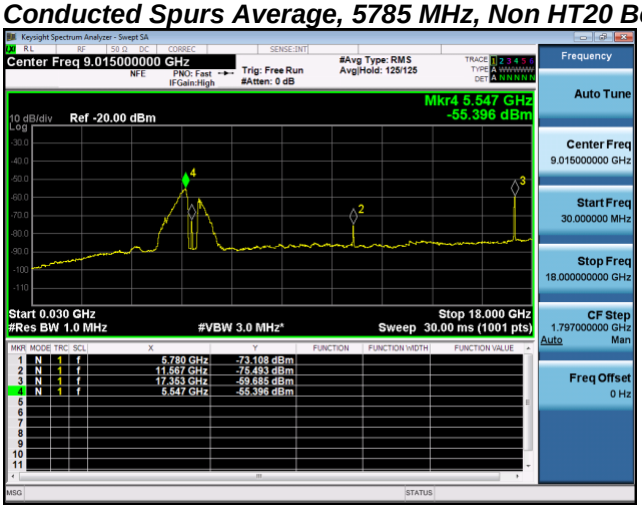
Frequency (MHz)	Mode	Tx Paths	Correlated Antenna Gain (dBi)	Tx 1 Spur Power (dBm)	Tx 2 Spur Power (dBm)	Tx 3 Spur Power (dBm)	Tx 4 Spur Power (dBm)	Total Conducted Spur (dBm)	Limit (dBm)	Margin (dB)
5745	Non HT20, 6 to 54 Mbps	1	5	-53.7				-48.7	-41.25	7.5
	Non HT20, 6 to 54 Mbps	2	5	-53.7	-54.2			-45.9	-41.25	4.7
	Non HT20, 6 to 54 Mbps	3	5	-53.7	-54.2	-53.3		-43.9	-41.25	2.7
	Non HT20, 6 to 54 Mbps	4	5	-53.7	-54.2	-53.3	-54.6	-42.9	-41.25	1.7
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	-53.7	-54.2			-42.9	-41.25	1.7
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	-55.9	-57.2	-56.2		-41.6	-41.25	0.4
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	-59.6	-60.8	-60.4	-61.4	-43.5	-41.25	2.2
	HT/VHT20, M0 to M7	1	5	-53.3				-48.3	-41.25	7.1
	HT/VHT20, M0 to M7	2	5	-53.3	-53.8			-45.5	-41.25	4.3
	HT/VHT20, M8 to M15	2	5	-53.3	-53.8			-45.5	-41.25	4.3
	HT/VHT20, M0 to M7	3	5	-53.3	-53.8	-53.3		-43.7	-41.25	2.4
	HT/VHT20, M8 to M15	3	5	-53.3	-53.8	-53.3		-43.7	-41.25	2.4
	HT/VHT20, M16 to M23	3	5	-53.3	-53.8	-53.3		-43.7	-41.25	2.4
	HT/VHT20, M0 to M7	4	5	-53.3	-53.8	-53.3	-54.5	-42.7	-41.25	1.4
	HT/VHT20, M8 to M15	4	5	-53.3	-53.8	-53.3	-54.5	-42.7	-41.25	1.4
	HT/VHT20, M16 to M23	4	5	-53.3	-53.8	-53.3	-54.5	-42.7	-41.25	1.4
	HT/VHT20 Beam Forming, M0 to M7	2	8	-53.3	-53.8			-42.5	-41.25	1.3
	HT/VHT20 Beam Forming, M8 to M15	2	5	-53.3	-53.8			-45.5	-41.25	4.3
	HT/VHT20 Beam Forming, M0 to M7	3	10	-55.7	-57.0	-56.0		-41.4	-41.25	0.2
	HT/VHT20 Beam Forming, M8 to M15	3	7	-53.3	-53.8	-53.3		-41.7	-41.25	0.4
	HT/VHT20 Beam Forming, M16 to M23	3	5	-53.3	-53.8	-53.3		-43.7	-41.25	2.4
	HT/VHT20 Beam Forming, M0 to M7	4	11	-59.4	-60.8	-60.3	-61.4	-43.4	-41.25	2.1
	HT/VHT20 Beam Forming, M8 to M15	4	8	-55.7	-57.0	-56.0	-56.6	-42.3	-41.25	1.0
	HT/VHT20 Beam Forming, M16 to M23	4	6	-53.3	-53.8	-53.3	-54.5	-41.7	-41.25	0.4
	HT/VHT20 STBC, M0 to M7	2	5	-53.3	-53.8			-45.5	-41.25	4.3
	HT/VHT20 STBC, M0 to M7	3	5	-53.3	-53.8	-53.3		-43.7	-41.25	2.4
	HT/VHT20 STBC, M0 to M7	4	5	-53.3	-53.8	-53.3	-54.5	-42.7	-41.25	1.4
5755	Non HT40, 6 to 54 Mbps	1	5	-55.4				-50.4	-41.35	9.1
	Non HT40, 6 to 54 Mbps	2	5	-55.4	-56.9			-48.1	-41.35	6.7
	Non HT40, 6 to 54 Mbps	3	5	-55.4	-56.9	-56.3		-46.4	-41.35	5.0
	Non HT40, 6 to 54 Mbps	4	5	-55.4	-56.9	-56.3	-57.6	-45.5	-41.35	4.1
	HT/VHT40, M0 to M7	1	5	-55.1				-50.1	-41.35	8.8
	HT/VHT40, M0 to M7	2	5	-55.1	-55.0			-47.0	-41.35	5.7
	HT/VHT40, M8 to M15	2	5	-55.1	-55.0			-47.0	-41.35	5.7
	HT/VHT40, M0 to M7	3	5	-55.1	-55.0	-56.1		-45.6	-41.35	4.3

	HT/VHT40, M8 to M15	3	5	-55.1	-55.0	-56.1		-45.6	-41.35	4.3
	HT/VHT40, M16 to M23	3	5	-55.1	-55.0	-56.1		-45.6	-41.35	4.3
	HT/VHT40, M0 to M7	4	5	-55.1	-55.0	-56.1	-57.6	-44.8	-41.35	3.5
	HT/VHT40, M8 to M15	4	5	-55.1	-55.0	-56.1	-57.6	-44.8	-41.35	3.5
	HT/VHT40, M16 to M23	4	5	-55.1	-55.0	-56.1	-57.6	-44.8	-41.35	3.5
	HT/VHT40 Beam Forming, M0 to M7	2	8	-55.1	-55.0			-44.0	-41.35	2.7
	HT/VHT40 Beam Forming, M8 to M15	2	5	-55.1	-55.0			-47.0	-41.35	5.7
	HT/VHT40 Beam Forming, M0 to M7	3	10	-58.2	-57.0	-56.4		-42.4	-41.35	1.0
	HT/VHT40 Beam Forming, M8 to M15	3	7	-55.1	-55.0	-56.1		-43.6	-41.35	2.3
	HT/VHT40 Beam Forming, M16 to M23	3	5	-55.1	-55.0	-56.1		-45.6	-41.35	4.3
	HT/VHT40 Beam Forming, M0 to M7	4	11	-59.2	-60.5	-60.1	-61.6	-43.2	-41.35	1.9
	HT/VHT40 Beam Forming, M8 to M15	4	8	-55.1	-55.0	-56.1	-57.6	-41.8	-41.35	0.5
	HT/VHT40 Beam Forming, M16 to M23	4	6	-55.1	-55.0	-56.1	-57.6	-43.8	-41.35	2.5
	HT/VHT40 STBC, M0 to M7	2	5	-55.1	-55.0			-47.0	-41.35	5.7
	HT/VHT40 STBC, M0 to M7	3	5	-55.1	-55.0	-56.1		-45.6	-41.35	4.3
	HT/VHT40 STBC, M0 to M7	4	5	-55.1	-55.0	-56.1	-57.6	-44.8	-41.35	3.5
5775	Non HT80, 6 to 54 Mbps	1	5	-55.3				-50.3	-41.45	8.9
	Non HT80, 6 to 54 Mbps	2	5	-55.3	-51.9			-45.3	-41.45	3.8
	Non HT80, 6 to 54 Mbps	3	5	-55.3	-51.9	-50.9		-42.6	-41.45	1.1
	Non HT80, 6 to 54 Mbps	4	5	-55.4	-52.0	-51.0	-57.6	-42.2	-41.45	0.8
	VHT80, M0 to M9 1ss	1	5	-55.3				-50.3	-41.45	8.9
	VHT80, M0 to M9 1ss	2	5	-55.3	-56.9			-48.0	-41.45	6.6
	VHT80, M0 to M9 2ss	2	5	-55.3	-56.9			-48.0	-41.45	6.6
	VHT80, M0 to M9 1ss	3	5	-55.3	-56.9	-56.0		-46.2	-41.45	4.8
	VHT80, M0 to M9 2ss	3	5	-55.3	-56.9	-56.0		-46.2	-41.45	4.8
	VHT80, M0 to M9 3ss	3	5	-55.3	-56.9	-56.0		-46.2	-41.45	4.8
	VHT80, M0 to M9 1ss	4	5	-55.3	-56.9	-56.0	-57.2	-45.3	-41.45	3.8
	VHT80, M0 to M9 2ss	4	5	-55.3	-56.9	-56.0	-57.2	-45.3	-41.45	3.8
	VHT80, M0 to M9 3ss	4	5	-55.3	-56.9	-56.0	-57.2	-45.3	-41.45	3.8
	VHT80 Beam Forming, M0 to M9 1ss	2	8	-55.3	-56.9			-45.0	-41.45	3.6
	VHT80 Beam Forming, M0 to M9 2ss	2	5	-55.3	-56.9			-48.0	-41.45	6.6
	VHT80 Beam Forming, M0 to M9 1ss	3	10	-58.5	-57.0	-56.2		-42.4	-41.45	0.9
	VHT80 Beam Forming, M0 to M9 2ss	3	7	-55.3	-56.9	-56.0		-44.2	-41.45	2.8
	VHT80 Beam Forming, M0 to M9 3ss	3	5	-55.3	-56.9	-56.0		-46.2	-41.45	4.8
	VHT80 Beam Forming, M0 to M9 1ss	4	11	-59.4	-60.6	-59.9	-61.2	-43.2	-41.45	1.8
	VHT80 Beam Forming, M0 to M9 2ss	4	8	-55.3	-56.9	-56.0	-57.2	-42.3	-41.45	0.8
	VHT80 Beam Forming, M0 to M9 3ss	4	6	-55.3	-56.9	-56.0	-57.2	-44.3	-41.45	2.8
	VHT80 STBC, M0 to M9 1ss	2	5	-55.3	-56.9			-48.0	-41.45	6.6
	VHT80 STBC, M0 to M9 1ss	3	5	-55.3	-56.9	-56.0		-46.2	-41.45	4.8
	VHT80 STBC, M0 to M9 1ss	4	5	-55.3	-56.9	-56.0	-57.2	-45.3	-41.45	3.8

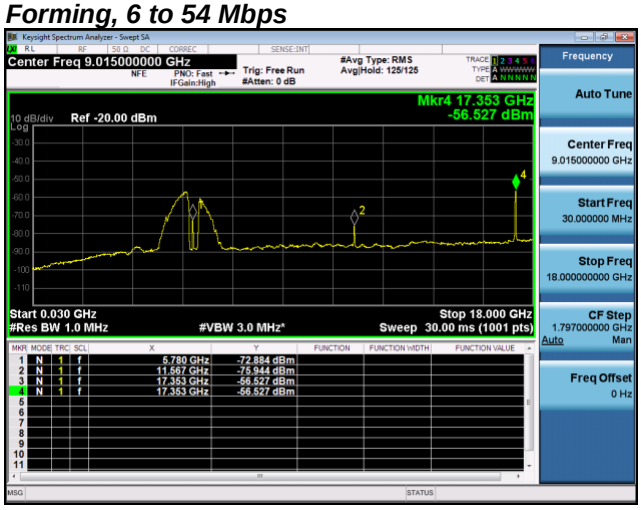
5785	Non HT20, 6 to 54 Mbps	1	5	-55.4				-50.4	-41.25	9.2
	Non HT20, 6 to 54 Mbps	2	5	-55.4	-56.5			-47.9	-41.25	6.7
	Non HT20, 6 to 54 Mbps	3	5	-55.4	-56.5	-56.4		-46.3	-41.25	5.0
	Non HT20, 6 to 54 Mbps	4	5	-55.4	-56.5	-56.4	-57.5	-45.4	-41.25	4.1
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	-55.4	-56.5			-44.9	-41.25	3.7
	Non HT20 Beam Forming, 6 to 54 Mbps	**3**	**10**	**-55.4**	**-56.5**	**-56.4**		**-41.3**	**-41.25**	**0.0**
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	-58.7	-60.2	-56.7	-61.1	-41.8	-41.25	0.6
	HT/VHT20, M0 to M7	1	5	-55.3				-50.3	-41.25	9.1
	HT/VHT20, M0 to M7	2	5	-55.3	-56.3			-47.8	-41.25	6.5
	HT/VHT20, M8 to M15	2	5	-55.3	-56.3			-47.8	-41.25	6.5
	HT/VHT20, M0 to M7	3	5	-55.3	-56.3	-56.3		-46.2	-41.25	4.9
	HT/VHT20, M8 to M15	3	5	-55.3	-56.3	-56.3		-46.2	-41.25	4.9
	HT/VHT20, M16 to M23	3	5	-55.3	-56.3	-56.3		-46.2	-41.25	4.9
	HT/VHT20, M0 to M7	4	5	-55.3	-56.3	-56.3	-57.5	-45.3	-41.25	4.0
	HT/VHT20, M8 to M15	4	5	-55.3	-56.3	-56.3	-57.5	-45.3	-41.25	4.0
	HT/VHT20, M16 to M23	4	5	-55.3	-56.3	-56.3	-57.5	-45.3	-41.25	4.0
	HT/VHT20 Beam Forming, M0 to M7	2	8	-55.3	-56.3			-44.8	-41.25	3.5
	HT/VHT20 Beam Forming, M8 to M15	2	5	-55.3	-56.3			-47.8	-41.25	6.5
	HT/VHT20 Beam Forming, M0 to M7	3	10	-55.5	-56.9	-56.3		-41.4	-41.25	0.2
	HT/VHT20 Beam Forming, M8 to M15	3	7	-55.3	-56.3	-56.3		-44.2	-41.25	2.9
	HT/VHT20 Beam Forming, M16 to M23	3	5	-55.3	-56.3	-56.3		-46.2	-41.25	4.9
	HT/VHT20 Beam Forming, M0 to M7	4	11	-59.1	-60.6	-60.0	-61.5	-43.2	-41.25	1.9
	HT/VHT20 Beam Forming, M8 to M15	4	8	-55.3	-56.3	-56.3	-57.5	-42.3	-41.25	1.0
	HT/VHT20 Beam Forming, M16 to M23	4	6	-55.3	-56.3	-56.3	-57.5	-44.3	-41.25	3.0
	HT/VHT20 STBC, M0 to M7	2	5	-55.3	-56.3			-47.8	-41.25	6.5
	HT/VHT20 STBC, M0 to M7	3	5	-55.3	-56.3	-56.3		-46.2	-41.25	4.9
	HT/VHT20 STBC, M0 to M7	4	5	-55.3	-56.3	-56.3	-57.5	-45.3	-41.25	4.0
5795	Non HT40, 6 to 54 Mbps	1	5	-55.2				-50.2	-41.35	8.9
	Non HT40, 6 to 54 Mbps	2	5	-55.2	-52.1			-45.4	-41.35	4.0
	Non HT40, 6 to 54 Mbps	3	5	-55.2	-52.1	-51.5		-42.9	-41.35	1.5
	Non HT40, 6 to 54 Mbps	4	5	-55.2	-52.1	-51.5	-52.4	-41.6	-41.35	0.2
	HT/VHT40, M0 to M7	1	5	-55.0				-50.0	-41.35	8.7
	HT/VHT40, M0 to M7	2	5	-55.0	-56.6			-47.7	-41.35	6.4
	HT/VHT40, M8 to M15	2	5	-55.0	-56.6			-47.7	-41.35	6.4
	HT/VHT40, M0 to M7	3	5	-55.0	-56.6	-56.1		-46.1	-41.35	4.7
	HT/VHT40, M8 to M15	3	5	-55.0	-56.6	-56.1		-46.1	-41.35	4.7
	HT/VHT40, M16 to M23	3	5	-55.0	-56.6	-56.1		-46.1	-41.35	4.7
	HT/VHT40, M0 to M7	4	5	-55.0	-56.6	-56.1	-57.3	-45.1	-41.35	3.8
	HT/VHT40, M8 to M15	4	5	-55.0	-56.6	-56.1	-57.3	-45.1	-41.35	3.8
	HT/VHT40, M16 to M23	4	5	-55.0	-56.6	-56.1	-57.3	-45.1	-41.35	3.8
	HT/VHT40 Beam Forming, M0 to M7	2	8	-55.0	-56.6			-44.7	-41.35	3.4
	HT/VHT40 Beam Forming, M8 to M15	2	5	-55.0	-56.6			-47.7	-41.35	6.4

