cisco

Test Report

AIR-AP1562I-B-K9 AIR-AP1562D-B-K9 FCC ID: LDK102104

AIR-AP1562I-A-K9 AIR-AP1562D-A-K9 IC: 2461B-102104

Cisco Aironet 802.11ac Dual Band Outdoor Access Points

5725-5850 MHz

Against the following Specifications: CFR47 Part 15.407 RSS-247



Cisco Systems 170 West Tasman Drive San Jose, CA 95134

Jose L'Aguín	Jun millelaer
Author: Jose Aguirre	Approved By: Jim Nicholson
Tested By:	Title: Technical Leader, Engineering
	Revision: 1

This report replaces any previously entered test report under EDCS – **11386275**. This test report has been electronically authorized and archived using the CISCO Engineering Document Control system.

Page No: 1 of 92

This test report has been electronically authorized and archived using the CISCO Engineering Docu	ment Control system.
SECTION 1: OVERVIEW	
SECTION 2: ASSESSMENT INFORMATION	4
 2.1 GENERAL 2.2 DATE OF TESTING 2.3 REPORT ISSUE DATE 2.4 TESTING FACILITIES 2.5 EQUIPMENT ASSESSED (EUT) 2.6 EUT DESCRIPTION 	
SECTION 3: RESULT SUMMARY	9
3.1 Results Summary Table	9
SECTION 4: SAMPLE DETAILS	
 4.1 SAMPLE DETAILS 4.2 SYSTEM DETAILS 4.3 MODE OF OPERATION DETAILS APPENDIX A: EMISSION TEST RESULTS 	10 10
CONDUCTED TEST SETUP DIAGRAM	
TARGET MAXIMUM CHANNEL POWER	
Antenna Gain: 4 dBi	
Antenna Gain: 10 dBi	
A.1 6DB BANDWIDTH A.2 99% and 26DB Bandwidth	
A.2 99% AND 2000 BANDWIDTH	
Antenna Gain: 4 dBi	
Antenna Gain: 10 dBi	
A.4 POWER SPECTRAL DENSITY	
Antenna Gain: 4 dBi	
Antenna Gain: 10 dBi	
A.5 CONDUCTED SPURIOUS EMISSIONS	
A.6 CONDUCTED BANDEDGE	
APPENDIX B: EMISSION TEST RESULTS	66
RADIATED EMISSION SETUP DIAGRAM-BELOW 1G	
B.1 RADIATED SPURIOUS EMISSIONS	
B.2 RECEIVER SPURIOUS EMISSIONS	
B.3 RADIATED EMISSIONS 30MHz TO 1GHz B.4 AC Conducted Emissions	
APPENDIX C: LIST OF TEST EQUIPMENT USED TO PERFORM THE TEST	
APPENDIX C: LIST OF TEST EQUIPMENT USED TO PERFORM THE TEST	

Page No: 2 of 92

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 v01r03
- KDB 662911 D01 Multiple Transmitter Output v02r01

Page No: 3 of 92

This document is uncontrolled. Please refer to the electronic copy within EDCS for the most up to date version. Cisco Systems, Inc. Company Confidential

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*%

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

Page No: 4 of 92

Measurement Uncertainty Values

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

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

Radiated emissions (expanded uncertainty, confidence interval 95%)

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

Conducted emissions (expanded uncertainty, confidence interval 95%)

30 MHz – 40GHz	+/- 0.38 dB

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

This report must not be reproduced except in full, without written approval of Cisco Systems.

Page No: 5 of 92



2.2 Date of testing

20-April-16 - 08-Aug-16

2.3 Report Issue Date

09-September-2016

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

2.4 Testing facilities

This assessment was performed by:

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

Test Engineers

Jose Aguirre

2.5 Equipment Assessed (EUT) AIR-AP1562I-B-K9

Page No: 6 of 92

802.11n/ac - Non HT20, One Antenna, 6 to 54 Mbps

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 Beam Forming, Two Antennas, 6 to 54 Mbps 802.11n/ac - Non HT20 Beam Forming, Three 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 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 STBC, Two Antennas, M0 to M7 802.11n/ac - HT/VHT20 STBC, Three 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 - 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 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 STBC, Two Antennas, M0 to M7 802.11n/ac - HT/VHT40 STBC, Three 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 802.11ac - VHT80, One Antenna, M0 to M9 1ss 802.11ac - VHT80, Two Antennas, M0 to M9 1ss 802.11ac - VHT80, Two Antennas, M0 to M9 2ss 802.11ac - VHT80, Three Antennas, M0 to M9 1ss 802.11ac - VHT80, Three Antennas, M0 to M9 2ss 802.11ac - VHT80 Beam Forming, Two Antennas, M0 to M9 1ss 802.11ac - VHT80 Beam Forming, Two Antennas, M0 to M9 2ss 802.11ac - VHT80 Beam Forming, Three Antennas, M0 to M9 1ss 802.11ac - VHT80 Beam Forming, Three Antennas, M0 to M9 2ss 802.11ac - VHT80 STBC, Two Antennas, M0 to M9 1ss

Page No: 7 of 92

802.11ac - VHT80 STBC, Three Antennas, M0 to M9 1ss

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

Frequency	Part Number	Antenna Type	Antenna Gain (dBi)
5 GHz	Internal (*)	Omni	4
	Internal (**)	Directional (Cross Polarized)	10

(*) Internal antenna for AIR-AP1562I-x-K9

(**) Internal antenna for AIR-AP1562D-x-K9

Page No: 8 of 92

This document is uncontrolled. Please refer to the electronic copy within EDCS for the most up to date version. Cisco Systems, Inc. Company Confidential

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.	Pass
	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.	
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	
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

Page No: 9 of 92

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-AP1562I-B-K9	Cisco Systems	P2	9.1.8.1	9.0.5.5-W8964	RFDP2BML009
S02*	AIR-PWRADPT-RGD1	Meanwell	A0	NA	NA	EB3F71752

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

4.2 System Details

System #	Description	Samples
1	AIR-AP1562I-B-K9	S01
2	AIR-PWRADPT-RGD1	S02

4.3 Mode of Operation Details

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

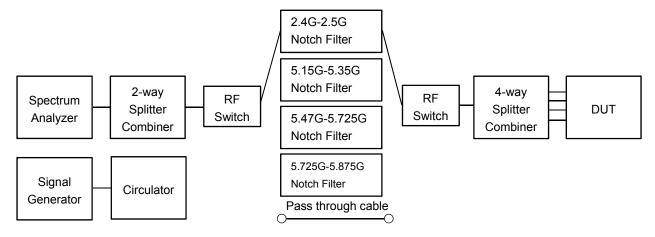
All measurements were made in accordance with

- ANSI C63.10:2013
- KDB 789033 D02 General UNII Test Procedures New Rules v01r03
- KDB 662911 D01 Multiple Transmitter Output v02r01

Page No: 10 of 92

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.

Antenna Gain: 4 dBi

	Maximum Channel Power (dBm)		
	Fre	equency (Ml	Hz)
Operating Mode	5745	5785	5825
Non HT20, 6 to 54 Mbps	29	25	25
Non HT20 Beam Forming, 6 to 54 Mbps	27	20	18
HT/VHT20, M0 to M15	25	25	25
HT/VHT20 Beam Forming, M0 to M15	25	25	25
HT/VHT20 STBC, M0 to M7	25	25	25
	5755	5795	
Non HT40, 6 to 54 Mbps	26	23	
HT/VHT40, M0 to M15	25	26	
HT/VHT40 Beam Forming, M0 to M15	24	26	
HT/VHT40 STBC, M0 to M7	25	26	
	5775		
Non HT80, 6 to 54 Mbps	24		
VHT80, M0 to M9, M0 to M9 1-1ss	27		
VHT80 Beam Forming, M0 to M9, M0 to M9 1-1ss	VHT80 Beam Forming, M0 to M9, M0 to M9 1-1ss 27		
VHT80 STBC, M0 to M9 1ss	27		

Antenna Gain: 10 dBi

	Maximum Channel Power (dBm)		
	Fre	Frequency (MHz)	
Operating Mode	5745	5785	5825
Non HT20, 6 to 54 Mbps	25	18	17
Non HT20 Beam Forming, 6 to 54 Mbps	24	15	14
HT/VHT20, M0 to M15	24	18	17
HT/VHT20 Beam Forming, M0 to M15	20	15	15
HT/VHT20 STBC, M0 to M7	20	15	15
	5755	5795	
Non HT40, 6 to 54 Mbps	24	16	
HT/VHT40, M0 to M15	24	18	
HT/VHT40 Beam Forming, M0 to M15	19	15	
HT/VHT40 STBC, M0 to M7	19	15	
	5775		
Non HT80, 6 to 54 Mbps	22		
VHT80, M0 to M9, M0 to M9 1-1ss	24		
VHT80 Beam Forming, M0 to M9, M0 to M9 1-1ss	VHT80 Beam Forming, M0 to M9, M0 to M9 1-1ss 19		
VHT80 STBC, M0 to M9 1ss	19		

Page No: 12 of 92

 $\label{eq:states} \textbf{15.407} \ / \ \textbf{RSS-247} \ \text{Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.}$

միսի

Test Procedure

Ref. KDB 789033 D02 General UNII Test Procedures New Rules v01r03 ANSI C63.10: 2013

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 v01r03 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
	EUT	S01	\checkmark	
1	Support	S02		$\mathbf{\nabla}$

Tested By :	Date of testing:
Jose Aguirre	20-April-16 - 08-Aug-16

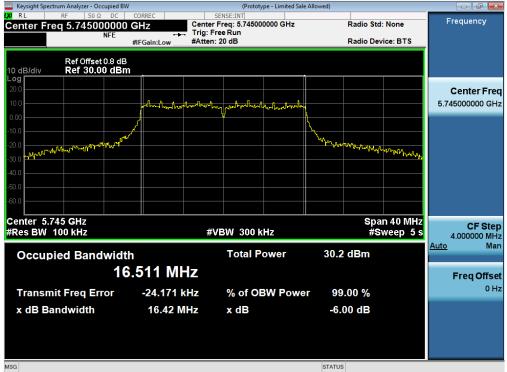
Test Result : PASS

See Appendix C for list of test equipment

Page No: 13 of 92

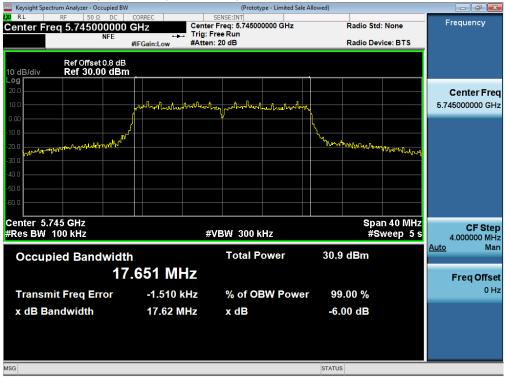
Frequency (MHz)	Mode	Data Rate (Mbps)	6dB BW (MHz)	Limit (kHz)	Margin (MHz)	
5745	Non HT20, 6 to 54 Mbps	6	16.4	>500	15.9	
5745	HT/VHT20, M0 to M15	m0	17.6	>500	17.1	
EZEE	Non HT40, 6 to 54 Mbps	6	35.5	>500	35.0	
5755	HT/VHT40, M0 to M15	m0	35.5	>500	35.0	
F77F	Non HT80, 6 to 54 Mbps	6	76.5	>500	76.0	
5775	VHT80, M0 to M9, M0 to M9 1-1ss	m0x1	76.3	>500	75.8	
5705	Non HT20, 6 to 54 Mbps	6	16.4	>500	15.9	
5785	HT/VHT20, M0 to M15	m0	17.6	>500	17.1	
5705	Non HT40, 6 to 54 Mbps	6	35.7	>500	35.2	
5795	HT/VHT40, M0 to M15	m0	35.5	>500	35.0	
5925	Non HT20, 6 to 54 Mbps	6	16.4	>500	15.9	
5825	HT/VHT20, M0 to M15	m0	17.6	>500	17.1	

Page No: 14 of 92

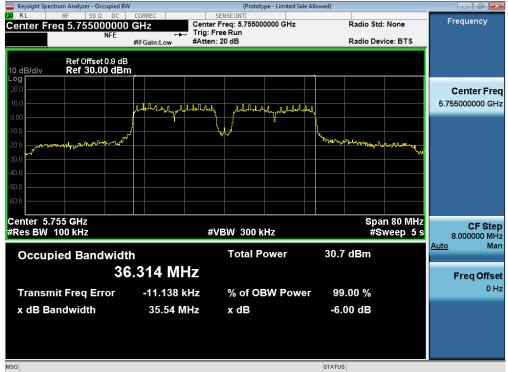


6dB Bandwidth, 5745 MHz, Non HT20, 6 to 54 Mbps

6dB Bandwidth, 5745 MHz, HT/VHT20, M0 to M15

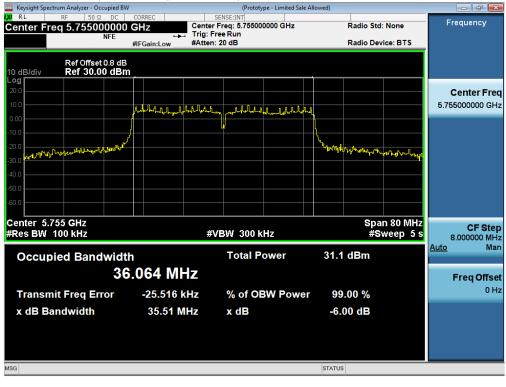


Page No: 15 of 92

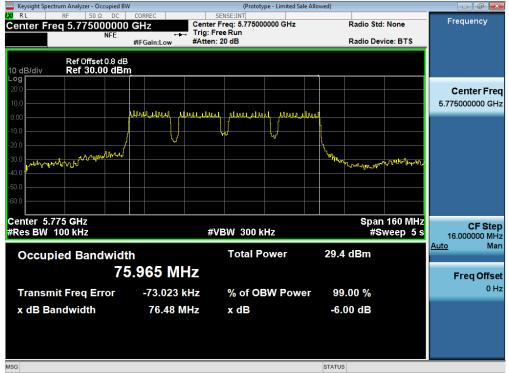


6dB Bandwidth, 5755 MHz, Non HT40, 6 to 54 Mbps

6dB Bandwidth, 5755 MHz, HT/VHT40, M0 to M15

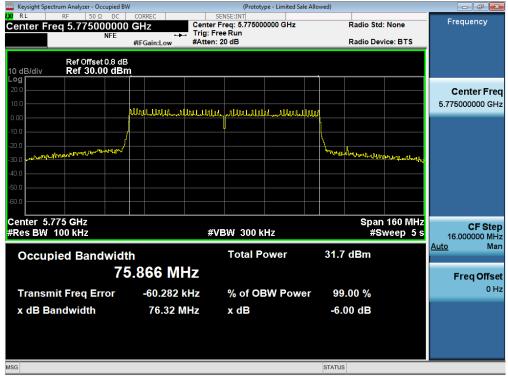


Page No: 16 of 92

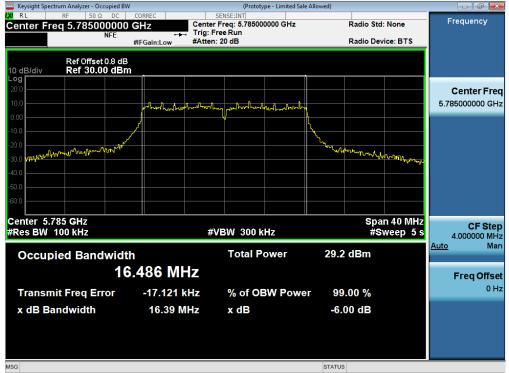


6dB Bandwidth, 5775 MHz, Non HT80, 6 to 54 Mbps

6dB Bandwidth, 5775 MHz, VHT80, M0 to M9, M0 to M9 1-1ss

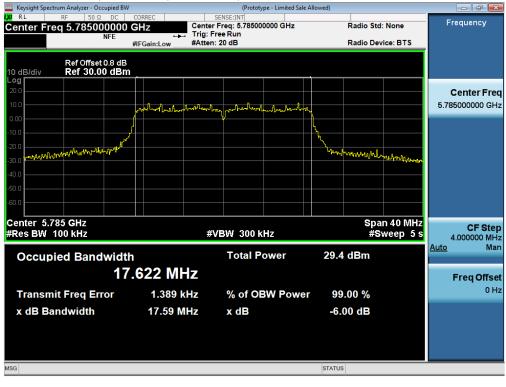


Page No: 17 of 92



6dB Bandwidth, 5785 MHz, Non HT20, 6 to 54 Mbps

6dB Bandwidth, 5785 MHz, HT/VHT20, M0 to M15

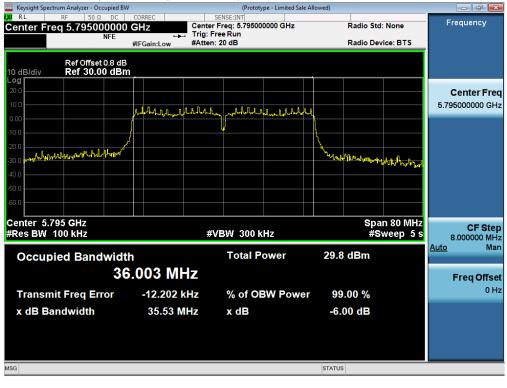


Page No: 18 of 92

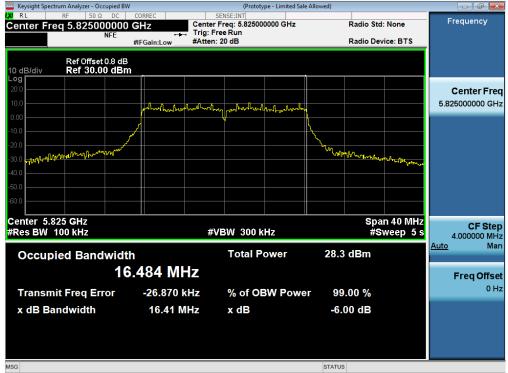


6dB Bandwidth, 5795 MHz, Non HT40, 6 to 54 Mbps

6dB Bandwidth, 5795 MHz, HT/VHT40, M0 to M15

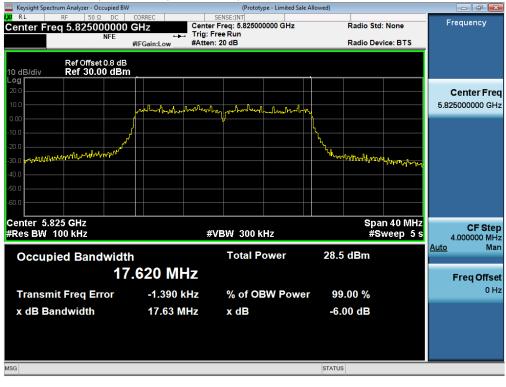


Page No: 19 of 92



6dB Bandwidth, 5825 MHz, Non HT20, 6 to 54 Mbps

6dB Bandwidth, 5825 MHz, HT/VHT20, M0 to M15



Page No: 20 of 92

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
	EUT	S01	\checkmark	
1	Support	S02		$\mathbf{\nabla}$

Tested By :	Date of testing:
Jose Aguirre	20-April-16 - 08-Aug-16

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	28.9	18.159
5745	HT/VHT20, M0 to M15	m0	36.5	18.739
5755	Non HT40, 6 to 54 Mbps	6	76.7	38.983
5755	HT/VHT40, M0 to M15	m0	57.3	36.960
5775	Non HT80, 6 to 54 Mbps	6	93.2	76.637
5775	VHT80, M0 to M9, M0 to M9 1-1ss	m0x1	105.9	76.828
5795	Non HT20, 6 to 54 Mbps	6	25.9	18.058
5785	HT/VHT20, M0 to M15	m0	25.5	18.360
5705	Non HT40, 6 to 54 Mbps	6	50.9	37.130
5795	HT/VHT40, M0 to M15	m0	43.2	36.650
5925	Non HT20, 6 to 54 Mbps	6	22.3	18.027
5825	HT/VHT20, M0 to M15	m0	25.5	18.361

Page No: 22 of 92

This document is uncontrolled. Please refer to the electronic copy within EDCS for the most up to date version. Cisco Systems, Inc. Company Confidential



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

26dB / 99% Bandwidth, 5745 MHz, HT/VHT20, M0 to M15

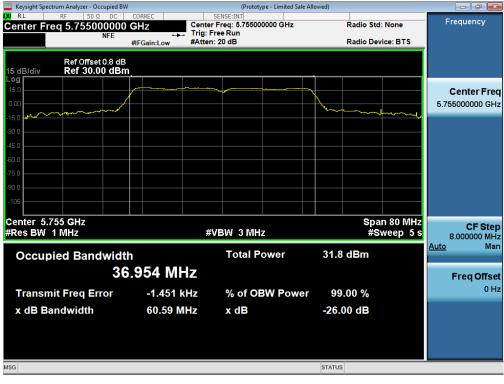


Page No: 23 of 92



26dB / 99% Bandwidth, 5755 MHz, Non HT40, 6 to 54 Mbps

26dB / 99% Bandwidth, 5755 MHz, HT/VHT40, M0 to M15



Page No: 24 of 92



26dB / 99% Bandwidth, 5775 MHz, Non HT80, 6 to 54 Mbps

26dB / 99% Bandwidth, 5775 MHz, VHT80, M0 to M9, M0 to M9 1-1ss

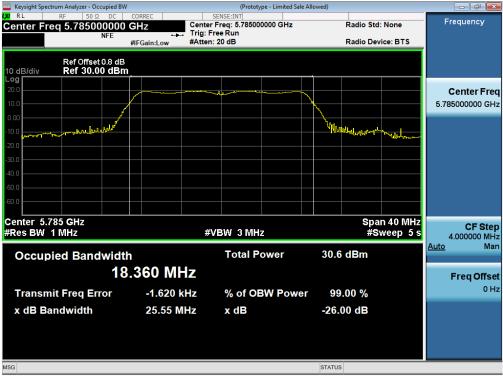


Page No: 25 of 92

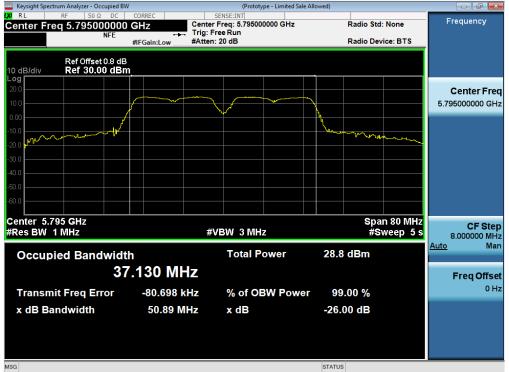


26dB / 99% Bandwidth, 5785 MHz, Non HT20, 6 to 54 Mbps

26dB / 99% Bandwidth, 5785 MHz, HT/VHT20, M0 to M15



Page No: 26 of 92



26dB / 99% Bandwidth, 5795 MHz, Non HT40, 6 to 54 Mbps

26dB / 99% Bandwidth, 5795 MHz, HT/VHT40, M0 to M15

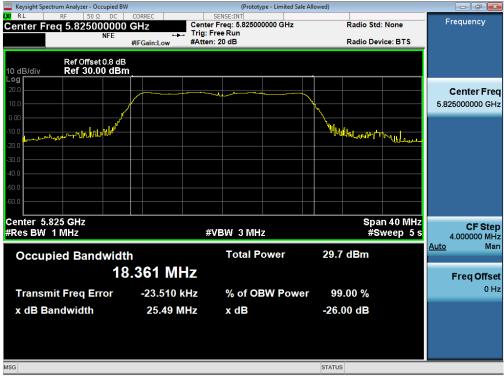


Page No: 27 of 92



26dB / 99% Bandwidth, 5825 MHz, Non HT20, 6 to 54 Mbps

26dB / 99% Bandwidth, 5825 MHz, HT/VHT20, M0 to M15



Page No: 28 of 92

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 v01r03 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.
band-power measurement function with band limits set equal to the EBW or the OBW band edges.

