



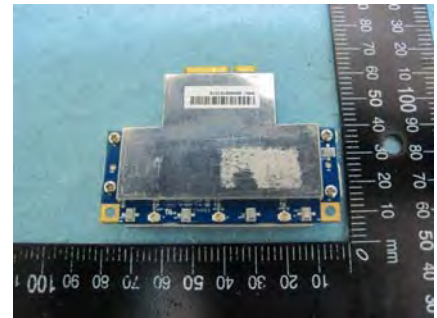
SPORTON International Inc.

No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, TaoYuan Hsien, Taiwan, R.O.C.
Ph: 886-3-327-3456 / FAX: 886-3-327-0973 / www.sporton.com.tw

FCC RADIO TEST REPORT

Applicant's company	Motorola Solutions, Inc.
Applicant Address	One Motorola Plaza Holtsville, NY 11742 USA
FCC ID	UZ7RAAP800
Manufacturer's company	Wistron NeWeb Corporation
Manufacturer Address	20 Park Avenue II, Hsinchu Science Park, Hsinchu 308, Taiwan, R.O.C.

Product Name	802.11ac Module
Brand Name	MOTOROLA
Model No.	RAAP-800
Test Rule Part(s)	47 CFR FCC Part 15 Subpart C § 15.247
Test Freq. Range	5725 ~ 5850MHz
Received Date	Apr. 02, 2012
Final Test Date	Jul. 06, 2013
Submission Type	Original Equipment



Statement

Test result included is only for the IEEE 802.11n, IEEE 802.11a/ac (5725 ~ 5850MHz) of the product.

The test result in this report refers exclusively to the presented test model / sample.

Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.

The measurements and test results shown in this test report were made in accordance with the procedures and found in compliance with the limit given in ANSI C63.10-2009, 47 CFR FCC Part 15 Subpart C, KDB 558074 D01 v03r01 and KDB 662911 D01 v02.

The test equipment used to perform the test is calibrated and traceable to NML/ROC.





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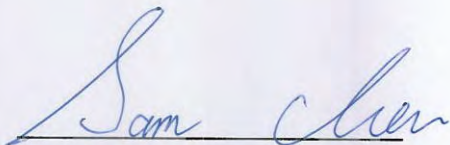
History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR341810AA	Rev. 01	Initial issue of report	Aug. 29, 2013

1. CERTIFICATE OF COMPLIANCE

Product Name : 802.11ac Module
Brand Name : MOTOROLA
Model No. : RAAP-800
Applicant : Motorola Solutions, Inc.
Test Rule Part(s) : 47 CFR FCC Part 15 Subpart C § 15.247

Sporton International as requested by the applicant to evaluate the EMC performance of the product sample received on Apr. 02, 2012 would like to declare that the tested sample has been evaluated and found to be in compliance with the tested rule parts. The data recorded as well as the test configuration specified is true and accurate for showing the sample's EMC nature.



Sam Chen

SPORTON INTERNATIONAL INC.

2. SUMMARY OF THE TEST RESULT

Applied Standard: 47 CFR FCC Part 15 Subpart C				
Part	Rule Section	Description of Test	Result	Under Limit
4.1	15.207	AC Power Line Conducted Emissions	Complies	18.81 dB
4.2	15.247(b)(3)	Maximum Conducted Output Power	Complies	0.01 dB
4.3	15.247(e)	Power Spectral Density	Complies	3.23 dB
4.4	15.247(a)(2)	6dB Spectrum Bandwidth	Complies	-
4.5	15.247(d)	Radiated Emissions	Complies	3.13 dB
4.6	15.247(d)	Emissions Measurement	Complies	-
4.7	15.203	Antenna Requirements	Complies	-

Note: The module (Model number: RAAP-800) is Limited Module Approval and only limited to install to the AP (MOTOROLA / AP-8232).

Test Items	Uncertainty	Remark
AC Power Line Conducted Emissions	±2.3dB	Confidence levels of 95%
Maximum Conducted Output Power	±0.8dB	Confidence levels of 95%
Power Spectral Density	±0.5dB	Confidence levels of 95%
6dB Spectrum Bandwidth	±8.5×10 ⁻⁸	Confidence levels of 95%
Radiated Emissions (9kHz~30MHz)	±0.8dB	Confidence levels of 95%
Radiated Emissions (30MHz~1GHz)	±1.9dB	Confidence levels of 95%
Radiated / Band Edge Emissions (1GHz~18GHz)	±1.9dB	Confidence levels of 95%
Radiated Emissions (18GHz~40GHz)	±1.9dB	Confidence levels of 95%
Temperature	±0.7°C	Confidence levels of 95%
Humidity	±3.2%	Confidence levels of 95%
DC / AC Power Source	±1.4%	Confidence levels of 95%

3. GENERAL INFORMATION

3.1. Product Details

IEEE 802.11n/ac

Items	Description
Product Type	WLAN (1/2/3TX, 3RX)
Radio Type	Intentional Transceiver
Power Type	From Host System
Modulation	see the below table for IEEE 802.11n/ac
Data Modulation	For 802.11n: OFDM (BPSK / QPSK / 16QAM / 64QAM) For 802.11ac: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)
Data Rate (Mbps)	see the below table for IEEE 802.11n/ac
Frequency Range	5725 ~ 5850MHz
Channel Number	5 for 20MHz bandwidth ; 2 for 40MHz bandwidth ; 1 for 80MHz bandwidth
Channel Band Width (99%)	<p>Mode 1 (Ant.1 Dipole antenna / 8dBi)</p> <p>P to M</p> <p>1TX : MCS0/Nss1 (VHT20) : 19.12 MHz; MCS0/Nss1 (VHT40) : 36.80 MHz; MCS0/Nss1 (VHT80) : 76.80 MHz</p> <p>2TX : MCS0/Nss1 (VHT20) : 21.36 MHz; MCS0/Nss1 (VHT40) : 38.04 MHz; MCS0/Nss1 (VHT80) : 75.40 MHz</p> <p>3TX : MCS0/Nss1 (VHT20) : 17.12 MHz; MCS0/Nss1 (VHT40) : 37.32 MHz; MCS0/Nss1 (VHT80) : 75.80 MHz</p> <p>Mode 2 (Ant.3 Panel antenna / 12.5dBi)</p> <p>P to M</p> <p>1TX : MCS0/Nss1 (VHT20) : 17.92 MHz; MCS0/Nss1 (VHT40) : 36.64 MHz; MCS0/Nss1 (VHT80) : 76.48 MHz</p> <p>2TX : MCS0/Nss1 (VHT20) : 18.24 MHz; MCS0/Nss1 (VHT40) : 36.64 MHz; MCS0/Nss1 (VHT80) : 73.92 MHz</p> <p>P to P</p> <p>1TX : MCS0/Nss1 (VHT20) : 19.12 MHz; MCS0/Nss1 (VHT40) : 36.80 MHz; MCS0/Nss1 (VHT80) : 76.80 MHz</p>

	<p>2TX : MCS0/Nss1 (VHT20) : 21.36 MHz; MCS0/Nss1 (VHT40) : 37.08 MHz; MCS0/Nss1 (VHT80) : 76.40 MHz</p> <p>Mode 3 (Ant.4 Yagi antenna / 8dBi)</p> <p>P to M</p> <p>1TX : MCS0/Nss1 (VHT20) : 19.12 MHz; MCS0/Nss1 (VHT40) : 36.80 MHz; MCS0/Nss1 (VHT80) : 76.48 MHz</p> <p>2TX : MCS0/Nss1 (VHT20) : 21.36 MHz; MCS0/Nss1 (VHT40) : 37.08 MHz; MCS0/Nss1 (VHT80) : 76.40 MHz</p> <p>3TX : MCS0/Nss1 (VHT20) : 17.12 MHz; MCS0/Nss1 (VHT40) : 37.32 MHz; MCS0/Nss1 (VHT80) : 76.40 MHz</p> <p>Mode 4 (Ant.5 Patch antenna / 2.3dBi)</p> <p>P to M</p> <p>1TX : MCS0/Nss1 (VHT20) : 19.12 MHz; MCS0/Nss1 (VHT40) : 36.80 MHz; MCS0/Nss1 (VHT80) : 76.80 MHz</p> <p>2TX : MCS0/Nss1 (VHT20) : 21.36 MHz; MCS0/Nss1 (VHT40) : 38.04 MHz; MCS0/Nss1 (VHT80) : 75.40 MHz</p> <p>3TX : MCS0/Nss1 (VHT20) : 17.12 MHz; MCS0/Nss1 (VHT40) : 37.32 MHz; MCS0/Nss1 (VHT80) : 75.80 MHz</p> <p>Mode 5 (Ant.6 Facade antenna / 2.5dBi)</p> <p>P to M</p> <p>1TX : MCS0/Nss1 (VHT20) : 19.12 MHz; MCS0/Nss1 (VHT40) : 36.80 MHz; MCS0/Nss1 (VHT80) : 76.48 MHz</p> <p>2TX : MCS0/Nss1 (VHT20) : 21.36 MHz; MCS0/Nss1 (VHT40) : 37.08 MHz; MCS0/Nss1 (VHT80) : 76.40 MHz</p> <p>3TX : MCS0/Nss1 (VHT20) : 17.12 MHz; MCS0/Nss1 (VHT40) : 37.32 MHz; MCS0/Nss1 (VHT80) : 76.40 MHz</p> <p>Mode 6 (Ant.9 Panel antenna / 9.2dBi)</p> <p>P to M</p>
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	<p>3TX : MCS0/Nss1 (VHT20) : 19.28 MHz; MCS0/Nss1 (VHT40) : 37.32 MHz; MCS0/Nss1 (VHT80) : 76.40 MHz</p> <p>Mode 7 (Ant.10 PIFA antenna / 5.3dBi) P to M</p> <p>1TX : MCS0/Nss1 (VHT20) : 23.52 MHz; MCS0/Nss1 (VHT40) : 43.04 MHz; MCS0/Nss1 (VHT80) : 76.80 MHz</p> <p>2TX : MCS0/Nss1 (VHT20) : 22.64 MHz; MCS0/Nss1 (VHT40) : 41.12 MHz; MCS0/Nss1 (VHT80) : 76.80 MHz</p> <p>3TX : MCS0/Nss1 (VHT20) : 20.80 MHz; MCS0/Nss1 (VHT40) : 37.28 MHz; MCS0/Nss1 (VHT80) : 76.80 MHz</p>
<p>Maximum Conducted Output Power</p>	<p>Mode 1 (Ant.1 Dipole antenna / 8dBi) P to M</p> <p>1TX : MCS0 (HT20) : 22.96 dBm; MCS0 (HT40) : 22.99 dBm; MCS0/Nss1 (VHT20) : 23.09 dBm; MCS0/Nss1 (VHT40) : 22.65 dBm; MCS0/Nss1 (VHT80) : 22.56 dBm</p> <p>2TX : MCS0 (HT20) : 25.64 dBm; MCS0 (HT40) : 26.15 dBm; MCS0/Nss1 (VHT20) : 26.31 dBm; MCS0/Nss1 (VHT40) : 25.81 dBm; MCS0/Nss1 (VHT80) : 25.68 dBm</p> <p>3TX : MCS0 (HT20) : 27.72 dBm; MCS0 (HT40) : 27.24 dBm; MCS0/Nss1 (VHT20) : 27.56 dBm; MCS0/Nss1 (VHT40) : 26.92 dBm; MCS0/Nss1 (VHT80) : 27.54 dBm</p> <p>Mode 2 (Ant.3 Panel antenna / 12.5dBi) P to M</p> <p>1TX : MCS0 (HT20) : 23.11 dBm; MCS0 (HT40) : 23.20 dBm; MCS0/Nss1 (VHT20) : 23.08 dBm; MCS0/Nss1 (VHT40) : 23.20 dBm; MCS0/Nss1 (VHT80) : 22.41 dBm</p>

	<p>2TX : MCS0 (HT20) : 23.47 dBm; MCS0 (HT40) : 23.37 dBm; MCS0/Nss1 (VHT20) : 23.47 dBm; MCS0/Nss1 (VHT40) : 23.36 dBm; MCS0/Nss1 (VHT80) : 23.38 dBm</p> <p>P to P</p> <p>1TX : MCS0 (HT20) : 22.96 dBm; MCS0 (HT40) : 22.64 dBm; MCS0/Nss1 (VHT20) : 23.09 dBm; MCS0/Nss1 (VHT40) : 22.55 dBm; MCS0/Nss1 (VHT80) : 21.25 dBm</p> <p>2TX : MCS0 (HT20) : 25.64 dBm; MCS0 (HT40) : 25.53 dBm; MCS0/Nss1 (VHT20) : 26.31 dBm; MCS0/Nss1 (VHT40) : 25.52 dBm; MCS0/Nss1 (VHT80) : 24.43 dBm</p> <p>Mode 3 (Ant.4 Yagi antenna / 8dBi)</p> <p>P to M</p> <p>1TX : MCS0 (HT20) : 22.96 dBm; MCS0 (HT40) : 22.64 dBm; MCS0/Nss1 (VHT20) : 23.09 dBm; MCS0/Nss1 (VHT40) : 22.55 dBm; MCS0/Nss1 (VHT80) : 20.80 dBm</p> <p>2TX : MCS0 (HT20) : 25.64 dBm; MCS0 (HT40) : 25.53 dBm; MCS0/Nss1 (VHT20) : 26.31 dBm; MCS0/Nss1 (VHT40) : 25.52 dBm; MCS0/Nss1 (VHT80) : 24.89 dBm</p> <p>3TX : MCS0 (HT20) : 27.72 dBm; MCS0 (HT40) : 26.82 dBm; MCS0/Nss1 (VHT20) : 27.56 dBm; MCS0/Nss1 (VHT40) : 26.82 dBm; MCS0/Nss1 (VHT80) : 26.28 dBm</p> <p>Mode 4 (Ant.5 Patch antenna / 2.3dBi)</p> <p>P to M</p> <p>1TX : MCS0 (HT20) : 22.96 dBm; MCS0 (HT40) : 22.99 dBm; MCS0/Nss1 (VHT20) : 23.09 dBm;</p>
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	<p>MCS0/Nss1 (VHT40) : 22.65 dBm; MCS0/Nss1 (VHT80) : 22.56 dBm</p> <p>2TX : MCS0 (HT20) : 25.64 dBm; MCS0 (HT40) : 26.15 dBm; MCS0/Nss1 (VHT20) : 26.31 dBm; MCS0/Nss1 (VHT40) : 25.81 dBm; MCS0/Nss1 (VHT80) : 25.68 dBm</p> <p>3TX : MCS0 (HT20) : 27.72 dBm; MCS0 (HT40) : 27.24 dBm; MCS0/Nss1 (VHT20) : 27.56 dBm; MCS0/Nss1 (VHT40) : 26.92 dBm; MCS0/Nss1 (VHT80) : 27.54 dBm</p> <p>Mode 5 (Ant.6 Facade antenna / 2.5dBi) P to M</p> <p>1TX : MCS0 (HT20) : 22.96 dBm; MCS0 (HT40) : 22.64 dBm; MCS0/Nss1 (VHT20) : 23.09 dBm; MCS0/Nss1 (VHT40) : 22.55 dBm; MCS0/Nss1 (VHT80) : 21.25 dBm</p> <p>2TX : MCS0 (HT20) : 25.64 dBm; MCS0 (HT40) : 25.53 dBm; MCS0/Nss1 (VHT20) : 26.31 dBm; MCS0/Nss1 (VHT40) : 25.52 dBm; MCS0/Nss1 (VHT80) : 24.43 dBm</p> <p>3TX : MCS0 (HT20) : 27.72 dBm; MCS0 (HT40) : 26.82 dBm; MCS0/Nss1 (VHT20) : 27.56 dBm; MCS0/Nss1 (VHT40) : 26.82 dBm; MCS0/Nss1 (VHT80) : 26.28 M dBm</p> <p>Mode 6 (Ant.9 Panel antenna / 9.2dBi) P to M</p> <p>3TX : MCS0 (HT20) : 26.71 dBm MCS0 (HT40) : 26.79 dBm; MCS0/Nss1 (VHT20) : 26.78 dBm; MCS0/Nss1 (VHT40) : 26.79 dBm; MCS0/Nss1 (VHT80) : 26.28 dBm</p> <p>Mode 7 (Ant.10 PIFA antenna / 5.3dBi) P to M</p>
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	<p>1TX : MCS0 (HT20) : 23.48 dBm; MCS0 (HT40) : 23.26 dBm; MCS0/Nss1 (VHT20) : 23.52 dBm; MCS0/Nss1 (VHT40) : 23.12 dBm; MCS0/Nss1 (VHT80) : 20.89 dBm</p> <p>2TX : MCS0 (HT20) : 26.18 dBm; MCS0 (HT40) : 25.98 dBm; MCS0/Nss1 (VHT20) : 26.23 dBm; MCS0/Nss1 (VHT40) : 25.93 dBm; MCS0/Nss1 (VHT80) : 25.61 dBm</p> <p>3TX : MCS0 (HT20) : 27.87 dBm; MCS0 (HT40) : 27.30 dBm; MCS0/Nss1 (VHT20) : 27.82 dBm; MCS0/Nss1 (VHT40) : 27.23 dBm; MCS0/Nss1 (VHT80) : 26.29 dBm</p>
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

802.11a

Items	Description
Product Type	WLAN (1/2/3TX, 3RX)
Radio Type	Intentional Transceiver
Power Type	From Host System
Modulation	OFDM for IEEE 802.11a
Data Modulation	OFDM (BPSK / QPSK / 16QAM / 64QAM)
Data Rate (Mbps)	OFDM (6/9/12/18/24/36/48/54)
Frequency Range	5725 ~ 5850MHz
Channel Number	11a: 5
Maximum Conducted Output Power	<p>Mode 1 (Ant.1 Dipole antenna / 8dBi)</p> <p>P to M</p> <p>1TX : 11a: 23.21 dBm;</p> <p>2TX : 11a: 26.44 dBm;</p> <p>3TX : 11a: 27.38 dBm</p> <p>Mode 2 (Ant.3 Panel antenna / 12.5dBi)</p> <p>P to M</p> <p>1TX : 11a: 23.24 dBm;</p> <p>2TX : 11a: 23.17 dBm</p> <p>P to P</p> <p>1TX : 11a: 23.21 dBm;</p> <p>2TX : 11a: 26.44 dBm</p> <p>Mode 3 (Ant.4 Yagi antenna / 8dBi)</p> <p>P to M</p> <p>1TX : 11a: 23.21 dBm;</p> <p>2TX : 11a: 26.44 dBm;</p> <p>3TX : 11a: 27.38 dBm</p> <p>Mode 4 (Ant.5 Patch antenna / 2.3dBi)</p> <p>P to M</p> <p>1TX : 11a: 23.21 dBm;</p> <p>2TX : 11a: 26.44 dBm;</p> <p>3TX : 11a: 27.38 dBm</p> <p>Mode 5 (Ant.6 Facade antenna / 2.5dBi)</p> <p>P to M</p> <p>1TX : 11a: 23.21 dBm;</p> <p>2TX : 11a: 26.44 dBm;</p> <p>3TX : 11a: 27.38 dBm</p>

	Mode 6 (Ant.9 Panel antenna / 9.2dBi) P to M 3TX : 11a: 26.77 dBm Mode 7 (Ant.10 PIFA antenna / 5.3dBi) P to M 1TX : 11a: 23.58 dBm; 2TX : 11a: 26.31 dBm; 3TX : 11a: 27.82 dBm
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

Antenna & Band width

Antenna	Single (TX)		Two (TX)		Three (TX)		
	20 MHz	40 MHz	20 MHz	40 MHz	20 MHz	40 MHz	80 MHz
IEEE 802.11a	V	X	V	X	V	X	X
IEEE 802.11n	V	V	V	V	V	V	X
IEEE 802.11ac	V	V	V	V	V	V	V

IEEE 11n/ac Spec.

Protocol	Number of Transmit Chains (NTX)	Data Rate / MCS
802.11n (HT20)	1, 2, 3	MCS0-23
802.11n (HT40)	1, 2, 3	MCS0-23
802.11ac (VHT20)	1, 2, 3	MCS 0-9/Nss1-3
802.11ac (VHT40)	1, 2, 3	MCS 0-9/Nss1-3
802.11ac (VHT80)	1, 2, 3	MCS 0-9/Nss1-3

Note 1: IEEE Std. 802.11n modulation consists of HT20 and HT40 (HT: High Throughput). Then EUT support HT20 and HT40.

Note 2: IEEE Std. 802.11ac modulation consists of VHT20, VHT40, VHT80 and VHT160 (VHT: Very High Throughput). Then EUT support VHT20, VHT40 and VHT80.

Note 3: Modulation modes consist of below configuration:
 11a: IEEE 802.11a, HT20/HT40: IEEE 802.11n, VHT20/VHT40/VHT80: IEEE 802.11ac

3.2. Accessories

N/A

3.3. Table for Filed Antenna

Ant.	Model Name	Antenna Type	Gain (dBi)	Cable loss	True Gain (dBi)	Remark
			5GHz	5GHz	5GHz	
1	ML-5299-FHPA10-01R	Dipole	10.5	2.5	8	P to M
2	ML-2452-PNA7-01R	Panel	12	1.5	10.5	P to M
3	ML-5299-WPNA1-01R	Panel	14	1.5	12.5	P to M / P to P
4	ML-5299-BYGA15-012	Yagi	10.5	2.5	8	P to M
5	ML-5299-PTA1-01R	Patch	3.8	1.5	2.3	P to M
6	KAP-FACADE-ANT	Facade	4	1.5	2.5	P to M
7	ML-2452-APAG2A1-01	Dipole	1.7	1.5	0.2	P to M
8	ML-5299-HPA5-01	Dipole	5.6	2.5	3.1	P to M
9	ML-2452-PNL9M3-036	Panel	10.7	1.5	9.2	P to M
10	RAI-INT-ANT	PIFA	5.3	-	5.3	P to M
11	ML-2452-HPAG5A8-01	Dipole	8	2.5	5.5	P to M
12	ML-5299-HPA1-01R	Dipole	6	1.5	4.5	P to M
13	ML-2452-APA2-01	Dipole	4.6	1.5	3.1	P to M
14	ML-5299-APA1-01R	Dipole	4	1.5	2.5	P to M
15	ML-2452-HPA5-036	Dipole	5	1.5	3.5	P to M
16	ML-5299-HPA10-01	Dipole	10.5	2.5	8	P to M
17	ML-2452-HPAG4A6-01	Dipole	7.3	2.5	4.8	P to M
18	ML-2452-HPA6X6-036	Dipole	6	1.5	4.5	P to M
19	ML-2452-PNA5-01R	Panel	6	2.5	3.5	P to M
20	ML-2452-PTA6M6-036	Panel	6	1.5	4.5	P to M
21	ML-2452-HPA6M6-072	Dipole	6.5	1.5	5	P to M

Note:

- Ant.1~21 are the different antenna type in the antenna list, antenna 1, 3~6, 9~10 are the highest gain antenna, so it was selected to perform the test and recorded in this report.

Table of TX/RX Function in each antenna:

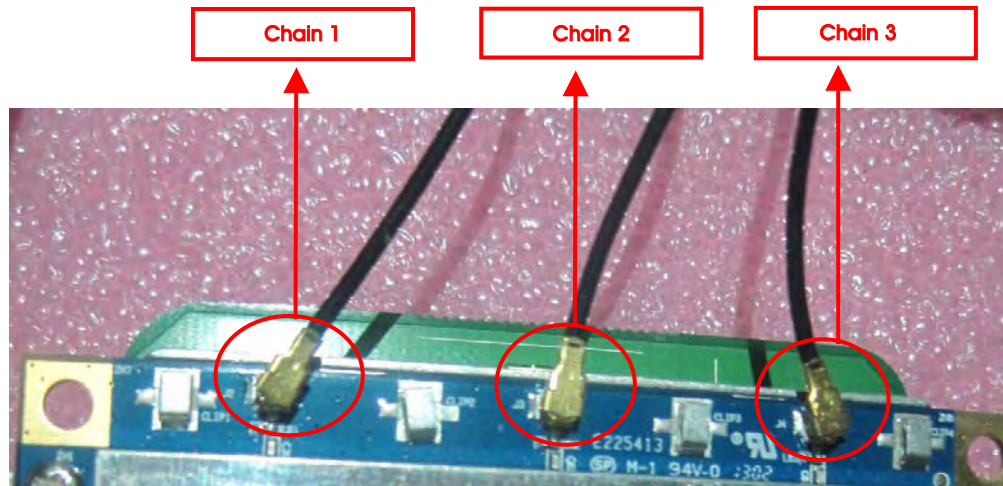
Item			Module					
			Chain 1		Chain 2		Chain 3	
			TX	RX	TX	RX	TX	RX
Ant.1	5GHz	11a	V	V	V	V	V	V
		11n	V	V	V	V	V	V
		11ac	V	V	V	V	V	V
Ant.3	5GHz	11a	V	V	V	V	X	X
		11n	V	V	V	V	X	X
		11ac	V	V	V	V	X	X
Ant.4	5GHz	11a	V	V	V	V	V	V
		11n	V	V	V	V	V	V
		11ac	V	V	V	V	V	V
Ant.5	5GHz	11a	V	V	V	V	V	V
		11n	V	V	V	V	V	V
		11ac	V	V	V	V	V	V
Ant.6	5GHz	11a	V	V	V	V	V	V
		11n	V	V	V	V	V	V
		11ac	V	V	V	V	V	V
Ant.9	5GHz	11a	V	V	V	V	V	V
		11n	V	V	V	V	V	V
		11ac	V	V	V	V	V	V
Ant.10	5GHz	11a	V	V	V	V	V	V
		11n	V	V	V	V	V	V
		11ac	V	V	V	V	V	V

Note : Marked "-" on behalf of no function.

Module	Required 1TX Port
5G	Chain 1

Module	Required 2TX Port
5G	Chain 1 and Chain 2

Module	Required 3TX Port
5G	Chain 1 and Chain 2 and Chain 3



3.4. Table for Carrier Frequencies

There are three bandwidth systems.

For 20MHz bandwidth systems, use Channel 149, 153, 157, 161, 165.

For 40MHz bandwidth systems, use Channel 151, 159.

For 80MHz bandwidth systems, use Channel 155.

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
5725~5850 MHz Band 4	149	5745 MHz	157	5785 MHz
	151	5755 MHz	159	5795 MHz
	153	5765 MHz	161	5805 MHz
	155	5775 MHz	165	5825 MHz

3.5. Table for Test Modes

Preliminary tests were performed in different data rate to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode	Data Rate	Channel	Chain
AC Power Line Conducted Emissions	CTX	-	-	-
Maximum Conducted Output Power	11n HT20	MCS0	149/157/165	1 1+2 1+2+3
	11n HT40	MCS0	151/159	1 1+2 1+2+3
	11ac VHT20	MCS0/Nss1	149/157/165	1 1+2 1+2+3
	11ac VHT40	MCS0/Nss1	151/159	1 1+2 1+2+3
	11ac VHT80	MCS0/Nss1	155	1 1+2 1+2+3
	11a	6 Mbps	149/157/165	1 1+2 1+2+3
	Power Spectral Density	11ac VHT20	MCS0/Nss1	149/157/165
11ac VHT40		MCS0/Nss1	151/159	1 1&2 1&2&3
11ac VHT80		MCS0/Nss1	155	1 1&2 1&2&3
6dB Spectrum Bandwidth	11ac VHT20	MCS0/Nss1	149/157/165	1 1+2 1+2+3

	11ac VHT40	MCS0/Nss1	151/159	1 1+2 1+2+3
	11ac VHT80	MCS0/Nss1	155	1 1+2 1+2+3
Radiated Emissions Below 1GHz	CTX	-	-	1 1+2 1+2+3
Radiated Emissions Above 1GHz	11ac VHT20	MCS0/Nss1	149/157/165	1 1+2 1+2+3
	11ac VHT40	MCS0/Nss1	151/159	1 1+2 1+2+3
	11ac VHT80	MCS0/Nss1	155	1 1+2 1+2+3
Emissions Measurement	11n HT20	MCS0	149/157/165	1 1+2 1+2+3
	11n HT40	MCS0	151/159	1 1+2 1+2+3
	11ac VHT20	MCS0/Nss1	149/157/165	1 1+2 1+2+3
	11ac VHT40	MCS0/Nss1	151/159	1 1+2 1+2+3
	11ac VHT80	MCS0/Nss1	155	1 1+2 1+2+3
	11a	6 Mbps	149/157/165	1 1+2 1+2+3

The following test modes were performed for all tests:

For Conducted Emission test:

Mode 1. Module + Antenna 3

For Radiated Emission test below 1GHz:

Mode 1. Module + Antenna 3

For Radiated Emission test above 1GHz:

The following test modes were performed for Radiated emission above 1GHz tests:

Antenna/Radio Mode		11a 1TX	11a 2TX	11a 3TX	11n HT20/40 1TX (MCS0)	11n HT20/40 2TX (MCS0)	11n HT20/40 3TX (MCS0)	VHT 20/40/80 1TX (MCS0) (Nss1)	VHT 20/40/80 2TX (MCS0) (Nss1)	VHT 20/40/80 3TX (MCS0) (Nss1)
Mode 1	Dipole-5G, Antenna 1	*	*	*	*	*	*	v	v	v
Mode 2	Panel -5G, Antenna 3	*	*	x	*	*	x	v	v	x
Mode 3	Yagi -5G, Antenna 4	*	*	*	*	*	*	v	v	v
Mode 4	Patch -5G, Antenna 5	*	*	*	*	*	*	v	v	v
Mode 5	Facade - 5G, Antenna 6	*	*	*	*	*	*	v	v	v
Mode 6	Panel -5G, Antenna 9	x	x	*	x	x	*	x	x	v
Mode 7	PIFA -5G, Antenna 10	*	*	*	*	*	*	v	v	v

Note 1: 11a/n (HT20/40) 1TX/2TX/3TX without test due to covered by 802.11 ac VHT20/40 1TX/2TX/3TX (MCS0-single stream) which are same modulation, bandwidth and frequency.

Note 2: "*" evaluate output power and out-band emission for the 11a/n (HT20/40) 1TX, 2TX & 3TX, the other test items are covered by 802.11ac VHT20/40 VMCS0

Note 3: "x" The EUT does not support this function.

<For MPE and Co-location Test>:

The EUT could be applied with RadioA (2.4G)/(5G) RF module (FCC ID: UZ7KHAP800), RadioB (5G) RF module (FCC ID: UZ7RAAP800) and 2.4G/5G USB dongle (FCC ID: UZ7KHUSB600); therefore Maximum Permissible Exposure (Please refer to Appendix B) and Co-location (please refer to Appendix C) tests are added for simultaneously transmit between 2.4GHz, 5GHz WLAN function and 2.4G, 5G USB dongle.

Expected Array Gain Adjustment to Antenna Directivity for 2TX / 3TX Configurations and Supported Operational Modes

In the FCC regulatory domain, conducted testing of systems with multiple transmitters (2Tx transmitter configurations) was performed in accordance with KDB 662911 requires adjustment of antenna directivity by an array gain factor. The array gain factor is dependent on correlation of the multiple tx signals, and is therefore a function of operational mode.

The following table establishes the expected array gain for the 2Tx and 3TX transmitter configuration case for each supported operational mode.

Operational Mode > Tx Config ^	11a (Legacy OFDM)	(V)HT20 1 Stream (MCS0-7)	(V)HT40 1 Stream (MCS0-7)	(V)HT20 2 Stream (MCS8-15)	(V)HT40 2 Stream (MCS8-15)	(V)HT40 3 Stream (MCS16-23)
2TX	3 dB	3dB	3dB	NA	NA	NA
3TX	4.77dB	4.77dB	4.77dB	1.8dB	1.8dB	NA

3.6. Table for Testing Locations

Test Site No.	Site Category	Location	FCC Reg. No.	IC File No.
03CH01-CB	SAC	Hsin Chu	262045	IC 4086D
CO01-CB	Conduction	Hsin Chu	262045	IC 4086D
TH01-CB	OVEN Room	Hsin Chu	-	-

Open Area Test Site (OATS); Semi Anechoic Chamber (SAC); Fully Anechoic Chamber (FAC).

Please refer section 6 for Test Site Address.

3.7. Table for Supporting Units

For Test Site No : CO01-CB

Support Unit	Brand	Model	FCC ID
Notebook	DELL	E6430	QDS-BRCM1049LE
Test Fixture	WNC	express card adapter	N/A

For Test Site No : 03CH01-CB

Support Unit	Brand	Model	FCC ID
Notebook	DELL	E6220	QDS-BRCM1049LE
Test Fixture	WNC	express card adapter	N/A

For Test Site No : TH01-CB

Support Unit	Brand	Model	FCC ID
Notebook	DELL	D520	E2KWM3945ABG
Test Fixture	WNC	express card adapter	N/A

3.8. Table for Parameters of Test Software Setting

During testing, Channel & Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Test Mode: Mode 1 (Ant.1 Dipole antenna / 8dBi)

P to M

1TX

Power Parameters of IEEE 802.11n MCS0 HT20 / Chain 1

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11n MCS0 HT40 / Chain 1

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/40MHz	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Test Software Version	ART2-GUI Version 2.3	
Frequency	5775 MHz	
VMCS0/Nss1 80MHz	23.5	

Power Parameters of IEEE 802.11a / Chain 1

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	23	23	23

2TX
Power Parameters of IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/ 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/ 40MHz	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3	
Frequency	5775 MHz	
MCS0/Nss1 80MHz	23.5	

Power Parameters of IEEE 802.11a / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	23.5	23.5	23.5

3TX
Power Parameters of IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/ 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/ 40MHz	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3	
Frequency	5775 MHz	
MCS0/Nss1 80MHz	23.5	

Power Parameters of IEEE 802.11a / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	23.5	23.5	23.5

Test Mode: Mode 2 (Ant.3 Panel antenna / 12.5dBi)

P to M

1TX

Power Parameters of IEEE 802.11n MCS0 HT20 / Chain 1

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/ 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11n MCS0 HT40 / Chain 1

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/ 40MHz	22.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	22	22	22

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	22.5	22.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Test Software Version	ART2-GUI Version 2.3	
Frequency	5775 MHz	
MCS0/Nss1 80MHz	22	

Power Parameters of IEEE 802.11a / Chain 1

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	22	22	22

2TX
Power Parameters of IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/ 20MHz	19.5	19.5	19.5

Power Parameters of IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/ 40MHz	19.5	19.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	19.5	19.5	19.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	19.5	19.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3	
Frequency	5775 MHz	
MCS0/Nss1 80MHz	19.5	

Power Parameters of IEEE 802.11a / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	19	19	19

Test Mode: Mode 2 (Ant.3 Panel antenna / 12.5dBi)

P to P

1TX

Power Parameters of IEEE 802.11n MCS0 HT20 / Chain 1

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/ 20MHz	22	22	22

Power Parameters of IEEE 802.11n MCS0 HT40 / Chain 1

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/ 40MHz	22.5	22.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	22.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Test Software Version	ART2-GUI Version 2.3	
Frequency	5775 MHz	
MCS0/Nss1 80MHz	22	

Power Parameters of IEEE 802.11a / Chain 1

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	23	23	23

2TX
Power Parameters of IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/ 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/ 40MHz	23	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	22.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3	
Frequency	5775 MHz	
MCS0/Nss1 80MHz	22	

Power Parameters of IEEE 802.11a / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	23	23	23

Test Mode: Mode 3 (Ant.4 Yagi antenna / 8dBi)

P to M

1TX

Power Parameters of IEEE 802.11n MCS0 HT20 / Chain 1

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/ 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11n MCS0 HT40 / Chain 1

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/ 40MHz	22.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	22.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Test Software Version	ART2-GUI Version 2.3	
Frequency	5775 MHz	
MCS0/Nss1 80MHz	21.5	

Power Parameters of IEEE 802.11a / Chain 1

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	23	23	23

2TX
Power Parameters of IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/ 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/ 40MHz	22.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	22.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3	
Frequency	5775 MHz	
MCS0/Nss1 80MHz	22.5	

Power Parameters of IEEE 802.11a / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	23.5	23.5	23.5

3TX
Power Parameters of IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/ 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/ 40MHz	22.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	22.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3	
Frequency	5775 MHz	
MCS0/Nss1 80MHz	22.5	

Power Parameters of IEEE 802.11a / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	23.5	23.5	23.5

Test Mode: Mode 4 (Ant.5 Patch antenna / 2.3dBi)

P to M

1TX

Power Parameters of IEEE 802.11n MCS0 HT20 / Chain 1

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/ 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11n MCS0 HT40 / Chain 1

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/ 40MHz	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Test Software Version	ART2-GUI Version 2.3	
Frequency	5775 MHz	
MCS0/Nss1 80MHz	23.5	

Power Parameters of IEEE 802.11a / Chain 1

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	23	23	23

2TX
Power Parameters of IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/ 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/ 40MHz	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3	
Frequency	5775 MHz	
MCS0/Nss1 80MHz	23.5	

Power Parameters of IEEE 802.11a / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	23.5	23.5	23.5

3TX
Power Parameters of IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/ 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/ 40MHz	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3	
Frequency	5775 MHz	
MCS0/Nss1 80MHz	23.5	

Power Parameters of IEEE 802.11a / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	23.5	23.5	23.5

Test Mode: Mode 5 (Ant.6 Facade antenna / 2.5dBi)

P to M

1TX

Power Parameters of IEEE 802.11n MCS0 HT20 / Chain 1

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/ 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11n MCS0 HT40 / Chain 1

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/ 40MHz	22.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	22.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Test Software Version	ART2-GUI Version 2.3	
Frequency	5775 MHz	
MCS0/Nss1 80MHz	22	

Power Parameters of IEEE 802.11a / Chain 1

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	23	23	23

2TX
Power Parameters of IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/ 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/ 40MHz	23	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	23	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3	
Frequency	5775 MHz	
MCS0/Nss1 80MHz	22	

Power Parameters of IEEE 802.11a / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	23.5	23.5	23.5

3TX
Power Parameters of IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/ 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/ 40MHz	23	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	23.5	23.5	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	23	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3	
Frequency	5775 MHz	
MCS0/Nss1 80MHz	22.5	

Power Parameters of IEEE 802.11a / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	23.5	23.5	23.5

Test Mode: Mode 6 (Ant.9 Panel antenna / 9.2dBi)

P to M

3TX

Power Parameters of IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/ 20MHz	22	22	22

Power Parameters of IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/ 40MHz	23	23

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	22.5	22.5	22.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	23	23.5

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3	
Frequency	5775 MHz	
MCS0/Nss1 80MHz	22.5	

Power Parameters of IEEE 802.11a / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	22.5	22.5	22.5

Test Mode: Mode 7 (Ant.10 PIFA antenna / 5.3dBi)

P to M

1TX

Power Parameters of IEEE 802.11n MCS0 HT20 / Chain 1

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/20MHz	24	24	24

Power Parameters of IEEE 802.11n MCS0 HT40 / Chain 1

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/40MHz	23	24

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	24	24	24

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	23	24

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Test Software Version	ART2-GUI Version 2.3	
Frequency	5775 MHz	
VMCS0/Nss1 80MHz	22.5	

Power Parameters of IEEE 802.11a / Chain 1

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	24	24	24

2TX
Power Parameters of IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/ 20MHz	24	24	24

Power Parameters of IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/ 40MHz	24	24

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	24	24	24

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	24	24

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3	
Frequency	5775 MHz	
MCS0/Nss1 80MHz	24	

Power Parameters of IEEE 802.11a / Chain 1 + Chain 2

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	24	24	24

3TX

Power Parameters of IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/ 20MHz	24	24	24

Power Parameters of IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/ 40MHz	23.5	24

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	24	24	24

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	23.5	24

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3

Test Software Version	ART2-GUI Version 2.3	
Frequency	5775 MHz	
MCS0/Nss1 80MHz	23	

Power Parameters of IEEE 802.11a / Chain 1 + Chain 2 + Chain 3

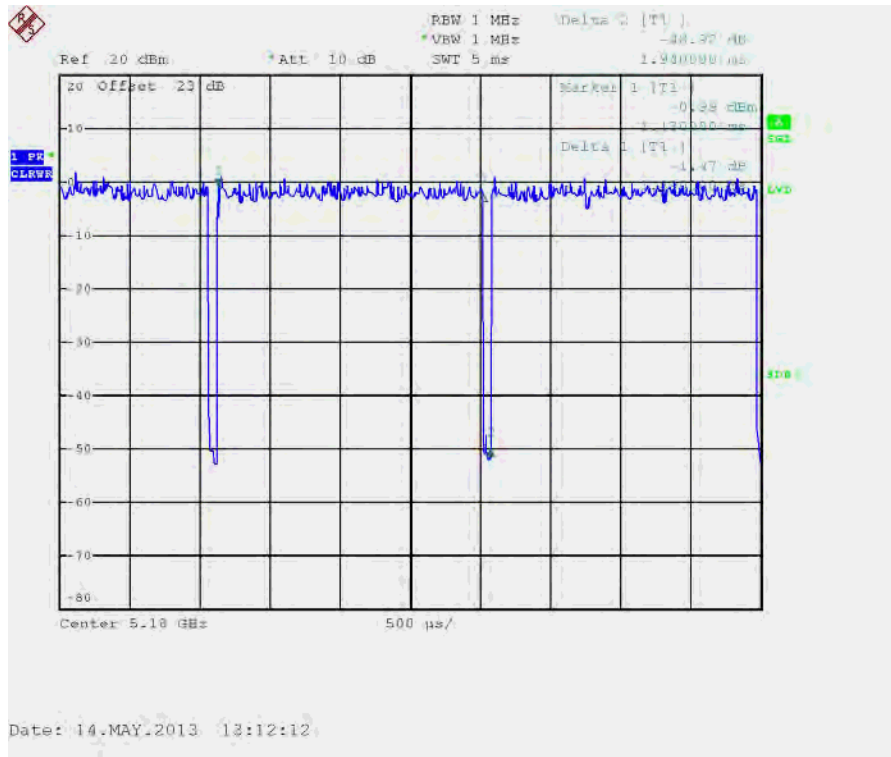
Test Software Version	ART2-GUI Version 2.3		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	24	24	24

3.9. EUT Operation during Test

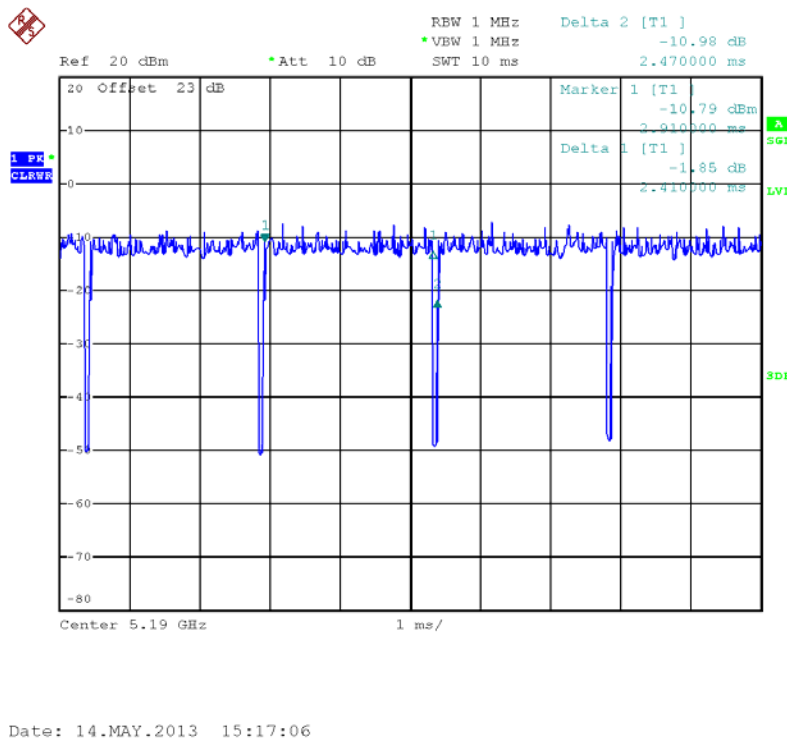
The EUT was programmed to be in continuously transmitting mode.

3.10. Duty Cycle

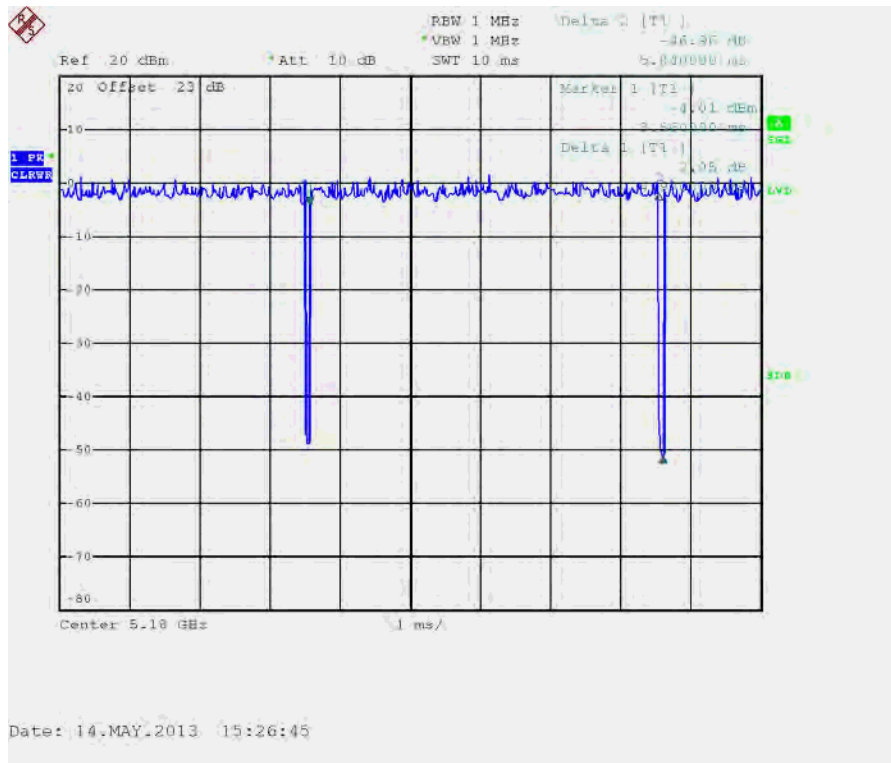
IEEE 802.11n MCS0 HT20



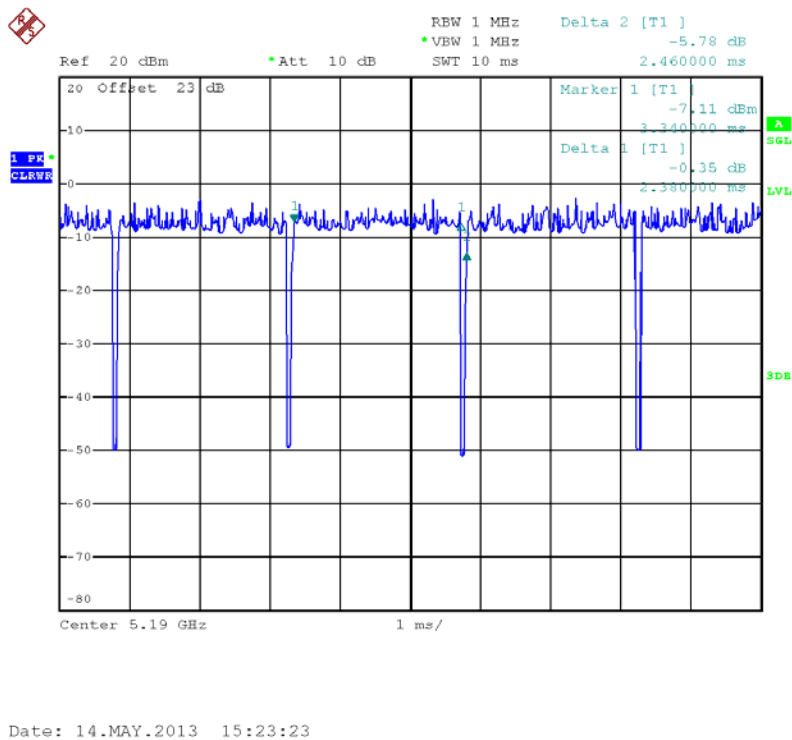
IEEE 802.11n MCS0 HT40



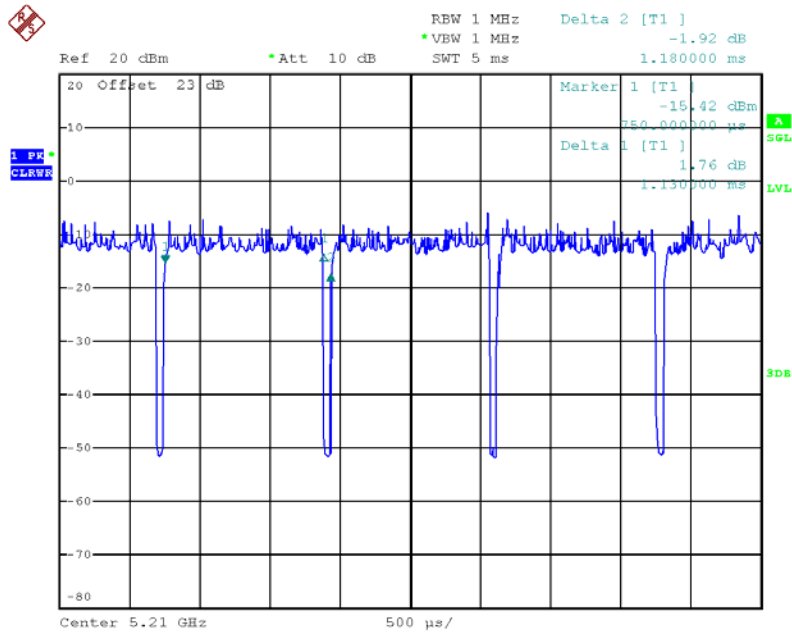
IEEE 802.11ac MCS0/Nss1 VHT20



IEEE 802.11ac MCS0/Nss1 VHT40

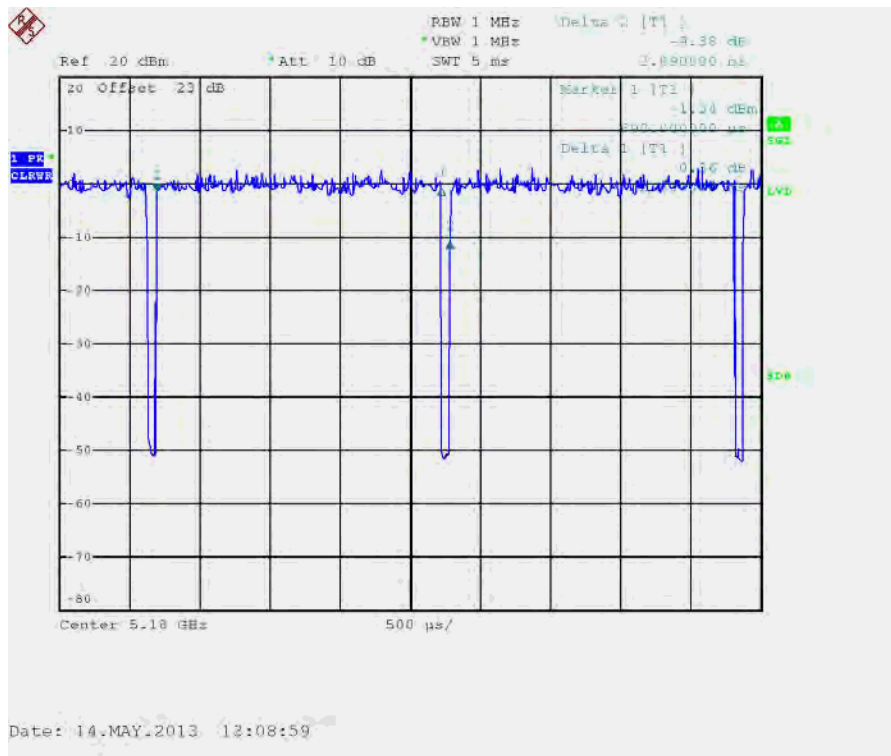


IEEE 802.11ac MCS0/Nss1 VHT80



Date: 14.MAY.2013 15:31:32

IEEE 802.11a

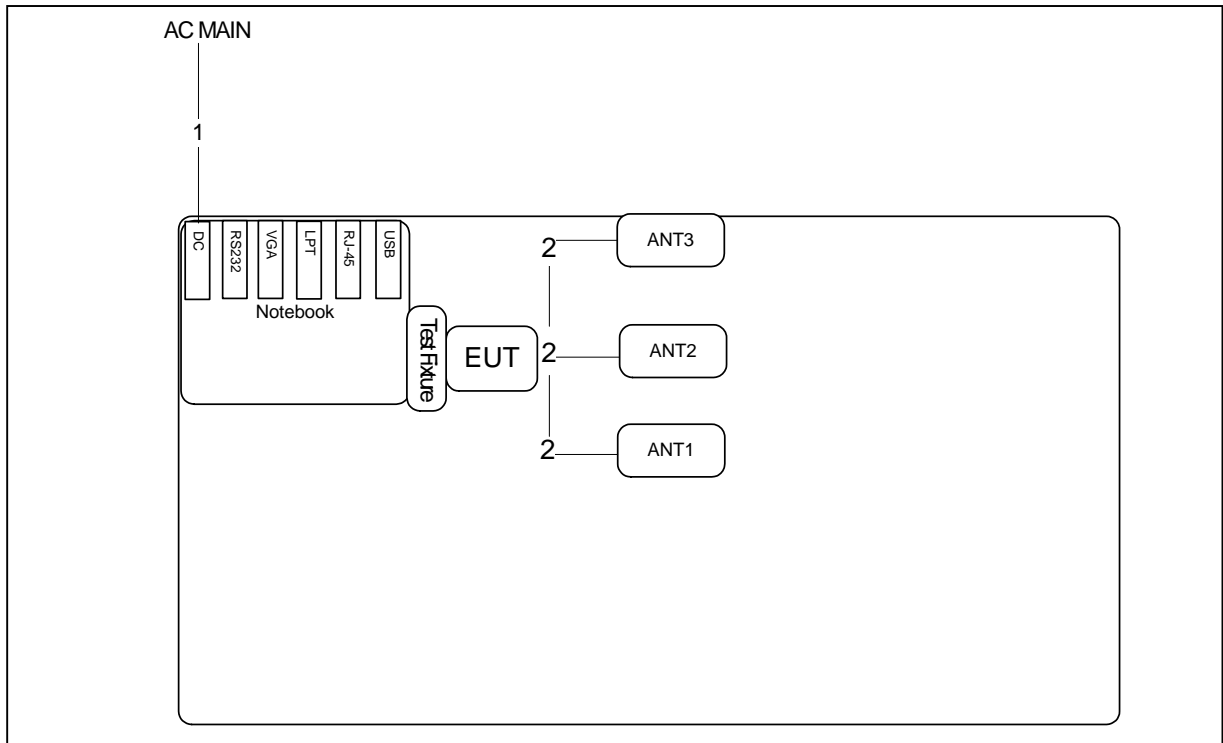


Date: 14.MAY.2013 12:08:59

3.11. Test Configurations

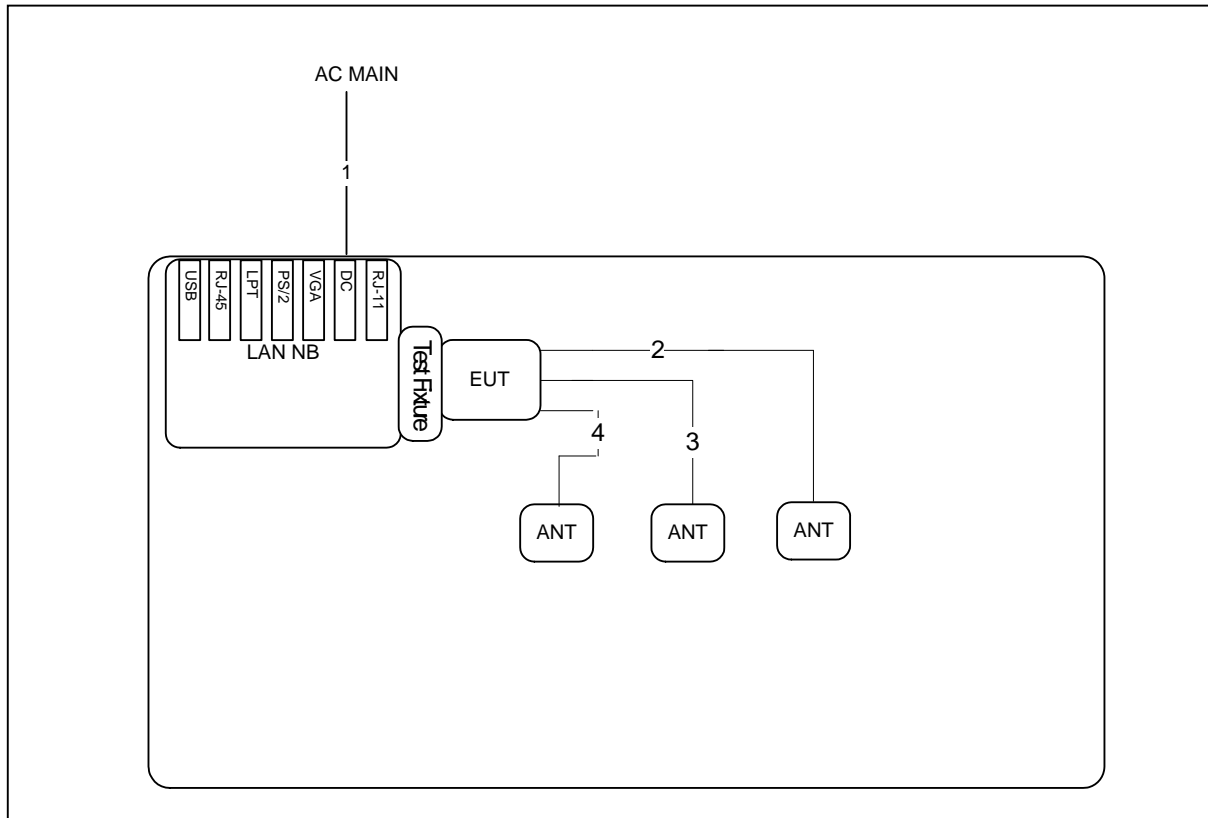
3.11.1. AC Power Line Conduction and Radiation Emissions Test Configuration