	HT/VHT40 Beam Forming, M0 to M7	3	10	-58.4	-57.1	-56.4		-42.5	-41.35	1.1
	HT/VHT40 Beam Forming, M8 to M15	3	7	-55.0	-56.6	-56.1		-44.1	-41.35	2.7
	HT/VHT40 Beam Forming, M16 to M23	3	5	-55.0	-56.6	-56.1		-46.1	-41.35	4.7
	HT/VHT40 Beam Forming, M0 to M7	4	11	-59.1	-60.4	-56.8	-61.2	-42.0	-41.35	0.7
	HT/VHT40 Beam Forming, M8 to M15	4	8	-55.0	-56.6	-56.1	-57.3	-42.1	-41.35	0.8
	HT/VHT40 Beam Forming, M16 to M23	4	6	-55.0	-56.6	-56.1	-57.3	-44.1	-41.35	2.8
	HT/VHT40 STBC, M0 to M7	2	5	-55.0	-56.6			-47.7	-41.35	6.4
	HT/VHT40 STBC, M0 to M7	3	5	-55.0	-56.6	-56.1		-46.1	-41.35	4.7
	HT/VHT40 STBC, M0 to M7	4	5	-55.0	-56.6	-56.1	-57.3	-45.1	-41.35	3.8
5825	Non HT20, 6 to 54 Mbps	1	5	-55.1				-50.1	-41.25	8.9
	Non HT20, 6 to 54 Mbps	2	5	-55.1	-56.7			-47.8	-41.25	6.6
	Non HT20, 6 to 54 Mbps	3	5	-55.1	-56.7	-56.4		-46.2	-41.25	5.0
	Non HT20, 6 to 54 Mbps	4	5	-55.1	-56.7	-56.4	-57.6	-45.3	-41.25	4.1
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	-55.1	-56.7			-44.8	-41.25	3.6
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	-55.3	-57.0	-56.4		-41.4	-41.25	0.2
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	-58.9	-60.3	-57.1	-61.5	-42.1	-41.25	0.9
	HT/VHT20, M0 to M7	1	5	-55.0				-50.0	-41.25	8.8
	HT/VHT20, M0 to M7	2	5	-55.0	-56.7			-47.8	-41.25	6.5
	HT/VHT20, M8 to M15	2	5	-55.0	-56.7			-47.8	-41.25	6.5
	HT/VHT20, M0 to M7	3	5	-55.0	-56.7	-56.3		-46.2	-41.25	4.9
	HT/VHT20, M8 to M15	3	5	-55.0	-56.7	-56.3		-46.2	-41.25	4.9
	HT/VHT20, M16 to M23	3	5	-55.0	-56.7	-56.3		-46.2	-41.25	4.9
	HT/VHT20, M0 to M7	4	5	-55.0	-56.7	-56.3	-57.5	-45.3	-41.25	4.0
	HT/VHT20, M8 to M15	4	5	-55.0	-56.7	-56.3	-57.5	-45.3	-41.25	4.0
	HT/VHT20, M16 to M23	4	5	-55.0	-56.7	-56.3	-57.5	-45.3	-41.25	4.0
	HT/VHT20 Beam Forming, M0 to M7	2	8	-55.0	-56.7			-44.8	-41.25	3.5
	HT/VHT20 Beam Forming, M8 to M15	2	5	-55.0	-56.7			-47.8	-41.25	6.5
	HT/VHT20 Beam Forming, M0 to M7	3	10	-55.2	-56.9	-56.5		-41.4	-41.25	0.1
	HT/VHT20 Beam Forming, M8 to M15	3	7	-55.0	-56.7	-56.3		-44.2	-41.25	2.9
	HT/VHT20 Beam Forming, M16 to M23	3	5	-55.0	-56.7	-56.3		-46.2	-41.25	4.9
	HT/VHT20 Beam Forming, M0 to M7	4	11	-58.7	-60.4	-57.1	-61.5	-42.1	-41.25	0.8
	HT/VHT20 Beam Forming, M8 to M15	4	8	-55.0	-56.7	-56.3	-57.5	-42.3	-41.25	1.0
	HT/VHT20 Beam Forming, M16 to M23	4	6	-55.0	-56.7	-56.3	-57.5	-44.3	-41.25	3.0
	HT/VHT20 STBC, M0 to M7	2	5	-55.0	-56.7			-47.8	-41.25	6.5
	HT/VHT20 STBC, M0 to M7	3	5	-55.0	-56.7	-56.3		-46.2	-41.25	4.9
	HT/VHT20 STBC, M0 to M7	4	5	-55.0	-56.7	-56.3	-57.5	-45.3	-41.25	4.0

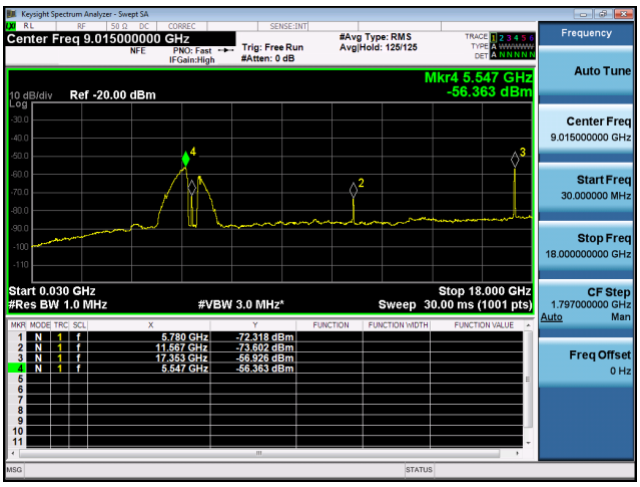
Conducted Spurs Average, 5785 MHz, Non HT20 Beam Forming, 6 to 54 Mbps



Antenna A



Antenna B



Antenna C

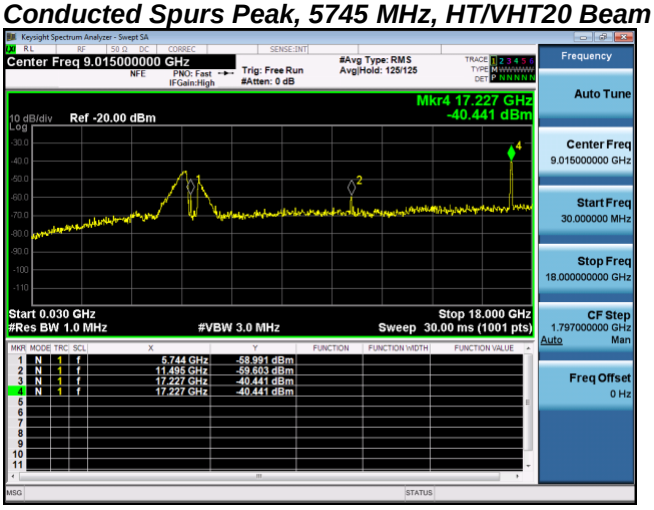
Frequency (MHz)	Mode	Tx Paths	Correlated Antenna Gain (dBi)	Tx 1 Spur Power (dBm)	Tx 2 Spur Power (dBm)	Tx 3 Spur Power (dBm)	Tx 4 Spur Power (dBm)	Total Conducted Spur (dBm)	Limit (dBm)	Margin (dB)
5745	Non HT20, 6 to 54 Mbps	1	5	-39.9				-34.9	-21.25	13.7
	Non HT20, 6 to 54 Mbps	2	5	-39.9	-41.0			-32.4	-21.25	11.2
	Non HT20, 6 to 54 Mbps	3	5	-39.9	-41.0	-41.2		-30.9	-21.25	9.6
	Non HT20, 6 to 54 Mbps	4	5	-39.9	-41.0	-41.2	-42.9	-30.1	-21.25	8.9
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	-39.9	-41.0			-29.4	-21.25	8.2
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	-44.1	-43.2	-43.8		-28.9	-21.25	7.7
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	-48.8	-49.0	-47.3	-48.7	-31.4	-21.25	10.1
	HT/VHT20, M0 to M7	1	5	-40.4				-35.4	-21.25	14.2
	HT/VHT20, M0 to M7	2	5	-40.4	-40.1			-32.2	-21.25	11.0
	HT/VHT20, M8 to M15	2	5	-40.4	-40.1			-32.2	-21.25	11.0
	HT/VHT20, M0 to M7	3	5	-40.4	-40.1	-40.1		-30.4	-21.25	9.2
	HT/VHT20, M8 to M15	3	5	-40.4	-40.1	-40.1		-30.4	-21.25	9.2
	HT/VHT20, M16 to M23	3	5	-40.4	-40.1	-40.1		-30.4	-21.25	9.2
	HT/VHT20, M0 to M7	4	5	-40.4	-40.1	-40.1	-42.4	-29.6	-21.25	8.4
	HT/VHT20, M8 to M15	4	5	-40.4	-40.1	-40.1	-42.4	-29.6	-21.25	8.4
	HT/VHT20, M16 to M23	4	5	-40.4	-40.1	-40.1	-42.4	-29.6	-21.25	8.4
	HT/VHT20 Beam Forming, M0 to M7	2	8	-40.4	-40.1			-29.2	-21.25	8.0
	HT/VHT20 Beam Forming, M8 to M15	2	5	-40.4	-40.1			-32.2	-21.25	11.0
	HT/VHT20 Beam Forming, M0 to M7	3	10	-43.4	-43.3	-44.4		-28.9	-21.25	7.7
	HT/VHT20 Beam Forming, M8 to M15	**3**	**7**	**-40.4**	**-40.1**	**-40.1**		**-28.4**	**-21.25**	**7.2**
	HT/VHT20 Beam Forming, M16 to M23	3	5	-40.4	-40.1	-40.1		-30.4	-21.25	9.2
	HT/VHT20 Beam Forming, M0 to M7	4	11	-48.6	-49.7	-48.2	-48.7	-31.7	-21.25	10.5
	HT/VHT20 Beam Forming, M8 to M15	4	8	-43.4	-43.3	-44.4	-43.4	-29.6	-21.25	8.3
	HT/VHT20 Beam Forming, M16 to M23	4	6	-40.4	-40.1	-40.1	-42.4	-28.6	-21.25	7.4
	HT/VHT20 STBC, M0 to M7	2	5	-40.4	-40.1			-32.2	-21.25	11.0
	HT/VHT20 STBC, M0 to M7	3	5	-40.4	-40.1	-40.1		-30.4	-21.25	9.2
	HT/VHT20 STBC, M0 to M7	4	5	-40.4	-40.1	-40.1	-42.4	-29.6	-21.25	8.4
5755	Non HT40, 6 to 54 Mbps	1	5	-43.7				-38.7	-21.35	17.4
	Non HT40, 6 to 54 Mbps	2	5	-43.7	-45.7			-36.6	-21.35	15.2
	Non HT40, 6 to 54 Mbps	3	5	-43.7	-45.7	-44.6		-34.8	-21.35	13.5
	Non HT40, 6 to 54 Mbps	4	5	-43.7	-45.7	-44.6	-47.3	-34.1	-21.35	12.8
	HT/VHT40, M0 to M7	1	5	-44.2				-39.2	-21.35	17.9
	HT/VHT40, M0 to M7	2	5	-44.2	-43.2			-35.7	-21.35	14.3
	HT/VHT40, M8 to M15	2	5	-44.2	-43.2			-35.7	-21.35	14.3
	HT/VHT40, M0 to M7	3	5	-44.2	-43.2	-45.4		-34.4	-21.35	13.1

	HT/VHT40, M8 to M15	3	5	-44.2	-43.2	-45.4		-34.4	-21.35	13.1
	HT/VHT40, M16 to M23	3	5	-44.2	-43.2	-45.4		-34.4	-21.35	13.1
	HT/VHT40, M0 to M7	4	5	-44.2	-43.2	-45.4	-46.5	-33.6	-21.35	12.3
	HT/VHT40, M8 to M15	4	5	-44.2	-43.2	-45.4	-46.5	-33.6	-21.35	12.3
	HT/VHT40, M16 to M23	4	5	-44.2	-43.2	-45.4	-46.5	-33.6	-21.35	12.3
	HT/VHT40 Beam Forming, M0 to M7	2	8	-44.2	-43.2			-32.7	-21.35	11.3
	HT/VHT40 Beam Forming, M8 to M15	2	5	-44.2	-43.2			-35.7	-21.35	14.3
	HT/VHT40 Beam Forming, M0 to M7	3	10	-46.2	-46.0	-45.7		-31.2	-21.35	9.8
	HT/VHT40 Beam Forming, M8 to M15	3	7	-44.2	-43.2	-45.4		-32.4	-21.35	11.1
	HT/VHT40 Beam Forming, M16 to M23	3	5	-44.2	-43.2	-45.4		-34.4	-21.35	13.1
	HT/VHT40 Beam Forming, M0 to M7	4	11	-48.3	-49.5	-49.3	-50.8	-32.4	-21.35	11.0
	HT/VHT40 Beam Forming, M8 to M15	4	8	-44.2	-43.2	-45.4	-46.5	-30.6	-21.35	9.3
	HT/VHT40 Beam Forming, M16 to M23	4	6	-44.2	-43.2	-45.4	-46.5	-32.6	-21.35	11.3
	HT/VHT40 STBC, M0 to M7	2	5	-44.2	-43.2			-35.7	-21.35	14.3
	HT/VHT40 STBC, M0 to M7	3	5	-44.2	-43.2	-45.4		-34.4	-21.35	13.1
	HT/VHT40 STBC, M0 to M7	4	5	-44.2	-43.2	-45.4	-46.5	-33.6	-21.35	12.3
5775	Non HT80, 6 to 54 Mbps	1	5	-45.3				-40.3	-21.45	18.9
	Non HT80, 6 to 54 Mbps	2	5	-45.3	-40.9			-34.6	-21.45	13.1
	Non HT80, 6 to 54 Mbps	3	5	-45.3	-40.9	-40.0		-31.8	-21.45	10.3
	Non HT80, 6 to 54 Mbps	4	5	-45.2	-41.6	-40.0	-46.8	-31.6	-21.45	10.1
	VHT80, M0 to M9 1ss	1	5	-45.5				-40.5	-21.45	19.1
	VHT80, M0 to M9 1ss	2	5	-45.5	-45.7			-37.6	-21.45	16.1
	VHT80, M0 to M9 2ss	2	5	-45.5	-45.7			-37.6	-21.45	16.1
	VHT80, M0 to M9 1ss	3	5	-45.5	-45.7	-45.6		-35.8	-21.45	14.4
	VHT80, M0 to M9 2ss	3	5	-45.5	-45.7	-45.6		-35.8	-21.45	14.4
	VHT80, M0 to M9 3ss	3	5	-45.5	-45.7	-45.6		-35.8	-21.45	14.4
	VHT80, M0 to M9 1ss	4	5	-45.5	-45.7	-45.6	-46.1	-34.7	-21.45	13.2
	VHT80, M0 to M9 2ss	4	5	-45.5	-45.7	-45.6	-46.1	-34.7	-21.45	13.2
	VHT80, M0 to M9 3ss	4	5	-45.5	-45.7	-45.6	-46.1	-34.7	-21.45	13.2
	VHT80 Beam Forming, M0 to M9 1ss	2	8	-45.5	-45.7			-34.6	-21.45	13.1
	VHT80 Beam Forming, M0 to M9 2ss	2	5	-45.5	-45.7			-37.6	-21.45	16.1
	VHT80 Beam Forming, M0 to M9 1ss	3	10	-47.4	-46.8	-45.9		-31.9	-21.45	10.4
	VHT80 Beam Forming, M0 to M9 2ss	3	7	-45.5	-45.7	-45.6		-33.8	-21.45	12.4
	VHT80 Beam Forming, M0 to M9 3ss	3	5	-45.5	-45.7	-45.6		-35.8	-21.45	14.4
	VHT80 Beam Forming, M0 to M9 1ss	4	11	-48.5	-49.9	-49.5	-51.3	-32.7	-21.45	11.2
	VHT80 Beam Forming, M0 to M9 2ss	4	8	-45.5	-45.7	-45.6	-46.1	-31.7	-21.45	10.2
	VHT80 Beam Forming, M0 to M9 3ss	4	6	-45.5	-45.7	-45.6	-46.1	-33.7	-21.45	12.2
	VHT80 STBC, M0 to M9 1ss	2	5	-45.5	-45.7			-37.6	-21.45	16.1
	VHT80 STBC, M0 to M9 1ss	3	5	-45.5	-45.7	-45.6		-35.8	-21.45	14.4
	VHT80 STBC, M0 to M9 1ss	4	5	-45.5	-45.7	-45.6	-46.1	-34.7	-21.45	13.2