Ref. KDB 789033 D02 General UNII Test Procedures New Rules v01r03 ANSI C63.10: 2013 section 12.3.2.2 Method SA-1

Dutput Power	
Test parameters	
Span = >1.5 times the OBW	
RBW = 1MHz	
/BW ≥ 3 x RBW	
Sweep = Auto couple	
Detector = sample	
race = 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	K	
I	Support	S02		\checkmark

Tested By :	Date of testing:
Jose Aguirre	20-April-16 - 08-Aug-16
Test Result : PASS	

See Appendix C for list of test equipment

Page No: 29 of 92

Antenna Gain: 4 dBi

Frequency (MHz)	Mode	Tx Paths	Correlated Antenna Gain (dBi)	Tx 1 Max Power (dBm)	Tx 2 Max Power (dBm)	Tx 3 Max Power (dBm)	Total Tx Channel Power (dBm)	Limit (dBm)	Margin (dB)
	Non HT20, 6 to 54 Mbps	1	4	23.5			23.5	30.0	6.5
	Non HT20, 6 to 54 Mbps	2	4	23.5	24.1		26.8	30.0	3.2
	Non HT20, 6 to 54 Mbps	3	4	23.5	24.1	24.9	29.0	30.0	1.0
	Non HT20 Beam Forming, 6 to 54 Mbps	2	7	23.5	24.1		26.8	29.0	2.2
	Non HT20 Beam Forming, 6 to 54 Mbps	3	9	20.7	21.2	21.9	26.1	27.0	0.9
	HT/VHT20, M0 to M7	1	4	24.1			24.1	30.0	5.9
	HT/VHT20, M0 to M7	2	4	21.8	22.4		25.1	30.0	4.9
45	HT/VHT20, M8 to M15	2	4	21.8	22.4		25.1	30.0	4.9
5745	HT/VHT20, M0 to M7	3	4	19.8	20.4	21.0	25.2	30.0	4.8
	HT/VHT20, M8 to M15	3	4	19.8	20.4	21.0	25.2	30.0	4.8
	HT/VHT20 Beam Forming, M0 to M7	2	7	18.3	19.4		21.9	29.0	7.1
	HT/VHT20 Beam Forming, M8 to M15	2	4	21.8	22.4		25.1	30.0	4.9
	HT/VHT20 Beam Forming, M0 to M7	3	9	14.3	14.4	15.3	19.5	27.0	7.5
	HT/VHT20 Beam Forming, M8 to M15	3	6	16.2	16.9	17.8	21.8	30.0	8.2
	HT/VHT20 STBC, M0 to M7	2	4	21.8	22.4		25.1	30.0	4.9
	HT/VHT20 STBC, M0 to M7	3	4	19.8	20.4	21.0	25.2	30.0	4.8
	Non HT40, 6 to 54 Mbps	1	4	23.5			23.5	30.0	6.5
	Non HT40, 6 to 54 Mbps	2	4	22.7	23.1		25.9	30.0	4.1
	Non HT40, 6 to 54 Mbps	3	4	17.9	19.4	20.0	24.0	30.0	6.0
	HT/VHT40, M0 to M7	1	4	23.7			23.7	30.0	6.3
	HT/VHT40, M0 to M7	2	4	20.7	21.1		23.9	30.0	6.1
	HT/VHT40, M8 to M15	2	4	20.7	21.1		23.9	30.0	6.1
55	HT/VHT40, M0 to M7	3	4	19.8	20.2	20.7	25.0	30.0	5.0
57	HT/VHT40, M8 to M15	3	4	19.8	20.2	20.7	25.0	30.0	5.0
	HT/VHT40 Beam Forming, M0 to M7	2	7	19.8	20.2		23.0	29.0	6.0
	HT/VHT40 Beam Forming, M8 to M15	2	4	20.7	21.1		23.9	30.0	6.1
	HT/VHT40 Beam Forming, M0 to M7	3	9	14.2	14.3	15.1	19.3	27.0	7.7
	HT/VHT40 Beam Forming, M8 to M15	3	6	16.1	16.7	17.6	21.6	30.0	8.4
	HT/VHT40 STBC, M0 to M7	2	4	20.7	21.1		23.9	30.0	6.1
	HT/VHT40 STBC, M0 to M7	3	4	19.8	20.2	20.7	25.0	30.0	5.0

Page No: 30 of 92

VHT80, M0 to M9 1ss 1 4 23.6 23.6 30.0 VHT80, M0 to M9 1ss 2 4 23.6 24.1 26.9 30.0 VHT80, M0 to M9 1ss 2 4 23.6 24.1 26.9 30.0 VHT80, M0 to M9 2ss 2 4 23.6 24.1 26.9 30.0 VHT80, M0 to M9 2ss 3 4 18.1 19.2 18.2 23.3 30.0 VHT80, M0 to M9 2ss 3 4 18.1 19.2 18.2 23.3 30.0 VHT80 Beam Forming, M0 to M9 1ss 2 7 22.4 23.1 25.8 29.0 VHT80 Beam Forming, M0 to M9 2ss 2 4 23.6 24.1 26.9 30.0 VHT80 Beam Forming, M0 to M9 2ss 3 6 16.8 16.8 16.8 21.6 30.0 VHT80 STBC, M0 to M9 1ss 2 4 23.6 24.1 26.9 30.0 VHT80 STBC, M0 to M9 1ss 2 4 23.6 24.1	8.1 6.4 10.8 6.4 3.1 6.7 6.7 3.2 3.1 8.2 8.4 3.1 6.7 6.7 7.6 4.9
Non HT80, 6 to 54 Mbps 3 4 14.1 15.0 14.1 19.2 30.0 VHT80, M0 to M9 1ss 1 4 23.6 24.1 26.9 30.0 23.6 30.0 23.6 30.0 23.6 30.0 23.6 30.0 23.6 30.0 23.6 30.0 23.6 24.1 26.9 30.0 24.1 26.9 30.0 24.1 26.9 30.0 24.1 26.9 30.0 24.1 26.9 30.0 24.1 26.9 30.0 24.1 26.9 30.0 24.1 26.9 30.0 24.1 26.9 30.0 24.1 26.9 30.0 24.1 26.9 30.0 24.1 26.8 29.0 26.0 24.1 26.9 30.0 27.0 27.4 23.1 25.8 29.0 27.0 27.4 23.1 25.8 29.0 27.0 27.4 23.1 26.9 30.0 27.0 27.4 23.1 26.9 30.0 27.0 27.1 28.	10.8 6.4 3.1 6.7 6.7 3.2 3.1 8.2 8.4 3.1 6.7 7.6
VHT80, M0 to M9 1ss 1 4 23.6 23.6 30.0 VHT80, M0 to M9 1ss 2 4 23.6 24.1 26.9 30.0 VHT80, M0 to M9 1ss 2 4 23.6 24.1 26.9 30.0 VHT80, M0 to M9 2ss 2 4 23.6 24.1 26.9 30.0 VHT80, M0 to M9 2ss 3 4 18.1 19.2 18.2 23.3 30.0 VHT80, M0 to M9 2ss 3 4 18.1 19.2 18.2 23.3 30.0 VHT80 Beam Forming, M0 to M9 1ss 2 7 22.4 23.1 25.8 29.0 VHT80 Beam Forming, M0 to M9 2ss 2 4 23.6 24.1 26.9 30.0 VHT80 Beam Forming, M0 to M9 2ss 3 6 16.8 16.8 16.8 21.6 30.0 VHT80 STBC, M0 to M9 1ss 2 4 23.6 24.1 26.9 30.0 VHT80 STBC, M0 to M9 1ss 2 4 23.6 24.1	6.4 3.1 3.1 6.7 3.2 3.1 8.2 8.4 3.1 6.7 7.6
VHT80, M0 to M9 1ss 2 4 23.6 24.1 26.9 30.0 VHT80, M0 to M9 2ss 2 4 23.6 24.1 26.9 30.0 VHT80, M0 to M9 2ss 3 4 18.1 19.2 18.2 23.3 30.0 VHT80, M0 to M9 1ss 3 4 18.1 19.2 18.2 23.3 30.0 VHT80, M0 to M9 2ss 3 4 18.1 19.2 18.2 23.3 30.0 VHT80 Beam Forming, M0 to M9 1ss 2 7 22.4 23.1 25.8 29.0 VHT80 Beam Forming, M0 to M9 2ss 2 4 23.6 24.1 26.9 30.0 VHT80 STBC, M0 to M9 1ss 3 9 14.0 14.2 14.0 18.8 27.0 VHT80 STBC, M0 to M9 1ss 3 4 18.1 19.2 18.2 23.3 30.0 VHT80 STBC, M0 to M9 1ss 3 4 18.1 19.2 18.2 23.3 30.0 Non HT20, 6 to 54 Mbps	3.1 3.1 6.7 3.2 3.1 8.2 8.4 3.1 6.7 7.6
VHT80, M0 to M9 2ss 2 4 23.6 24.1 26.9 30.0 VHT80, M0 to M9 1ss 3 4 18.1 19.2 18.2 23.3 30.0 VHT80, M0 to M9 2ss 3 4 18.1 19.2 18.2 23.3 30.0 VHT80, M0 to M9 2ss 2 7 22.4 23.1 25.8 29.0 14.1 VHT80 Beam Forming, M0 to M9 1ss 2 7 22.4 23.1 26.9 30.0 14.1 VHT80 Beam Forming, M0 to M9 2ss 2 4 23.6 24.1 26.9 30.0 14.1 VHT80 Beam Forming, M0 to M9 2ss 3 6 16.8 16.8 16.8 21.6 30.0 VHT80 STBC, M0 to M9 1ss 2 4 23.6 24.1 26.9 30.0 1 VH80 STBC, M0 to M9 1ss 3 4 18.1 19.2 18.2 23.3 30.0 VH780 STBC, M0 to M9 1ss 1 4 22.4 30.0 1 18.1 <td< td=""><td>3.1 6.7 3.2 3.1 8.2 8.4 3.1 6.7 7.6</td></td<>	3.1 6.7 3.2 3.1 8.2 8.4 3.1 6.7 7.6
VHT80, M0 to M9 1ss 3 4 18.1 19.2 18.2 23.3 30.0 VHT80, M0 to M9 2ss 3 4 18.1 19.2 18.2 23.3 30.0 VHT80, M0 to M9 2ss 2 7 22.4 23.1 25.8 29.0 VHT80 Beam Forming, M0 to M9 2ss 2 4 23.6 24.1 26.9 30.0 VHT80 Beam Forming, M0 to M9 2ss 2 4 23.6 24.1 26.9 30.0 VHT80 Beam Forming, M0 to M9 2ss 3 6 16.8 16.8 16.8 21.6 30.0 VHT80 STBC, M0 to M9 1ss 2 4 23.6 24.1 26.9 30.0 VHT80 STBC, M0 to M9 1ss 2 4 23.6 24.1 26.9 30.0 VHT80 STBC, M0 to M9 1ss 2 4 23.6 24.1 26.9 30.0 VHT80 STBC, M0 to M9 1ss 3 4 18.1 19.2 18.2 23.3 30.0 Non HT20, 6 to 54 Mbps 1 <	6.7 6.7 3.2 3.1 8.2 8.4 3.1 6.7 7.6
VHT80, M0 to M9 2ss 3 4 18.1 19.2 18.2 23.3 30.0 VHT80 Beam Forming, M0 to M9 1ss 2 7 22.4 23.1 25.8 29.0 VHT80 Beam Forming, M0 to M9 2ss 2 4 23.6 24.1 26.9 30.0 VHT80 Beam Forming, M0 to M9 1ss 3 9 14.0 14.2 14.0 18.8 27.0 VHT80 Beam Forming, M0 to M9 2ss 3 6 16.8 16.8 16.8 16.8 21.6 30.0 VHT80 STBC, M0 to M9 1ss 2 4 23.6 24.1 26.9 30.0 30.0 VHT80 STBC, M0 to M9 1ss 2 4 23.6 24.1 26.9 30.0 30.0 VHT80 STBC, M0 to M9 1ss 2 4 23.6 24.1 26.9 30.0 30.0 VHT80 STBC, M0 to M9 1ss 3 4 18.1 19.2 18.2 23.3 30.0 Non HT20, 6 to 54 Mbps 1 4 22.4 22.4 30.0 30.0 Non HT20 Beam Forming, 6 to 54 Mbps 3 4 16.8	6.7 3.2 3.1 8.2 8.4 3.1 6.7 7.6
VHT80 Beam Forming, M0 to M9 1ss 2 7 22.4 23.1 25.8 29.0 VHT80 Beam Forming, M0 to M9 2ss 2 4 23.6 24.1 26.9 30.0 VHT80 Beam Forming, M0 to M9 2ss 2 4 23.6 24.1 26.9 30.0 VHT80 Beam Forming, M0 to M9 1ss 3 9 14.0 14.2 14.0 18.8 27.0 VHT80 Beam Forming, M0 to M9 2ss 3 6 16.8 16.8 16.8 21.6 30.0 VHT80 STBC, M0 to M9 1ss 2 4 23.6 24.1 26.9 30.0 2 VHT80 STBC, M0 to M9 1ss 2 4 23.6 24.1 26.9 30.0 2 VHT80 STBC, M0 to M9 1ss 3 4 18.1 19.2 18.2 23.3 30.0 VHT80 STBC, M0 to M9 1ss 2 4 21.5 22.6 22.4 30.0 Non H720, 6 to 54 Mbps 1 4 22.4 21.5 22.6 25.1 30.0	3.2 3.1 8.2 8.4 3.1 6.7 7.6
VHT80 Beam Forming, M0 to M9 2ss 2 4 23.6 24.1 26.9 30.0 VHT80 Beam Forming, M0 to M9 1ss 3 9 14.0 14.2 14.0 18.8 27.0 VHT80 Beam Forming, M0 to M9 2ss 3 6 16.8 16.8 16.8 21.6 30.0 VHT80 STBC, M0 to M9 1ss 2 4 23.6 24.1 26.9 30.0 VHT80 STBC, M0 to M9 1ss 2 4 23.6 24.1 26.9 30.0 VHT80 STBC, M0 to M9 1ss 3 4 18.1 19.2 18.2 23.3 30.0 VHT80 STBC, M0 to M9 1ss 3 4 18.1 19.2 18.2 23.3 30.0 VHT80 STBC, M0 to M9 1ss 3 4 18.1 19.2 18.2 23.3 30.0 VHT80 STBC, M0 to M9 1ss 1 4 22.4 22.4 30.0 30.0 Non HT20, 6 to 54 Mbps 1 4 22.6 25.1 30.0 30.0 30.0 4 <td< td=""><td>3.1 8.2 8.4 3.1 6.7 7.6</td></td<>	3.1 8.2 8.4 3.1 6.7 7.6
VHT80 Beam Forming, M0 to M9 1ss 3 9 14.0 14.2 14.0 18.8 27.0 VHT80 Beam Forming, M0 to M9 2ss 3 6 16.8 16.8 16.8 21.6 30.0 VHT80 STBC, M0 to M9 1ss 2 4 23.6 24.1 26.9 30.0 VHT80 STBC, M0 to M9 1ss 2 4 23.6 24.1 26.9 30.0 VHT80 STBC, M0 to M9 1ss 2 4 23.6 24.1 26.9 30.0 VHT80 STBC, M0 to M9 1ss 2 4 23.6 24.1 22.4 30.0 VHT80 STBC, M0 to M9 1ss 1 4 22.4 22.4 30.0 2 Non HT20, 6 to 54 Mbps 1 4 22.4 22.6 25.1 30.0 2 Non HT20, 6 to 54 Mbps 3 4 16.8 17.2 16.7 21.7 30.0 2 Non HT20 Beam Forming, 6 to 54 Mbps 3 9 11.9 12.8 12.2 17.1 27.0 HT/VHT2	8.2 8.4 3.1 6.7 7.6
VHT80 Beam Forming, M0 to M9 2ss 3 6 16.8 16.8 16.8 21.6 30.0 VHT80 STBC, M0 to M9 1ss 2 4 23.6 24.1 26.9 30.0 VHT80 STBC, M0 to M9 1ss 3 4 18.1 19.2 18.2 23.3 30.0 VHT80 STBC, M0 to M9 1ss 1 4 22.4 22.4 30.0 2 Non HT20, 6 to 54 Mbps 1 4 22.4 22.4 30.0 2 Non HT20, 6 to 54 Mbps 2 4 21.5 22.6 25.1 30.0 Non HT20, 6 to 54 Mbps 3 4 16.8 17.2 16.7 21.7 30.0 Non HT20 Beam Forming, 6 to 54 Mbps 3 9 11.9 12.8 12.2 17.1 27.0 Non HT20 Beam Forming, 6 to 54 Mbps 3 9 11.9 12.8 12.2 17.1 27.0 HT/VHT20, M0 to M7 1 4 22.6 22.6 30.0 22.4 21.7 22.7 25.2 </td <td>8.4 3.1 6.7 7.6</td>	8.4 3.1 6.7 7.6
VHT80 STBC, M0 to M9 1ss 2 4 23.6 24.1 26.9 30.0 VHT80 STBC, M0 to M9 1ss 3 4 18.1 19.2 18.2 23.3 30.0 VHT80 STBC, M0 to M9 1ss 3 4 18.1 19.2 18.2 23.3 30.0 Non HT20, 6 to 54 Mbps 1 4 22.4 22.4 30.0 30.0 Non HT20, 6 to 54 Mbps 2 4 21.5 22.6 25.1 30.0 Non HT20, 6 to 54 Mbps 3 4 16.8 17.2 16.7 21.7 30.0 Non HT20 Beam Forming, 6 to 54 Mbps 2 7 15.8 17.1 19.5 29.0 Non HT20 Beam Forming, 6 to 54 Mbps 3 9 11.9 12.8 12.2 17.1 27.0 HT/VHT20, M0 to M7 1 4 22.6 22.6 30.0 30.0 HT/VHT20, M8 to M15 2 4 21.7 22.7 25.2 30.0 HT/VHT20, M8 to M15 3 4 <td>3.1 6.7 7.6</td>	3.1 6.7 7.6
VHT80 STBC, M0 to M9 1ss 3 4 18.1 19.2 18.2 23.3 30.0 Non HT20, 6 to 54 Mbps 1 4 22.4 22.4 30.0 2 Non HT20, 6 to 54 Mbps 2 4 21.5 22.6 25.1 30.0 Non HT20, 6 to 54 Mbps 3 4 16.8 17.2 16.7 21.7 30.0 Non HT20 6 to 54 Mbps 3 4 16.8 17.2 16.7 21.7 30.0 Non HT20 Beam Forming, 6 to 54 Mbps 2 7 15.8 17.1 19.5 29.0 Non HT20 Beam Forming, 6 to 54 Mbps 3 9 11.9 12.8 12.2 17.1 27.0 HT/VHT20, M0 to M7 1 4 22.6 22.6 30.0 1 HT/VHT20, M8 to M15 2 4 21.7 22.7 25.2 30.0 HT/VHT20, M8 to M15 3 4 17.0 17.3 16.8 21.8 30.0 HT/VHT20, M8 to M15 3	6.7 7.6
Non HT20, 6 to 54 Mbps 1 4 22.4 30.0 Non HT20, 6 to 54 Mbps 2 4 21.5 22.6 25.1 30.0 Non HT20, 6 to 54 Mbps 2 4 21.5 22.6 25.1 30.0 Non HT20, 6 to 54 Mbps 3 4 16.8 17.2 16.7 21.7 30.0 Non HT20 Beam Forming, 6 to 54 Mbps 2 7 15.8 17.1 19.5 29.0 Non HT20 Beam Forming, 6 to 54 Mbps 3 9 11.9 12.8 12.2 17.1 27.0 HT/VHT20, M0 to M7 1 4 22.6 22.6 30.0 1 HT/VHT20, M0 to M7 2 4 21.7 22.7 25.2 30.0 HT/VHT20, M8 to M15 2 4 21.7 22.7 25.2 30.0 HT/VHT20, M8 to M15 3 4 17.0 17.3 16.8 21.8 30.0 HT/VHT20, M8 to M15 3 4 17.0 17.3 16.8 2	7.6
Non HT20, 6 to 54 Mbps 2 4 21.5 22.6 25.1 30.0 Non HT20, 6 to 54 Mbps 3 4 16.8 17.2 16.7 21.7 30.0 Non HT20 Beam Forming, 6 to 54 Mbps 2 7 15.8 17.1 19.5 29.0 Non HT20 Beam Forming, 6 to 54 Mbps 2 7 15.8 17.1 19.5 29.0 Non HT20 Beam Forming, 6 to 54 Mbps 3 9 11.9 12.8 12.2 17.1 27.0 HT/VHT20, M0 to M7 1 4 22.6 22.6 30.0 1 HT/VHT20, M0 to M7 2 4 21.7 22.7 25.2 30.0 1 HT/VHT20, M8 to M15 2 4 21.7 22.7 25.2 30.0 1 HT/VHT20, M8 to M15 3 4 17.0 17.3 16.8 21.8 30.0 1 HT/VHT20, M8 to M15 3 4 17.0 17.3 16.8 21.8 30.0 1	
Non HT20, 6 to 54 Mbps 2 4 21.5 22.6 25.1 30.0 Non HT20, 6 to 54 Mbps 3 4 16.8 17.2 16.7 21.7 30.0 Non HT20 Beam Forming, 6 to 54 Mbps 2 7 15.8 17.1 19.5 29.0 Non HT20 Beam Forming, 6 to 54 Mbps 2 7 15.8 17.1 19.5 29.0 Non HT20 Beam Forming, 6 to 54 Mbps 3 9 11.9 12.8 12.2 17.1 27.0 HT/VHT20, M0 to M7 1 4 22.6 22.6 30.0 1 HT/VHT20, M0 to M7 2 4 21.7 22.7 25.2 30.0 1 HT/VHT20, M8 to M15 2 4 21.7 22.7 25.2 30.0 1 HT/VHT20, M8 to M15 3 4 17.0 17.3 16.8 21.8 30.0 1 HT/VHT20, M8 to M15 3 4 17.0 17.3 16.8 21.8 30.0 1	
Non HT20, 6 to 54 Mbps 2 4 21.5 22.6 25.1 30.0 Non HT20, 6 to 54 Mbps 3 4 16.8 17.2 16.7 21.7 30.0 Non HT20 Beam Forming, 6 to 54 Mbps 2 7 15.8 17.1 19.5 29.0 Non HT20 Beam Forming, 6 to 54 Mbps 2 7 15.8 17.1 19.5 29.0 Non HT20, M0 to M7 1 4 22.6 22.6 30.0 1 HT/VHT20, M0 to M7 1 4 22.6 22.6 30.0 1 HT/VHT20, M0 to M7 2 4 21.7 22.7 25.2 30.0 1 HT/VHT20, M8 to M15 2 4 21.7 22.7 25.2 30.0 1 HT/VHT20, M8 to M15 3 4 17.0 17.3 16.8 21.8 30.0 1 HT/VHT20, M8 to M15 3 4 17.0 17.3 16.8 21.8 30.0 1 HT/VHT20 Beam Forming, M0 to M7<	4.9
Non HT20, 6 to 54 Mbps 3 4 16.8 17.2 16.7 21.7 30.0 Non HT20 Beam Forming, 6 to 54 Mbps 2 7 15.8 17.1 19.5 29.0 Non HT20 Beam Forming, 6 to 54 Mbps 3 9 11.9 12.8 12.2 17.1 27.0 1 Non HT20 Beam Forming, 6 to 54 Mbps 3 9 11.9 12.8 12.2 17.1 27.0 1 HT/VHT20, M0 to M7 1 4 22.6 22.6 30.0 1 HT/VHT20, M0 to M7 2 4 21.7 22.7 25.2 30.0 1 HT/VHT20, M8 to M15 2 4 21.7 22.7 25.2 30.0 1 HT/VHT20, M8 to M15 2 4 21.7 22.7 25.2 30.0 1 HT/VHT20, M8 to M15 3 4 17.0 17.3 16.8 21.8 30.0 1 HT/VHT20 Beam Forming, M0 to M7 2 7 16.0 17.3 19.7 29.0	
Non HT20 Beam Forming, 6 to 54 Mbps 2 7 15.8 17.1 19.5 29.0 Non HT20 Beam Forming, 6 to 54 Mbps 3 9 11.9 12.8 12.2 17.1 27.0 HT/VHT20, M0 to M7 1 4 22.6 22.6 30.0 2 HT/VHT20, M0 to M7 2 4 21.7 22.7 25.2 30.0 2 HT/VHT20, M8 to M15 2 4 21.7 22.7 25.2 30.0 2 HT/VHT20, M8 to M15 3 4 17.0 17.3 16.8 21.8 30.0 HT/VHT20, M8 to M15 3 4 17.0 17.3 16.8 21.8 30.0 HT/VHT20, M8 to M15 3 4 17.0 17.3 16.8 21.8 30.0 30.0 HT/VHT20 Beam Forming, M0 to M7 2 7 16.0 17.3 19.7 29.0 30.0 HT/VHT20 Beam Forming, M8 to M15 2 4 21.7 22.7 25.2 30.0 </td <td>8.3</td>	8.3
Non HT20 Beam Forming, 6 to 54 Mbps 3 9 11.9 12.8 12.2 17.1 27.0 HT/VHT20, M0 to M7 1 4 22.6 22.6 30.0 2 HT/VHT20, M0 to M7 2 4 21.7 22.7 25.2 30.0 2 HT/VHT20, M0 to M7 2 4 21.7 22.7 25.2 30.0 2 HT/VHT20, M8 to M15 2 4 21.7 22.7 25.2 30.0 2 HT/VHT20, M8 to M15 3 4 17.0 17.3 16.8 21.8 30.0 HT/VHT20, M8 to M15 3 4 17.0 17.3 16.8 21.8 30.0 HT/VHT20 Beam Forming, M0 to M7 2 7 16.0 17.3 19.7 29.0 HT/VHT20 Beam Forming, M8 to M15 2 4 21.7 22.7 25.2 30.0	9.5
HT/VHT20, M0 to M7 1 4 22.6 30.0 HT/VHT20, M0 to M7 2 4 21.7 22.7 25.2 30.0 HT/VHT20, M0 to M7 2 4 21.7 22.7 25.2 30.0 2 HT/VHT20, M8 to M15 2 4 21.7 22.7 25.2 30.0 2 HT/VHT20, M8 to M15 3 4 17.0 17.3 16.8 21.8 30.0 30.0 HT/VHT20, M8 to M15 3 4 17.0 17.3 16.8 21.8 30.0 30.0 HT/VHT20 Beam Forming, M0 to M7 2 7 16.0 17.3 19.7 29.0 30.0 HT/VHT20 Beam Forming, M8 to M15 2 4 21.7 22.7 25.2 30.0	9.9
HT/VHT20, M0 to M7 2 4 21.7 22.7 25.2 30.0 1000000000000000000000000000000000000	7.4
HT/VHT20, M8 to M15 2 4 21.7 22.7 25.2 30.0 10.0 HT/VHT20, M0 to M7 3 4 17.0 17.3 16.8 21.8 30.0 10.0 HT/VHT20, M8 to M15 3 4 17.0 17.3 16.8 21.8 30.0 10.0 HT/VHT20, M8 to M15 3 4 17.0 17.3 16.8 21.8 30.0 10.0 HT/VHT20 Beam Forming, M0 to M7 2 7 16.0 17.3 19.7 29.0 10.0 HT/VHT20 Beam Forming, M8 to M15 2 4 21.7 22.7 25.2 30.0	4.8
L 3 4 17.0 17.3 16.8 21.8 30.0 HT/VHT20, M0 to M7 3 4 17.0 17.3 16.8 21.8 30.0 HT/VHT20, M8 to M15 3 4 17.0 17.3 16.8 21.8 30.0 HT/VHT20, M8 to M15 2 7 16.0 17.3 16.8 21.8 30.0 HT/VHT20 Beam Forming, M0 to M7 2 7 16.0 17.3 19.7 29.0 HT/VHT20 Beam Forming, M8 to M15 2 4 21.7 22.7 25.2 30.0	4.8
HT/VHT20, M8 to M15 3 4 17.0 17.3 16.8 21.8 30.0 HT/VHT20 Beam Forming, M0 to M7 2 7 16.0 17.3 19.7 29.0 HT/VHT20 Beam Forming, M8 to M15 2 4 21.7 22.7 25.2 30.0	8.2
HT/VHT20 Beam Forming, M0 to M7 2 7 16.0 17.3 19.7 29.0 HT/VHT20 Beam Forming, M8 to M15 2 4 21.7 22.7 25.2 30.0	8.2
HT/VHT20 Beam Forming, M8 to M15 2 4 21.7 22.7 25.2 30.0	9.3
	4.8
HT/VHT20 Beam Forming, M0 to M7 3 9 12.0 12.9 12.3 17.2 27.0	9.8
HT/VHT20 Beam Forming, M8 to M15 3 6 16.0 17.3 16.7 21.5 30.0	8.5
HT/VHT20 STBC, M0 to M7 2 4 21.7 22.7 25.2 30.0	4.8
	8.2
	0.2
Non HT40, 6 to 54 Mbps 1 4 20.8 30.0	9.2
Non HT40, 6 to 54 Mbps 2 4 20.8 20.8 30.0 Non HT40, 6 to 54 Mbps 2 4 19.4 21.0 23.3 30.0	9.2
	9.5
HT/VHT40, M0 to M7 1 4 22.6 30.0 HT/VHT40, M0 to M7 2 4 22.6 30.0	7.4
HT/VHT40, M0 to M7 2 4 22.6 23.4 26.0 30.0	4.0
Introduction Image: Constraint of the state	4.0
HT/VHT40, M0 to M7 3 4 18.0 18.5 17.6 22.8 30.0	7.2
HT/VHT40, M8 to M15 3 4 18.0 18.5 17.6 22.8 30.0	
	7.2
HT/VHT40 Beam Forming, M8 to M15 2 4 22.6 23.4 26.0 30.0	10.0
HT/VHT40 Beam Forming, M0 to M7 3 9 11.9 12.7 11.7 16.9 27.0	