Test Configuration: Conduction and Radiation 30MHz~1GHz / Test Mode: Mode 1



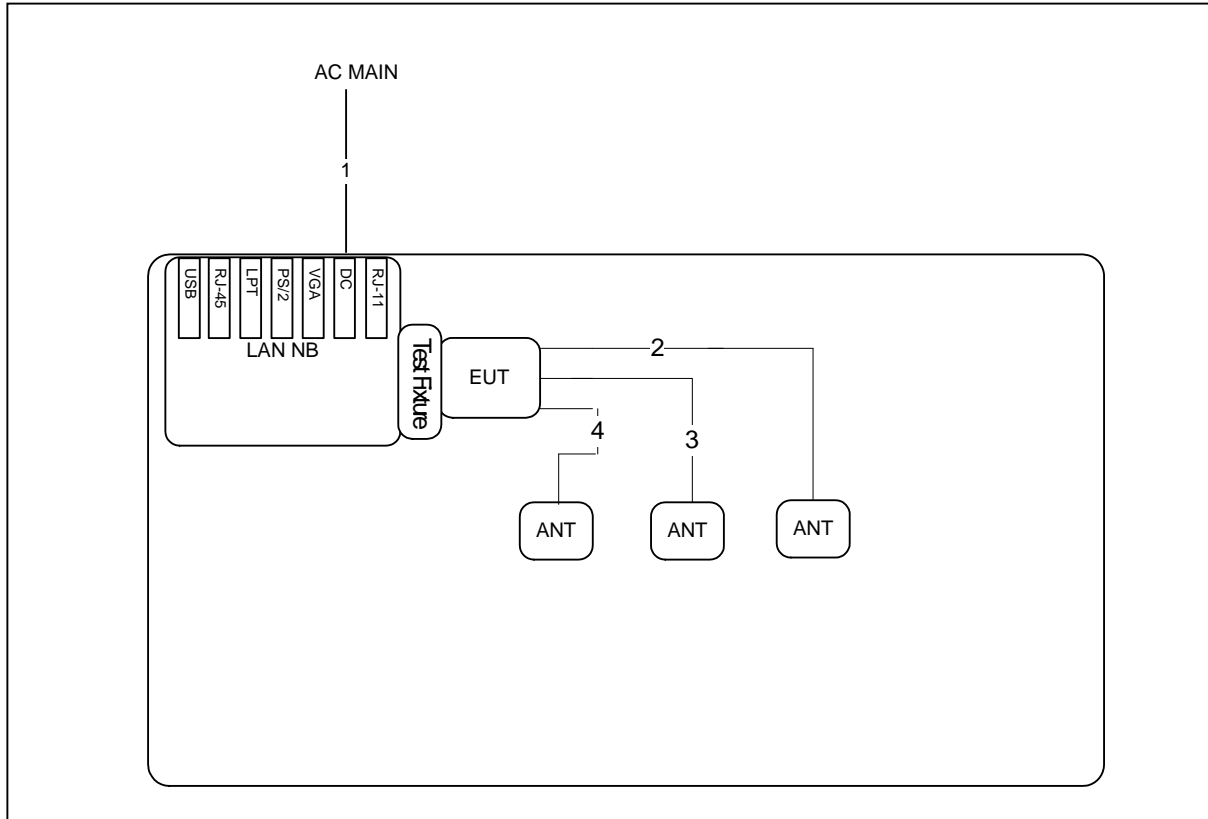
Item	Connection	Shield	Length
1	Power cable	No	2.97m
2	Ant cable	No	1.1m

Test Configuration: Radiation above 1GHz / Test Mode: Mode 1



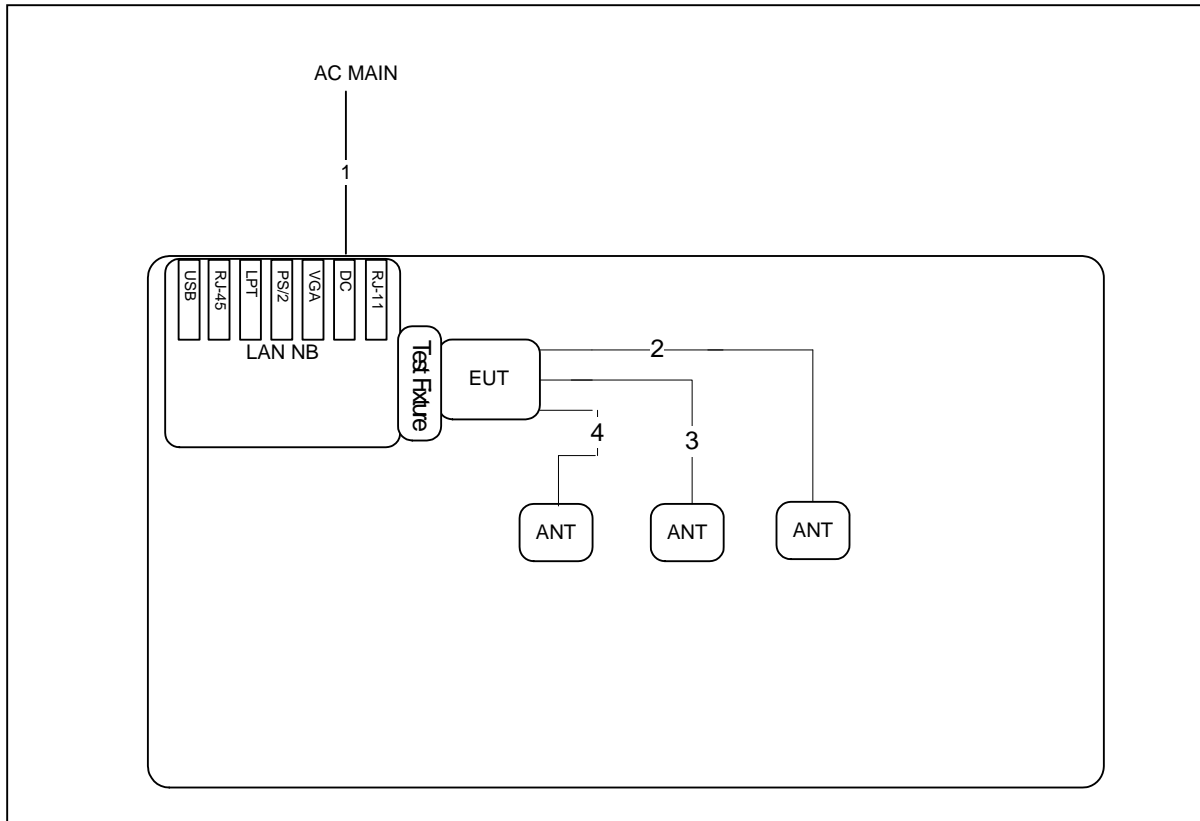
Item	Connection	Shield	Length
1	Power cable	No	1.8m
2	Ant cable	Yes	1.2m
3	Ant cable	Yes	1.2m
4	Ant cable	Yes	1.2m

Test Configuration: Radiation above 1GHz / Test Mode: Mode 2



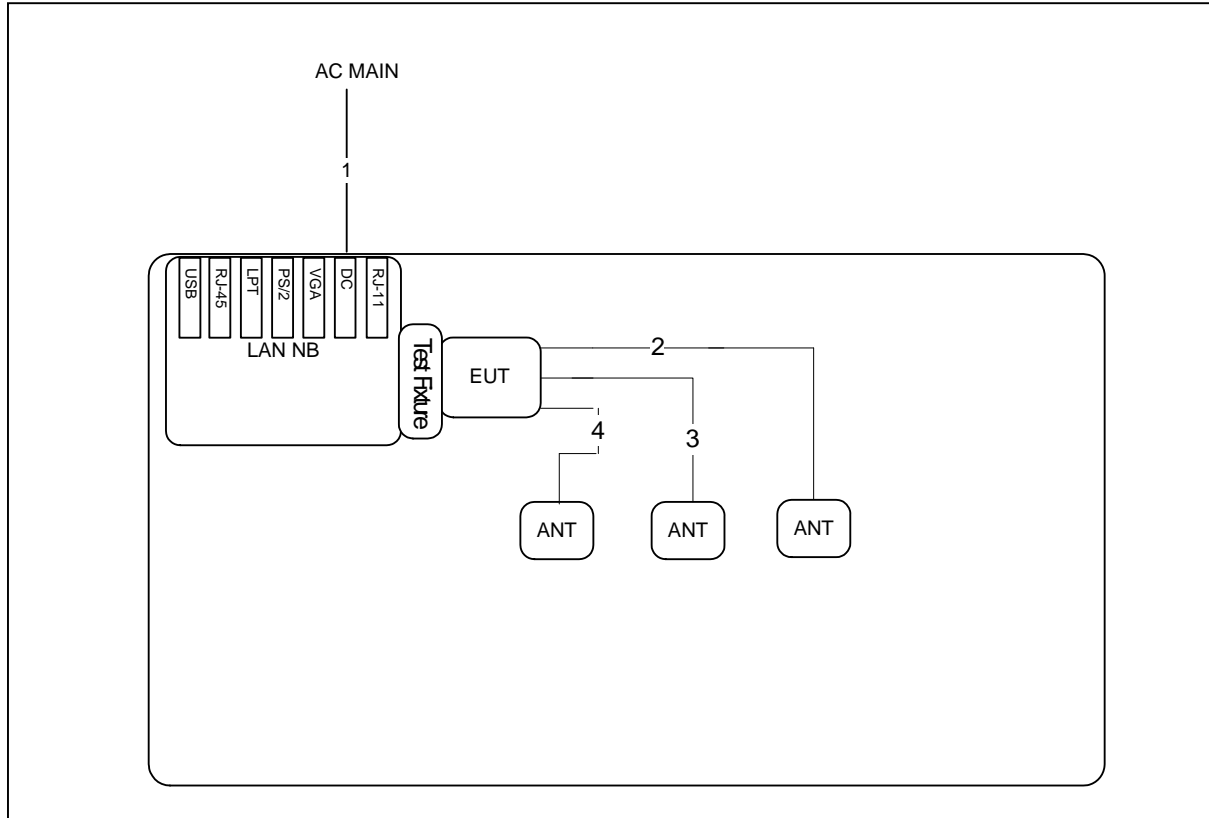
Item	Connection	Shield	Length
1	Power cable	No	1.8m
2	Ant cable	Yes	1.1m
3	Ant cable	Yes	1.1m
4	Ant cable	Yes	1.1m

Test Configuration: Radiation above 1GHz / Test Mode: Mode 3



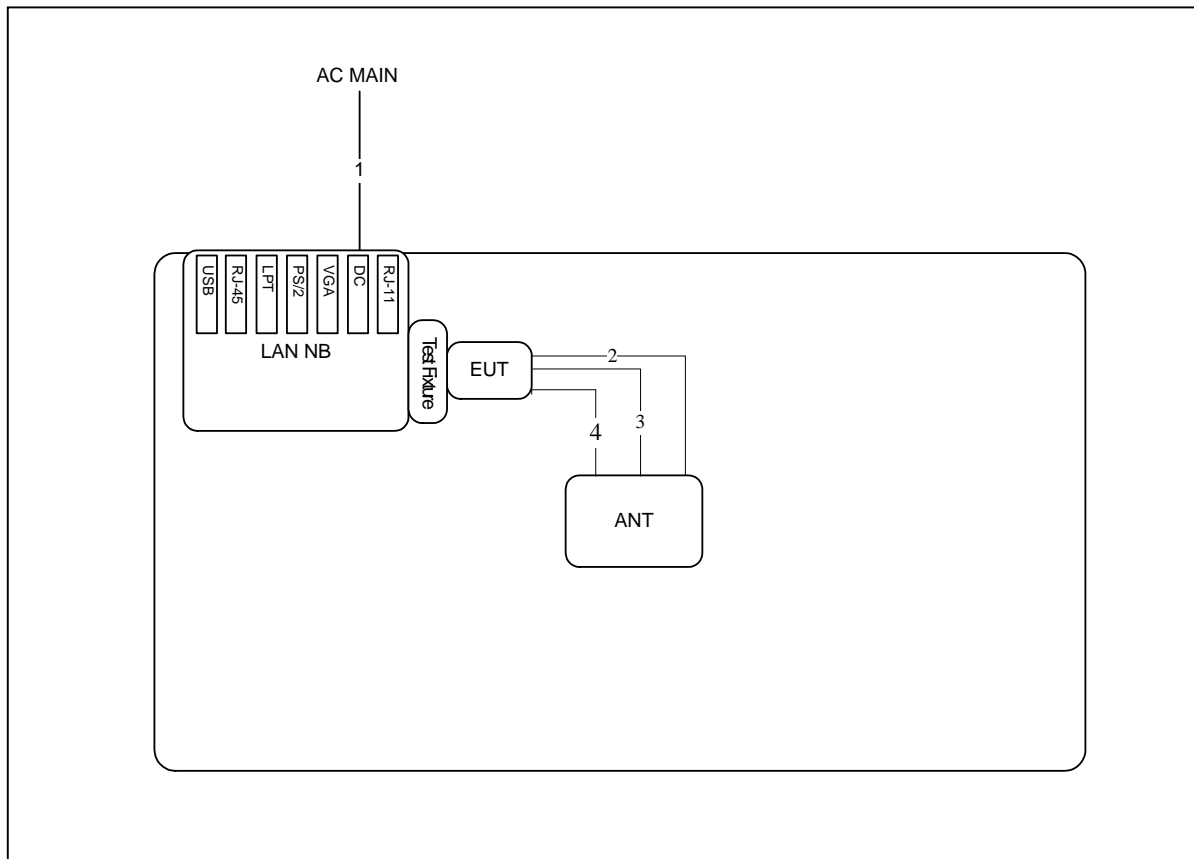
Item	Connection	Shield	Length
1	Power cable	No	1.8m
2	Ant cable	Yes	1.2m
3	Ant cable	Yes	1.2m
4	Ant cable	Yes	1.2m

Test Configuration: Radiation above 1GHz / Test Mode: Mode 4



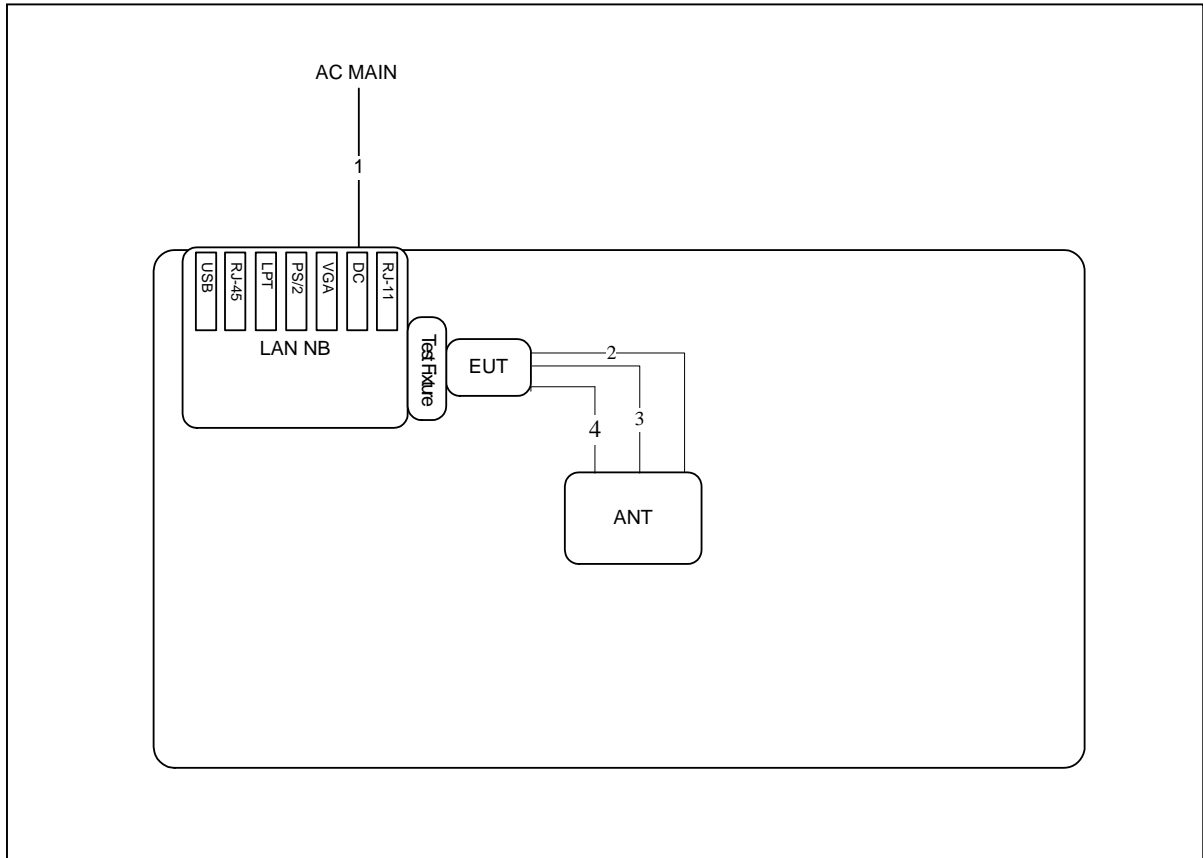
Item	Connection	Shield	Length
1	Power cable	No	1.8m
2	Ant cable	Yes	1.2m
3	Ant cable	Yes	1.2m
4	Ant cable	Yes	1.2m

Test Configuration: Radiation above 1GHz / Test Mode: Mode 5



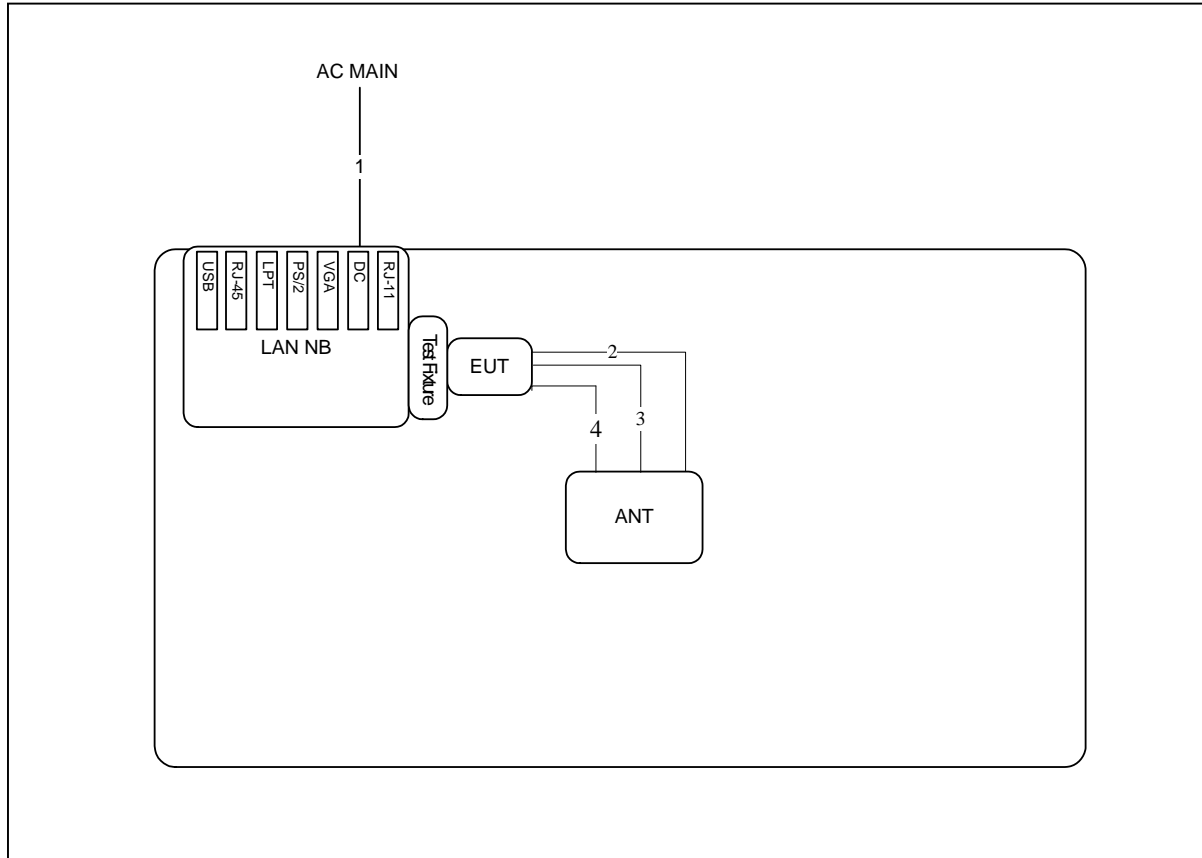
Item	Connection	Shield	Length
1	Power cable	No	1.8m
2	Ant cable	Yes	0.25m
3	Ant cable	Yes	0.25m
4	Ant cable	Yes	0.25m

Test Configuration: Radiation above 1GHz / Test Mode: Mode 6



Item	Connection	Shield	Length
1	Power cable	No	1.8m
2	Ant cable	Yes	1.1m
3	Ant cable	Yes	1.1m
4	Ant cable	Yes	1.1m

Test Configuration: Radiation above 1GHz / Test Mode: Mode 7



Item	Connection	Shield	Length
1	Power cable	No	1.8m
2	Ant cable	Yes	0.18m
3	Ant cable	Yes	0.18m
4	Ant cable	Yes	0.18m

4. TEST RESULT

4.1. AC Power Line Conducted Emissions Measurement

4.1.1. Limit

For this product which is designed to be connected to the AC power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed below limits table.

Frequency (MHz)	QP Limit (dBuV)	AV Limit (dBuV)
0.15~0.5	66~56	56~46
0.5~5	56	46
5~30	60	50

4.1.2. Measuring Instruments and Setting

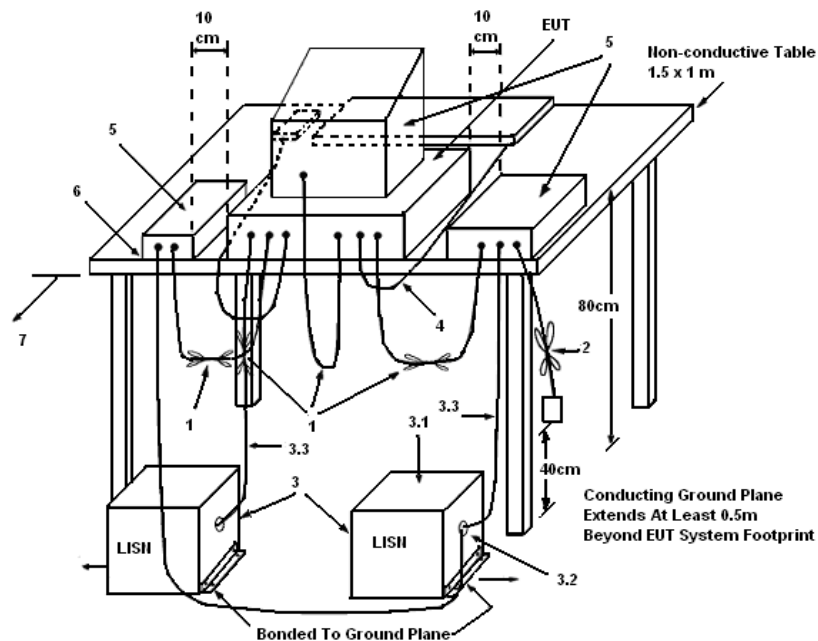
Please refer to section 5 of equipments list in this report. The following table is the setting of the receiver.

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 KHz

4.1.3. Test Procedures

1. Configure the EUT according to ANSI C63.10. The EUT or host of EUT has to be placed 0.4 meter far from the conducting wall of the shielding room and at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT or host of EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connected to the other LISNs. The LISN should provide 50uH/50ohms coupling impedance.
4. The frequency range from 150 KHz to 30 MHz was searched.
5. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. The measurement has to be done between each power line and ground at the power terminal.

4.1.4. Test Setup Layout



LEGEND:

- (1) Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- (2) I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- (3) EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω . LISN can be placed on top of, or immediately beneath, reference ground plane.
 - (3.1) All other equipment powered from additional LISN(s).
 - (3.2) Multiple outlet strip can be used for multiple power cords of non-EUT equipment.
 - (3.3) LISN at least 80 cm from nearest part of EUT chassis.
- (4) Cables of hand-operated devices, such as keyboards, mice, etc., shall be placed as for normal use.
- (5) Non-EUT components of EUT system being tested.
- (6) Rear of EUT, including peripherals, shall all be aligned and flush with rear of tabletop.
- (7) Rear of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.

4.1.5. Test Deviation

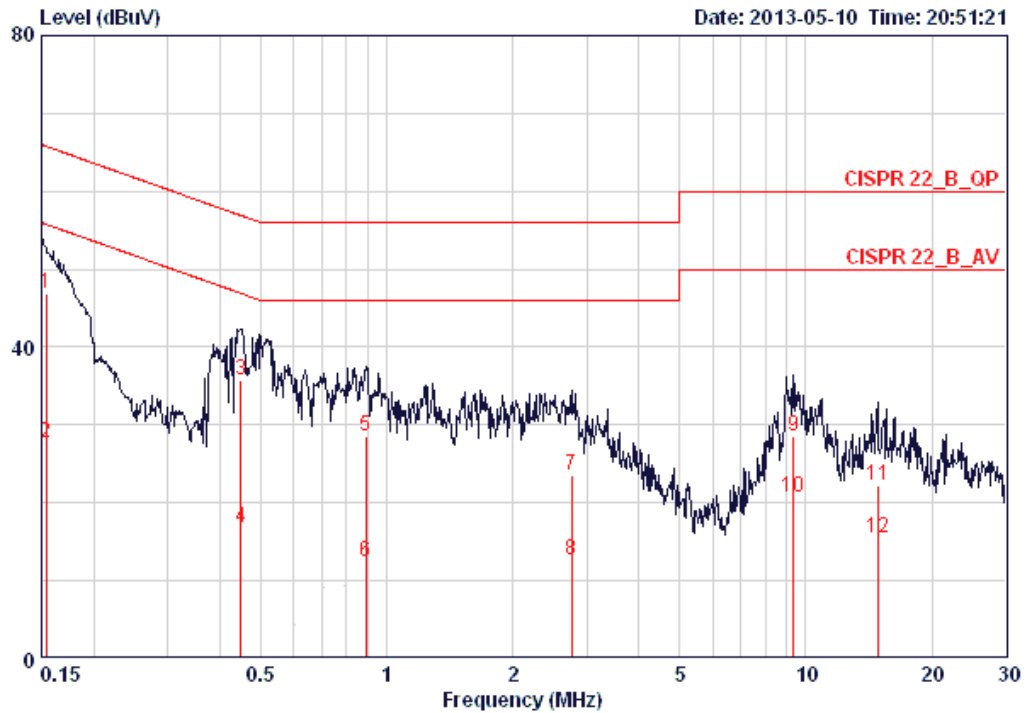
There is no deviation with the original standard.

4.1.6. EUT Operation during Test

The EUT was placed on the test table and programmed in normal function.

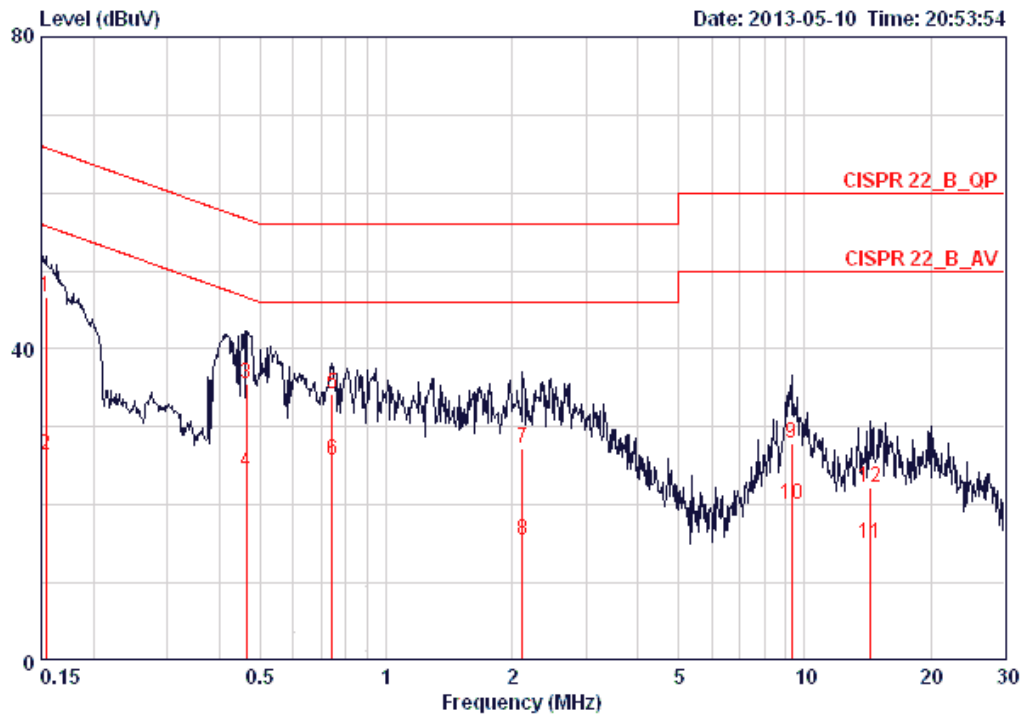
4.1.7. Results of AC Power Line Conducted Emissions Measurement

Temperature	24°C	Humidity	48%
Test Engineer	Hank Yang	Phase	Line
Configuration	CTX	Test Mode	Mode 1



	Freq	Level	Over	Limit	Read	LISN	Cable		
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Pol/Phase	Remark
			dB	dBuV	dBuV	dB	dB		
1	0.15403	46.97	-18.81	65.78	46.63	0.16	0.18	LINE	QP
2	0.15403	27.66	-28.12	55.78	27.32	0.16	0.18	LINE	AVERAGE
3	0.44916	35.73	-21.16	56.89	35.38	0.15	0.20	LINE	QP
4	0.44916	16.72	-30.17	46.89	16.37	0.15	0.20	LINE	AVERAGE
5	0.88969	28.64	-27.36	56.00	28.27	0.17	0.20	LINE	QP
6	0.88969	12.47	-33.53	46.00	12.10	0.17	0.20	LINE	AVERAGE
7	2.765	23.63	-32.37	56.00	23.18	0.20	0.25	LINE	QP
8	2.765	12.54	-33.46	46.00	12.09	0.20	0.25	LINE	AVERAGE
9	9.352	28.46	-31.54	60.00	27.81	0.33	0.32	LINE	QP
10	9.352	20.79	-29.21	50.00	20.14	0.33	0.32	LINE	AVERAGE
11	14.828	22.34	-37.66	60.00	21.52	0.41	0.41	LINE	QP
12	14.828	15.57	-34.43	50.00	14.75	0.41	0.41	LINE	AVERAGE

Temperature	24°C	Humidity	48%
Test Engineer	Hank Yang	Phase	Neutral
Configuration	CTX	Test Mode	Mode 1



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.15403	46.71	-19.07	65.78	46.45	0.08	0.18	NEUTRAL	QP
2	0.15403	26.36	-29.42	55.78	26.10	0.08	0.18	NEUTRAL	AVERAGE
3	0.46367	35.43	-21.20	56.63	35.15	0.08	0.20	NEUTRAL	QP
4	0.46367	24.20	-22.43	46.63	23.92	0.08	0.20	NEUTRAL	AVERAGE
5	0.74302	34.15	-21.85	56.00	33.86	0.09	0.20	NEUTRAL	QP
6	0.74302	25.64	-20.36	46.00	25.35	0.09	0.20	NEUTRAL	AVERAGE
7	2.121	27.34	-28.66	56.00	27.00	0.11	0.23	NEUTRAL	QP
8	2.121	15.47	-30.53	46.00	15.13	0.11	0.23	NEUTRAL	AVERAGE
9	9.302	27.95	-32.05	60.00	27.41	0.23	0.32	NEUTRAL	QP
10	9.302	20.12	-29.88	50.00	19.58	0.23	0.32	NEUTRAL	AVERAGE
11	14.364	15.04	-34.96	50.00	14.33	0.31	0.40	NEUTRAL	AVERAGE
12	14.364	22.19	-37.81	60.00	21.48	0.31	0.40	NEUTRAL	QP

Note:

$$\text{Level} = \text{Read Level} + \text{LISN Factor} + \text{Cable Loss}$$

4.2. Maximum Conducted Output Power Measurement

4.2.1. Limit

For Systems operating in the 5725-5850 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter output power.

4.2.2. Measuring Instruments and Setting

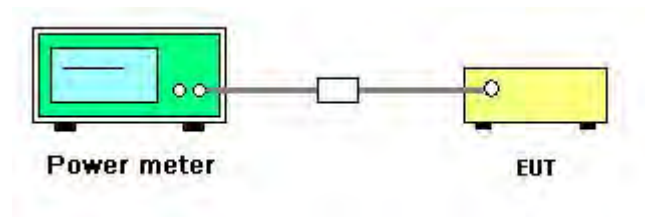
Please refer to section 5 of equipments list in this report. The following table is the setting of the power meter.

Power Meter Parameter	Setting
Detector	Average

4.2.3. Test Procedures

1. Test procedures refer KDB 558074 D01 v03r01 section 9.2.2 Measurement using a power meter (PM).
2. This procedure provides an alternative for determining the RMS output power using a broadband RF average power meter with a thermocouple detector.

4.2.4. Test Setup Layout



4.2.5. Test Deviation

There is no deviation with the original standard.

4.2.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.2.7. Test Result of Maximum Conducted Output Power

Temperature	25°C	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11n/ac
Test Date	May 04, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 8dBi)

P to M

1TX

Configuration IEEE 802.11n MCS0 HT20 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
149	5745 MHz	22.96	28.00	Complies
157	5785 MHz	22.62	28.00	Complies
165	5825 MHz	22.48	28.00	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
151	5755 MHz	22.99	28.00	Complies
159	5795 MHz	22.64	28.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
149	5745 MHz	23.09	28.00	Complies
157	5785 MHz	22.77	28.00	Complies
165	5825 MHz	22.84	28.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
151	5755 MHz	22.65	28.00	Complies
159	5795 MHz	22.55	28.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
155	5775 MHz	22.56	28.00	Complies

2TX
Configuration IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
149	5745 MHz	22.67	22.58	25.64	28.00	Complies
157	5785 MHz	22.46	22.40	25.44	28.00	Complies
165	5825 MHz	22.21	22.23	25.23	28.00	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
151	5755 MHz	22.72	23.52	26.15	28.00	Complies
159	5795 MHz	22.29	22.73	25.53	28.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
149	5745 MHz	22.91	23.65	26.31	28.00	Complies
157	5785 MHz	22.61	23.23	25.94	28.00	Complies
165	5825 MHz	22.62	23.09	25.87	28.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
151	5755 MHz	22.58	23.01	25.81	28.00	Complies
159	5795 MHz	22.18	22.81	25.52	28.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
155	5775 MHz	22.47	22.87	25.68	28.00	Complies

3TX
Configuration IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain 3			
149	5745 MHz	22.57	23.48	22.74	27.72	28.00	Complies
157	5785 MHz	22.12	23.13	22.64	27.42	28.00	Complies
165	5825 MHz	22.31	23.00	22.52	27.39	28.00	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain 3			
151	5755 MHz	22.24	23.05	22.06	27.24	28.00	Complies
159	5795 MHz	21.49	22.52	22.29	26.89	28.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain 3			
149	5745 MHz	22.40	23.34	22.57	27.56	28.00	Complies
157	5785 MHz	22.22	22.79	22.55	27.30	28.00	Complies
165	5825 MHz	22.15	22.55	22.48	27.17	28.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain3			
151	5755 MHz	21.75	22.73	21.90	26.92	28.00	Complies
159	5795 MHz	21.84	22.41	21.87	26.82	28.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain3			
155	5775 MHz	22.87	22.57	22.87	27.54	28.00	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11a
Test Date	May 04, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 8dBi)

P to M

1TX

Configuration IEEE 802.11a / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
149	5745 MHz	23.21	28.00	Complies
157	5785 MHz	22.90	28.00	Complies
165	5825 MHz	22.78	28.00	Complies

2TX

Configuration IEEE 802.11a / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
149	5745 MHz	22.92	23.89	26.44	28.00	Complies
157	5785 MHz	22.82	23.41	26.14	28.00	Complies
165	5825 MHz	22.75	23.30	26.04	28.00	Complies

3TX

Configuration IEEE 802.11a / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain3			
149	5745 MHz	22.12	23.14	22.52	27.38	28.00	Complies
157	5785 MHz	22.17	22.64	22.31	27.15	28.00	Complies
165	5825 MHz	21.98	22.36	22.48	27.05	28.00	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11n/ac
Test Date	May 04, 2013	Test Mode	Mode 2 (Ant.3 Panel antenna / 12.5dBi)

P to M

1TX

Configuration IEEE 802.11n MCS0 HT20 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
149	5745 MHz	23.11	23.50	Complies
157	5785 MHz	23.01	23.50	Complies
165	5825 MHz	23.00	23.50	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
151	5755 MHz	23.20	23.50	Complies
159	5795 MHz	23.11	23.50	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
149	5745 MHz	23.08	23.50	Complies
157	5785 MHz	23.03	23.50	Complies
165	5825 MHz	23.02	23.50	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
151	5755 MHz	23.20	23.50	Complies
159	5795 MHz	23.09	23.50	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
155	5775 MHz	22.41	23.50	Complies

2TX

Configuration IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
149	5745 MHz	20.67	20.24	23.47	23.50	Complies
157	5785 MHz	20.57	20.22	23.41	23.50	Complies
165	5825 MHz	20.33	20.45	23.40	23.50	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
151	5755 MHz	20.50	20.22	23.37	23.50	Complies
159	5795 MHz	20.53	19.78	23.18	23.50	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
149	5745 MHz	20.68	20.22	23.47	23.50	Complies
157	5785 MHz	20.51	20.05	23.30	23.50	Complies
165	5825 MHz	20.33	20.37	23.36	23.50	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
151	5755 MHz	20.51	20.19	23.36	23.50	Complies
159	5795 MHz	20.51	19.71	23.14	23.50	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
155	5775 MHz	20.57	20.15	23.38	23.50	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11a
Test Date	May 04, 2013	Test Mode	Mode 2 (Ant.3 Panel antenna / 12.5dBi)

P to M

1TX

Configuration IEEE 802.11a / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
149	5745 MHz	23.24	23.50	Complies
157	5785 MHz	23.08	23.50	Complies
165	5825 MHz	23.12	23.50	Complies

2TX

Configuration IEEE 802.11a / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
149	5745 MHz	20.47	19.83	23.17	23.50	Complies
157	5785 MHz	20.20	19.67	22.95	23.50	Complies
165	5825 MHz	19.98	20.07	23.04	23.50	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11n/ac
Test Date	May 04, 2013	Test Mode	Mode 2 (Ant.3 Panel antenna / 12.5dBi)

P to P

1TX

Configuration IEEE 802.11n MCS0 HT20 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
149	5745 MHz	22.96	30.00	Complies
157	5785 MHz	22.62	30.00	Complies
165	5825 MHz	22.48	30.00	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
151	5755 MHz	22.28	30.00	Complies
159	5795 MHz	22.64	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
149	5745 MHz	23.09	30.00	Complies
157	5785 MHz	22.77	30.00	Complies
165	5825 MHz	22.84	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
151	5755 MHz	21.81	30.00	Complies
159	5795 MHz	22.55	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
155	5775 MHz	21.25	30.00	Complies

2TX
Configuration IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
149	5745 MHz	22.67	22.58	25.64	30.00	Complies
157	5785 MHz	22.46	22.40	25.44	30.00	Complies
165	5825 MHz	22.21	22.23	25.23	30.00	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
151	5755 MHz	22.01	22.20	25.12	30.00	Complies
159	5795 MHz	22.29	22.73	25.53	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
149	5745 MHz	22.91	23.65	26.31	30.00	Complies
157	5785 MHz	22.61	23.23	25.94	30.00	Complies
165	5825 MHz	22.62	23.09	25.87	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
151	5755 MHz	22.07	22.45	25.27	30.00	Complies
159	5795 MHz	22.18	22.81	25.52	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
155	5775 MHz	21.22	21.62	24.43	30.00	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11a
Test Date	May 04, 2013	Test Mode	Mode 2 (Ant.3 Panel antenna / 12.5dBi)

P to P

1TX

Configuration IEEE 802.11a / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
149	5745 MHz	23.21	30.00	Complies
157	5785 MHz	22.90	30.00	Complies
165	5825 MHz	22.78	30.00	Complies

2TX

Configuration IEEE 802.11a / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
149	5745 MHz	22.92	23.89	26.44	30.00	Complies
157	5785 MHz	22.82	23.41	26.14	30.00	Complies
165	5825 MHz	22.75	23.30	26.04	30.00	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11n/ac
Test Date	May 04, 2013	Test Mode	Mode 3 (Ant.4 Yagi antenna / 8dBi)

P to M

1TX

Configuration IEEE 802.11n MCS0 HT20 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
149	5745 MHz	22.96	28.00	Complies
157	5785 MHz	22.62	28.00	Complies
165	5825 MHz	22.48	28.00	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
151	5755 MHz	22.28	28.00	Complies
159	5795 MHz	22.64	28.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
149	5745 MHz	23.09	28.00	Complies
157	5785 MHz	22.77	28.00	Complies
165	5825 MHz	22.84	28.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
151	5755 MHz	21.81	28.00	Complies
159	5795 MHz	22.55	28.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
155	5775 MHz	20.80	28.00	Complies

2TX
Configuration IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
149	5745 MHz	22.67	22.58	25.64	28.00	Complies
157	5785 MHz	22.46	22.40	25.44	28.00	Complies
165	5825 MHz	22.21	22.23	25.23	28.00	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
151	5755 MHz	21.76	22.04	24.91	28.00	Complies
159	5795 MHz	22.29	22.73	25.53	28.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
149	5745 MHz	22.91	23.65	26.31	28.00	Complies
157	5785 MHz	22.61	23.23	25.94	28.00	Complies
165	5825 MHz	22.62	23.09	25.87	28.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
151	5755 MHz	21.80	22.37	25.10	28.00	Complies
159	5795 MHz	22.18	22.81	25.52	28.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
155	5775 MHz	21.65	22.09	24.89	28.00	Complies

3TX
Configuration IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain 3			
149	5745 MHz	22.57	23.48	22.74	27.72	28.00	Complies
157	5785 MHz	22.12	23.13	22.64	27.42	28.00	Complies
165	5825 MHz	22.31	23.00	22.52	27.39	28.00	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain 3			
151	5755 MHz	21.43	22.15	21.10	26.35	28.00	Complies
159	5795 MHz	21.84	22.41	21.87	26.82	28.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain 3			
149	5745 MHz	22.40	23.34	22.57	27.56	28.00	Complies
157	5785 MHz	22.22	22.79	22.55	27.30	28.00	Complies
165	5825 MHz	22.15	22.55	22.48	27.17	28.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain3			
151	5755 MHz	21.15	22.03	21.07	26.21	28.00	Complies
159	5795 MHz	21.84	22.41	21.87	26.82	28.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain3			
155	5775 MHz	21.18	21.38	21.93	26.28	28.00	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11a
Test Date	May 04, 2013	Test Mode	Mode 3 (Ant.4 Yagi antenna / 8dBi)

P to M

1TX

Configuration IEEE 802.11a / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
149	5745 MHz	23.21	28.00	Complies
157	5785 MHz	22.90	28.00	Complies
165	5825 MHz	22.78	28.00	Complies

2TX

Configuration IEEE 802.11a / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
149	5745 MHz	22.92	23.89	26.44	28.00	Complies
157	5785 MHz	22.82	23.41	26.14	28.00	Complies
165	5825 MHz	22.75	23.30	26.04	28.00	Complies

3TX

Configuration IEEE 802.11a / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain3			
149	5745 MHz	22.12	23.14	22.52	27.38	28.00	Complies
157	5785 MHz	22.17	22.64	22.31	27.15	28.00	Complies
165	5825 MHz	21.98	22.36	22.48	27.05	28.00	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11n/ac
Test Date	May 04, 2013	Test Mode	Mode 4 (Ant.5 Patch antenna / 2.3dBi)

P to M

1TX

Configuration IEEE 802.11n MCS0 HT20 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
149	5745 MHz	22.96	30.00	Complies
157	5785 MHz	22.62	30.00	Complies
165	5825 MHz	22.48	30.00	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
151	5755 MHz	22.99	30.00	Complies
159	5795 MHz	22.64	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
149	5745 MHz	23.09	30.00	Complies
157	5785 MHz	22.77	30.00	Complies
165	5825 MHz	22.84	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
151	5755 MHz	22.65	30.00	Complies
159	5795 MHz	22.55	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
155	5775 MHz	22.56	30.00	Complies

2TX
Configuration IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
149	5745 MHz	22.67	22.58	25.64	30.00	Complies
157	5785 MHz	22.46	22.40	25.44	30.00	Complies
165	5825 MHz	22.21	22.23	25.23	30.00	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
151	5755 MHz	22.72	23.52	26.15	30.00	Complies
159	5795 MHz	22.29	22.73	25.53	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
149	5745 MHz	22.91	23.65	26.31	30.00	Complies
157	5785 MHz	22.61	23.23	25.94	30.00	Complies
165	5825 MHz	22.62	23.09	25.87	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
151	5755 MHz	22.58	23.01	25.81	30.00	Complies
159	5795 MHz	22.18	22.81	25.52	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
155	5775 MHz	22.47	22.87	25.68	30.00	Complies

3TX
Configuration IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain 3			
149	5745 MHz	22.57	23.48	22.74	27.72	30.00	Complies
157	5785 MHz	22.12	23.13	22.64	27.42	30.00	Complies
165	5825 MHz	22.31	23.00	22.52	27.39	30.00	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain 3			
151	5755 MHz	22.24	23.05	22.06	27.24	30.00	Complies
159	5795 MHz	21.84	22.41	21.87	26.82	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain 3			
149	5745 MHz	22.40	23.34	22.57	27.56	30.00	Complies
157	5785 MHz	22.22	22.79	22.55	27.30	30.00	Complies
165	5825 MHz	22.15	22.55	22.48	27.17	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain3			
151	5755 MHz	21.75	22.73	21.90	26.92	30.00	Complies
159	5795 MHz	21.84	22.41	21.87	26.82	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain3			
155	5775 MHz	22.87	22.57	22.87	27.54	30.00	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11a
Test Date	May 04, 2013	Test Mode	Mode 4 (Ant.5 Patch antenna / 2.3dBi)

P to M

1TX

Configuration IEEE 802.11a / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
149	5745 MHz	23.21	30.00	Complies
157	5785 MHz	22.90	30.00	Complies
165	5825 MHz	22.78	30.00	Complies

2TX

Configuration IEEE 802.11a / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
149	5745 MHz	22.92	23.89	26.44	30.00	Complies
157	5785 MHz	22.82	23.41	26.14	30.00	Complies
165	5825 MHz	22.75	23.30	26.04	30.00	Complies

3TX

Configuration IEEE 802.11a / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain3			
149	5745 MHz	22.12	23.14	22.52	27.38	30.00	Complies
157	5785 MHz	22.17	22.64	22.31	27.15	30.00	Complies
165	5825 MHz	21.98	22.36	22.48	27.05	30.00	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11n/ac
Test Date	May 04, 2013	Test Mode	Mode 5 (Ant.6 Facade antenna / 2.5dBi)

P to M

1TX

Configuration IEEE 802.11n MCS0 HT20 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
149	5745 MHz	22.96	30.00	Complies
157	5785 MHz	22.62	30.00	Complies
165	5825 MHz	22.48	30.00	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
151	5755 MHz	22.28	30.00	Complies
159	5795 MHz	22.64	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
149	5745 MHz	23.09	30.00	Complies
157	5785 MHz	22.77	30.00	Complies
165	5825 MHz	22.84	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
151	5755 MHz	21.81	30.00	Complies
159	5795 MHz	22.55	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
155	5775 MHz	21.25	30.00	Complies

2TX

Configuration IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
149	5745 MHz	22.67	22.58	25.64	30.00	Complies
157	5785 MHz	22.46	22.40	25.44	30.00	Complies
165	5825 MHz	22.21	22.23	25.23	30.00	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
151	5755 MHz	22.01	22.20	25.12	30.00	Complies
159	5795 MHz	22.29	22.73	25.53	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
149	5745 MHz	22.91	23.65	26.31	30.00	Complies
157	5785 MHz	22.61	23.23	25.94	30.00	Complies
165	5825 MHz	22.62	23.09	25.87	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
151	5755 MHz	22.21	22.78	25.51	30.00	Complies
159	5795 MHz	22.18	22.81	25.52	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
155	5775 MHz	21.22	21.62	24.43	30.00	Complies

3TX
Configuration IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain 3			
149	5745 MHz	22.57	23.48	22.74	27.72	30.00	Complies
157	5785 MHz	22.12	23.13	22.64	27.42	30.00	Complies
165	5825 MHz	22.31	23.00	22.52	27.39	30.00	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain 3			
151	5755 MHz	21.80	22.52	21.52	26.74	30.00	Complies
159	5795 MHz	21.84	22.41	21.87	26.82	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain 3			
149	5745 MHz	22.40	23.34	22.57	27.56	30.00	Complies
157	5785 MHz	22.22	22.79	22.55	27.30	30.00	Complies
165	5825 MHz	22.15	22.55	22.48	27.17	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain3			
151	5755 MHz	21.42	22.38	21.41	26.53	30.00	Complies
159	5795 MHz	21.84	22.41	21.87	26.82	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain3			
155	5775 MHz	21.18	21.38	21.93	26.28	30.00	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11a
Test Date	May 04, 2013	Test Mode	Mode 5 (Ant.6 Facade antenna / 2.5dBi)

P to M

1TX

Configuration IEEE 802.11a / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
149	5745 MHz	23.21	30.00	Complies
157	5785 MHz	22.90	30.00	Complies
165	5825 MHz	22.78	30.00	Complies

2TX

Configuration IEEE 802.11a / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
149	5745 MHz	22.92	23.89	26.44	30.00	Complies
157	5785 MHz	22.82	23.41	26.14	30.00	Complies
165	5825 MHz	22.75	23.30	26.04	30.00	Complies

3TX

Configuration IEEE 802.11a / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain3			
149	5745 MHz	22.12	23.14	22.52	27.38	30.00	Complies
157	5785 MHz	22.17	22.64	22.31	27.15	30.00	Complies
165	5825 MHz	21.98	22.36	22.48	27.05	30.00	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11n/ac
Test Date	May 04, 2013	Test Mode	Mode 6 (Ant.9 Panel antenna / 9.2dBi)

P to M

3TX

Configuration IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain 3			
149	5745 MHz	21.55	22.41	21.82	26.71	26.80	Complies
157	5785 MHz	21.02	22.07	21.56	26.34	26.80	Complies
165	5825 MHz	21.95	21.80	21.46	26.51	26.80	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain 3			
151	5755 MHz	21.80	22.52	21.52	26.74	26.80	Complies
159	5795 MHz	21.34	22.37	22.28	26.79	26.80	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain 3			
149	5745 MHz	21.64	22.40	21.96	26.78	26.80	Complies
157	5785 MHz	21.56	22.03	21.76	26.56	26.80	Complies
165	5825 MHz	21.36	21.81	21.91	26.47	26.80	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain3			
151	5755 MHz	21.42	22.38	21.41	26.53	26.80	Complies
159	5795 MHz	21.81	22.38	21.85	26.79	26.80	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain3			
155	5775 MHz	21.18	21.38	21.93	26.28	26.80	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11a
Test Date	May 04, 2013	Test Mode	Mode 6 (Ant.9 Panel antenna / 9.2dBi)

P to M

3TX

Configuration IEEE 802.11a / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain3			
149	5745 MHz	21.51	22.53	21.91	26.77	26.80	Complies
157	5785 MHz	21.33	22.05	21.79	26.50	26.80	Complies
165	5825 MHz	21.32	21.81	21.87	26.44	26.80	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n/ac
Test Date	Jul. 07, 2013	Test Mode	Mode 7 (Ant.10 PIFA antenna / 5.3dBi)

P to M

1TX

Configuration IEEE 802.11n MCS0 HT20 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
149	5745 MHz	23.48	30.00	Complies
157	5785 MHz	23.26	30.00	Complies
165	5825 MHz	23.05	30.00	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
151	5755 MHz	22.21	30.00	Complies
159	5795 MHz	23.26	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
149	5745 MHz	23.52	30.00	Complies
157	5785 MHz	23.25	30.00	Complies
165	5825 MHz	22.95	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
151	5755 MHz	22.23	30.00	Complies
159	5795 MHz	23.12	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
155	5775 MHz	20.89	30.00	Complies

2TX
Configuration IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
149	5745 MHz	22.84	23.48	26.18	30.00	Complies
157	5785 MHz	22.54	23.13	25.86	30.00	Complies
165	5825 MHz	22.28	22.82	25.57	30.00	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
151	5755 MHz	22.71	23.21	25.98	30.00	Complies
159	5795 MHz	22.28	22.75	25.53	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
149	5745 MHz	22.86	23.56	26.23	30.00	Complies
157	5785 MHz	22.55	23.19	25.89	30.00	Complies
165	5825 MHz	22.25	22.90	25.60	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
151	5755 MHz	22.65	23.18	25.93	30.00	Complies
159	5795 MHz	22.47	22.83	25.66	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
155	5775 MHz	22.42	22.78	25.61	30.00	Complies

3TX
Configuration IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain 3			
149	5745 MHz	22.66	23.38	23.22	27.87	30.00	Complies
157	5785 MHz	22.51	23.09	23.15	27.70	30.00	Complies
165	5825 MHz	22.15	22.64	22.95	27.36	30.00	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain 3			
151	5755 MHz	22.01	22.68	22.29	27.11	30.00	Complies
159	5795 MHz	22.21	22.62	22.74	27.30	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain 3			
149	5745 MHz	22.68	23.35	23.09	27.82	30.00	Complies
157	5785 MHz	22.41	22.93	23.14	27.61	30.00	Complies
165	5825 MHz	22.05	22.59	22.87	27.29	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain3			
151	5755 MHz	21.92	22.56	22.21	27.01	30.00	Complies
159	5795 MHz	22.08	22.61	22.65	27.23	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain3			
155	5775 MHz	21.05	21.72	21.75	26.29	30.00	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11a
Test Date	Jul. 07, 2013	Test Mode	Mode 7 (Ant.10 PIFA antenna / 5.3dBi)

P to M

1TX

Configuration IEEE 802.11a / Chain 1

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
149	5745 MHz	23.58	30.00	Complies
157	5785 MHz	23.34	30.00	Complies
165	5825 MHz	23.04	30.00	Complies

2TX

Configuration IEEE 802.11a / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2			
149	5745 MHz	22.96	23.62	26.31	30.00	Complies
157	5785 MHz	22.61	23.19	25.92	30.00	Complies
165	5825 MHz	22.33	22.93	25.65	30.00	Complies

3TX

Configuration IEEE 802.11a / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Max. Limit (dBm)	Result
		Chain1	Chain 2	Chain3			
149	5745 MHz	22.72	23.35	23.06	27.82	30.00	Complies
157	5785 MHz	22.48	23.07	23.15	27.68	30.00	Complies
165	5825 MHz	22.12	22.61	22.96	27.35	30.00	Complies

4.3. Power Spectral Density Measurement

4.3.1. Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3 kHz band during any time interval of continuous transmission.