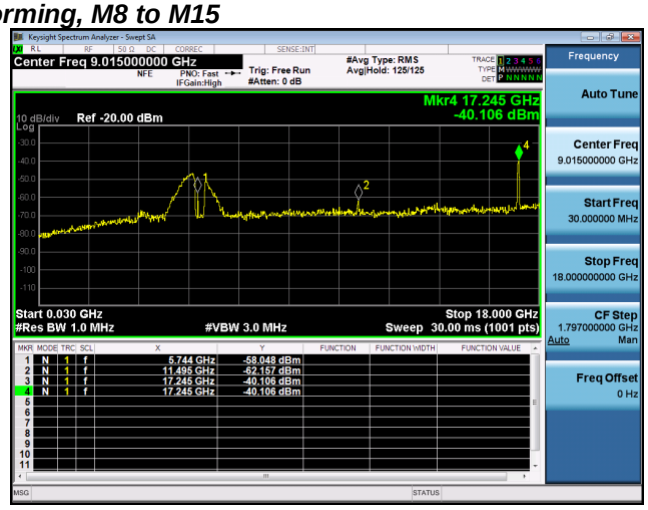
5785	Non HT20, 6 to 54 Mbps	1	5	-44.2				-39.2	-21.25	18.0
	Non HT20, 6 to 54 Mbps	2	5	-44.2	-42.8			-35.4	-21.25	14.2
	Non HT20, 6 to 54 Mbps	3	5	-44.2	-42.8	-44.8		-34.1	-21.25	12.8
	Non HT20, 6 to 54 Mbps	4	5	-44.2	-42.8	-44.8	-46.6	-33.4	-21.25	12.1
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	-44.2	-42.8			-32.4	-21.25	11.2
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	-44.2	-42.8	-44.8		-29.1	-21.25	7.8
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	-47.3	-47.0	-45.9	-50.9	-30.4	-21.25	9.2
	HT/VHT20, M0 to M7	1	5	-43.7				-38.7	-21.25	17.5
	HT/VHT20, M0 to M7	2	5	-43.7	-44.0			-35.8	-21.25	14.6
	HT/VHT20, M8 to M15	2	5	-43.7	-44.0			-35.8	-21.25	14.6
	HT/VHT20, M0 to M7	3	5	-43.7	-44.0	-43.9		-34.1	-21.25	12.8
	HT/VHT20, M8 to M15	3	5	-43.7	-44.0	-43.9		-34.1	-21.25	12.8
	HT/VHT20, M16 to M23	3	5	-43.7	-44.0	-43.9		-34.1	-21.25	12.8
	HT/VHT20, M0 to M7	4	5	-43.7	-44.0	-43.9	-46.2	-33.3	-21.25	12.1
	HT/VHT20, M8 to M15	4	5	-43.7	-44.0	-43.9	-46.2	-33.3	-21.25	12.1
	HT/VHT20, M16 to M23	4	5	-43.7	-44.0	-43.9	-46.2	-33.3	-21.25	12.1
	HT/VHT20 Beam Forming, M0 to M7	2	8	-43.7	-44.0			-32.8	-21.25	11.6
	HT/VHT20 Beam Forming, M8 to M15	2	5	-43.7	-44.0			-35.8	-21.25	14.6
	HT/VHT20 Beam Forming, M0 to M7	3	10	-45.1	-46.8	-45.7		-31.0	-21.25	9.8
	HT/VHT20 Beam Forming, M8 to M15	3	7	-43.7	-44.0	-43.9		-32.1	-21.25	10.8
	HT/VHT20 Beam Forming, M16 to M23	3	5	-43.7	-44.0	-43.9		-34.1	-21.25	12.8
	HT/VHT20 Beam Forming, M0 to M7	4	11	-48.6	-50.7	-48.6	-51.0	-32.6	-21.25	11.3
	HT/VHT20 Beam Forming, M8 to M15	4	8	-43.7	-44.0	-43.9	-46.2	-30.3	-21.25	9.1
	HT/VHT20 Beam Forming, M16 to M23	4	6	-43.7	-44.0	-43.9	-46.2	-32.3	-21.25	11.1
	HT/VHT20 STBC, M0 to M7	2	5	-43.7	-44.0			-35.8	-21.25	14.6
	HT/VHT20 STBC, M0 to M7	3	5	-43.7	-44.0	-43.9		-34.1	-21.25	12.8
	HT/VHT20 STBC, M0 to M7	4	5	-43.7	-44.0	-43.9	-46.2	-33.3	-21.25	12.1
5795	Non HT40, 6 to 54 Mbps	1	5	-44.9				-39.9	-21.35	18.6
	Non HT40, 6 to 54 Mbps	2	5	-44.9	-41.4			-34.8	-21.35	13.4
	Non HT40, 6 to 54 Mbps	3	5	-44.9	-41.4	-41.0		-32.3	-21.35	11.0
	Non HT40, 6 to 54 Mbps	4	5	-44.9	-41.4	-41.0	-41.4	-30.9	-21.35	9.6
	HT/VHT40, M0 to M7	1	5	-43.8				-38.8	-21.35	17.5
	HT/VHT40, M0 to M7	2	5	-43.8	-45.8			-36.7	-21.35	15.3
	HT/VHT40, M8 to M15	2	5	-43.8	-45.8			-36.7	-21.35	15.3
	HT/VHT40, M0 to M7	3	5	-43.8	-45.8	-46.1		-35.3	-21.35	14.0
	HT/VHT40, M8 to M15	3	5	-43.8	-45.8	-46.1		-35.3	-21.35	14.0
	HT/VHT40, M16 to M23	3	5	-43.8	-45.8	-46.1		-35.3	-21.35	14.0
	HT/VHT40, M0 to M7	4	5	-43.8	-45.8	-46.1	-46.5	-34.4	-21.35	13.0
	HT/VHT40, M8 to M15	4	5	-43.8	-45.8	-46.1	-46.5	-34.4	-21.35	13.0
	HT/VHT40, M16 to M23	4	5	-43.8	-45.8	-46.1	-46.5	-34.4	-21.35	13.0
	HT/VHT40 Beam Forming, M0 to M7	2	8	-43.8	-45.8			-33.7	-21.35	12.3
	HT/VHT40 Beam Forming, M8 to M15	2	5	-43.8	-45.8			-36.7	-21.35	15.3

	HT/VHT40 Beam Forming, M0 to M7	3	10	-47.4	-46.5	-45.6		-31.7	-21.35	10.3
	HT/VHT40 Beam Forming, M8 to M15	3	7	-43.8	-45.8	-46.1		-33.3	-21.35	12.0
	HT/VHT40 Beam Forming, M16 to M23	3	5	-43.8	-45.8	-46.1		-35.3	-21.35	14.0
	HT/VHT40 Beam Forming, M0 to M7	4	11	-48.4	-49.1	-45.5	-50.1	-30.9	-21.35	9.5
	HT/VHT40 Beam Forming, M8 to M15	4	8	-43.8	-45.8	-46.1	-46.5	-31.4	-21.35	10.0
	HT/VHT40 Beam Forming, M16 to M23	4	6	-43.8	-45.8	-46.1	-46.5	-33.4	-21.35	12.0
	HT/VHT40 STBC, M0 to M7	2	5	-43.8	-45.8			-36.7	-21.35	15.3
	HT/VHT40 STBC, M0 to M7	3	5	-43.8	-45.8	-46.1		-35.3	-21.35	14.0
	HT/VHT40 STBC, M0 to M7	4	5	-43.8	-45.8	-46.1	-46.5	-34.4	-21.35	13.0
5825	Non HT20, 6 to 54 Mbps	1	5	-44.4				-39.4	-21.25	18.2
	Non HT20, 6 to 54 Mbps	2	5	-44.4	-45.7			-37.0	-21.25	15.7
	Non HT20, 6 to 54 Mbps	3	5	-44.4	-45.7	-45.4		-35.4	-21.25	14.1
	Non HT20, 6 to 54 Mbps	4	5	-44.4	-45.7	-45.4	-46.5	-34.4	-21.25	13.2
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	-44.4	-45.7			-34.0	-21.25	12.7
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	-44.6	-46.3	-45.9		-30.8	-21.25	9.5
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	-48.2	-49.6	-46.4	-51.3	-31.5	-21.25	10.2
	HT/VHT20, M0 to M7	1	5	-44.7				-39.7	-21.25	18.5
	HT/VHT20, M0 to M7	2	5	-44.7	-46.1			-37.3	-21.25	16.1
	HT/VHT20, M8 to M15	2	5	-44.7	-46.1			-37.3	-21.25	16.1
	HT/VHT20, M0 to M7	3	5	-44.7	-46.1	-45.4		-35.6	-21.25	14.3
	HT/VHT20, M8 to M15	3	5	-44.7	-46.1	-45.4		-35.6	-21.25	14.3
	HT/VHT20, M16 to M23	3	5	-44.7	-46.1	-45.4		-35.6	-21.25	14.3
	HT/VHT20, M0 to M7	4	5	-44.7	-46.1	-45.4	-47.2	-34.7	-21.25	13.5
	HT/VHT20, M8 to M15	4	5	-44.7	-46.1	-45.4	-47.2	-34.7	-21.25	13.5
	HT/VHT20, M16 to M23	4	5	-44.7	-46.1	-45.4	-47.2	-34.7	-21.25	13.5
	HT/VHT20 Beam Forming, M0 to M7	2	8	-44.7	-46.1			-34.3	-21.25	13.1
	HT/VHT20 Beam Forming, M8 to M15	2	5	-44.7	-46.1			-37.3	-21.25	16.1
	HT/VHT20 Beam Forming, M0 to M7	3	10	-44.0	-46.1	-44.8		-30.1	-21.25	8.9
	HT/VHT20 Beam Forming, M8 to M15	3	7	-44.7	-46.1	-45.4		-33.6	-21.25	12.3
	HT/VHT20 Beam Forming, M16 to M23	3	5	-44.7	-46.1	-45.4		-35.6	-21.25	14.3
	HT/VHT20 Beam Forming, M0 to M7	4	11	-48.1	-49.3	-45.8	-50.9	-31.1	-21.25	9.8
	HT/VHT20 Beam Forming, M8 to M15	4	8	-44.7	-46.1	-45.4	-47.2	-31.7	-21.25	10.5
	HT/VHT20 Beam Forming, M16 to M23	4	6	-44.7	-46.1	-45.4	-47.2	-33.7	-21.25	12.5
	HT/VHT20 STBC, M0 to M7	2	5	-44.7	-46.1			-37.3	-21.25	16.1
	HT/VHT20 STBC, M0 to M7	3	5	-44.7	-46.1	-45.4		-35.6	-21.25	14.3
	HT/VHT20 STBC, M0 to M7	4	5	-44.7	-46.1	-45.4	-47.2	-34.7	-21.25	13.5

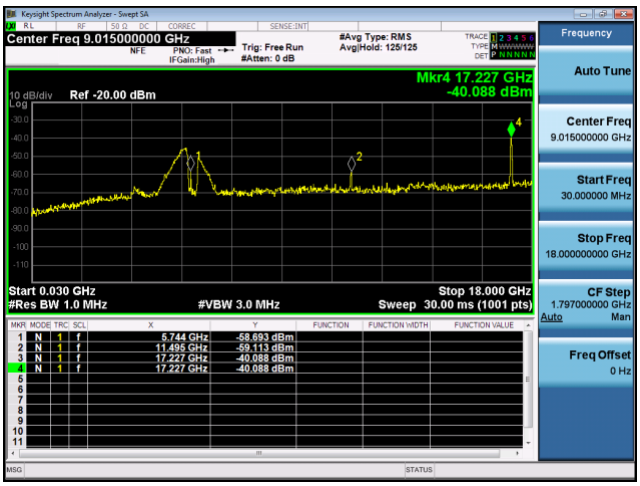
Conducted Spurs Peak, 5745 MHz, HT/VHT20 Beam Forming, M8 to M15



Antenna A



Antenna B



Antenna C

A.7 Conducted Bandedge 15.407

15.407 / LP0002 / RSS-247 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:
(4) For transmitters operating in the 5.725-5.85 GHz band:
(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Test Procedure
Ref. KDB 558074 D01 DTS Meas Guidance v03r05
ANSI C63.10: 2013

Conducted Band edge Test Procedure
1. Connect the antenna port(s) to the spectrum analyzer input. 2. Place the radio in continuous transmit mode. Use the procedures in KDB 558074 D01 DTS Meas Guidance v03r05 to substitute conducted measurements in place of radiated measurements. 3. Configure Spectrum analyzer as per test parameters below below (be sure to enter all losses between the transmitter output and the spectrum analyzer). 4. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands.. 5. The “measure-and-sum technique” is used for measuring in-band transmit power of a device. In the measure-and-sum approach, the conducted emission level is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically to determine the total emission level from the device. Summing is performed in linear power units. The worst case output is recorded. 6. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands 7. Capture graphs and record pertinent measurement data.

Conducted Bandedge Test parameters non-restricted Band ANSI C63.10: 2013 section 12.7.6
RBW = 1MHz VBW ≥ 3 x RBW Sweep = Auto couple Detector = Peak Trace = Max Hold.

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

Tested By :	**Date of testing:**
Jose Aguirre	1-Nov-17 - 20-Mar-18
Test Result : PASS	

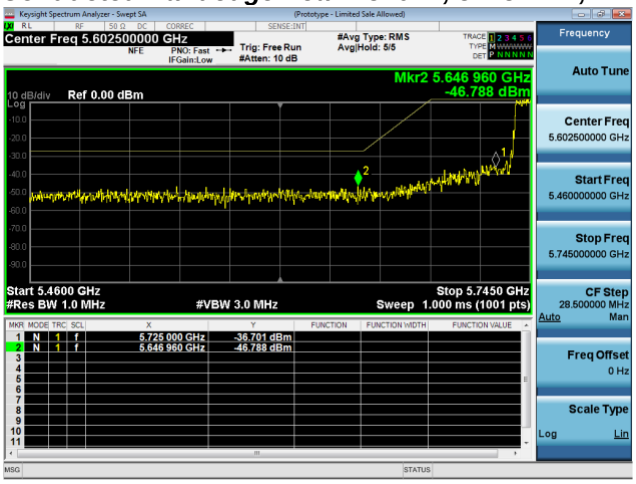
See Appendix C for list of test equipment

Lower Band edge

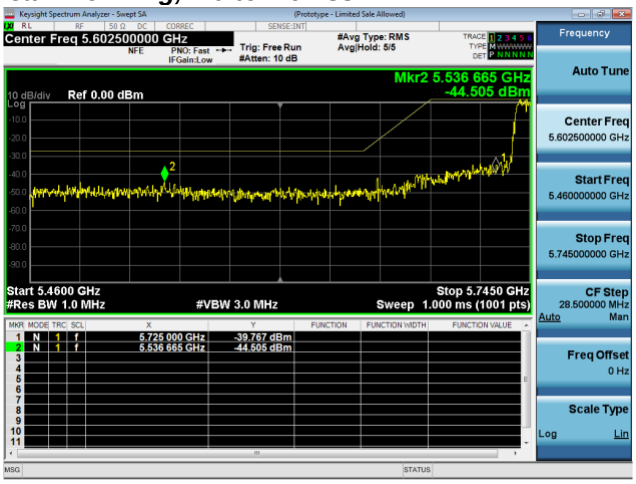
Frequency (MHz)	Mode	Tx Paths	Correlated Antenna Gain (dBi)	Tx 1 Bandedge Level (dBm)	Tx 2 Bandedge Level (dBm)	Tx 3 Bandedge Level (dBm)	Tx 4 Bandedge Level (dBm)	Total Tx Bandedge Level (dBm)	Limit (dBm)	Margin (dB)
5745	Non HT20, 6 to 54 Mbps	1	5	-42.2				-37.2	-27.00	10.2
	Non HT20, 6 to 54 Mbps	2	5	-42.2	-43.8			-34.9	-27.00	7.9
	Non HT20, 6 to 54 Mbps	3	5	-42.2	-43.8	-41.4		-32.6	-27.00	5.6
	Non HT20, 6 to 54 Mbps	4	5	-42.2	-43.8	-41.4	-43.3	-31.6	-27.00	4.6
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	-42.2	-43.8			-31.9	-27.00	4.9
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	-43.0	-43.1	-43.7		-28.5	-27.00	1.5
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	-46.2	-45.7	-46.8	-48.1	-29.6	-27.00	2.6
	HT/VHT20, M0 to M7	1	5	-43.7				-38.7	-27.00	11.7
	HT/VHT20, M0 to M7	2	5	-43.7	-38.6			-32.4	-27.00	5.4
	HT/VHT20, M8 to M15	2	5	-43.7	-38.6			-32.4	-27.00	5.4
	HT/VHT20, M0 to M7	3	5	-43.7	-38.6	-41.1		-30.9	-27.00	3.9
	HT/VHT20, M8 to M15	3	5	-43.7	-38.6	-41.1		-30.9	-27.00	3.9
	HT/VHT20, M16 to M23	3	5	-43.7	-38.6	-41.1		-30.9	-27.00	3.9
	HT/VHT20, M0 to M7	4	5	-43.7	-38.6	-41.1	-44.2	-30.3	-27.00	3.3
	HT/VHT20, M8 to M15	4	5	-43.7	-38.6	-41.1	-44.2	-30.3	-27.00	3.3
	HT/VHT20, M16 to M23	4	5	-43.7	-38.6	-41.1	-44.2	-30.3	-27.00	3.3
	HT/VHT20 Beam Forming, M0 to M7	2	8	-43.7	-38.6			-29.4	-27.00	2.4
	HT/VHT20 Beam Forming, M8 to M15	2	5	-43.7	-38.6			-32.4	-27.00	5.4
	HT/VHT20 Beam Forming, M0 to M7	3	10	-42.5	-43.0	-42.3		-27.8	-27.00	0.8
	HT/VHT20 Beam Forming, M8 to M15	3	7	-43.7	-38.6	-41.1		-28.9	-27.00	1.9
	HT/VHT20 Beam Forming, M16 to M23	3	5	-43.7	-38.6	-41.1		-30.9	-27.00	3.9
	HT/VHT20 Beam Forming, M0 to M7	4	11	-46.9	-45.4	-45.9	-48.2	-29.5	-27.00	2.5
	HT/VHT20 Beam Forming, M8 to M15	4	8	-42.5	-43.0	-42.3	-43.3	-28.7	-27.00	1.7
	HT/VHT20 Beam Forming, M16 to M23	4	6	-43.7	-38.6	-41.1	-44.2	-29.3	-27.00	2.3
	HT/VHT20 STBC, M0 to M7	2	5	-43.7	-38.6			-32.4	-27.00	5.4
	HT/VHT20 STBC, M0 to M7	3	5	-43.7	-38.6	-41.1		-30.9	-27.00	3.9
	HT/VHT20 STBC, M0 to M7	4	5	-43.7	-38.6	-41.1	-44.2	-30.3	-27.00	3.3
5755	Non HT40, 6 to 54 Mbps	1	5	-43.7				-38.7	-27.10	11.6
	Non HT40, 6 to 54 Mbps	2	5	-43.7	-40.3			-33.7	-27.10	6.6
	Non HT40, 6 to 54 Mbps	3	5	-43.7	-40.3	-44.2		-32.6	-27.10	5.5
	Non HT40, 6 to 54 Mbps	4	5	-43.7	-40.3	-44.2	-44.1	-31.7	-27.10	4.6
	HT/VHT40, M0 to M7	1	5	-42.9				-37.9	-27.10	10.8
	HT/VHT40, M0 to M7	2	5	-42.9	-39.9			-33.1	-27.10	6.0