Page No: 31 of 92

HT/VHT40 Beam Forming, M8 to M15	3	6	15.1	15.8	14.9	20.1	30.0	9.9
HT/VHT40 STBC, M0 to M7	2	4	22.6	23.4		26.0	30.0	4.0
HT/VHT40 STBC, M0 to M7	3	4	18.0	18.5	17.6	22.8	30.0	7.2
Non HT20, 6 to 54 Mbps	1	4	21.6			21.6	30.0	8.4
Non HT20, 6 to 54 Mbps	2	4	21.6	21.8		24.7	30.0	5.3
Non HT20, 6 to 54 Mbps	3	4	16.8	16.4	15.9	21.2	30.0	8.8
Non HT20 Beam Forming, 6 to 54 Mbps	2	7	14.9	15.2		18.1	29.0	10.9
Non HT20 Beam Forming, 6 to 54 Mbps	3	9	10.9	11.3	10.6	15.7	27.0	11.3
HT/VHT20, M0 to M7	1	4	21.7			21.7	30.0	8.3
HT/VHT20, M0 to M7	2	4	21.7	21.9		24.8	30.0	5.2
HT/VHT20, M8 to M15	2	4	21.7	21.9		24.8	30.0	5.2
HT/VHT20, M0 to M7	3	4	17.0	16.5	16.0	21.3	30.0	8.7
HT/VHT20, M8 to M15	3	4	17.0	16.5	16.0	21.3	30.0	8.7
HT/VHT20 Beam Forming, M0 to M7	2	7	14.9	15.3		18.1	29.0	10.9
HT/VHT20 Beam Forming, M8 to M15	2	4	21.7	21.9		24.8	30.0	5.2
HT/VHT20 Beam Forming, M0 to M7	3	9	11.0	11.4	10.6	15.8	27.0	11.2
HT/VHT20 Beam Forming, M8 to M15	3	6	14.9	15.3	14.7	19.7	30.0	10.3
HT/VHT20 STBC, M0 to M7	2	4	21.7	21.9		24.8	30.0	5.2
HT/VHT20 STBC, M0 to M7	3	4	17.0	16.5	16.0	21.3	30.0	8.7
	HT/VHT40 STBC, M0 to M7 HT/VHT40 STBC, M0 to M7 Non HT20, 6 to 54 Mbps Non HT20, 6 to 54 Mbps Non HT20, 6 to 54 Mbps Non HT20 Beam Forming, 6 to 54 Mbps Non HT20 Beam Forming, 6 to 54 Mbps Non HT20 Beam Forming, 6 to 54 Mbps HT/VHT20, M0 to M7 HT/VHT20, M0 to M7 HT/VHT20, M0 to M7 HT/VHT20, M8 to M15 HT/VHT20, M8 to M15 HT/VHT20 Beam Forming, M0 to M7 HT/VHT20 Beam Forming, M8 to M15 HT/VHT20 Beam Forming, M8 to M15 HT/VHT20 Beam Forming, M8 to M15 HT/VHT20 STBC, M0 to M7	HT/VHT40 STBC, M0 to M7 2 HT/VHT40 STBC, M0 to M7 3 Non HT20, 6 to 54 Mbps 1 Non HT20, 6 to 54 Mbps 2 Non HT20, 6 to 54 Mbps 3 Non HT20, 6 to 54 Mbps 3 Non HT20 Beam Forming, 6 to 54 Mbps 3 Non HT20 Beam Forming, 6 to 54 Mbps 2 Non HT20 Beam Forming, 6 to 54 Mbps 3 HT/VHT20, M0 to M7 1 HT/VHT20, M0 to M7 2 HT/VHT20, M0 to M7 2 HT/VHT20, M8 to M15 3 HT/VHT20, M8 to M15 3 HT/VHT20 Beam Forming, M0 to M7 2 HT/VHT20 Beam Forming, M0 to M7 3 HT/VHT20 Beam Forming, M8 to M15 2 HT/VHT20 Beam Forming, M8 to M15 3 HT/VHT20 Beam Forming, M8 to M15 3 HT/VHT20 STBC, M0 to M7 3 HT/VHT20 STBC, M0 to M7 2	HT/VHT40 STBC, M0 to M7 2 4 HT/VHT40 STBC, M0 to M7 3 4 Non HT20, 6 to 54 Mbps 1 4 Non HT20, 6 to 54 Mbps 2 4 Non HT20, 6 to 54 Mbps 2 4 Non HT20, 6 to 54 Mbps 3 4 Non HT20, 6 to 54 Mbps 3 4 Non HT20 Beam Forming, 6 to 54 Mbps 2 7 Non HT20 Beam Forming, 6 to 54 Mbps 3 9 HT/VHT20, M0 to M7 1 4 HT/VHT20, M0 to M7 2 4 HT/VHT20, M0 to M7 3 4 HT/VHT20, M0 to M7 3 4 HT/VHT20, M8 to M15 3 4 HT/VHT20, M8 to M15 3 4 HT/VHT20 Beam Forming, M0 to M7 2 7 HT/VHT20 Beam Forming, M8 to M15 3 4 HT/VHT20 Beam Forming, M0 to M7 3 9 HT/VHT20 Beam Forming, M8 to M15 3 6 HT/VHT20 STBC, M0 to M7 2 4	HT/VHT40 STBC, M0 to M72422.6HT/VHT40 STBC, M0 to M73418.0Non HT20, 6 to 54 Mbps1421.6Non HT20, 6 to 54 Mbps2421.6Non HT20, 6 to 54 Mbps3416.8Non HT20 Beam Forming, 6 to 54 Mbps2714.9Non HT20 Beam Forming, 6 to 54 Mbps3910.9HT/VHT20, M0 to M71421.7HT/VHT20, M0 to M72421.7HT/VHT20, M0 to M73417.0HT/VHT20, M8 to M153417.0HT/VHT20, M8 to M153417.0HT/VHT20 Beam Forming, M0 to M72421.7HT/VHT20 Beam Forming, M0 to M73911.0HT/VHT20 Beam Forming, M0 to M73911.0HT/VHT20 Beam Forming, M0 to M73911.0HT/VHT20 Beam Forming, M8 to M153614.9HT/VHT20 STBC, M0 to M72421.7	HT/VHT40 STBC, M0 to M72422.623.4HT/VHT40 STBC, M0 to M73418.018.5Non HT20, 6 to 54 Mbps1421.621.8Non HT20, 6 to 54 Mbps2421.621.8Non HT20, 6 to 54 Mbps3416.816.4Non HT20 G to 54 Mbps3416.816.4Non HT20 Beam Forming, 6 to 54 Mbps3910.911.3HT/VHT20, M0 to M71421.721.9HT/VHT20, M0 to M72421.721.9HT/VHT20, M8 to M153417.016.5HT/VHT20, M8 to M153417.016.5HT/VHT20 Beam Forming, M0 to M72714.915.3HT/VHT20 Beam Forming, M0 to M72714.915.3HT/VHT20 Beam Forming, M0 to M73911.011.4HT/VHT20 Beam Forming, M8 to M153614.915.3HT/VHT20 STBC, M0 to M72421.721.9	HT/VHT40 STBC, M0 to M72422.623.4HT/VHT40 STBC, M0 to M73418.018.517.6Non HT20, 6 to 54 Mbps1421.621.8Non HT20, 6 to 54 Mbps2421.621.8Non HT20, 6 to 54 Mbps3416.816.415.9Non HT20 Beam Forming, 6 to 54 Mbps2714.915.2Non HT20 Beam Forming, 6 to 54 Mbps3910.911.310.6HT/VHT20, M0 to M71421.721.9HT/VHT20, M0 to M72421.721.9HT/VHT20, M0 to M73417.016.516.0HT/VHT20, M8 to M153417.016.516.0HT/VHT20 Beam Forming, M0 to M72714.915.3HT/VHT20 Beam Forming, M0 to M72714.915.3HT/VHT20 Beam Forming, M0 to M73911.011.410.6HT/VHT20 Beam Forming, M8 to M153614.915.314.7HT/VHT20 STBC, M0 to M72421.721.914.7	HT/VHT40 STBC, M0 to M72422.623.426.0HT/VHT40 STBC, M0 to M73418.018.517.622.8Non HT20, 6 to 54 Mbps1421.621.824.7Non HT20, 6 to 54 Mbps2421.621.824.7Non HT20, 6 to 54 Mbps3416.816.415.921.2Non HT20 Beam Forming, 6 to 54 Mbps2714.915.218.1Non HT20 Beam Forming, 6 to 54 Mbps3910.911.310.615.7HT/VHT20, M0 to M71421.721.721.7HT/VHT20, M0 to M72421.721.924.8HT/VHT20, M8 to M153417.016.516.021.3HT/VHT20 Beam Forming, M0 to M72714.915.318.1HT/VHT20, M8 to M153417.016.516.021.3HT/VHT20 Beam Forming, M0 to M72714.915.318.1HT/VHT20 Beam Forming, M0 to M73911.011.410.615.8HT/VHT20 Beam Forming, M8 to M153614.915.314.719.7HT/VHT20 SEBC, M0 to M72421.721.924.8	HT/VHT40 STBC, M0 to M72422.623.426.030.0HT/VHT40 STBC, M0 to M73418.018.517.622.830.0Non HT20, 6 to 54 Mbps1421.621.621.630.0Non HT20, 6 to 54 Mbps2421.621.824.730.0Non HT20, 6 to 54 Mbps2421.621.824.730.0Non HT20, 6 to 54 Mbps3416.816.415.921.230.0Non HT20 Beam Forming, 6 to 54 Mbps2714.915.218.129.0Non HT20 Beam Forming, 6 to 54 Mbps3910.911.310.615.727.0HT/VHT20, M0 to M71421.721.730.030.030.0HT/VHT20, M0 to M72421.721.924.830.0HT/VHT20, M0 to M73417.016.516.021.330.0HT/VHT20, M0 to M73417.016.516.021.330.0HT/VHT20 Beam Forming, M0 to M72714.915.318.129.0HT/VHT20 Beam Forming, M0 to M72421.721.924.830.0HT/VHT20 Beam Forming, M0 to M72421.721.924.830.0HT/VHT20 Beam Forming, M0 to M73911.011.410.615.827.0HT/VHT20 Beam Forming, M8 to M153614.915.314.7 <td< td=""></td<>

Page No: 32 of 92

Peak Output Power, 5745 MHz, Non HT20 Beam Forming, 6 to 54 Mbps



999 DC COVIEC 7450000000 GH2 NFE #EGaintle Offset0.8 dB 7 30.00 dBm	Center F	ENSE BY Freq: 5.7450000000 ee Run Avy 30 dB	g Hold: 100/100	5.7474	d: None wice: BTS 667 GHZ 555 dBm	Frequency Center Fre 5.74500000 GH			
		<u></u> 1	Mkr1	5.7474	667 GHz 555 dBm				
		1							

2000 102 Center 5.745 GHz #Res BW 1 MHz		BW 3 MHz			an 40 MHz p 100 ms	CF Ste 4.000000 MH <u>Auto</u> Mi			
Channel Power 21.18 dBm / 28.38 MHz									Freq Offs 01
				3 dBm / 28.38 мнz -53.36 dBm	3 dBm / 28.38 мнz -53.36 dBm /нz				

Antenna B

Antenna A



Antenna C

Page No: 33 of 92

Antenna Gain: 10 dBi

—		r 1							
Frequency (MHz)	Mode	Tx Paths	Correlated Antenna Gain (dBi)	Tx 1 Max Power (dBm)	Tx 2 Max Power (dBm)	Tx 3 Max Power (dBm)	Total Tx Channel Power (dBm)	Limit (dBm)	Margin (dB)
	Non HT20, 6 to 54 Mbps	1	10	23.5			23.5	26.0	2.5
	Non HT20, 6 to 54 Mbps	2	10	20.7	21.2		24.0	26.0	2.0
	Non HT20, 6 to 54 Mbps	3	10	19.7	20.3	21.1	25.2	26.0	0.8
	Non HT20 Beam Forming, 6 to 54 Mbps	2	10	20.7	21.2		24.0	26.0	2.0
	Non HT20 Beam Forming, 6 to 54 Mbps	3	13	17.0	16.8	17.8	22.0	23.0	1.0
	HT/VHT20, M0 to M7	1	10	24.1			24.1	26.0	1.9
	HT/VHT20, M0 to M7	2	10	16.2	16.9		19.6	26.0	6.4
45	HT/VHT20, M8 to M15	2	10	16.2	16.9		19.6	26.0	6.4
5745	HT/VHT20, M0 to M7	3	10	13.4	13.3	14.2	18.4	26.0	7.6
	HT/VHT20, M8 to M15	3	10	13.4	13.3	14.2	18.4	26.0	7.6
	HT/VHT20 Beam Forming, M0 to M7	2	10	16.2	16.9		19.6	26.0	6.4
	HT/VHT20 Beam Forming, M8 to M15	2	10	16.2	16.9		19.6	26.0	6.4
	HT/VHT20 Beam Forming, M0 to M7	3	13	12.3	12.4	13.3	17.5	23.0	5.5
	HT/VHT20 Beam Forming, M8 to M15	3	10	13.4	13.3	14.2	18.4	26.0	7.6
	HT/VHT20 STBC, M0 to M7	2	10	16.2	16.9		19.6	26.0	6.4
	HT/VHT20 STBC, M0 to M7	3	10	13.4	13.3	14.2	18.4	26.0	7.6
	Non HT40, 6 to 54 Mbps	1	10	23.5			23.5	26.0	2.5
	Non HT40, 6 to 54 Mbps	2	10	16.0	16.8		19.4	26.0	6.6
	Non HT40, 6 to 54 Mbps	3	10	13.2	13.5	14.1	18.4	26.0	7.6
	HT/VHT40, M0 to M7	1	10	23.7			23.7	26.0	2.3
	HT/VHT40, M0 to M7	2	10	16.1	16.7		19.4	26.0	6.6
	HT/VHT40, M8 to M15	2	10	16.1	16.7		19.4	26.0	6.6
55	HT/VHT40, M0 to M7	3	10	13.0	13.2	13.9	18.2	26.0	7.8
57	HT/VHT40, M8 to M15	3	10	13.0	13.2	13.9	18.2	26.0	7.8
	HT/VHT40 Beam Forming, M0 to M7	2	10	16.1	16.7		19.4	26.0	6.6
	HT/VHT40 Beam Forming, M8 to M15	2	10	16.1	16.7		19.4	26.0	6.6
	HT/VHT40 Beam Forming, M0 to M7	3	13	13.0	13.2	13.9	18.2	23.0	4.8
	HT/VHT40 Beam Forming, M8 to M15	3	10	13.0	13.2	13.9	18.2	26.0	7.8
	HT/VHT40 STBC, M0 to M7	2	10	16.1	16.7		19.4	26.0	6.6
	HT/VHT40 STBC, M0 to M7	3	10	13.0	13.2	13.9	18.2	26.0	7.8

Page No: 34 of 92

	Non HT80, 6 to 54 Mbps	1	10	22.1			22.1	26.0	3.9
	Non HT80, 6 to 54 Mbps	2	10	14.1	15.0		17.6	26.0	8.4
	Non HT80, 6 to 54 Mbps	3	10	10.4	10.8	10.6	15.4	26.0	10.6
5775	VHT80, M0 to M9 1ss	1	10	23.6			23.6	26.0	2.4
	VHT80, M0 to M9 1ss	2	10	15.9	16.7		19.3	26.0	6.7
	VHT80, M0 to M9 2ss	2	10	15.9	16.7		19.3	26.0	6.7
	VHT80, M0 to M9 1ss	3	10	12.8	13.2	13.0	17.8	26.0	8.2
	VHT80, M0 to M9 2ss	3	10	12.8	13.2	13.0	17.8	26.0	8.2
	VHT80 Beam Forming, M0 to M9 1ss	2	10	15.9	16.7		19.3	26.0	6.7
	VHT80 Beam Forming, M0 to M9 2ss	2	10	15.9	16.7		19.3	26.0	6.7
	VHT80 Beam Forming, M0 to M9 1ss	3	13	12.8	13.2	13.0	17.8	23.0	5.2
	VHT80 Beam Forming, M0 to M9 2ss	3	10	12.8	13.2	13.0	17.8	26.0	8.2
	VHT80 STBC, M0 to M9 1ss	2	10	15.9	16.7		19.3	26.0	6.7
	VHT80 STBC, M0 to M9 1ss	3	10	12.8	13.2	13.0	17.8	26.0	8.2
	Non HT20, 6 to 54 Mbps	1	10	17.9			17.9	26.0	8.1
	Non HT20, 6 to 54 Mbps	2	10	11.9	12.8		15.4	26.0	10.6
	Non HT20, 6 to 54 Mbps	3	10	10.0	10.8	10.2	15.1	26.0	10.9
	Non HT20 Beam Forming, 6 to 54 Mbps	2	10	11.9	12.8		15.4	26.0	10.6
	Non HT20 Beam Forming, 6 to 54 Mbps	3	13	8.1	8.9	8.3	13.2	23.0	9.8
35	HT/VHT20, M0 to M7	1	10	18.0			18.0	26.0	8.0
	HT/VHT20, M0 to M7	2	10	12.0	12.9		15.5	26.0	10.5
	HT/VHT20, M8 to M15	2	10	12.0	12.9		15.5	26.0	10.5
5785	HT/VHT20, M0 to M7	3	10	10.1	10.9	10.3	15.2	26.0	10.8
	HT/VHT20, M8 to M15	3	10	10.1	10.9	10.3	15.2	26.0	10.8
	HT/VHT20 Beam Forming, M0 to M7	2	10	12.0	12.9		15.5	26.0	10.5
	HT/VHT20 Beam Forming, M8 to M15	2	10	12.0	12.9		15.5	26.0	10.5
	HT/VHT20 Beam Forming, M0 to M7	3	13	7.2	7.9	7.2	12.2	23.0	10.8
	HT/VHT20 Beam Forming, M8 to M15	3	10	10.1	10.9	10.3	15.2	26.0	10.8
	HT/VHT20 STBC, M0 to M7	2	10	12.0	12.9		15.5	26.0	10.5
	HT/VHT20 STBC, M0 to M7	3	10	10.1	10.9	10.3	15.2	26.0	10.8
	Non HT40, 6 to 54 Mbps	1	10	16.3			16.3	26.0	9.7
	Non HT40, 6 to 54 Mbps	2	10	10.4	11.1		13.8	26.0	12.2
	Non HT40, 6 to 54 Mbps	3	10	8.4	8.9	7.9	13.2	26.0	12.8
	HT/VHT40, M0 to M7	1	10	18.0			18.0	26.0	8.0
	HT/VHT40, M0 to M7	2	10	11.9	12.7		15.3	26.0	10.7
5795	HT/VHT40, M8 to M15	2	10	11.9	12.7		15.3	26.0	10.7
2	HT/VHT40, M0 to M7	3	10	10.0	10.6	9.6	14.9	26.0	11.1
	HT/VHT40, M8 to M15	3	10	10.0	10.6	9.6	14.9	26.0	11.1
	HT/VHT40 Beam Forming, M0 to M7	2	10	11.9	12.7	0.0	15.3	26.0	10.7
	HT/VHT40 Beam Forming, M8 to M15	2	10	11.9	12.7		15.3	26.0	10.7
	HT/VHT40 Beam Forming, M0 to M7	2	13	7.2	7.8	6.7	12.0	23.0	11.0
	The beam ronning, we to wr	0	10	1.2	1.0	0.1	12.0	20.0	11.0

Page No: 35 of 92

	HT/VHT40 Beam Forming, M8 to M15	3	10	10.0	10.6	9.6	14.9	26.0	11.1
	HT/VHT40 STBC, M0 to M7	2	10	11.9	12.7		15.3	26.0	10.7
	HT/VHT40 STBC, M0 to M7	3	10	10.0	10.6	9.6	14.9	26.0	11.1
	Non HT20, 6 to 54 Mbps	1	10	16.8			16.8	26.0	9.2
	Non HT20, 6 to 54 Mbps	2	10	10.9	11.3		14.1	26.0	11.9
	Non HT20, 6 to 54 Mbps	3	10	10.0	10.1	9.5	14.6	26.0	11.4
	Non HT20 Beam Forming, 6 to 54 Mbps	2	10	10.9	11.3		14.1	26.0	11.9
	Non HT20 Beam Forming, 6 to 54 Mbps	3	13	8.1	8.3	7.6	12.8	23.0	10.2
	HT/VHT20, M0 to M7	1	10	17.0			17.0	26.0	9.0
	HT/VHT20, M0 to M7	2	10	11.0	11.4		14.2	26.0	11.8
25	HT/VHT20, M8 to M15	2	10	11.0	11.4		14.2	26.0	11.8
5825	HT/VHT20, M0 to M7	3	10	10.1	10.2	9.5	14.7	26.0	11.3
	HT/VHT20, M8 to M15	3	10	10.1	10.2	9.5	14.7	26.0	11.3
	HT/VHT20 Beam Forming, M0 to M7	2	10	11.0	11.4		14.2	26.0	11.8
	HT/VHT20 Beam Forming, M8 to M15	2	10	11.0	11.4		14.2	26.0	11.8
	HT/VHT20 Beam Forming, M0 to M7	3	13	8.1	8.3	7.6	12.8	23.0	10.2
	HT/VHT20 Beam Forming, M8 to M15	3	10	10.1	10.2	9.5	14.7	26.0	11.3
	HT/VHT20 STBC, M0 to M7	2	10	11.0	11.4		14.2	26.0	11.8
	HT/VHT20 STBC, M0 to M7	3	10	10.1	10.2	9.5	14.7	26.0	11.3

Page No: 36 of 92

Keysight Spectrum Analyzer - Channel Power				(Prototype - Limited Sale Allowed)					
nter Fre	eq 5.745000	F 150 bC CONNC Statisti 5.74150000000 GHz NFE Freq: 5.745000000 GHz NFE WFGeint.ow Atten: 30 dB			Radio Std Radio Dev		Frequency		
dB/div	Ref Offset 0 Ref 30.00	8 dB dBm		Mkr1	5.74253 9.25	i33 GHz 09 dBm			
		~					Center Freq 5.745000000 GHz		
0 0 0	ANT THE PARTY OF T	and -		- Ja					
nter 5.7 es BW			#VBW 3 M	łz		n 40 MHz o 100 ms	CF Step 4.000000 MH Auto Mai		
	el Power 9.72 dB	m / 28.38		r Spectral Den -54.81 dBm			Freq Offset 0 Hz		

Center Fre	eq 5.745000000 G	-the Tr	nter Freq: 5.7 ig: Free Run tten: 30 dB	45000000 GHz Avg Hold:	100/100		td: None levice: BTS	Frequency
15 dB/div	Ref Offset 0.8 dB Ref 30.00 dBm				Mkr1	5.7424 9.7	4667 GHz 321 dBm	
Log 15.0 0.00 15.0 30.0 45.0 45.0 60.0 75.0					Ź			Center Fre 5.745000000 GH
Center 5.7 #Res BW			#VBW 3	MHz		Sp #Swe	oan 40 MHz ep 100 ms	CF Stej 4.000000 MH Auto Ma
Channel Power 20.29 dBm / 28.38 MHz			Power Spectral Density -54.24 dBm /Hz					Freq Offse 0 H
10					STAT			

սիսիս

Antenna B

Antenna A



Antenna C

Page No: 37 of 92

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 Dens	ity
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
	EUT	S01	$\mathbf{\nabla}$	
1	Support	S02		\checkmark

Tested By :	Date of testing:
Jose Aguirre	20-April-16 - 08-Aug-16
Test Result : PASS	