4.3.2. Measuring Instruments and Setting

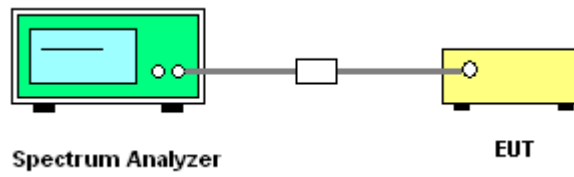
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Set the span to 1.5 times the DTS channel bandwidth.
RBW	$3 \text{ kHz} \leq \text{RBW} \leq 100\text{kHz}$
VBW	$\geq 3 \times \text{RBW}$
Detector	Peak
Trace	Max Hold
Sweep Time	Auto couple

4.3.3. Test Procedures

1. Test procedures refer KDB 558074 D01 v03r01 section 10.2 Method PKPSD (peak PSD) & KDB 662911 D01 v02 section In-Band Power Spectral Density (PSD) Measurements option (2) Measure and add $10 \log(\text{NANT})$ dB.
2. Use this procedure when the maximum conducted output power in the fundamental emission is used to demonstrate compliance. The EUT must be configured to transmit continuously at full power over the measurement duration.
3. Ensure that the number of measurement points in the sweep $\geq 2 \times \text{span}/\text{RBW}$ (use of a greater number of measurement points than this minimum requirement is recommended).
4. Use the peak marker function to determine the maximum level in any 3 kHz band segment within the fundamental EBW.
5. The resulting PSD level must be ≤ 8 dBm.

4.3.4. Test Setup Layout



4.3.5. Test Deviation

There is no deviation with the original standard.

4.3.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.3.7. Test Result of Power Spectral Density

Temperature	25°C	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11ac
Test Mode	Mode 1 (Ant.1 Dipole antenna / 8dBi)		

P to M

1TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Channel	Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
149	5745 MHz	-1.52	8.00	Complies
157	5785 MHz	-3.13	8.00	Complies
165	5825 MHz	-2.98	8.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Channel	Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
151	5755 MHz	-5.25	8.00	Complies
159	5795 MHz	-5.28	8.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Channel	Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
155	5775 MHz	-9.17	8.00	Complies

2TX
Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 & Chain 2

Channel	Frequency	Power Density (dBm/3kHz)		Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2		
149	5745 MHz	-2.68	-1.45	4.99	Complies
157	5785 MHz	-2.61	-2.37	4.99	Complies
165	5825 MHz	-2.60	-1.65	4.99	Complies

Note : PSD Limit = $8-(10\log(2))=4.99\text{dBm/3KHz}$

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 & Chain 2

Channel	Frequency	Power Density (dBm/3kHz)		Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2		
151	5755 MHz	-5.97	-4.11	4.99	Complies
159	5795 MHz	-5.86	-5.39	4.99	Complies

Note : PSD Limit = $8-(10\log(2))=4.99\text{dBm/3KHz}$

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 & Chain 2

Channel	Frequency	Power Density (dBm/3kHz)		Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2		
155	5775 MHz	-9.61	-8.37	4.99	Complies

Note : PSD Limit = $8-(10\log(2))=4.99\text{dBm/3KHz}$

3TX
Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2	Chain3		
149	5745 MHz	-2.61	-0.74	-3.05	3.23	Complies
157	5785 MHz	-3.51	-3.23	-2.33	3.23	Complies
165	5825 MHz	-2.26	-2.84	-3.67	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm/3KHz}$

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2	Chain3		
151	5755 MHz	-6.35	-6.02	-5.80	3.23	Complies
159	5795 MHz	-6.92	-6.58	-6.01	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm/3KHz}$

Configuration IEEE 802.11ac MCS0/Nss 1 VHT80 / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2	Chain3		
155	5775 MHz	-9.70	-8.76	-5.11	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm/3KHz}$

Temperature	25°C	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11ac
Test Mode	Mode 2 (Ant.3 Panel antenna / 12.5dBi)		

P to M

1TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Channel	Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
149	5745 MHz	-2.74	8.00	Complies
157	5785 MHz	-3.24	8.00	Complies
165	5825 MHz	-2.07	8.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Channel	Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
151	5755 MHz	-5.47	8.00	Complies
159	5795 MHz	-6.25	8.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Channel	Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
155	5775 MHz	-8.64	8.00	Complies

2TX
Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 & Chain 2

Channel	Frequency	Power Density (dBm/3kHz)		Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2		
149	5745 MHz	-6.11	-4.81	4.99	Complies
157	5785 MHz	-5.20	-6.57	4.99	Complies
165	5825 MHz	-5.19	-5.43	4.99	Complies

Note: PSD Limit = $8 - (10 \log(2)) = 4.99 \text{ dBm/3KHz}$

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 & Chain 2

Channel	Frequency	Power Density (dBm/3kHz)		Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2		
151	5755 MHz	-8.71	-8.89	4.99	Complies
159	5795 MHz	-8.36	-9.85	4.99	Complies

Note: PSD Limit = $8 - (10 \log(2)) = 4.99 \text{ dBm/3KHz}$

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 & Chain 2

Channel	Frequency	Power Density (dBm/3kHz)		Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2		
155	5775 MHz	-10.53	-11.69	4.99	Complies

Note: PSD Limit = $8 - (10 \log(2)) = 4.99 \text{ dBm/3KHz}$

Temperature	25°C	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11ac
Test Mode	Mode 2 (Ant.3 Panel antenna / 12.5dBi)		

P to P

1TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Channel	Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
149	5745 MHz	-1.52	8.00	Complies
157	5785 MHz	-3.13	8.00	Complies
165	5825 MHz	-2.98	8.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Channel	Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
151	5755 MHz	-5.75	8.00	Complies
159	5795 MHz	-5.28	8.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Channel	Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
155	5775 MHz	-9.56	8.00	Complies

2TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 & Chain 2

Channel	Frequency	Power Density (dBm/3kHz)		Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2		
149	5745 MHz	-2.68	-1.45	4.99	Complies
157	5785 MHz	-2.61	-2.37	4.99	Complies
165	5825 MHz	-2.60	-1.65	4.99	Complies

Note: PSD Limit = $8 - (10 \log(2)) = 4.99 \text{ dBm/3KHz}$

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 & Chain 2

Channel	Frequency	Power Density (dBm/3kHz)		Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2		
151	5755 MHz	-5.39	-5.68	4.99	Complies
159	5795 MHz	-5.86	-5.39	4.99	Complies

Note: PSD Limit = $8 - (10 \log(2)) = 4.99 \text{ dBm/3KHz}$

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 & Chain 2

Channel	Frequency	Power Density (dBm/3kHz)		Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2		
155	5775 MHz	-10.01	-10.30	4.99	Complies

Note: PSD Limit = $8 - (10 \log(2)) = 4.99 \text{ dBm/3KHz}$

Temperature	25°C	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11ac
Test Mode	Mode 3 (Ant.4 Yagi antenna / 8dBi)		

P to M

1TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Channel	Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
149	5745 MHz	-1.52	8.00	Complies
157	5785 MHz	-3.13	8.00	Complies
165	5825 MHz	-2.98	8.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Channel	Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
151	5755 MHz	-5.75	8.00	Complies
159	5795 MHz	-5.28	8.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Channel	Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
155	5775 MHz	-10.74	8.00	Complies

2TX
Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 & Chain 2

Channel	Frequency	Power Density (dBm/3kHz)		Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2		
149	5745 MHz	-2.68	-1.45	4.99	Complies
157	5785 MHz	-2.61	-2.37	4.99	Complies
165	5825 MHz	-2.60	-1.65	4.99	Complies

Note : PSD Limit = $8 - (10 \log(2)) = 4.99 \text{ dBm/3kHz}$

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 & Chain 2

Channel	Frequency	Power Density (dBm/3kHz)		Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2		
151	5755 MHz	-6.86	-5.86	4.99	Complies
159	5795 MHz	-5.86	-5.39	4.99	Complies

Note : PSD Limit = $8 - (10 \log(2)) = 4.99 \text{ dBm/3kHz}$

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 & Chain 2

Channel	Frequency	Power Density (dBm/3kHz)		Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2		
155	5775 MHz	-9.34	-8.73	4.99	Complies

Note : PSD Limit = $8 - (10 \log(2)) = 4.99 \text{ dBm/3kHz}$

3TX
Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2	Chain3		
149	5745 MHz	-2.61	-0.74	-3.05	3.23	Complies
157	5785 MHz	-3.51	-3.23	-2.33	3.23	Complies
165	5825 MHz	-2.26	-2.84	-3.67	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm/3KHz}$

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2	Chain3		
151	5755 MHz	-7.19	-5.40	-6.84	3.23	Complies
159	5795 MHz	-6.92	-6.58	-6.01	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm/3KHz}$

Configuration IEEE 802.11ac MCS0/Nss 1 VHT80 / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2	Chain3		
155	5775 MHz	-10.04	-9.66	-10.10	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm/3KHz}$

Temperature	25°C	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11ac
Test Mode	Mode 4 (Ant.5 Patch antenna / 2.3dBi)		

P to M

1TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Channel	Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
149	5745 MHz	-1.52	8.00	Complies
157	5785 MHz	-3.13	8.00	Complies
165	5825 MHz	-2.98	8.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Channel	Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
151	5755 MHz	-5.25	8.00	Complies
159	5795 MHz	-5.28	8.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Channel	Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
155	5775 MHz	-9.17	8.00	Complies

2TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 & Chain 2

Channel	Frequency	Power Density (dBm/3kHz)		Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2		
149	5745 MHz	-2.68	-1.45	4.99	Complies
157	5785 MHz	-2.61	-2.37	4.99	Complies
165	5825 MHz	-2.60	-1.65	4.99	Complies

Note : PSD Limit = $8 - (10 \log(2)) = 4.99 \text{ dBm/3kHz}$

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 & Chain 2

Channel	Frequency	Power Density (dBm/3kHz)		Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2		
151	5755 MHz	-5.97	-4.11	4.99	Complies
159	5795 MHz	-5.86	-5.39	4.99	Complies

Note : PSD Limit = $8 - (10 \log(2)) = 4.99 \text{ dBm/3kHz}$

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 & Chain 2

Channel	Frequency	Power Density (dBm/3kHz)		Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2		
155	5775 MHz	-9.61	-8.37	4.99	Complies

Note : PSD Limit = $8 - (10 \log(2)) = 4.99 \text{ dBm/3kHz}$

3TX
Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2	Chain3		
149	5745 MHz	-2.61	-0.74	-3.05	3.23	Complies
157	5785 MHz	-3.51	-3.23	-2.33	3.23	Complies
165	5825 MHz	-2.26	-2.84	-3.67	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm/3KHz}$

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2	Chain3		
151	5755 MHz	-6.35	-6.02	-5.80	3.23	Complies
159	5795 MHz	-6.92	-6.58	-6.01	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm/3KHz}$

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2	Chain3		
155	5775 MHz	-9.70	-8.76	-5.11	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm/3KHz}$

Temperature	25°C	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11ac
Test Mode	Mode 5 (Ant.6 Facade antenna / 2.5dBi)		

P to M

1TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Channel	Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
149	5745 MHz	-1.52	8.00	Complies
157	5785 MHz	-3.13	8.00	Complies
165	5825 MHz	-2.98	8.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Channel	Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
151	5755 MHz	-5.75	8.00	Complies
159	5795 MHz	-5.28	8.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Channel	Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
155	5775 MHz	-9.56	8.00	Complies

2TX
Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 & Chain 2

Channel	Frequency	Power Density (dBm/3kHz)		Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2		
149	5745 MHz	-2.68	-1.45	4.99	Complies
157	5785 MHz	-2.61	-2.37	4.99	Complies
165	5825 MHz	-2.60	-1.65	4.99	Complies

Note : PSD Limit = $8 - (10 \log(2)) = 4.99 \text{ dBm/3KHz}$

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 & Chain 2

Channel	Frequency	Power Density (dBm/3kHz)		Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2		
151	5755 MHz	-5.39	-5.68	4.99	Complies
159	5795 MHz	-5.86	-5.39	4.99	Complies

Note : PSD Limit = $8 - (10 \log(2)) = 4.99 \text{ dBm/3KHz}$

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 & Chain 2

Channel	Frequency	Power Density (dBm/3kHz)		Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2		
155	5775 MHz	-10.01	-10.30	4.99	Complies

Note : PSD Limit = $8 - (10 \log(2)) = 4.99 \text{ dBm/3KHz}$

3TX
Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2	Chain3		
149	5745 MHz	-2.61	-0.74	-3.05	3.23	Complies
157	5785 MHz	-3.51	-3.23	-2.33	3.23	Complies
165	5825 MHz	-2.26	-2.84	-3.67	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm/3KHz}$

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2	Chain3		
151	5755 MHz	-6.67	-5.78	-6.78	3.23	Complies
159	5795 MHz	-6.92	-6.58	-6.01	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm/3KHz}$

Configuration IEEE 802.11ac MCS0/Nss 1 VHT80 / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2	Chain3		
155	5775 MHz	-10.04	-9.66	-10.10	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm/3KHz}$

Temperature	25°C	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11ac
Test Mode	Mode 6 (Ant.9 Panel antenna / 9.2dBi)		

P to M

3TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2	Chain3		
149	5745 MHz	-4.18	-3.68	-4.01	3.23	Complies
157	5785 MHz	-3.40	-1.74	-2.80	3.23	Complies
165	5825 MHz	-4.59	-3.65	-2.64	3.23	Complies

Note : PSD Limit = $8 - (10 \log(3)) = 3.23 \text{ dBm/3KHz}$

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2	Chain3		
151	5755 MHz	-6.67	-5.78	-6.78	3.23	Complies
159	5795 MHz	-6.92	-6.58	-6.01	3.23	Complies

Note : PSD Limit = $8 - (10 \log(3)) = 3.23 \text{ dBm/3KHz}$

Configuration IEEE 802.11ac MCS0/Nss 1 VHT80 / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2	Chain3		
155	5775 MHz	-10.04	-9.66	-10.10	3.23	Complies

Note : PSD Limit = $8 - (10 \log(3)) = 3.23 \text{ dBm/3KHz}$

Temperature	25°C	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11ac
Test Mode	Mode 7 (Ant. 10 PIFA antenna / 5.3dBi)		

P to M

1TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Channel	Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
149	5745 MHz	-2.41	8.00	Complies
157	5785 MHz	-2.88	8.00	Complies
165	5825 MHz	-2.26	8.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Channel	Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
151	5755 MHz	-7.12	8.00	Complies
159	5795 MHz	-6.08	8.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Channel	Frequency	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
155	5775 MHz	-10.73	8.00	Complies

2TX
Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 & Chain 2

Channel	Frequency	Power Density (dBm/3kHz)		Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2		
149	5745 MHz	-2.80	-2.81	4.99	Complies
157	5785 MHz	-3.61	-3.27	4.99	Complies
165	5825 MHz	-3.30	-3.05	4.99	Complies

Note : PSD Limit = $8-(10\log(2))=4.99\text{dBm/3KHz}$

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 & Chain 2

Channel	Frequency	Power Density (dBm/3kHz)		Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2		
151	5755 MHz	-5.86	-5.67	4.99	Complies
159	5795 MHz	-6.29	-6.26	4.99	Complies

Note : PSD Limit = $8-(10\log(2))=4.99\text{dBm/3KHz}$

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 & Chain 2

Channel	Frequency	Power Density (dBm/3kHz)		Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2		
155	5775 MHz	-8.94	-8.58	4.99	Complies

Note : PSD Limit = $8-(10\log(2))=4.99\text{dBm/3KHz}$

3TX
Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2	Chain3		
149	5745 MHz	-2.74	-2.00	-2.53	3.23	Complies
157	5785 MHz	-2.44	-2.18	-1.89	3.23	Complies
165	5825 MHz	-2.67	-2.21	-1.91	3.23	Complies

Note : PSD Limit = $8 - (10 \log(3)) = 3.23 \text{ dBm/3KHz}$

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2	Chain3		
151	5755 MHz	-6.15	-5.32	-5.49	3.23	Complies
159	5795 MHz	-5.46	-5.17	-5.15	3.23	Complies

Note : PSD Limit = $8 - (10 \log(3)) = 3.23 \text{ dBm/3KHz}$

Configuration IEEE 802.11ac MCS0/Nss 1 VHT80 / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain1	Chain2	Chain3		
155	5775 MHz	-7.47	-6.98	-6.80	3.23	Complies

Note : PSD Limit = $8 - (10 \log(3)) = 3.23 \text{ dBm/3KHz}$

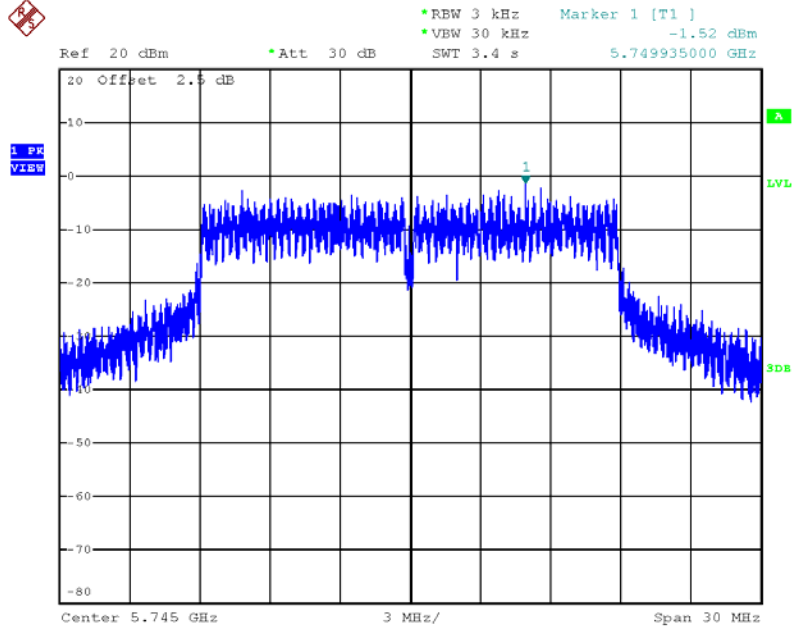
Note : All the test values were listed in the report.

For plots, only the channel with maximum results was shown.

Mode 1 (Ant.1 Dipole antenna / 8dBi)

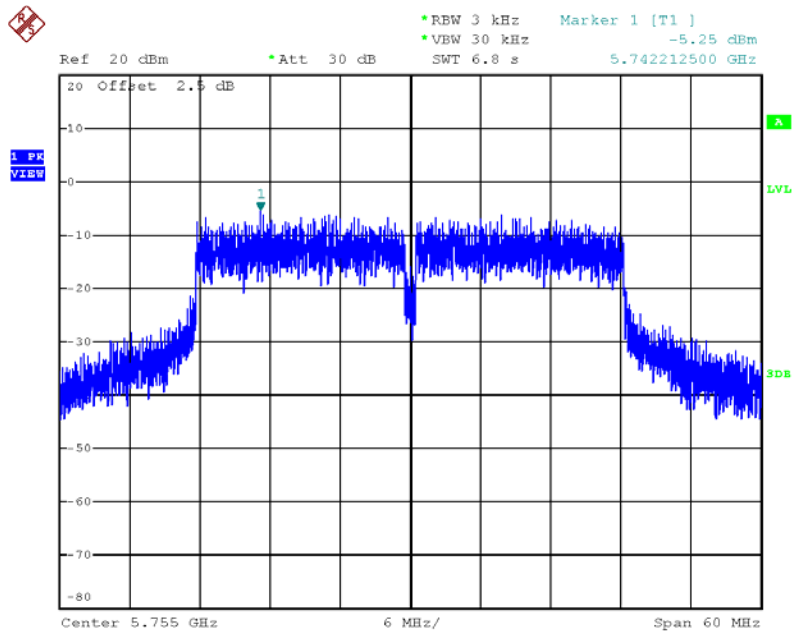
P to M / 1TX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 / 5745 MHz



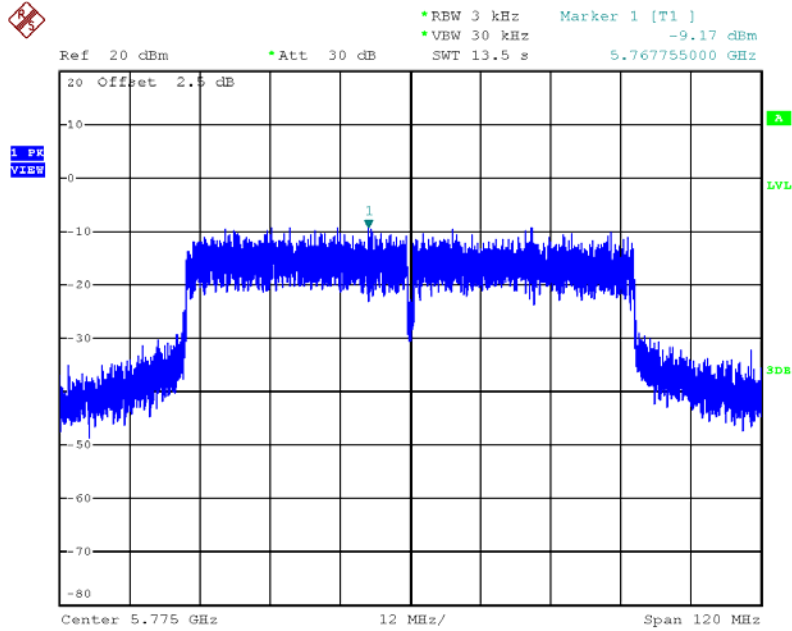
Date: 6.MAY.2013 15:33:00

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 / 5755 MHz



Date: 6.MAY.2013 15:42:03

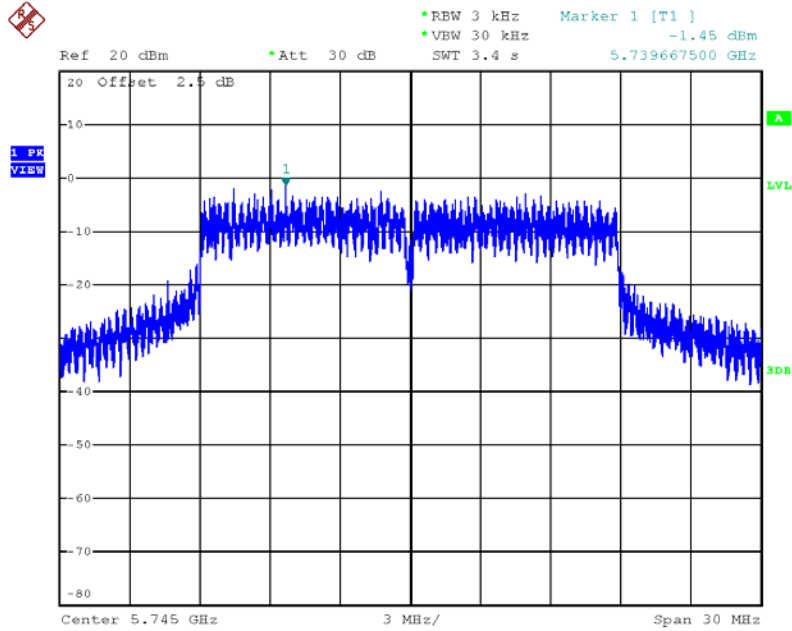
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5775 MHz



Date: 6.MAY.2013 15:47:13

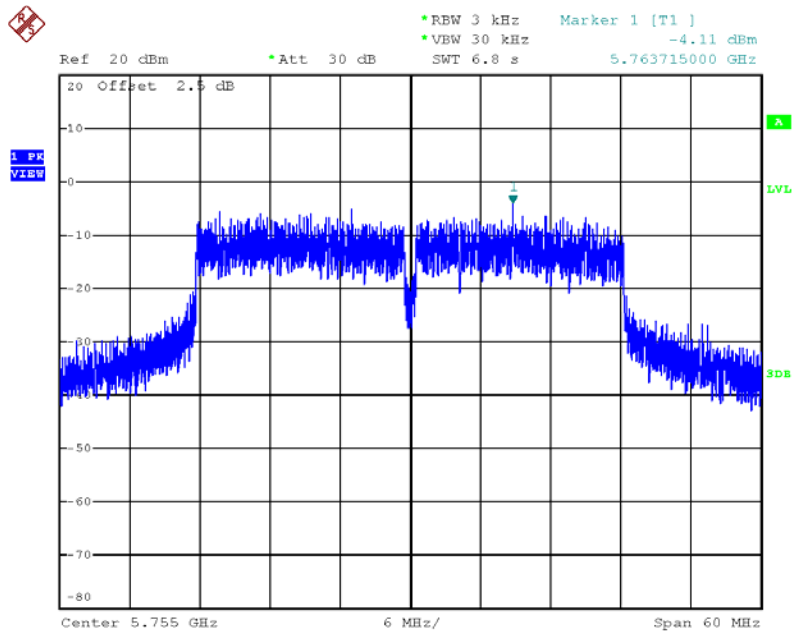
2TX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5745MHz



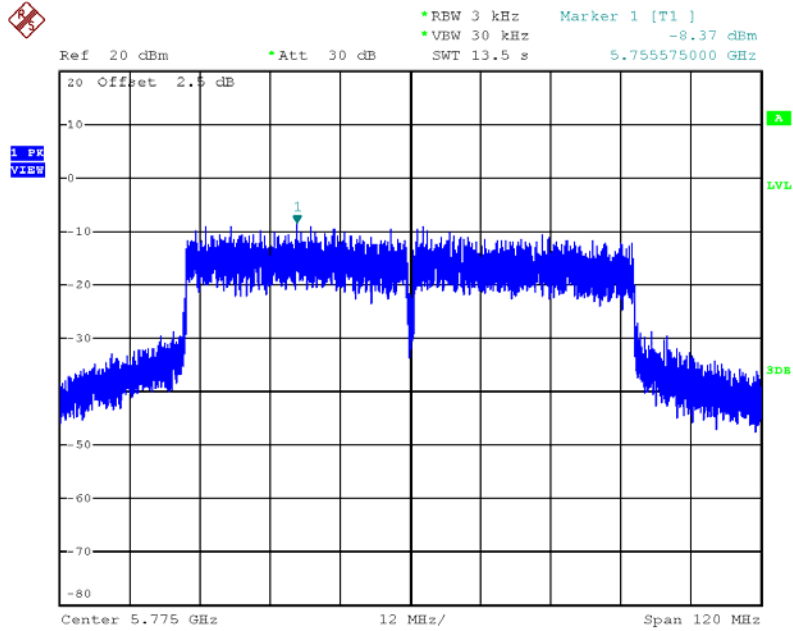
Date: 9.MAY.2013 07:13:27

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2 / 5755MHz



Date: 9.MAY.2013 07:22:23

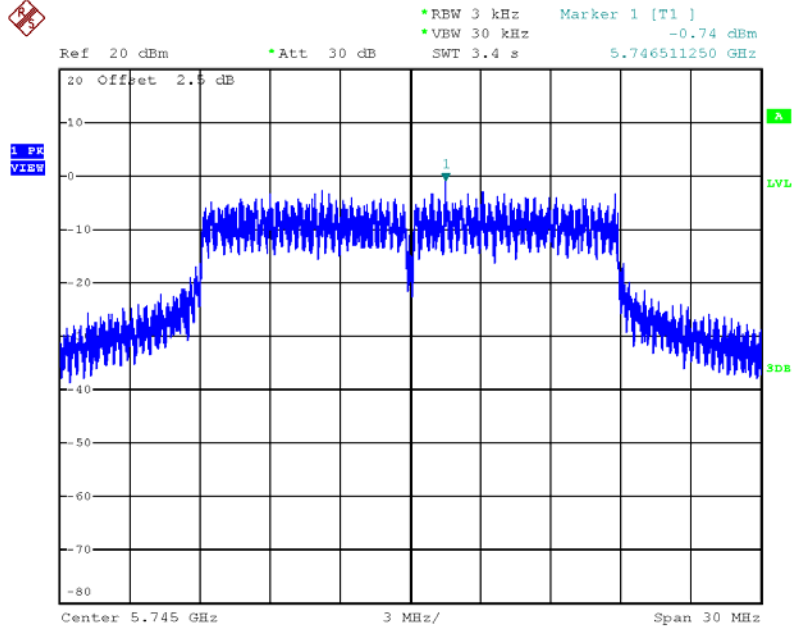
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2 / 5775MHz



Date: 9.MAY.2013 07:31:23

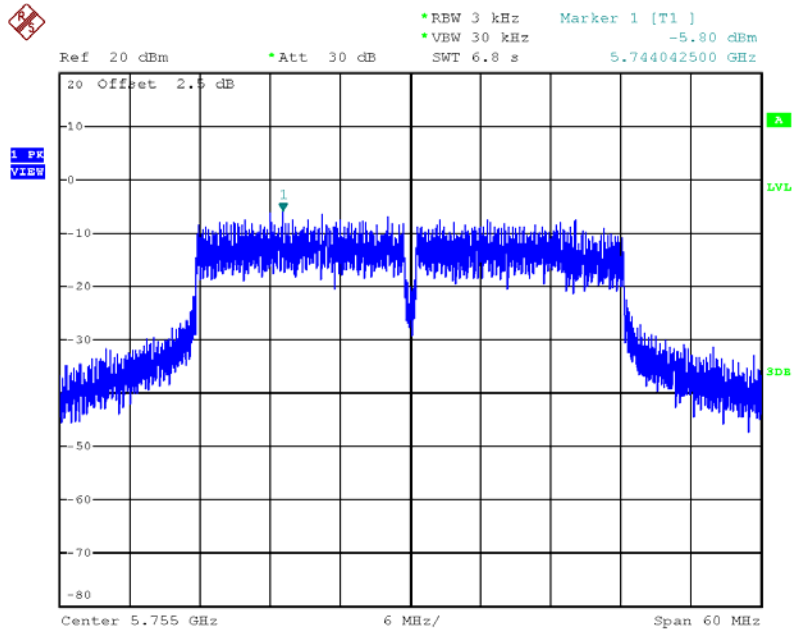
3TX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5745MHz



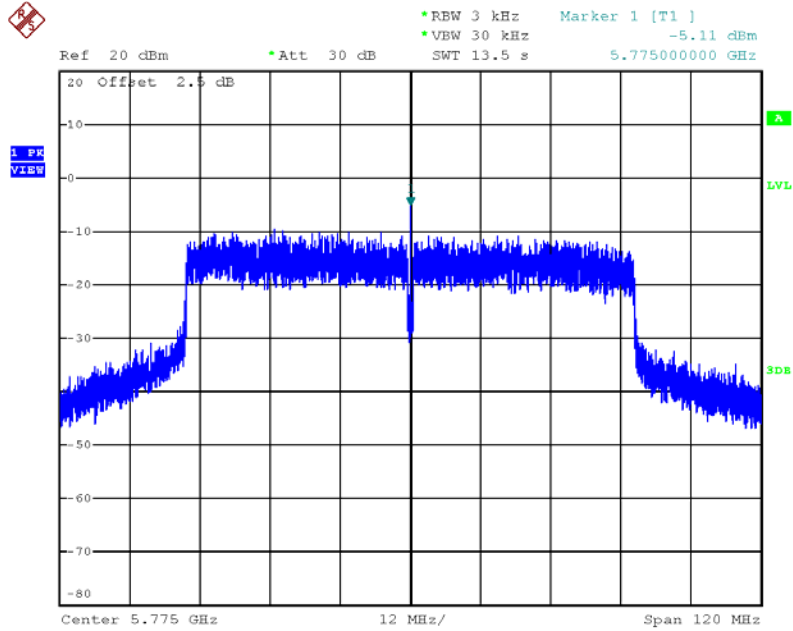
Date: 9.MAY.2013 08:38:48

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 3 / 5755MHz



Date: 9.MAY.2013 08:55:21

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 3 / 5775MHz

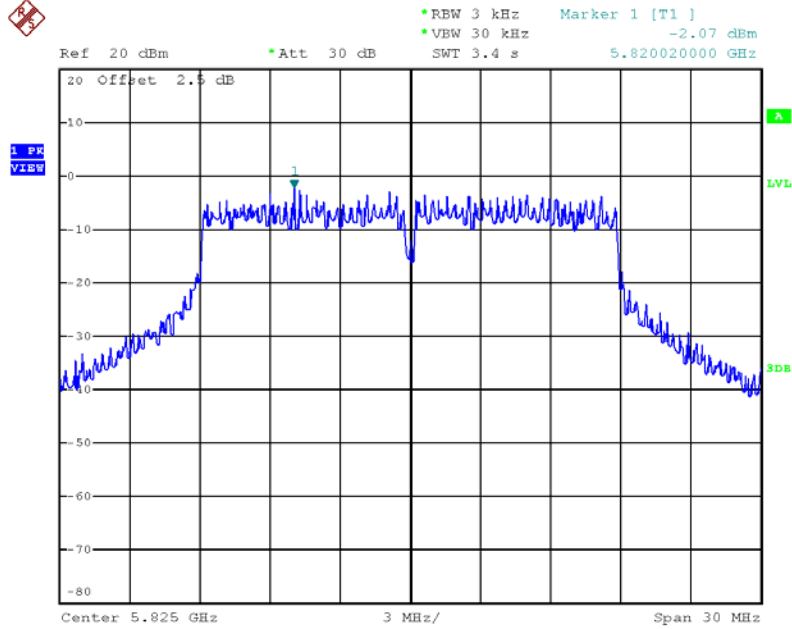


Date: 9.MAY.2013 09:05:06

Mode 2 (Ant.3 Panel antenna / 12.5dBi)

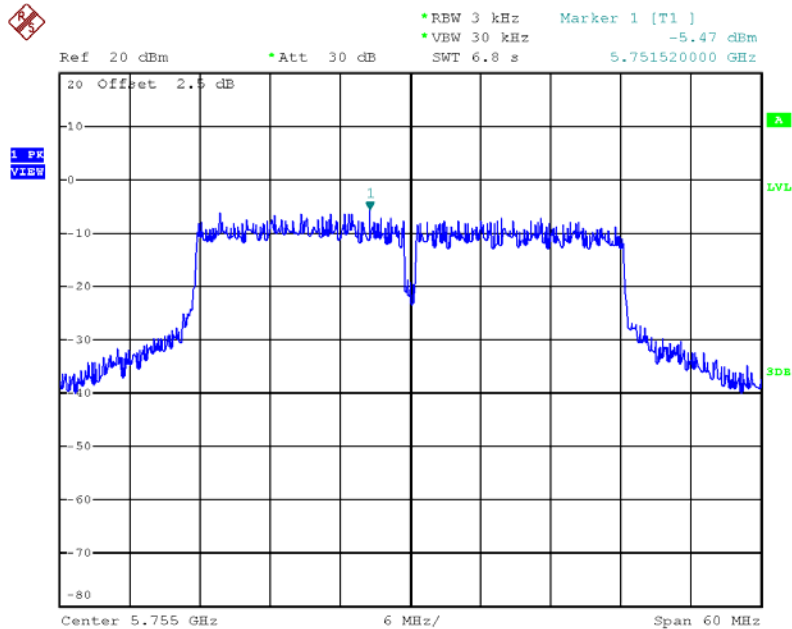
P to M / 1TX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 / 5825 MHz



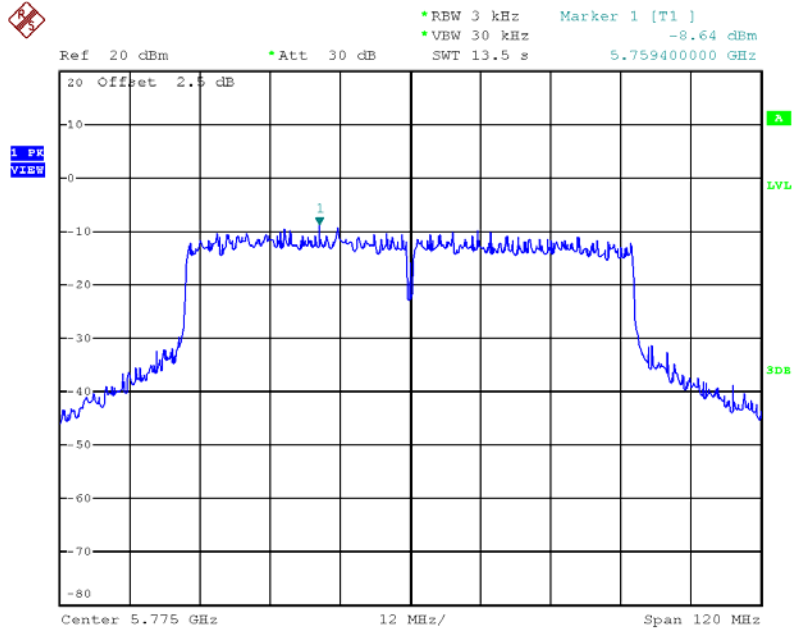
Date: 15.MAY.2013 18:52:50

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 / 5755 MHz



Date: 15.MAY.2013 18:53:46

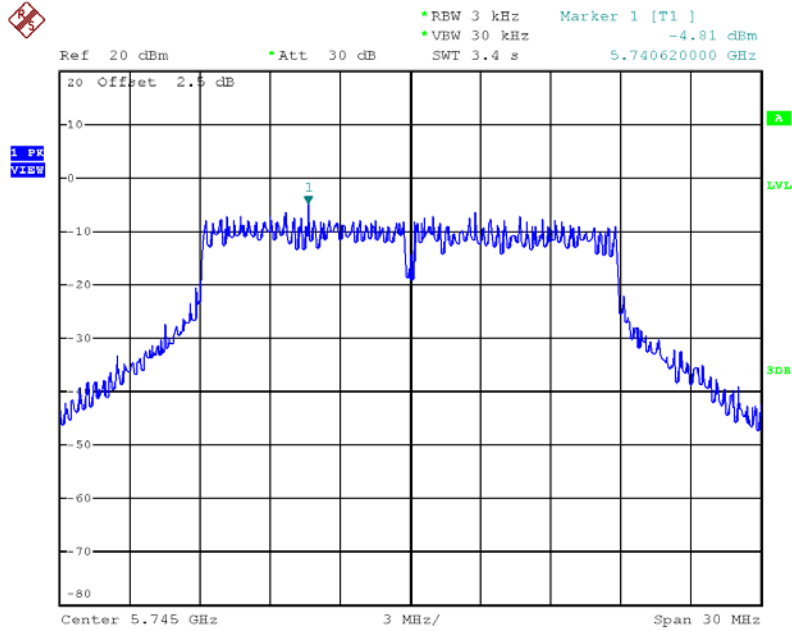
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5775 MHz



Date: 15.MAY.2013 18:55:19

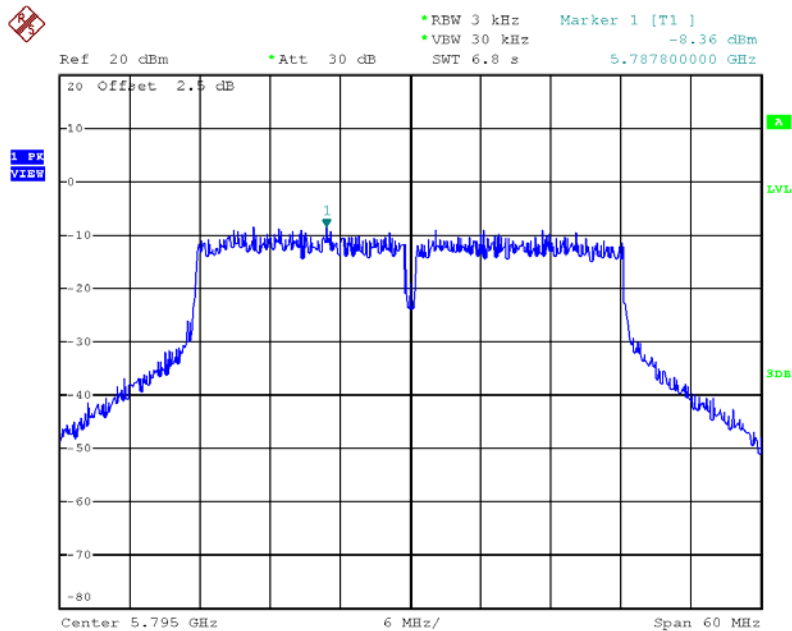
2TX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5745MHz



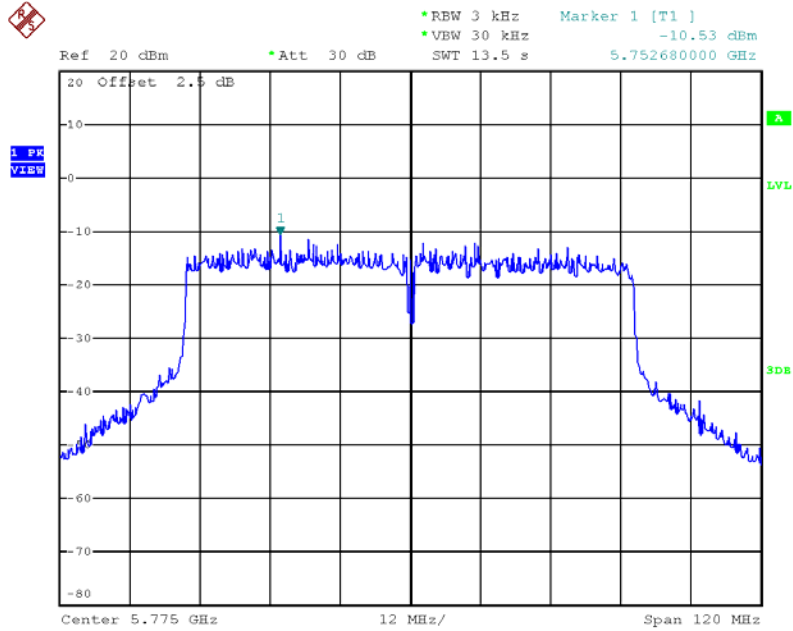
Date: 15.MAY.2013 19:55:40

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 / 5795MHz



Date: 15.MAY.2013 19:50:52

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5775MHz

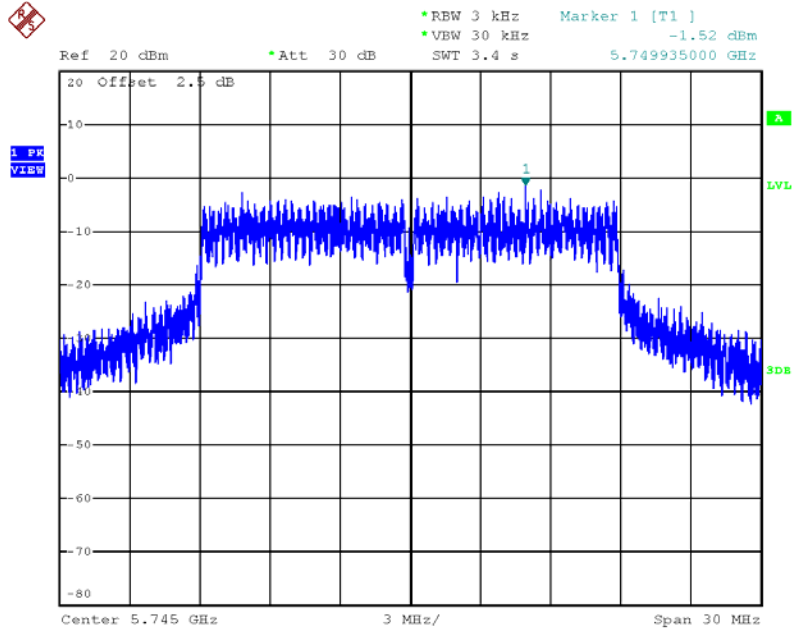


Date: 15.MAY.2013 19:58:10

Mode 2 (Ant.3 Panel antenna / 12.5dBi)

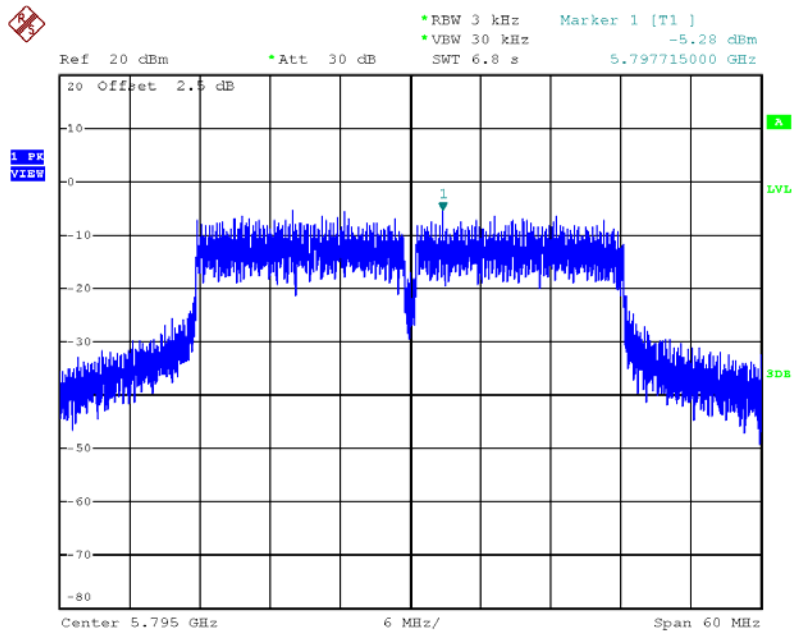
P to P / ITX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 / 5745 MHz



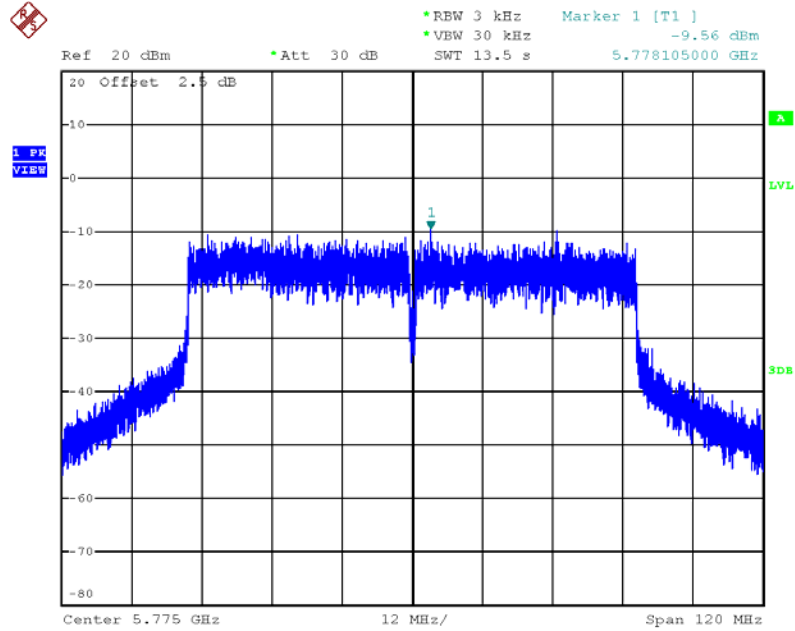
Date: 6.MAY.2013 15:33:00

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 / 5795 MHz



Date: 6.MAY.2013 15:38:25

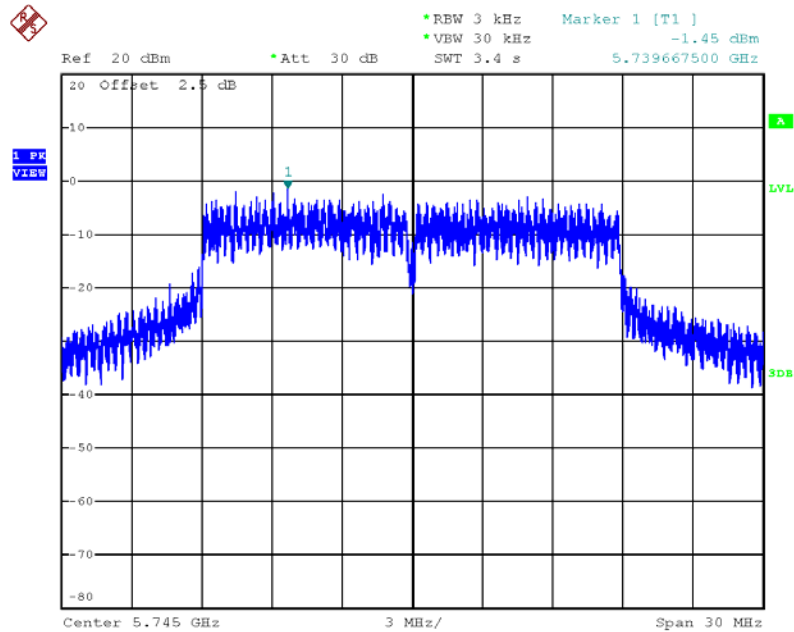
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5775 MHz