	HT/VHT40, M8 to M15	2	5	-42.9	-39.9			-33.1	-27.10	6.0
	HT/VHT40, M0 to M7	3	5	-42.9	-39.9	-42.8		-31.9	-27.10	4.8
	HT/VHT40, M8 to M15	3	5	-42.9	-39.9	-42.8		-31.9	-27.10	4.8
	HT/VHT40, M16 to M23	3	5	-42.9	-39.9	-42.8		-31.9	-27.10	4.8
	HT/VHT40, M0 to M7	4	5	-42.9	-39.9	-42.8	-43.7	-31.0	-27.10	3.9
	HT/VHT40, M8 to M15	4	5	-42.9	-39.9	-42.8	-43.7	-31.0	-27.10	3.9
	HT/VHT40, M16 to M23	4	5	-42.9	-39.9	-42.8	-43.7	-31.0	-27.10	3.9
	HT/VHT40 Beam Forming, M0 to M7	2	8	-42.9	-39.9			-30.1	-27.10	3.0
	HT/VHT40 Beam Forming, M8 to M15	2	5	-42.9	-39.9			-33.1	-27.10	6.0
	HT/VHT40 Beam Forming, M0 to M7	3	10	-42.9	-43.8	-42.9		-28.4	-27.10	1.3
	HT/VHT40 Beam Forming, M8 to M15	3	7	-42.9	-39.9	-42.8		-29.9	-27.10	2.8
	HT/VHT40 Beam Forming, M16 to M23	3	5	-42.9	-39.9	-42.8		-31.9	-27.10	4.8
	HT/VHT40 Beam Forming, M0 to M7	4	11	-45.6	-45.0	-44.8	-48.5	-28.7	-27.10	1.6
	HT/VHT40 Beam Forming, M8 to M15	4	8	-42.9	-39.9	-42.8	-43.7	-28.0	-27.10	0.9
	HT/VHT40 Beam Forming, M16 to M23	4	6	-42.9	-39.9	-42.8	-43.7	-30.0	-27.10	2.9
	HT/VHT40 STBC, M0 to M7	2	5	-42.9	-39.9			-33.1	-27.10	6.0
	HT/VHT40 STBC, M0 to M7	3	5	-42.9	-39.9	-42.8		-31.9	-27.10	4.8
	HT/VHT40 STBC, M0 to M7	4	5	-42.9	-39.9	-42.8	-43.7	-31.0	-27.10	3.9
5775	Non HT80, 6 to 54 Mbps	1	5	-43.2				-38.2	-27.20	11.0
	Non HT80, 6 to 54 Mbps	2	5	-43.2	-39.9			-33.2	-27.20	6.0
	Non HT80, 6 to 54 Mbps	3	5	-43.2	-39.9	-39.6		-30.9	-27.20	3.7
	Non HT80, 6 to 54 Mbps	4	5	-42.5	-40.2	-39.3	-44.6	-30.2	-27.20	3.0
	VHT80, M0 to M9 1ss	1	5	-42.6				-37.6	-27.20	10.4
	VHT80, M0 to M9 1ss	2	5	-42.6	-42.8			-34.7	-27.20	7.5
	VHT80, M0 to M9 2ss	2	5	-42.6	-42.8			-34.7	-27.20	7.5
	VHT80, M0 to M9 1ss	3	5	-42.6	-42.8	-42.0		-32.7	-27.20	5.5
	VHT80, M0 to M9 2ss	3	5	-42.6	-42.8	-42.0		-32.7	-27.20	5.5
	VHT80, M0 to M9 3ss	3	5	-42.6	-42.8	-42.0		-32.7	-27.20	5.5
	VHT80, M0 to M9 1ss	4	5	-42.6	-42.8	-42.0	-42.9	-31.5	-27.20	4.3
	VHT80, M0 to M9 2ss	4	5	-42.6	-42.8	-42.0	-42.9	-31.5	-27.20	4.3
	VHT80, M0 to M9 3ss	4	5	-42.6	-42.8	-42.0	-42.9	-31.5	-27.20	4.3
	VHT80 Beam Forming, M0 to M9 1ss	2	8	-42.6	-42.8			-31.7	-27.20	4.5
	VHT80 Beam Forming, M0 to M9 2ss	2	5	-42.6	-42.8			-34.7	-27.20	7.5
	VHT80 Beam Forming, M0 to M9 1ss	3	10	-43.6	-43.8	-43.1		-28.7	-27.20	1.5
	VHT80 Beam Forming, M0 to M9 2ss	3	7	-42.6	-42.8	-42.0		-30.7	-27.20	3.5
	VHT80 Beam Forming, M0 to M9 3ss	3	5	-42.6	-42.8	-42.0		-32.7	-27.20	5.5
	VHT80 Beam Forming, M0 to M9 1ss	**4**	**11**	**-46.8**	**-44.5**	**-46.9**	**-41.6**	**-27.4**	**-27.20**	**0.2**
	VHT80 Beam Forming, M0 to M9 2ss	4	8	-42.6	-42.8	-42.0	-42.9	-28.5	-27.20	1.3
	VHT80 Beam Forming, M0 to M9 3ss	4	6	-42.6	-42.8	-42.0	-42.9	-30.5	-27.20	3.3
	VHT80 STBC, M0 to M9 1ss	2	5	-42.6	-42.8			-34.7	-27.20	7.5
	VHT80 STBC, M0 to M9 1ss	3	5	-42.6	-42.8	-42.0		-32.7	-27.20	5.5
	VHT80 STBC, M0 to M9 1ss	4	5	-42.6	-42.8	-42.0	-42.9	-31.5	-27.20	4.3

Conducted Bandedge Peak 15407L, 5775 MHz, VHT80 Beam Forming, M0 to M9 1ss



Antenna A



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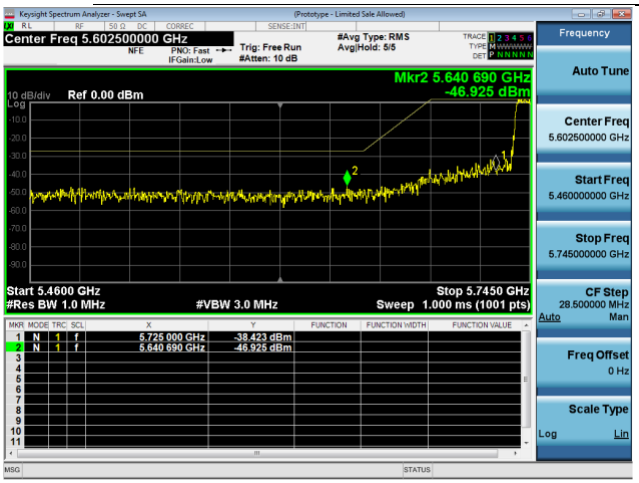
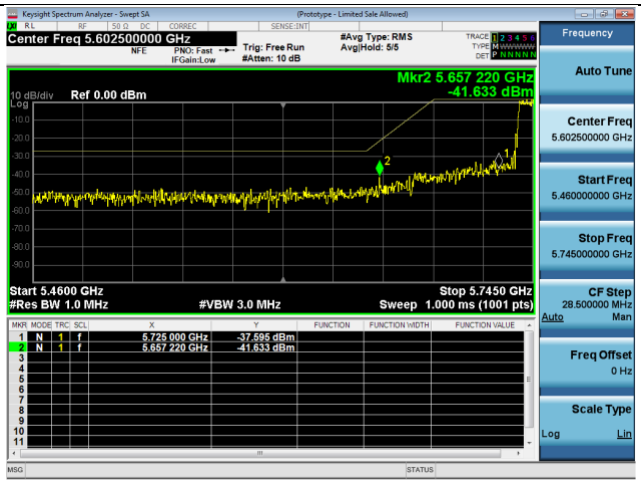


Antenna C



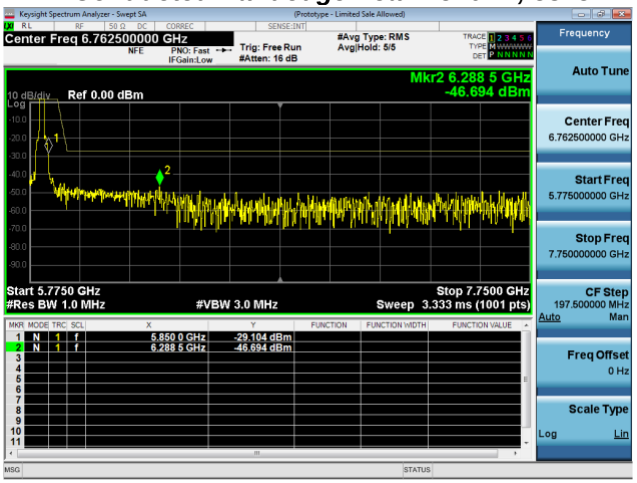
Antenna D

Higher Band edge

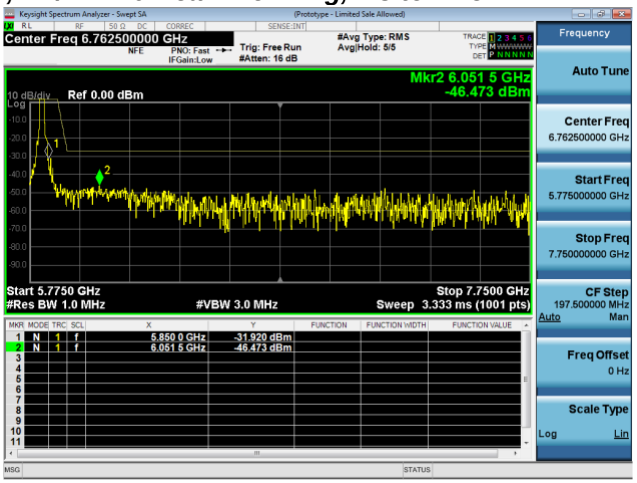
Frequency (MHz)	Mode	Tx Paths	Correlated Antenna Gain (dBi)	Tx 1 Bandedge Level (dBm)	Tx 2 Bandedge Level (dBm)	Tx 3 Bandedge Level (dBm)	Tx 4 Bandedge Level (dBm)	Total Tx Bandedge Level (dBm)	Limit (dBm)	Margin (dB)
5775	Non HT80, 6 to 54 Mbps	1	5	-47.1				-42.1	-27.20	14.9
	Non HT80, 6 to 54 Mbps	2	5	-47.1	-43.5			-36.9	-27.20	9.7
	Non HT80, 6 to 54 Mbps	3	5	-47.1	-43.5	-42.1		-34.0	-27.20	6.8
	Non HT80, 6 to 54 Mbps	4	5	-47.0	-43.6	-41.5	-47.6	-33.2	-27.20	6.0
	VHT80, M0 to M9 1ss	1	5	-44.3				-39.3	-27.20	12.1
	VHT80, M0 to M9 1ss	2	5	-44.3	-47.2			-37.5	-27.20	10.3
	VHT80, M0 to M9 2ss	2	5	-44.3	-47.2			-37.5	-27.20	10.3
	VHT80, M0 to M9 1ss	3	5	-44.3	-47.2	-45.4		-35.7	-27.20	8.5
	VHT80, M0 to M9 2ss	3	5	-44.3	-47.2	-45.4		-35.7	-27.20	8.5
	VHT80, M0 to M9 3ss	3	5	-44.3	-47.2	-45.4		-35.7	-27.20	8.5
	VHT80, M0 to M9 1ss	4	5	-44.3	-47.2	-45.4	-43.5	-33.9	-27.20	6.7
	VHT80, M0 to M9 2ss	4	5	-44.3	-47.2	-45.4	-43.5	-33.9	-27.20	6.7
	VHT80, M0 to M9 3ss	4	5	-44.3	-47.2	-45.4	-43.5	-33.9	-27.20	6.7
	VHT80 Beam Forming, M0 to M9 1ss	2	8	-44.3	-47.2			-34.5	-27.20	7.3
	VHT80 Beam Forming, M0 to M9 2ss	2	5	-44.3	-47.2			-37.5	-27.20	10.3
	VHT80 Beam Forming, M0 to M9 1ss	3	10	-49.3	-47.4	-47.8		-33.3	-27.20	6.1
	VHT80 Beam Forming, M0 to M9 2ss	3	7	-44.3	-47.2	-45.4		-33.7	-27.20	6.5
	VHT80 Beam Forming, M0 to M9 3ss	3	5	-44.3	-47.2	-45.4		-35.7	-27.20	8.5
	VHT80 Beam Forming, M0 to M9 1ss	4	11	-49.0	-47.8	-50.3	-49.8	-32.1	-27.20	4.9
	VHT80 Beam Forming, M0 to M9 2ss	4	8	-44.3	-47.2	-45.4	-43.5	-30.9	-27.20	3.7
	VHT80 Beam Forming, M0 to M9 3ss	4	6	-44.3	-47.2	-45.4	-43.5	-32.9	-27.20	5.7
	VHT80 STBC, M0 to M9 1ss	2	5	-44.3	-47.2			-37.5	-27.20	10.3
	VHT80 STBC, M0 to M9 1ss	3	5	-44.3	-47.2	-45.4		-35.7	-27.20	8.5
	VHT80 STBC, M0 to M9 1ss	4	5	-44.3	-47.2	-45.4	-43.5	-33.9	-27.20	6.7
5795	Non HT40, 6 to 54 Mbps	1	5	-41.6				-36.6	-27.10	9.5
	Non HT40, 6 to 54 Mbps	2	5	-41.6	-43.6			-34.5	-27.10	7.4
	Non HT40, 6 to 54 Mbps	3	5	-41.6	-43.6	-41.8		-32.5	-27.10	5.4
	Non HT40, 6 to 54 Mbps	4	5	-41.6	-43.6	-41.8	-39.5	-30.4	-27.10	3.3
	HT/VHT40, M0 to M7	1	5	-46.6				-41.6	-27.10	14.5
	HT/VHT40, M0 to M7	2	5	-46.6	-43.5			-36.8	-27.10	9.7
	HT/VHT40, M8 to M15	2	5	-46.6	-43.5			-36.8	-27.10	9.7
	HT/VHT40, M0 to M7	3	5	-46.6	-43.5	-47.3		-35.7	-27.10	8.6
	HT/VHT40, M8 to M15	3	5	-46.6	-43.5	-47.3		-35.7	-27.10	8.6