See Appendix C for list of test equipment

Page No: 38 of 92

Antenna Gain: 4 dBi

Frequency (MHz)	Mode	Tx Paths	Correlated Antenna Gain (dBi)	Tx 1 PSD (dBm/MHz)	Tx 2 PSD (dBm/MHz)	Tx 3 PSD (dBm/MHz)	Total PSD (dBm/500MHz)	Limit (dBm/500MHz)	Margin (dB)
	Non HT20, 6 to 54 Mbps	1	4	10.1			10.1	30.0	19.9
	Non HT20, 6 to 54 Mbps	2	7	10.1	10.3		13.2	29.0	15.8
	Non HT20, 6 to 54 Mbps	3	9	10.1	10.3	11.8	15.6	27.0	11.4
	Non HT20 Beam Forming, 6 to 54 Mbps	2	7	10.1	10.3		13.2	29.0	15.8
	Non HT20 Beam Forming, 6 to 54 Mbps	3	9	7.2	7.6	8.8	12.7	27.0	14.3
	HT/VHT20, M0 to M7	1	4	10.6			10.6	30.0	19.4
	HT/VHT20, M0 to M7	2	7	8.3	8.7		11.5	29.0	17.5
45	HT/VHT20, M8 to M15	2	4	8.3	8.7		11.5	30.0	18.5
5745	HT/VHT20, M0 to M7	3	9	5.9	6.8	7.3	11.5	27.0	15.5
	HT/VHT20, M8 to M15	3	6	5.9	6.8	7.3	11.5	30.0	18.5
	HT/VHT20 Beam Forming, M0 to M7	2	7	4.8	5.8		8.3	29.0	20.7
	HT/VHT20 Beam Forming, M8 to M15	2	4	8.3	8.7		11.5	30.0	18.5
	HT/VHT20 Beam Forming, M0 to M7	3	9	1.0	0.7	1.7	5.9	27.0	21.1
	HT/VHT20 Beam Forming, M8 to M15	3	6	2.7	3.5	4.0	8.2	30.0	21.8
	HT/VHT20 STBC, M0 to M7	2	4	8.3	8.7		11.5	30.0	18.5
	HT/VHT20 STBC, M0 to M7	3	6	5.9	6.8	7.3	11.5	30.0	18.5
	Non HT40, 6 to 54 Mbps	1	4	7.2			7.2	30.0	22.8
	Non HT40, 6 to 54 Mbps	2	7	6.5	6.6		9.6	29.0	19.4
	Non HT40, 6 to 54 Mbps	3	9	1.7	2.8	4.0	7.7	27.0	19.3
	HT/VHT40, M0 to M7	1	4	7.2			7.2	30.0	22.8
	HT/VHT40, M0 to M7	2	7	4.0	4.5		7.3	29.0	21.7
	HT/VHT40, M8 to M15	2	4	4.0	4.5		7.3	30.0	22.7
55	HT/VHT40, M0 to M7	3	9	3.2	3.2	4.1	8.3	27.0	18.7
5755	HT/VHT40, M8 to M15	3	6	3.2	3.2	4.1	8.3	30.0	21.7
	HT/VHT40 Beam Forming, M0 to M7	2	7	3.2	3.2		6.2	29.0	22.8
	HT/VHT40 Beam Forming, M8 to M15	2	4	4.0	4.5		7.3	30.0	22.7
	HT/VHT40 Beam Forming, M0 to M7	3	9	-2.0	-2.5	-1.4	2.8	27.0	24.2
	HT/VHT40 Beam Forming, M8 to M15	3	6	-0.4	0.1	0.9	5.0	30.0	25.0
	HT/VHT40 STBC, M0 to M7	2	4	4.0	4.5		7.3	30.0	22.7
	HT/VHT40 STBC, M0 to M7	3	6	3.2	3.2	4.1	8.3	30.0	21.7

Page No: 39 of 92

	Non HT80, 6 to 54 Mbps	1	4	2.4			2.4	30.0	27.6
	Non HT80, 6 to 54 Mbps	2	7	0.6	1.3		4.0	29.0	25.0
	Non HT80, 6 to 54 Mbps	3	9	-5.1	-4.9	-5.2	-0.3	27.0	27.3
	VHT80, M0 to M9 1ss	1	4	3.5			3.5	30.0	26.5
	VHT80, M0 to M9 1ss	2	7	3.5	3.6		6.6	29.0	22.4
	VHT80, M0 to M9 2ss	2	4	3.5	3.6		6.6	30.0	23.4
5775	VHT80, M0 to M9 1ss	3	9	-2.0	-1.0	-1.6	3.3	27.0	23.7
57	VHT80, M0 to M9 2ss	3	6	-2.0	-1.0	-1.6	3.3	30.0	26.7
	VHT80 Beam Forming, M0 to M9 1ss	2	7	2.3	2.7		5.5	29.0	23.5
	VHT80 Beam Forming, M0 to M9 2ss	2	4	3.5	3.6		6.6	30.0	23.4
	VHT80 Beam Forming, M0 to M9 1ss	3	9	-6.0	-6.1	-6.1	-1.3	27.0	28.3
	VHT80 Beam Forming, M0 to M9 2ss	3	6	-3.1	-3.3	-3.0	1.6	30.0	28.4
	VHT80 STBC, M0 to M9 1ss	2	4	3.5	3.6		6.6	30.0	23.4
	VHT80 STBC, M0 to M9 1ss	3	4	-2.0	-1.0	-1.6	3.3	30.0	26.7
	Non HT20, 6 to 54 Mbps	1	4	9.3			9.3	30.0	20.7
	Non HT20, 6 to 54 Mbps	2	7	8.0	9.1		11.6	29.0	17.4
	Non HT20, 6 to 54 Mbps	3	9	3.3	4.0	3.3	8.3	27.0	18.7
	Non HT20 Beam Forming, 6 to 54 Mbps	2	7	2.2	3.6		6.0	29.0	23.0
	Non HT20 Beam Forming, 6 to 54 Mbps	3	9	-1.8	-0.6	-1.1	3.6	27.0	23.4
	HT/VHT20, M0 to M7	1	4	9.0			9.0	30.0	21.0
	HT/VHT20, M0 to M7	2	7	8.1	9.2		11.7	29.0	17.3
35	HT/VHT20, M8 to M15	2	4	8.1	9.2		11.7	30.0	18.3
5785	HT/VHT20, M0 to M7	3	9	3.1	3.8	3.3	8.2	27.0	18.8
	HT/VHT20, M8 to M15	3	6	3.1	3.8	3.3	8.2	30.0	21.8
	HT/VHT20 Beam Forming, M0 to M7	2	7	2.1	3.7		6.0	29.0	23.0
	HT/VHT20 Beam Forming, M8 to M15	2	4	8.1	9.2		11.7	30.0	18.3
	HT/VHT20 Beam Forming, M0 to M7	3	9	-1.7	-1.0	-1.3	3.4	27.0	23.6
	HT/VHT20 Beam Forming, M8 to M15	3	6	2.1	3.7	3.3	7.9	30.0	22.1
	HT/VHT20 STBC, M0 to M7	2	4	8.1	9.2	0.0	11.7	30.0	18.3
	HT/VHT20 STBC, M0 to M7	3	6	3.1	3.8	3.3	8.2	30.0	21.8
		· ·	· ·	••••	0.0	0.0	•		•
	Non HT40, 6 to 54 Mbps	1	4	4.5			4.5	30.0	25.5
	Non HT40, 6 to 54 Mbps	2	7	2.8	4.7		6.9	29.0	22.1
	Non HT40, 6 to 54 Mbps	3	9	-0.1	-0.5	-1.1	4.2	27.0	22.8
	HT/VHT40, M0 to M7	1	4	5.8	0.0		5.8	30.0	24.2
	HT/VHT40, M0 to M7	2	7	5.8	6.8		9.3	29.0	19.7
5795	HT/VHT40, M8 to M15	2	4	5.8	6.8		9.3	30.0	20.7
51	HT/VHT40, M0 to M7	3	9	1.5	1.9	1.3	6.3	27.0	20.7
	HT/VHT40, M8 to M15	3	6	1.5	1.9	1.3	6.3	30.0	23.7
	HT/VHT40, M8 to M15 HT/VHT40 Beam Forming, M0 to M7	2	7	-0.7	-1.0	1.5	2.2	29.0	26.8
	HT/VHT40 Beam Forming, M8 to M15	2	4	-0.7 5.8	6.8		9.3	30.0	20.0
	HT/VHT40 Beam Forming, M0 to M7	2 3	4 9	-4.9	-4.0	-4.8	9.3 0.2	27.0	26.8
		5	9	-4.3	-4.0	-4.0	0.2	21.0	20.0

Page No: 40 of 92

HT/VHT40 Beam Forming, M8 to M15	3	6	-1.5	-0.7	-1.5	3.6	30.0	26.4
HT/VHT40 STBC, M0 to M7	2	4	5.8	6.8		9.3	30.0	20.7
HT/VHT40 STBC, M0 to M7	3	6	1.5	1.9	1.3	6.3	30.0	23.7
Non HT20, 6 to 54 Mbps	1	4	8.2			8.2	30.0	21.8
Non HT20, 6 to 54 Mbps	2	7	8.2	8.6		11.4	29.0	17.6
Non HT20, 6 to 54 Mbps	3	9	3.3	3.0	2.5	7.7	27.0	19.3
Non HT20 Beam Forming, 6 to 54 Mbps	2	7	1.5	2.0		4.8	29.0	24.2
Non HT20 Beam Forming, 6 to 54 Mbps	3	9	-2.6	-2.1	-3.0	2.2	27.0	24.8
HT/VHT20, M0 to M7	1	4	8.0			8.0	30.0	22.0
HT/VHT20, M0 to M7	2	7	8.0	8.0		11.0	29.0	18.0
HT/VHT20, M8 to M15	2	4	8.0	8.0		11.0	30.0	19.0
HT/VHT20, M0 to M7	3	9	3.2	3.0	2.5	7.7	27.0	19.3
HT/VHT20, M8 to M15	3	6	3.2	3.0	2.5	7.7	30.0	22.3
HT/VHT20 Beam Forming, M0 to M7	2	7	1.6	1.5		4.6	29.0	24.4
HT/VHT20 Beam Forming, M8 to M15	2	4	8.0	8.0		11.0	30.0	19.0
HT/VHT20 Beam Forming, M0 to M7	3	9	-2.4	-2.0	-3.0	2.3	27.0	24.7
HT/VHT20 Beam Forming, M8 to M15	3	6	1.6	1.5	1.0	6.1	30.0	23.9
HT/VHT20 STBC, M0 to M7	2	4	8.0	8.0		11.0	30.0	19.0
HT/VHT20 STBC, M0 to M7	3	6	3.2	3.0	2.5	7.7	30.0	22.3
	HT/VHT40 STBC, M0 to M7 HT/VHT40 STBC, M0 to M7 Non HT20, 6 to 54 Mbps Non HT20, 6 to 54 Mbps Non HT20, 6 to 54 Mbps Non HT20 Beam Forming, 6 to 54 Mbps Non HT20 Beam Forming, 6 to 54 Mbps HT/VHT20 Beam Forming, 6 to 54 Mbps HT/VHT20, M0 to M7 HT/VHT20, M0 to M7 HT/VHT20, M0 to M7 HT/VHT20, M8 to M15 HT/VHT20, M8 to M15 HT/VHT20 Beam Forming, M0 to M7 HT/VHT20 Beam Forming, M8 to M15 HT/VHT20 Beam Forming, M8 to M15 HT/VHT20 Beam Forming, M8 to M15 HT/VHT20 STBC, M0 to M7	HT/VHT40 STBC, M0 to M7 2 HT/VHT40 STBC, M0 to M7 3 Non HT20, 6 to 54 Mbps 1 Non HT20, 6 to 54 Mbps 2 Non HT20, 6 to 54 Mbps 3 Non HT20, 6 to 54 Mbps 3 Non HT20 Beam Forming, 6 to 54 Mbps 3 Non HT20 Beam Forming, 6 to 54 Mbps 2 Non HT20 Beam Forming, 6 to 54 Mbps 3 HT/VHT20, M0 to M7 1 HT/VHT20, M0 to M7 2 HT/VHT20, M0 to M7 2 HT/VHT20, M8 to M15 3 HT/VHT20, M8 to M15 3 HT/VHT20 Beam Forming, M0 to M7 2 HT/VHT20 Beam Forming, M8 to M15 2 HT/VHT20 Beam Forming, M8 to M15 3 HT/VHT20 Beam Forming, M8 to M15 3 HT/VHT20 Beam Forming, M8 to M15 3 HT/VHT20 STBC, M0 to M7 3 HT/VHT20 STBC, M0 to M7 2	HT/VHT40 STBC, M0 to M7 2 4 HT/VHT40 STBC, M0 to M7 3 6 Non HT20, 6 to 54 Mbps 1 4 Non HT20, 6 to 54 Mbps 2 7 Non HT20, 6 to 54 Mbps 3 9 Non HT20, 6 to 54 Mbps 3 9 Non HT20 Beam Forming, 6 to 54 Mbps 2 7 Non HT20 Beam Forming, 6 to 54 Mbps 3 9 HT/VHT20, M0 to M7 1 4 HT/VHT20, M0 to M7 2 7 HT/VHT20, M0 to M7 2 4 HT/VHT20, M0 to M7 3 9 HT/VHT20, M8 to M15 3 6 HT/VHT20 Beam Forming, M0 to M7 2 7 HT/VHT20 Beam Forming, M0 to M7 2 7 HT/VHT20 Beam Forming, M0 to M7 3 9 HT/VHT20 STBC, M0 to M7 3 9 HT/VHT20 STBC, M0 to M7 2 4	HT/VHT40 STBC, M0 to M7245.8HT/VHT40 STBC, M0 to M7361.5Non HT20, 6 to 54 Mbps148.2Non HT20, 6 to 54 Mbps278.2Non HT20, 6 to 54 Mbps393.3Non HT20 G to 54 Mbps271.5Non HT20 Beam Forming, 6 to 54 Mbps271.5Non HT20 Beam Forming, 6 to 54 Mbps39-2.6HT/VHT20, M0 to M7148.0HT/VHT20, M0 to M7278.0HT/VHT20, M0 to M7393.2HT/VHT20, M8 to M15363.2HT/VHT20, M8 to M15363.2HT/VHT20 Beam Forming, M0 to M7271.6HT/VHT20 Beam Forming, M0 to M739-2.4HT/VHT20 Beam Forming, M8 to M15361.6HT/VHT20 STBC, M0 to M7248.0	HT/VHT40 STBC, M0 to M7245.86.8HT/VHT40 STBC, M0 to M7361.51.9Non HT20, 6 to 54 Mbps148.2Non HT20, 6 to 54 Mbps278.28.6Non HT20, 6 to 54 Mbps393.33.0Non HT20, 6 to 54 Mbps393.33.0Non HT20 Beam Forming, 6 to 54 Mbps271.52.0Non HT20 Beam Forming, 6 to 54 Mbps39-2.6-2.1HT/VHT20, M0 to M7148.0HT/VHT20, M0 to M7278.08.0HT/VHT20, M0 to M7248.08.0HT/VHT20, M8 to M15363.23.0HT/VHT20 Beam Forming, M0 to M7271.61.5HT/VHT20 Beam Forming, M0 to M7271.61.5HT/VHT20 Beam Forming, M0 to M739-2.4-2.0HT/VHT20 Beam Forming, M8 to M15361.61.5HT/VHT20 Beam Forming, M8 to M15361.61.5HT/VHT20 STBC, M0 to M7248.08.0	HT/VHT40 STBC, M0 to M7245.86.8HT/VHT40 STBC, M0 to M7361.51.91.3Non HT20, 6 to 54 Mbps148.2Non HT20, 6 to 54 Mbps278.28.6Non HT20, 6 to 54 Mbps393.33.02.5Non HT20 Beam Forming, 6 to 54 Mbps271.52.0Non HT20 Beam Forming, 6 to 54 Mbps39-2.6-2.1-3.0HT/VHT20, M0 to M7148.0HT/VHT20, M0 to M7278.08.0HT/VHT20, M0 to M7393.23.02.5HT/VHT20, M0 to M7393.23.02.5HT/VHT20, M0 to M7393.23.02.5HT/VHT20, M0 to M7393.23.02.5HT/VHT20, M8 to M15363.23.02.5HT/VHT20 Beam Forming, M0 to M7271.61.5HT/VHT20 Beam Forming, M0 to M739-2.4-2.0-3.0HT/VHT20 Beam Forming, M8 to M15361.61.51.0HT/VHT20 STBC, M0 to M7248.08.0HT/VHT20 STBC, M0 to M7248.08.0	HT/VHT40 STBC, M0 to M7245.86.89.3HT/VHT40 STBC, M0 to M7361.51.91.36.3Non HT20, 6 to 54 Mbps148.28.2Non HT20, 6 to 54 Mbps278.28.611.4Non HT20, 6 to 54 Mbps278.28.611.4Non HT20, 6 to 54 Mbps393.33.02.57.7Non HT20 Beam Forming, 6 to 54 Mbps271.52.04.8Non HT20 Beam Forming, 6 to 54 Mbps39-2.6-2.1-3.02.2HT/VHT20, M0 to M7148.08.011.0HT/VHT20, M0 to M7278.08.011.0HT/VHT20, M8 to M15248.08.011.0HT/VHT20 Beam Forming, M0 to M7271.61.54.6HT/VHT20 Beam Forming, M0 to M7271.61.54.6HT/VHT20 Beam Forming, M0 to M739-2.4-2.0-3.02.3HT/VHT20 Beam Forming, M0 to M739-2.4-2.0-3.02.3HT/VHT20 Beam Forming, M8 to M15361.61.51.06.1HT/VHT20 SEBC, M0 to M7248.08.011.0	HT/VHT40 STBC, M0 to M7245.86.89.330.0HT/VHT40 STBC, M0 to M7361.51.91.36.330.0Non HT20, 6 to 54 Mbps148.28.230.0Non HT20, 6 to 54 Mbps278.28.611.429.0Non HT20, 6 to 54 Mbps271.52.04.829.0Non HT20 Beam Forming, 6 to 54 Mbps271.52.04.829.0Non HT20 Beam Forming, 6 to 54 Mbps39-2.6-2.1-3.02.227.0Non HT20, M0 to M7148.08.030.030.0HT/VHT20, M0 to M7278.08.011.029.0HT/VHT20, M0 to M7393.23.02.57.727.0HT/VHT20, M0 to M7278.08.011.030.0HT/VHT20, M0 to M7393.23.02.57.727.0HT/VHT20, M0 to M7393.23.02.57.730.0HT/VHT20 Beam Forming, M0 to M7271.61.54.629.0HT/VHT20 Beam Forming, M0 to M739-2.4-2.0-3.02.327.0HT/VHT20 Beam Forming, M8 to M15361.61.51.06.130.0HT/VHT20 Beam Forming, M8 to M15361.61.51.06.130.0HT/VHT20 STBC, M0 to M72 <td< td=""></td<>

Page No: 41 of 92

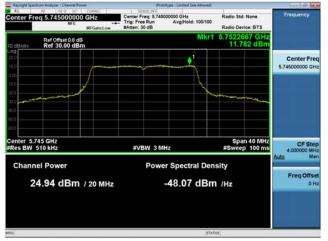
Power Spectral Density, 5745 MHz, Non HT20, 6 to 54 Mbps



Keysight Spectrum Analyzer - Channel P			Limited Sale Abowed		Lot of the
RL NF 560 DC Center Freq 5.74500000 NFE	ID GHz	Center Freq: 5.74500000 Trig: Free Run #Atten: 30 dB	0 GHz Avg Hold: 100/100	Radio Std: None Radio Device: BTS	Frequency
Ref Offset 0.8 c Ref 30.00 dE	iB Sm		Mkr1	5.7372667 GHz 10.313 dBm	
-0g 20.0 10.0 0.00	1				Center Fr 5.745000000 G
			No.	and have not an and and and an	
Center 5.745 GHz				Once 10 Mile	
Res BW 510 kHz		#VBW 3 MHz		Span 40 MHz #Sweep 100 ms	CF Str 4.000000 M Auto M
Channel Power 24.03 dBm	I / 20 MHz	Power S -4	Freq Offs 01		

Antenna B

Antenna A



Antenna C

Page No: 42 of 92

Antenna Gain: 10 dBi

Frequency (MHz)	Mode	Tx Paths	Correlated Antenna Gain (dBi)	Tx 1 PSD (dBm/MHz)	Tx 2 PSD (dBm/MHz)	Tx 3 PSD (dBm/MHz)	Total PSD (dBm/500MHz)	Limit (dBm/500MHz)	Margin (dB)
	Non HT20, 6 to 54 Mbps	1	10	10.1			10.1	26.0	15.9
	Non HT20, 6 to 54 Mbps	2	10	7.2	7.6		10.4	26.0	15.6
	Non HT20, 6 to 54 Mbps	3	10	6.1	7.0	7.5	11.7	26.0	14.3
	Non HT20 Beam Forming, 6 to 54 Mbps	2	10	7.2	7.6		10.4	26.0	15.6
	Non HT20 Beam Forming, 6 to 54 Mbps	3	13	3.7	3.4	4.2	8.6	23.0	14.4
	HT/VHT20, M0 to M7	1	10	10.6			10.6	26.0	15.4
	HT/VHT20, M0 to M7	2	10	2.7	3.5		6.1	26.0	19.9
5745	HT/VHT20, M8 to M15	2	10	2.7	3.5		6.1	26.0	19.9
57	HT/VHT20, M0 to M7	3	10	-0.1	0.0	0.5	4.9	26.0	21.1
	HT/VHT20, M8 to M15	3	10	-0.1	0.0	0.5	4.9	26.0	21.1
	HT/VHT20 Beam Forming, M0 to M7	2	10	2.7	3.5		6.1	26.0	19.9
	HT/VHT20 Beam Forming, M8 to M15	2	10	2.7	3.5		6.1	26.0	19.9
	HT/VHT20 Beam Forming, M0 to M7	3	13	-1.5	-1.1	-0.2	3.9	23.0	19.1
	HT/VHT20 Beam Forming, M8 to M15	3	10	-0.1	0.0	0.5	4.9	26.0	21.1
	HT/VHT20 STBC, M0 to M7	2	10	2.7	3.5		6.1	26.0	19.9
	HT/VHT20 STBC, M0 to M7	3	10	-0.1	0.0	0.5	4.9	26.0	21.1
	Non HT40, 6 to 54 Mbps	1	10	7.2			7.2	26.0	18.8
	Non HT40, 6 to 54 Mbps	2	10	-0.1	0.6		3.3	26.0	22.7
	Non HT40, 6 to 54 Mbps	3	10	-3.0	-3.0	-2.5	1.9	26.0	24.1
	HT/VHT40, M0 to M7	1	10	7.2			7.2	26.0	18.8
	HT/VHT40, M0 to M7	2	10	-0.4	0.1		2.9	26.0	23.1
	HT/VHT40, M8 to M15	2	10	-0.4	0.1		2.9	26.0	23.1
5755	HT/VHT40, M0 to M7	3	10	-3.5	-3.4	-2.7	1.6	26.0	24.4
57	HT/VHT40, M8 to M15	3	10	-3.5	-3.4	-2.7	1.6	26.0	24.4
	HT/VHT40 Beam Forming, M0 to M7	2	10	-0.4	0.1		2.9	26.0	23.1
	HT/VHT40 Beam Forming, M8 to M15	2	10	-0.4	0.1		2.9	26.0	23.1
	HT/VHT40 Beam Forming, M0 to M7	3	13	-3.5	-3.4	-2.7	1.6	23.0	21.4
	HT/VHT40 Beam Forming, M8 to M15	3	10	-3.5	-3.4	-2.7	1.6	26.0	24.4
	HT/VHT40 STBC, M0 to M7	2	10	-0.4	0.1		2.9	26.0	23.1
	HT/VHT40 STBC, M0 to M7	3	10	-3.5	-3.4	-2.7	1.6	26.0	24.4

Page No: 43 of 92

	Non LITCO C to 54 Mbro	4	10	25			25	26.0	00 E
	Non HT80, 6 to 54 Mbps	1	10	2.5	4.0		2.5	26.0	23.5
	Non HT80, 6 to 54 Mbps	2	10	-5.1	-4.9	0.4	-2.0	26.0	28.0
	Non HT80, 6 to 54 Mbps	3	10	-9.0	-9.2	-8.4	-4.1	26.0	30.1
	VHT80, M0 to M9 1ss	1	10	3.5			3.5	26.0	22.5
	VHT80, M0 to M9 1ss	2	10	-3.9	-3.8		-0.8	26.0	26.8
	VHT80, M0 to M9 2ss	2	10	-3.9	-3.8		-0.8	26.0	26.8
5775	VHT80, M0 to M9 1ss	3	10	-7.1	-7.3	-6.6	-2.2	26.0	28.2
Ω	VHT80, M0 to M9 2ss	3	10	-7.1	-7.3	-6.6	-2.2	26.0	28.2
	VHT80 Beam Forming, M0 to M9 1ss	2	10	-3.9	-3.8		-0.8	26.0	26.8
	VHT80 Beam Forming, M0 to M9 2ss	2	10	-3.9	-3.8		-0.8	26.0	26.8
	VHT80 Beam Forming, M0 to M9 1ss	3	13	-7.1	-7.3	-6.6	-2.2	23.0	25.2
	VHT80 Beam Forming, M0 to M9 2ss	3	10	-7.1	-7.3	-6.6	-2.2	26.0	28.2
	VHT80 STBC, M0 to M9 1ss	2	10	-3.9	-3.8		-0.8	26.0	26.8
	VHT80 STBC, M0 to M9 1ss	3	10	-7.1	-7.3	-6.6	-2.2	26.0	28.2
	Non HT20, 6 to 54 Mbps	1	10	4.5			4.5	26.0	21.5
	Non HT20, 6 to 54 Mbps	2	10	-1.8	-0.6		1.9	26.0	24.1
	Non HT20, 6 to 54 Mbps	3	10	-3.3	-2.7	-2.7	1.9	26.0	24.1
	Non HT20 Beam Forming, 6 to 54 Mbps	2	10	-1.8	-0.6		1.9	26.0	24.1
	Non HT20 Beam Forming, 6 to 54 Mbps	3	13	-5.4	-4.4	-5.2	-0.2	23.0	23.2
	HT/VHT20, M0 to M7	1	10	4.3			4.3	26.0	21.7
	HT/VHT20, M0 to M7	2	10	-1.7	-1.0		1.7	26.0	24.3
5785	HT/VHT20, M8 to M15	2	10	-1.7	-1.0		1.7	26.0	24.3
57	HT/VHT20, M0 to M7	3	10	-3.6	-2.9	-3.3	1.5	26.0	24.5
	HT/VHT20, M8 to M15	3	10	-3.6	-2.9	-3.3	1.5	26.0	24.5
	HT/VHT20 Beam Forming, M0 to M7	2	10	-1.7	-1.0		1.7	26.0	24.3
	HT/VHT20 Beam Forming, M8 to M15	2	10	-1.7	-1.0		1.7	26.0	24.3
	HT/VHT20 Beam Forming, M0 to M7	3	13	-6.4	-5.5	-6.3	-1.3	23.0	24.3
	HT/VHT20 Beam Forming, M8 to M15	3	10	-3.6	-2.9	-3.3	1.5	26.0	24.5
	HT/VHT20 STBC, M0 to M7	2	10	-1.7	-1.0		1.7	26.0	24.3
	HT/VHT20 STBC, M0 to M7	3	10	-3.6	-2.9	-3.3	1.5	26.0	24.5
1									
	Non HT40, 6 to 54 Mbps	1	10	-0.1			-0.1	26.0	26.1
	Non HT40, 6 to 54 Mbps	2	10	-6.0	-5.1		-2.5	26.0	28.5
	Non HT40, 6 to 54 Mbps	3	10	-7.8	-7.6	-8.2	-3.1	26.0	29.1
	HT/VHT40, M0 to M7	1	10	1.5			1.5	26.0	24.5
	HT/VHT40, M0 to M7	2	10	-4.9	-4.0		-1.4	26.0	27.4
5795	HT/VHT40, M8 to M15	2	10	-4.9	-4.0		-1.4	26.0	27.4
2i	HT/VHT40, M0 to M7	3	10	-6.6	-6.4	-6.6	-1.8	26.0	27.8
	HT/VHT40, M8 to M15	3	10	-6.6	-6.4	-6.6	-1.8	26.0	27.8
	HT/VHT40 Beam Forming, M0 to M7	2	10	-4.9	-4.0		-1.4	26.0	27.4
	HT/VHT40 Beam Forming, M8 to M15	2	10	-4.9	-4.0		-1.4	26.0	27.4
	HT/VHT40 Beam Forming, M0 to M7	3	13	-9.4	-9.0	-9.3	-4.5	23.0	27.5
		•	10	0.7	0.0	0.0	7.0	20.0	21.0