Date: 6.MAY.2013 15:45:27

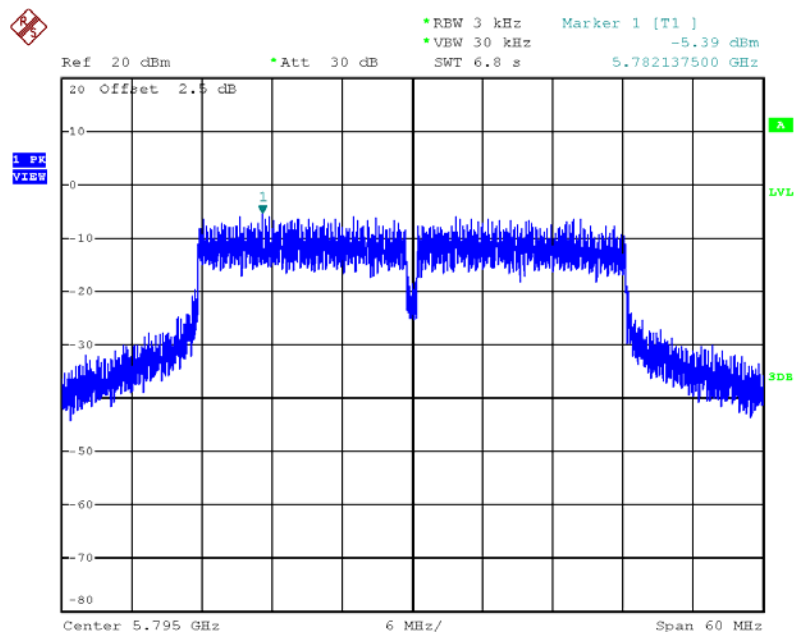
2TX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5745MHz



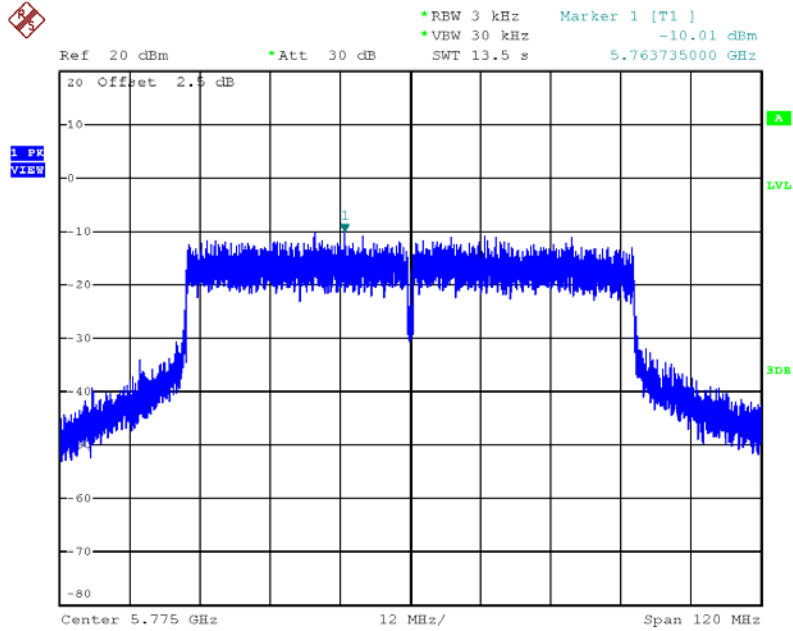
Date: 9.MAY.2013 07:13:27

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2 / 5795MHz



Date: 9.MAY.2013 07:15:18

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5775MHz

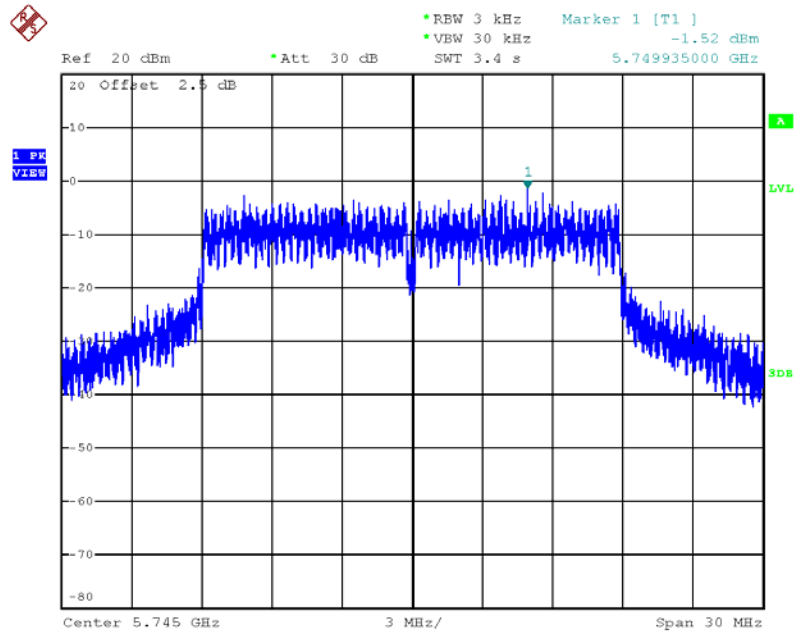


Date: 9.MAY.2013 07:34:29

Mode 3 (Ant.4 Yagi antenna / 8dBi)

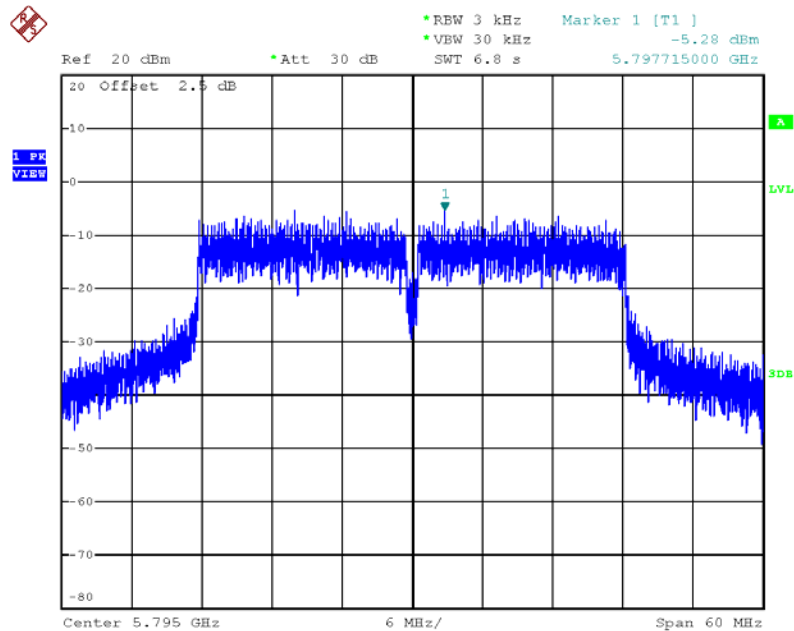
P to M / 1TX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 / 5745 MHz



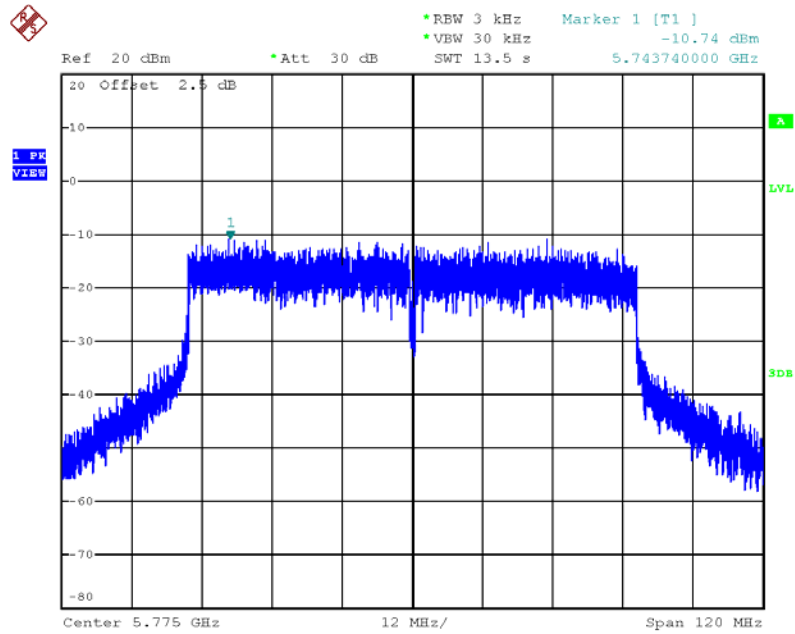
Date: 6.MAY.2013 15:33:00

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 / 5795 MHz



Date: 6.MAY.2013 15:38:25

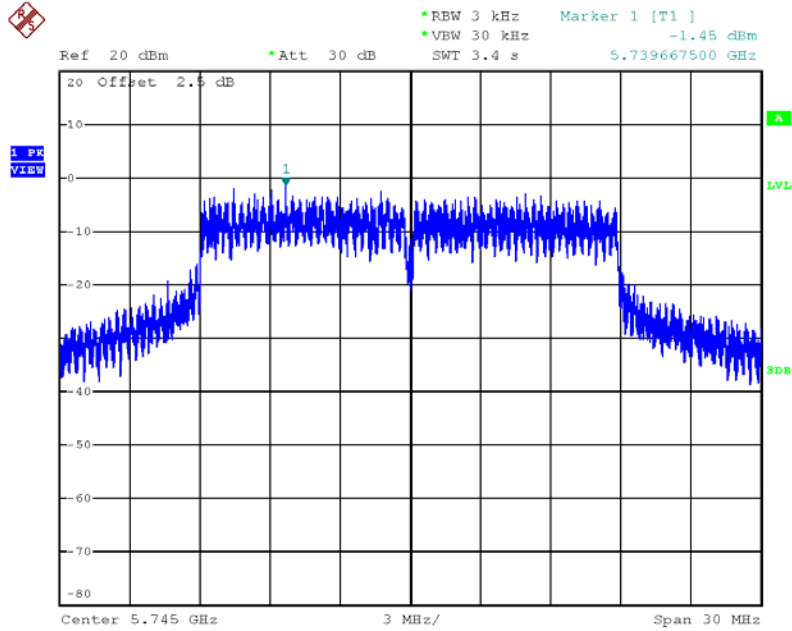
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5775 MHz



Date: 6.MAY.2013 15:49:00

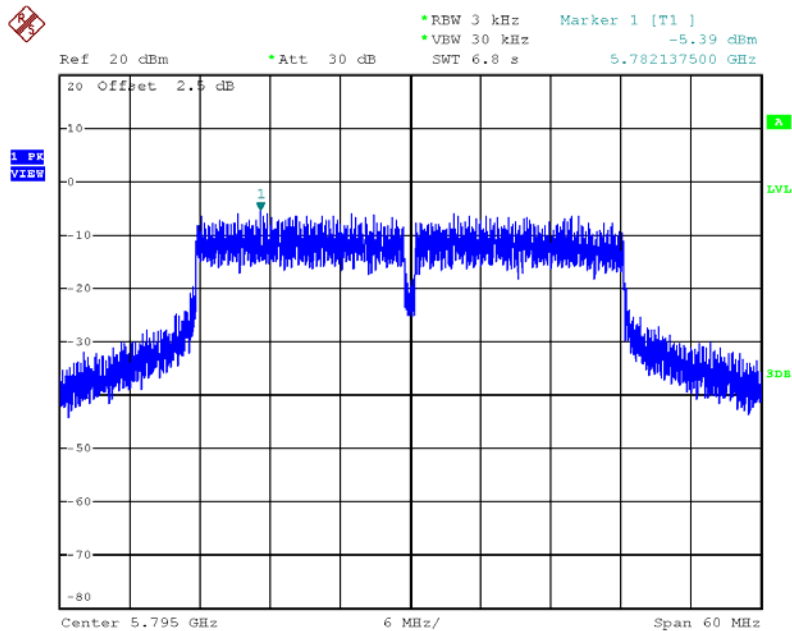
2TX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5745MHz



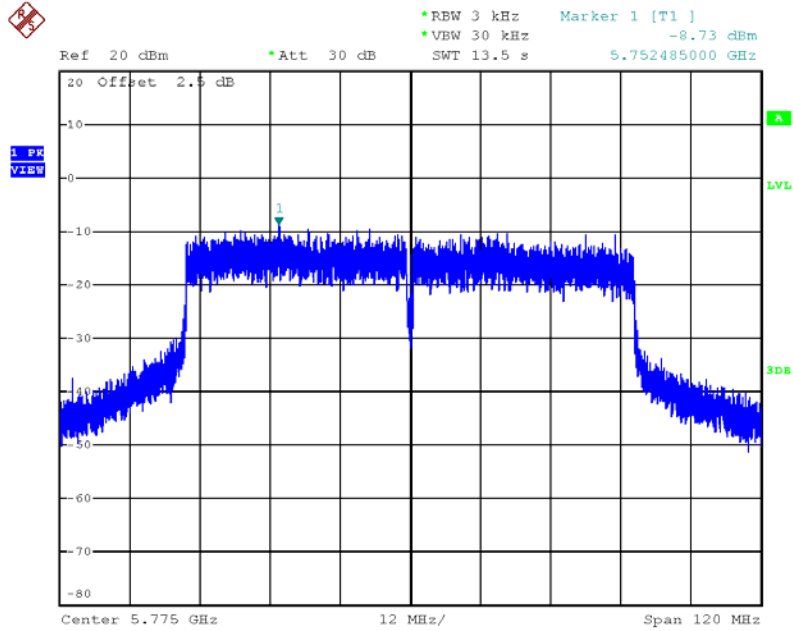
Date: 9.MAY.2013 07:13:27

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2 / 5795MHz



Date: 9.MAY.2013 07:15:18

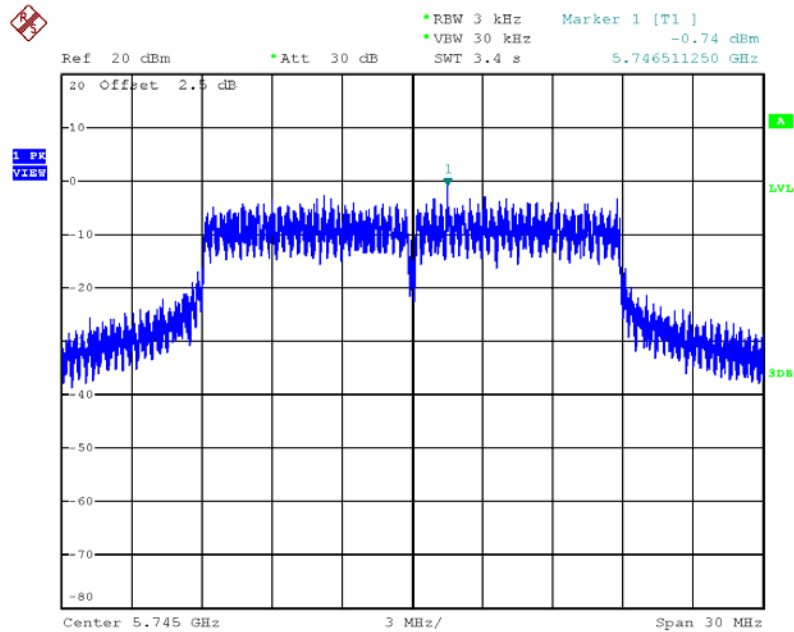
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2 / 5775MHz



Date: 9.MAY.2013 07:32:26

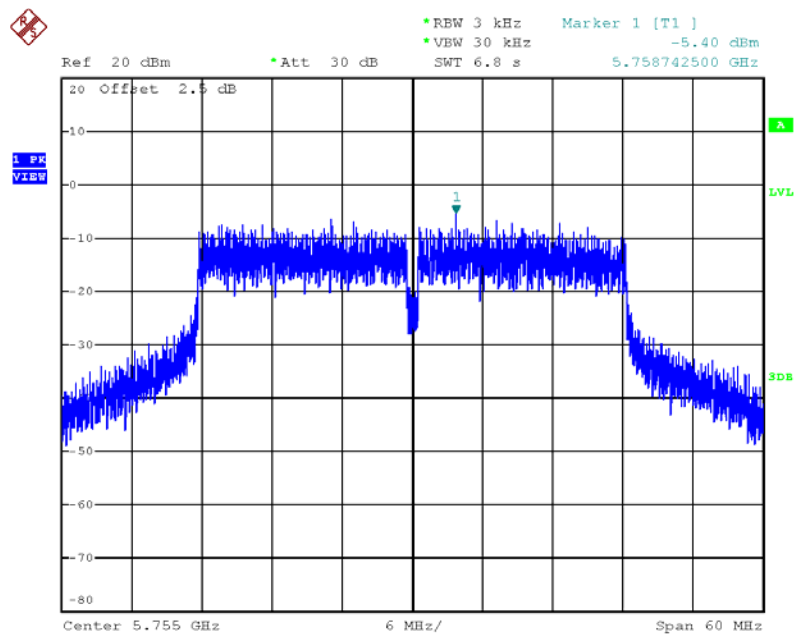
3TX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5745MHz



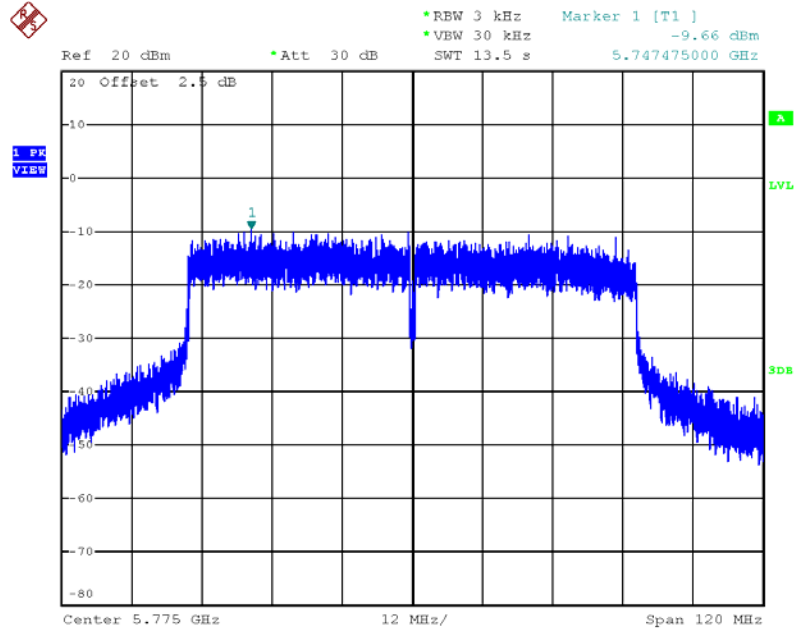
Date: 9.MAY.2013 08:38:48

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2 / 5755MHz



Date: 9.MAY.2013 08:59:05

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2 / 5775MHz

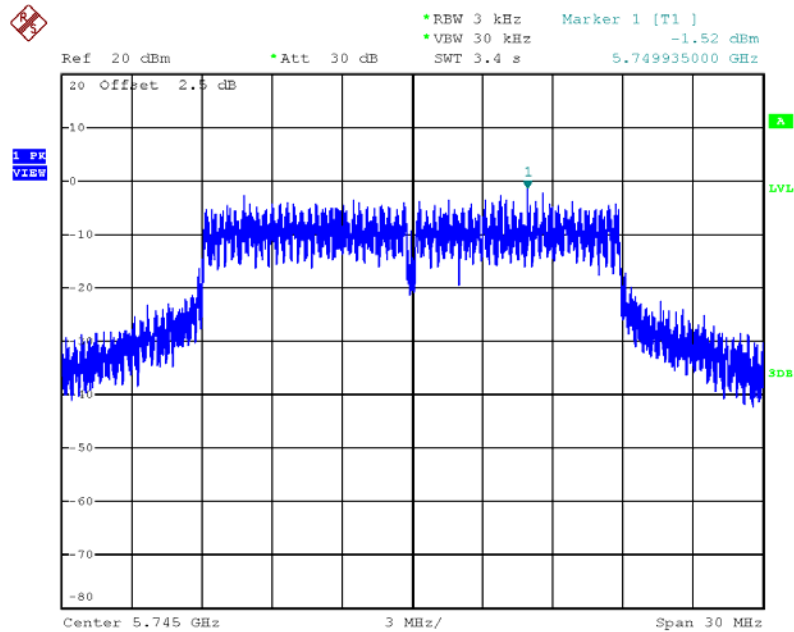


Date: 9.MAY.2013 09:02:46

Mode 4 (Ant.5 Patch antenna / 2.3dBi)

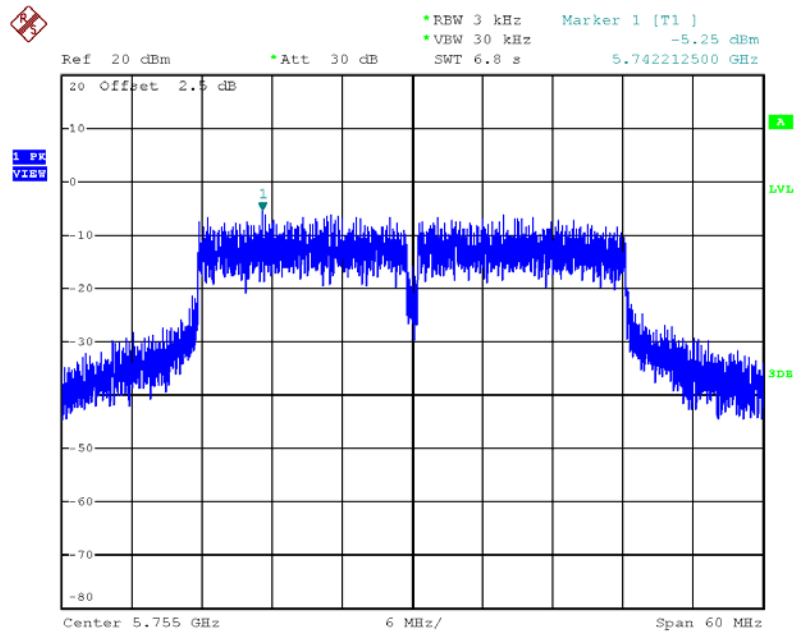
P to M / 1TX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 / 5745 MHz



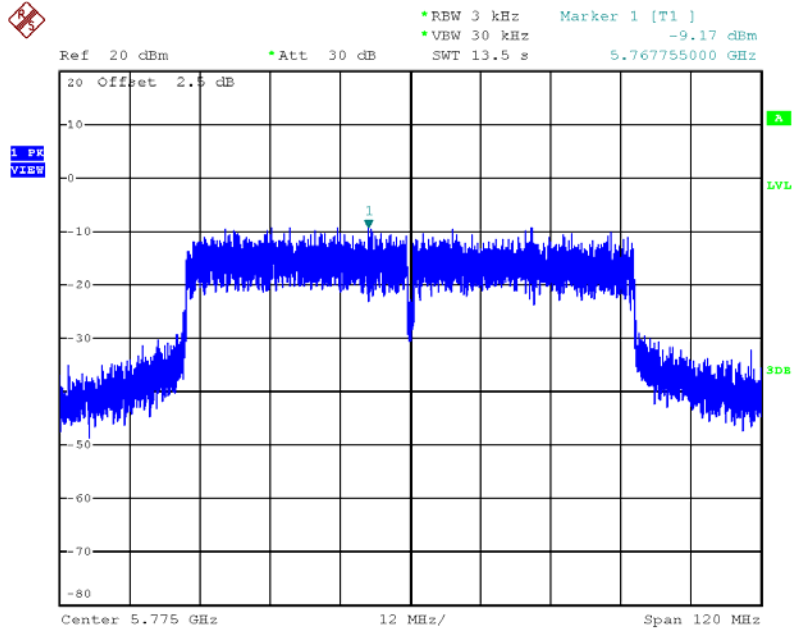
Date: 6.MAY.2013 15:33:00

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 / 5755 MHz



Date: 6.MAY.2013 15:42:03

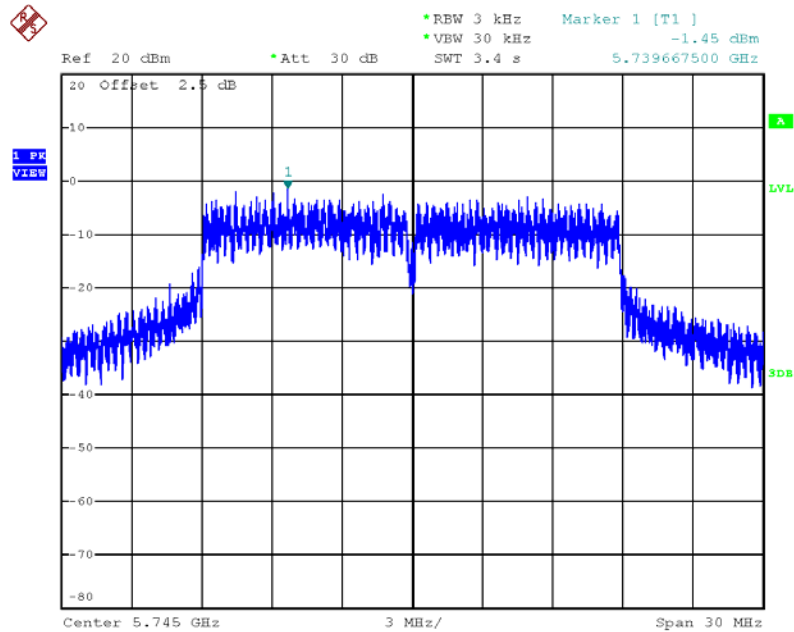
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5775 MHz



Date: 6.MAY.2013 15:47:13

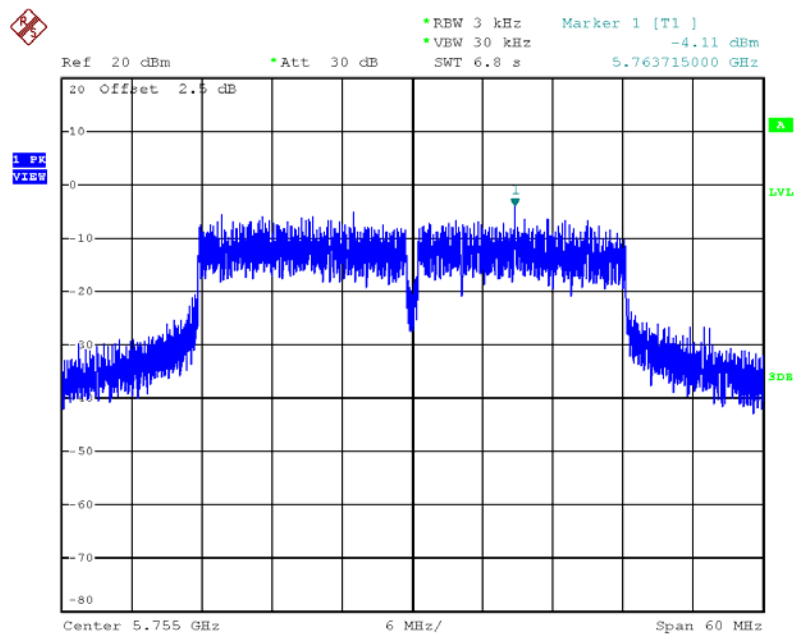
2TX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5745MHz



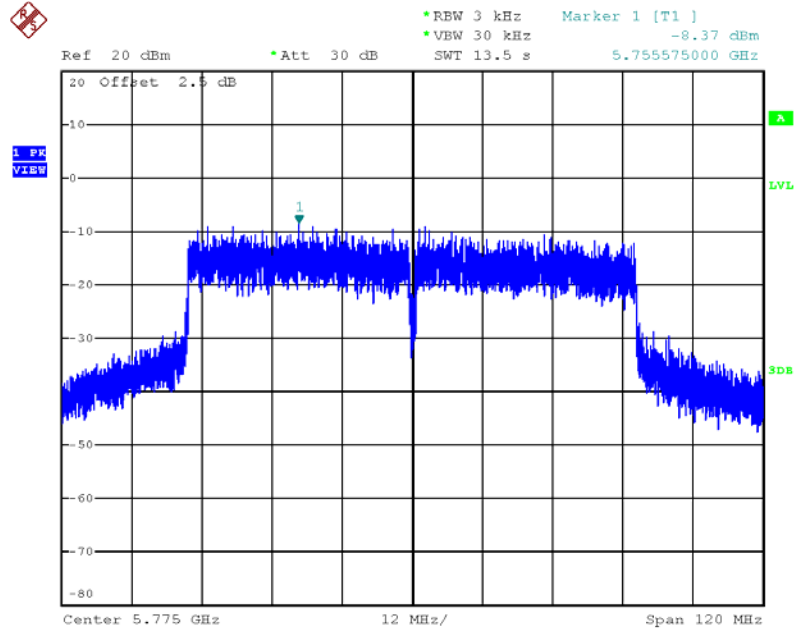
Date: 9.MAY.2013 07:13:27

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2 / 5755MHz



Date: 9.MAY.2013 07:22:23

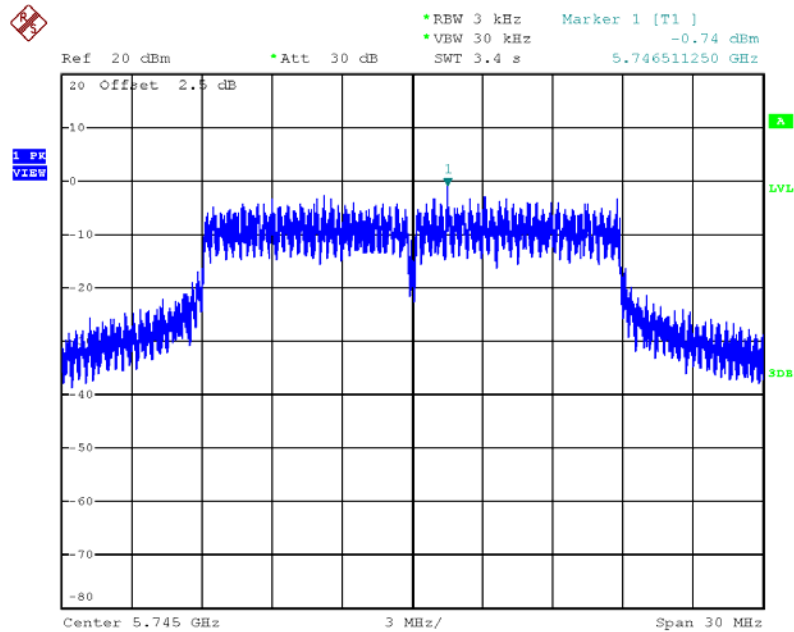
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2 / 5775MHz



Date: 9.MAY.2013 07:31:23

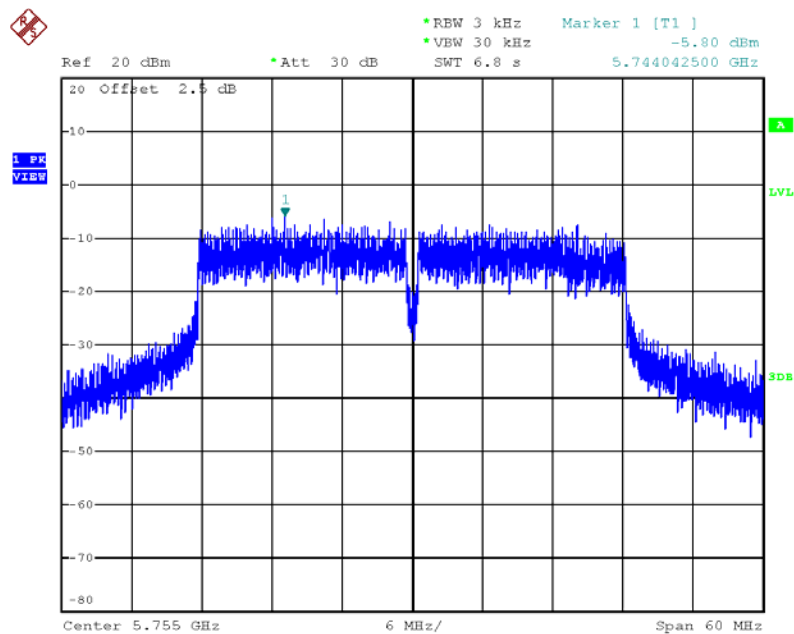
3TX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5745MHz



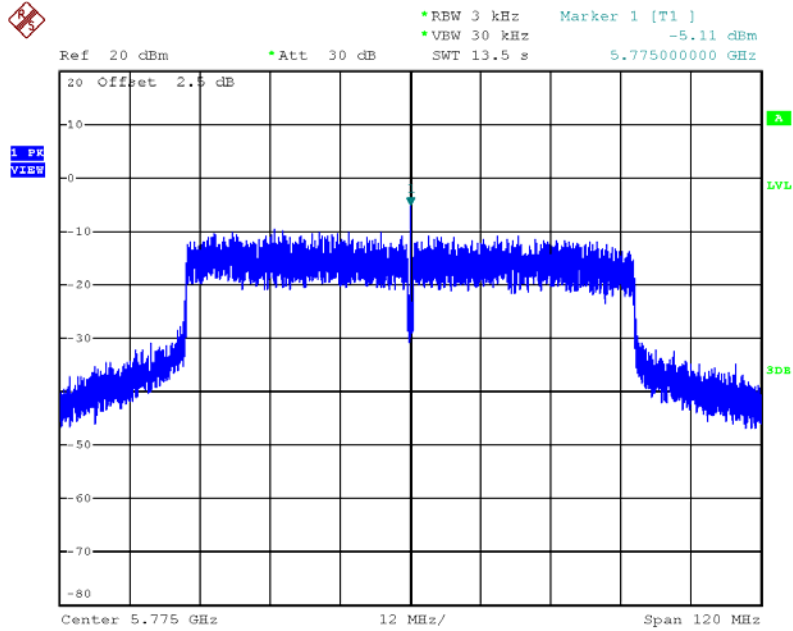
Date: 9.MAY.2013 08:38:48

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 3 / 5755MHz



Date: 9.MAY.2013 08:55:21

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 3 / 5775MHz

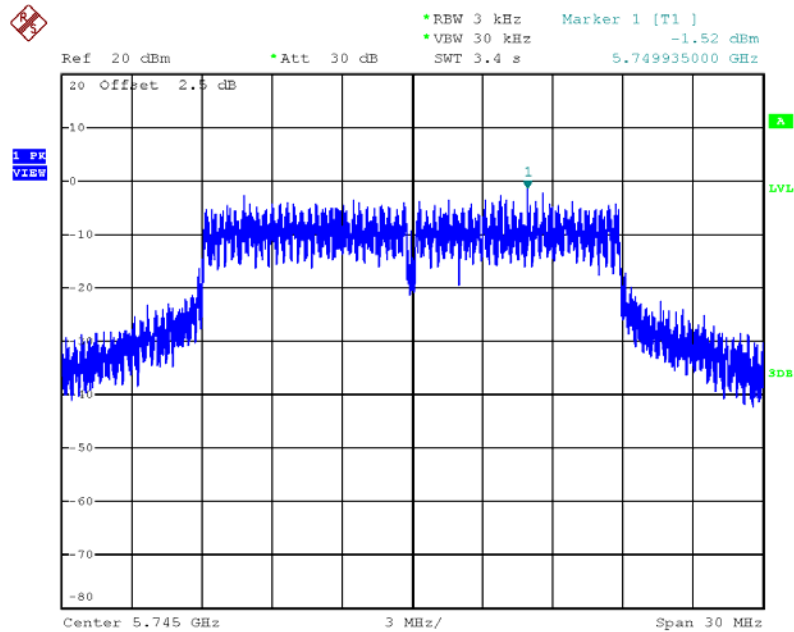


Date: 9.MAY.2013 09:05:06

Mode 5 (Ant.6 Facade antenna / 2.5dBi)

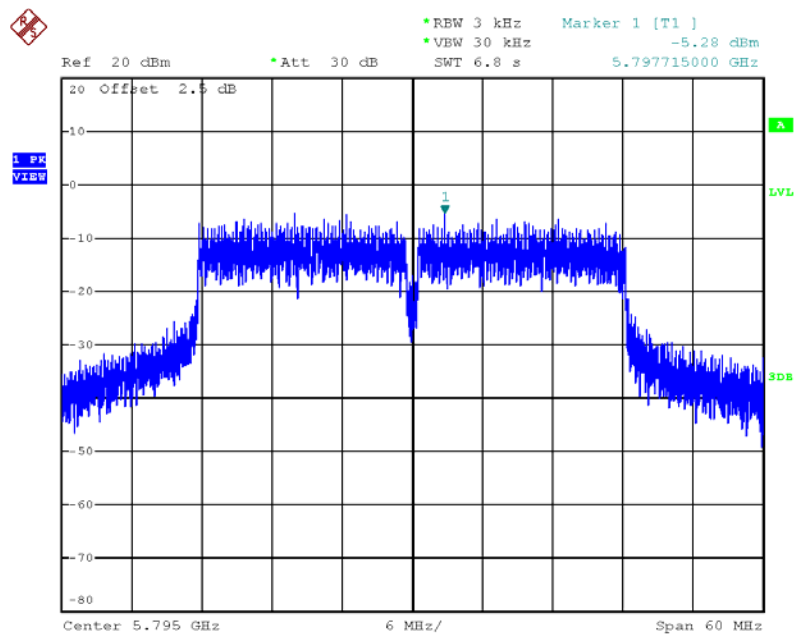
P to M / 1TX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 / 5745 MHz



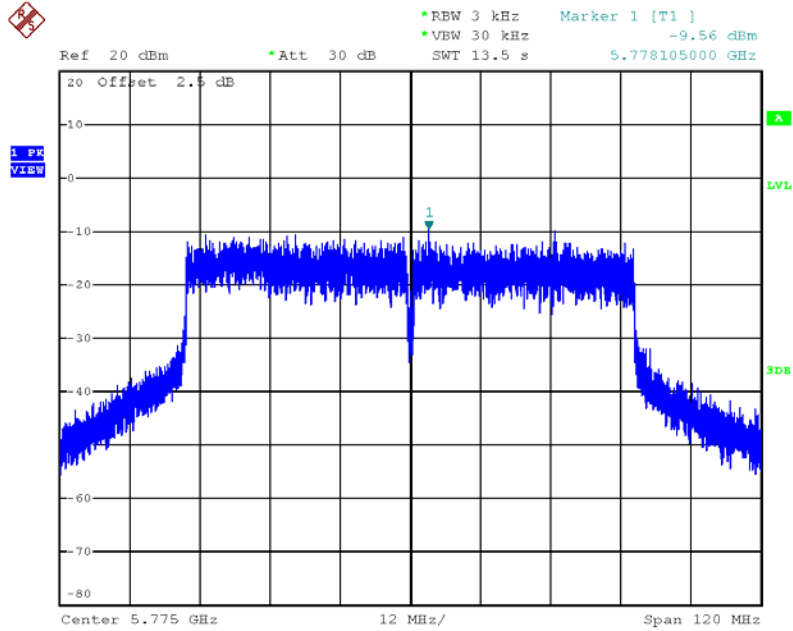
Date: 6.MAY.2013 15:33:00

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 / 5795 MHz



Date: 6.MAY.2013 15:38:25

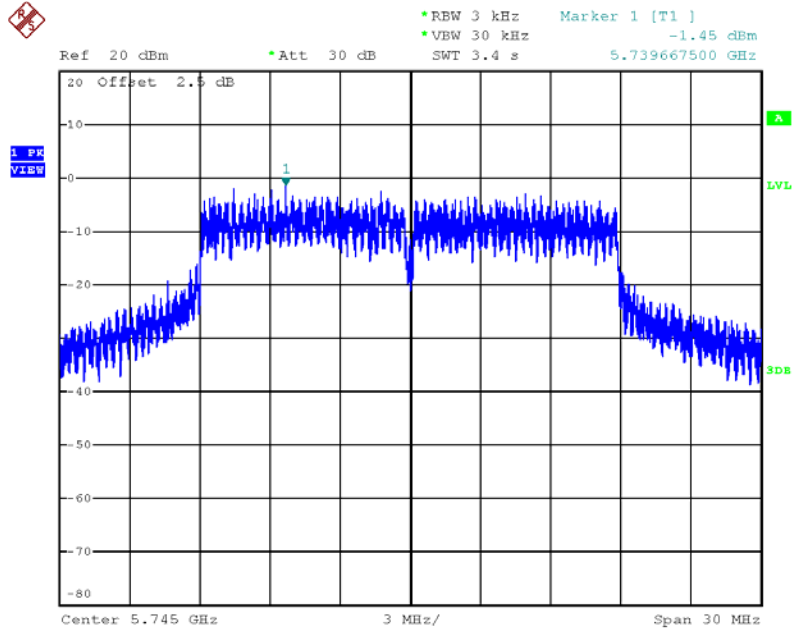
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5775 MHz



Date: 6.MAY.2013 15:45:27

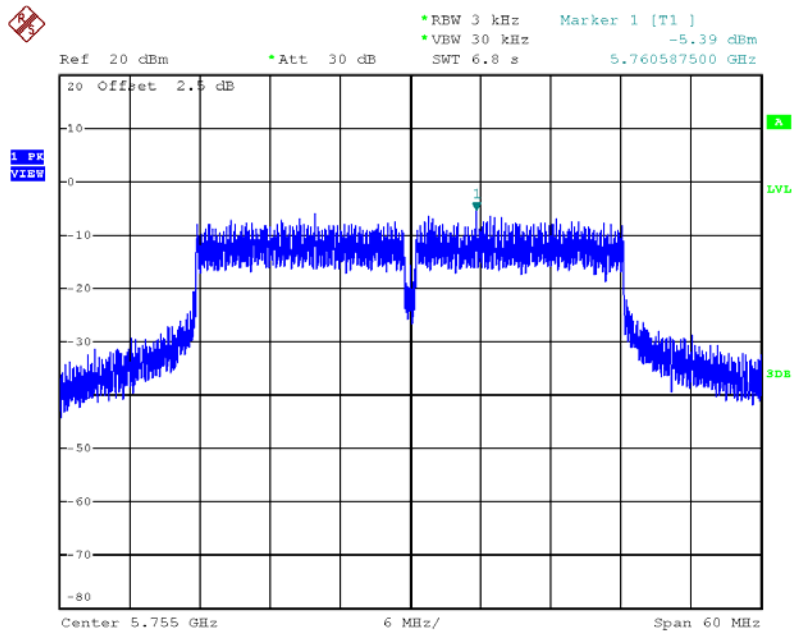
2TX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5745MHz



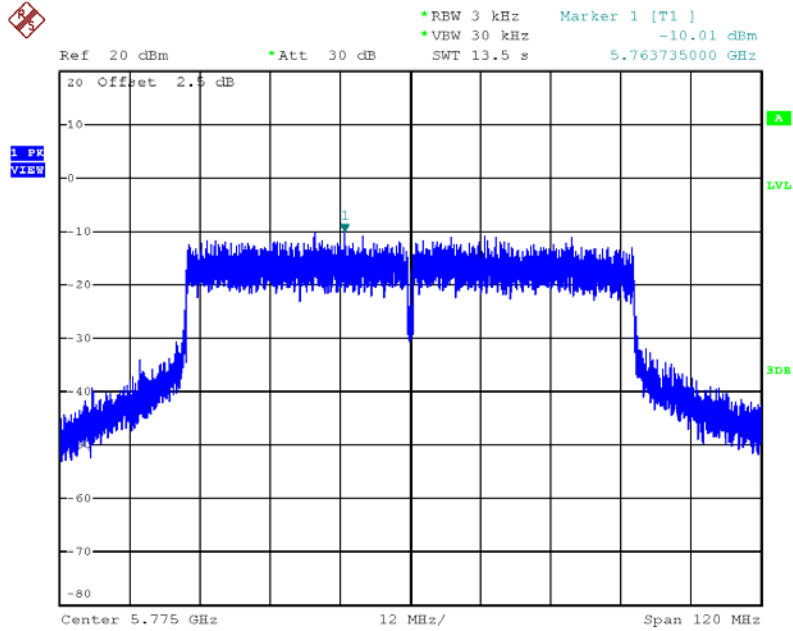
Date: 9.MAY.2013 07:13:27

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 / 5755MHz



Date: 9.MAY.2013 07:19:49

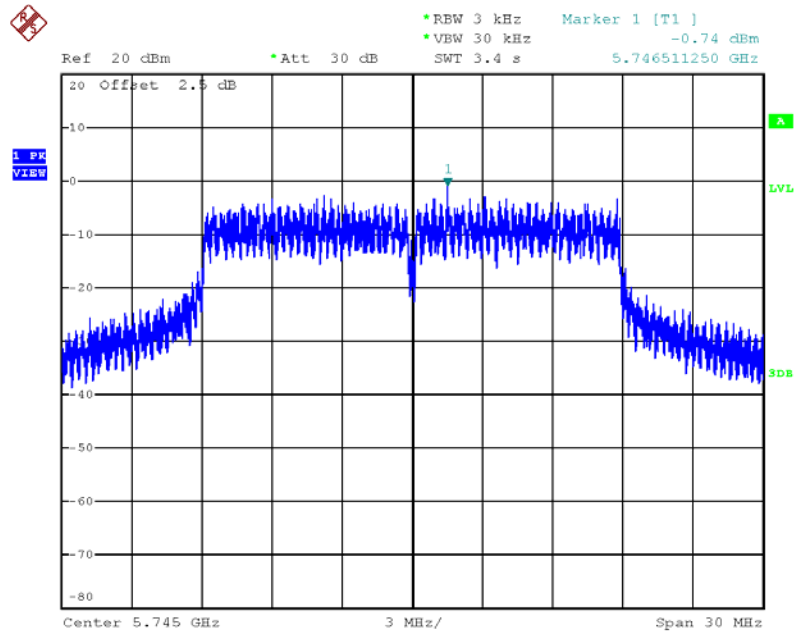
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5775MHz



Date: 9.MAY.2013 07:34:29

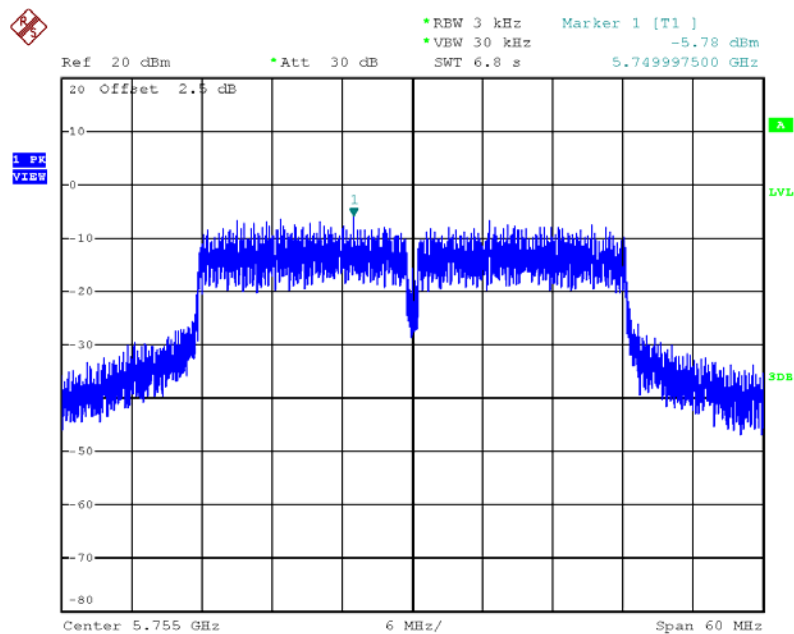
3TX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5745MHz



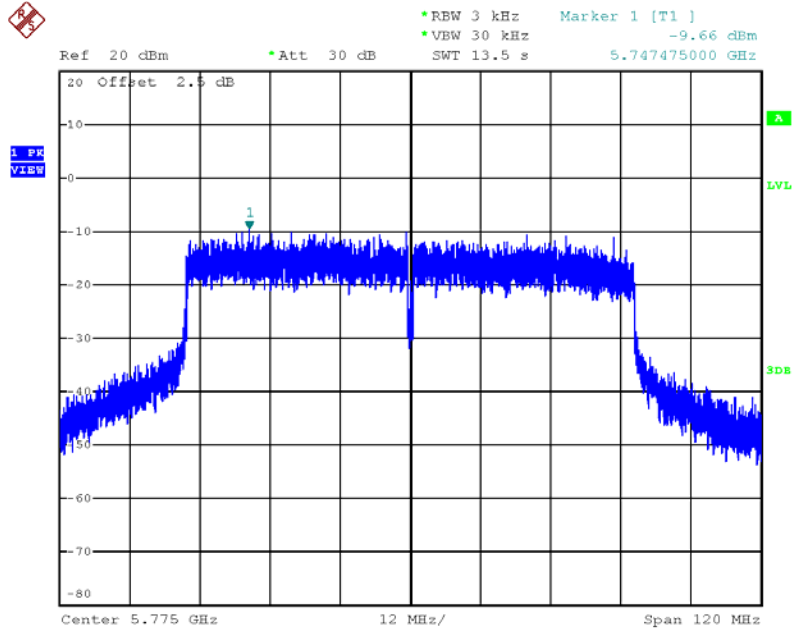
Date: 9.MAY.2013 08:38:48

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2 / 5755MHz



Date: 9.MAY.2013 08:56:41

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2 / 5775MHz

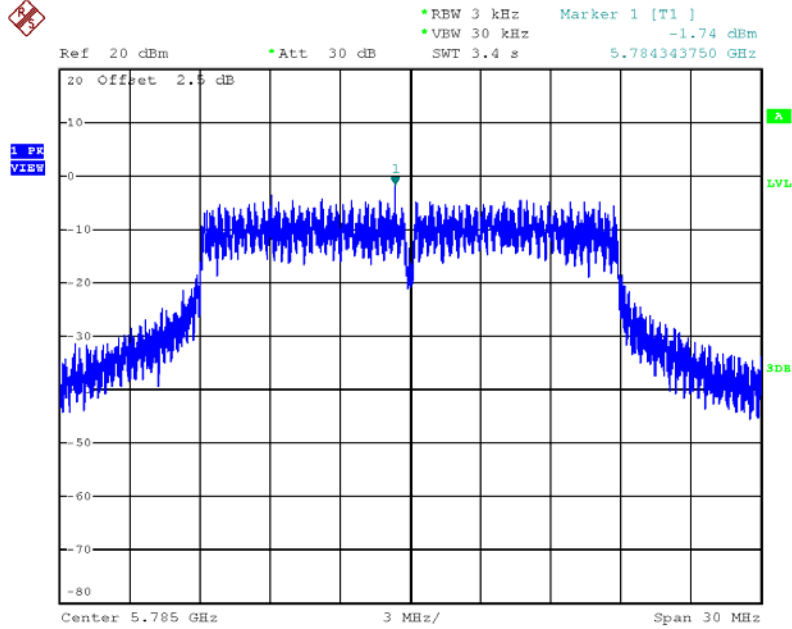


Date: 9.MAY.2013 09:02:46

Mode 6 (Ant.9 Panel antenna / 9.2dBi)

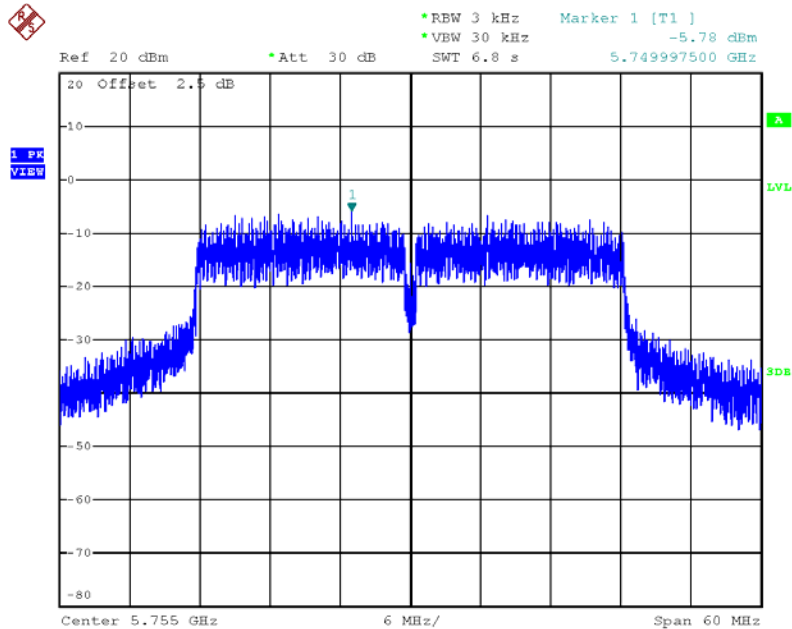
P to M / 3TX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5785MHz