	HT/VHT40, M16 to M23	3	5	-46.6	-43.5	-47.3		-35.7	-27.10	8.6
	HT/VHT40, M0 to M7	4	5	-46.6	-43.5	-47.3	-46.8	-34.7	-27.10	7.6
	HT/VHT40, M8 to M15	4	5	-46.6	-43.5	-47.3	-46.8	-34.7	-27.10	7.6
	HT/VHT40, M16 to M23	4	5	-46.6	-43.5	-47.3	-46.8	-34.7	-27.10	7.6
	HT/VHT40 Beam Forming, M0 to M7	2	8	-46.6	-43.5			-33.8	-27.10	6.7
	HT/VHT40 Beam Forming, M8 to M15	2	5	-46.6	-43.5			-36.8	-27.10	9.7
	HT/VHT40 Beam Forming, M0 to M7	3	10	-46.2	-47.7	-47.9		-32.4	-27.10	5.3
	HT/VHT40 Beam Forming, M8 to M15	3	7	-46.6	-43.5	-47.3		-33.7	-27.10	6.6
	HT/VHT40 Beam Forming, M16 to M23	3	5	-46.6	-43.5	-47.3		-35.7	-27.10	8.6
	HT/VHT40 Beam Forming, M0 to M7	4	11	-51.0	-47.8	-47.7	-48.9	-31.6	-27.10	4.5
	HT/VHT40 Beam Forming, M8 to M15	4	8	-46.6	-43.5	-47.3	-46.8	-31.7	-27.10	4.6
	HT/VHT40 Beam Forming, M16 to M23	4	6	-46.6	-43.5	-47.3	-46.8	-33.7	-27.10	6.6
	HT/VHT40 STBC, M0 to M7	2	5	-46.6	-43.5			-36.8	-27.10	9.7
	HT/VHT40 STBC, M0 to M7	3	5	-46.6	-43.5	-47.3		-35.7	-27.10	8.6
	HT/VHT40 STBC, M0 to M7	4	5	-46.6	-43.5	-47.3	-46.8	-34.7	-27.10	7.6
5825	Non HT20, 6 to 54 Mbps	1	5	-45.5				-40.5	-27.00	13.5
	Non HT20, 6 to 54 Mbps	2	5	-45.5	-46.8			-38.1	-27.00	11.1
	Non HT20, 6 to 54 Mbps	3	5	-45.5	-46.8	-46.3		-36.4	-27.00	9.4
	Non HT20, 6 to 54 Mbps	4	5	-45.5	-46.8	-46.3	-45.2	-34.9	-27.00	7.9
	Non HT20 Beam Forming, 6 to 54 Mbps	2	8	-45.5	-46.8			-35.1	-27.00	8.1
	Non HT20 Beam Forming, 6 to 54 Mbps	3	10	-46.1	-46.3	-47.1		-31.7	-27.00	4.7
	Non HT20 Beam Forming, 6 to 54 Mbps	4	11	-50.2	-48.6	-47.8	-50.4	-32.1	-27.00	5.1
	HT/VHT20, M0 to M7	1	5	-46.7				-41.7	-27.00	14.7
	HT/VHT20, M0 to M7	2	5	-46.7	-46.5			-38.6	-27.00	11.6
	HT/VHT20, M8 to M15	2	5	-46.7	-46.5			-38.6	-27.00	11.6
	HT/VHT20, M0 to M7	3	5	-46.7	-46.5	-46.1		-36.7	-27.00	9.7
	HT/VHT20, M8 to M15	3	5	-46.7	-46.5	-46.1		-36.7	-27.00	9.7
	HT/VHT20, M16 to M23	3	5	-46.7	-46.5	-46.1		-36.7	-27.00	9.7
	HT/VHT20, M0 to M7	4	5	-46.7	-46.5	-46.1	-40.7	-33.1	-27.00	6.1
	HT/VHT20, M8 to M15	4	5	-46.7	-46.5	-46.1	-40.7	-33.1	-27.00	6.1
	HT/VHT20, M16 to M23	4	5	-46.7	-46.5	-46.1	-40.7	-33.1	-27.00	6.1
	HT/VHT20 Beam Forming, M0 to M7	2	8	-46.7	-46.5			-35.6	-27.00	8.6
	HT/VHT20 Beam Forming, M8 to M15	2	5	-46.7	-46.5			-38.6	-27.00	11.6
	HT/VHT20 Beam Forming, M0 to M7	3	10	-45.2	-46.7	-46.3		-31.2	-27.00	4.2
	HT/VHT20 Beam Forming, M8 to M15	3	7	-46.7	-46.5	-46.1		-34.7	-27.00	7.7
	HT/VHT20 Beam Forming, M16 to M23	3	5	-46.7	-46.5	-46.1		-36.7	-27.00	9.7
	HT/VHT20 Beam Forming, M0 to M7	4	11	-50.1	-49.3	-48.1	-49.3	-32.1	-27.00	5.1
	HT/VHT20 Beam Forming, M8 to M15	**4**	**8**	**-46.7**	**-46.5**	**-46.1**	**-40.7**	**-30.1**	**-27.00**	**3.1**
	HT/VHT20 Beam Forming, M16 to M23	4	6	-46.7	-46.5	-46.1	-40.7	-32.1	-27.00	5.1
	HT/VHT20 STBC, M0 to M7	2	5	-46.7	-46.5			-38.6	-27.00	11.6
	HT/VHT20 STBC, M0 to M7	3	5	-46.7	-46.5	-46.1		-36.7	-27.00	9.7
	HT/VHT20 STBC, M0 to M7	4	5	-46.7	-46.5	-46.1	-40.7	-33.1	-27.00	6.1

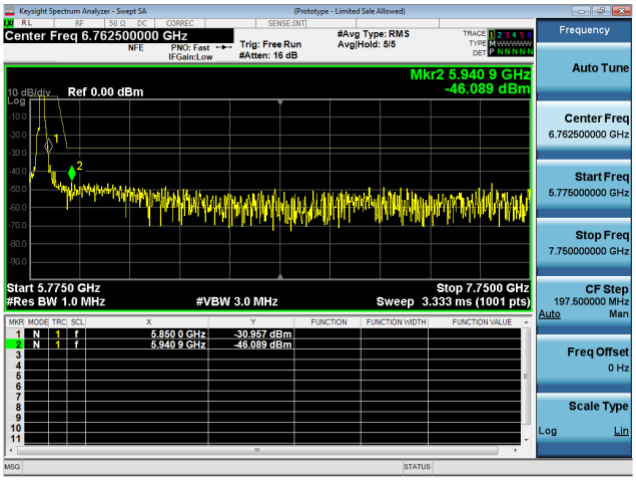
Conducted Bandedge Peak 15407R, 5825 MHz, HT/VHT20 Beam Forming, M8 to M15



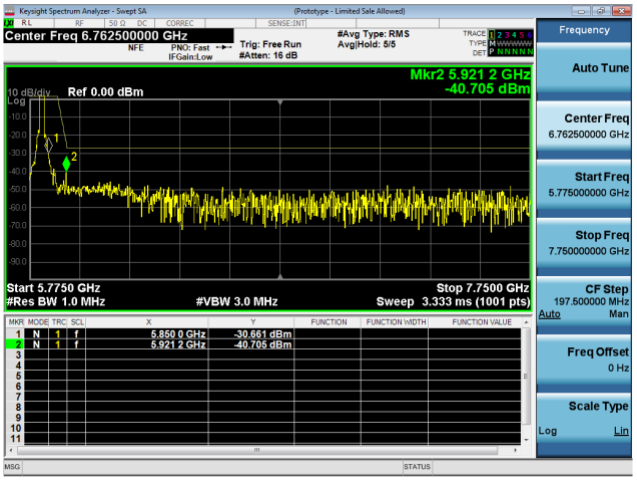
Antenna A



Antenna B



Antenna C



Antenna D

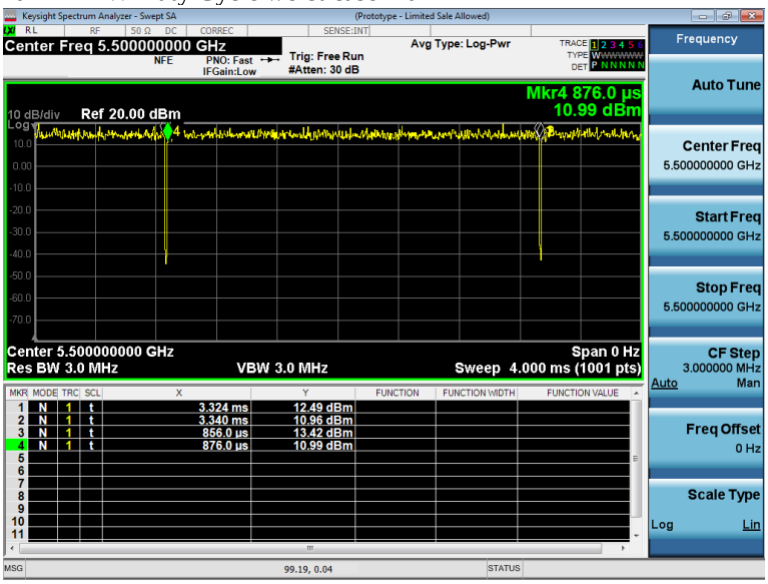
A.8 Duty Cycle

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:

1)Set the center frequency of the instrument to the center frequency of the transmission.
2)Set RBW ≥ OBW if possible; otherwise, set RBW to the largest available value.
3)Set VBW ≥ RBW. Set detector = peak or average.

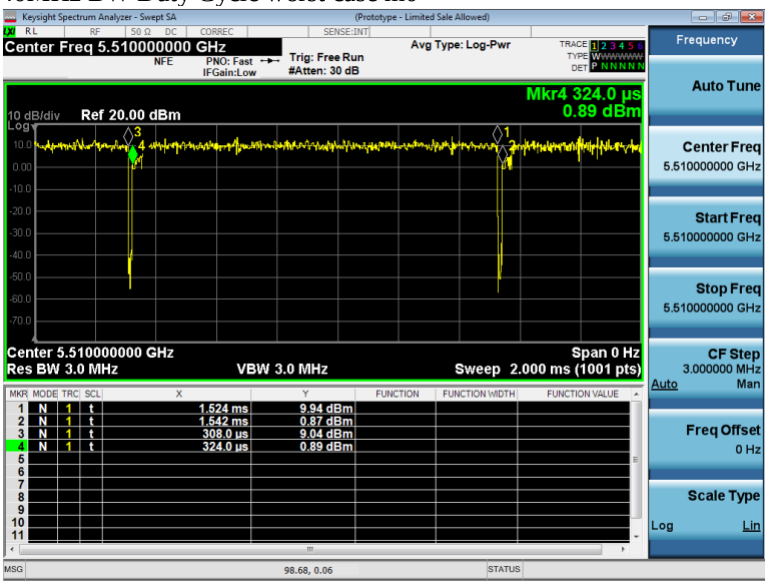
Add [10 log (1 / D)], where D is the duty cycle, to the measured value where it is needed
For example, add [10 log (1/0.25)] = 6 dB if the duty cycle is 25%

20MHz BW Duty Cycle worst case m0



The Duty cycle is 99.2%, no correction is needed for measurements of 20MHz BW.

40MHz BW Duty Cycle worst case m0



The Duty cycle of 40MHz BW is 98.7%, a 0.1dB CF is added to measurements.

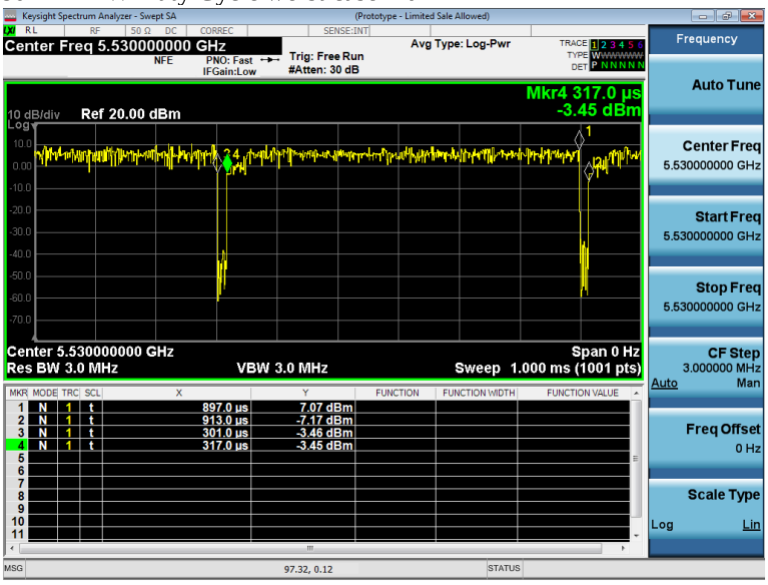
Time ON = 1.524ms – 0.324ms =1.2 ms

Period = 1.524ms – 0.308ms = 1.216ms

Duty Cycle = Time ON / Period = 1.2/1.216ms = 0.9868

Duty Cycle Correction factor = 10 log (1/D) = 0.06dB

80MHz BW Duty Cycle worst case m0x1



The Duty cycle of 80MHz BW is 97.3%, a 0.2dB CF is added to measurements.

Time ON = 897us – 317us = 580us

Period = 897us – 301us = 596us

Duty Cycle = Time ON / Period = 580/596us = 0.9732

Duty Cycle Correction factor = 10 log (1/D) = 0.12dB

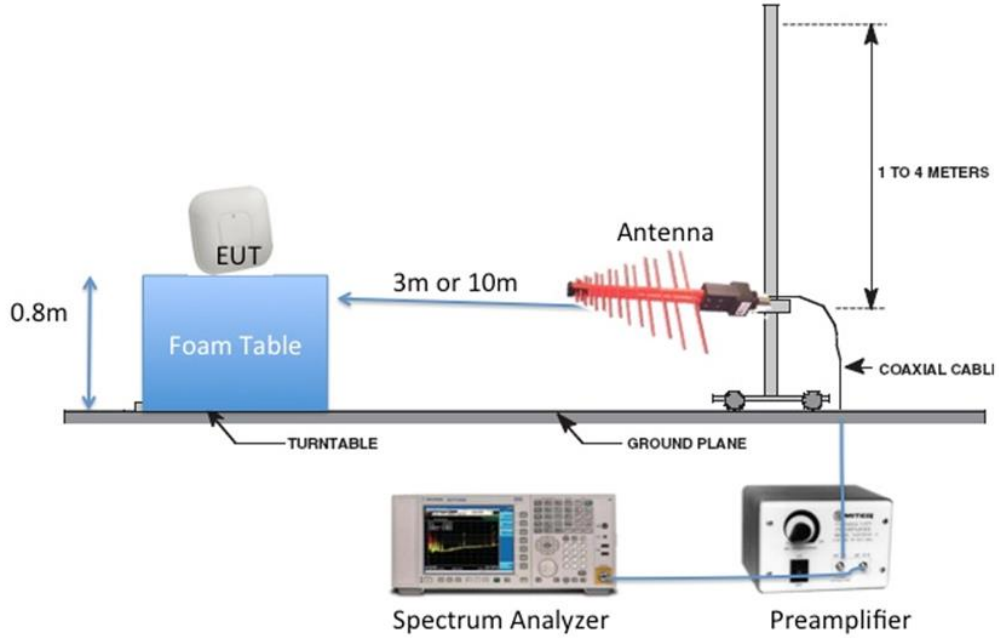
Title: Physical Test Arrangement Photograph

This is a dual band 2.4GHz / 5GHz device. All ports in this test set up photo are connected as all testing is automated. Section 2.6 of this test report given an overview of the different Tx antenna combinations used by this device.

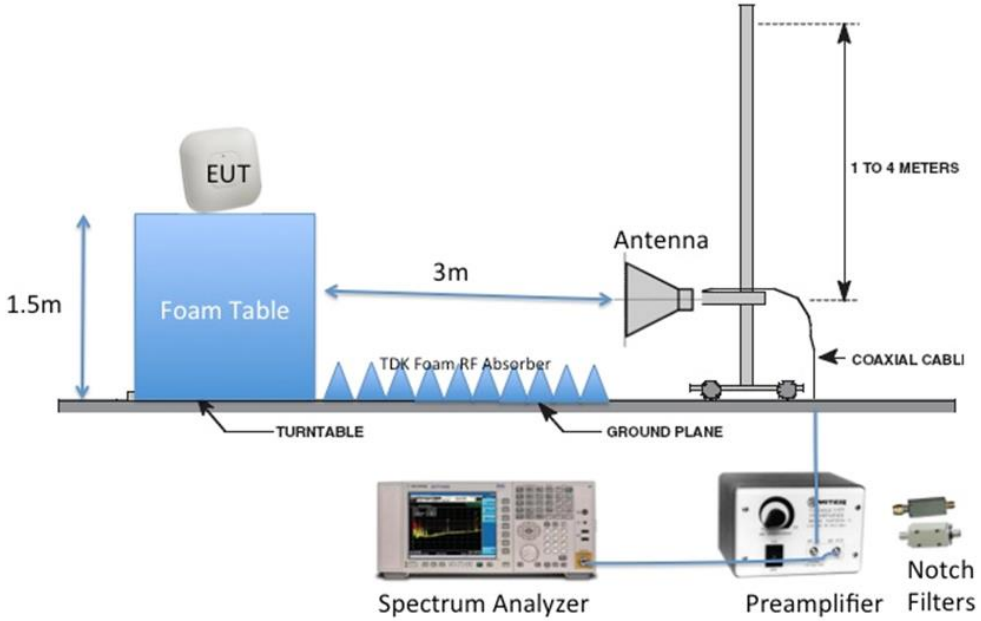
Appendix B: Emission Test Results

Testing Laboratory: Cisco Systems, Inc., 125 West Tasman Drive, San Jose, CA 95134, USA

Radiated Emission Setup Diagram-Below 1G



Radiated Emission Setup Diagram-Above 1G



B.1 Radiated Spurious Emissions

15.407 / 15.209 / 15.205 For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz. Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in 15.209.
The provisions of §15.205 apply to intentional radiators operating under this section. 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

RSS-GEN Radiated emissions which fall in the restricted bands, as defined in RSS-GEN section 8.10. must also comply with the radiated limits specified in RSS-GEN section 8.9

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

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

Span:	1GHz – 18 GHz/18GHz-26G/26GHz-40GHz
Reference Level:	80 dBuV
Attenuation:	10 dB
Sweep Time:	Coupled
Resolution Bandwidth:	1MHz
Video Bandwidth:	3 MHz
Detector:	Peak / Average

Terminate the access Point RF ports with 50 ohm loads.