Page No: 44 of 92

HT/VHT40 Beam Forming, M8 to M15	3	10	-6.6	-6.4	-6.6	-1.8	26.0	27.8
HT/VHT40 STBC, M0 to M7	2	10	-4.9	-4.0		-1.4	26.0	27.4
HT/VHT40 STBC, M0 to M7	3	10	-6.6	-6.4	-6.6	-1.8	26.0	27.8
Non HT20, 6 to 54 Mbps	1	10	3.3			3.3	26.0	22.7
Non HT20, 6 to 54 Mbps	2	10	-2.6	-2.1		0.7	26.0	25.3
Non HT20, 6 to 54 Mbps	3	10	-3.3	-3.4	-3.8	1.3	26.0	24.7
Non HT20 Beam Forming, 6 to 54 Mbps	2	10	-2.6	-2.1		0.7	26.0	25.3
Non HT20 Beam Forming, 6 to 54 Mbps	3	13	-5.4	-4.9	-6.0	-0.6	23.0	23.6
HT/VHT20, M0 to M7	1	10	3.2			3.2	26.0	22.8
HT/VHT20, M0 to M7	2	10	-2.4	-2.0		0.8	26.0	25.2
HT/VHT20, M8 to M15	2	10	-2.4	-2.0		0.8	26.0	25.2
HT/VHT20, M0 to M7	3	10	-3.7	-3.3	-4.1	1.1	26.0	24.9
HT/VHT20, M8 to M15	3	10	-3.7	-3.3	-4.1	1.1	26.0	24.9
HT/VHT20 Beam Forming, M0 to M7	2	10	-2.4	-2.0		0.8	26.0	25.2
HT/VHT20 Beam Forming, M8 to M15	2	10	-2.4	-2.0		0.8	26.0	25.2
HT/VHT20 Beam Forming, M0 to M7	3	13	-5.4	-5.3	-5.9	-0.8	23.0	23.8
HT/VHT20 Beam Forming, M8 to M15	3	10	-3.7	-3.3	-4.1	1.1	26.0	24.9
HT/VHT20 STBC, M0 to M7	2	10	-2.4	-2.0		0.8	26.0	25.2
HT/VHT20 STBC, M0 to M7	3	10	-3.7	-3.3	-4.1	1.1	26.0	24.9
	HT/VHT40 STBC, M0 to M7 HT/VHT40 STBC, M0 to M7 Non HT20, 6 to 54 Mbps Non HT20, 6 to 54 Mbps Non HT20, 6 to 54 Mbps Non HT20 Beam Forming, 6 to 54 Mbps Non HT20 Beam Forming, 6 to 54 Mbps HT/VHT20, M0 to M7 HT/VHT20, M0 to M7 HT/VHT20, M0 to M7 HT/VHT20, M8 to M15 HT/VHT20, M8 to M15 HT/VHT20 Beam Forming, M0 to M7 HT/VHT20 Beam Forming, M8 to M15 HT/VHT20 STBC, M0 to M7	HT/VHT40 STBC, M0 to M7 2 HT/VHT40 STBC, M0 to M7 3 Non HT20, 6 to 54 Mbps 1 Non HT20, 6 to 54 Mbps 2 Non HT20, 6 to 54 Mbps 3 Non HT20, 6 to 54 Mbps 3 Non HT20 Beam Forming, 6 to 54 Mbps 2 Non HT20 Beam Forming, 6 to 54 Mbps 3 Non HT20 Beam Forming, 6 to 54 Mbps 3 HT/VHT20, M0 to M7 1 HT/VHT20, M0 to M7 2 HT/VHT20, M0 to M7 2 HT/VHT20, M8 to M15 3 HT/VHT20, M8 to M15 3 HT/VHT20 Beam Forming, M0 to M7 2 HT/VHT20 Beam Forming, M0 to M7 3 HT/VHT20 Beam Forming, M8 to M15 2 HT/VHT20 Beam Forming, M8 to M15 3 HT/VHT20 Beam Forming, M8 to M15 3 HT/VHT20 Beam Forming, M8 to M15 3 HT/VHT20 STBC, M0 to M7 3	HT/VHT40 STBC, M0 to M7 2 10 HT/VHT40 STBC, M0 to M7 3 10 Non HT20, 6 to 54 Mbps 1 10 Non HT20, 6 to 54 Mbps 2 10 Non HT20, 6 to 54 Mbps 2 10 Non HT20, 6 to 54 Mbps 2 10 Non HT20, 6 to 54 Mbps 3 10 Non HT20 Beam Forming, 6 to 54 Mbps 3 13 HT/VHT20 Beam Forming, 6 to 54 Mbps 3 13 HT/VHT20, M0 to M7 1 10 HT/VHT20, M0 to M7 2 10 HT/VHT20, M0 to M7 3 10 HT/VHT20, M8 to M15 3 10 HT/VHT20 Beam Forming, M0 to M7 3 13 HT/VHT20 Beam Forming, M8 to M15 3 10 HT/VHT20 Beam Forming, M8 to M15 3 10 HT/VHT20 Beam Forming, M8 to M15 3 10 HT/VHT20 STBC, M0 to M7 3 13 HT/VHT20 STBC, M0 to M7 2 </td <td>HT/VHT40 STBC, M0 to M7210-4.9HT/VHT40 STBC, M0 to M7310-6.6Non HT20, 6 to 54 Mbps1103.3Non HT20, 6 to 54 Mbps210-2.6Non HT20, 6 to 54 Mbps310-3.3Non HT20 Beam Forming, 6 to 54 Mbps210-2.6Non HT20 Beam Forming, 6 to 54 Mbps313-5.4HT/VHT20, M0 to M71103.2HT/VHT20, M0 to M7210-2.4HT/VHT20, M0 to M7310-3.7HT/VHT20, M8 to M15310-3.7HT/VHT20 Beam Forming, M0 to M7210-2.4HT/VHT20 Beam Forming, M0 to M7313-5.4HT/VHT20 Beam Forming, M0 to M7310-3.7HT/VHT20 Beam Forming, M0 to M7310-3.7HT/VHT20 Beam Forming, M8 to M15210-2.4HT/VHT20 Beam Forming, M8 to M15310-3.7HT/VHT20 STBC, M0 to M7210-2.4</td> <td>HT/VHT40 STBC, M0 to M7210-4.9-4.0HT/VHT40 STBC, M0 to M7310-6.6-6.4Non HT20, 6 to 54 Mbps1103.3-Non HT20, 6 to 54 Mbps210-2.6-2.1Non HT20, 6 to 54 Mbps310-3.3-3.4Non HT20 Beam Forming, 6 to 54 Mbps210-2.6-2.1Non HT20 Beam Forming, 6 to 54 Mbps313-5.4-4.9HT/VHT20, M0 to M71103.2-HT/VHT20, M0 to M7210-2.4-2.0HT/VHT20, M0 to M7310-3.7-3.3HT/VHT20, M8 to M15310-3.7-3.3HT/VHT20 Beam Forming, M0 to M7210-2.4-2.0HT/VHT20 Beam Forming, M0 to M7210-2.4-2.0HT/VHT20 Beam Forming, M8 to M15210-2.4-2.0HT/VHT20 Beam Forming, M8 to M15313-5.4-5.3HT/VHT20 STBC, M0 to M7313-5.4-5.3HT/VHT20 STBC, M0 to M7210-2.4-2.0</td> <td>HT/VHT40 STBC, M0 to M7210-4.9-4.0HT/VHT40 STBC, M0 to M7310-6.6-6.4-6.6Non HT20, 6 to 54 Mbps1103.3210-2.6-2.1Non HT20, 6 to 54 Mbps210-2.6-2.1-3.3-3.4-3.8Non HT20 Beam Forming, 6 to 54 Mbps210-2.6-2.1-2.6-2.1Non HT20 Beam Forming, 6 to 54 Mbps313-5.4-4.9-6.0HT/VHT20, M0 to M71103.2-4.1-4.9-6.0HT/VHT20, M0 to M7210-2.4-2.0-2.1-2.0HT/VHT20, M0 to M7310-3.7-3.3-4.1HT/VHT20, M8 to M15310-3.7-3.3-4.1HT/VHT20 Beam Forming, M0 to M7210-2.4-2.0HT/VHT20 Beam Forming, M0 to M7313-5.4-5.3-5.9HT/VHT20 Beam Forming, M8 to M15310-3.7-3.3-4.1HT/VHT20 STBC, M0 to M7313-5.4-5.3-5.9HT/VHT20 STBC, M0 to M7210-2.4-2.0-2.0</td> <td>HT/VHT40 STBC, M0 to M7210-4.9-4.0-1.4HT/VHT40 STBC, M0 to M7310-6.6-6.4-6.6-1.8Non HT20, 6 to 54 Mbps1103.33.3Non HT20, 6 to 54 Mbps210-2.6-2.10.7Non HT20, 6 to 54 Mbps310-3.3-3.4-3.81.3Non HT20, 6 to 54 Mbps310-2.6-2.10.7Non HT20 Beam Forming, 6 to 54 Mbps210-2.6-2.10.7Non HT20 Beam Forming, 6 to 54 Mbps313-5.4-4.9-6.0-0.6HT/VHT20, M0 to M71103.23.23.2HT/VHT20, M0 to M7210-2.4-2.00.8HT/VHT20, M0 to M7310-3.7-3.3-4.11.1HT/VHT20, M8 to M15310-3.7-3.3-4.11.1HT/VHT20 Beam Forming, M0 to M7210-2.4-2.00.8HT/VHT20 Beam Forming, M0 to M7313-5.4-5.3-5.9-0.8HT/VHT20 Beam Forming, M0 to M7313-5.4-5.3-5.9-0.8HT/VHT20 Beam Forming, M0 to M7313-5.4-5.3-5.9-0.8HT/VHT20 Beam Forming, M8 to M15310-3.7-3.3-4.11.1HT/VHT20 Beam Forming, M8 to M15310-3.7-3.3-4.11.1HT/VHT20 Beam Forming, M8 to M15310<</td> <td>HT/VHT40 STBC, M0 to M7210-4.9-4.0-1.426.0HT/VHT40 STBC, M0 to M7310-6.6-6.4-6.6-1.826.0Non HT20, 6 to 54 Mbps210-2.6-2.10.726.0Non HT20, 6 to 54 Mbps310-3.3-3.4-3.81.326.0Non HT20, 6 to 54 Mbps210-2.6-2.10.726.0Non HT20, 6 to 54 Mbps310-3.3-3.4-3.81.326.0Non HT20 Beam Forming, 6 to 54 Mbps210-2.6-2.10.726.0Non HT20 Beam Forming, 6 to 54 Mbps313-5.4-4.9-6.0-0.623.0HT/VHT20, M0 to M71103.23.226.0HT/VHT20, M0 to M7210-2.4-2.00.826.0HT/VHT20, M0 to M7310-3.7-3.3-4.11.126.0HT/VHT20, M8 to M15310-3.7-3.3-4.11.126.0HT/VHT20 Beam Forming, M0 to M7210-2.4-2.00.826.0HT/VHT20 Beam Forming, M0 to M7313-5.4-5.3-5.9-0.823.0HT/VHT20 Beam Forming, M0 to M7313-5.4-5.3-5.9-0.826.0HT/VHT20 Beam Forming, M8 to M15310-3.7-3.3-4.11.126.0HT/VHT20 Beam Forming, M8 to M15310-3.7-3.3<</td>	HT/VHT40 STBC, M0 to M7210-4.9HT/VHT40 STBC, M0 to M7310-6.6Non HT20, 6 to 54 Mbps1103.3Non HT20, 6 to 54 Mbps210-2.6Non HT20, 6 to 54 Mbps310-3.3Non HT20 Beam Forming, 6 to 54 Mbps210-2.6Non HT20 Beam Forming, 6 to 54 Mbps313-5.4HT/VHT20, M0 to M71103.2HT/VHT20, M0 to M7210-2.4HT/VHT20, M0 to M7310-3.7HT/VHT20, M8 to M15310-3.7HT/VHT20 Beam Forming, M0 to M7210-2.4HT/VHT20 Beam Forming, M0 to M7313-5.4HT/VHT20 Beam Forming, M0 to M7310-3.7HT/VHT20 Beam Forming, M0 to M7310-3.7HT/VHT20 Beam Forming, M8 to M15210-2.4HT/VHT20 Beam Forming, M8 to M15310-3.7HT/VHT20 STBC, M0 to M7210-2.4	HT/VHT40 STBC, M0 to M7210-4.9-4.0HT/VHT40 STBC, M0 to M7310-6.6-6.4Non HT20, 6 to 54 Mbps1103.3-Non HT20, 6 to 54 Mbps210-2.6-2.1Non HT20, 6 to 54 Mbps310-3.3-3.4Non HT20 Beam Forming, 6 to 54 Mbps210-2.6-2.1Non HT20 Beam Forming, 6 to 54 Mbps313-5.4-4.9HT/VHT20, M0 to M71103.2-HT/VHT20, M0 to M7210-2.4-2.0HT/VHT20, M0 to M7310-3.7-3.3HT/VHT20, M8 to M15310-3.7-3.3HT/VHT20 Beam Forming, M0 to M7210-2.4-2.0HT/VHT20 Beam Forming, M0 to M7210-2.4-2.0HT/VHT20 Beam Forming, M8 to M15210-2.4-2.0HT/VHT20 Beam Forming, M8 to M15313-5.4-5.3HT/VHT20 STBC, M0 to M7313-5.4-5.3HT/VHT20 STBC, M0 to M7210-2.4-2.0	HT/VHT40 STBC, M0 to M7210-4.9-4.0HT/VHT40 STBC, M0 to M7310-6.6-6.4-6.6Non HT20, 6 to 54 Mbps1103.3210-2.6-2.1Non HT20, 6 to 54 Mbps210-2.6-2.1-3.3-3.4-3.8Non HT20 Beam Forming, 6 to 54 Mbps210-2.6-2.1-2.6-2.1Non HT20 Beam Forming, 6 to 54 Mbps313-5.4-4.9-6.0HT/VHT20, M0 to M71103.2-4.1-4.9-6.0HT/VHT20, M0 to M7210-2.4-2.0-2.1-2.0HT/VHT20, M0 to M7310-3.7-3.3-4.1HT/VHT20, M8 to M15310-3.7-3.3-4.1HT/VHT20 Beam Forming, M0 to M7210-2.4-2.0HT/VHT20 Beam Forming, M0 to M7313-5.4-5.3-5.9HT/VHT20 Beam Forming, M8 to M15310-3.7-3.3-4.1HT/VHT20 STBC, M0 to M7313-5.4-5.3-5.9HT/VHT20 STBC, M0 to M7210-2.4-2.0-2.0	HT/VHT40 STBC, M0 to M7210-4.9-4.0-1.4HT/VHT40 STBC, M0 to M7310-6.6-6.4-6.6-1.8Non HT20, 6 to 54 Mbps1103.33.3Non HT20, 6 to 54 Mbps210-2.6-2.10.7Non HT20, 6 to 54 Mbps310-3.3-3.4-3.81.3Non HT20, 6 to 54 Mbps310-2.6-2.10.7Non HT20 Beam Forming, 6 to 54 Mbps210-2.6-2.10.7Non HT20 Beam Forming, 6 to 54 Mbps313-5.4-4.9-6.0-0.6HT/VHT20, M0 to M71103.23.23.2HT/VHT20, M0 to M7210-2.4-2.00.8HT/VHT20, M0 to M7310-3.7-3.3-4.11.1HT/VHT20, M8 to M15310-3.7-3.3-4.11.1HT/VHT20 Beam Forming, M0 to M7210-2.4-2.00.8HT/VHT20 Beam Forming, M0 to M7313-5.4-5.3-5.9-0.8HT/VHT20 Beam Forming, M0 to M7313-5.4-5.3-5.9-0.8HT/VHT20 Beam Forming, M0 to M7313-5.4-5.3-5.9-0.8HT/VHT20 Beam Forming, M8 to M15310-3.7-3.3-4.11.1HT/VHT20 Beam Forming, M8 to M15310-3.7-3.3-4.11.1HT/VHT20 Beam Forming, M8 to M15310<	HT/VHT40 STBC, M0 to M7210-4.9-4.0-1.426.0HT/VHT40 STBC, M0 to M7310-6.6-6.4-6.6-1.826.0Non HT20, 6 to 54 Mbps210-2.6-2.10.726.0Non HT20, 6 to 54 Mbps310-3.3-3.4-3.81.326.0Non HT20, 6 to 54 Mbps210-2.6-2.10.726.0Non HT20, 6 to 54 Mbps310-3.3-3.4-3.81.326.0Non HT20 Beam Forming, 6 to 54 Mbps210-2.6-2.10.726.0Non HT20 Beam Forming, 6 to 54 Mbps313-5.4-4.9-6.0-0.623.0HT/VHT20, M0 to M71103.23.226.0HT/VHT20, M0 to M7210-2.4-2.00.826.0HT/VHT20, M0 to M7310-3.7-3.3-4.11.126.0HT/VHT20, M8 to M15310-3.7-3.3-4.11.126.0HT/VHT20 Beam Forming, M0 to M7210-2.4-2.00.826.0HT/VHT20 Beam Forming, M0 to M7313-5.4-5.3-5.9-0.823.0HT/VHT20 Beam Forming, M0 to M7313-5.4-5.3-5.9-0.826.0HT/VHT20 Beam Forming, M8 to M15310-3.7-3.3-4.11.126.0HT/VHT20 Beam Forming, M8 to M15310-3.7-3.3<

Page No: 45 of 92

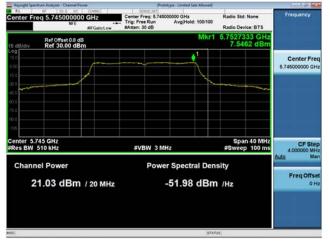
Power Spectral Density, 5745 MHz, Non HT20, 6 to 54 Mbps



weiselbut sheeps	rum Analyzer - Charin	DC CORREC			(12) Los ADOWED			Testast.
Center Freq 5 745000000 GHz				z: 5.745000000 G Run Avg	Hz Hold: 100/100	Radio St Radio De	d: None wice: BTS	Frequency
10 dB/div	Ref Offset 0.8 Ref 30.00	8 dB dBm			Mkr1		333 GHz 196 dBm	
201.0 201.0 10.0			1		-			Center Fre 5.745000000 GH
2011					X			
420	*******					ad beiges the	m	
Center 5.745 GHz #Res BW 510 kHz		#VBV	V 3 MHz			an 40 MHz p 100 ms	CF Ste 4.000000 MI Auto M	
Channel Power 20.29 dBm / 20 MHz				Power Spe	ctral Den	sity		
					Freq Offs 0			
50					STAT	29		

Antenna B

Antenna A



Antenna C

Page No: 46 of 92

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 v01r03

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 v01r03 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 v01r03

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 for Peak, 1kHz for Average
Sweep = Auto couple
Detector = Peak
Trace = Max Hold.

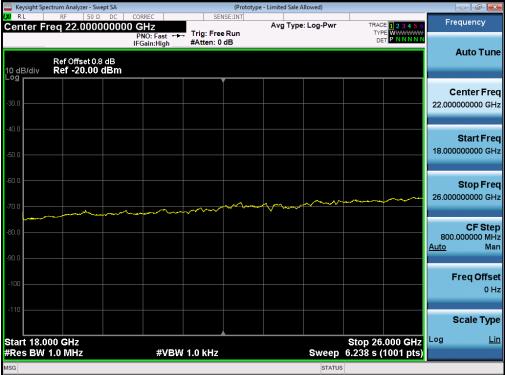
Page No: 47 of 92

	ystem lumber	Description	Samples	System under test	Support equipment
	1	EUT	S01	X	
1	I	Support	S02		\checkmark

Tested By :	Date of testing:
Jose Aguirre	20-April-16 - 08-Aug-16
Test Result : PASS	

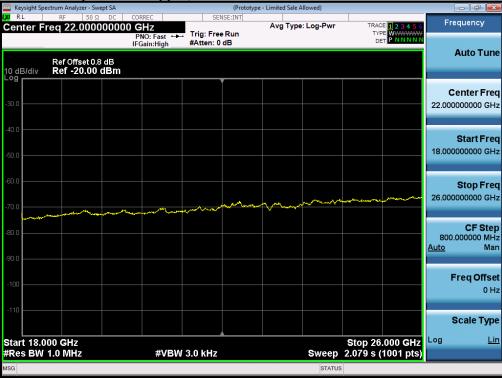
See Appendix C for list of test equipment

Page No: 48 of 92



Conducted Spurs Average Upper, All Antennas

Conducted Spurs Peak Upper, All Antennas



Page No: 49 of 92

dudu cisco

Conducted Spurious Emission results below represent the worst case for all antenna gain

Frequency (MHz)	Mode	Tx Paths	Correlated Antenna Gain (dBi)	Tx 1 Spur Power (dBm)	Tx 2 Spur Power (dBm)	Tx 3 Spur Power (dBm)	Total Conducted Spur (dBm)	Limit (dBm)	Margin (dB)
	Non HT20, 6 to 54 Mbps	1	10	-71.3			-61.3	-41.25	20.1
	Non HT20, 6 to 54 Mbps	2	10	-72.4	-72.9		-59.6	-41.25	18.4
	Non HT20, 6 to 54 Mbps	3	10	-72.7	-72.9	-66.8	-55.0	-41.25	13.8
	Non HT20 Beam Forming, 6 to 54 Mbps	2	10	-72.4	-72.9		-59.6	-41.25	18.4
	Non HT20 Beam Forming, 6 to 54 Mbps	3	13	-73.3	-74.0	-70.6	-54.6	-41.25	13.4
	HT/VHT20, M0 to M7	1	10	-52.9			-42.9	-41.25	1.7
	HT/VHT20, M0 to M7	2	10	-73.4	-52.4		-42.4	-41.25	1.1
5745	HT/VHT20, M8 to M15	2	10	-73.4	-52.4		-42.4	-41.25	1.1
57.	HT/VHT20, M0 to M7	3	10	-73.2	-54.6	-54.5	-41.5	-41.25	0.3
	HT/VHT20, M8 to M15	3	10	-73.2	-54.6	-54.5	-41.5	-41.25	0.3
	HT/VHT20 Beam Forming, M0 to M7	2	10	-73.4	-52.4		-42.4	-41.25	1.1
	HT/VHT20 Beam Forming, M8 to M15	2	10	-73.4	-52.4		-42.4	-41.25	1.1
	HT/VHT20 Beam Forming, M0 to M7	3	13	-74.0	-73.7	-55.0	-41.9	-41.25	0.6
	HT/VHT20 Beam Forming, M8 to M15	3	10	-73.2	-54.6	-54.5	-41.5	-41.25	0.3
	HT/VHT20 STBC, M0 to M7	2	10	-73.4	-52.4		-42.4	-41.25	1.1
	HT/VHT20 STBC, M0 to M7	3	10	-73.2	-54.6	-54.5	-41.5	-41.25	0.3
	Non HT40, 6 to 54 Mbps	1	10	-52.3			-42.3	-41.25	1.1
	Non HT40, 6 to 54 Mbps	2	10	-70.0	-70.0		-57.0	-41.25	15.7
	Non HT40, 6 to 54 Mbps	3	10	-71.8	-70.1	-53.9	-43.7	-41.25	2.5
	HT/VHT40, M0 to M7	1	10	-52.7			-42.7	-41.25	1.5
	HT/VHT40, M0 to M7	2	10	-71.6	-51.9		-41.9	-41.25	0.6
	HT/VHT40, M8 to M15	2	10	-71.6	-51.9		-41.9	-41.25	0.6
55	HT/VHT40, M0 to M7	3	10	-73.6	-74.3	-54.6	-44.5	-41.25	3.2
57	HT/VHT40, M8 to M15	3	10	-73.6	-74.3	-54.6	-44.5	-41.25	3.2
	HT/VHT40 Beam Forming, M0 to M7	2	10	-71.6	-51.9		-41.9	-41.25	0.6
	HT/VHT40 Beam Forming, M8 to M15	2	10	-71.6	-51.9		-41.9	-41.25	0.6
	HT/VHT40 Beam Forming, M0 to M7	3	13	-73.6	-74.3	-54.6	-41.5	-41.25	0.2
	HT/VHT40 Beam Forming, M8 to M15	3	10	-73.6	-74.3	-54.6	-44.5	-41.25	3.2
	HT/VHT40 STBC, M0 to M7	2	10	-71.6	-51.9		-41.9	-41.25	0.6
	HT/VHT40 STBC, M0 to M7	3	10	-73.6	-74.3	-54.6	-44.5	-41.25	3.2