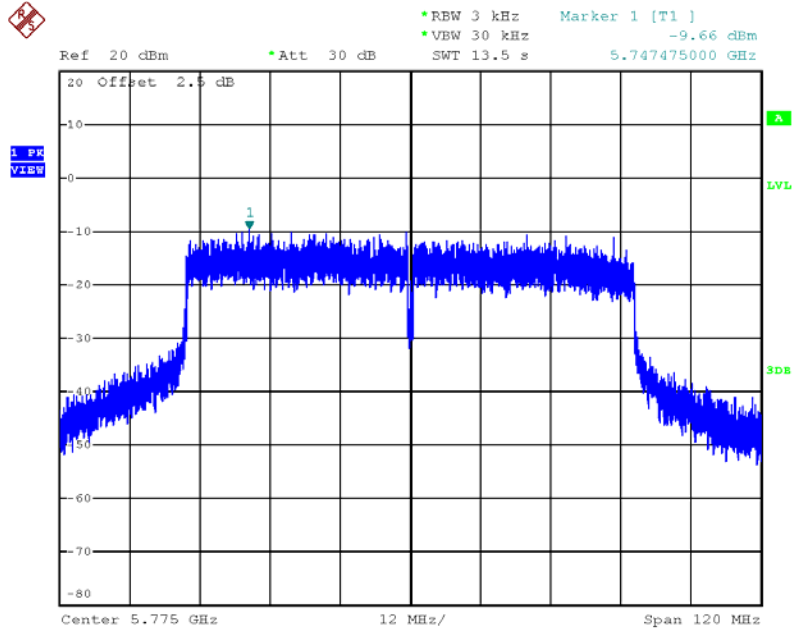
Date: 9.MAY.2013 08:40:45

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2 / 5755MHz



Date: 9.MAY.2013 08:56:41

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2 / 5775MHz

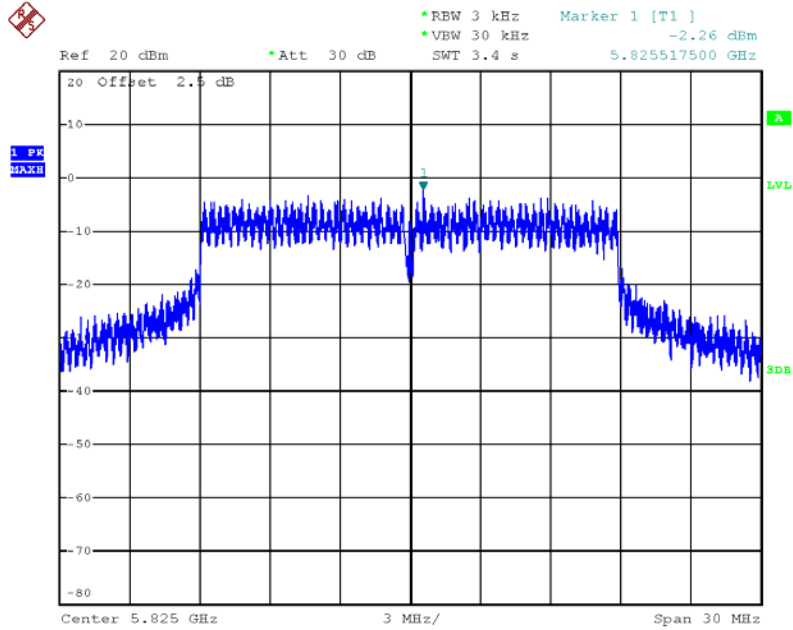


Date: 9.MAY.2013 09:02:46

Mode 7 (Ant.10 PIFA antenna / 5.3dBi)

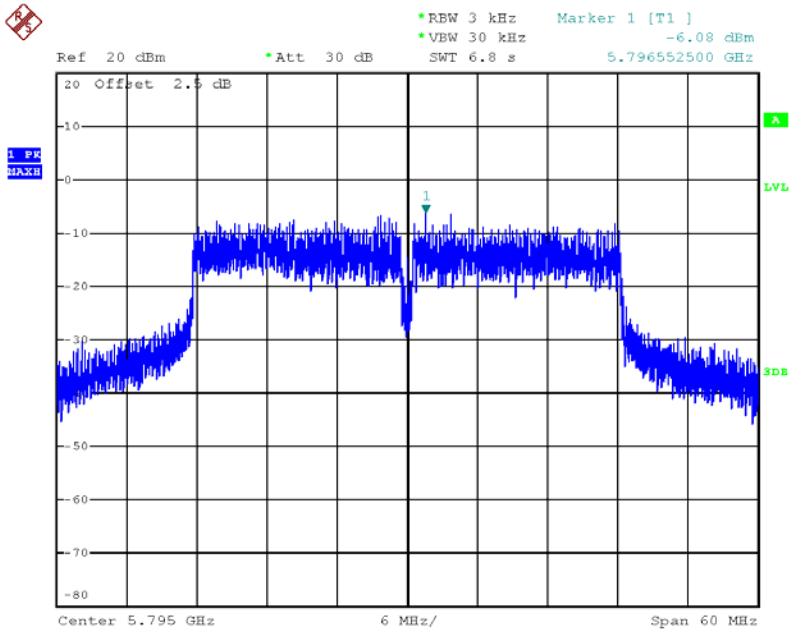
P to M / 1TX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 / 5825 MHz



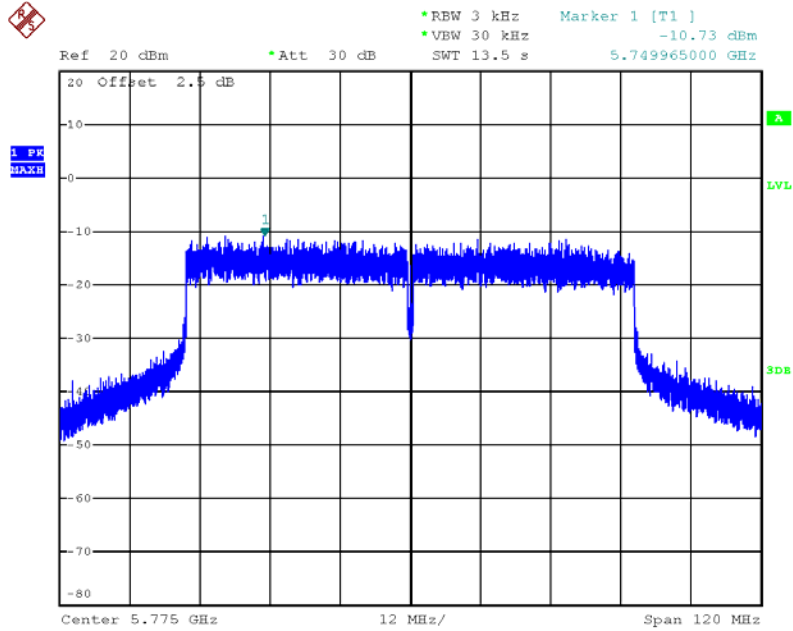
Date: 7.JUL.2013 17:46:20

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 / 5795 MHz



Date: 7.JUL.2013 17:36:27

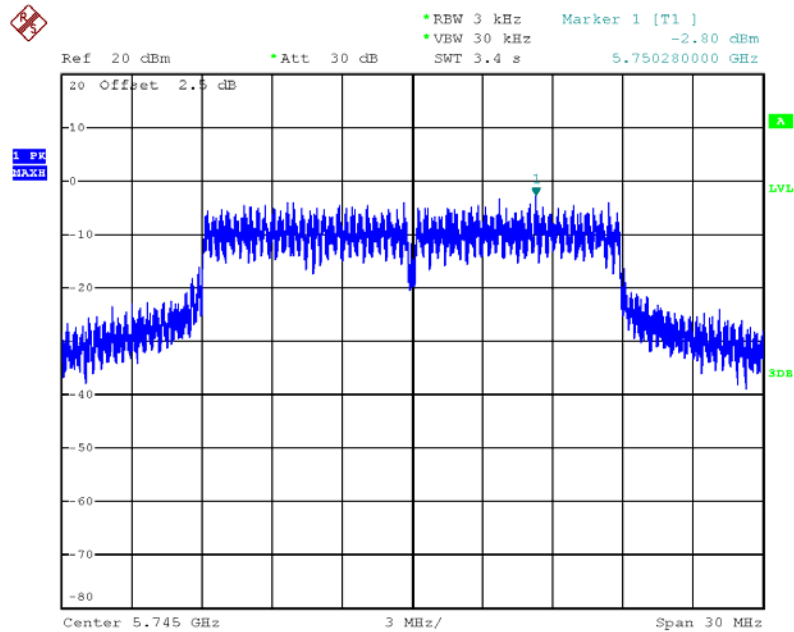
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5775 MHz



Date: 7.JUL.2013 17:32:38

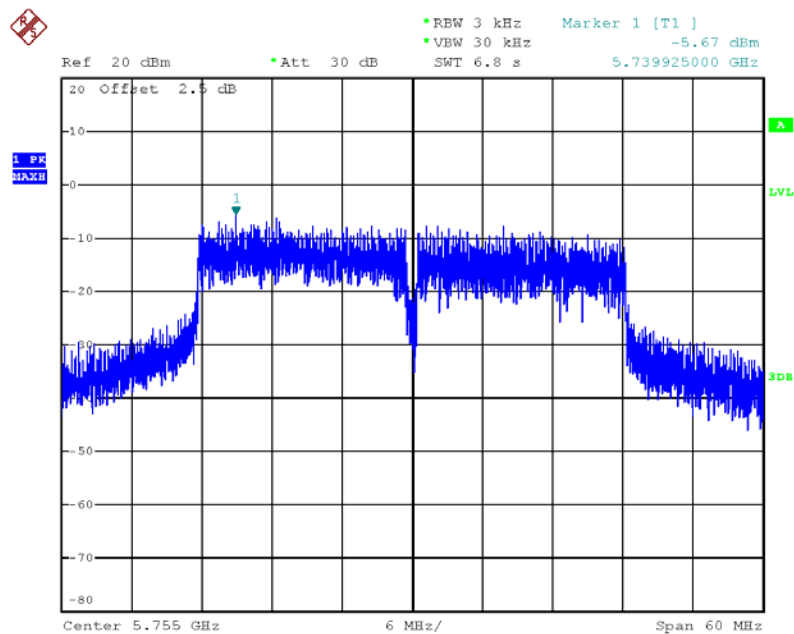
2TX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 / 5745MHz



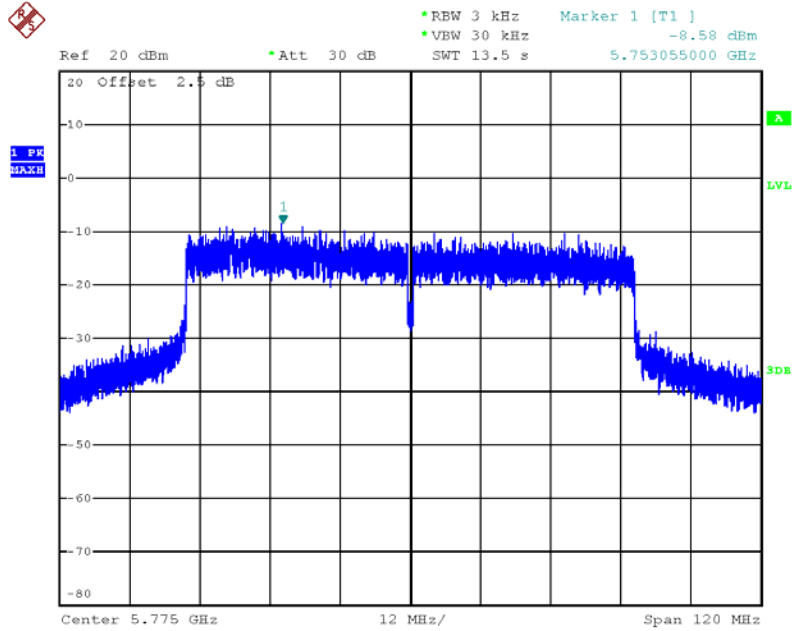
Date: 9.JUL.2013 00:27:32

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2 / 5755MHz



Date: 9.JUL.2013 00:38:41

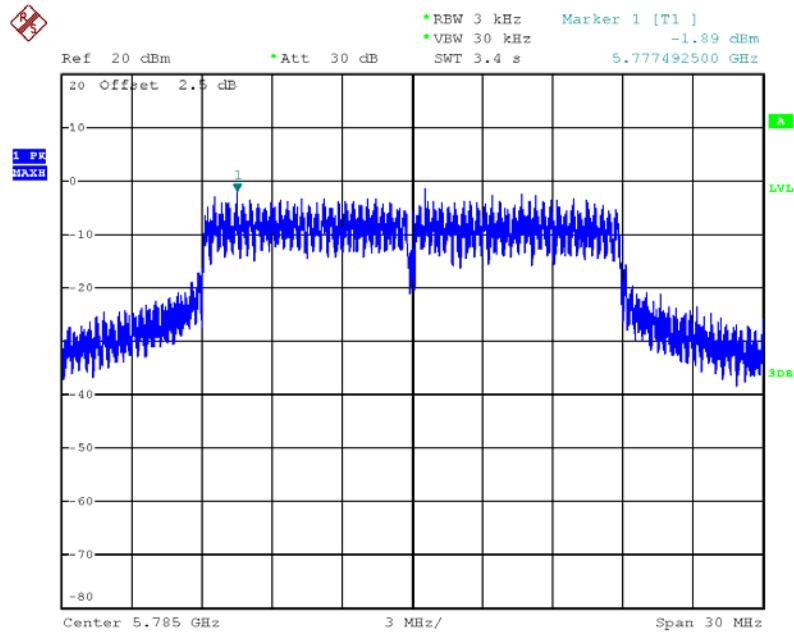
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2 / 5775MHz



Date: 9.JUL.2013 00:43:49

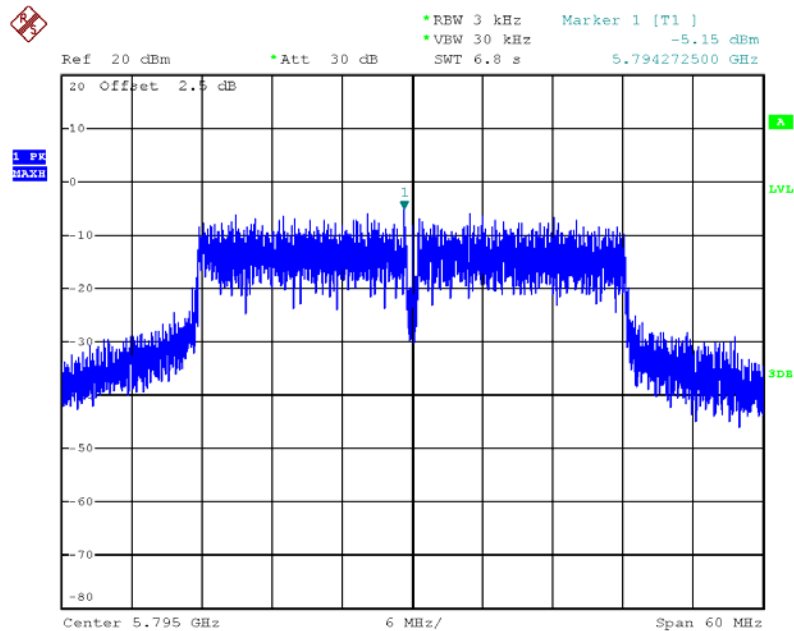
3TX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 3 / 5785MHz



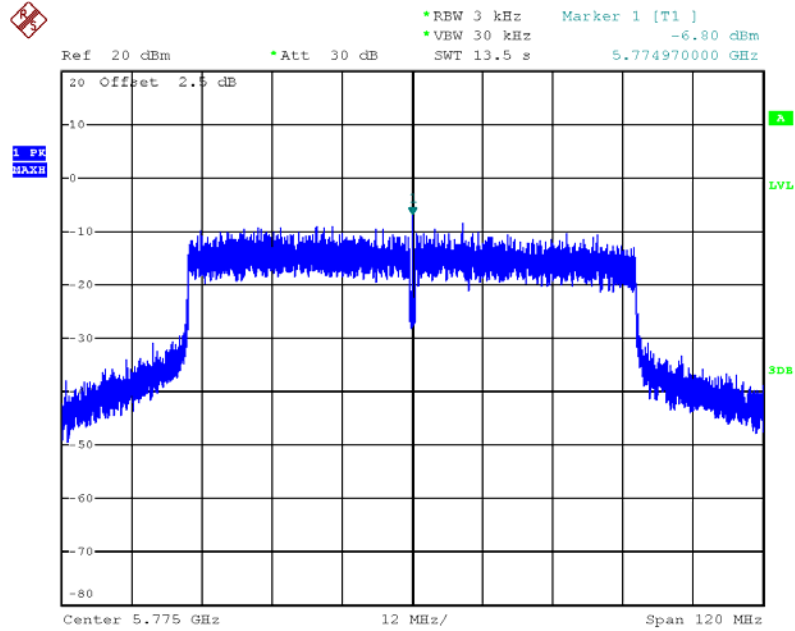
Date: 9.JUL.2013 22:53:05

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 3 / 5795MHz



Date: 9.JUL.2013 23:06:21

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 3 / 5775MHz



Date: 9.JUL.2013 23:11:04

4.4. 6dB Spectrum Bandwidth Measurement

4.4.1. Limit

For digital modulation systems, the minimum 6dB bandwidth shall be at least 500 kHz.

4.4.2. Measuring Instruments and Setting

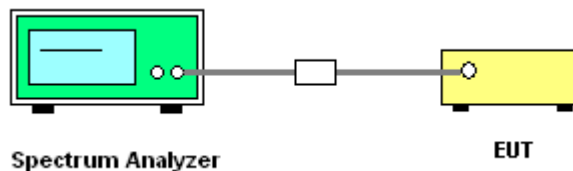
Please refer to section 5 of equipments list in this report. The following table is the setting of spectrum analyzer.

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> 6dB Bandwidth
RBW	100kHz
VBW	$\geq 3 \times \text{RBW}$
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.4.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer in peak hold mode.
2. Test was performed in accordance with KDB 558074 D01 v03r01 for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247 section 8.0 DTS 6-dB signal bandwidth option 1.
3. Multiple antenna system was performed in accordance with KDB 662911 D01 v02 Emissions Testing of Transmitters with Multiple Outputs in the Same Band.
4. Measured the spectrum width with power higher than 6dB below carrier.

4.4.4. Test Setup Layout



4.4.5. Test Deviation

There is no deviation with the original standard.

4.4.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.4.7. Test Result of 6dB Spectrum Bandwidth

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11ac
Test Mode	Mode 1 (Ant.1 Dipole antenna / 8dBi)		

P to M

1TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	16.64	19.12	500	Complies
157	5785 MHz	17.20	18.00	500	Complies
165	5825 MHz	17.12	17.92	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	35.68	36.48	500	Complies
159	5795 MHz	35.68	36.80	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	75.52	76.80	500	Complies

2TX
Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	17.28	21.36	500	Complies
157	5785 MHz	17.28	20.16	500	Complies
165	5825 MHz	10.00	16.56	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	34.56	38.04	500	Complies
159	5795 MHz	33.72	37.08	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	70.40	75.40	500	Complies

3TX
Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	12.64	17.12	500	Complies
157	5785 MHz	12.56	16.72	500	Complies
165	5825 MHz	12.48	16.56	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	33.84	36.48	500	Complies
159	5795 MHz	33.84	37.32	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	71.40	75.80	500	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11ac
Test Mode	Mode 2 (Ant.3 Panel antenna / 12.5dBi)		

P to M

1TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	17.60	17.92	500	Complies
157	5785 MHz	17.52	17.92	500	Complies
165	5825 MHz	17.20	17.92	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	36.16	36.48	500	Complies
159	5795 MHz	35.84	36.64	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	74.24	76.48	500	Complies

2TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	17.20	18.16	500	Complies
157	5785 MHz	17.60	18.24	500	Complies
165	5825 MHz	17.52	18.24	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	35.68	36.64	500	Complies
159	5795 MHz	36.48	36.64	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	67.52	73.92	500	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11ac
Test Mode	Mode 2 (Ant.3 Panel antenna / 12.5dBi)		

P to P

1TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	16.64	19.12	500	Complies
157	5785 MHz	17.20	18.00	500	Complies
165	5825 MHz	17.12	17.92	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	36.16	36.48	500	Complies
159	5795 MHz	35.68	36.80	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	74.24	76.48	500	Complies

2TX
Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	17.28	21.36	500	Complies
157	5785 MHz	17.28	20.16	500	Complies
165	5825 MHz	10.00	16.56	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	35.04	35.76	500	Complies
159	5795 MHz	33.72	37.08	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	50.00	76.40	500	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11ac
Test Mode	Mode 3 (Ant.4 Yagi antenna / 8dBi)		

P to M

1TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	16.64	19.12	500	Complies
157	5785 MHz	17.20	18.00	500	Complies
165	5825 MHz	17.12	17.92	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	36.16	36.48	500	Complies
159	5795 MHz	35.68	36.80	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	72.96	76.48	500	Complies

2TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	17.28	21.36	500	Complies
157	5785 MHz	17.28	20.16	500	Complies
165	5825 MHz	10.00	16.56	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	33.84	36.72	500	Complies
159	5795 MHz	33.72	37.08	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	50.20	76.40	500	Complies

3TX
Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	12.64	17.12	500	Complies
157	5785 MHz	12.56	16.72	500	Complies
165	5825 MHz	12.48	16.56	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	35.20	36.72	500	Complies
159	5795 MHz	33.84	37.32	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	75.80	76.40	500	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11ac
Test Mode	Mode 4 (Ant.5 Patch antenna / 2.3dBi)		

P to M

1TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	16.64	19.12	500	Complies
157	5785 MHz	17.20	18.00	500	Complies
165	5825 MHz	17.12	17.92	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	35.68	36.48	500	Complies
159	5795 MHz	35.68	36.80	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	75.52	76.80	500	Complies

2TX
Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	17.28	21.36	500	Complies
157	5785 MHz	17.28	20.16	500	Complies
165	5825 MHz	10.00	16.56	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	34.56	38.04	500	Complies
159	5795 MHz	33.72	37.08	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	70.40	75.40	500	Complies

3TX
Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	12.64	17.12	500	Complies
157	5785 MHz	12.56	16.72	500	Complies
165	5825 MHz	12.48	16.56	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	33.84	36.48	500	Complies
159	5795 MHz	33.84	37.32	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	71.40	75.80	500	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11ac
Test Mode	Mode 5 (Ant.6 Facade antenna / 2.5dBi)		

P to M

1TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	16.64	19.12	500	Complies
157	5785 MHz	17.20	18.00	500	Complies
165	5825 MHz	17.12	17.92	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	36.16	36.48	500	Complies
159	5795 MHz	35.68	36.80	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	74.24	76.48	500	Complies

2TX
Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	17.28	21.36	500	Complies
157	5785 MHz	17.28	20.16	500	Complies
165	5825 MHz	10.00	16.56	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	35.04	35.76	500	Complies
159	5795 MHz	33.72	37.08	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	50.00	76.40	500	Complies

3TX
Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	12.64	17.12	500	Complies
157	5785 MHz	12.56	16.72	500	Complies
165	5825 MHz	12.48	16.56	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	32.88	36.24	500	Complies
159	5795 MHz	33.84	37.32	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	75.80	76.40	500	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11ac
Test Mode	Mode 6 (Ant.9 Panel antenna / 9.2dBi)		

P to M

3TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	15.20	17.60	500	Complies
157	5785 MHz	17.28	19.28	500	Complies
165	5825 MHz	15.20	17.44	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	32.88	36.24	500	Complies
159	5795 MHz	33.84	37.32	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	75.80	76.40	500	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11ac
Test Mode	Mode 7 (Ant. 10 PIFA antenna / 5.3dBi)		

P to M

1TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	17.20	23.52	500	Complies
157	5785 MHz	17.28	21.04	500	Complies
165	5825 MHz	17.52	19.84	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	36.32	36.80	500	Complies
159	5795 MHz	36.00	43.04	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	74.24	76.80	500	Complies

2TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	16.32	22.64	500	Complies
157	5785 MHz	16.32	20.80	500	Complies
165	5825 MHz	17.52	20.72	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	34.56	41.12	500	Complies
159	5795 MHz	34.56	38.40	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	65.60	76.80	500	Complies

3TX
Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	16.08	20.80	500	Complies
157	5785 MHz	15.60	20.48	500	Complies
165	5825 MHz	15.12	19.84	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	35.68	36.80	500	Complies
159	5795 MHz	35.68	37.28	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	70.40	76.80	500	Complies

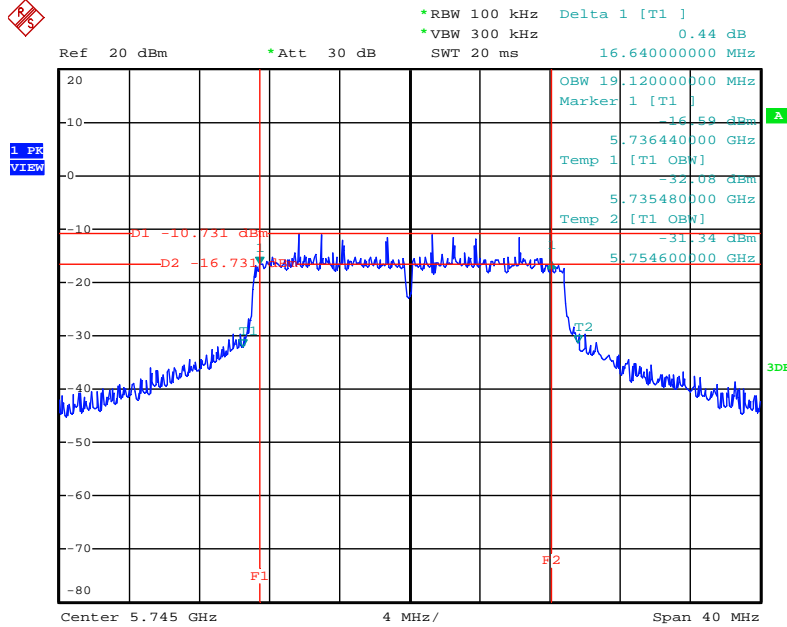
Note: All the test values were listed in the report.

For plots, only the channel with maximum results was shown.

Mode 1 (Ant.1 Dipole antenna / 8dBi)

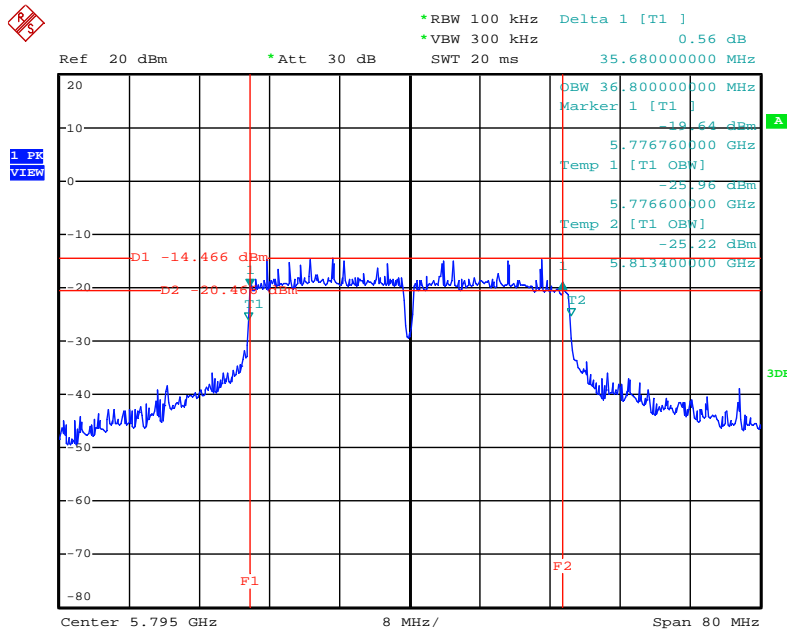
P to M / 1TX

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 / 5745 MHz



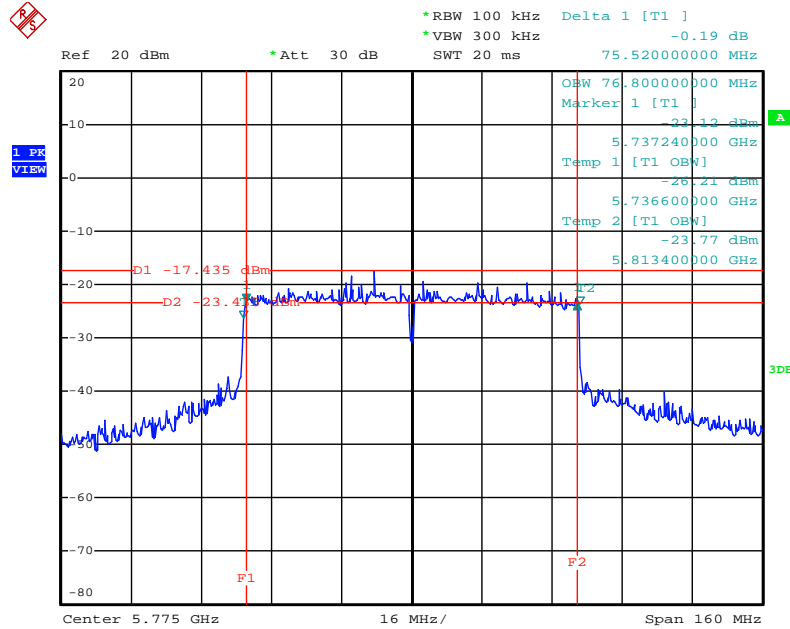
Date: 6.MAY.2013 11:19:05

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 / 5795 MHz



Date: 6.MAY.2013 11:23:34

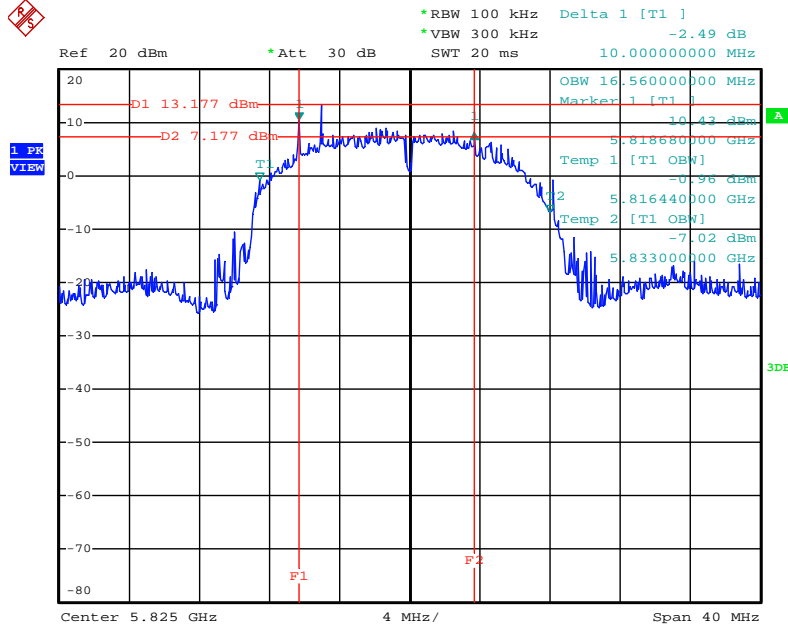
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5775 MHz



Date: 6.MAY.2013 11:26:20

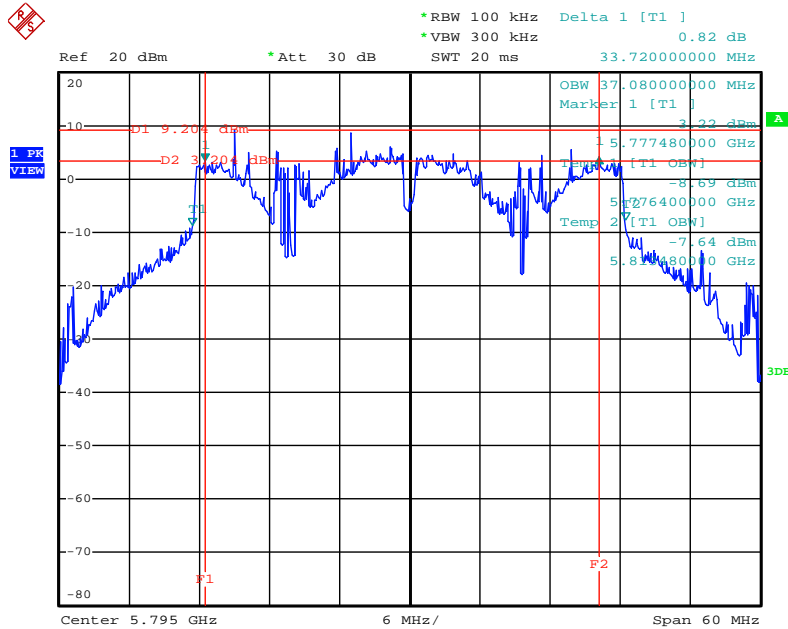
2TX

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 / 5825 MHz



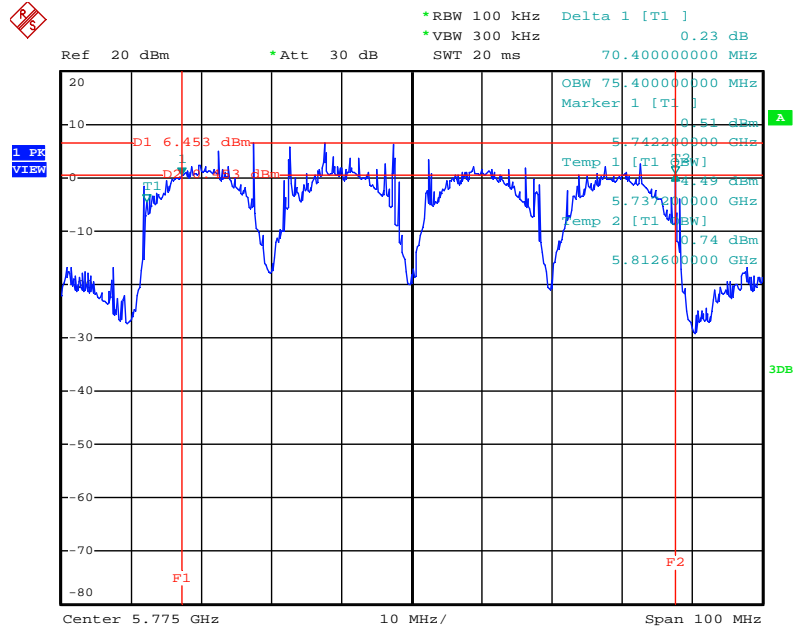
Date: 8.MAY.2013 17:23:53

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 / 5795 MHz



Date: 8.MAY.2013 17:26:13

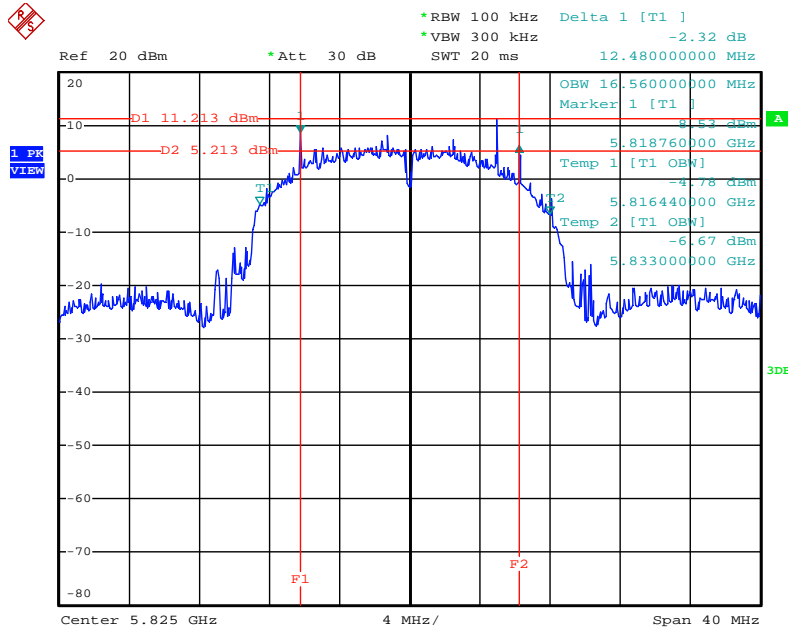
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 / 5775 MHz



Date: 8.MAY.2013 17:31:19

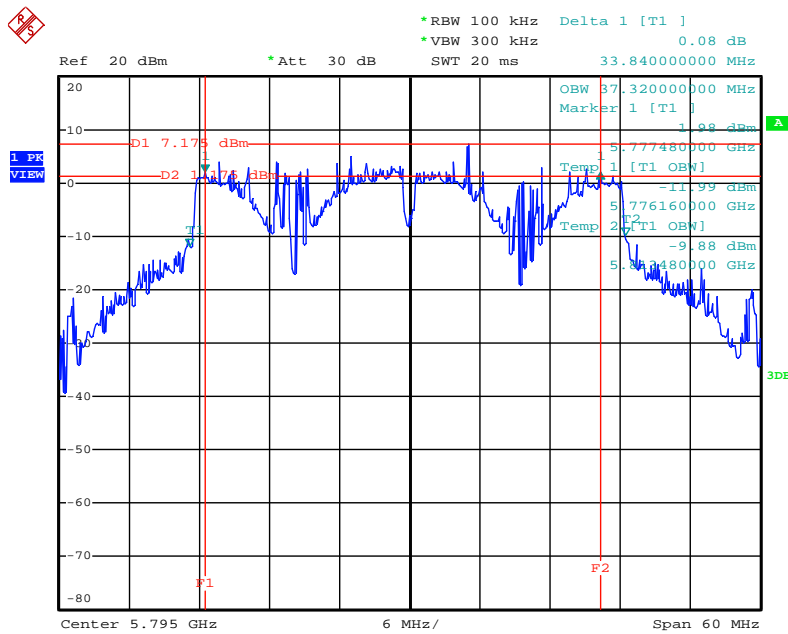
3TX

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1+Chain 2+Chain 3 / 5825 MHz



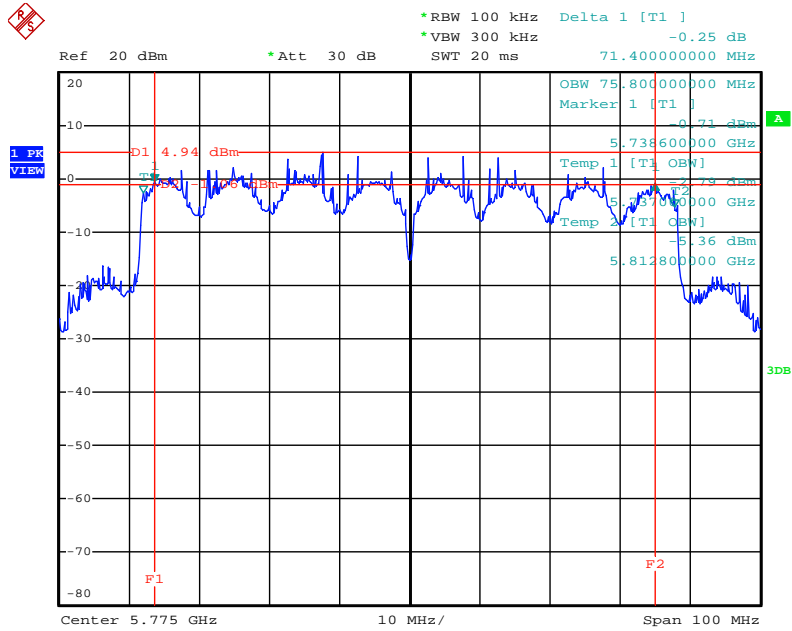
Date: 8.MAY.2013 16:43:40

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1+Chain 2+Chain 3 / 5795 MHz



Date: 8.MAY.2013 16:48:45

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1+Chain 2+Chain 3 / 5775 MHz

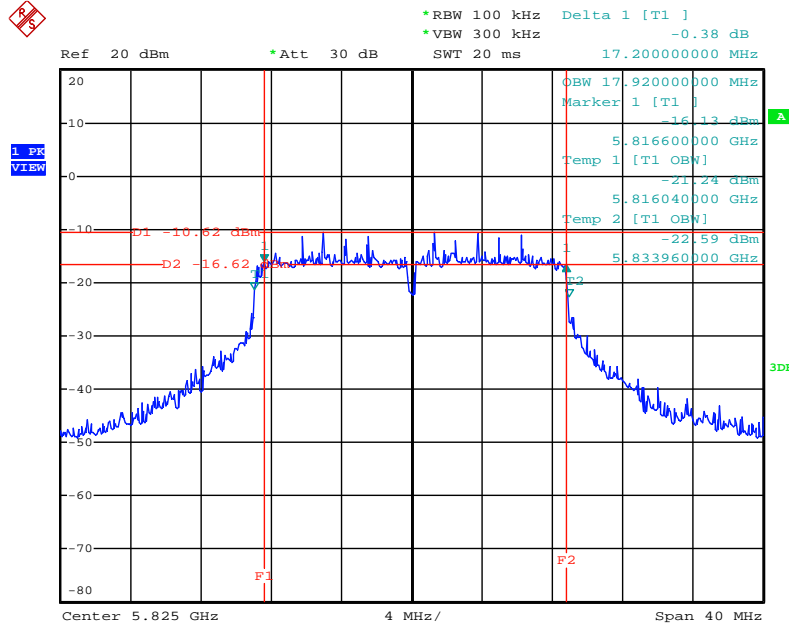


Date: 8.MAY.2013 16:51:18

Mode 2 (Ant.3 Panel antenna / 12.5dBi)

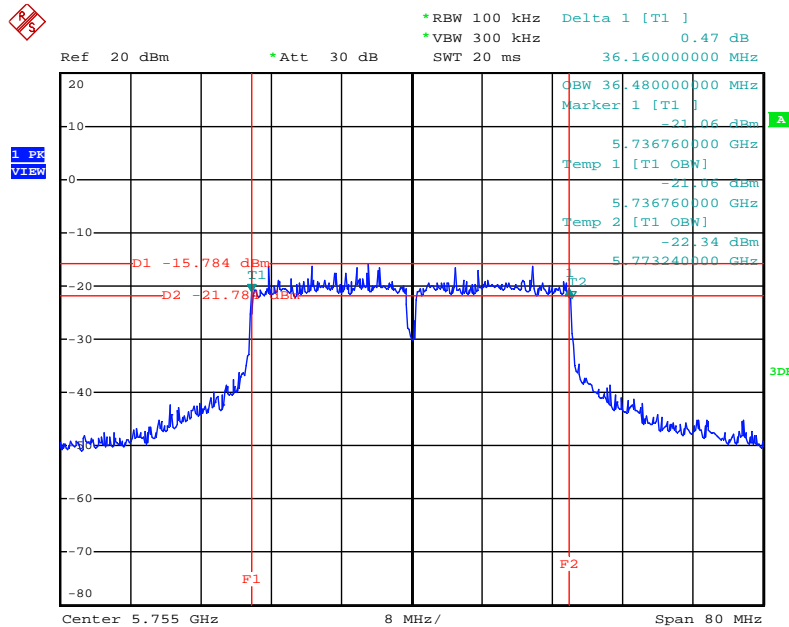
P to M / 1TX

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 / 5825 MHz



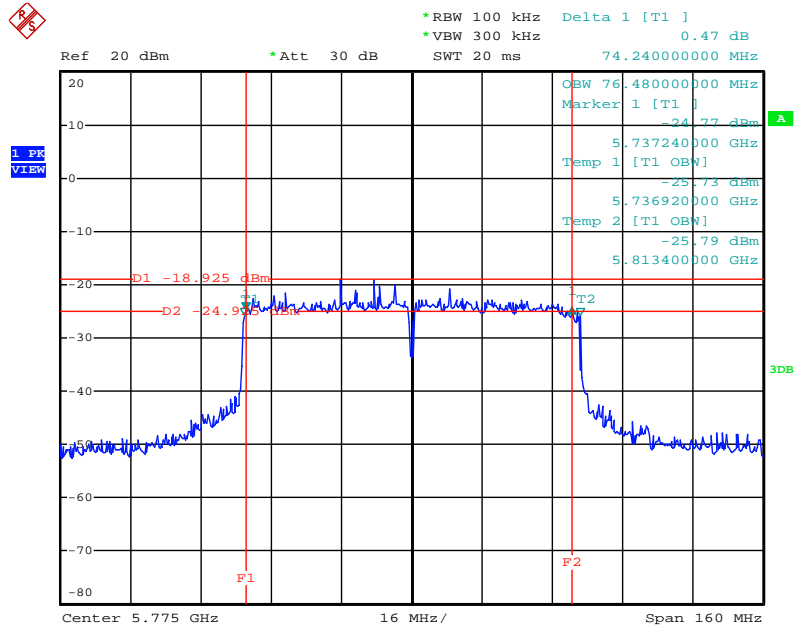
Date: 22.MAY.2013 18:24:46

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 / 5755 MHz



Date: 6.MAY.2013 11:22:50

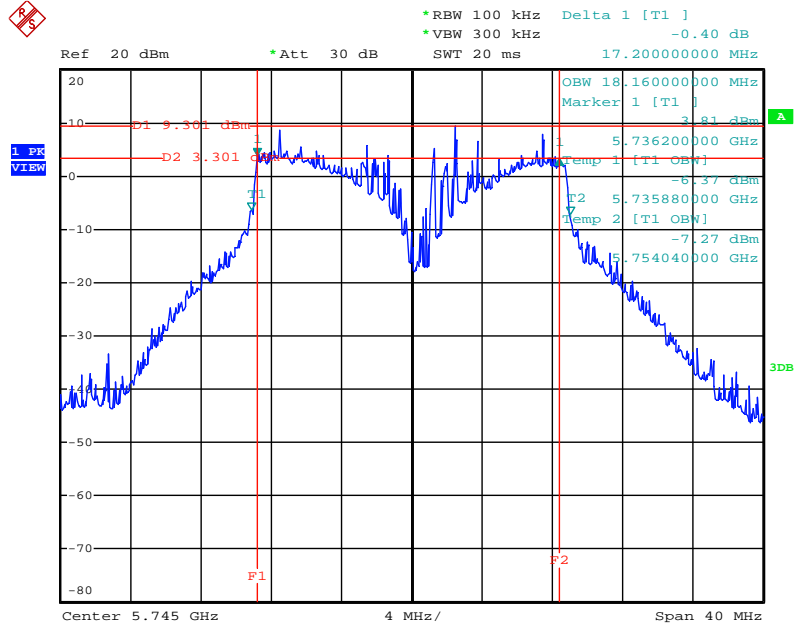
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5775 MHz



Date: 6.MAY.2013 11:27:30

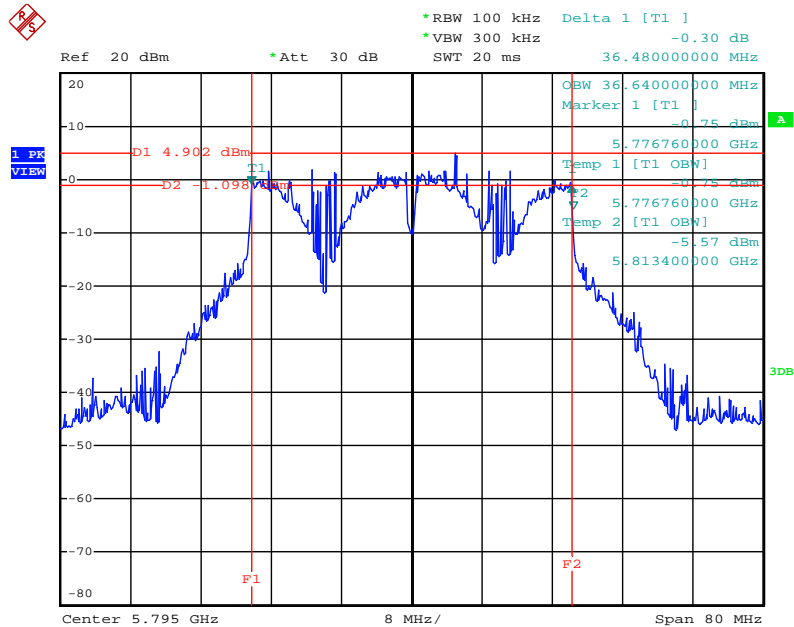
2TX

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 / 5745 MHz



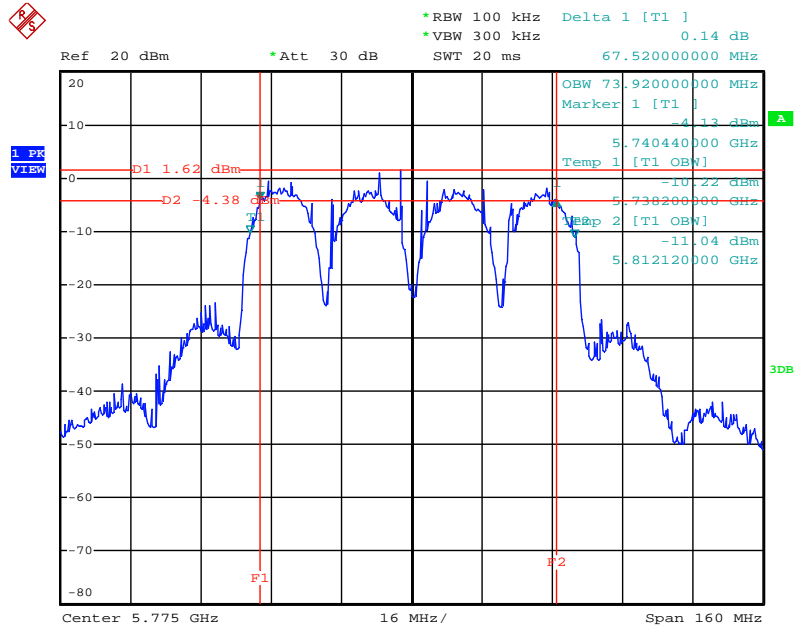
Date: 22.MAY.2013 18:36:26

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 / 5795 MHz



Date: 22.MAY.2013 18:39:07

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 / 5775 MHz

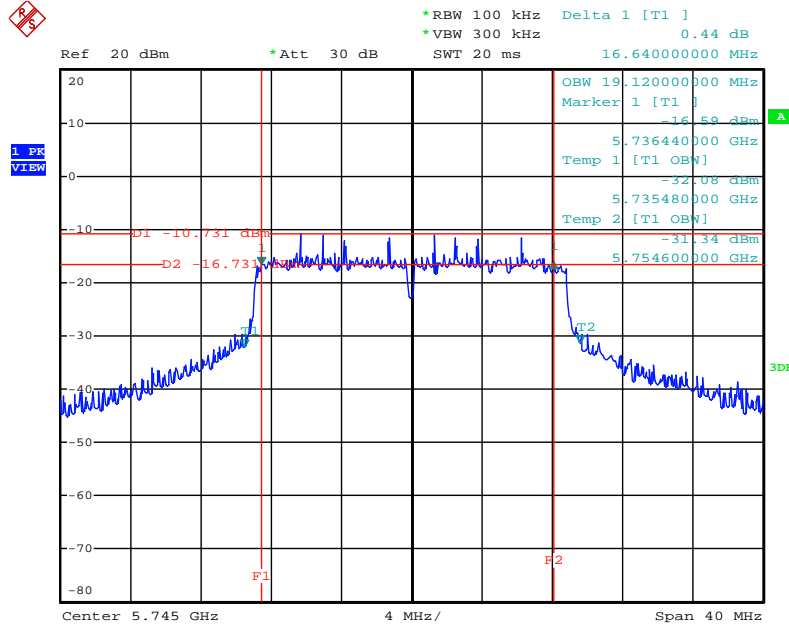


Date: 22.MAY.2013 18:40:44

Mode 2 (Ant.3 Panel antenna / 12.5dBi)

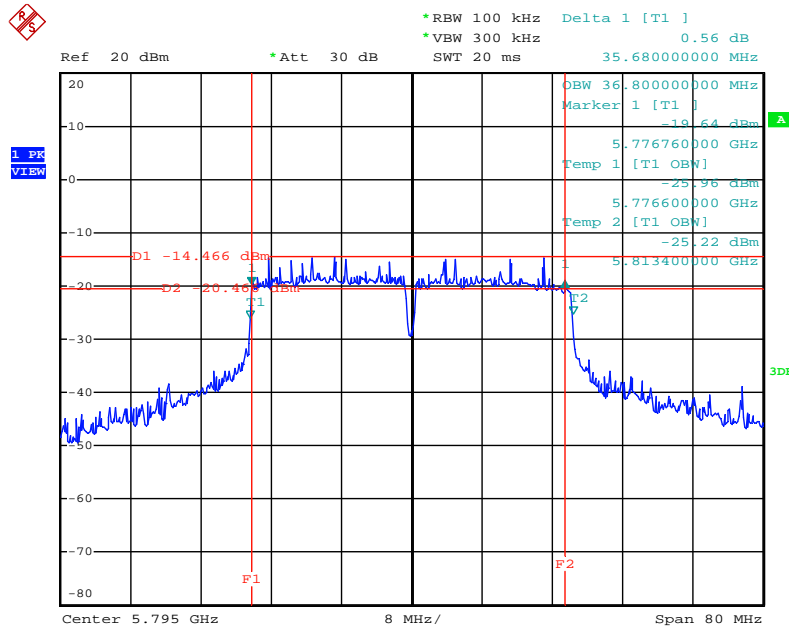
P to P / ITX

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 / 5745 MHz



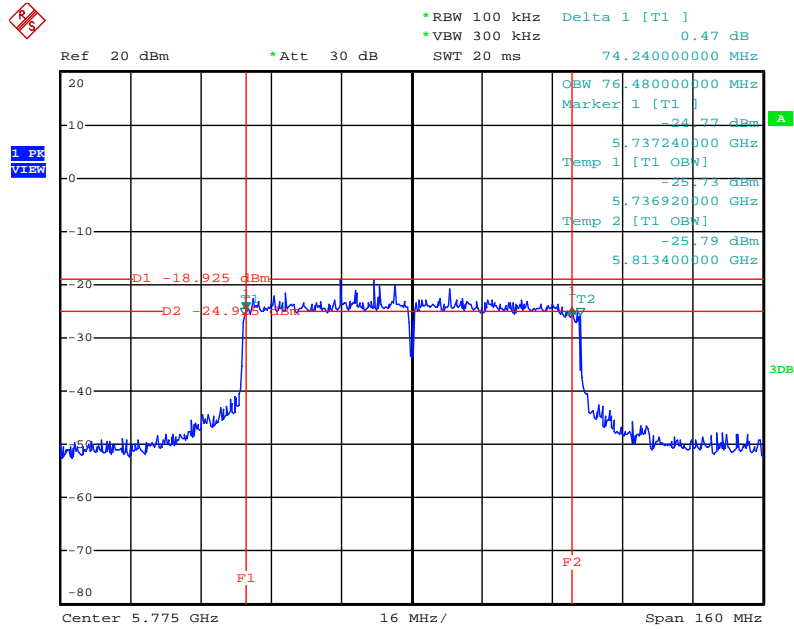
Date: 6.MAY.2013 11:19:05

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 / 5795 MHz



Date: 6.MAY.2013 11:23:34

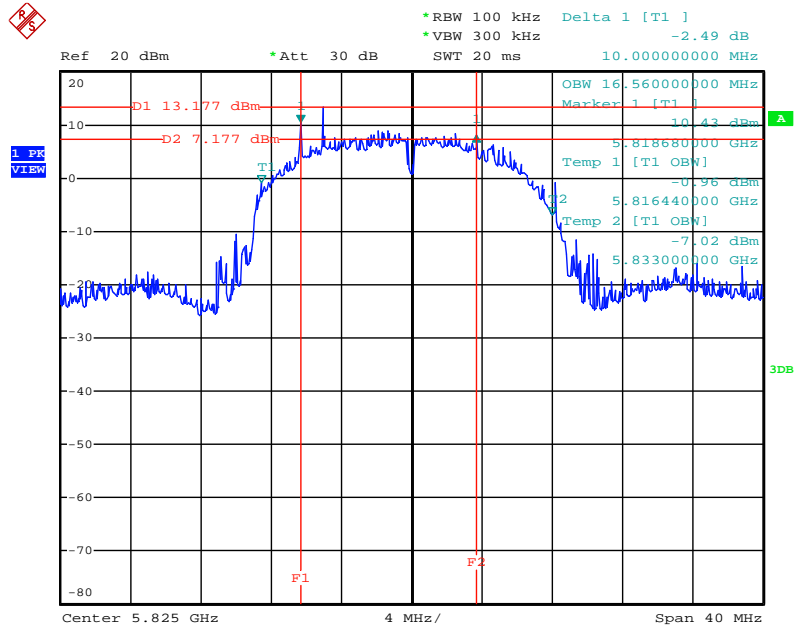
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5775 MHz