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

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

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

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

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

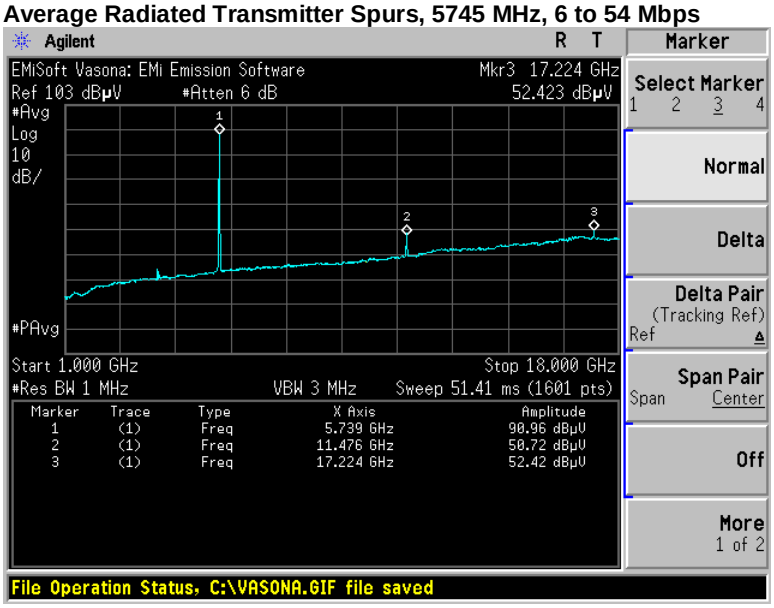
Tested By :	Date of testing:
Jose Aguirre	10-Feb-18 - 16-Feb-18
Test Result : PASS	

See Appendix C for list of test equipment

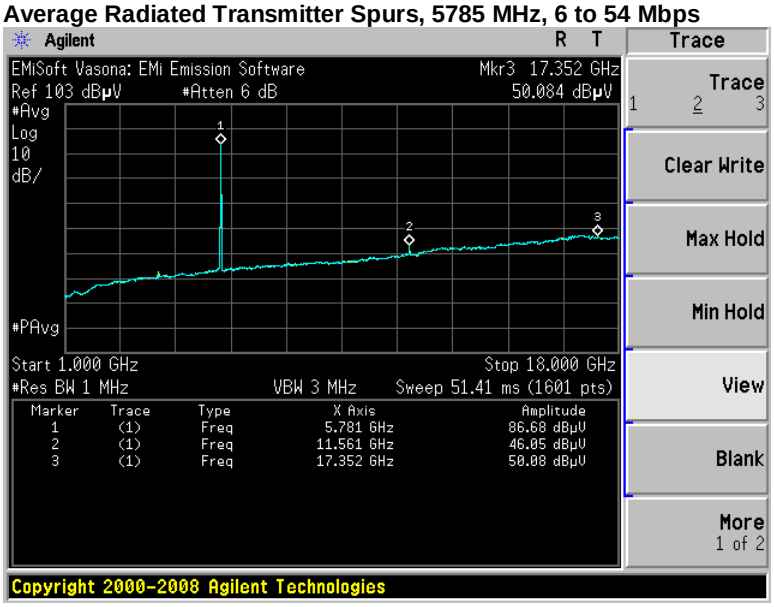
B.1.A Transmitter Radiated Spurious Emissions-Average Worst Case

Frequency (MHz)	Mode	Data Rate (Mbps)	Spurious Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (MHz)
5745	Non HT20, 6 to 54 Mbps	6	52.4	54.0	1.6
5785	Non HT20, 6 to 54 Mbps	6	50.1	54.0	3.9
5825	Non HT20, 6 to 54 Mbps	6	50.3	54.0	3.7

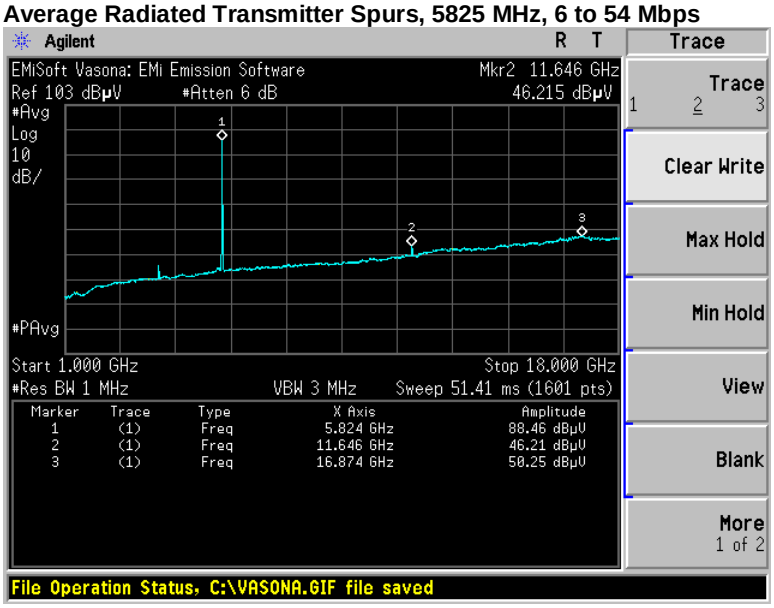
Average Radiated Transmitter Spurs, 5745 MHz, 6 to 54 Mbps



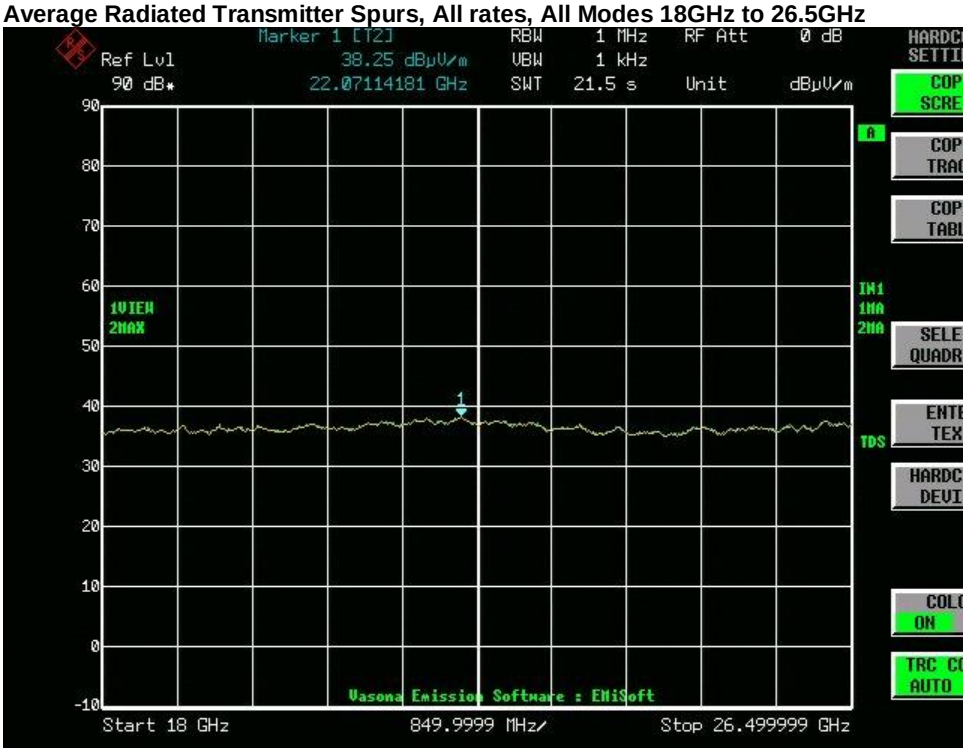
Average Radiated Transmitter Spurs, 5785 MHz, 6 to 54 Mbps



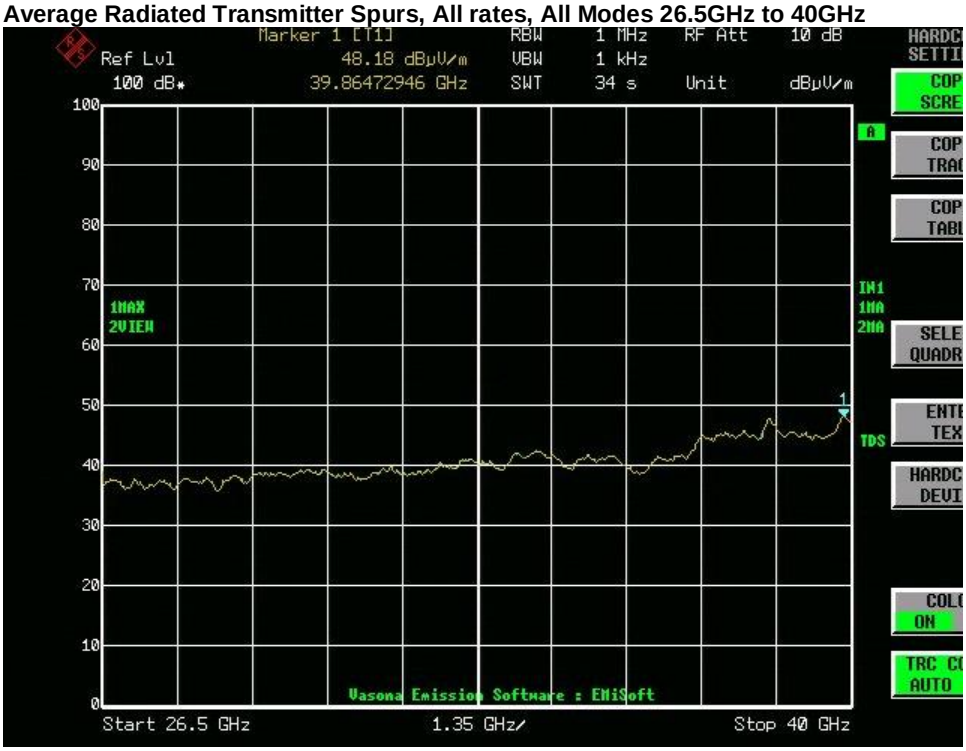
Average Radiated Transmitter Spurs, 5825 MHz, 6 to 54 Mbps



Average Radiated Transmitter Spurs, All rates, All Modes 18GHz to 26.5GHz



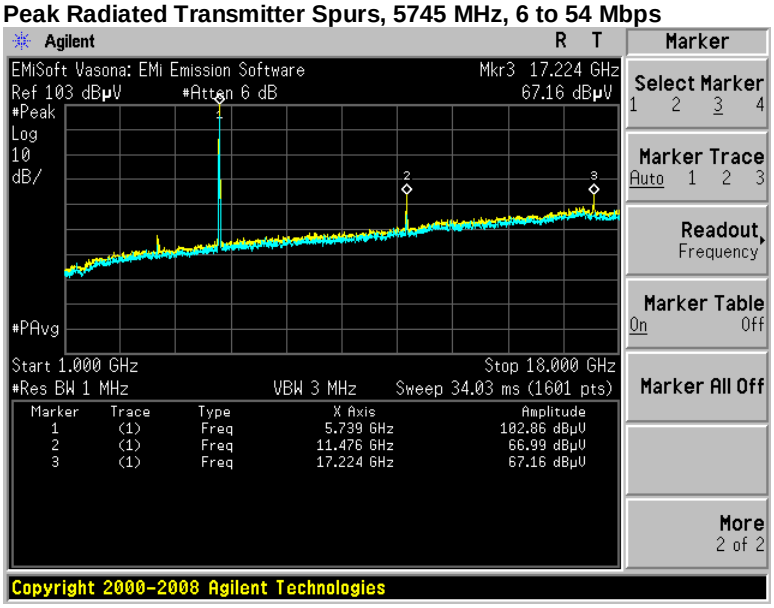
Average Radiated Transmitter Spurs, All rates, All Modes 26.5GHz to 40GHz



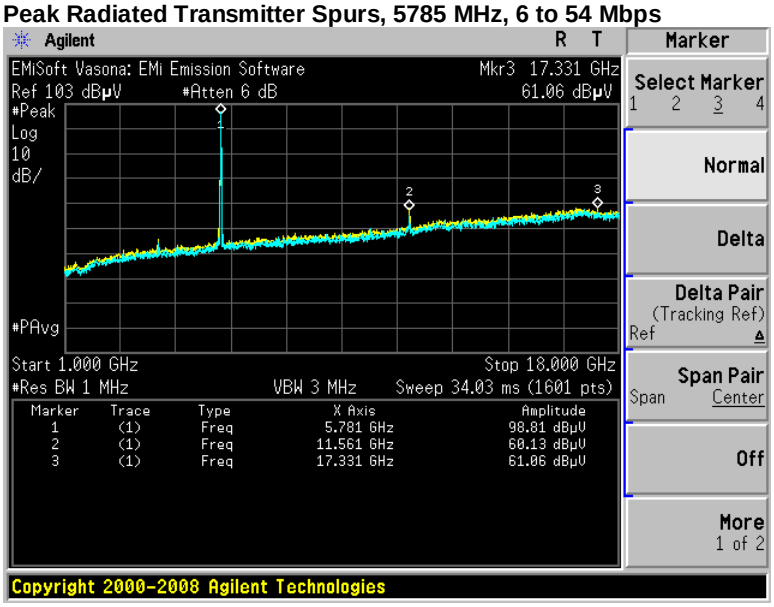
B.1.P Transmitter Radiated Spurious Emissions-Peak Worst Case

Frequency (MHz)	Mode	Data Rate (Mbps)	Spurious Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (MHz)
5745	Non HT20, 6 to 54 Mbps	6	**67.2**	74.0	6.8
5785	Non HT20, 6 to 54 Mbps	6	**61.1**	74.0	12.9
5825	Non HT20, 6 to 54 Mbps	6	**60.5**	74.0	13.5

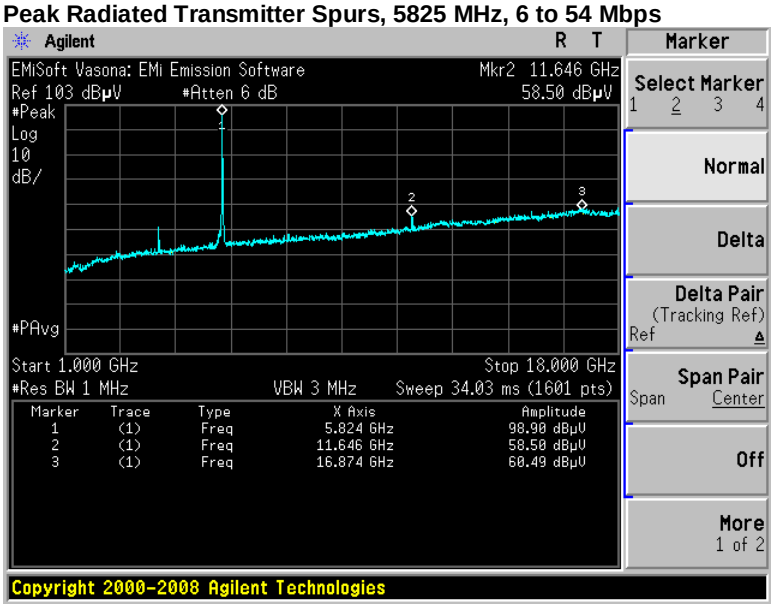
Peak Radiated Transmitter Spurs, 5745 MHz, 6 to 54 Mbps



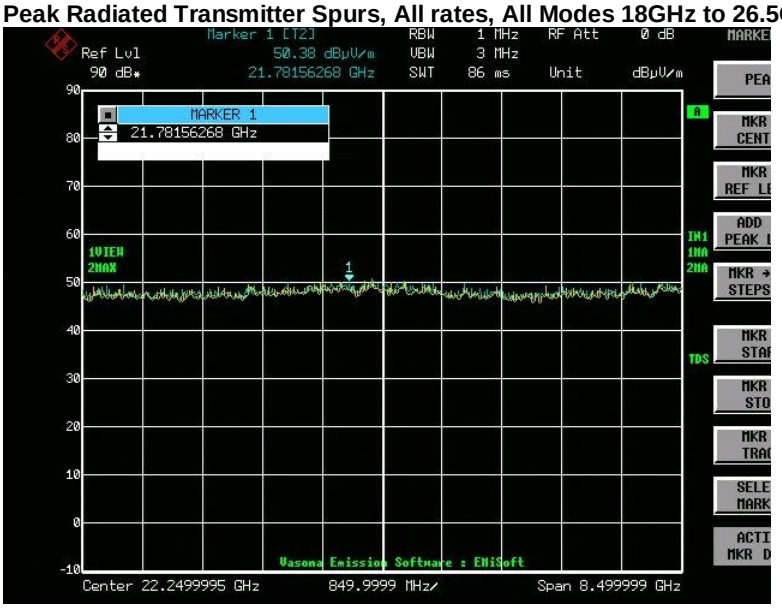
Peak Radiated Transmitter Spurs, 5785 MHz, 6 to 54 Mbps



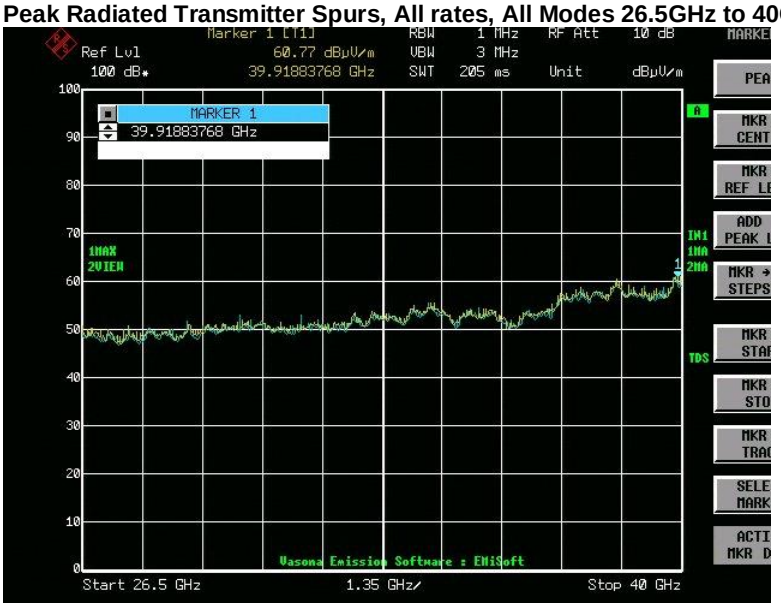
Peak Radiated Transmitter Spurs, 5825 MHz, 6 to 54 Mbps