Page No: 50 of 92

	Non LITRO, 6 to 54 Mbro	4	10	50.0			40.0	44.05	4.4
	Non HT80, 6 to 54 Mbps	1	10	-52.3	-70.1		-42.3	-41.25	1.1
	Non HT80, 6 to 54 Mbps	2	10	-71.5		55.0	-57.7	-41.25	16.5
	Non HT80, 6 to 54 Mbps	3	10	-71.5	-72.3	-55.8	-45.6	-41.25	4.3
	VHT80, M0 to M9 1ss	1	10	-52.0	54.0		-42.0	-41.25	0.8
	VHT80, M0 to M9 1ss	2	10	-74.3	-51.8		-41.8	-41.25	0.5
	VHT80, M0 to M9 2ss	2	10	-74.3	-51.8	= 1 0	-41.8	-41.25	0.5
5775	VHT80, M0 to M9 1ss	3	10	-73.0	-74.4	-54.6	-44.5	-41.25	3.2
2i	VHT80, M0 to M9 2ss	3	10	-73.0	-74.4	-54.6	-44.5	-41.25	3.2
	VHT80 Beam Forming, M0 to M9 1ss	2	10	-74.3	-51.8		-41.8	-41.25	0.5
	VHT80 Beam Forming, M0 to M9 2ss	2	10	-74.3	-51.8		-41.8	-41.25	0.5
	VHT80 Beam Forming, M0 to M9 1ss	3	13	-73.0	-74.4	-54.6	-41.5	-41.25	0.2
	VHT80 Beam Forming, M0 to M9 2ss	3	10	-73.0	-74.4	-54.6	-44.5	-41.25	3.2
	VHT80 STBC, M0 to M9 1ss	2	10	-74.3	-51.8		-41.8	-41.25	0.5
	VHT80 STBC, M0 to M9 1ss	3	10	-73.0	-74.4	-54.6	-44.5	-41.25	3.2
	Non HT20, 6 to 54 Mbps	1	10	-51.4			-41.4	-41.25	0.2
	Non HT20, 6 to 54 Mbps	2	10	-57.5	-54.2		-42.5	-41.25	1.3
	Non HT20, 6 to 54 Mbps	3	10	-58.5	-58.2	-58.2	-43.5	-41.25	2.3
	Non HT20 Beam Forming, 6 to 54 Mbps	2	10	-57.5	-54.2		-42.5	-41.25	1.3
	Non HT20 Beam Forming, 6 to 54 Mbps	3	13	-59.5	-58.9	-59.4	-41.5	-41.25	0.2
	HT/VHT20, M0 to M7	1	10	-51.4			-41.4	-41.25	0.2
	HT/VHT20, M0 to M7	2	10	-57.3	-54.1		-42.4	-41.25	1.2
5785	HT/VHT20, M8 to M15	2	10	-57.3	-54.1		-42.4	-41.25	1.2
57	HT/VHT20, M0 to M7	3	10	-58.5	-57.4	-58.0	-43.2	-41.25	1.9
	HT/VHT20, M8 to M15	3	10	-58.5	-57.4	-58.0	-43.2	-41.25	1.9
	HT/VHT20 Beam Forming, M0 to M7	2	10	-57.3	-54.1		-42.4	-41.25	1.2
	HT/VHT20 Beam Forming, M8 to M15	2	10	-57.3	-54.1		-42.4	-41.25	1.2
	HT/VHT20 Beam Forming, M0 to M7	3	13	-59.8	-73.4	-59.9	-43.7	-41.25	2.5
	HT/VHT20 Beam Forming, M8 to M15	3	10	-58.5	-57.4	-58.0	-43.2	-41.25	1.9
	HT/VHT20 STBC, M0 to M7	2	10	-57.3	-54.1		-42.4	-41.25	1.2
	HT/VHT20 STBC, M0 to M7	3	10	-58.5	-57.4	-58.0	-43.2	-41.25	1.9
	Non HT40, 6 to 54 Mbps	1	10	-51.8			-41.8	-41.25	0.5
	Non HT40, 6 to 54 Mbps	2	10	-58.2	-54.6		-43.0	-41.25	1.8
	Non HT40, 6 to 54 Mbps	3	10	-59.1	-59.3	-59.9	-44.6	-41.25	3.4
	HT/VHT40, M0 to M7	1	10	-51.8			-41.8	-41.25	0.5
	HT/VHT40, M0 to M7	2	10	-57.8	-54.4		-42.8	-41.25	1.5
5795	HT/VHT40, M8 to M15	2	10	-57.8	-54.4		-42.8	-41.25	1.5
5	HT/VHT40, M0 to M7	3	10	-58.7	-57.3	-57.8	-43.1	-41.25	1.9
	HT/VHT40, M8 to M15	3	10	-58.7	-57.3	-57.8	-43.1	-41.25	1.9
	HT/VHT40 Beam Forming, M0 to M7	2	10	-57.8	-54.4		-42.8	-41.25	1.5
	HT/VHT40 Beam Forming, M8 to M15	2	10	-57.8	-54.4		-42.8	-41.25	1.5
	HT/VHT40 Beam Forming, M0 to M7	3	13	-59.3	-59.5	-60.6	-42.0	-41.25	0.7
		<u> </u>	. 🗸	00.0	00.0	00.0			.

Page No: 51 of 92

HT/VHT40 Beam Forming, M8 to M15	3	10	-58.7	-57.3	-57.8	-43.1	-41.25	1.9
HT/VHT40 STBC, M0 to M7	2	10	-57.8	-54.4		-42.8	-41.25	1.5
HT/VHT40 STBC, M0 to M7	3	10	-58.7	-57.3	-57.8	-43.1	-41.25	1.9
Non HT20, 6 to 54 Mbps	1	10	-51.6			-41.6	-41.25	0.4
Non HT20, 6 to 54 Mbps	2	10	-57.6	-54.6		-42.8	-41.25	1.6
Non HT20, 6 to 54 Mbps	3	10	-57.9	-57.3	-58.8	-43.2	-41.25	1.9
Non HT20 Beam Forming, 6 to 54 Mbps	2	10	-57.6	-54.6		-42.8	-41.25	1.6
Non HT20 Beam Forming, 6 to 54 Mbps	3	13	-58.8	-58.6	-60.1	-41.3	-41.25	0.1
HT/VHT20, M0 to M7	1	10	-51.7			-41.7	-41.25	0.5
HT/VHT20, M0 to M7	2	10	-57.6	-54.6		-42.8	-41.25	1.6
HT/VHT20, M8 to M15	2	10	-57.6	-54.6		-42.8	-41.25	1.6
HT/VHT20, M0 to M7	3	10	-58.1	-57.5	-58.9	-43.4	-41.25	2.1
HT/VHT20, M8 to M15	3	10	-58.1	-57.5	-58.9	-43.4	-41.25	2.1
HT/VHT20 Beam Forming, M0 to M7	2	10	-57.6	-54.6		-42.8	-41.25	1.6
HT/VHT20 Beam Forming, M8 to M15	2	10	-57.6	-54.6		-42.8	-41.25	1.6
HT/VHT20 Beam Forming, M0 to M7	3	13	-58.8	-58.9	-60.2	-41.5	-41.25	0.2
HT/VHT20 Beam Forming, M8 to M15	3	10	-58.1	-57.5	-58.9	-43.4	-41.25	2.1
HT/VHT20 STBC, M0 to M7	2	10	-57.6	-54.6		-42.8	-41.25	1.6
HT/VHT20 STBC, M0 to M7	3	10	-58.1	-57.5	-58.9	-43.4	-41.25	2.1
	HT/VHT40 STBC, M0 to M7 HT/VHT40 STBC, M0 to M7 Non HT20, 6 to 54 Mbps Non HT20, 6 to 54 Mbps Non HT20, 6 to 54 Mbps Non HT20 Beam Forming, 6 to 54 Mbps Non HT20 Beam Forming, 6 to 54 Mbps HT/VHT20, M0 to M7 HT/VHT20, M0 to M7 HT/VHT20, M0 to M7 HT/VHT20, M8 to M15 HT/VHT20, M8 to M15 HT/VHT20 Beam Forming, M0 to M7 HT/VHT20 Beam Forming, M8 to M15 HT/VHT20 Beam Forming, M8 to M15 HT/VHT20 Beam Forming, M8 to M15 HT/VHT20 STBC, M0 to M7	HT/VHT40 STBC, M0 to M7 2 HT/VHT40 STBC, M0 to M7 3 Non HT20, 6 to 54 Mbps 1 Non HT20, 6 to 54 Mbps 2 Non HT20, 6 to 54 Mbps 3 Non HT20, 6 to 54 Mbps 3 Non HT20 Beam Forming, 6 to 54 Mbps 3 Non HT20 Beam Forming, 6 to 54 Mbps 2 Non HT20 Beam Forming, 6 to 54 Mbps 3 HT/VHT20, M0 to M7 1 HT/VHT20, M0 to M7 2 HT/VHT20, M0 to M7 2 HT/VHT20, M8 to M15 3 HT/VHT20, M8 to M15 3 HT/VHT20 Beam Forming, M0 to M7 2 HT/VHT20 Beam Forming, M0 to M7 3 HT/VHT20 Beam Forming, M8 to M15 3 HT/VHT20 Beam Forming, M8 to M15 3 HT/VHT20 Beam Forming, M8 to M15 3 HT/VHT20 STBC, M0 to M7 3 HT/VHT20 STBC, M0 to M7 2	HT/VHT40 STBC, M0 to M7 2 10 HT/VHT40 STBC, M0 to M7 3 10 Non HT20, 6 to 54 Mbps 1 10 Non HT20, 6 to 54 Mbps 2 10 Non HT20, 6 to 54 Mbps 3 10 Non HT20, 6 to 54 Mbps 2 10 Non HT20, 6 to 54 Mbps 3 10 Non HT20 Beam Forming, 6 to 54 Mbps 2 10 Non HT20 Beam Forming, 6 to 54 Mbps 3 13 HT/VHT20, M0 to M7 1 10 HT/VHT20, M0 to M7 2 10 HT/VHT20, M0 to M7 3 10 HT/VHT20, M8 to M15 2 10 HT/VHT20, M8 to M15 3 10 HT/VHT20 Beam Forming, M0 to M7 2 10 HT/VHT20 Beam Forming, M0 to M7 3 13 HT/VHT20 STBC, M0 to M7 3 10 HT/VHT20 STBC, M0 to M7 2 10	HT/VHT40 STBC, M0 to M7210-57.8HT/VHT40 STBC, M0 to M7310-58.7Non HT20, 6 to 54 Mbps110-51.6Non HT20, 6 to 54 Mbps210-57.6Non HT20, 6 to 54 Mbps310-57.9Non HT20 Beam Forming, 6 to 54 Mbps210-57.6Non HT20 Beam Forming, 6 to 54 Mbps210-57.6Non HT20 Beam Forming, 6 to 54 Mbps313-58.8HT/VHT20, M0 to M7110-51.7HT/VHT20, M0 to M7210-57.6HT/VHT20, M0 to M7310-58.1HT/VHT20, M8 to M15310-58.1HT/VHT20, M8 to M15310-58.1HT/VHT20 Beam Forming, M0 to M7210-57.6HT/VHT20 Beam Forming, M0 to M7313-58.8HT/VHT20 Beam Forming, M0 to M7313-58.8HT/VHT20 Beam Forming, M8 to M15310-58.1HT/VHT20 Beam Forming, M0 to M7313-58.8HT/VHT20 Beam Forming, M0 to M7310-58.1HT/VHT20 Beam Forming, M8 to M15310-58.1HT/VHT20 Beam Forming, M8 to M15310-58.1HT/VHT20 STBC, M0 to M7210-57.6	HT/VHT40 STBC, M0 to M7210-57.8-54.4HT/VHT40 STBC, M0 to M7310-58.7-57.3Non HT20, 6 to 54 Mbps110-51.6-Non HT20, 6 to 54 Mbps210-57.6-54.6Non HT20, 6 to 54 Mbps310-57.9-57.3Non HT20, 6 to 54 Mbps310-57.9-57.3Non HT20 Beam Forming, 6 to 54 Mbps313-58.8-58.6Non HT20 Beam Forming, 6 to 54 Mbps313-58.8-58.6HT/VHT20, M0 to M7110-51.7-HT/VHT20, M0 to M7210-57.6-54.6HT/VHT20, M0 to M7210-57.6-54.6HT/VHT20, M8 to M15310-58.1-57.5HT/VHT20, M8 to M15310-58.1-57.5HT/VHT20 Beam Forming, M0 to M7210-57.6-54.6HT/VHT20 Beam Forming, M8 to M15210-57.6-54.6HT/VHT20 Beam Forming, M8 to M15313-58.8-58.9HT/VHT20 Beam Forming, M8 to M15310-58.1-57.5HT/VHT20 Beam Forming, M8 to M15310-58.1-57.5HT/VHT20 STBC, M0 to M7210-57.6-54.6HT/VHT20 STBC, M0 to M7210-57.6-54.6HT/VHT20 STBC, M0 to M7210-57.6-54.6	HT/VHT40 STBC, M0 to M7210-57.8-54.4HT/VHT40 STBC, M0 to M7310-58.7-57.3-57.8Non HT20, 6 to 54 Mbps110-51.6Non HT20, 6 to 54 Mbps210-57.6-54.6Non HT20, 6 to 54 Mbps310-57.9-57.3-58.8Non HT20 Beam Forming, 6 to 54 Mbps210-57.6-54.6Non HT20 Beam Forming, 6 to 54 Mbps313-58.8-60.1HT/VHT20, M0 to M7110-51.7HT/VHT20, M0 to M7210-57.6-54.6HT/VHT20, M0 to M7310-58.1-57.5-58.9HT/VHT20, M0 to M7310-58.1-57.5-58.9HT/VHT20, M8 to M15310-57.6-54.6HT/VHT20 Beam Forming, M0 to M7210-57.6-54.6HT/VHT20 Beam Forming, M0 to M7210-57.6-54.6HT/VHT20 Beam Forming, M0 to M7313-58.8-58.9HT/VHT20 Beam Forming, M0 to M7313-58.8-58.9HT/VHT20 Beam Forming, M0 to M7313-58.8-58.9HT/VHT20 Beam Forming, M8 to M15310-58.1-57.5-58.9HT/VHT20 STBC, M0 to M7210-57.6-54.6HT/VHT20 STBC, M0 to M7210-57.6-54.6HT/VHT20 STBC, M0 to M7210 <td< td=""><td>HT/VHT40 STBC, M0 to M7210-57.8-54.4-42.8HT/VHT40 STBC, M0 to M7310-58.7-57.3-57.8-43.1Non HT20, 6 to 54 Mbps110-51.6-41.6Non HT20, 6 to 54 Mbps210-57.6-54.6-42.8Non HT20, 6 to 54 Mbps310-57.9-57.3-58.8-43.2Non HT20 Beam Forming, 6 to 54 Mbps210-57.6-54.6-42.8Non HT20 Beam Forming, 6 to 54 Mbps313-58.8-58.6-60.1-41.3HT/VHT20, M0 to M7110-51.7-41.7HT/VHT20, M0 to M7210-57.6-54.6-42.8HT/VHT20, M0 to M7110-51.7-41.7HT/VHT20, M0 to M7210-57.6-54.6-42.8HT/VHT20, M0 to M7310-58.1-57.5-58.9-43.4HT/VHT20, M8 to M15310-58.1-57.5-58.9-43.4HT/VHT20 Beam Forming, M0 to M7210-57.6-54.6-42.8HT/VHT20 Beam Forming, M0 to M7313-58.8-58.9-60.2-41.5HT/VHT20 Beam Forming, M0 to M7313-58.8-58.9-60.2-41.5HT/VHT20 Beam Forming, M8 to M15310-58.1-57.5-58.9-43.4HT/VHT20 STBC, M0 to M7210-57.6-54.6-42.8HT/VHT20 STBC, M0 to M72<td>HT/VHT40 STBC, M0 to M7210-57.8-54.4-42.8-41.25HT/VHT40 STBC, M0 to M7310-58.7-57.3-57.8-43.1-41.25Non HT20, 6 to 54 Mbps110-51.6M-41.6-41.25Non HT20, 6 to 54 Mbps210-57.6-54.6-42.8-41.25Non HT20, 6 to 54 Mbps310-57.9-57.3-58.8-43.2-41.25Non HT20 Beam Forming, 6 to 54 Mbps210-57.6-54.6-42.8-41.25Non HT20 Beam Forming, 6 to 54 Mbps313-58.8-58.6-60.1-41.3-41.25Non HT20 Beam Forming, 6 to 54 Mbps310-57.6-54.6-42.8-41.25Non HT20 Beam Forming, 6 to 54 Mbps310-51.7-41.4-41.25HT/VHT20, M0 to M7110-51.7-41.4-41.25HT/VHT20, M0 to M7210-57.6-54.6-42.8-41.25HT/VHT20, M0 to M7310-58.1-57.5-58.9-43.4-41.25HT/VHT20, M3 to M15310-58.1-57.5-58.9-43.4-41.25HT/VHT20 Beam Forming, M0 to M7210-57.6-54.6-42.8-41.25HT/VHT20 Beam Forming, M3 to M15210-57.6-54.6-42.8-41.25HT/VHT20 Beam Forming, M3 to M15310-58.1-57.5-58.9-43.4-41.25HT/VHT20 Beam Forming,</td></td></td<>	HT/VHT40 STBC, M0 to M7210-57.8-54.4-42.8HT/VHT40 STBC, M0 to M7310-58.7-57.3-57.8-43.1Non HT20, 6 to 54 Mbps110-51.6-41.6Non HT20, 6 to 54 Mbps210-57.6-54.6-42.8Non HT20, 6 to 54 Mbps310-57.9-57.3-58.8-43.2Non HT20 Beam Forming, 6 to 54 Mbps210-57.6-54.6-42.8Non HT20 Beam Forming, 6 to 54 Mbps313-58.8-58.6-60.1-41.3HT/VHT20, M0 to M7110-51.7-41.7HT/VHT20, M0 to M7210-57.6-54.6-42.8HT/VHT20, M0 to M7110-51.7-41.7HT/VHT20, M0 to M7210-57.6-54.6-42.8HT/VHT20, M0 to M7310-58.1-57.5-58.9-43.4HT/VHT20, M8 to M15310-58.1-57.5-58.9-43.4HT/VHT20 Beam Forming, M0 to M7210-57.6-54.6-42.8HT/VHT20 Beam Forming, M0 to M7313-58.8-58.9-60.2-41.5HT/VHT20 Beam Forming, M0 to M7313-58.8-58.9-60.2-41.5HT/VHT20 Beam Forming, M8 to M15310-58.1-57.5-58.9-43.4HT/VHT20 STBC, M0 to M7210-57.6-54.6-42.8HT/VHT20 STBC, M0 to M72 <td>HT/VHT40 STBC, M0 to M7210-57.8-54.4-42.8-41.25HT/VHT40 STBC, M0 to M7310-58.7-57.3-57.8-43.1-41.25Non HT20, 6 to 54 Mbps110-51.6M-41.6-41.25Non HT20, 6 to 54 Mbps210-57.6-54.6-42.8-41.25Non HT20, 6 to 54 Mbps310-57.9-57.3-58.8-43.2-41.25Non HT20 Beam Forming, 6 to 54 Mbps210-57.6-54.6-42.8-41.25Non HT20 Beam Forming, 6 to 54 Mbps313-58.8-58.6-60.1-41.3-41.25Non HT20 Beam Forming, 6 to 54 Mbps310-57.6-54.6-42.8-41.25Non HT20 Beam Forming, 6 to 54 Mbps310-51.7-41.4-41.25HT/VHT20, M0 to M7110-51.7-41.4-41.25HT/VHT20, M0 to M7210-57.6-54.6-42.8-41.25HT/VHT20, M0 to M7310-58.1-57.5-58.9-43.4-41.25HT/VHT20, M3 to M15310-58.1-57.5-58.9-43.4-41.25HT/VHT20 Beam Forming, M0 to M7210-57.6-54.6-42.8-41.25HT/VHT20 Beam Forming, M3 to M15210-57.6-54.6-42.8-41.25HT/VHT20 Beam Forming, M3 to M15310-58.1-57.5-58.9-43.4-41.25HT/VHT20 Beam Forming,</td>	HT/VHT40 STBC, M0 to M7210-57.8-54.4-42.8-41.25HT/VHT40 STBC, M0 to M7310-58.7-57.3-57.8-43.1-41.25Non HT20, 6 to 54 Mbps110-51.6M-41.6-41.25Non HT20, 6 to 54 Mbps210-57.6-54.6-42.8-41.25Non HT20, 6 to 54 Mbps310-57.9-57.3-58.8-43.2-41.25Non HT20 Beam Forming, 6 to 54 Mbps210-57.6-54.6-42.8-41.25Non HT20 Beam Forming, 6 to 54 Mbps313-58.8-58.6-60.1-41.3-41.25Non HT20 Beam Forming, 6 to 54 Mbps310-57.6-54.6-42.8-41.25Non HT20 Beam Forming, 6 to 54 Mbps310-51.7-41.4-41.25HT/VHT20, M0 to M7110-51.7-41.4-41.25HT/VHT20, M0 to M7210-57.6-54.6-42.8-41.25HT/VHT20, M0 to M7310-58.1-57.5-58.9-43.4-41.25HT/VHT20, M3 to M15310-58.1-57.5-58.9-43.4-41.25HT/VHT20 Beam Forming, M0 to M7210-57.6-54.6-42.8-41.25HT/VHT20 Beam Forming, M3 to M15210-57.6-54.6-42.8-41.25HT/VHT20 Beam Forming, M3 to M15310-58.1-57.5-58.9-43.4-41.25HT/VHT20 Beam Forming,

Page No: 52 of 92

This document is uncontrolled. Please refer to the electronic copy within EDCS for the most up to date version. Cisco Systems, Inc. Company Confidential

Conducted Spurs Average, 5825 MHz, Non HT20 Beam Forming, 6 to 54 Mbps





Antenna B



Antenna C

Page No: 53 of 92

						cisc	0
Tx Paths	Correlated Antenna Gain (dBi)	Tx 1 Spur Power (dBm)	Tx 2 Spur Power (dBm)	Tx 3 Spur Power (dBm)	Total Conducted Spur (dBm)	Limit (dBm)	Margin (dB)

Frequency (MHz)	Mode	Tx Paths	Correlated Antenna Gain (dBi)	Tx 1 Spur Power (dBm)	Tx 2 Spur Power (dBm)	Tx 3 Spur Power (dBm)	Total Conducted Spur (dBm)	Limit (dBm)	Margin (dB)
	Non HT20, 6 to 54 Mbps	1	10	-58.6			-48.6	-21.25	27.4
	Non HT20, 6 to 54 Mbps	2	10	-57.2	-38.4		-28.3	-21.25	7.1
	Non HT20, 6 to 54 Mbps	3	10	-59.3	-57.6	-58.3	-43.6	-21.25	22.3
	Non HT20 Beam Forming, 6 to 54 Mbps	2	10	-57.2	-38.4		-28.3	-21.25	7.1
	Non HT20 Beam Forming, 6 to 54 Mbps	3	13	-58.6	-41.7	-57.2	-28.5	-21.25	7.2
	HT/VHT20, M0 to M7	1	10	-55.0			-45.0	-21.25	23.8
	HT/VHT20, M0 to M7	2	10	-57.9	-42.1		-32.0	-21.25	10.7
5745	HT/VHT20, M8 to M15	2	10	-57.9	-42.1		-32.0	-21.25	10.7
57	HT/VHT20, M0 to M7	3	10	-58.5	-44.4	-58.1	-34.1	-21.25	12.8
	HT/VHT20, M8 to M15	3	10	-58.5	-44.4	-58.1	-34.1	-21.25	12.8
	HT/VHT20 Beam Forming, M0 to M7	2	10	-57.9	-42.1		-32.0	-21.25	10.7
	HT/VHT20 Beam Forming, M8 to M15	2	10	-57.9	-42.1		-32.0	-21.25	10.7
	HT/VHT20 Beam Forming, M0 to M7	3	13	-54.8	-45.8	-45.9	-29.6	-21.25	8.3
	HT/VHT20 Beam Forming, M8 to M15	3	10	-58.5	-44.4	-58.1	-34.1	-21.25	12.8
	HT/VHT20 STBC, M0 to M7	2	10	-57.9	-42.1		-32.0	-21.25	10.7
	HT/VHT20 STBC, M0 to M7	3	10	-58.5	-44.4	-58.1	-34.1	-21.25	12.8
	Non HT40, 6 to 54 Mbps	1	10	-59.2			-49.2	-21.25	28.0
	Non HT40, 6 to 54 Mbps	2	10	-56.8	-39.9		-29.8	-21.25	8.6
	Non HT40, 6 to 54 Mbps	3	10	-59.7	-59.0	-43.7	-33.5	-21.25	12.2
	HT/VHT40, M0 to M7	1	10	-57.8			-47.8	-21.25	26.6
	HT/VHT40, M0 to M7	2	10	-57.7	-42.5		-32.4	-21.25	11.1
	HT/VHT40, M8 to M15	2	10	-57.7	-42.5		-32.4	-21.25	11.1
755	HT/VHT40, M0 to M7	3	10	-58.4	-57.2	-60.0	-43.6	-21.25	22.4
57	HT/VHT40, M8 to M15	3	10	-58.4	-57.2	-60.0	-43.6	-21.25	22.4
	HT/VHT40 Beam Forming, M0 to M7	2	10	-57.7	-42.5		-32.4	-21.25	11.1
	HT/VHT40 Beam Forming, M8 to M15	2	10	-57.7	-42.5		-32.4	-21.25	11.1
	HT/VHT40 Beam Forming, M0 to M7	3	13	-58.4	-57.2	-60.0	-40.6	-21.25	19.4
	HT/VHT40 Beam Forming, M8 to M15	3	10	-58.4	-57.2	-60.0	-43.6	-21.25	22.4
	HT/VHT40 STBC, M0 to M7	2	10	-57.7	-42.5		-32.4	-21.25	11.1
	HT/VHT40 STBC, M0 to M7	3	10	-58.4	-57.2	-60.0	-43.6	-21.25	22.4