Date: 6.MAY.2013 11:27:30

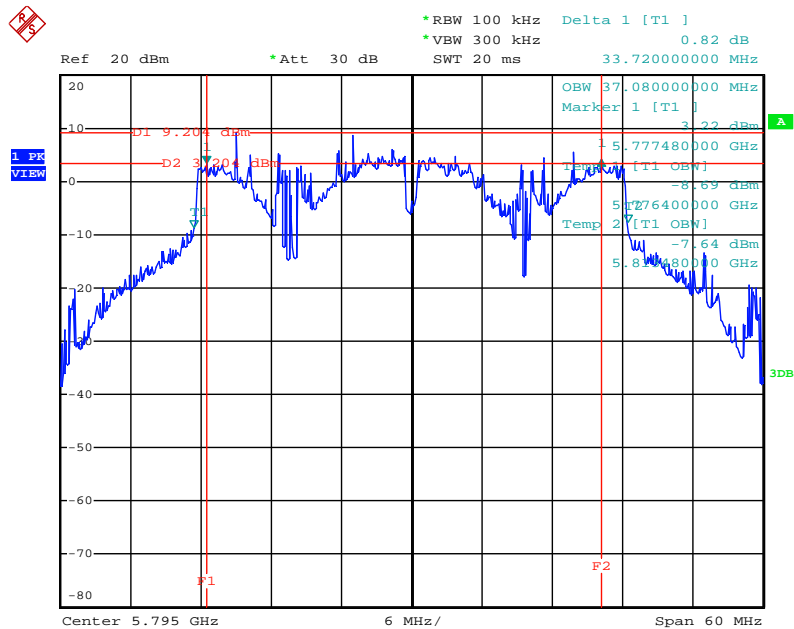
2TX

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 / 5825 MHz



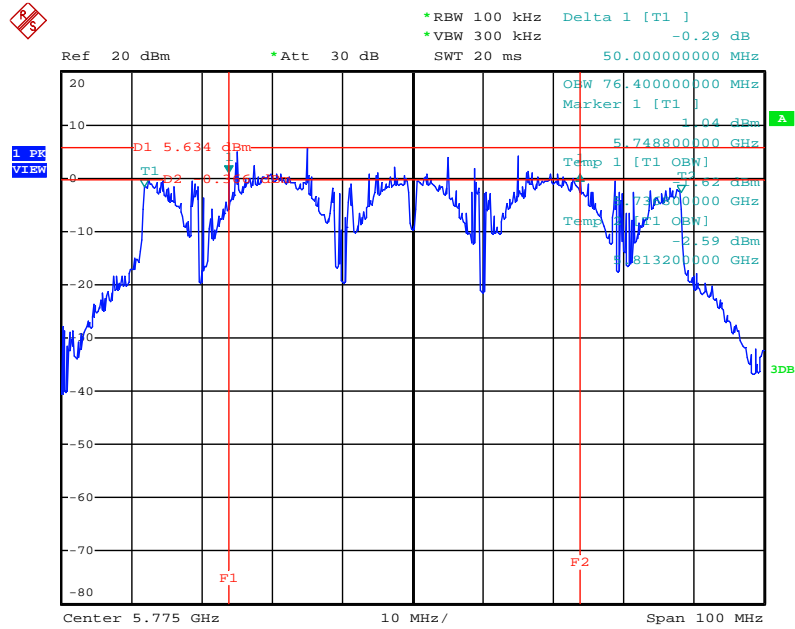
Date: 8.MAY.2013 17:23:53

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 / 5795 MHz



Date: 8.MAY.2013 17:26:13

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 / 5775 MHz

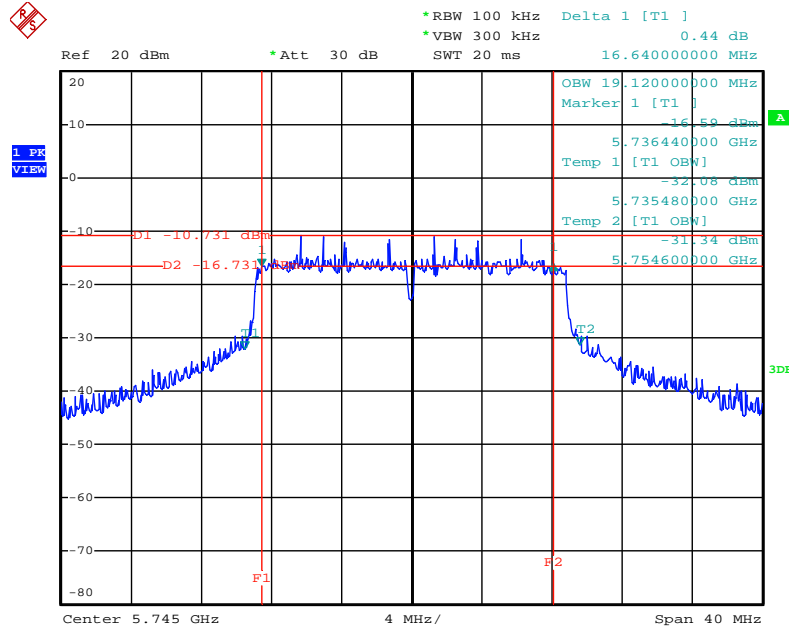


Date: 8.MAY.2013 17:30:21

Mode 3 (Ant.4 Yagi antenna / 8dBi)

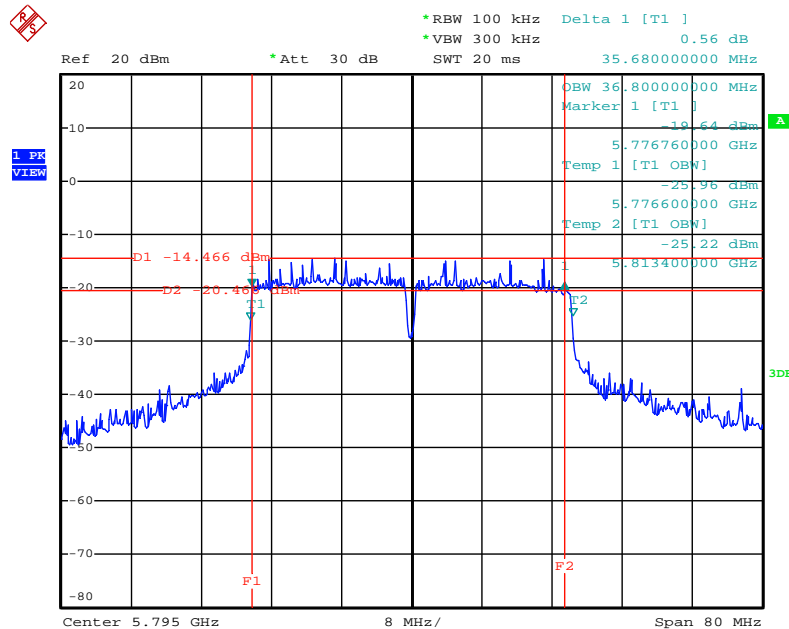
P to M / 1TX

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 / 5745 MHz



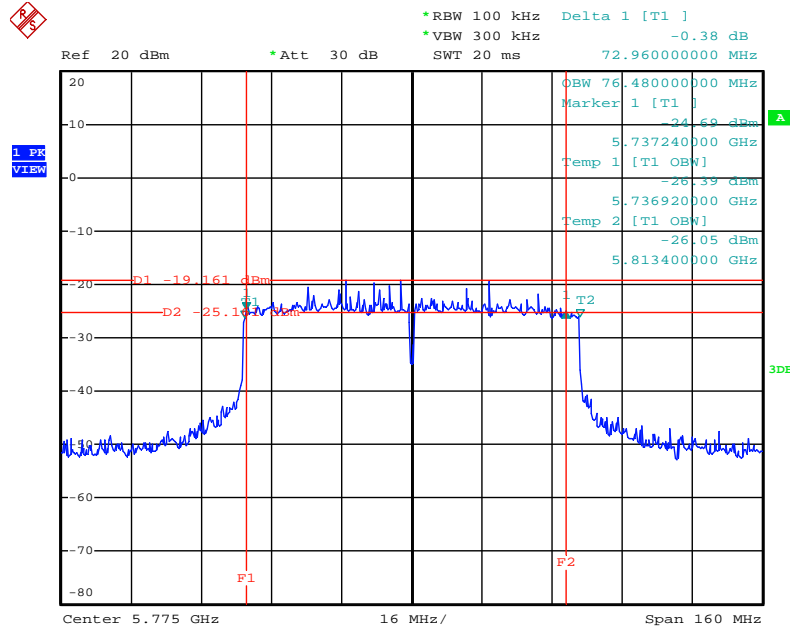
Date: 6.MAY.2013 11:19:05

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 / 5795 MHz



Date: 6.MAY.2013 11:23:34

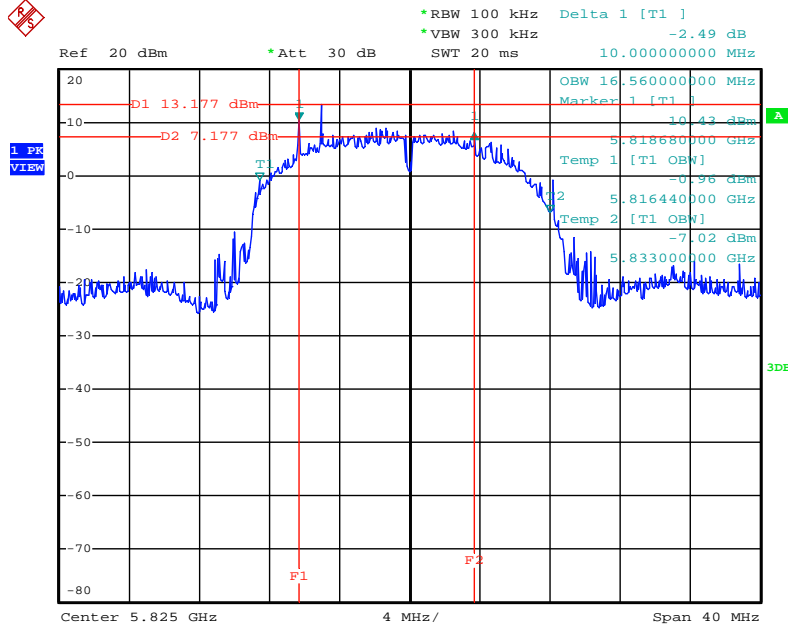
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5775 MHz



Date: 6.MAY.2013 11:28:19

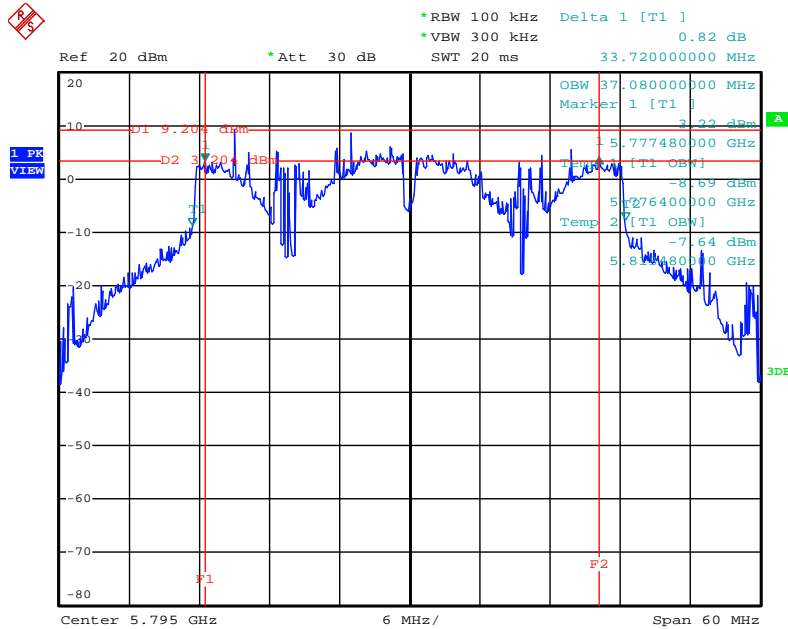
2TX

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 / 5825 MHz



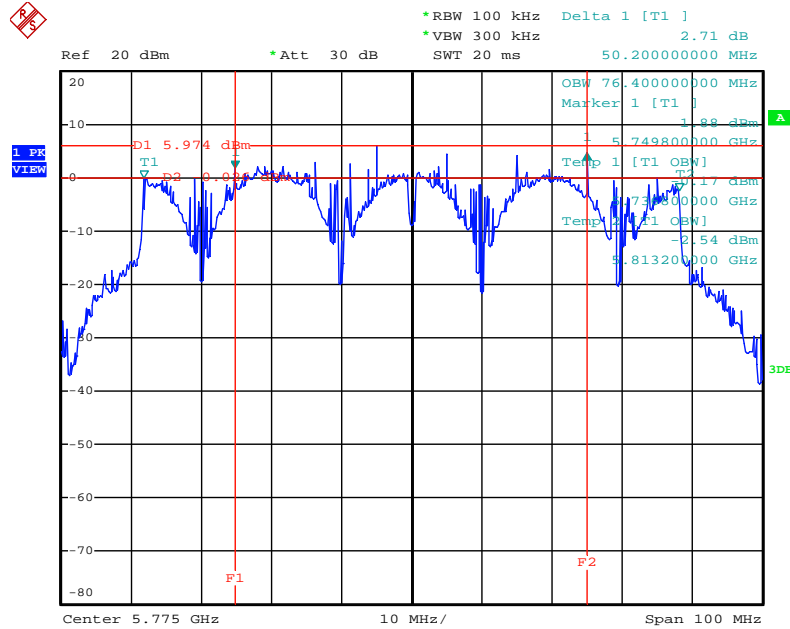
Date: 8.MAY.2013 17:23:53

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 / 5795 MHz



Date: 8.MAY.2013 17:26:13

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 / 5775 MHz

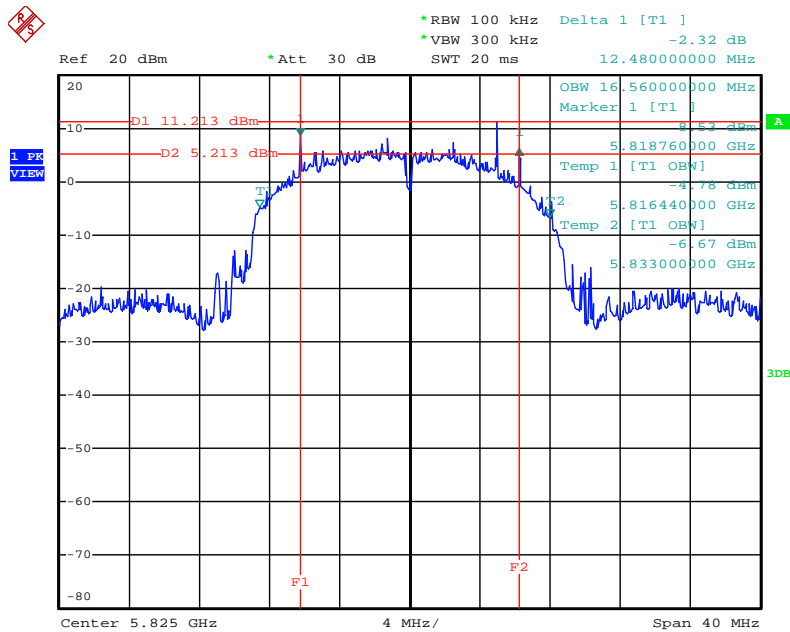


Date: 8.MAY.2013 17:31:55

3TX

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1+Chain 2+Chain 3 /

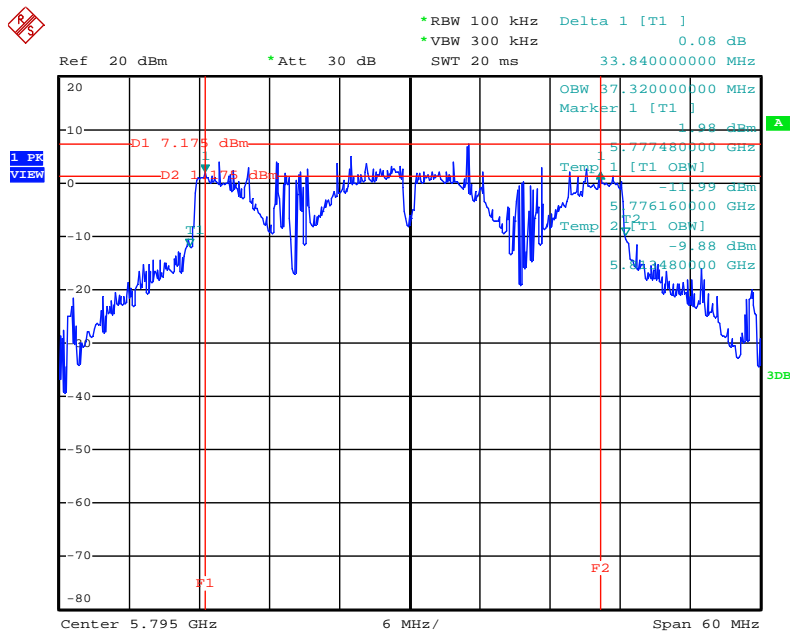
5825 MHz



Date: 8.MAY.2013 16:43:40

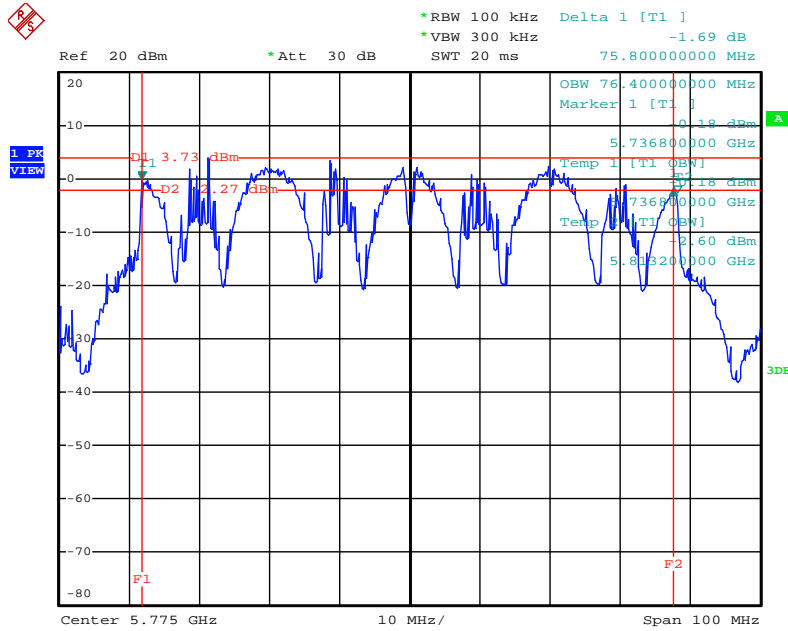
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1+Chain 2+Chain 3 /

5795 MHz



Date: 8.MAY.2013 16:48:45

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1+Chain 2+Chain 3 / 5775 MHz

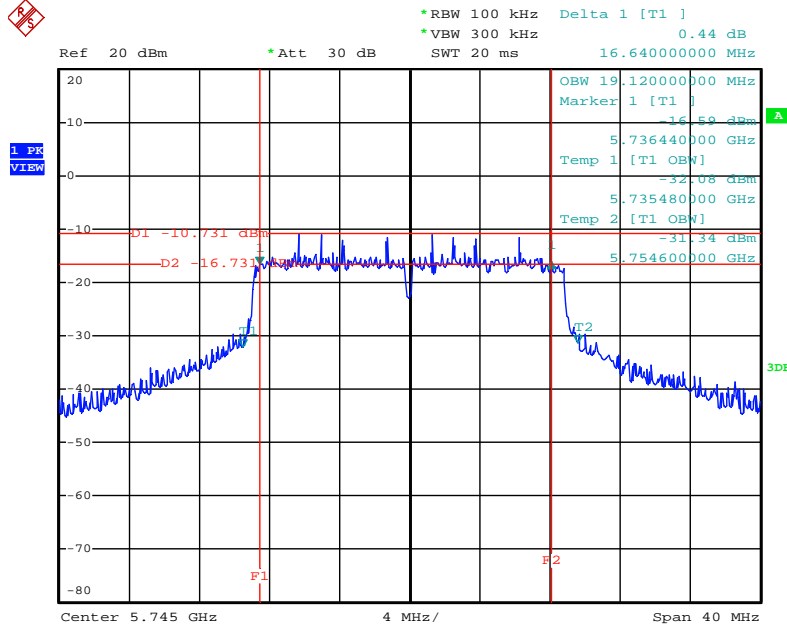


Date: 8.MAY.2013 16:50:32

Mode 4 (Ant.5 Patch antenna / 2.3dBi)

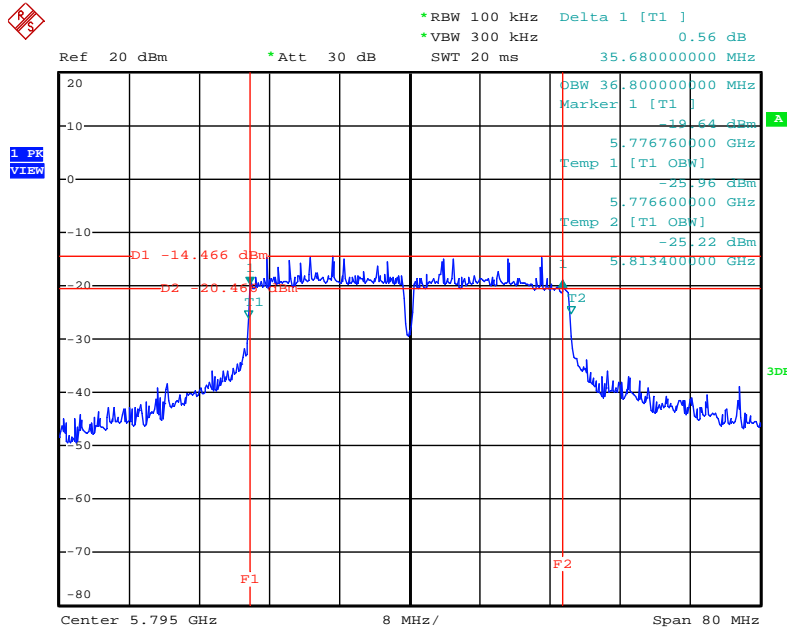
P to M / 1TX

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 / 5745 MHz



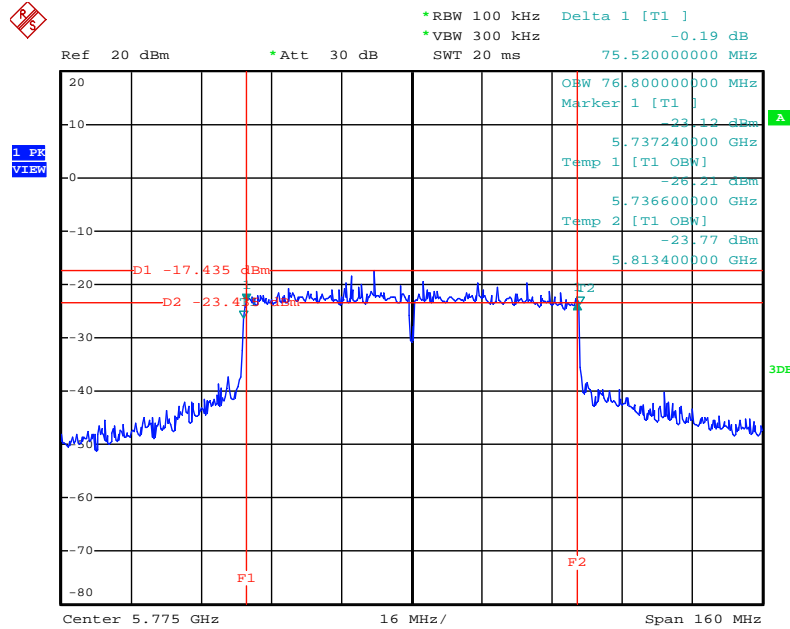
Date: 6.MAY.2013 11:19:05

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 / 5795 MHz



Date: 6.MAY.2013 11:23:34

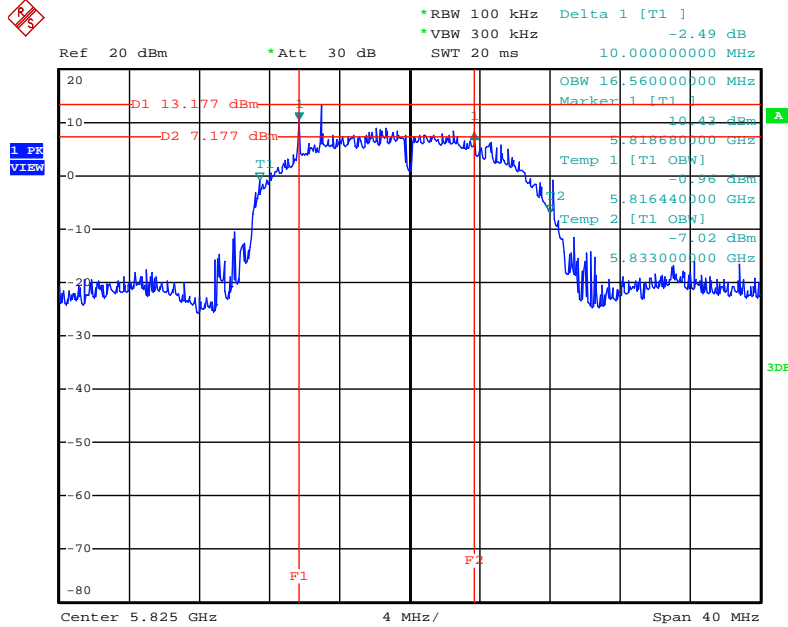
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5775 MHz



Date: 6.MAY.2013 11:26:20

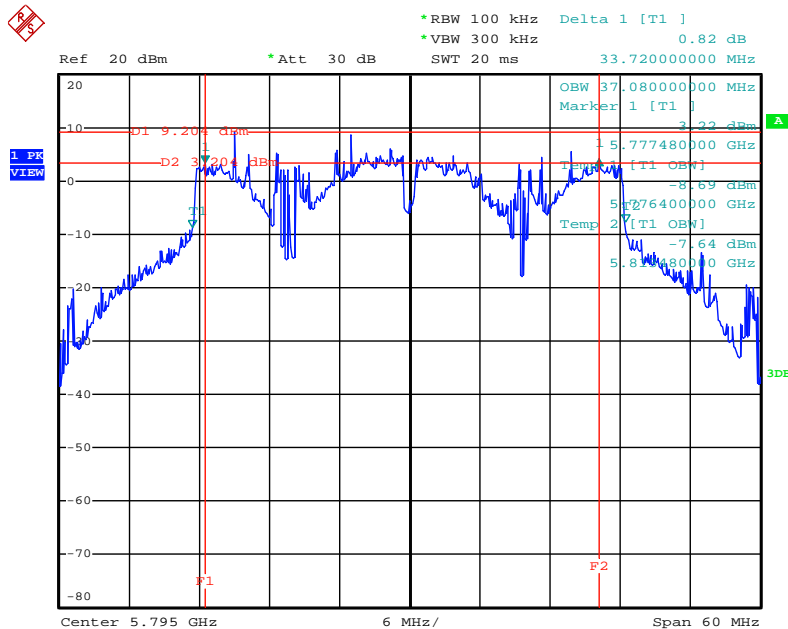
2TX

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 / 5825 MHz



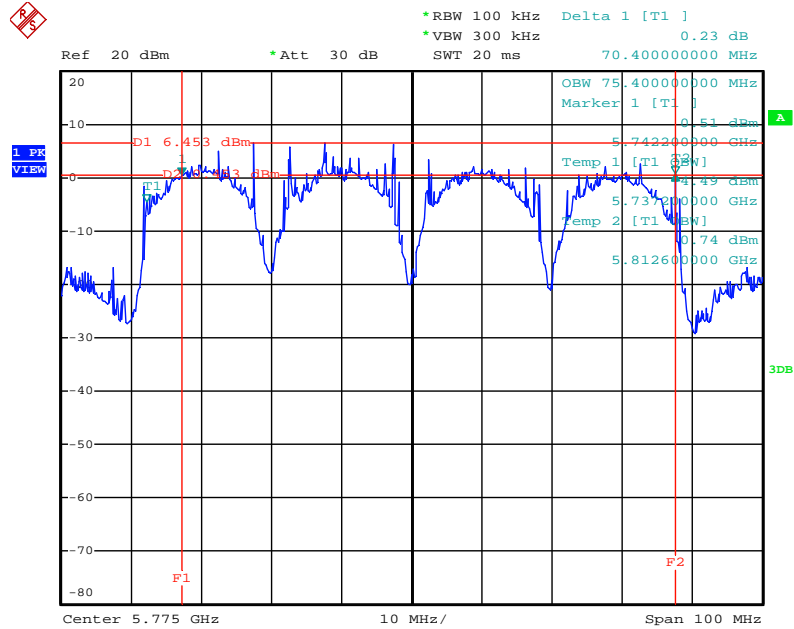
Date: 8.MAY.2013 17:23:53

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 / 5795 MHz



Date: 8.MAY.2013 17:26:13

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 / 5775 MHz

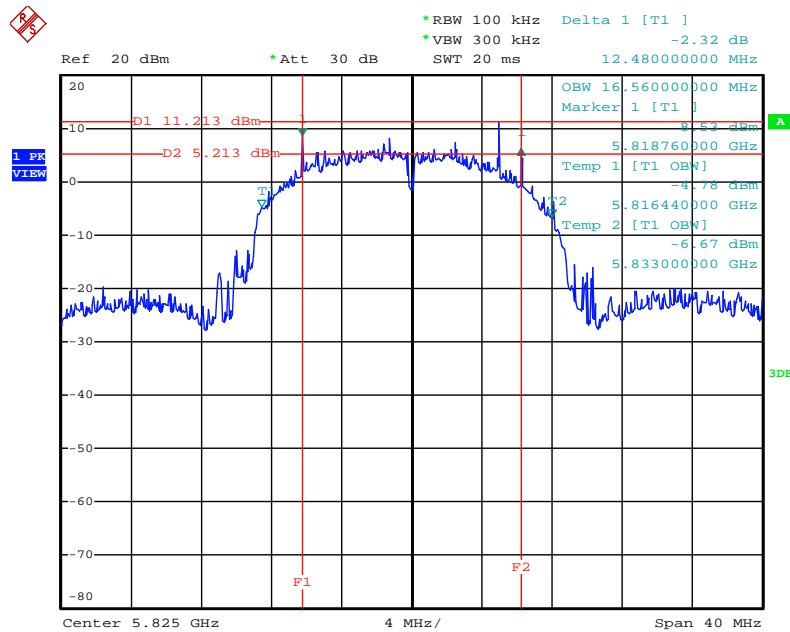


Date: 8.MAY.2013 17:31:19

3TX

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1+Chain 2+Chain 3 /

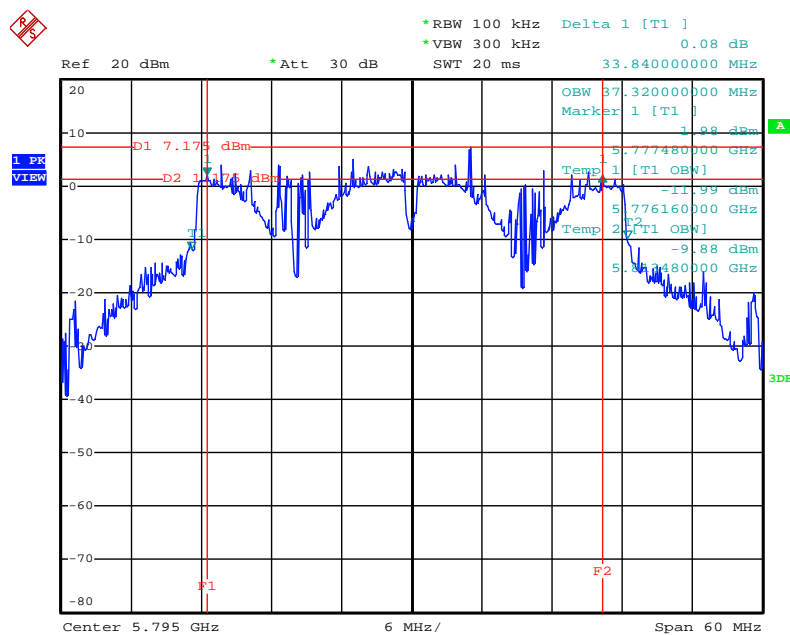
5825 MHz



Date: 8.MAY.2013 16:43:40

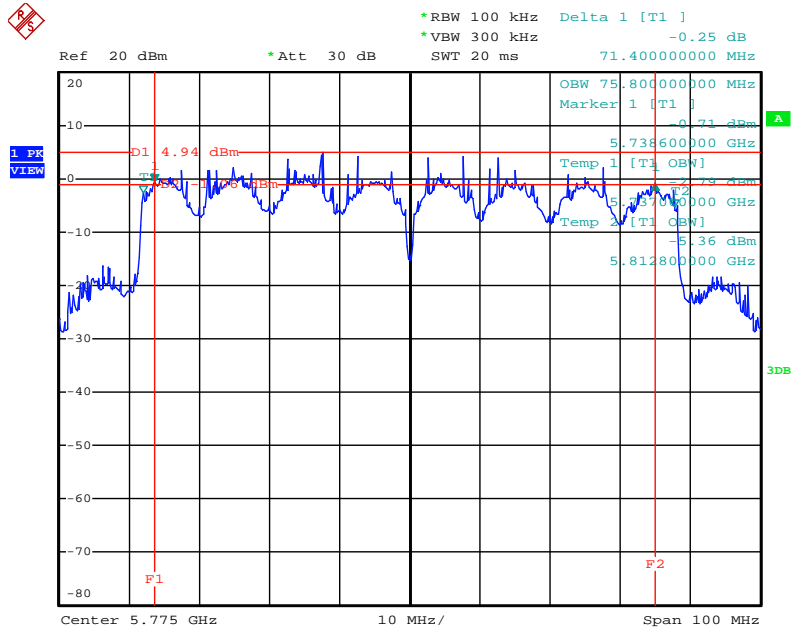
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1+Chain 2+Chain 3 /

5795 MHz



Date: 8.MAY.2013 16:48:45

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1+Chain 2+Chain 3 / 5775 MHz

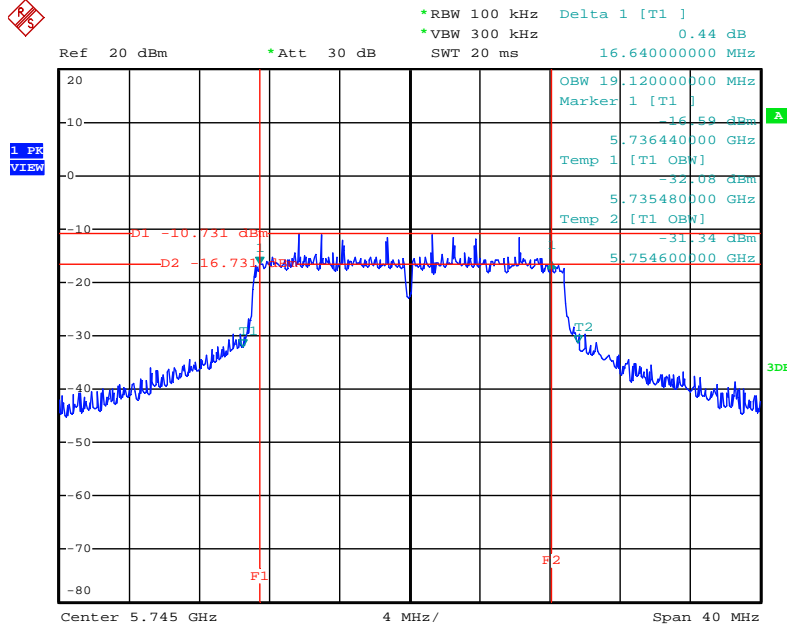


Date: 8.MAY.2013 16:51:18

Mode 5 (Ant.6 Facade antenna / 2.5dBi)

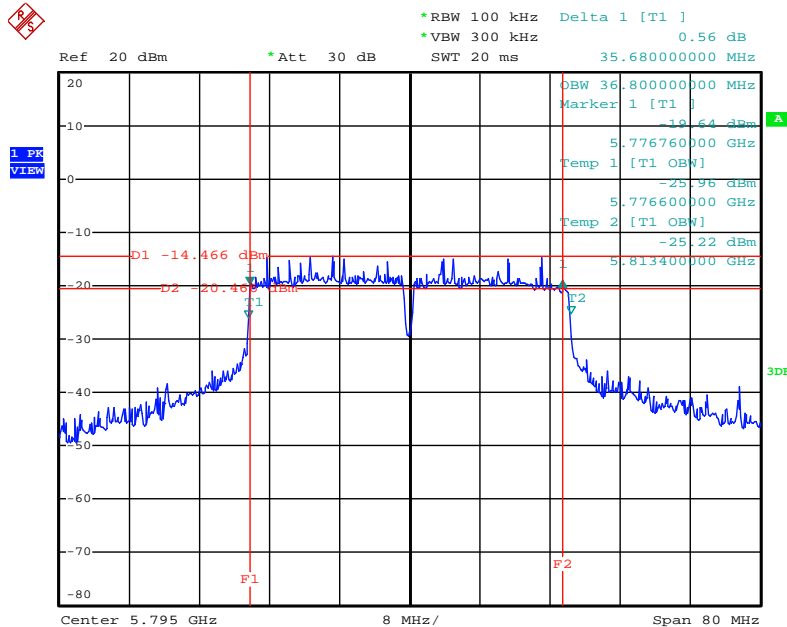
P to M / 1TX

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 / 5745 MHz



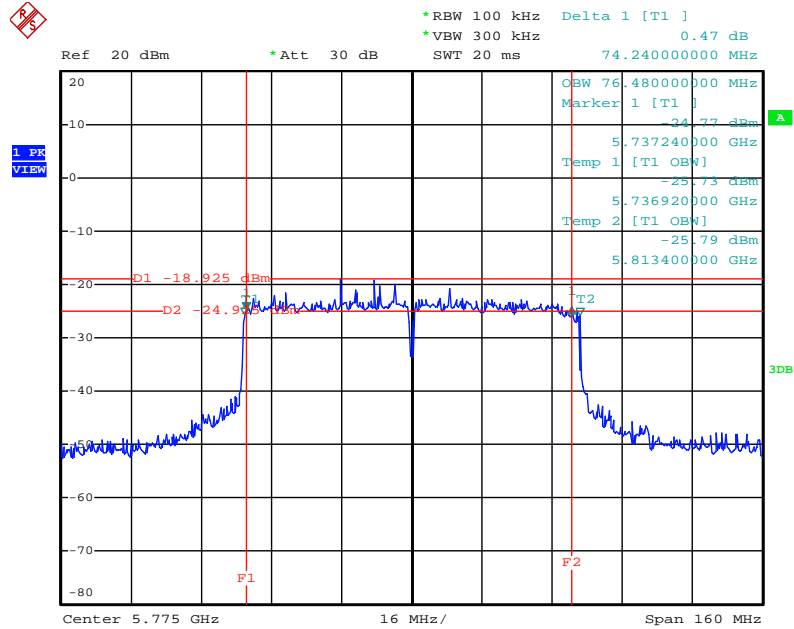
Date: 6.MAY.2013 11:19:05

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 / 5795 MHz



Date: 6.MAY.2013 11:23:34

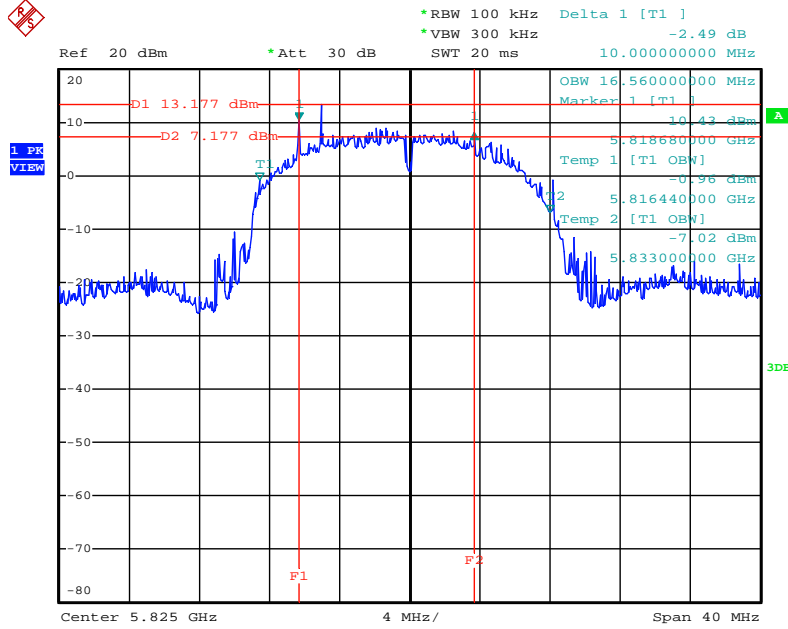
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5775 MHz



Date: 6.MAY.2013 11:27:30

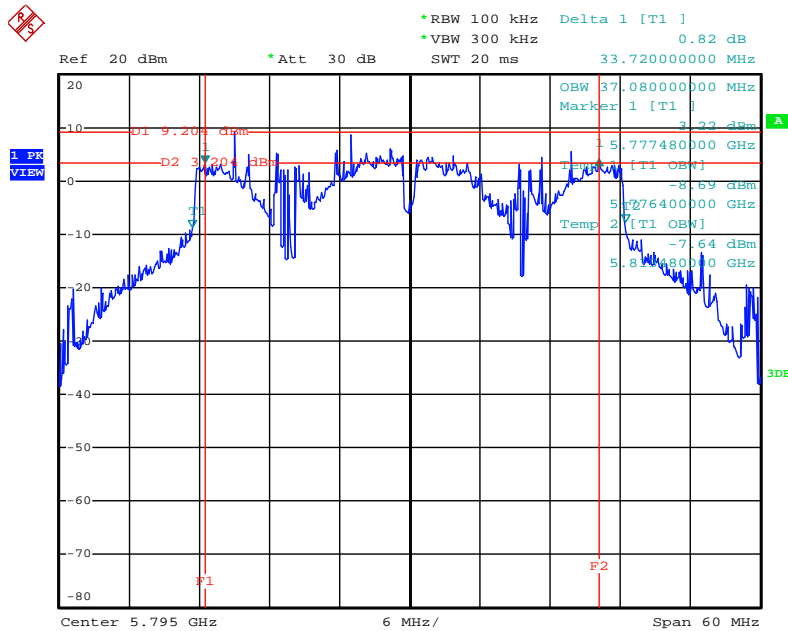
2TX

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 / 5825 MHz



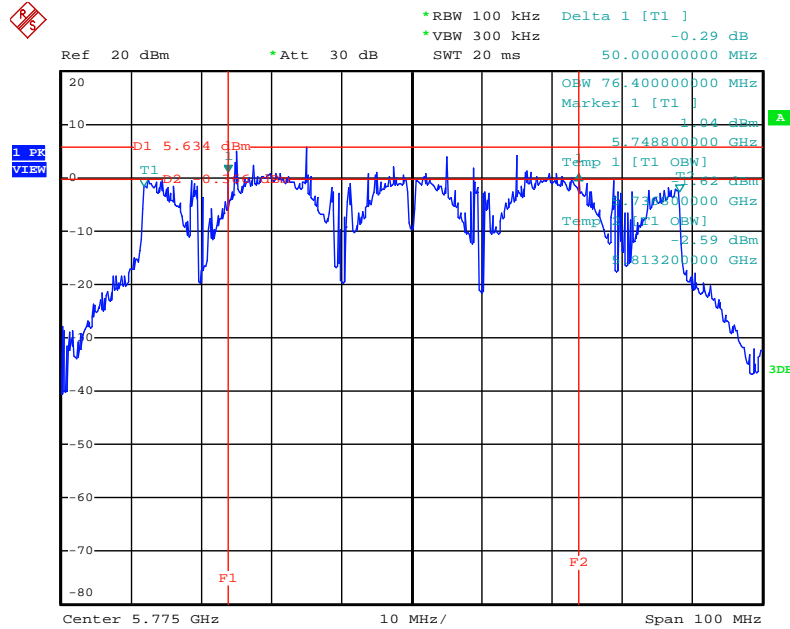
Date: 8.MAY.2013 17:23:53

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 / 5795 MHz



Date: 8.MAY.2013 17:26:13

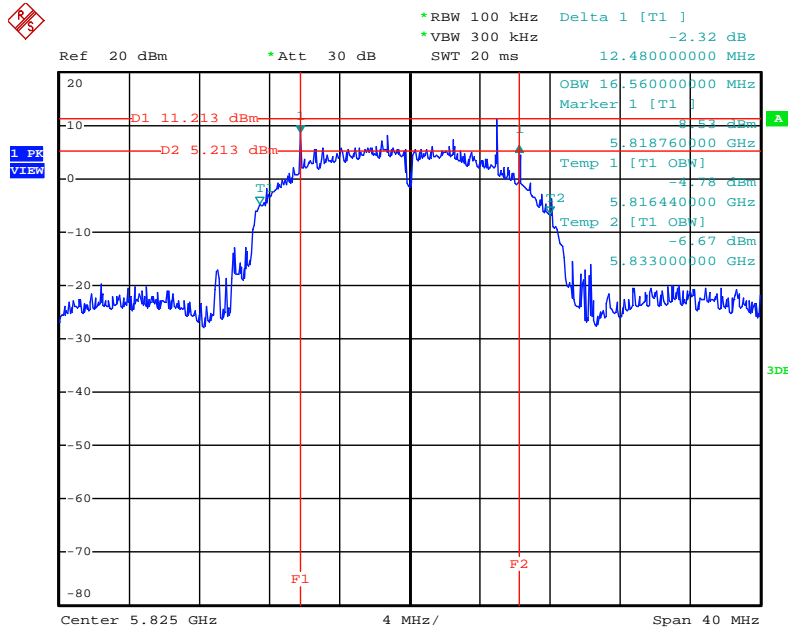
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 / 5775 MHz



Date: 8.MAY.2013 17:30:21

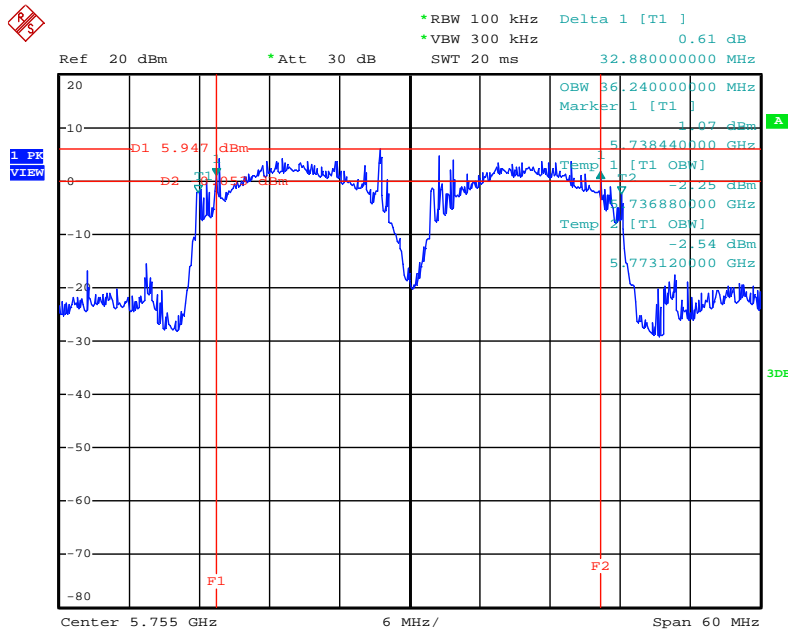
3TX

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1+Chain 2+Chain 3 / 5825 MHz



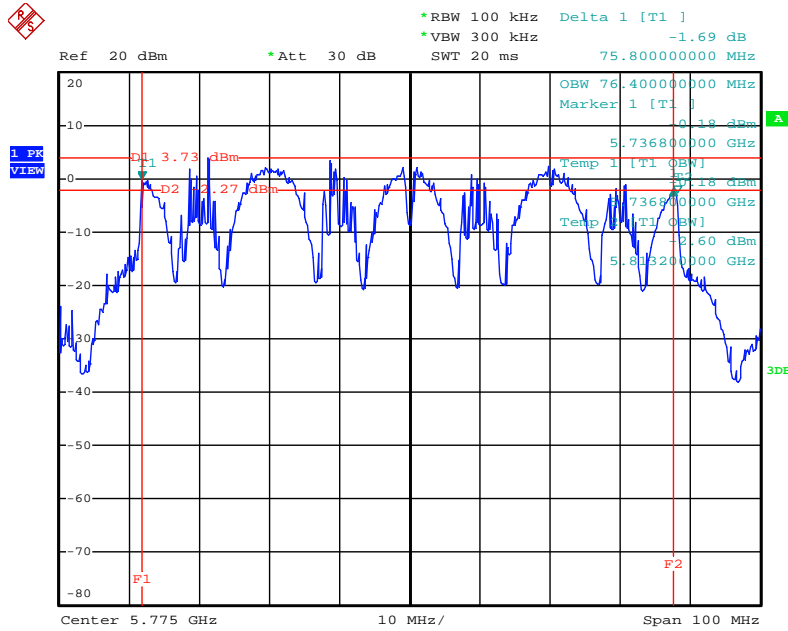
Date: 8.MAY.2013 16:43:40

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1+Chain 2+Chain 3 / 5755 MHz



Date: 8.MAY.2013 16:47:33

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1+Chain 2+Chain 3 / 5775 MHz

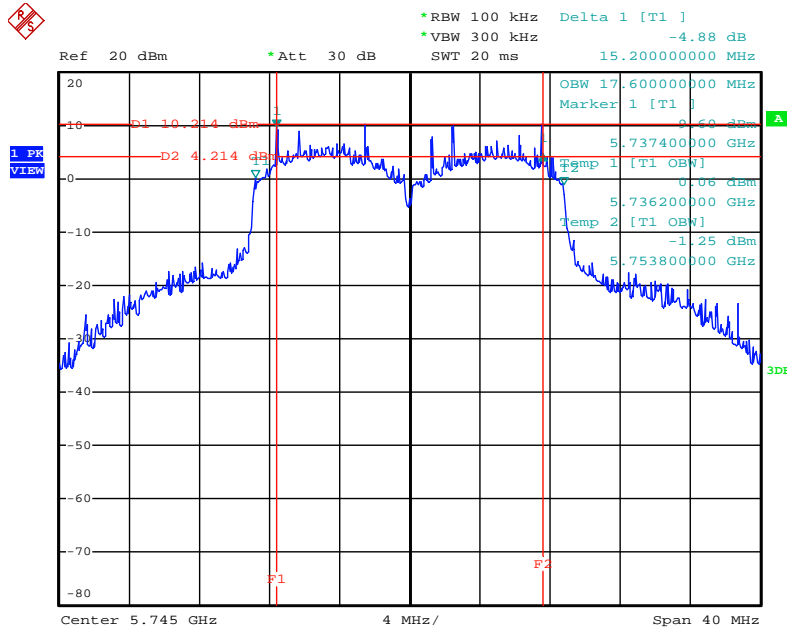


Date: 8.MAY.2013 16:50:32

Mode 6 (Ant.9 Panel antenna / 9.2dBi)

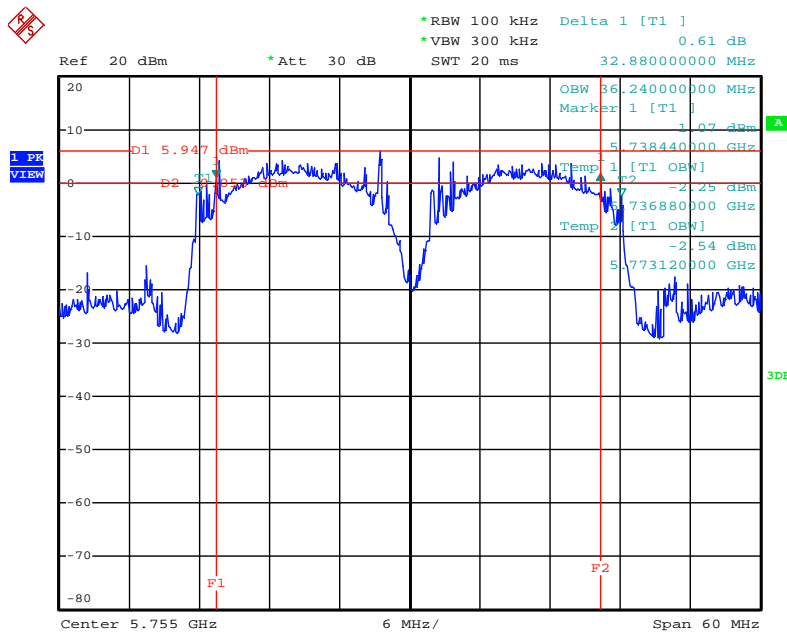
P to M / 3TX

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1+Chain 2+Chain 3 / 5745 MHz