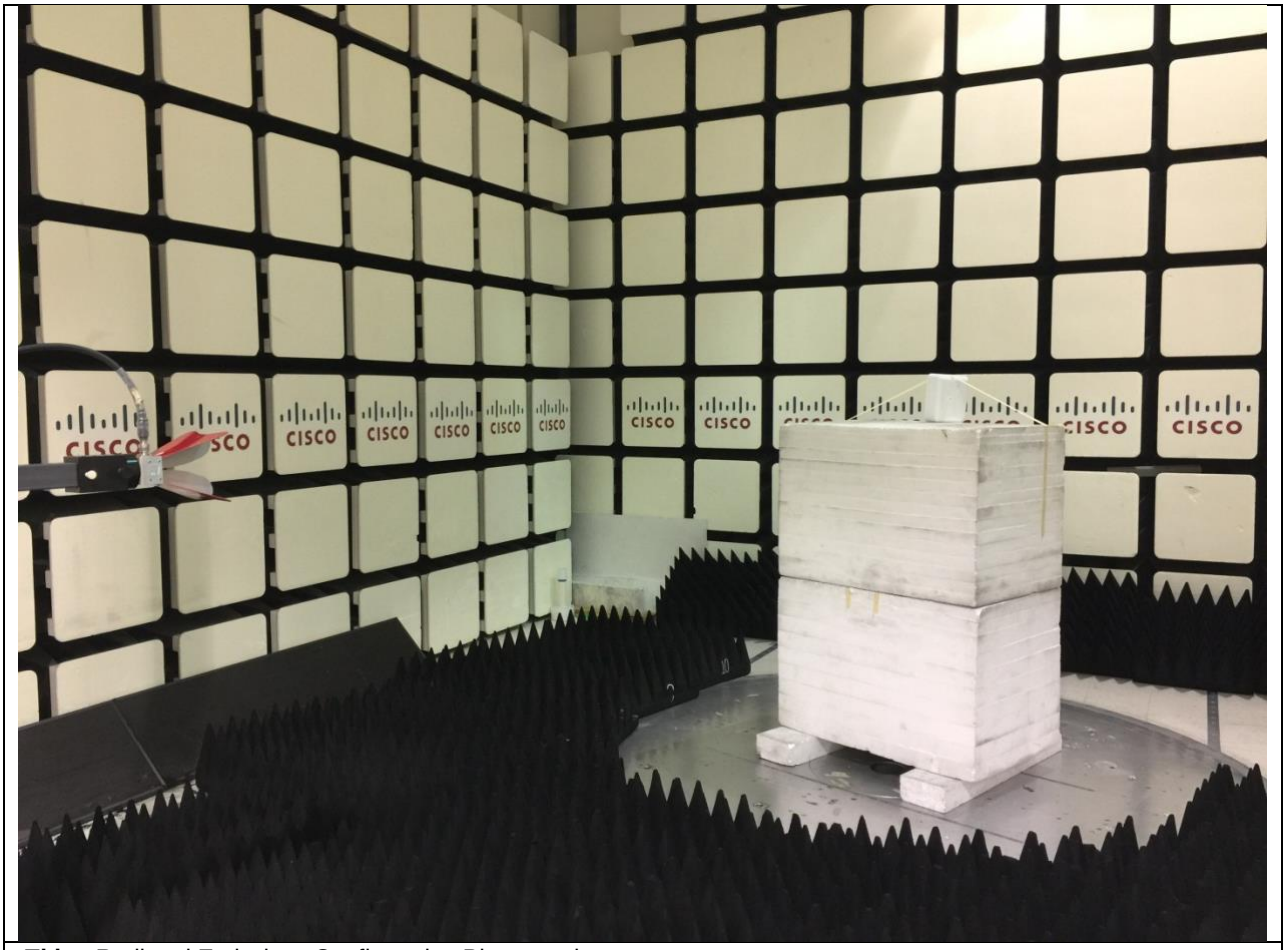


Peak Radiated Transmitter Spurs, All rates, All Modes 18GHz to 26.5GHz



Peak Radiated Transmitter Spurs, All rates, All Modes 26.5GHz to 40GHz





Title: Radiated Emissions Configuration Photograph

B.2 Receiver Spurious Emissions

RSS-Gen Receivers are required to comply with the limits of spurious emissions as set out in this section. Receiver emission measurements are to be performed as per the normative test method referenced in Section 3.

Radiated emissions which fall in the restricted bands, as defined in RSS-Gen section 8.10, must also comply with the radiated emission limits specified in RSS-Gen section 8.9.

For emissions at frequencies below 1 GHz, measurements shall be performed using a CISPR quasi-peak detector and the related measurement bandwidth. At frequencies above 1 GHz, measurements shall be performed using a linear average detector with a minimum resolution bandwidth of 1 MHz.

Ref. RSS-Gen section 8.9 & 8.10
ANSI C63.10: 2013 section 4.1.4.2.2, 4.1.4.2.3, 6.6.4 & 11.12.2

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

Span:	1GHz – 18 GHz
Reference Level:	80 dBuV
Attenuation:	10 dB
Sweep Time:	Coupled
Resolution Bandwidth:	1MHz
Video Bandwidth:	3MHz
Detector:	Peak / Average

Radiated emission measurements shall be performed with the receiver antenna connected to the receiver antenna terminals.

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

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

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

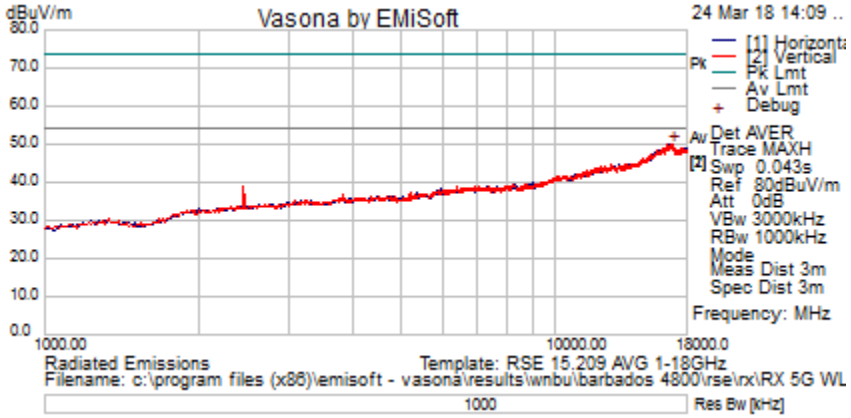
System Number	Description	Samples	System under test	Support equipment
1	EUT	S01	☑	☐
	Support	S02	☐	☑

Tested By :	**Date of testing:**
Jose Aguirre	24-Mar-18
Test Result : PASS	

See Appendix C for list of test equipment

B.2.A Receiver Radiated Spurious Emissions (Average Measurements) worst case

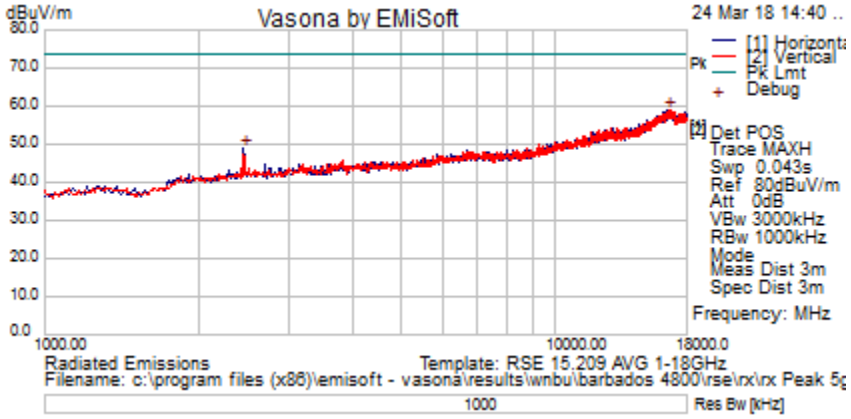
Average Radiated Receiver Spurs, All Rates, All Modes, (1-18GHz) Horizontal



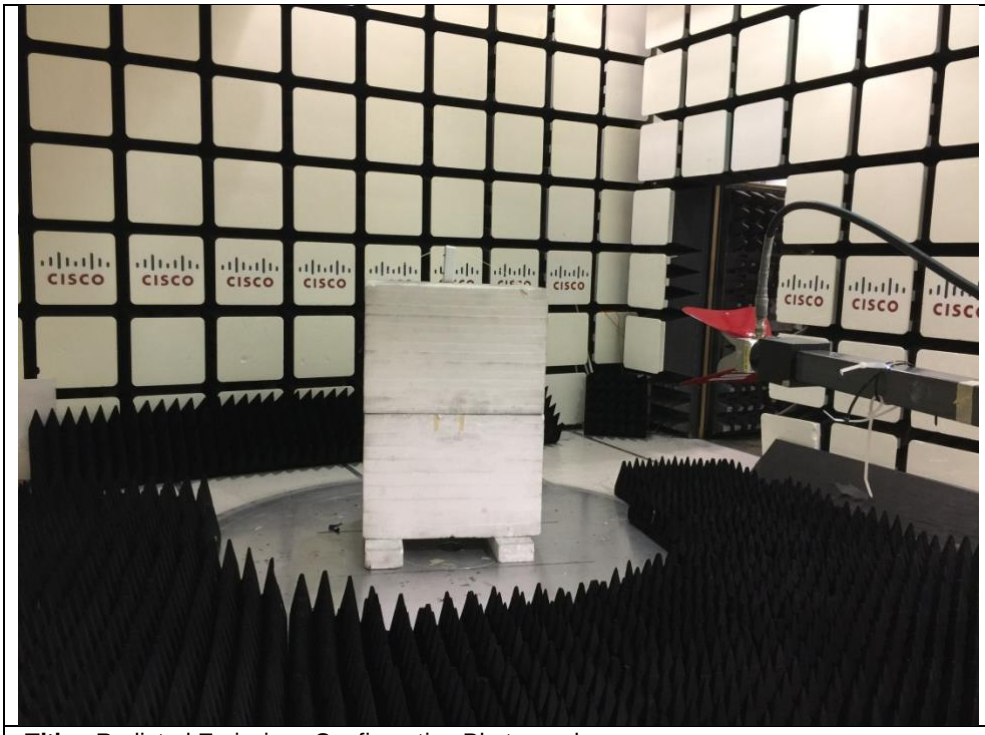
Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
16916.25	28.33	15.78	6.09	50.19	Average.	V	125	0	54	-3.81	Pass

B.2.A Receiver Radiated Spurious Emissions (Peak Measurements) worst case

Peak Radiated Receiver Spurs, All Rates, All Modes, (1-18GHz) Horizontal



Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
16608.125	36.98	15.7	6.33	59.02	Peak.	H	125	0	74	-14.98	Pass
2455.625	48.74	5.03	-4.76	49.01	Peak.	H	125	0	74	-24.99	Pass



Title: Radiated Emissions Configuration Photograph

B.3 Radiated Emissions 30MHz to 1GHz

15.205 / 15.209 / RSS-Gen / LP0002 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)) and RSS-Gen section 8.9.

Ref. ANSI C63.10: 2013 section 6.5

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

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

Terminate the access Point RF ports with 50 ohm loads.

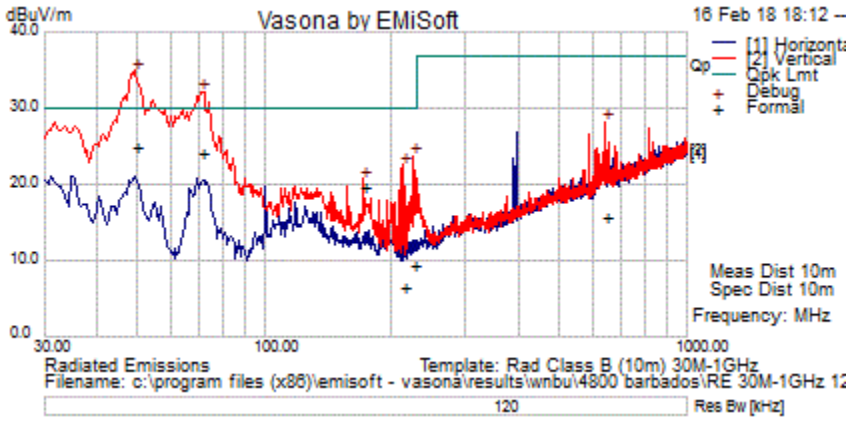
Maximize Turntable (find worst case table angle), Maximize Antenna (find worst case height)

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

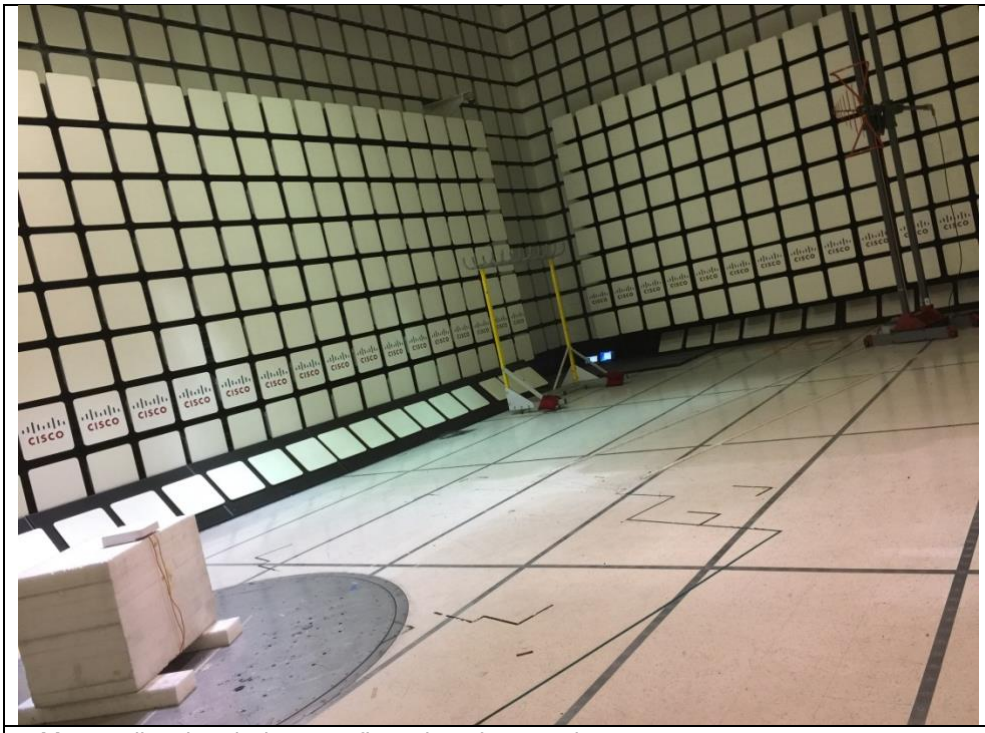
System Number	Description	Samples	System under test	Support equipment
1	EUT	S01	☑	☐
	Support	S02	☐	☑

Tested By :	Date of testing:
Jose Aguirre	16-Feb-18
Test Result : PASS	

See Appendix C for list of test equipment



Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
213.304	21.6	1.6	-16.6	6.6	Quasi Max	V	122	25	30	-23.4	Pass
644.369	21.7	2.8	-8.6	15.8	Quasi Max	V	240	25	37	-21.2	Pass
225.013	23.8	1.6	-16.1	9.3	Quasi Max	V	172	28	30	-20.7	Pass
71.218	42.8	0.9	-19.5	24.2	Quasi Max	V	192	128	30	-5.8	Pass
171.816	33.9	1.4	-15.6	19.7	Quasi Max	V	284	245	30	-10.3	Pass
49.436	43.5	0.8	-19.4	24.9	Quasi Max	V	202	338	30	-5.1	Pass



Title: Radiated Emissions Configuration Photograph

B.4 AC Conducted Emissions

FCC 15.207 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.

Measurement Procedure
Accordance with ANSI C63.10:2013 section 6.2

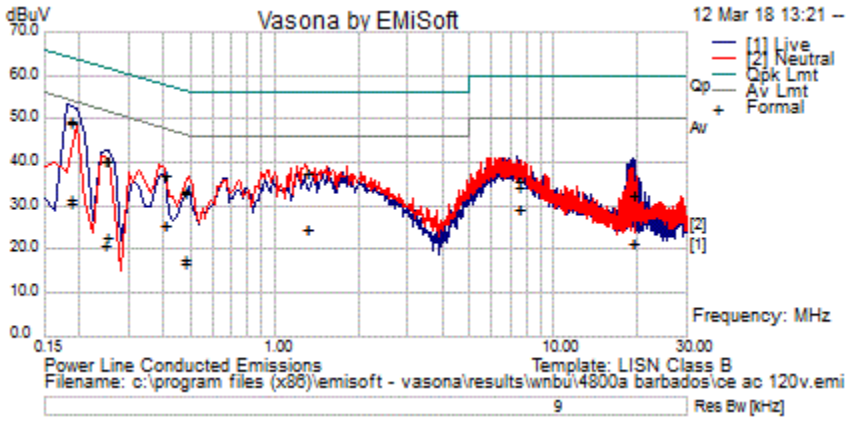
Using Vasona, configure the spectrum analyzer as shown below (be sure to enter all losses between the transmitter output and the spectrum analyzer). Place the radio in continuous transmit mode.