Page No: 54 of 92

	Non HT80, 6 to 54 Mbps	1	10	-58.4			-48.4	-21.25	27.2
	Non HT80, 6 to 54 Mbps	2	10	-59.9	-58.2		-46.0	-21.25	24.7
	Non HT80, 6 to 54 Mbps	3	10	-59.4	-59.4	-60.2	-44.9	-21.25	23.6
	VHT80, M0 to M9 1ss	1	10	-58.3			-48.3	-21.25	27.1
	VHT80, M0 to M9 1ss	2	10	-58.3	-42.5		-32.4	-21.25	11.1
	VHT80, M0 to M9 2ss	2	10	-58.3	-42.5		-32.4	-21.25	11.1
5775	VHT80, M0 to M9 1ss	3	10	-58.4	-58.0	-44.2	-33.9	-21.25	12.6
57	VHT80, M0 to M9 2ss	3	10	-58.4	-58.0	-44.2	-33.9	-21.25	12.6
	VHT80 Beam Forming, M0 to M9 1ss	2	10	-58.3	-42.5		-32.4	-21.25	11.1
	VHT80 Beam Forming, M0 to M9 2ss	2	10	-58.3	-42.5		-32.4	-21.25	11.1
	VHT80 Beam Forming, M0 to M9 1ss	3	13	-58.4	-58.0	-44.2	-30.9	-21.25	9.6
	VHT80 Beam Forming, M0 to M9 2ss	3	10	-58.4	-58.0	-44.2	-33.9	-21.25	12.6
	VHT80 STBC, M0 to M9 1ss	2	10	-58.3	-42.5		-32.4	-21.25	11.1
	VHT80 STBC, M0 to M9 1ss	3	10	-58.4	-58.0	-44.2	-33.9	-21.25	12.6
	Non HT20, 6 to 54 Mbps	1	10	-42.3			-32.3	-21.25	11.1
	Non HT20, 6 to 54 Mbps	2	10	-48.5	-44.1		-32.8	-21.25	11.5
	Non HT20, 6 to 54 Mbps	3	10	-48.0	-48.1	-49.1	-33.6	-21.25	12.4
	Non HT20 Beam Forming, 6 to 54 Mbps	2	10	-48.5	-44.1		-32.8	-21.25	11.5
	Non HT20 Beam Forming, 6 to 54 Mbps	3	13	-49.4	-49.2	-49.6	-31.6	-21.25	10.4
	HT/VHT20, M0 to M7	1	10	-39.3			-29.3	-21.25	8.1
	HT/VHT20, M0 to M7	2	10	-47.2	-44.7		-32.8	-21.25	11.5
35	HT/VHT20, M8 to M15	2	10	-47.2	-44.7		-32.8	-21.25	11.5
5785	HT/VHT20, M0 to M7	3	10	-48.5	-47.2	-48.2	-33.2	-21.25	11.9
	HT/VHT20, M8 to M15	3	10	-48.5	-47.2	-48.2	-33.2	-21.25	11.9
	HT/VHT20 Beam Forming, M0 to M7	2	10	-47.2	-44.7		-32.8	-21.25	11.5
	HT/VHT20 Beam Forming, M8 to M15	2	10	-47.2	-44.7		-32.8	-21.25	11.5
	HT/VHT20 Beam Forming, M0 to M7	3	13	-49.7	-49.8	-50.3	-32.2	-21.25	10.9
	HT/VHT20 Beam Forming, M8 to M15	3	10	-48.5	-47.2	-48.2	-33.2	-21.25	11.9
	HT/VHT20 STBC, M0 to M7	2	10	-47.2	-44.7		-32.8	-21.25	11.5
	HT/VHT20 STBC, M0 to M7		10	-48.5		-48.2			11.9
	Non HT40, 6 to 54 Mbps	1	10	-42.2			-32.2	-21.25	11.0
	Non HT40, 6 to 54 Mbps	2	10	-48.5	-45.9		-34.0	-21.25	12.7
	Non HT40, 6 to 54 Mbps	3	10	-49.7	-49.4	-50.9	-35.2	-21.25	13.9
	HT/VHT40, M0 to M7	1	10	-41.5			-31.5	-21.25	10.3
	HT/VHT40, M0 to M7	2	10	-48.8	-44.5		-33.1	-21.25	11.9
5795	HT/VHT40, M8 to M15	2	10	-48.8	-44.5		-33.1	-21.25	11.9
ίΩ	HT/VHT40, M0 to M7	3	10	-50.0	-48.7	-47.8	-34.0	-21.25	12.7
	HT/VHT40, M8 to M15	3	10	-50.0	-48.7	-47.8	-34.0	-21.25	12.7
	HT/VHT40 Beam Forming, M0 to M7	2	10	-48.8	-44.5		-33.1	-21.25	11.9
	HT/VHT40 Beam Forming, M8 to M15	2	10	-48.8	-44.5		-33.1	-21.25	11.9
	HT/VHT40 Beam Forming, M0 to M7	3	13	-49.1	-49.7	-49.3	-31.6	-21.25	10.3
		Ŭ		.0.1	.0.1	.0.0	01.0	21.20	

Page No: 55 of 92

12.7 11.9 12.7
5 127
5 10.8
5 10.2
5 12.9
5 10.2
9.6
5 11.8
5 11.5
5 11.5
5 12.4
5 12.4
5 11.5
5 11.5
9.0
5 12.4
5 11.5
5 12.4
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2

Page No: 56 of 92

Conducted Spurs Peak, 5745 MHz, Non HT20, 6 to 54 Mbps



Keysight Spectrum Analyzer - Swept SA		ype - Limited Sale Allowest		-c+ 42 -
RL NF 590 DC CONNEC Center Freq 9.015000000 GHz PNC: Fast ++ IFGaindligh	Trig: Free Run	Avg Type: Log-Pwr	TRACE 12 14 5 0 TYPE WOMEN	Frequency
Ref Offset 0.8 dB	BATTER: 0 0D	M	r4 5.331 GHz -38.38 dBm	Auto Tun
				Center Fre 9.015000000 GH
	e gai Ballenson i finan an	more and a second and and and and and and and and and a	high digit and an	Start Fre 30.000000 MH
90.0 -100 -115				Stop Fre 18.000000000 GH
Start 30 MHz #Res BW 1.0 MHz #VBW	V 3.0 MHz	Sweep 30.	Stop 18.000 GHz 00 ms (1001 pts)	CF Ste 1.797000000 GH Auto Ma
MKR MODE TRC SCL X		UNCTION FUNCTION WOTH	FUNCTION VALUE .	Auto Ma
1 N 1 f 5,745 GHz 2 N 1 f 11,490 GHz 3 N 1 f 17,235 GHz 4 N 1 f 6,331 GHz 6	-47.89 dBm -60.42 dBm -58.24 dBm -38.38 dBm		_	Freq Offse 0 H
7 8 9 9				Scale Typ
11			-	PART P
e contraction de la c	C. 88. C.			

Antenna B

Page No: 57 of 92

This document is uncontrolled. Please refer to the electronic copy within EDCS for the most up to date version. Cisco Systems, Inc. Company Confidential

A.6 Conducted Bandedge

15.205 / **15.247** / **LP0002** / **RSS-247** In any 100 kHz bandwidth outside the frequency band in which the digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

Test Procedure

Ref. KDB 789033 D02 General UNII Test Procedures New Rules v01r03 ANSI C63.10: 2013

Conducted Bandedge

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 ANSI C63.10: 2013 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. 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.

Ref. ANSI C63.10: 2013 section 12.7.6 (peak) & 12.7.7.3 (average, Method VB-A (Alternative))

Conducted Bandedge Test parameters restricted Band RBW = 1 MHz VBW ≥ 3 x RBW for Peak, 100Hz for Average Sweep = Auto couple Detector = Peak Trace = Max Hold.

System Number	Description	Samples	System under test	Support equipment
	EUT	S01	\checkmark	
1	Support	S02		\checkmark

Tested By :	Date of testing:
Jose Aguirre	20-April-16 - 08-Aug-16
Test Desult - DACC	

Test Result : PASS

See Appendix C for list of test equipment

Page No: 58 of 92

Frequency (MHz)	Mode	Data Rate (Mbps)	Conducted Bandedge Delta (dB)	Limit (dBc)	Margin (dB)
5745	Non HT20, 6 to 54 Mbps	6	40.8	>30	10.8
5745	HT/VHT20, M0 to M15	m0	38.1	>30	8.1
5755	Non HT40, 6 to 54 Mbps	6	31.2	>30	1.2
5755	HT/VHT40, M0 to M15	m0	33.3	>30	3.3
5775	Non HT80, 6 to 54 Mbps	6	34.6	>30	4.6
5775	VHT80, M0 to M9, M0 to M9 1-1ss	m0x1	32.3	>30	2.3
5705	Non HT40, 6 to 54 Mbps	6	47.0	>30	17.0
5795	HT/VHT40, M0 to M15	m0	45.8	>30	15.8
5825	Non HT20, 6 to 54 Mbps	6	43.5	>30	13.5
5625	HT/VHT20, M0 to M15	m0	43.6	>30	13.6

Page No: 59 of 92

	ectrum Analyzer - Swept			(Prototype - Limited	d Sale Allowed)	-	
Center F	RF 50 Ω req 5.602500		SENSE	Avg	Type: Log-Pwr	TRACE 1 2 3 4 5 6	Frequency
	NF	E PNO: Fast IFGain:Lov					
10 dB/div	Ref Offset 0.8 d Ref 10.00 dE				Mkr1	5.725 000 GHz -31.50 dBm	Auto Tune
Log 0.00						3411	Center Freq
-10.0 -20.0							5.602500000 GHz
-30.0		2				the state of the s	Start Freq
-40.0 -50.0 <mark>4/44-44</mark> /	marthelperpermetallowigh	Y . I	helwy feethere man to book	the of the last of the second second	man plan and	~a/atraphic have	5.460000000 GHz
-60.0							
-70.0							Stop Freq 5.745000000 GHz
-80.0						-150.00 dBm	
Start 5.46 #Res BW		#\	/BW 300 kHz		Sweep 1.	Stop 5.7450 GHz 000 ms (1001 pts)	CF Step 28.500000 MHz
MKR MODE TH		× 5.725 000 GHz	۲ -31.50 dBm	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Man
2 N 1	f	5.535 525 GHz 17.435 MHz	-43.02 dBn	1			Freq Offset
4						=	0 Hz
6 7							
8 9							Scale Type
10						-	Log <u>Lin</u>
MSG					STATUS	•	
-							

Conducted Bandedge Delta, 5745 MHz, Non HT20, 6 to 54 Mbps

Conducted Bandedge Delta, 5745 MHz, HT/VHT20, M0 to M15



Page No: 60 of 92

🔤 Keysight Spectrum Analyzer - Swept SA		ototype - Limited Sale Allowed)		
ໝ RL RF 50 Ω DC Center Freq 5.607500000		Avg Type: Log-Pwr	TRACE 1 2 3 4 5 6 TYPE M WWWWW	Frequency
NFE Ref Offset 0.8 dB 10 dB/div Ref 10.00 dBm	PNO: Fast Trig: Free Run IFGain:Low #Atten: 20 dB	Mkr1	5.725 000 GHz -22.08 dBm	Auto Tune
-10.0			1 junited at 1	Center Freq 5.607500000 GHz
	Marilland and a state and a state of the law for the second	and a contraction of the second s	njeter te	Start Freq 5.460000000 GHz
-60.0 -70.0 -80.0			-150.00 dBm	Stop Freq 5.755000000 GHz
Start 5.4600 GHz #Res BW 100 kHz	#VBW 300 kHz	Sweep 1.	Stop 5.7550 GHz 000 ms (1001 pts)	CF Step 29.500000 MHz Auto Man
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	5 000 GHz 22.08 dBm 3 115 GHz 3.135 MHz (Δ) 31.15 dB	FUNCTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offset 0 Hz
7 8 9 10				Scale Type
11				
MSG		STATUS		

Conducted Bandedge Delta, 5755 MHz, Non HT40, 6 to 54 Mbps

Conducted Bandedge Delta, 5755 MHz, HT/VHT40, M0 to M15



Page No: 61 of 92

🔤 Keysight Spectrum Analyzer - Swept SA	(P	rototype - Limited Sale Allowed)		
Center Freq 5.617500000		Avg Type: Log-Pwr	TRACE 1 2 3 4 5 6 TYPE M WWWWW	Frequency
NFE Ref Offset 0.8 dB	PN0: Fast Trig: Free Run IFGain:Low #Atten: 20 dB		.725 000 GHz -32.27 dBm	Auto Tune
-10.0			<u>}3∆1</u> µ ¹⁴ ⁽¹⁾ µ ¹	Center Freq 5.617500000 GHz
-50.0	มารู่หายรับใญปัติเหตุสิทธิ์ เป็นสาราไก่สุดมีที่มีหายะไกล	anterior Marine		Start Freq 5.460000000 GHz
-60.0 -70.0 -80.0			-150.00 dBm	Stop Freq 5.775000000 GHz
Start 5.4600 GHz #Res BW 100 kHz	#VBW 300 kHz	s Sweep 1.0	Stop 5.7750 GHz 67 ms (1001 pts)	CF Step 31.500000 MHz Auto Man
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	5 000 GHz 3 100 GHz 3 460 MHz (Δ) 34.62 dB	FUNCTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offset 0 Hz Scale Type
9 10 11				Log <u>Lin</u>
MSG		STATUS		

Conducted Bandedge Delta, 5775 MHz, Non HT80, 6 to 54 Mbps

Conducted Bandedge Delta, 5775 MHz, VHT80, M0 to M9, M0 to M9 1-1ss

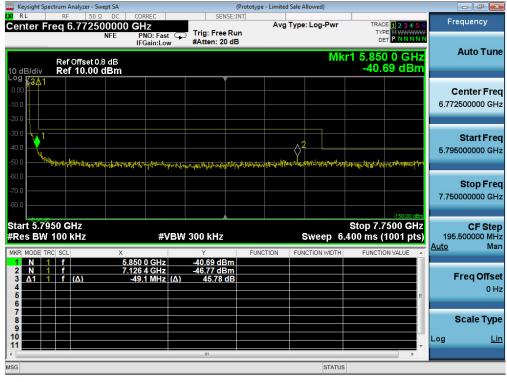


Page No: 62 of 92

🔤 Keysight Spectrum Analyzer - Swept SA			rototype - Limited	d Sale Allowed)	-	- 5 -
₩ RL RF 50 Ω DC Center Freq 6.77250000		SENSE:IN	Avg	Type: Log-Pwr	TRACE 1 2 3 4 5 6 TYPE MWWWW	Frequency
NFE Ref Offset 0.8 dB 10 dB/div Ref 10.00 dBm	PNO: Fast IFGain:Low	Trig: Free Run #Atten: 20 dB		Mk	r1 5.850 0 GHz -40.18 dBm	Auto Tune
Log 3∆1 0.00 -10.0 -20.0						Center Freq 6.772500000 GHz
	hadafadafadafadafadafadafadafadafadafada	logaliken on and	JELFTON LUNIFICIAL	halipmandinetadistrational	Alantypertury of the state of the	Start Freq 5.795000000 GHz
-60.0 -70.0 -80.0					-150.00 dBm	Stop Freq 7.750000000 GHz
Start 5.7950 GHz #Res BW 100 kHz	#VBW	300 kHz		Sweep 6.	Stop 7.7500 GHz 400 ms (1001 pts)	CF Step 195.500000 MHz Auto Man
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	5.850 0 GHz 7.253 4 GHz -39.4 MHz (Δ)	Y -40.18 dBm -46.94 dBm 47.01 dB	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	Freq Offset 0 Hz
7 8 9 10						Scale Type
		III			4	
MSG				STATUS		

Conducted Bandedge Delta, 5795 MHz, Non HT40, 6 to 54 Mbps

Conducted Bandedge Delta, 5795 MHz, HT/VHT40, M0 to M15

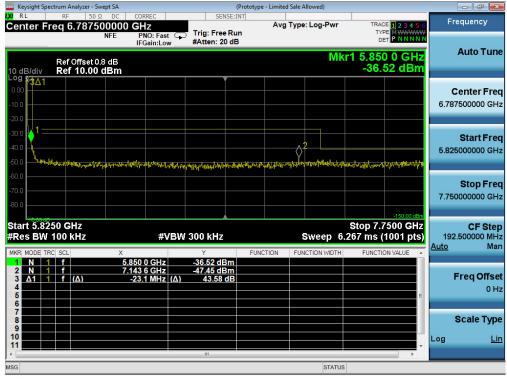


Page No: 63 of 92

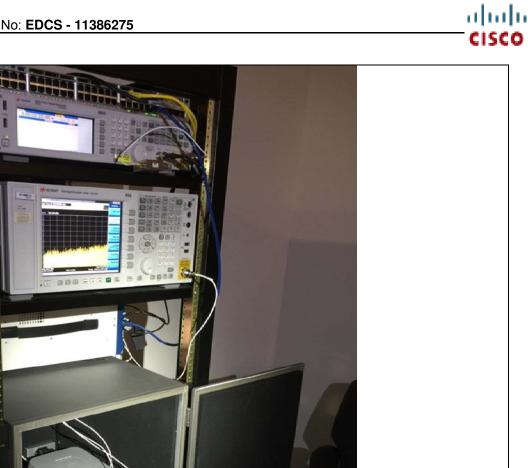
	ectrum Analyzer - Si			(Prototype - Limite	d Sale Allowed)		
Center Fi	RF 50 9 req 6.7875	00000 GHz	Trig: Free Ru	Avg	g Type: Log-Pwr	TRACE 1 2 3 4 5 6 TYPE MWWWW	Frequency
10 dB/div	Ref Offset 0 Ref 10.00				Mk	r1 5.850 0 GHz -36.27 dBm	Auto Tune
Log 3∆1 0.00 -10.0 -20.0							Center Freq 6.787500000 GHz
-30.0 -40.0 -50.0	¹ นส์เหาะสีข้องไม่ในปัญหาแก่งเหม	เหตุปนกาะสุดปกลไปๆให้เฉยาะ	une and an and an	yayu wantu walata	2 mhq40pril/Hac+171/Hr44pri	manushillalapalamalapa	Start Free 5.825000000 GHz
-60.0 -70.0 -80.0						-150.00 dBm	Stop Fred 7.750000000 GHz
Start 5.82 #Res BW	100 kHz		/BW 300 kHz			Stop 7.7500 GHz 267 ms (1001 pts)	CF Step 192.500000 MH Auto Mar
MKR MODE TF 1 N 1 2 N 1 3 Δ1 1 4 5 6	f f	× 5.850 0 GHz 7.289 9 GHz -23.1 MHz	-48.05 dBm	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	Freq Offset
7 8 9 10							Scale Type
11 <			m			4	
MSG					STATUS		

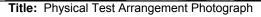
Conducted Bandedge Delta, 5825 MHz, Non HT20, 6 to 54 Mbps

Conducted Bandedge Delta, 5825 MHz, HT/VHT20, M0 to M15



Page No: 64 of 92



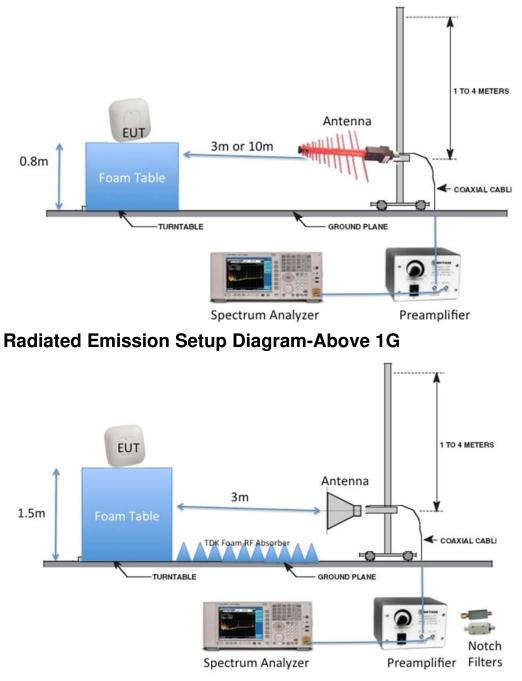


This is a dual band 2.4GHz / 5GHz device. All ports in this test set up photo are connected as all testing is automated. Section 2.6 of this test report given an overview of the different Tx antenna combinations used by this device.

Page No: 65 of 92

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

Radiated Emission Setup Diagram-Below 1G



Page No: 66 of 92

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 for peak, 1 KHz for average
Detector:	Peak

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 @3m2) 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
4	EUT	S01	\checkmark	
1	Support	S02		\checkmark

Tested By :	Date of testing:
Jose Aguirre	20-April-16 - 08-Aug-16
Test Result : PASS	

See Appendix C for list of test equipment

Page No: 67 of 92

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	50.0	54.0	4.0
5755	HT/VHT40, M0 to M23	m0	50.9	54.0	3.1
5775	VHT80, M0 to M9	m0x1	50.9	54.0	3.1
5785	Non HT20, 6 to 54 Mbps	6	52.1	54.0	1.9
5795	HT/VHT40, M0 to M23	m0	50.9	54.0	3.1
5825	Non HT20, 6 to 54 Mbps	6	53.4	54.0	0.6

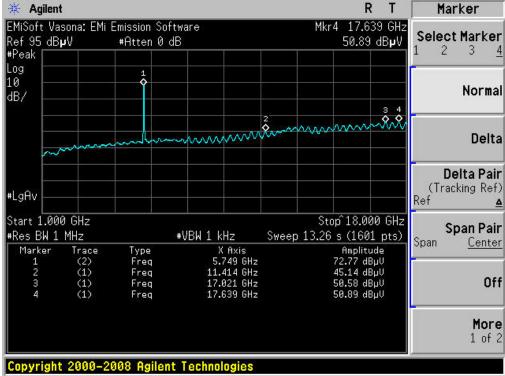
Page No: 68 of 92

This document is uncontrolled. Please refer to the electronic copy within EDCS for the most up to date version. Cisco Systems, Inc. Company Confidential

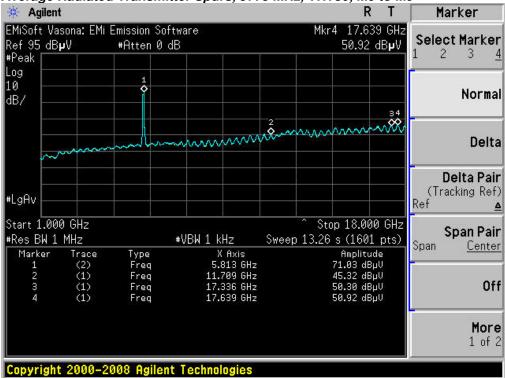
Marker	03:11:53 PM Apr 25, 2016 TRACE 2 3 4 5 TYPE MM	ALIGNAUTO Type: Log-Pwr		SENSE IM Trig: Free Run #Atten: 6 dB		1	er 4 16.4593	larker
Select Marke	r4 16.459 GHz 49.97 dBµV	Mk		PAREN. O 4D	IP-Gain:LUW	.99 dBµV	iiv Ref 102.	0 dB/div
Norm					¢ ¹			93.0 33.0 73.0
Del	⁴ ∆ ³	~~~~						i3.0 i3.0 i3.0
Fixed						**************************************		13.0 23.0 13.0
c	Stop 18.000 GHz 13.3 s (1601 pts)		FUNCTION	1.0 kHz	#VBW		I.000 GHZ BW 1.0 MHZ	Res BV
Propertie	FUNCTION VALUE	FUNCTION WIDTH	FUNCTION	74.67 dBµV 42.72 dBµV 48.67 dBµV 49.97 dBµV	739 GHz 490 GHz 235 GHz 459 GHz	11.4	1 f 1 f 1 f	1 N 2 N 3 N 4 N 5 6
M o 1 o								7 8 9 0 1 2
		STATUS	_			_		12

Average Radiated Transmitter Spurs, 5745 MHz, Non HT20, 6 to 54 Mbps





Page No: 69 of 92

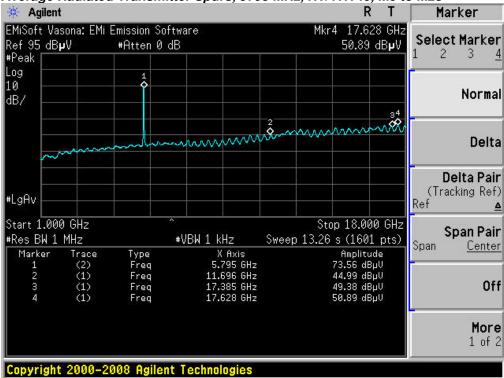


Average Radiated Transmitter Spurs, 5775 MHz, VHT80, M0 to M9

Average Radiated Transmitter Spurs, 5785 MHz, Non HT20, 6 to 54 Mbps



Page No: 70 of 92

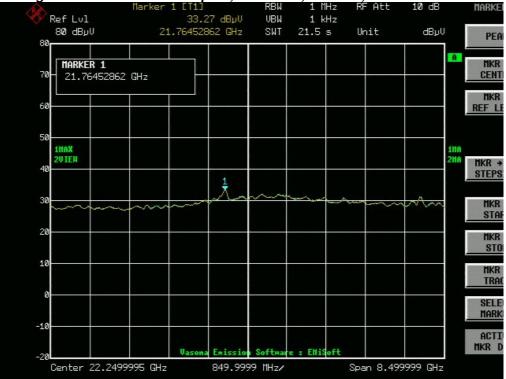


Average Radiated Transmitter Spurs, 5795 MHz, HT/VHT40, M0 to M23

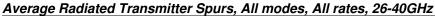
Average Radiated Transmitter Spurs, 5825 MHz, Non HT20, 6 to 54 Mbps