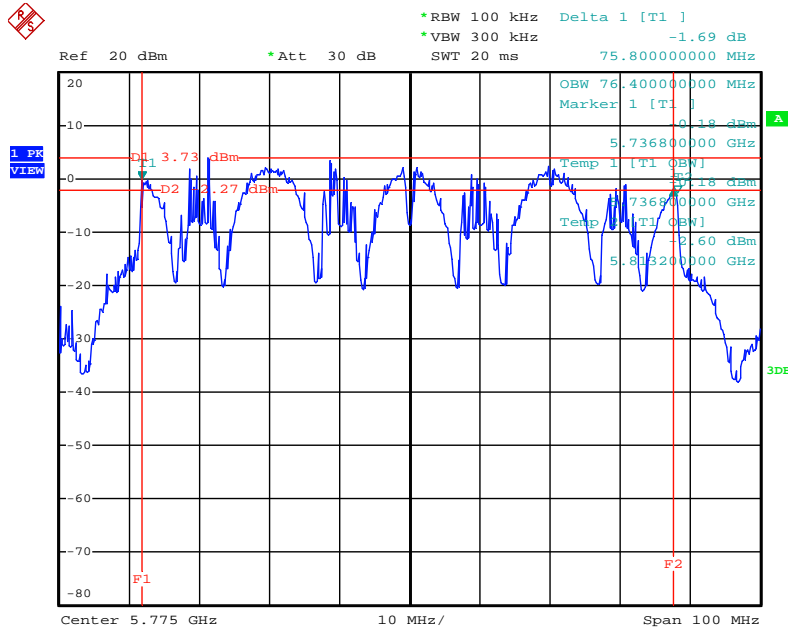
Date: 8.MAY.2013 15:05:18

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1+Chain 2+Chain 3 / 5755 MHz



Date: 8.MAY.2013 16:47:33

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1+Chain 2+Chain 3 / 5775 MHz

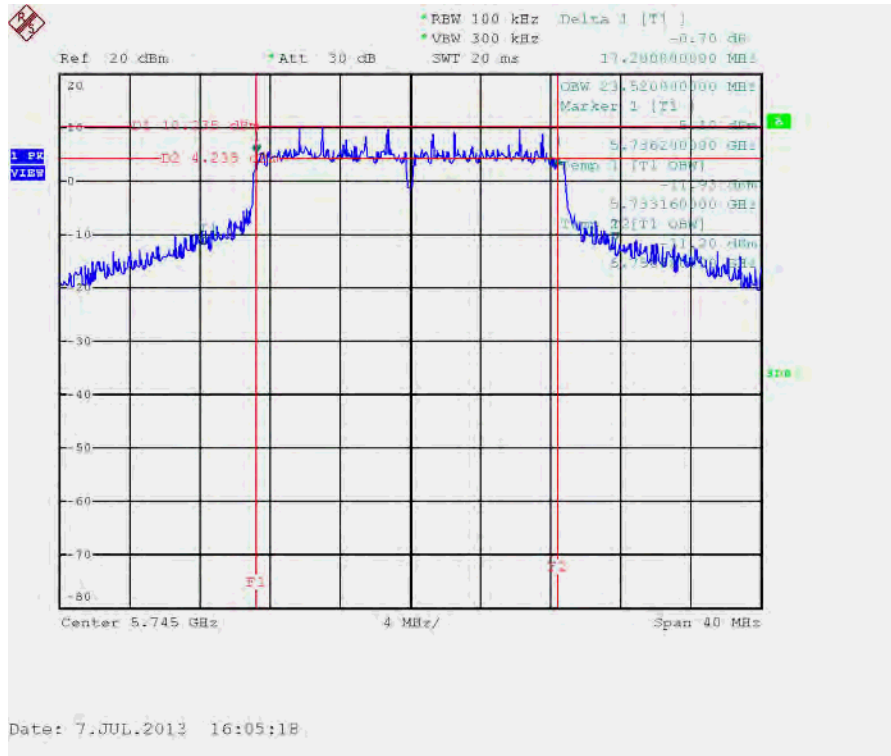


Date: 8.MAY.2013 16:50:32

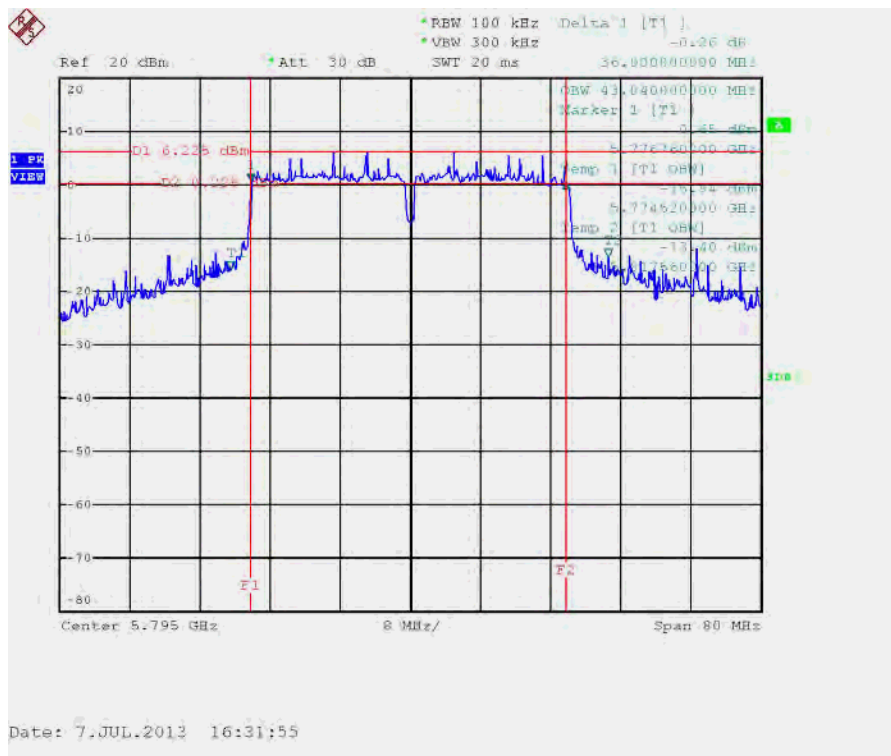
Mode 7 (Ant.10 PIFA antenna / 5.3dBi)

P to M / 1TX

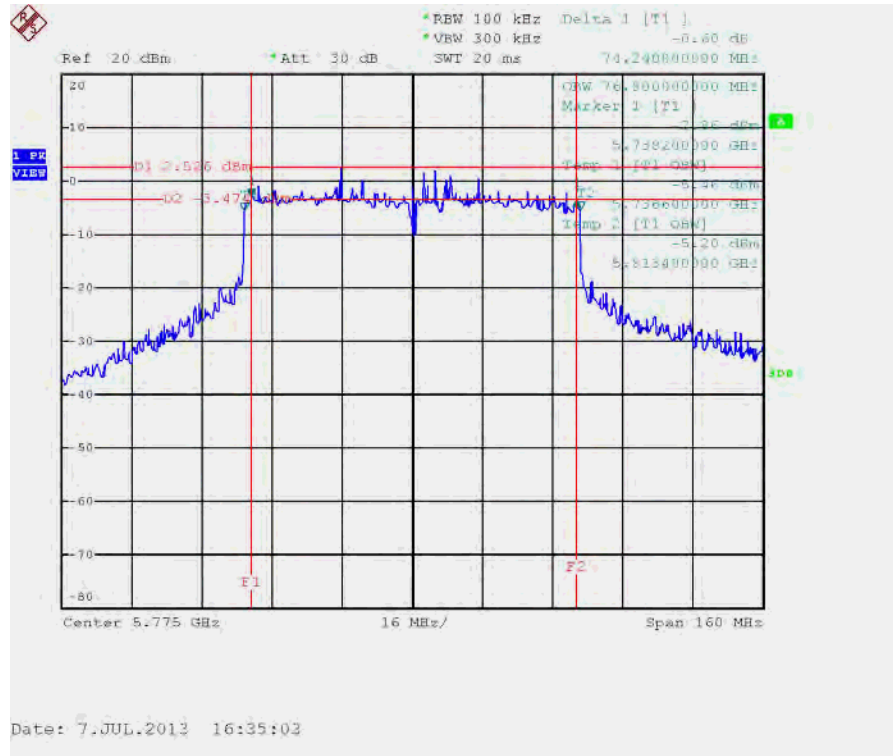
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 / 5745 MHz



6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 / 5795 MHz

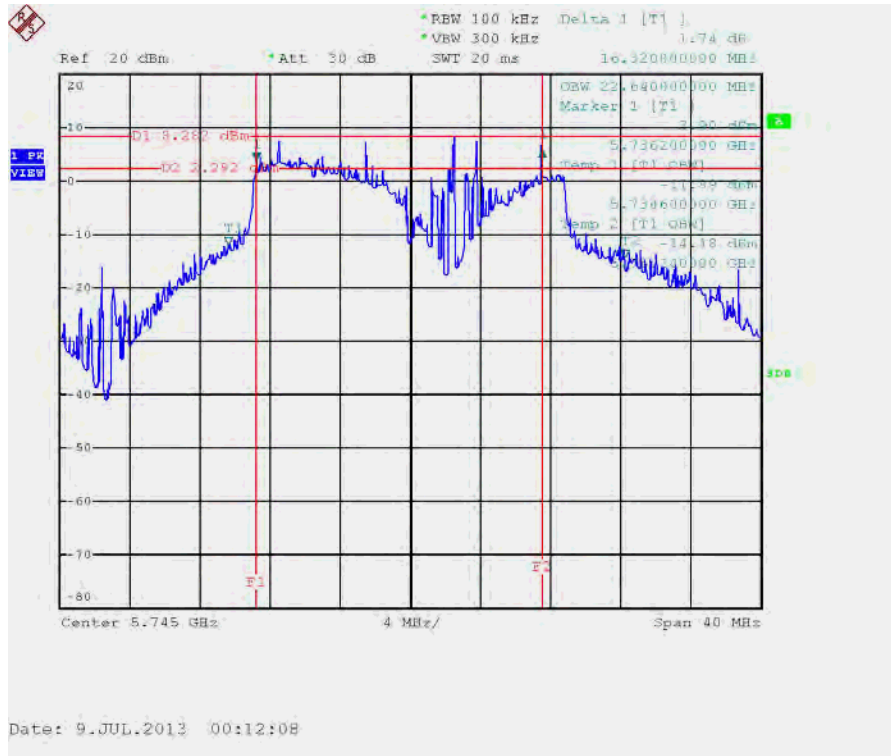


6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5775 MHz

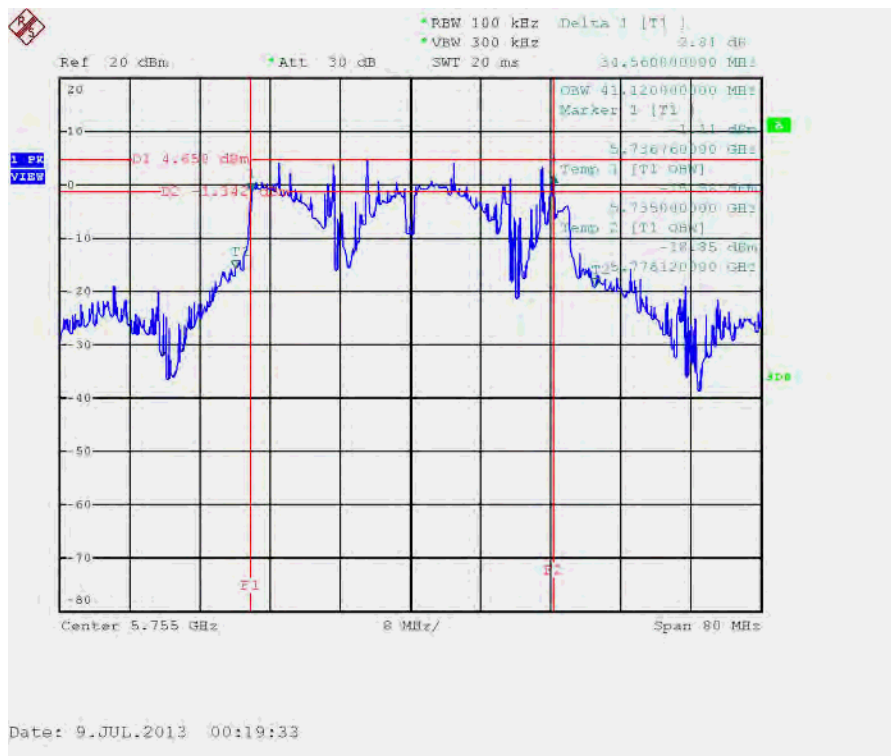


2TX

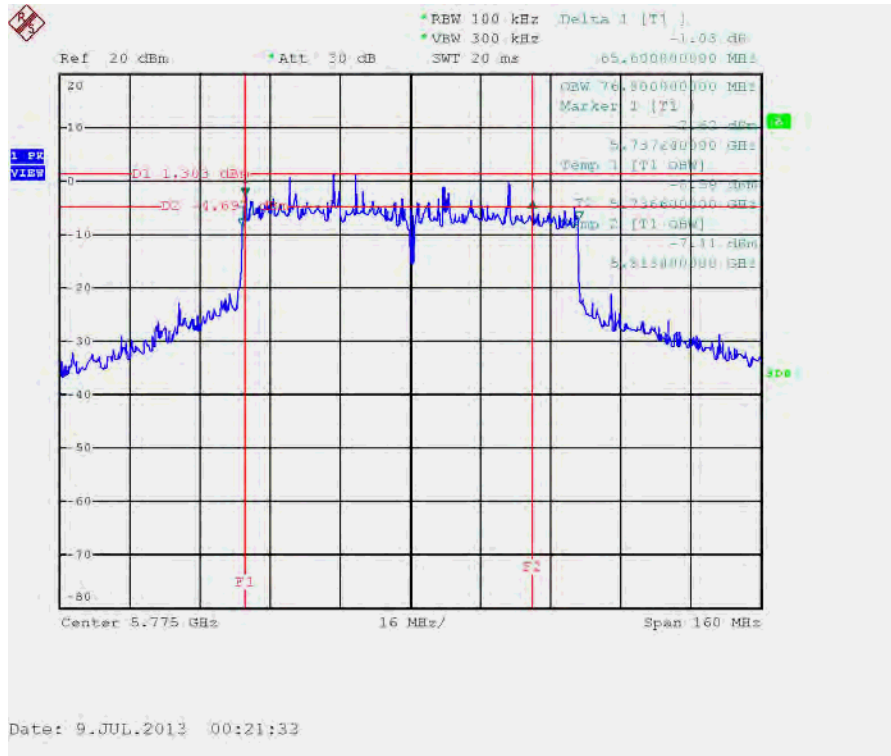
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 / 5745 MHz



6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 / 5755 MHz

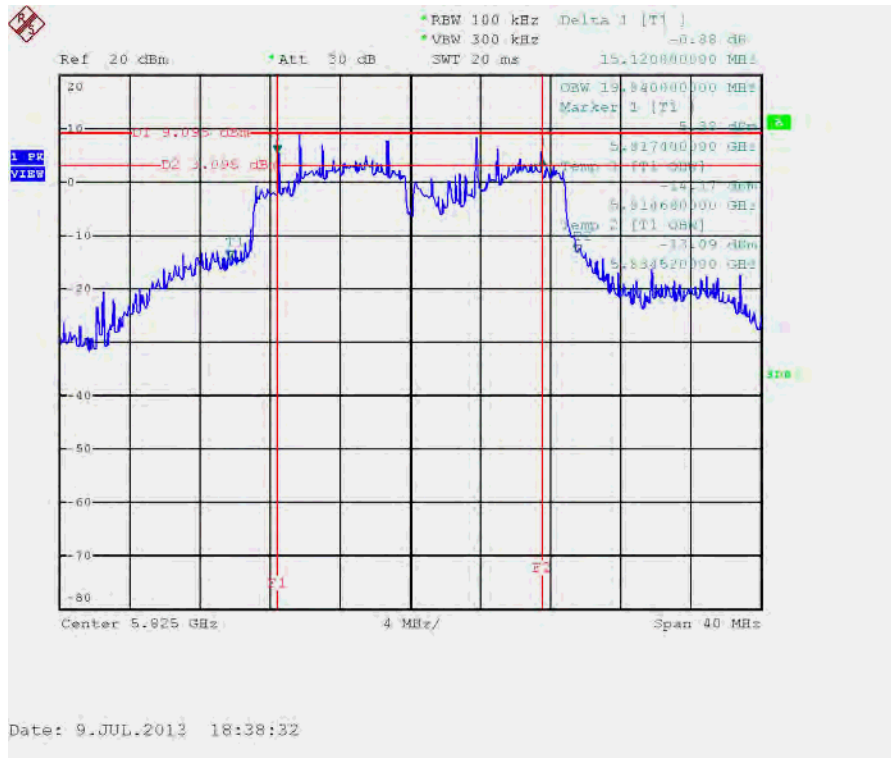


6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 / 5775 MHz



3TX

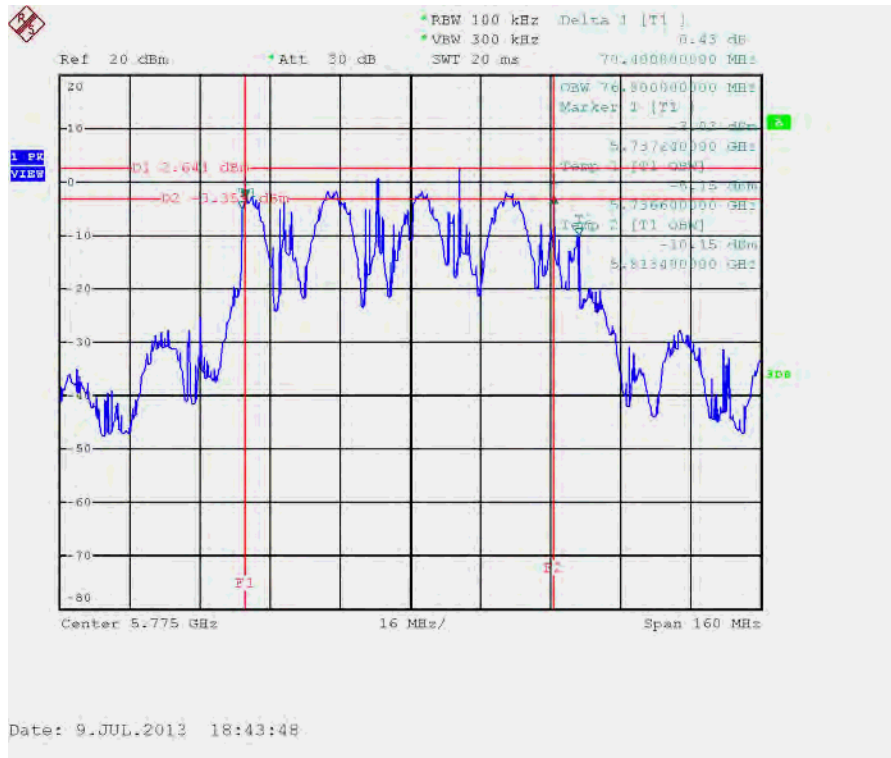
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1+Chain 2+Chain 3 / 5825 MHz



6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1+Chain 2+Chain 3 / 5755 MHz



6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1+Chain 2+Chain 3 / 5775 MHz



4.5. Radiated Emissions Measurement

4.5.1. Limit

30dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

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

4.5.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1GHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 10Hz for Average
RBW / VBW (Emission in non-restricted band)	100kHz / 300kHz for peak

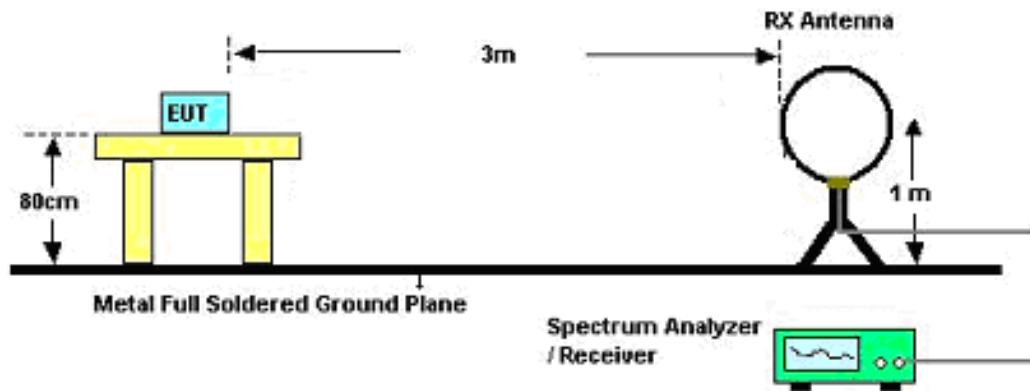
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RBW 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RBW 9kHz for QP
Start ~ Stop Frequency	30MHz~1GHz / RBW 120kHz for QP

4.5.3. Test Procedures

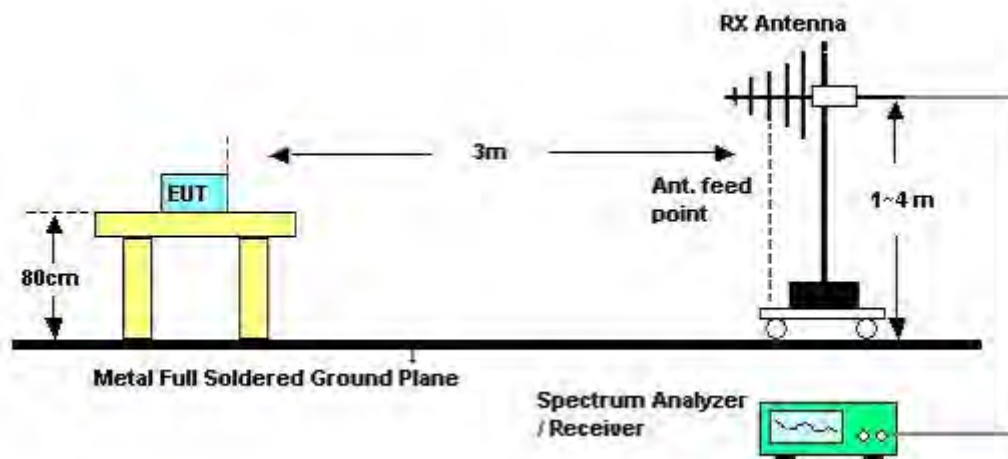
1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and 3MHz RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

4.5.4. Test Setup Layout

For radiated emissions below 1GHz



For radiated emissions above 1GHz



4.5.5. Test Deviation

There is no deviation with the original standard.

4.5.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.5.7. Results of Radiated Emissions (9kHz~30MHz)

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	CTX
Test Date	May 11, 2013		

Freq. (MHz)	Level (dBuV)	Over Limit (dB)	Limit Line (dBuV)	Remark
-	-	-	-	See Note

Note:

The amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

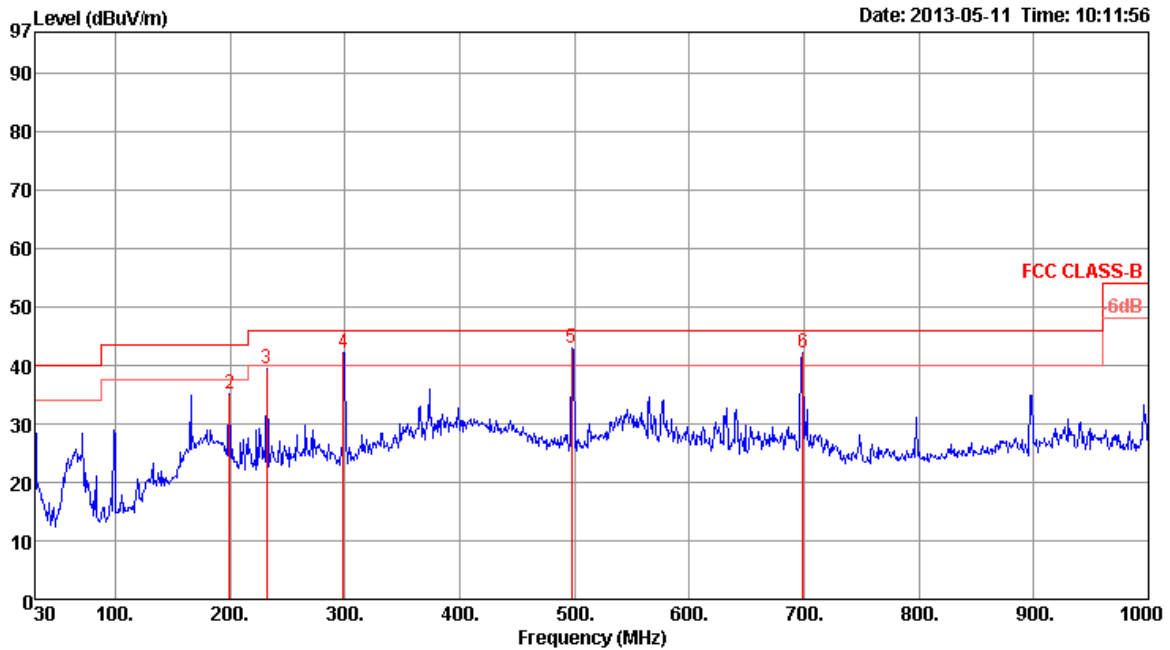
Distance extrapolation factor = $40 \log(\text{specific distance} / \text{test distance})$ (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.

4.5.8. Results of Radiated Emissions (30MHz~1GHz)

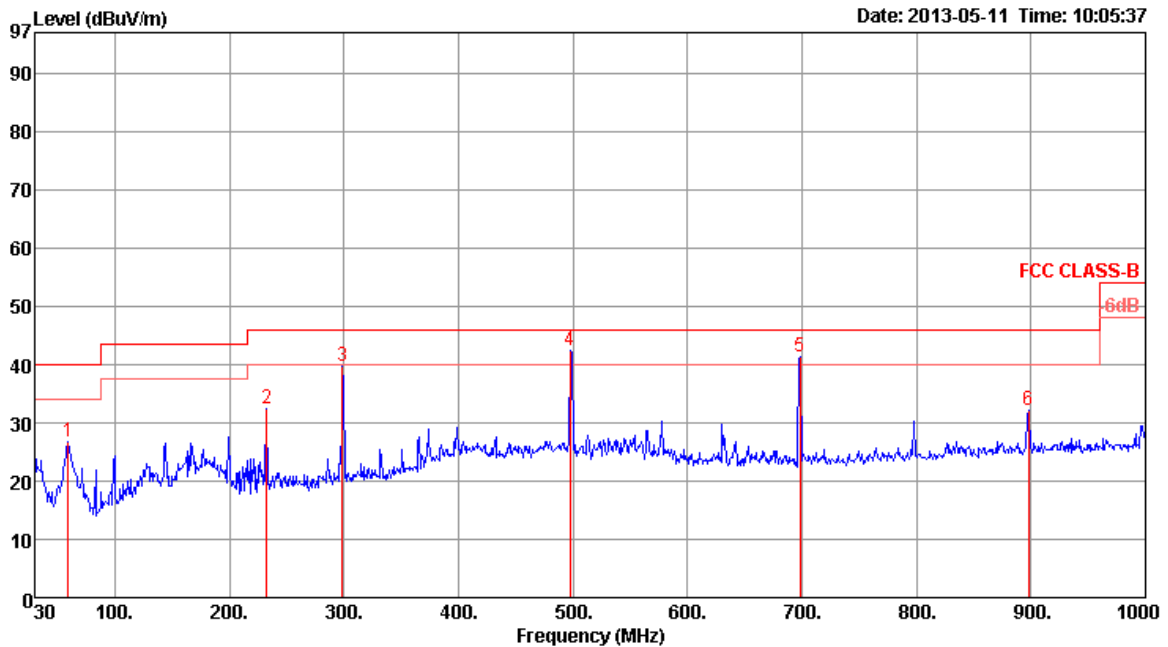
Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	CTX / Mode 1

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	30.00	31.84	40.00	-8.16	40.27	0.61	18.76	27.80	Peak	400	0	HORIZONTAL
2	199.75	35.22	43.50	-8.28	51.61	1.66	9.05	27.10	Peak	400	0	HORIZONTAL
3	231.76	39.34	46.00	-6.66	53.23	1.74	11.41	27.04	Peak	400	0	HORIZONTAL
4	298.69	42.12	46.00	-3.88	53.64	2.03	13.35	26.90	Peak	400	0	HORIZONTAL
5	497.54	42.87	46.00	-3.13	50.72	2.66	17.58	28.09	Peak	400	0	HORIZONTAL
6	699.30	42.27	46.00	-3.73	48.08	3.10	19.09	28.00	Peak	400	0	HORIZONTAL

Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	59.10	26.81	40.00	-13.19	46.72	0.90	6.95	27.76	Peak	400	0	VERTICAL
2	232.73	32.47	46.00	-13.53	46.28	1.74	11.48	27.03	Peak	400	0	VERTICAL
3	298.69	39.72	46.00	-6.28	51.24	2.03	13.35	26.90	Peak	400	0	VERTICAL
4	497.54	42.35	46.00	-3.65	50.20	2.66	17.58	28.09	Peak	400	0	VERTICAL
5	698.33	41.47	46.00	-4.53	47.29	3.10	19.08	28.00	Peak	400	0	VERTICAL
6	898.15	32.16	46.00	-13.84	35.50	3.54	20.52	27.40	Peak	400	0	VERTICAL

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

4.5.9. Results for Radiated Emissions (1GHz~10th Harmonic)

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 8dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11467.40	48.52	74.00	-25.48	39.92	5.11	38.77	35.28	Peak	100	303	HORIZONTAL
2	11483.11	37.98	54.00	-16.02	29.37	5.11	38.78	35.28	Average	100	303	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11488.32	50.17	74.00	-23.83	41.56	5.11	38.78	35.28	Peak	100	32	VERTICAL
2	11488.88	37.32	54.00	-16.68	28.71	5.11	38.78	35.28	Average	100	32	VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 8dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11567.04	51.89	74.00	-22.11	43.24	5.13	38.82	35.30	Peak	100	92	HORIZONTAL
2	11567.36	38.89	54.00	-15.11	30.24	5.13	38.82	35.30	Average	100	92	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11563.91	36.55	54.00	-17.45	27.90	5.13	38.82	35.30	Average	100	69	VERTICAL
2	11570.72	48.61	74.00	-25.39	39.94	5.14	38.83	35.30	Peak	100	69	VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11650.64	36.87	54.00	-17.13	28.15	5.16	38.86	35.30	Average	100	326	HORIZONTAL
2	11652.56	48.57	74.00	-25.43	39.85	5.16	38.86	35.30	Peak	100	326	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11649.44	39.39	54.00	-14.61	30.67	5.16	38.86	35.30	Average	100	150	VERTICAL
2	11664.58	49.84	74.00	-24.16	41.12	5.16	38.86	35.30	Peak	100	150	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11496.22	35.52	54.00	-18.48	26.90	5.12	38.78	35.28	100	212	HORIZONTAL
2	11496.46	47.95	74.00	-26.05	39.33	5.12	38.78	35.28	100	212	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11486.84	48.09	74.00	-25.91	39.48	5.11	38.78	35.28	100	144	VERTICAL
2	11506.15	35.78	54.00	-18.22	27.15	5.12	38.79	35.28	100	144	VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11566.60	35.37	54.00	-18.63	26.72	5.13	38.82	35.30	Average	100	298	HORIZONTAL
2	11575.90	48.13	74.00	-25.87	39.46	5.14	38.83	35.30	Peak	100	298	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11582.47	36.06	54.00	-17.94	27.39	5.14	38.83	35.30	Average	100	190	VERTICAL
2	11593.37	48.10	74.00	-25.90	39.43	5.14	38.83	35.30	Peak	100	190	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 8dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11554.17	35.97	54.00	-18.03	27.32	5.13	38.82	35.30	Average	100	218	HORIZONTAL
2	11554.81	46.98	74.00	-27.02	38.33	5.13	38.82	35.30	Peak	100	218	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11504.17	48.43	74.00	-25.57	39.80	5.12	38.79	35.28	Peak	100	56	VERTICAL
2	11506.73	35.50	54.00	-18.50	26.87	5.12	38.79	35.28	Average	100	56	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11486.20	43.11	54.00	-10.89	34.50	5.11	38.78	35.28	Average	100	217 HORIZONTAL
2	11488.27	56.11	74.00	-17.89	47.50	5.11	38.78	35.28	Peak	100	217 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11485.19	55.57	74.00	-18.43	46.96	5.11	38.78	35.28	Peak	100	133 VERTICAL
2	11488.93	43.68	54.00	-10.32	35.07	5.11	38.78	35.28	Average	100	133 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11570.16	44.39	54.00	-9.61	35.72	5.14	38.83	35.30	Average	100	163	HORIZONTAL
2	11576.19	54.79	74.00	-19.21	46.12	5.14	38.83	35.30	Peak	100	163	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11568.62	56.29	74.00	-17.71	47.63	5.13	38.83	35.30	Peak	100	250	VERTICAL
2	11568.83	43.30	54.00	-10.70	34.64	5.13	38.83	35.30	Average	100	250	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11643.97	56.79	74.00	-17.21	48.07	5.16	38.86	35.30	Peak	100	66 HORIZONTAL
2	11644.62	43.59	54.00	-10.41	34.87	5.16	38.86	35.30	Average	100	66 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11644.87	57.30	74.00	-16.70	48.58	5.16	38.86	35.30	Peak	100	6 VERTICAL
2	11648.11	44.18	54.00	-9.82	35.46	5.16	38.86	35.30	Average	100	6 VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 8dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11500.32	50.73	74.00	-23.27	42.10	5.12	38.79	35.28	Peak	100	95	HORIZONTAL
2	11505.16	37.47	54.00	-16.53	28.84	5.12	38.79	35.28	Average	100	95	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11500.00	37.54	54.00	-16.46	28.91	5.12	38.79	35.28	Average	100	20	VERTICAL
2	11505.61	50.03	74.00	-23.97	41.40	5.12	38.79	35.28	Peak	100	20	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11569.89	52.98	74.00	-21.02	44.31	5.14	38.83	35.30	Peak	100	72 HORIZONTAL
2	11588.08	39.94	54.00	-14.06	31.27	5.14	38.83	35.30	Average	100	72 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11571.81	53.06	74.00	-20.94	44.39	5.14	38.83	35.30	Peak	100	29 VERTICAL
2	11571.97	39.34	54.00	-14.66	30.67	5.14	38.83	35.30	Average	100	29 VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11548.22	37.94	54.00	-16.06	29.30	5.13	38.81	35.30	Average	100	179	HORIZONTAL
2	11551.20	49.46	74.00	-24.54	40.81	5.13	38.82	35.30	Peak	100	179	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11553.56	36.94	54.00	-17.06	28.29	5.13	38.82	35.30	Average	100	232	VERTICAL
2	11554.46	49.99	74.00	-24.01	41.34	5.13	38.82	35.30	Peak	100	232	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / 3TX / Chain 1+Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11491.28	53.08	74.00	-20.92	44.47	5.11	38.78	35.28	Peak	100	104 HORIZONTAL
2	11492.72	40.70	54.00	-13.30	32.09	5.11	38.78	35.28	Average	100	104 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11487.92	55.12	74.00	-18.88	46.51	5.11	38.78	35.28	Peak	100	327 VERTICAL
2	11489.12	41.95	54.00	-12.05	33.34	5.11	38.78	35.28	Average	100	327 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11570.40	51.07	74.00	-22.93	42.40	5.14	38.83	35.30	Peak	100	253 HORIZONTAL
2	11575.85	42.20	54.00	-11.80	33.53	5.14	38.83	35.30	Average	100	253 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11567.84	41.45	54.00	-12.55	32.79	5.13	38.83	35.30	Average	100	9 VERTICAL
2	11568.64	54.82	74.00	-19.18	46.16	5.13	38.83	35.30	Peak	100	9 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11650.00	41.56	54.00	-12.44	32.84	5.16	38.86	35.30	Average	100	312	HORIZONTAL
2	11651.28	51.69	74.00	-22.31	42.97	5.16	38.86	35.30	Peak	100	312	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11652.48	44.67	54.00	-9.33	35.95	5.16	38.86	35.30	Average	100	38	VERTICAL
2	11652.80	57.08	74.00	-16.92	48.36	5.16	38.86	35.30	Peak	100	38	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / 3TX / Chain 1+Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11496.38	49.33	74.00	-24.67	40.71	5.12	38.78	35.28	Peak	100	282 HORIZONTAL
2	11501.03	37.79	54.00	-16.21	29.16	5.12	38.79	35.28	Average	100	282 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11494.05	50.09	74.00	-23.91	41.47	5.12	38.78	35.28	Peak	100	173 VERTICAL
2	11505.91	39.15	54.00	-14.85	30.52	5.12	38.79	35.28	Average	100	173 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 8dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11575.74	40.03	54.00	-13.97	31.36	5.14	38.83	35.30	Average	100	288	HORIZONTAL
2	11583.75	50.64	74.00	-23.36	41.97	5.14	38.83	35.30	Peak	100	288	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11566.25	38.63	54.00	-15.37	29.98	5.13	38.82	35.30	Average	100	82	VERTICAL
2	11567.00	50.67	74.00	-23.33	42.02	5.13	38.82	35.30	Peak	100	82	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 8dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11550.32	37.48	54.00	-16.52	28.84	5.13	38.81	35.30	Average	100	285	HORIZONTAL
2	11553.21	47.18	74.00	-26.82	38.53	5.13	38.82	35.30	Peak	100	285	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11556.73	38.14	54.00	-15.86	29.49	5.13	38.82	35.30	Average	100	113	VERTICAL
2	11558.49	49.54	74.00	-24.46	40.89	5.13	38.82	35.30	Peak	100	113	VERTICAL

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 2 (Ant.3 Panel antenna / 12.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11491.70	42.84	54.00	-11.16	34.23	5.11	38.78	35.28	100	72	HORIZONTAL
2	11495.20	53.99	74.00	-20.01	45.37	5.12	38.78	35.28	100	72	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11488.10	53.47	74.00	-20.53	44.86	5.11	38.78	35.28	100	6	VERTICAL
2	11490.50	41.17	54.00	-12.83	32.56	5.11	38.78	35.28	100	6	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 2 (Ant.3 Panel antenna / 12.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11566.20	55.74	74.00	-18.26	47.09	5.13	38.82	35.30	100	71	HORIZONTAL
2	11569.90	43.79	54.00	-10.21	35.12	5.14	38.83	35.30	100	71	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11569.90	41.70	54.00	-12.30	33.03	5.14	38.83	35.30	100	8	VERTICAL
2	11571.30	53.32	74.00	-20.68	44.65	5.14	38.83	35.30	100	8	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 2 (Ant.3 Panel antenna / 12.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11648.10	57.68	74.00	-16.32	48.96	5.16	38.86	35.30	100	69	HORIZONTAL
2	11649.20	45.21	54.00	-8.79	36.49	5.16	38.86	35.30	100	69	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11649.20	43.88	54.00	-10.12	35.16	5.16	38.86	35.30	105	5	VERTICAL
2	11649.90	55.87	74.00	-18.13	47.15	5.16	38.86	35.30	105	5	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 2 (Ant.3 Panel antenna / 12.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11506.60	54.78	74.00	-19.22	46.15	5.12	38.79	35.28	Peak	100	73 HORIZONTAL
2	11510.00	41.02	54.00	-12.98	32.39	5.12	38.79	35.28	Average	100	73 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11509.70	51.92	74.00	-22.08	43.29	5.12	38.79	35.28	Peak	100	6 VERTICAL
2	11512.20	39.53	54.00	-14.47	30.90	5.12	38.79	35.28	Average	100	6 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 2 (Ant.3 Panel antenna / 12.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11595.00	55.71	74.00	-18.29	47.04	5.14	38.83	35.30	Peak	100	70 HORIZONTAL
2	11598.40	42.94	54.00	-11.06	34.26	5.15	38.83	35.30	Average	100	70 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11607.20	52.49	74.00	-21.51	43.80	5.15	38.84	35.30	Peak	100	5 VERTICAL
2	11608.80	40.73	54.00	-13.27	32.04	5.15	38.84	35.30	Average	100	5 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 2 (Ant.3 Panel antenna / 12.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11592.00	52.18	74.00	-21.82	43.51	5.14	38.83	35.30	Peak	100	69 HORIZONTAL
2	11597.20	39.46	54.00	-14.54	30.78	5.15	38.83	35.30	Average	100	69 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11596.40	38.39	54.00	-15.61	29.71	5.15	38.83	35.30	Average	100	100 VERTICAL
2	11599.80	48.98	74.00	-25.02	40.30	5.15	38.83	35.30	Peak	100	100 VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 2 (Ant.3 Panel antenna / 12.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11488.60	45.21	54.00	-8.79	36.60	5.11	38.78	35.28	Average	101	292	HORIZONTAL
2	11498.70	59.37	74.00	-14.63	50.75	5.12	38.78	35.28	Peak	101	292	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11488.50	45.69	54.00	-8.31	37.08	5.11	38.78	35.28	Average	101	353	VERTICAL
2	11498.70	59.53	74.00	-14.47	50.91	5.12	38.78	35.28	Peak	101	353	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 2 (Ant.3 Panel antenna / 12.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11566.30	62.38	74.00	-11.62	53.73	5.13	38.82	35.30	Peak	100	293 HORIZONTAL
2	11567.10	47.52	54.00	-6.48	38.87	5.13	38.82	35.30	Average	100	293 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11567.50	61.54	74.00	-12.46	52.88	5.13	38.83	35.30	Peak	100	352 VERTICAL
2	11568.70	47.33	54.00	-6.67	38.67	5.13	38.83	35.30	Average	100	352 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 2 (Ant.3 Panel antenna / 12.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11643.90	62.17	74.00	-11.83	53.45	5.16	38.86	35.30	Peak	100	293 HORIZONTAL
2	11644.80	47.06	54.00	-6.94	38.34	5.16	38.86	35.30	Average	100	293 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11648.70	48.12	54.00	-5.88	39.40	5.16	38.86	35.30	Average	100	359 VERTICAL
2	11648.80	62.07	74.00	-11.93	53.35	5.16	38.86	35.30	Peak	100	359 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 2 (Ant.3 Panel antenna / 12.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11517.20	58.21	74.00	-15.79	49.58	5.12	38.80	35.29	Peak	100	284 HORIZONTAL
2	11517.40	44.16	54.00	-9.84	35.53	5.12	38.80	35.29	Average	100	284 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11506.20	44.64	54.00	-9.36	36.01	5.12	38.79	35.28	Average	101	352 VERTICAL
2	11506.70	59.28	74.00	-14.72	50.65	5.12	38.79	35.28	Peak	101	352 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 2 (Ant.3 Panel antenna / 12.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11586.70	58.54	74.00	-15.46	49.87	5.14	38.83	35.30	Peak	100	292 HORIZONTAL
2	11589.20	44.62	54.00	-9.38	35.95	5.14	38.83	35.30	Average	100	292 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11591.20	46.26	54.00	-7.74	37.59	5.14	38.83	35.30	Average	100	352 VERTICAL
2	11607.50	58.78	74.00	-15.22	50.09	5.15	38.84	35.30	Peak	100	352 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 2 (Ant.3 Panel antenna / 12.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11556.00	42.42	54.00	-11.58	33.77	5.13	38.82	35.30 Average	100	284	HORIZONTAL
2	11559.50	57.95	74.00	-16.05	49.30	5.13	38.82	35.30 Peak	100	284	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11536.00	43.64	54.00	-10.36	34.99	5.13	38.81	35.29 Average	100	358	VERTICAL
2	11577.00	55.23	74.00	-18.77	46.56	5.14	38.83	35.30 Peak	100	358	VERTICAL

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 3 (Ant.4 Yagi antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11487.02	39.05	54.00	-14.95	30.44	5.11	38.78	35.28	Average	100	3 HORIZONTAL
2	11487.02	51.95	74.00	-22.05	43.34	5.11	38.78	35.28	Peak	100	3 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11490.74	51.97	74.00	-22.03	43.36	5.11	38.78	35.28	Peak	100	257 VERTICAL
2	11491.83	39.67	54.00	-14.33	31.06	5.11	38.78	35.28	Average	100	257 VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 3 (Ant.4 Yagi antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11571.63	40.22	54.00	-13.78	31.55	5.14	38.83	35.30	Average	100	330	HORIZONTAL
2	11572.82	53.42	74.00	-20.58	44.75	5.14	38.83	35.30	Peak	100	330	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11570.14	42.49	54.00	-11.51	33.82	5.14	38.83	35.30	Average	100	321	VERTICAL
2	11571.20	55.47	74.00	-18.53	46.80	5.14	38.83	35.30	Peak	100	321	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 3 (Ant.4 Yagi antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11649.60	39.68	54.00	-14.32	30.96	5.16	38.86	35.30	Average	100	305	HORIZONTAL
2	11654.57	51.85	74.00	-22.15	43.13	5.16	38.86	35.30	Peak	100	305	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11651.84	43.94	54.00	-10.06	35.22	5.16	38.86	35.30	Average	100	311	VERTICAL
2	11653.04	56.55	74.00	-17.45	47.83	5.16	38.86	35.30	Peak	100	311	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 3 (Ant.4 Yagi antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11512.08	37.55	54.00	-16.45	28.92	5.12	38.79	35.28	Average	100	303	HORIZONTAL
2	11521.54	49.94	74.00	-24.06	41.30	5.13	38.80	35.29	Peak	100	303	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11494.46	38.35	54.00	-15.65	29.73	5.12	38.78	35.28	Average	100	51	VERTICAL
2	11508.72	49.85	74.00	-24.15	41.22	5.12	38.79	35.28	Peak	100	51	VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 3 (Ant.4 Yagi antenna / 8dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11586.47	50.53	74.00	-23.47	41.86	5.14	38.83	35.30	Peak	100	360	HORIZONTAL
2	11588.40	38.96	54.00	-15.04	30.29	5.14	38.83	35.30	Average	100	360	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11582.63	39.15	54.00	-14.85	30.48	5.14	38.83	35.30	Average	100	156	VERTICAL
2	11582.95	52.03	74.00	-21.97	43.36	5.14	38.83	35.30	Peak	100	156	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 3 (Ant.4 Yagi antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11546.81	48.47	74.00	-25.53	39.83	5.13	38.81	35.30	Peak	100	42 HORIZONTAL
2	11551.27	35.08	54.00	-18.92	26.43	5.13	38.82	35.30	Average	100	42 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11552.15	47.88	74.00	-26.12	39.23	5.13	38.82	35.30	Peak	100	163 VERTICAL
2	11557.66	35.57	54.00	-18.43	26.92	5.13	38.82	35.30	Average	100	163 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 3 (Ant.4 Yagi antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11490.48	49.58	74.00	-24.42	40.97	5.11	38.78	35.28	Peak	100	20	HORIZONTAL
2	11492.64	38.01	54.00	-15.99	29.40	5.11	38.78	35.28	Average	100	20	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11496.25	41.46	54.00	-12.54	32.84	5.12	38.78	35.28	Average	113	308	VERTICAL
2	11496.97	55.93	74.00	-18.07	47.31	5.12	38.78	35.28	Peak	113	308	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 3 (Ant.4 Yagi antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11568.48	47.21	74.00	-26.79	38.55	5.13	38.83	35.30	Peak	100	180 HORIZONTAL
2	11569.20	37.21	54.00	-16.79	28.55	5.13	38.83	35.30	Average	100	180 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11569.20	54.01	74.00	-19.99	45.35	5.13	38.83	35.30	Peak	100	240 VERTICAL
2	11569.52	40.49	54.00	-13.51	31.83	5.13	38.83	35.30	Average	100	240 VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 3 (Ant.4 Yagi antenna / 8dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11648.80	53.01	74.00	-20.99	44.29	5.16	38.86	35.30	Peak	100	298	HORIZONTAL
2	11649.04	39.14	54.00	-14.86	30.42	5.16	38.86	35.30	Average	100	298	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11655.45	56.60	74.00	-17.40	47.88	5.16	38.86	35.30	Peak	111	292	VERTICAL
2	11655.93	42.24	54.00	-11.76	33.52	5.16	38.86	35.30	Average	111	292	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 3 (Ant.4 Yagi antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11510.16	35.41	54.00	-18.59	26.78	5.12	38.79	35.28	Average	100	104 HORIZONTAL
2	11513.21	48.04	74.00	-25.96	39.41	5.12	38.79	35.28	Peak	100	104 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11502.71	39.43	54.00	-14.57	30.80	5.12	38.79	35.28	Average	100	243 VERTICAL
2	11503.99	53.39	74.00	-20.61	44.76	5.12	38.79	35.28	Peak	100	243 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 3 (Ant.4 Yagi antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11597.37	50.20	74.00	-23.80	41.52	5.15	38.83	35.30	Peak	100	300 HORIZONTAL
2	11599.78	37.61	54.00	-16.39	28.93	5.15	38.83	35.30	Average	100	300 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11596.57	52.02	74.00	-21.98	43.34	5.15	38.83	35.30	Peak	100	291 VERTICAL
2	11597.69	38.60	54.00	-15.40	29.92	5.15	38.83	35.30	Average	100	291 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 3 (Ant.4 Yagi antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11503.37	35.88	54.00	-18.12	27.25	5.12	38.79	35.28	100	341	HORIZONTAL
2	11504.81	47.58	74.00	-26.42	38.95	5.12	38.79	35.28	100	341	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11554.49	50.58	74.00	-23.42	41.93	5.13	38.82	35.30	100	235	VERTICAL
2	11556.73	38.59	54.00	-15.41	29.94	5.13	38.82	35.30	100	235	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 3 (Ant.4 Yagi antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11489.13	55.25	74.00	-18.75	46.64	5.11	38.78	35.28	Peak	101	331 HORIZONTAL
2	11489.87	39.81	54.00	-14.19	31.20	5.11	38.78	35.28	Average	101	331 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11480.90	53.59	74.00	-20.41	44.99	5.11	38.77	35.28	Peak	101	252 VERTICAL
2	11489.65	43.85	54.00	-10.15	35.24	5.11	38.78	35.28	Average	101	252 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 3 (Ant.4 Yagi antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11564.87	52.24	74.00	-21.76	43.59	5.13	38.82	35.30	Peak	100	179 HORIZONTAL
2	11569.17	39.71	54.00	-14.29	31.05	5.13	38.83	35.30	Average	100	179 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11568.69	43.33	54.00	-10.67	34.67	5.13	38.83	35.30	Average	101	310 VERTICAL
2	11568.75	56.15	74.00	-17.85	47.49	5.13	38.83	35.30	Peak	101	310 VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 3 (Ant.4 Yagi antenna / 8dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11648.59	51.75	74.00	-22.25	43.03	5.16	38.86	35.30	Peak	100	155	HORIZONTAL
2	11648.88	39.40	54.00	-14.60	30.68	5.16	38.86	35.30	Average	100	155	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11647.18	43.19	54.00	-10.81	34.47	5.16	38.86	35.30	Average	107	294	VERTICAL
2	11648.78	57.68	74.00	-16.32	48.96	5.16	38.86	35.30	Peak	107	294	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 3 (Ant.4 Yagi antenna / 8dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11509.58	50.27	74.00	-23.73	41.64	5.12	38.79	35.28	Peak	100	177	HORIZONTAL
2	11510.58	39.97	54.00	-14.03	31.34	5.12	38.79	35.28	Average	100	177	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11502.88	53.79	74.00	-20.21	45.16	5.12	38.79	35.28	Peak	100	268	VERTICAL
2	11503.53	42.47	54.00	-11.53	33.84	5.12	38.79	35.28	Average	100	268	VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 3 (Ant.4 Yagi antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11583.40	39.49	54.00	-14.51	30.82	5.14	38.83	35.30	Average	100	236	HORIZONTAL
2	11591.15	53.99	74.00	-20.01	45.32	5.14	38.83	35.30	Peak	100	236	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11583.56	42.29	54.00	-11.71	33.62	5.14	38.83	35.30	Average	100	293	VERTICAL
2	11586.60	55.84	74.00	-18.16	47.17	5.14	38.83	35.30	Peak	100	293	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 3 (Ant.4 Yagi antenna / 8dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11525.00	38.72	54.00	-15.28	30.08	5.13	38.80	35.29	Average	100	173	HORIZONTAL
2	11558.33	50.24	74.00	-23.76	41.59	5.13	38.82	35.30	Peak	100	173	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11529.09	50.51	74.00	-23.49	41.87	5.13	38.80	35.29	Peak	100	86	VERTICAL
2	11530.45	40.73	54.00	-13.27	32.09	5.13	38.80	35.29	Average	100	86	VERTICAL