Span:	150 KHz – 30 MHz
Attenuation:	10 dB
Sweep Time:	Coupled
Resolution Bandwidth:	9 KHz
Video Bandwidth:	30 KHz
Detector:	Quasi-Peak / Average

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

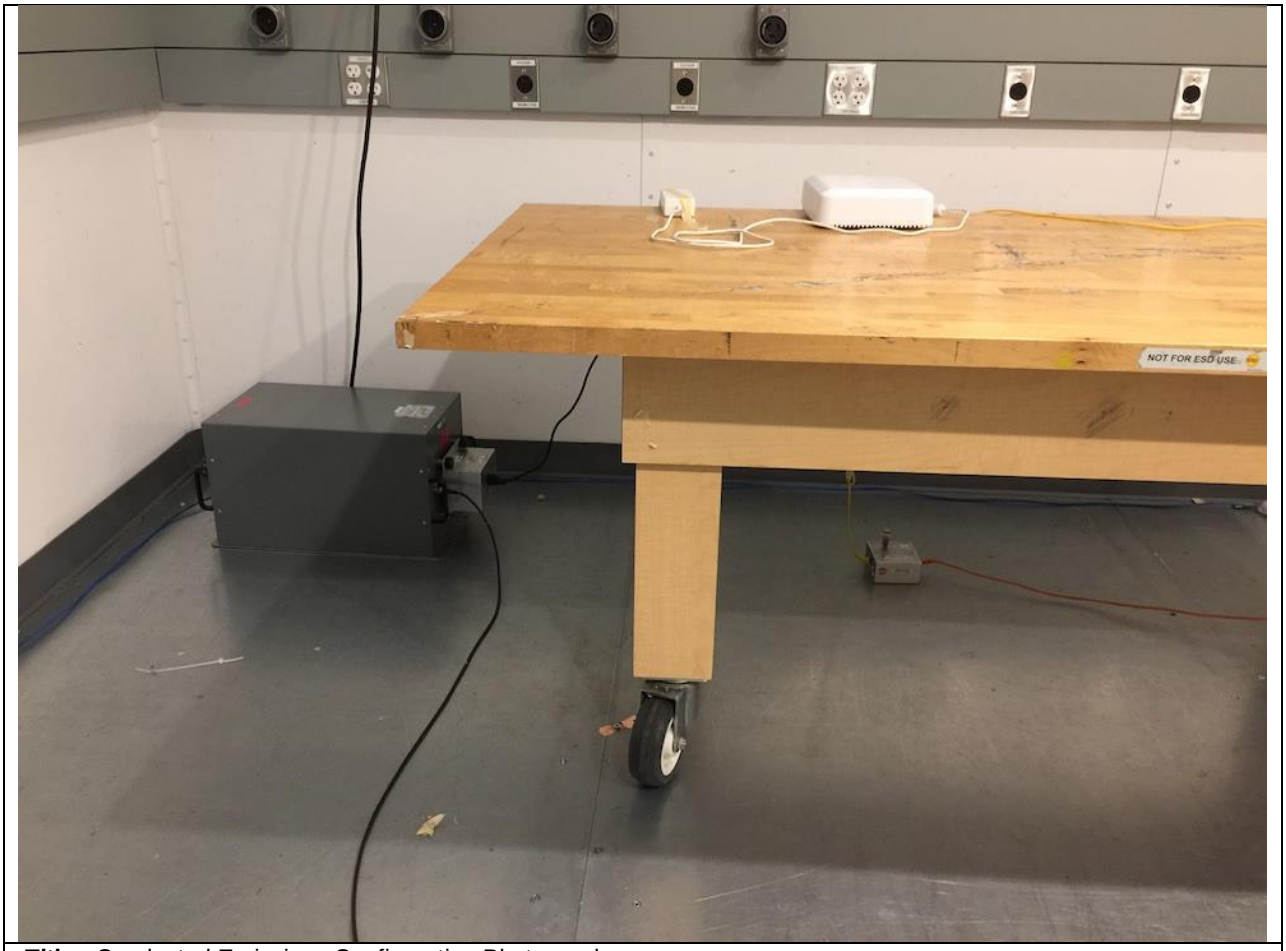
Tested By :	**Date of testing:**
Jose Aguirre	12-Mar-18
Test Result : PASS	

See separate EMC test report for test data.



Test Results Table

Frequency MHz	Raw dBuV	Cable Loss	Factors dB	Level dBuV	Measurement Type	Line	Limit dBuV	Margin dB	Pass /Fail
0.405	17.1	20.1	0	37.2	Quasi Peak	Live	57.8	-20.6	Pass
0.185	28.4	20.9	0.1	49.3	Quasi Peak	Live	64.2	-14.9	Pass
1.297	17.9	19.9	0	37.9	Quasi Peak	Live	56	-18.1	Pass
0.477	13.4	19.9	0	33.4	Quasi Peak	Live	56.4	-23	Pass
0.25	20.1	20.5	0	40.7	Quasi Peak	Live	61.8	-21.1	Pass
7.45	14	20.1	0.1	34.3	Quasi Peak	Live	60	-25.7	Pass
19.18	12	20.4	0.3	32.7	Quasi Peak	Live	60	-27.3	Pass
0.186	28.6	20.9	0.1	49.5	Quasi Peak	Neutral	64.2	-14.7	Pass
7.445	15.5	20.1	0.1	35.8	Quasi Peak	Neutral	60	-24.2	Pass
0.248	19.7	20.6	0	40.3	Quasi Peak	Neutral	61.8	-21.5	Pass
19.166	11.8	20.4	0.3	32.5	Quasi Peak	Neutral	60	-27.5	Pass
1.297	17.7	19.9	0	37.7	Quasi Peak	Neutral	56	-18.3	Pass
0.405	16.9	20.1	0	37	Quasi Peak	Neutral	57.7	-20.7	Pass
0.478	13.1	19.9	0	33	Quasi Peak	Neutral	56.4	-23.3	Pass
0.405	5.5	20.1	0	25.6	Average	Live	47.8	-22.1	Pass
0.185	10	20.9	0.1	31	Average	Live	54.2	-23.3	Pass
1.297	4.8	19.9	0	24.8	Average	Live	46	-21.2	Pass
0.477	-2	19.9	0	18	Average	Live	46.4	-28.4	Pass
0.25	2.1	20.5	0	22.7	Average	Live	51.8	-29.1	Pass
7.45	8.9	20.1	0.1	29.2	Average	Live	50	-20.8	Pass
19.18	1	20.4	0.3	21.7	Average	Live	50	-28.3	Pass
0.186	10.6	20.9	0.1	31.5	Average	Neutral	54.2	-22.7	Pass
7.445	9.1	20.1	0.1	29.3	Average	Neutral	50	-20.7	Pass
0.248	0.2	20.6	0	20.8	Average	Neutral	51.8	-31	Pass
19.166	0.7	20.4	0.3	21.4	Average	Neutral	50	-28.6	Pass
1.297	4.6	19.9	0	24.6	Average	Neutral	46	-21.4	Pass
0.405	5.4	20.1	0	25.4	Average	Neutral	47.7	-22.3	Pass
0.478	-3.2	19.9	0	16.8	Average	Neutral	46.4	-29.6	Pass



Title: Conducted Emissions Configuration Photograph

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

Test Equipment used for Radiated Emissions					
Equip No	**Model** **Manufacturer**	**Description**	**Last Cal**	**Next Cal**	**Test Item**
CIS008447	NSA 10m Chamber Cisco	NSA 10m Chamber	17-Oct-17	17-Oct-18	B.3
CIS021116	UFB311A-0-3540-520520 Micro-Coax	RF Coaxial Cable, to 18GHz, 354 in	19-Jan-18	19-Jan-19	B.3
CIS027233	CNE V York	Comparison Noise Emitter	Cal not required		B.3
CIS032806	JB1 Sunol Sciences	Combination Antenna	7-Jun-17	7-Jun-18	B.3
CIS037236	50CB-015 JFW	GPIB Control Box	Cal not required		B.3
CIS041979	1840 Cisco	18-40GHz EMI Test Head/Verification Fixture	30-Aug-17	30-Aug-18	B.3
CIS043124	Above 1GHz Site Cal Cisco	Above 1GHz Cispr Site Verification	15-Jan-18	15-Jan-19	B.3
CIS044940	ESU40 Rohde & Schwarz	EMI Test Receiver, 20Hz-40GHz	28-Nov-17	28-Nov-18	B.3
CIS047410	N9038A Agilent	MXE EMI Receiver 20Hz to 26.5 Ghz	31-Mar-17	31-Mar-18	B.3
CIS056154	Sucoflex 104PEA Huber + Suhner	RF N-Type cable 2 meter 18GHz	18-Jan-18	18-Jan-19	B.3
CIS001937	NSA 5m Chamber Cisco	NSA 5m Chamber	6-Feb-18	6-Feb-19	B.1
CIS007295	NSP1800-25-S1 Miteq	Broadband RF Preamplifier (1.0-18.0GHz,35-40dB)	13-Oct-17	13-Oct-18	B.1
CIS008024	SF106A Huber + Suhner	3 meter Sucoflex cable	10-Nov-17	10-Nov-18	B.1
CIS030443	UFB311A-0-1560-520520 Micro-Coax	RF Coaxial Cable, to 18GHz, 156 In.	10-Nov-17	10-Nov-18	B.1
CIS034075	RSG 2000 Schaffner	Reference Spectrum Generator, 1-18GHz	Cal not required		B.1
CIS037581	3117 ETS-Lindgren	Double Ridged Waveguide Horn Antenna	7-Dec-17	7-Dec-18	B.1
CIS041979	1840 Cisco	18-40GHz EMI Test Head/Verification Fixture	30-Aug-17	30-Aug-18	B.1
CIS042000	E4440A Agilent	Spectrum Analyzer	22-Aug-17	22-Aug-18	B.1
CIS044940	ESU40 Rohde & Schwarz	EMI Test Receiver, 20Hz-40GHz	28-Nov-17	28-Nov-18	B.1
CIS049413	iBTHP-5-DB9 Newport	5 inch Temp/RH/Press Sensor w/20ft cable	28-Dec-17	28-Dec-18	B.1
CIS049535	Above 1GHz Site Cal Cisco	Above 1GHz CISPR Site Validation	7-Feb-18	7-Feb-19	B.1
CIS055937	Sucoflex 106PA Huber + Suhner	N-Type 8m 18GHz Antenna Cable	10-Nov-17	10-Nov-18	B.1
CIS007295	NSP1800-25-S1 Miteq	Broadband RF Preamplifier (1.0-18.0GHz,35-40dB)	13-Oct-17	13-Oct-18	B.2
CIS021117	UFB311A-0-2484-520520 Micro-Coax	RF Coaxial Cable, to 18GHz, 248.4 in	16-Aug-17	16-Aug-18	B.2
CIS025716	11500E HP	Radio testing cable 3.5mm	27-Jun-17	27-Jun-18	B.2

CIS032544	3117 ETS-Lindgren	Double Ridged Waveguide Horn Antenna	12-Jul-17	12-Jul-18	B.2
CIS040597	Above 1GHz Site Cal Cisco	Above 1GHz Cispr Site Verification	26-Sep-17	26-Sep-18	B.2
CIS041979	1840 Cisco	18-40GHz EMI Test Head/Verification Fixture	30-Aug-17	30-Aug-18	B.2
CIS044940	ESU40 Rohde & Schwarz	EMI Test Receiver, 20Hz-40GHz	28-Nov-17	28-Nov-18	B.2
CIS047300	N9038A Agilent Technologies	MXE EMI Receiver 20Hz to 26.5 Ghz	28-Mar-17	28-Mar-18	B.2
CIS049553	5-T-MB Bird	5W 50 Ohm BNC Termination 4GHz	15-Nov-17	15-Nov-18	B.2
CIS054230	iBTHP-5-DB9 Newport	5 inch Temp/RH/Press Sensor w/20ft cable	9-Feb-18	9-Feb-19	B.2
CIS056158	Sucoflex104PEA Huber + Suhner	RF N Type Cable 18GHz 2m	18-Jan-18	18-Jan-19	B.2

Test Equipment used for AC Mains Conducted Emissions

Equip No	Manufacturer	Model	Description	Last Cal	Next Cal	Test Item
45167	Stanley 33-428		8m Tape Measure	Cal not req	Cal not req	B.4
5687	Fluke 73 III		Digital Multimeter	11/1/2017	11/1/2018	B.4
45999	FCC F-090527-1009-2		Lisn Adapter	6/8/2017	6/8/2018	B.4
45050	Rohde & Schwarz ESCI		EMI Test Receiver	11/16/2017	11/16/2018	B.4
45998	FCC F-090527-1009-1		Line Impedance Stabilization Network	6/8/2017	6/8/2018	B.4
37229	Coleman RG-223		25ft BNC cable	4/12/2017	4/12/2018	B.4
49559	Bird 5-T-MB		5W 50 Ohm BNC Termination 4GHz	8/10/2017	8/10/2018	B.4
18963	York CNE V		Comparison Noise Emitter, 30 - 1000MHz	Cal not req	Cal not req	B.4
54228	Newport iBTHP-5-DB9		5 inch Temp/RH/Press Sensor w/20ft cable	2/10/2018	2/10/2019	B.4
46006	FCC F-090527-1009-1		Line Impedance Stabilization Network	6/8/2017	6/8/2018	B.4
8510	FCC FCC-450B-2.4-N		Instrumentation Limiter	5/16/2017	5/16/2018	B.4
46007	FCC F-090527-1009-2		Lisn Adapter	6/8/2017	6/8/2018	B.4
49531	TTE H785-150K-50-21378		High Pass Filter	5/3/2017	5/3/2018	B.4

Test Equipment used for RF Conducted Tests					
Equip No	**Model Manufacturer**	**Description**	**Last Cal**	**Next Cal**	**Test Item**
CIS053615	N9030A-550 Keysight	PXA Signal Analyzer 50 GHz	4-Apr-17	4-Apr-18	Appendix A
CIS055352	BRC50704-02 Micro-Tronics	Notch Filter 5.42 - 5.725GHz	5-Apr-17	5-Apr-18	Appendix A
CIS055579	BWS20-W2 Aeroflex	SMA 20dB Attenuator	20-Jul-17	20-Jul-18	Appendix A
CIS055577	BWS20-W2 Aeroflex	SMA 20dB Attenuator	20-Jul-17	20-Jul-18	Appendix A
CIS055353	BRC50703-02 Micro-Tronics	Notch Filter 5.15 - 5.35GHz	27-Jul-17	27-Jul-18	Appendix A
CIS055112	BRM50702-02 Micro-Tronics	Reject Band Filter	27-Jul-17	27-Jul-18	Appendix A
CIS054693	BRC50705-02 Micro-Tronics	Band Reject Filter	27-Jul-17	27-Jul-18	Appendix A
CIS054620	RA08-S1S1-12 Megaphase	SMA cable 12"	27-Jul-17	27-Jul-18	Appendix A
CIS054619	RA08-S1S1-12 Megaphase	SMA cable 12"	27-Jul-17	27-Jul-18	Appendix A
CIS054617	RA08-S1S1-12 Megaphase	SMA cable 12"	27-Jul-17	27-Jul-18	Appendix A
CIS054616	RA08-S1S1-12 Megaphase	SMA cable 12"	27-Jul-17	27-Jul-18	Appendix A
CIS054615	RA08-S1S1-12 Megaphase	SMA cable 12"	27-Jul-17	27-Jul-18	Appendix A
CIS054614	RA08-S1S1-12 Megaphase	SMA cable 12"	27-Jul-17	27-Jul-18	Appendix A
CIS054611	RA08-S1S1-12 Megaphase	SMA cable 12"	27-Jul-17	27-Jul-18	Appendix A
CIS054610	RA08-S1S1-12 MegaPhase	SMA cable 12"	27-Jul-17	27-Jul-18	Appendix A
CIS054633	F120-S1S1-48 Megaphase	SMA cable 48"	21-Sep-17	21-Sep-18	Appendix A
CIS054634	F120-S1S1-48 Megaphase	SMA cable 48"	29-Sep-17	29-Sep-18	Appendix A
CIS055929	SMSM-A2PH-012 Dynawave	12" SMA Cable	23-Oct-17	23-Oct-18	Appendix A
CIS055921	SMSM-A2PH-012 Dynawave	12" SMA Cable	23-Oct-17	23-Oct-18	Appendix A
CIS055868	SMSM-A2PH-024 Dynawave	24" SMA Cable	23-Oct-17	23-Oct-18	Appendix A
CIS055170	RFLT4WDC40GK RF Lambda	4 Way Power Divider 40GHz	22-Dec-17	22-Dec-18	Appendix A
CIS055872	SMSM-A2PH-024 Dynawave	24" SMA Cable	27-Jul-17	27-Jul-18	Appendix A
CIS055867	SMSM-A2PH-024 Dynawave	24" SMA Cable	27-Jul-17	27-Jul-18	Appendix A

Appendix E: 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

End