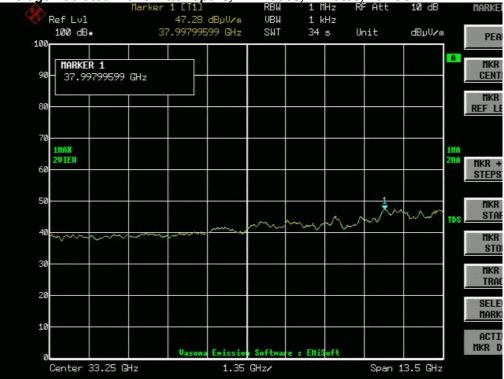


Page No: 71 of 92



Average Radiated Transmitter Spurs, All modes, All rates, 18-26GHz





Page No: 72 of 92

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	62.3	74.0	11.7
5755	HT/VHT40, M0 to M23	m0	61.3	74.0	12.7
5775	VHT80, M0 to M9	m0x1	62.2	74.0	11.8
5785	Non HT20, 6 to 54 Mbps	6	67.1	74.0	6.9
5795	HT/VHT40, M0 to M23	m0	62.4	74.0	11.6
5825	Non HT20, 6 to 54 Mbps	6	66.9	74.0	7.1

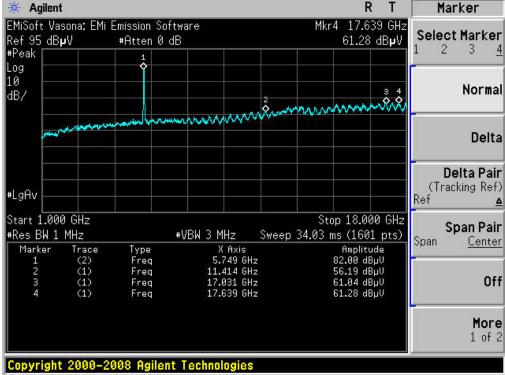
Page No: 73 of 92

This document is uncontrolled. Please refer to the electronic copy within EDCS for the most up to date version. Cisco Systems, Inc. Company Confidential

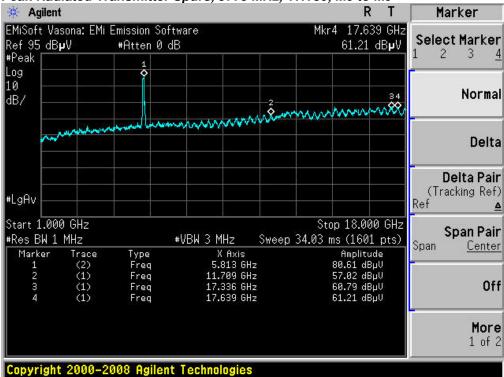
larker 4 16.459375000		SENSE:IN		ALIGNAUTO Type: Log-Pwr	03:10:32 PM Apr 25, 2016 TRACE 1 2 3 4 5 5 TYPE MM	Marker
	PNO: Fast G IFGain:Low	#Atten: 6 dB			DET PPPPP	Select Marker
dB/div Ref 102.99 dB	μV			M	kr4 16.459 GHz 62.34 dBµV	4
9 1.0 1.0	1					Norma
					4 	
0		country and the second	\sim	water and a second	warmen and an and the second	Delt
0 where the second seco						
0						Fixed
art 1.000 GHz					Stop 18.000 GHz	
R MODE THE SEL	#VB(V 3.0 MHz	FUNCTION	FUNCTION WIDTH	42.6 ms (1601 pts) FUNCTION VALUE	Of
N 1 f N 1 f N 1 f	5.739 GHz 11.490 GHz 17.235 GHz	84.59 dBµV 53.75 dBµV 59.72 dBµV				
N 1 F	16.459 GHz	62.34 dBµV				Properties
						Mor
	9					1 of:
	Πε.			STATUS		

Peak Radiated Transmitter Spurs, 5745 MHz, Non HT20, 6 to 54 Mbps





Page No: 74 of 92



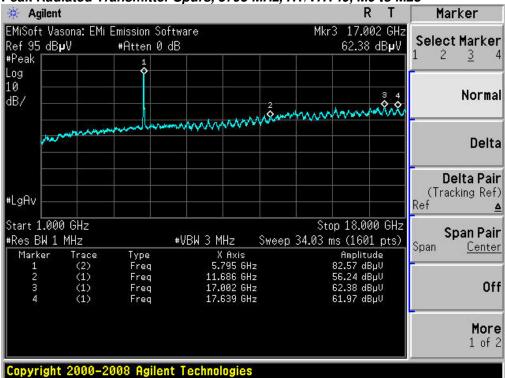
մինին

Peak Radiated Transmitter Spurs, 5775 MHz, VHT80, M0 to M9

Peak Radiated Transmitter Spurs, 5785 MHz, Non HT20, 6 to 54 Mbps



Page No: 75 of 92

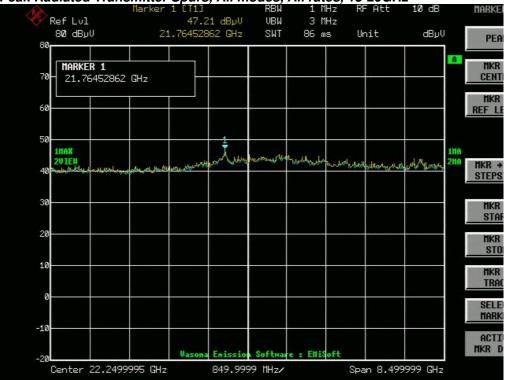


Peak Radiated Transmitter Spurs, 5795 MHz, HT/VHT40, M0 to M23

Peak Radiated Transmitter Spurs, 5825 MHz, Non HT20, 6 to 54 Mbps

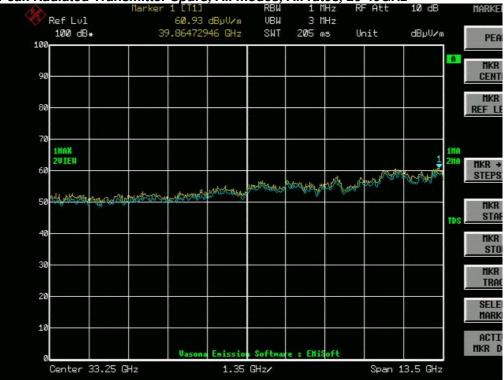


Page No: 76 of 92



Peak Radiated Transmitter Spurs, All modes, All rates, 18-26GHz





Page No: 77 of 92

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 for Peak, 1 kHz for average
Detector:	Peak

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
	EUT	S03	\checkmark	
2	Support	S04		\checkmark

Tested By :	Date of testing:
Jose Aguirre	20-April-16 - 08-Aug-16
Test Desult - DACC	

Test Result : PASS

See Appendix C for list of test equipment

Page No: 78 of 92

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

🗧 Agilent						R	! T	Marker
MiSoft Vasona: El ef 95 dBµV Peak	1i Emission #Atten				Mkr		28 GHz dB µ V	Select Marker
ng l								-
) 3/								Norma
5				<u>8</u>				Delta
gAv . V2~~~~~~		v~~nAA	MMM	M	ww	~~~~	Ŵ	Delta Pair (Tracking Ref. Ref
V2								Span Pai i Span <u>Cente</u>
(f): Tun Ip								Off
art 1.000 GHz Res BW 1 MHz	<u>55</u>	#VBW	1 kHz	Sweet		op 18.00 s (160		- More 1 of 2

Average Radiated Receiver Spurs, All modes, All rates, 1-18GHz

Page No: 79 of 92

Agilent			R T Trace
oft Vasona: EN 95 dBµV k	1i Emission Software #Atten 0 dB	Mkr1	17.607 GHz 62.62 dBµV <u>1</u> 2
			Clear Wri
			Max Ho
man	second with the second s	www.www.www	Min Hc
/2 			Vie
			Bla
1.000 GHz		Stop MHz Sweep 34.03 ms	18.000 GHz Ho

Peak Radiated Receiver Spurs, All modes, All rates, 1-18GHz

Page No: 80 of 92

B.3 Radiated Emissions 30MHz to 1GHz

15.205 / **15.209** / **RSS-Gen** / **LP0002:3.10.1(5)**/**2.8** 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)

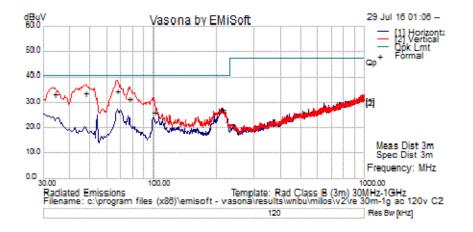
This report represents the worst case data for all supported operating modes and antennas.

System Number	Description	Samples	System under test	Support equipment
0	EUT	S03	\checkmark	
2	Support	S04		\checkmark

Tested By :	Date of testing:
Jose Aguirre	20-April-16 - 08-Aug-16
Test Result : PASS	

See Appendix C for list of test equipment

Page No: 81 of 92



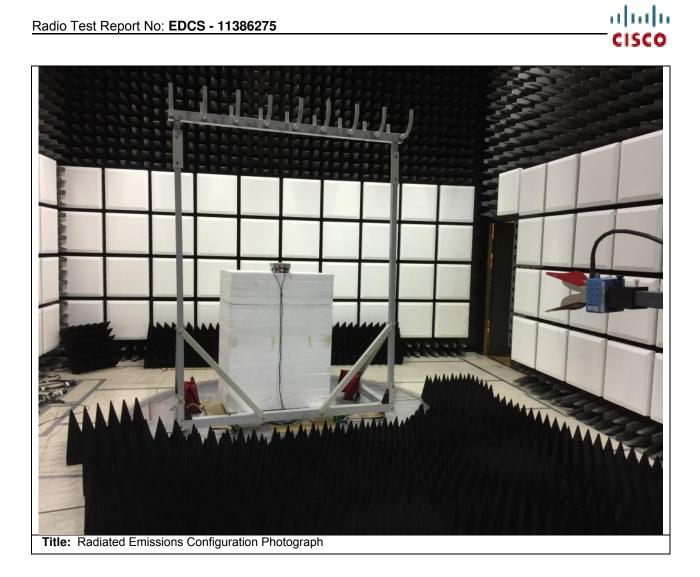
Test Results Table

Frequency (MHz)	Raw (dBuV)	Cable Loss		Level (dBuV/m)	Measurement Type	Pol	•	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass/ Fail	Comments
34.24375	14.29	0.69	17.95	32.93	Quasi Max	Н	105	12	40.50	-7.57	Pass	
47.58125	24.03	0.80	8.83	33.66	Quasi Max	Н	113	36	40.50	-6.84	Pass	
212.48125	14.97	1.77	10.50	27.24	Quasi Max	V	117	182	40.50	-13.26	Pass	
100.325	14.43	1.20	10.39	26.02	Quasi Max	Н	233	244	40.50	-14.48	Pass	
66.98125	25.03	1.00	8.26	34.29	Quasi Max	Н	113	292	40.50	-6.21	Pass	
76.68125	22.45	1.06	8.19	31.70	Quasi Max	Н	128	344	40.50	-8.80	Pass	

սիսիս

cisco

Page No: 82 of 92



Page No: 83 of 92

B.4 AC Conducted Emissions

FCC 15.207 (a) & RSS-Gen 8.8 / LP0002:2.3 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.

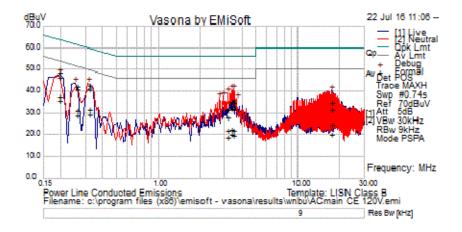
Span:	150 KHz – 30 MHz
Attenuation:	10 dB
Sweep Time:	Coupled
Resolution Bandwidth:	9 KHz
Video Bandwidth:	30 KHz
Detector:	Quasi-Peak / Average

System Number	Description	Samples	System under test	Support equipment
0	EUT	S03	\checkmark	
2	Support	S04		\checkmark

Tested By :	Date of testing:			
Jose Aguirre	20-April-16 - 08-Aug-16			
Test Result : PASS				

See separate EMC test report for test data.

Page No: 84 of 92



Test Results Table

Frequency (MHz)	Raw (dBuV)		Factors (dB)	Level (dBuV/m)	Measurement Type	Line	Limit (dBuV/m)	Margin (dB)	Pass/ Fail	Comments
.318	22.63	20.28	0.04	42.96	Quasi Peak	Live	59.76	-16.80	Pass	
3.446	14.92	19.99	0.05	34.95	Quasi Peak	Live	56.00	-21.05	Pass	
3.135	11.83	19.98	0.06	31.86	Quasi Peak	Live	56.00	-24.14	Pass	
.195	27.83	20.78	0.05	48.66	Quasi Peak	Live	63.82	-15.16	Pass	
17.358	14.25	20.33	0.19	34.77	Quasi Peak	Live	60.00	-25.23	Pass	
3.350	15.24	19.98	0.05	35.27	Quasi Peak	Live	56.00	-20.73	Pass	
.261	21.84	20.48	0.04	42.36	Quasi Peak	Live	61.40	-19.04	Pass	
3.446	11.71	19.99	0.05	31.75	Quasi Peak	Neutral	56.00	-24.25	Pass	
.195	25.78	20.78	0.05	46.61	Quasi Peak	Neutral	63.82	-17.21	Pass	
3.350	11.97	19.98	0.05	32.01	Quasi Peak	Neutral	56.00	-23.99	Pass	
3.135	8.12	19.98	0.06	28.16	Quasi Peak	Neutral	56.00	-27.84	Pass	
.261	20.21	20.48	0.04	40.73	Quasi Peak	Neutral	61.40	-20.67	Pass	
17.358	4.23	20.33	0.19	24.75	Quasi Peak	Neutral	60.00	-35.25	Pass	
.318	20.63	20.28	0.04	40.95	Quasi Peak	Neutral	59.76	-18.81	Pass	
.318	11.54	20.28	0.04	31.87	Average	Live	49.76	-17.89	Pass	
3.446	1.77	19.99	0.05	21.81	Average	Live	46.00	-24.19	Pass	
3.135	1.82	19.98	0.06	21.86	Average	Live	46.00	-24.14	Pass	
.195	17.05	20.78	0.05	37.87	Average	Live	53.82	-15.95	Pass	
17.358	11.08	20.33	0.19	31.59	Average	Live	50.00	-18.41	Pass	
3.350	2.45	19.98	0.05	22.49	Average	Live	46.00	-23.51	Pass	
.261	10.69	20.48	0.04	31.21	Average	Live	51.40	-20.19	Pass	
3.446	-0.15	19.99	0.05	19.89	Average	Neutral	46.00	-26.11	Pass	
.195	14.85	20.78	0.05	35.68	Average	Neutral	53.82	-18.14	Pass	
3.350	0.12	19.98	0.05	20.16	Average	Neutral	46.00	-25.84	Pass	
3.135	-1.39	19.98	0.06	18.64	Average	Neutral	46.00	-27.36	Pass	
.261	8.30	20.48	0.04	28.82	Average	Neutral	51.40	-22.58	Pass	

սիսիս

cisco

Page No: 85 of 92



Frequency (MHz)	Raw (dBuV)		Factors (dB)	Level (dBuV/m)	Measurement Type	Line	Limit (dBuV/m)	Margin (dB)	Pass/ Fail	Comments
17.358	-0.50	20.33	0.19	20.02	Average	Neutral	50.00	-29.98	Pass	
.318	9.08	20.28	0.04	29.41	Average	Neutral	49.76	-20.35	Pass	

Page No: 86 of 92



Page No: 87 of 92

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

	t	Test Equipment used for Radiated Emissions							
Equip#	Manufacturer/ Model	Description	Last Cal	Next Cal	Test Item				
CIS051796	TTA1800-30-HG	SMA 18 GHz Pre-Amplifier	29-Sep-15	29-Sep-16	B.1, B.2				
	Miteq								
CIS035285	3117	Double Ridged Waveguide Horn	30-Sep-15	30-Sep-16	B.1, B.2				
	ETS-Lindgren	Antenna							
CIS008447	NSA 10m Chamber	NSA 10m Chamber	14-Oct-15	14-Oct-16	B.3				
	Cisco								
CIS045096	TH0118	Mast Mount Preamplifier Array,	4-Nov-15	4-Nov-16	B.1, B.2				
	Cisco	1-18GHz							
CIS030652	JB1	Combination Antenna,	4-Dec-15	4-Dec-16	B.3				
	Sunol Sciences	30MHz-2GHz							
CIS041929	iBTHP-5-DB9	5 inch Temp/RH/Press Sensor w/20ft	22-Dec-15	22-Dec-16	B.1, B.2, B.3				
	Newport	cable							
CIS043124	Above 1GHz Site Cal	Above 1GHz Cispr Site Verification	14-Jan-16	14-Jan-17	B.1, B.2				
	Cisco								
CIS047300	N9038A	MXE EMI Receiver	28-Jan-16	28-Jan-17	B.1, B.2, B.3				
	Agilent Technologies	20Hz to 26.5 Ghz							
CIS051642	Sucoflex 106PA	RF N Type Cable 8.5m	11-Feb-16	11-Feb-17	B.1, B.2, B.3				
010000550	Huber+Suhner								
CIS030559	UFB311A-1-0950-504504	RF Coaxial Cable, to 18GHz, 95 in	15-Feb-16	15-Feb-17	B.1, B.2, B.3				
01000075	Micro-Coax								
CIS020975	UFB311A-0-1344-520520	RF Coaxial Cable, to 18GHz, 134.4 in	17-Feb-16	17-Feb-17	B.1, B.2, B.3				
010054700	Micro-Coax		00 1	00 1					
CIS051708	UFB293C-2-0840-300504	RF Coaxial SMA-N Type Cable	28-Jun-16	28-Jun-17	B.1, B.2, B.3				
CIE044040	Micro-Coax ESU40	EMI Test Dessiver	2 Nov 15	2 Nov 16					
CIS044940	Rohde & Schwarz	EMI Test Receiver, 20Hz-40GHz	2-Nov-15	2-Nov-16	B.1, B.2				
CIS034075	RSG 2000	Reference Spectrum Generator,	Cal Not Req	l					
013034075	Schaffner	1-18GHz	Cal Not Rey	uireu					
CIS041979	1840	18-40GHz EMI Test Head/	13-Jul-15	13-Jul-16	B.1, B.2				
0100+1373	Cisco	Verification Fixture	10-001-10	10-001-10	D.1, D.2				
CIS044940	ESU40	EMI Test Receiver.	2-Nov-15	2-Nov-16	B.1, B.2,				
2.0011010	Rohde & Schwarz	20Hz-40GHz			,,				
CIS030652	JB1	Combination Antenna,	4-Dec-15	4-Dec-16	B.3				
2.0000002	Sunol Sciences	30MHz-2GHz							
CIS003003	83731B	Synthesized Signal Generator	29-Jan-16	29-Jan-17	B.1, B.2				
	HP								
CIS037236	50CB-015	GPIB Control Box			B.1, B.2				
	JFW				,				

	Test Equipr	nent used for AC Mains Conducted En	nissions		
Equip#	Manufacturer/ Model	Description	Last Cal	Next Cal	Test Item
8510	Fischer Custom Communications FCC-450B-2.4-N	Instrumentation Limiter	5/16/16	5/16/17	B.4
23802	Fischer Custom Communications FCC-801-M2-50A	CDN, 2-LINE 50A	1/12/16	1/12/17	B.4
45995	Fischer Custom Communications F-090527-1009-2	Lisn Adapter	6/17/16	6/17/17	B.4
49468	Coleman RG223	BNC 25 ft Cable	3/9/16	3/9/17	B.4
31918	Midwest Microwave TRM-2048-MC-BNC-10	50 Ohm, 5W Terminator, Type BNC	11/9/15	11/9/16	B.4
49531	TTE H785-150K-50-21378	High Pass Filter	5/3/16	5/3/17	B.4
45994	Fischer Custom Communications F-090527-1009-1	Line Impedance Stabilization Network	6/17/16	6/17/17	B.4
18963	York CNE V	Comparison Noise Emitter, 30 - 1000MHz	Cal Not Required	Cal Not Required	B.4
45050	Rohde & Schwarz ESCI	EMI Test Receiver	11/3/15	11/3/16	B.4
51721	Teseq CDN ST08A	Coupling Decoupling Network	6/7/16	6/7/17	B.4
54231	Newport iBTHP-5-DB9	5 inch Temp/RH/Press Sensor w/20ft cable	2/10/16	2/10/17	B.4

Equip#	Manufacturer/ Model	Description	Last Cal	Next Cal	Test Item
CIS054666	RA08-S1S1-18	SMA 18" Cable	25-Sep-15	25-Sep-16	A1 thru A7
	MegaPhase				
CIS054667	RA08-S1S1-18	SMA 18" Cable	25-Sep-15	25-Sep-16	A1 thru A7
	MegaPhase				
CIS054668	RA08-S1S1-18	SMA 18" Cable	25-Sep-15	25-Sep-16	A1 thru A7
	MegaPhase				
CIS054669	RA08-S1S1-18	SMA 18" Cable	25-Sep-15	25-Sep-16	A1 thru A7
	MegaPhase				
CIS054686	NI PXI-2796	Plug-in switch module	6-Oct-15	6-Oct-16	A1 thru A7
	National Instruments				
CIS055166	RFLT4WDC40GK	4 Way Power Divider 40GHz	23-Nov-15	23-Nov-16	A1 thru A7
	RF Lambda				
CIS054662	RFLT4WDC40GK	SMA 36" cable	24-Sep-15	24-Sep-16	A1 thru A7
	RF Lambda				
CIS054656	BRC50705-02	Band Reject Filter	24-Sep-15	24-Sep-16	A1 thru A7
	Micro-Tronics				
CIS054655	BRC50704-02	Notch Filter,	24-Sep-15	24-Sep-16	A1 thru A7
	Micro-Tronics	SB:5.470-5.725GHz, to 12GHz		-	
CIS054654	BRC50703-02	Notch Filter,	24-Sep-15	24-Sep-16	A1 thru A7

	Micro-Tronics	SB:5.150-5.350GHz, to 11GHz			
CIS054653	BRM50702-02	Notch Filter,	24-Sep-15	24-Sep-16	A1 thru A7
	Micro-Tronics	SB:2.400-2.500GHz, to 18GHz			
CIS054678	RA08-S1S1-12	SMA 12" Cable	25-Sep-15	25-Sep-16	A1 thru A7
	MegaPhase				
CIS054677	RA08-S1S1-12	SMA 12" Cable	25-Sep-15	25-Sep-16	A1 thru A7
	MegaPhase				
CIS054676	RA08-S1S1-12	SMA 12" Cable	25-Sep-15	25-Sep-16	A1 thru A7
	MegaPhase				
CIS054675	RA08-S1S1-12	SMA 12" Cable	25-Sep-15	25-Sep-16	A1 thru A7
	MegaPhase				
CIS054674	RA08-S1S1-12	SMA 12" Cable	25-Sep-15	25-Sep-16	A1 thru A7
	MegaPhase				
CIS054673	RA08-S1S1-12	SMA 12" Cable	25-Sep-15	25-Sep-16	A1 thru A7
	MegaPhase				
CIS054672	RA08-S1S1-12	SMA 12" Cable	25-Sep-15	25-Sep-16	A1 thru A7
	MegaPhase				
CIS054671	RA08-S1S1-12	SMA 12" Cable	25-Sep-15	25-Sep-16	A1 thru A7
	MegaPhase				
CIS054670	RA08-S1S1-12	SMA 12" Cable	25-Sep-15	25-Sep-16	A1 thru A7
	MegaPhase				
CIS054664	GC12-8181-16	SMA 16" Cable	25-Sep-15	25-Sep-16	A1 thru A7
	MegaPhase				
CIS054663	F120-S1S1-48	SMA 48" Cable	25-Sep-15	25-Sep-16	A1 thru A7
	MegaPhase				
CIS054686	NI PXI-2796	Plug-in switch module	6-Oct-15	6-Oct-16	A1 thru A7
	National Instruments				
CIS042005	BWS30W2+	SMA 30dB Attenuator	16-Oct-15	16-Oct-16	A1 thru A7
	Mini-Circuits				
CIS041995	BW-S6W2	6dB Attenuator	16-Oct-15	16-Oct-16	A1 thru A7
	Mini-Circuits				
CIS054695	D3C2060	Circulator	20-Oct-15	20-Oct-16	A1 thru A7
010055440	Ditom			47.51 40	
CIS055146	RA08-S1S1-12	12" SMA Cable	17-Nov-15	17-Nov-16	A1 thru A7
010050704	Megaphase		00.14	00 14	
CIS050721	N9030A	PXA Signal Analyzer	30-Mar-16	30-Mar-17	A1 thru A7
010054000	Keysight N5182B		0.0.10	0.4	
CIS054303	Keysight	MXG X-Series RF Vector Signal Generator	6-Apr-16	6-Apr-17	A1 thru A7
CIS055358	ZFSC-2-10G Mini-Circuits	Splitter	11-Apr-16	11-Apr-17	A1 thru A7
CIS055099	SMART2200RM2U Tripp-Lite	Power Supply	Cal Not Req	uired	A1 thru A7
CIS055094	PXI-1042 National Instruments	Chassis	Cal Not Req	uired	A1 thru A7

Page No: 90 of 92

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
ТАР	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	Н	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)
Р	Power Line	L	Live Line
Ν	Neutral Line	R	Return
S	Supply	AC	Alternating Current

ոլովո

End

Page No: 92 of 92