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 4 (Ant.5 Patch antenna / 2.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11490.08	45.05	54.00	-8.95	36.44	5.11	38.78	35.28	Average	119	208 HORIZONTAL
2	11492.72	59.10	74.00	-14.90	50.49	5.11	38.78	35.28	Peak	119	208 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11490.48	40.85	54.00	-13.15	32.24	5.11	38.78	35.28	Average	112	171 VERTICAL
2	11492.40	55.09	74.00	-18.91	46.48	5.11	38.78	35.28	Peak	112	171 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 4 (Ant.5 Patch antenna / 2.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11568.80	42.51	54.00	-11.49	33.85	5.13	38.83	35.30	Average	128	233	HORIZONTAL
2	11571.60	56.16	74.00	-17.84	47.49	5.14	38.83	35.30	Peak	128	233	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11565.51	52.37	74.00	-21.63	43.72	5.13	38.82	35.30	Peak	100	170	VERTICAL
2	11570.80	40.67	54.00	-13.33	32.00	5.14	38.83	35.30	Average	100	170	VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 4 (Ant.5 Patch antenna / 2.3dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11646.39	56.03	74.00	-17.97	47.31	5.16	38.86	35.30	Peak	128	206	HORIZONTAL
2	11649.44	42.08	54.00	-11.92	33.36	5.16	38.86	35.30	Average	128	206	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11648.64	38.66	54.00	-15.34	29.94	5.16	38.86	35.30	Average	100	129	VERTICAL
2	11650.16	52.38	74.00	-21.62	43.66	5.16	38.86	35.30	Peak	100	129	VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 4 (Ant.5 Patch antenna / 2.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11503.51	40.26	54.00	-13.74	31.63	5.12	38.79	35.28	Average	121	213	HORIZONTAL
2	11506.71	54.55	74.00	-19.45	45.92	5.12	38.79	35.28	Peak	121	213	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11488.93	36.35	54.00	-17.65	27.74	5.11	38.78	35.28	Average	100	307	VERTICAL
2	11504.79	49.36	74.00	-24.64	40.73	5.12	38.79	35.28	Peak	100	307	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 4 (Ant.5 Patch antenna / 2.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11589.76	39.46	54.00	-14.54	30.79	5.14	38.83	35.30	Average	126	216	HORIZONTAL
2	11591.20	53.01	74.00	-20.99	44.34	5.14	38.83	35.30	Peak	126	216	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11591.52	37.31	54.00	-16.69	28.64	5.14	38.83	35.30	Average	100	148	VERTICAL
2	11591.84	48.90	74.00	-25.10	40.23	5.14	38.83	35.30	Peak	100	148	VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 4 (Ant.5 Patch antenna / 2.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11558.17	37.07	54.00	-16.93	28.42	5.13	38.82	35.30	Average	132	210	HORIZONTAL
2	11561.54	49.92	74.00	-24.08	41.27	5.13	38.82	35.30	Peak	132	210	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11563.78	34.95	54.00	-19.05	26.30	5.13	38.82	35.30	Average	100	122	VERTICAL
2	11568.88	47.49	74.00	-26.51	38.83	5.13	38.83	35.30	Peak	100	122	VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 4 (Ant.5 Patch antenna / 2.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11489.04	48.16	54.00	-5.84	39.55	5.11	38.78	35.28	Average	120	234	HORIZONTAL
2	11491.52	61.20	74.00	-12.80	52.59	5.11	38.78	35.28	Peak	120	234	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11491.60	42.36	54.00	-11.64	33.75	5.11	38.78	35.28	Average	100	168	VERTICAL
2	11491.84	55.31	74.00	-18.69	46.70	5.11	38.78	35.28	Peak	100	168	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 4 (Ant.5 Patch antenna / 2.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11568.48	47.44	54.00	-6.56	38.78	5.13	38.83	35.30	Average	121	232	HORIZONTAL
2	11570.48	60.95	74.00	-13.05	52.28	5.14	38.83	35.30	Peak	121	232	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11572.96	40.68	54.00	-13.32	32.01	5.14	38.83	35.30	Average	100	157	VERTICAL
2	11574.33	52.29	74.00	-21.71	43.62	5.14	38.83	35.30	Peak	100	157	VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 4 (Ant.5 Patch antenna / 2.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11651.76	46.24	54.00	-7.76	37.52	5.16	38.86	35.30 Average	124	220	HORIZONTAL
2	11654.65	61.03	74.00	-12.97	52.31	5.16	38.86	35.30 Peak	124	220	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11641.03	54.97	74.00	-19.03	46.25	5.16	38.86	35.30 Peak	119	194	VERTICAL
2	11657.61	42.25	54.00	-11.75	33.53	5.16	38.86	35.30 Average	119	194	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 4 (Ant.5 Patch antenna / 2.3dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11504.79	44.95	54.00	-9.05	36.32	5.12	38.79	35.28	Average	114	229	HORIZONTAL
2	11506.47	59.37	74.00	-14.63	50.74	5.12	38.79	35.28	Peak	114	229	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11502.47	39.71	54.00	-14.29	31.08	5.12	38.79	35.28	Average	100	152	VERTICAL
2	11504.95	51.57	74.00	-22.43	42.94	5.12	38.79	35.28	Peak	100	152	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 4 (Ant.5 Patch antenna / 2.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11585.43	44.18	54.00	-9.82	35.51	5.14	38.83	35.30 Average	123	229	HORIZONTAL
2	11586.63	58.28	74.00	-15.72	49.61	5.14	38.83	35.30 Peak	123	229	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11590.08	39.48	54.00	-14.52	30.81	5.14	38.83	35.30 Average	100	135	VERTICAL
2	11591.04	50.62	74.00	-23.38	41.95	5.14	38.83	35.30 Peak	100	135	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 4 (Ant.5 Patch antenna / 2.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11503.53	54.39	74.00	-19.61	45.76	5.12	38.79	35.28	Peak	122	253 HORIZONTAL
2	11564.74	41.21	54.00	-12.79	32.56	5.13	38.82	35.30	Average	122	253 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11559.29	48.70	74.00	-25.30	40.05	5.13	38.82	35.30	Peak	100	126 VERTICAL
2	11560.58	37.96	54.00	-16.04	29.31	5.13	38.82	35.30	Average	100	126 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 4 (Ant.5 Patch antenna / 2.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11492.16	49.02	54.00	-4.98	40.41	5.11	38.78	35.28	Average	119	117 HORIZONTAL
2	11492.32	62.99	74.00	-11.01	54.38	5.11	38.78	35.28	Peak	119	117 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11486.88	57.02	74.00	-16.98	48.41	5.11	38.78	35.28	Peak	100	164 VERTICAL
2	11488.80	43.39	54.00	-10.61	34.78	5.11	38.78	35.28	Average	100	164 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 4 (Ant.5 Patch antenna / 2.3dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11569.44	49.45	54.00	-4.55	40.79	5.13	38.83	35.30 Average	121	115	HORIZONTAL
2	11570.08	63.97	74.00	-10.03	55.30	5.14	38.83	35.30 Peak	121	115	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11565.99	58.08	74.00	-15.92	49.43	5.13	38.82	35.30 Peak	125	211	VERTICAL
2	11566.07	43.99	54.00	-10.01	35.34	5.13	38.82	35.30 Average	125	211	VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 4 (Ant.5 Patch antenna / 2.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11647.76	48.03	54.00	-5.97	39.31	5.16	38.86	35.30	Average	126	114	HORIZONTAL
2	11648.56	62.14	74.00	-11.86	53.42	5.16	38.86	35.30	Peak	126	114	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11655.93	42.03	54.00	-11.97	33.31	5.16	38.86	35.30	Average	101	194	VERTICAL
2	11657.61	55.89	74.00	-18.11	47.17	5.16	38.86	35.30	Peak	101	194	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 4 (Ant.5 Patch antenna / 2.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11509.12	45.51	54.00	-8.49	36.88	5.12	38.79	35.28	Average	123	113 HORIZONTAL
2	11509.44	59.46	74.00	-14.54	50.83	5.12	38.79	35.28	Peak	123	113 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11499.74	52.32	74.00	-21.68	43.69	5.12	38.79	35.28	Peak	100	164 VERTICAL
2	11508.32	38.96	54.00	-15.04	30.33	5.12	38.79	35.28	Average	100	164 VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 4 (Ant.5 Patch antenna / 2.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11587.28	44.18	54.00	-9.82	35.51	5.14	38.83	35.30	Average	122	113	HORIZONTAL
2	11588.64	58.43	74.00	-15.57	49.76	5.14	38.83	35.30	Peak	122	113	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11584.63	53.39	74.00	-20.61	44.72	5.14	38.83	35.30	Peak	100	211	VERTICAL
2	11585.43	39.62	54.00	-14.38	30.95	5.14	38.83	35.30	Average	100	211	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 4 (Ant.5 Patch antenna / 2.3dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11500.80	55.58	74.00	-18.42	46.95	5.12	38.79	35.28	Peak	128	115	HORIZONTAL
2	11529.97	40.18	54.00	-13.82	31.54	5.13	38.80	35.29	Average	128	115	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11508.81	47.32	74.00	-26.68	38.69	5.12	38.79	35.28	Peak	100	255	VERTICAL
2	11508.97	36.53	54.00	-17.47	27.90	5.12	38.79	35.28	Average	100	255	VERTICAL

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 5 (Ant.6 Facade antenna / 2.5dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11486.63	50.76	74.00	-23.24	42.15	5.11	38.78	35.28	Peak	100	269	HORIZONTAL
2	11489.92	37.30	54.00	-16.70	28.69	5.11	38.78	35.28	Average	100	269	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11488.00	55.04	74.00	-18.96	46.43	5.11	38.78	35.28	Peak	100	144	VERTICAL
2	11491.52	40.78	54.00	-13.22	32.17	5.11	38.78	35.28	Average	100	144	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 5 (Ant.6 Facade antenna / 2.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11554.05	36.93	54.00	-17.07	28.28	5.13	38.82	35.30	Average	100	194	HORIZONTAL
2	11556.06	49.42	74.00	-24.58	40.77	5.13	38.82	35.30	Peak	100	194	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11568.80	40.94	54.00	-13.06	32.28	5.13	38.83	35.30	Average	100	148	VERTICAL
2	11571.20	54.16	74.00	-19.84	45.49	5.14	38.83	35.30	Peak	100	148	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 5 (Ant.6 Facade antenna / 2.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11651.68	50.91	74.00	-23.09	42.19	5.16	38.86	35.30	Peak	100	103	HORIZONTAL
2	11654.01	37.39	54.00	-16.61	28.67	5.16	38.86	35.30	Average	100	103	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11649.92	41.67	54.00	-12.33	32.95	5.16	38.86	35.30	Average	100	198	VERTICAL
2	11651.20	54.37	74.00	-19.63	45.65	5.16	38.86	35.30	Peak	100	198	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 5 (Ant.6 Facade antenna / 2.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11501.51	36.94	54.00	-17.06	28.31	5.12	38.79	35.28	Average	100	211 HORIZONTAL
2	11510.96	49.68	74.00	-24.32	41.05	5.12	38.79	35.28	Peak	100	211 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11502.47	51.74	74.00	-22.26	43.11	5.12	38.79	35.28	Peak	100	141 VERTICAL
2	11507.84	39.55	54.00	-14.45	30.92	5.12	38.79	35.28	Average	100	141 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 5 (Ant.6 Facade antenna / 2.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11597.21	49.27	74.00	-24.73	40.59	5.15	38.83	35.30	Peak	100	78 HORIZONTAL
2	11614.44	37.16	54.00	-16.84	28.47	5.15	38.84	35.30	Average	100	78 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11588.00	52.31	74.00	-21.69	43.64	5.14	38.83	35.30	Peak	100	153 VERTICAL
2	11592.88	39.74	54.00	-14.26	31.07	5.14	38.83	35.30	Average	100	153 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / 1TX / Chain 1
Test Date	Apr. 25, 2013	Test Mode	Mode 5 (Ant.6 Facade antenna / 2.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11565.22	36.96	54.00	-17.04	28.31	5.13	38.82	35.30 Average	100	194	HORIZONTAL
2	11566.51	47.49	74.00	-26.51	38.84	5.13	38.82	35.30 Peak	100	194	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11550.16	49.82	74.00	-24.18	41.18	5.13	38.81	35.30 Peak	100	158	VERTICAL
2	11557.05	38.06	54.00	-15.94	29.41	5.13	38.82	35.30 Average	100	158	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 5 (Ant.6 Facade antenna / 2.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11487.76	38.15	54.00	-15.85	29.54	5.11	38.78	35.28	Average	100	124 HORIZONTAL
2	11501.46	49.58	74.00	-24.42	40.95	5.12	38.79	35.28	Peak	100	124 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11487.52	59.38	74.00	-14.62	50.77	5.11	38.78	35.28	Peak	134	6 VERTICAL
2	11488.32	45.51	54.00	-8.49	36.90	5.11	38.78	35.28	Average	134	6 VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 5 (Ant.6 Facade antenna / 2.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11567.36	37.73	54.00	-16.27	29.08	5.13	38.82	35.30	Average	100	281	HORIZONTAL
2	11572.32	49.91	74.00	-24.09	41.24	5.14	38.83	35.30	Peak	100	281	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11569.60	43.63	54.00	-10.37	34.97	5.13	38.83	35.30	Average	100	187	VERTICAL
2	11570.40	57.89	74.00	-16.11	49.22	5.14	38.83	35.30	Peak	100	187	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 5 (Ant.6 Facade antenna / 2.5dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11650.72	37.70	54.00	-16.30	28.98	5.16	38.86	35.30	Average	100	70	HORIZONTAL
2	11653.85	49.70	74.00	-24.30	40.98	5.16	38.86	35.30	Peak	100	70	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11648.24	44.49	54.00	-9.51	35.77	5.16	38.86	35.30	Average	100	149	VERTICAL
2	11649.36	58.22	74.00	-15.78	49.50	5.16	38.86	35.30	Peak	100	149	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 5 (Ant.6 Facade antenna / 2.5dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11497.34	37.13	54.00	-16.87	28.51	5.12	38.78	35.28	Average	100	223 HORIZONTAL
2	11511.36	49.94	74.00	-24.06	41.31	5.12	38.79	35.28	Peak	100	223 HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11499.02	41.67	54.00	-12.33	33.05	5.12	38.78	35.28	Average	100	144 VERTICAL
2	11499.74	55.98	74.00	-18.02	47.35	5.12	38.79	35.28	Peak	100	144 VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 5 (Ant.6 Facade antenna / 2.5dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11572.21	49.52	74.00	-24.48	40.85	5.14	38.83	35.30	Peak	100	86	HORIZONTAL
2	11582.95	37.09	54.00	-16.91	28.42	5.14	38.83	35.30	Average	100	86	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11587.04	41.15	54.00	-12.85	32.48	5.14	38.83	35.30	Average	100	151	VERTICAL
2	11587.28	55.13	74.00	-18.87	46.46	5.14	38.83	35.30	Peak	100	151	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / 2TX / Chain 1 + Chain 2
Test Date	Apr. 25, 2013	Test Mode	Mode 5 (Ant.6 Facade antenna / 2.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11575.48	37.17	54.00	-16.83	28.50	5.14	38.83	35.30 Average	100	67	HORIZONTAL
2	11577.40	49.22	74.00	-24.78	40.55	5.14	38.83	35.30 Peak	100	67	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11557.05	40.29	54.00	-13.71	31.64	5.13	38.82	35.30 Average	100	158	VERTICAL
2	11562.50	52.19	74.00	-21.81	43.54	5.13	38.82	35.30 Peak	100	158	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / 3TX / Chain 1+Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 5 (Ant.6 Facade antenna / 2.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11489.92	39.44	54.00	-14.56	30.83	5.11	38.78	35.28	Average	100	281 HORIZONTAL
2	11489.92	50.28	74.00	-23.72	41.67	5.11	38.78	35.28	Peak	100	281 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11487.76	46.86	54.00	-7.14	38.25	5.11	38.78	35.28	Average	100	154 VERTICAL
2	11488.24	61.36	74.00	-12.64	52.75	5.11	38.78	35.28	Peak	100	154 VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 5 (Ant.6 Facade antenna / 2.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11568.64	38.59	54.00	-15.41	29.93	5.13	38.83	35.30	Average	100	88	HORIZONTAL
2	11575.77	49.69	74.00	-24.31	41.02	5.14	38.83	35.30	Peak	100	88	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11566.47	46.36	54.00	-7.64	37.71	5.13	38.82	35.30	Average	107	153	VERTICAL
2	11568.00	61.05	74.00	-12.95	52.39	5.13	38.83	35.30	Peak	107	153	VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 5 (Ant.6 Facade antenna / 2.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11643.59	39.69	54.00	-14.31	30.97	5.16	38.86	35.30	Average	100	310	HORIZONTAL
2	11648.80	50.34	74.00	-23.66	41.62	5.16	38.86	35.30	Peak	100	310	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11649.84	46.53	54.00	-7.47	37.81	5.16	38.86	35.30	Average	100	151	VERTICAL
2	11650.32	61.05	74.00	-12.95	52.33	5.16	38.86	35.30	Peak	100	151	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / 3TX / Chain 1 + Chain 2 + Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 5 (Ant.6 Facade antenna / 2.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos		
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	11501.51	37.17	54.00	-16.83	28.54	5.12	38.79	35.28	Average	100	309	HORIZONTAL
2	11503.19	49.27	74.00	-24.73	40.64	5.12	38.79	35.28	Peak	100	309	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos		
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	11497.10	56.67	74.00	-17.33	48.05	5.12	38.78	35.28	Peak	100	146	VERTICAL
2	11497.26	43.04	54.00	-10.96	34.42	5.12	38.78	35.28	Average	100	146	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 5 (Ant.6 Facade antenna / 2.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11602.58	37.53	54.00	-16.47	28.84	5.15	38.84	35.30	Average	100	284	HORIZONTAL
2	11604.66	49.00	74.00	-25.00	40.31	5.15	38.84	35.30	Peak	100	284	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11591.12	42.28	54.00	-11.72	33.61	5.14	38.83	35.30	Average	100	151	VERTICAL
2	11591.44	55.88	74.00	-18.12	47.21	5.14	38.83	35.30	Peak	100	151	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / 3TX / Chain 1 + Chain 2 + Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 5 (Ant.6 Facade antenna / 2.5dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11559.29	48.82	74.00	-25.18	40.17	5.13	38.82	35.30	Peak	100	324 HORIZONTAL
2	11561.06	36.91	54.00	-17.09	28.26	5.13	38.82	35.30	Average	100	324 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11546.79	41.68	54.00	-12.32	33.04	5.13	38.81	35.30	Average	100	154 VERTICAL
2	11546.79	54.17	74.00	-19.83	45.53	5.13	38.81	35.30	Peak	100	154 VERTICAL

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 6 (Ant.9 Panel antenna / 9.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11485.27	43.91	54.00	-10.09	35.30	5.11	38.78	35.28	Average	100	171	HORIZONTAL
2	11485.99	56.14	74.00	-17.86	47.53	5.11	38.78	35.28	Peak	100	171	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11488.80	56.33	74.00	-17.67	47.72	5.11	38.78	35.28	Peak	100	235	VERTICAL
2	11489.52	43.26	54.00	-10.74	34.65	5.11	38.78	35.28	Average	100	235	VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 6 (Ant.9 Panel antenna / 9.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11565.83	45.02	54.00	-8.98	36.37	5.13	38.82	35.30	Average	100	173	HORIZONTAL
2	11566.23	58.92	74.00	-15.08	50.27	5.13	38.82	35.30	Peak	100	173	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11568.96	43.27	54.00	-10.73	34.61	5.13	38.83	35.30	Average	100	149	VERTICAL
2	11570.24	54.98	74.00	-19.02	46.31	5.14	38.83	35.30	Peak	100	149	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / 3TX / Chain 1+Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 6 (Ant.9 Panel antenna / 9.2dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11645.51	45.21	54.00	-8.79	36.49	5.16	38.86	35.30	Average	100	175	HORIZONTAL
2	11645.99	57.60	74.00	-16.40	48.88	5.16	38.86	35.30	Peak	100	175	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11648.96	54.47	74.00	-19.53	45.75	5.16	38.86	35.30	Peak	100	206	VERTICAL
2	11649.76	42.41	54.00	-11.59	33.69	5.16	38.86	35.30	Average	100	206	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / 3TX / Chain 1 + Chain 2 + Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 6 (Ant.9 Panel antenna / 9.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11505.59	42.50	54.00	-11.50	33.87	5.12	38.79	35.28	Average	100	172	HORIZONTAL
2	11517.29	55.11	74.00	-18.89	46.48	5.12	38.80	35.29	Peak	100	172	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11506.55	40.56	54.00	-13.44	31.93	5.12	38.79	35.28	Average	100	146	VERTICAL
2	11508.72	53.76	74.00	-20.24	45.13	5.12	38.79	35.28	Peak	100	146	VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 6 (Ant.9 Panel antenna / 9.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11586.23	42.19	54.00	-11.81	33.52	5.14	38.83	35.30	Average	100	173	HORIZONTAL
2	11586.63	55.35	74.00	-18.65	46.68	5.14	38.83	35.30	Peak	100	173	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11593.77	40.93	54.00	-13.07	32.26	5.14	38.83	35.30	Average	100	220	VERTICAL
2	11594.41	53.70	74.00	-20.30	45.03	5.14	38.83	35.30	Peak	100	220	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / 3TX / Chain 1 + Chain 2 + Chain 3
Test Date	Apr. 25, 2013	Test Mode	Mode 6 (Ant.9 Panel antenna / 9.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11544.39	53.48	74.00	-20.52	44.84	5.13	38.81	35.30	Peak	100	172 HORIZONTAL
2	11545.19	41.04	54.00	-12.96	32.40	5.13	38.81	35.30	Average	100	172 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11549.52	51.11	74.00	-22.89	42.47	5.13	38.81	35.30	Peak	100	149 VERTICAL
2	11550.48	39.47	54.00	-14.53	30.82	5.13	38.82	35.30	Average	100	149 VERTICAL

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / 1TX / Chain 1
Test Date	Jul. 04, 2013	Test Mode	Mode 7 (Ant.10 PIFA antenna / 5.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11489.12	39.55	54.00	-14.45	30.94	5.11	38.78	35.28	Average	100	222	HORIZONTAL
2	11489.12	52.70	74.00	-21.30	44.09	5.11	38.78	35.28	Peak	100	222	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11491.32	36.64	54.00	-17.36	28.03	5.11	38.78	35.28	Average	100	96	VERTICAL
2	11495.48	47.49	74.00	-26.51	38.87	5.12	38.78	35.28	Peak	100	96	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / 1TX / Chain 1
Test Date	Jul. 04, 2013	Test Mode	Mode 7 (Ant.10 PIFA antenna / 5.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11569.00	40.21	54.00	-13.79	31.55	5.13	38.83	35.30	Average	100	223	HORIZONTAL
2	11569.04	53.51	74.00	-20.49	44.85	5.13	38.83	35.30	Peak	100	223	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11561.68	36.27	54.00	-17.73	27.62	5.13	38.82	35.30	Average	100	54	VERTICAL
2	11570.24	47.94	74.00	-26.06	39.27	5.14	38.83	35.30	Peak	100	54	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / 1TX / Chain 1
Test Date	Jul. 04, 2013	Test Mode	Mode 7 (Ant.10 PIFA antenna / 5.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11650.24	40.00	54.00	-14.00	31.28	5.16	38.86	35.30	Average	100	219 HORIZONTAL
2	11650.40	52.86	74.00	-21.14	44.14	5.16	38.86	35.30	Peak	100	219 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11654.20	38.95	54.00	-15.05	30.23	5.16	38.86	35.30	Average	100	317 VERTICAL
2	11656.24	51.47	74.00	-22.53	42.75	5.16	38.86	35.30	Peak	100	317 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / 1TX / Chain 1
Test Date	Jul. 04, 2013	Test Mode	Mode 7 (Ant.10 PIFA antenna / 5.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11510.60	37.94	54.00	-16.06	29.31	5.12	38.79	35.28	Average	100	225 HORIZONTAL
2	11517.28	50.62	74.00	-23.38	41.99	5.12	38.80	35.29	Peak	100	225 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11510.32	48.03	74.00	-25.97	39.40	5.12	38.79	35.28	Peak	100	338 VERTICAL
2	11517.80	36.04	54.00	-17.96	27.41	5.12	38.80	35.29	Average	100	338 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / 1TX / Chain 1
Test Date	Jul. 04, 2013	Test Mode	Mode 7 (Ant.10 PIFA antenna / 5.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11586.52	49.85	74.00	-24.15	41.18	5.14	38.83	35.30	Peak	100	224	HORIZONTAL
2	11588.96	37.31	54.00	-16.69	28.64	5.14	38.83	35.30	Average	100	224	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11581.80	34.73	54.00	-19.27	26.06	5.14	38.83	35.30	Average	100	57	VERTICAL
2	11584.60	46.76	74.00	-27.24	38.09	5.14	38.83	35.30	Peak	100	57	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / 1TX / Chain 1
Test Date	Jul. 04, 2013	Test Mode	Mode 7 (Ant.10 PIFA antenna / 5.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11590.00	37.38	54.00	-16.62	28.71	5.14	38.83	35.30	Average	100	226	HORIZONTAL
2	11590.80	49.09	74.00	-24.91	40.42	5.14	38.83	35.30	Peak	100	226	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11529.40	35.53	54.00	-18.47	26.89	5.13	38.80	35.29	Average	100	51	VERTICAL
2	11529.80	46.40	74.00	-27.60	37.76	5.13	38.80	35.29	Peak	100	51	VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / 2TX / Chain 1 + Chain 2
Test Date	Jul. 04, 2013	Test Mode	Mode 7 (Ant.10 PIFA antenna / 5.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11489.55	45.98	54.00	-8.02	37.37	5.11	38.78	35.28	Average	100	300 HORIZONTAL
2	11490.32	58.44	74.00	-15.56	49.83	5.11	38.78	35.28	Peak	100	300 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11488.72	57.12	74.00	-16.88	48.51	5.11	38.78	35.28	Peak	100	298 VERTICAL
2	11489.46	44.76	54.00	-9.24	36.15	5.11	38.78	35.28	Average	100	298 VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / 2TX / Chain 1 + Chain 2
Test Date	Jul. 04, 2013	Test Mode	Mode 7 (Ant.10 PIFA antenna / 5.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11569.52	46.29	54.00	-7.71	37.63	5.13	38.83	35.30	Average	100	285	HORIZONTAL
2	11570.38	58.45	74.00	-15.55	49.78	5.14	38.83	35.30	Peak	100	285	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11567.15	57.85	74.00	-16.15	49.20	5.13	38.82	35.30	Peak	100	291	VERTICAL
2	11568.24	44.63	54.00	-9.37	35.97	5.13	38.83	35.30	Average	100	291	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / 2TX / Chain 1 + Chain 2
Test Date	Jul. 04, 2013	Test Mode	Mode 7 (Ant.10 PIFA antenna / 5.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11648.49	59.10	74.00	-14.90	50.38	5.16	38.86	35.30	Peak	100	286	HORIZONTAL
2	11649.23	46.65	54.00	-7.35	37.93	5.16	38.86	35.30	Average	100	286	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11648.27	45.38	54.00	-8.62	36.66	5.16	38.86	35.30	Average	100	285	VERTICAL
2	11649.04	58.03	74.00	-15.97	49.31	5.16	38.86	35.30	Peak	100	285	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / 2TX / Chain 1 + Chain 2
Test Date	Jul. 04, 2013	Test Mode	Mode 7 (Ant.10 PIFA antenna / 5.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11509.36	43.66	54.00	-10.34	35.03	5.12	38.79	35.28	Average	100	301	HORIZONTAL
2	11510.00	55.45	74.00	-18.55	46.82	5.12	38.79	35.28	Peak	100	301	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11508.48	55.17	74.00	-18.83	46.54	5.12	38.79	35.28	Peak	100	276	VERTICAL
2	11510.32	42.96	54.00	-11.04	34.33	5.12	38.79	35.28	Average	100	276	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / 2TX / Chain 1 + Chain 2
Test Date	Jul. 04, 2013	Test Mode	Mode 7 (Ant.10 PIFA antenna / 5.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11586.71	54.90	74.00	-19.10	46.23	5.14	38.83	35.30	Peak	100	231 HORIZONTAL
2	11588.88	42.72	54.00	-11.28	34.05	5.14	38.83	35.30	Average	100	231 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11587.92	41.58	54.00	-12.42	32.91	5.14	38.83	35.30	Average	100	293 VERTICAL
2	11588.16	53.33	74.00	-20.67	44.66	5.14	38.83	35.30	Peak	100	293 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / 2TX / Chain 1 + Chain 2
Test Date	Jul. 04, 2013	Test Mode	Mode 7 (Ant.10 PIFA antenna / 5.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11549.36	40.53	54.00	-13.47	31.89	5.13	38.81	35.30	Average	100	283	HORIZONTAL
2	11570.51	53.57	74.00	-20.43	44.90	5.14	38.83	35.30	Peak	100	283	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11528.37	39.95	54.00	-14.05	31.31	5.13	38.80	35.29	Average	100	276	VERTICAL
2	11546.79	52.69	74.00	-21.31	44.05	5.13	38.81	35.30	Peak	100	276	VERTICAL



Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / 3TX / Chain 1+Chain 2+ Chain 3
Test Date	Jul. 04, 2013	Test Mode	Mode 7 (Ant.10 PIFA antenna / 5.3dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11487.76	65.63	74.00	-8.37	57.02	5.11	38.78	35.28	Peak	138	162	HORIZONTAL
2	11488.22	49.66	54.00	-4.34	41.05	5.11	38.78	35.28	Average	138	162	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11487.22	58.91	74.00	-15.09	50.30	5.11	38.78	35.28	Peak	101	135	VERTICAL
2	11488.22	45.45	54.00	-8.55	36.84	5.11	38.78	35.28	Average	101	135	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Jul. 04, 2013	Test Mode	Mode 7 (Ant.10 PIFA antenna / 5.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11573.76	49.28	54.00	-4.72	40.61	5.14	38.83	35.30	Average	124	169	HORIZONTAL
2	11573.98	65.01	74.00	-8.99	56.34	5.14	38.83	35.30	Peak	124	169	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11568.26	45.46	54.00	-8.54	36.80	5.13	38.83	35.30	Average	113	109	VERTICAL
2	11568.94	60.60	74.00	-13.40	51.94	5.13	38.83	35.30	Peak	113	109	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Jul. 04, 2013	Test Mode	Mode 7 (Ant.10 PIFA antenna / 5.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11653.36	49.82	54.00	-4.18	41.10	5.16	38.86	35.30	Average	127	172	HORIZONTAL
2	11653.72	65.33	74.00	-8.67	56.61	5.16	38.86	35.30	Peak	127	172	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11647.56	44.74	54.00	-9.26	36.02	5.16	38.86	35.30	Average	110	93	VERTICAL
2	11647.90	59.47	74.00	-14.53	50.75	5.16	38.86	35.30	Peak	110	93	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / 3TX / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 04, 2013	Test Mode	Mode 7 (Ant.10 PIFA antenna / 5.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11511.18	61.86	74.00	-12.14	53.23	5.12	38.79	35.28	Peak	116	167	HORIZONTAL
2	11512.02	46.61	54.00	-7.39	37.98	5.12	38.79	35.28	Average	116	167	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11506.28	42.27	54.00	-11.73	33.64	5.12	38.79	35.28	Average	100	105	VERTICAL
2	11506.50	57.64	74.00	-16.36	49.01	5.12	38.79	35.28	Peak	100	105	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / 3TX / Chain 1 +Chain 2+ Chain 3
Test Date	Jul. 04, 2013	Test Mode	Mode 7 (Ant.10 PIFA antenna / 5.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11593.98	48.23	54.00	-5.77	39.56	5.14	38.83	35.30 Average	124	167	HORIZONTAL
2	11594.88	63.51	74.00	-10.49	54.84	5.14	38.83	35.30 Peak	124	167	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11589.96	57.44	74.00	-16.56	48.77	5.14	38.83	35.30 Peak	122	106	VERTICAL
2	11590.04	43.13	54.00	-10.87	34.46	5.14	38.83	35.30 Average	122	106	VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / 3TX / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 04, 2013	Test Mode	Mode 7 (Ant.10 PIFA antenna / 5.3dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11553.64	58.86	74.00	-15.14	50.21	5.13	38.82	35.30	Peak	132	170 HORIZONTAL
2	11555.68	44.62	54.00	-9.38	35.97	5.13	38.82	35.30	Average	132	170 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11549.84	41.48	54.00	-12.52	32.84	5.13	38.81	35.30	Average	124	74 VERTICAL
2	11553.04	55.10	74.00	-18.90	46.45	5.13	38.82	35.30	Peak	124	74 VERTICAL

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

4.6. Emissions Measurement

4.6.1. Limit

30dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

4.6.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	100 MHz
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1 MHz / 10Hz for Average
RBW / VBW (Emission in non-restricted band)	100 kHz / 300 kHz for Peak

4.6.3. Test Procedures

1. Test was performed in accordance with KDB 558074 D01 v03r01 for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247 section 10.1 Unwanted Emissions into Non-Restricted Frequency Bands Measurement Procedure
2. The conducted emission test is performed on each TX port of operating mode without summing or adding 10log (N) since the limit is relative emission limit.
Only worst data of each operating mode is presented.

4.6.4. Test Setup Layout

This test setup layout is the same as that shown in section 4.4.4.

4.6.5. Test Deviation

There is no deviation with the original standard.

4.6.6. EUT Operation during Test

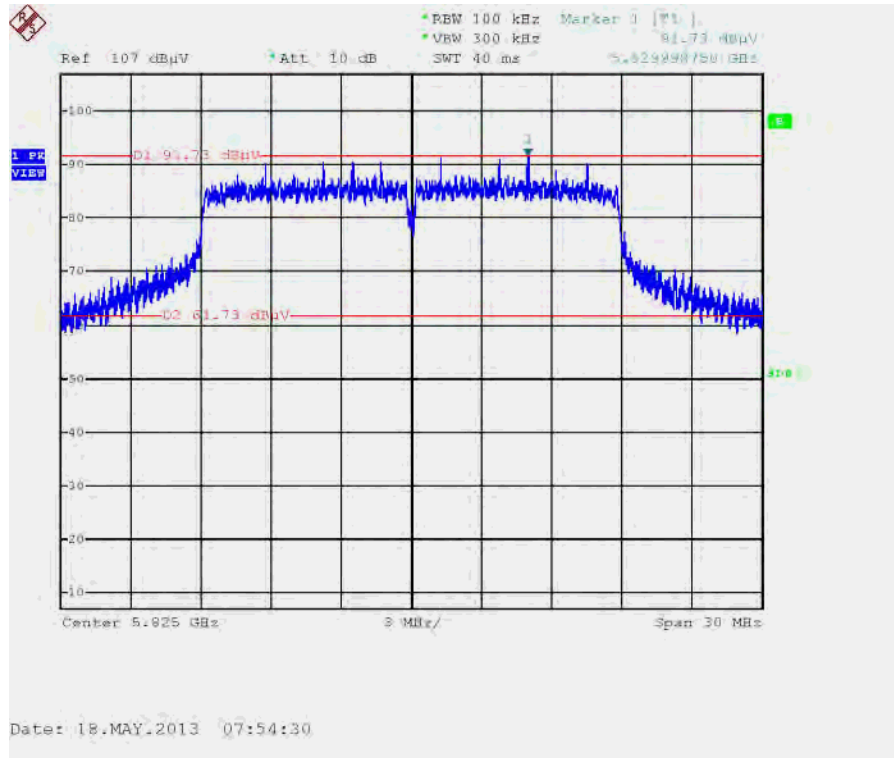
The EUT was programmed to be in continuously transmitting mode.

4.6.7. Test Result

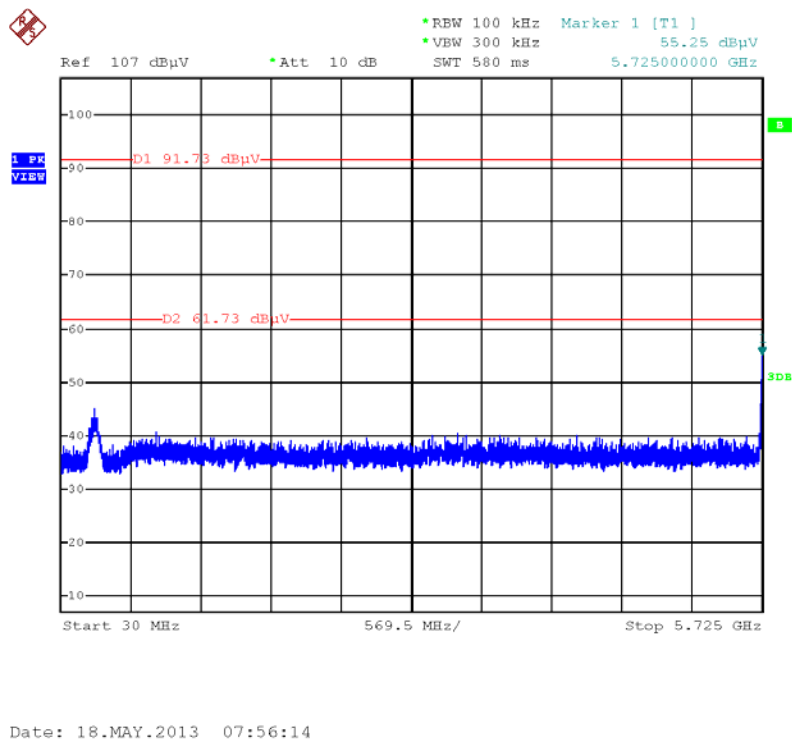
For Emission not in Restricted Band

Mode 1 (Ant.1 Dipole antenna / 8dBi) / 1TX

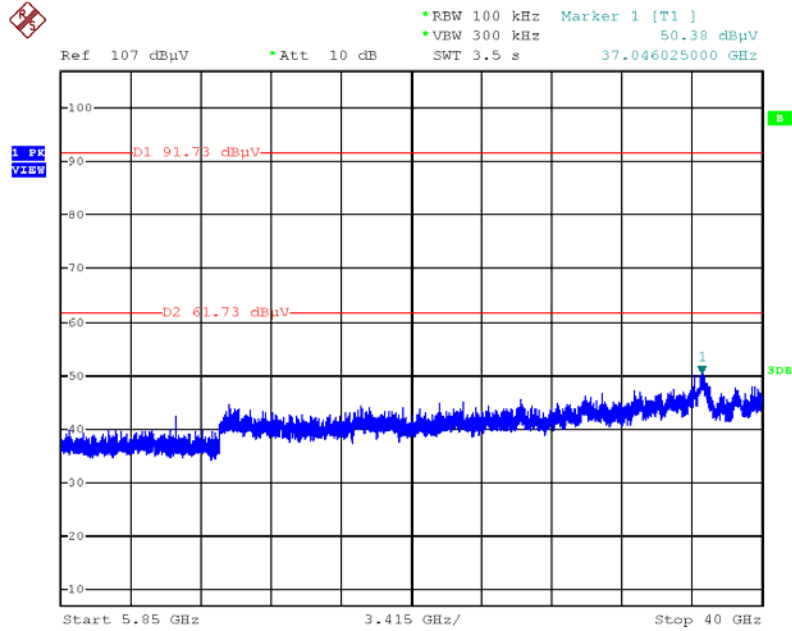
Plot on Configuration IEEE 802.11n MCS0 HT20 / Reference Level



Plot on Configuration IEEE 802.11n MCS0 HT20 / CH 149 / 30MHz~5725MHz (down 30dBc)

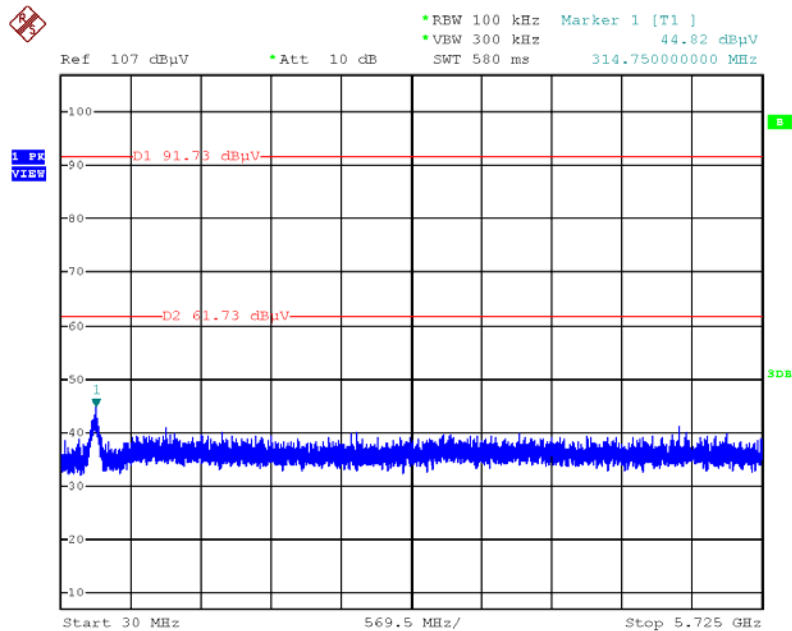


Plot on Configuration IEEE 802.11n MCS0 HT20 / CH 149 / 5850MHz~40000MHz (down 30dBc)



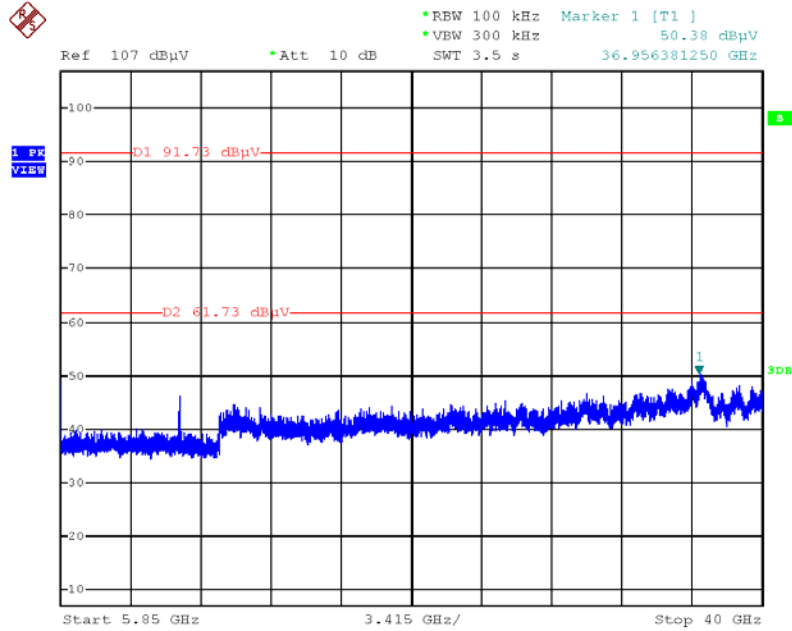
Date: 18.MAY.2013 07:56:47

Plot on Configuration IEEE 802.11n MCS0 HT20 / CH 165 / 30MHz~5725MHz (down 30dBc)



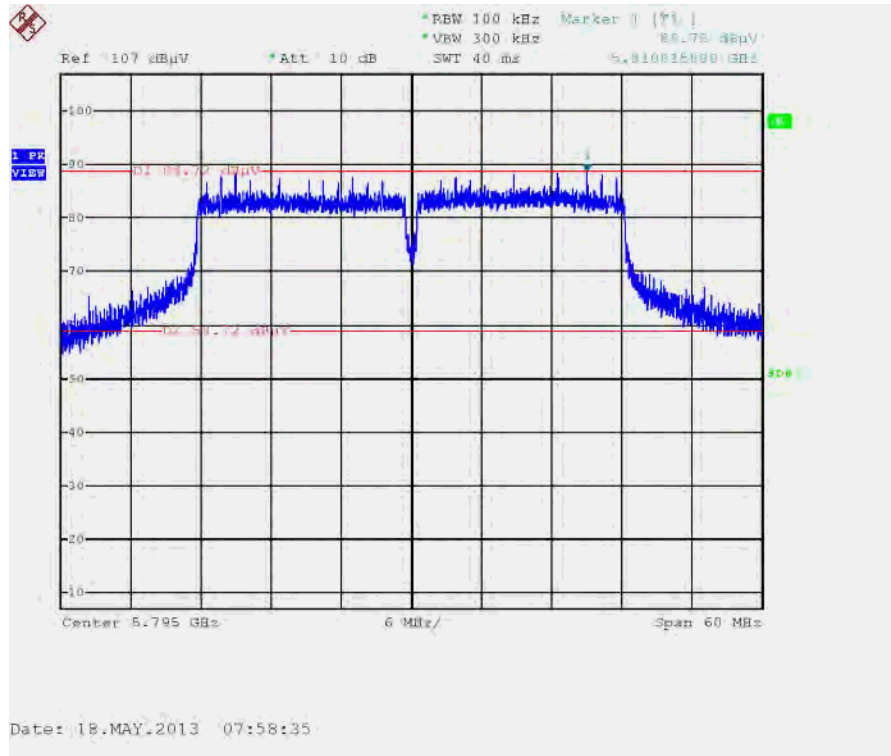
Date: 18.MAY.2013 07:54:59

Plot on Configuration IEEE 802.11n MCS0 HT20 / CH 165 / 5850MHz~40000MHz (down 30dBc)

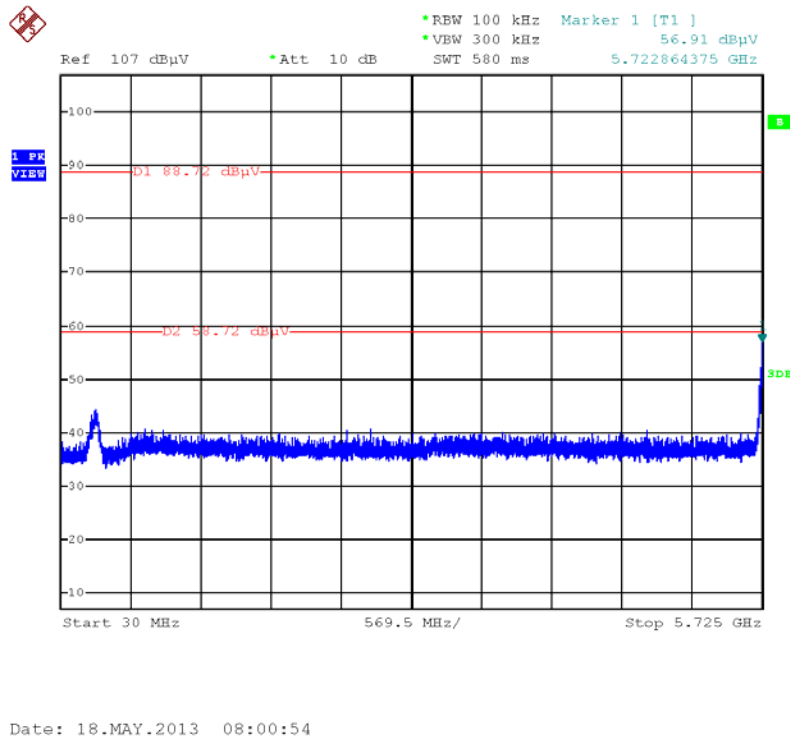


Date: 18.MAY.2013 07:55:33

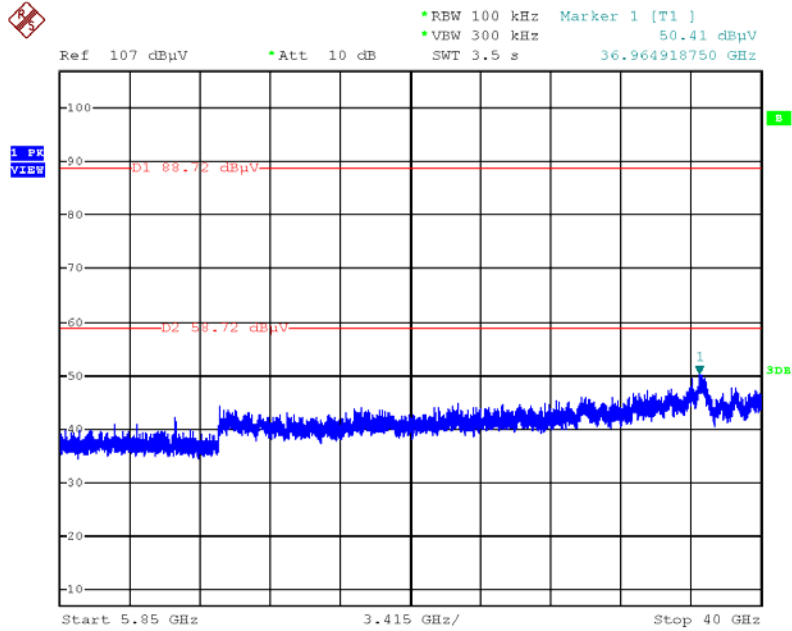
Plot on Configuration IEEE 802.11n MCS0 HT40 / Reference Level



Plot on Configuration IEEE 802.11n MCS0 HT40 / CH 151 / 30MHz~5725MHz (down 30dBc)

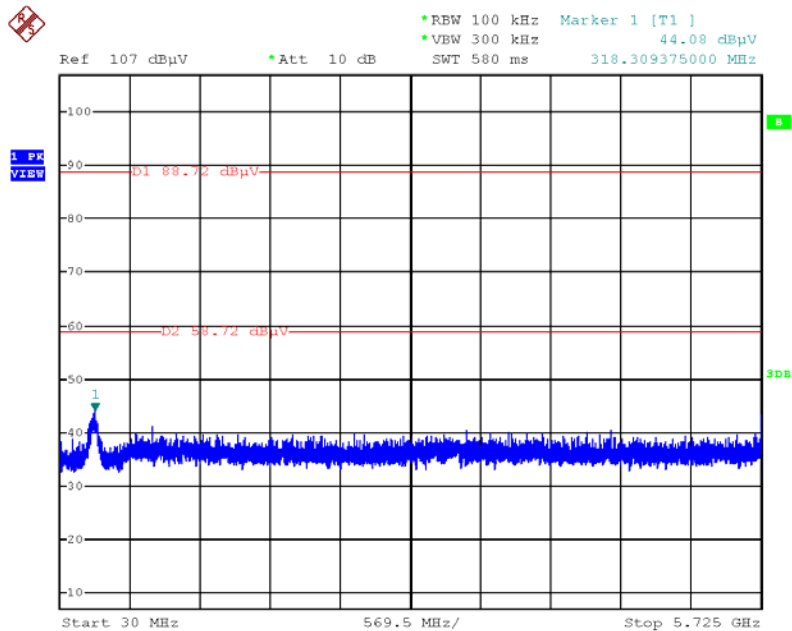


Plot on Configuration IEEE 802.11n MCS0 HT40 / CH 151 / 5850MHz~40000MHz (down 30dBc)



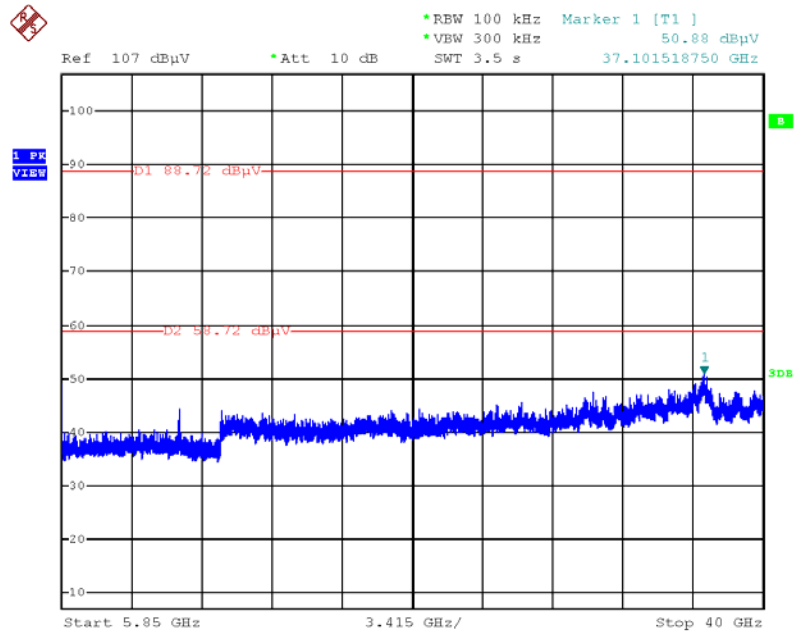
Date: 18.MAY.2013 08:01:26

Plot on Configuration IEEE 802.11n MCS0 HT40 / CH 159 / 30MHz~5725MHz (down 30dBc)



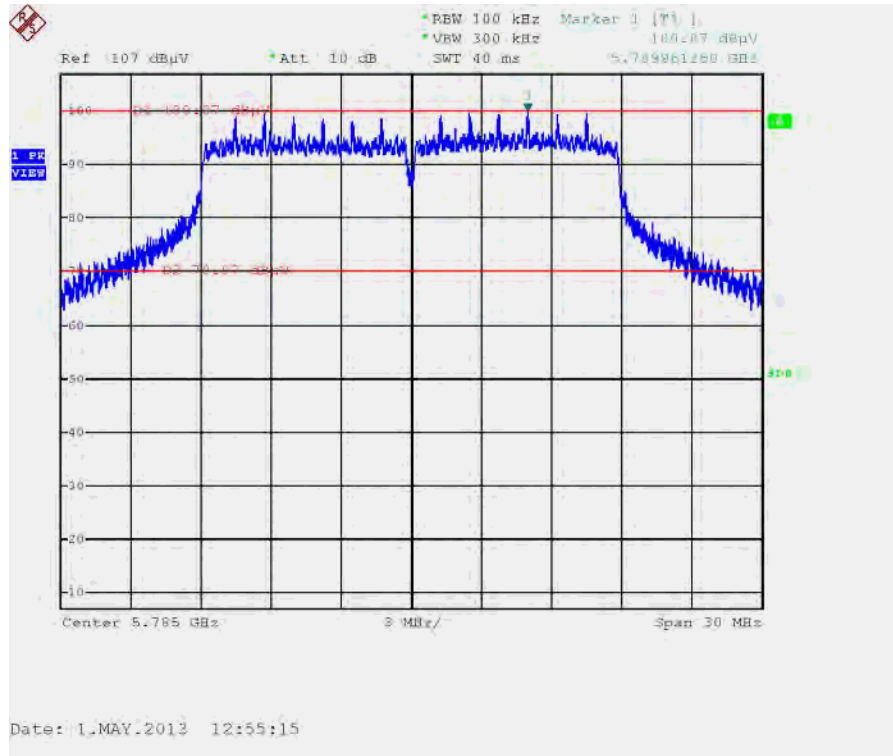
Date: 18.MAY.2013 07:59:05

Plot on Configuration IEEE 802.11n MCS0 HT40 / CH 159 / 5850MHz~40000MHz (down 30dBc)

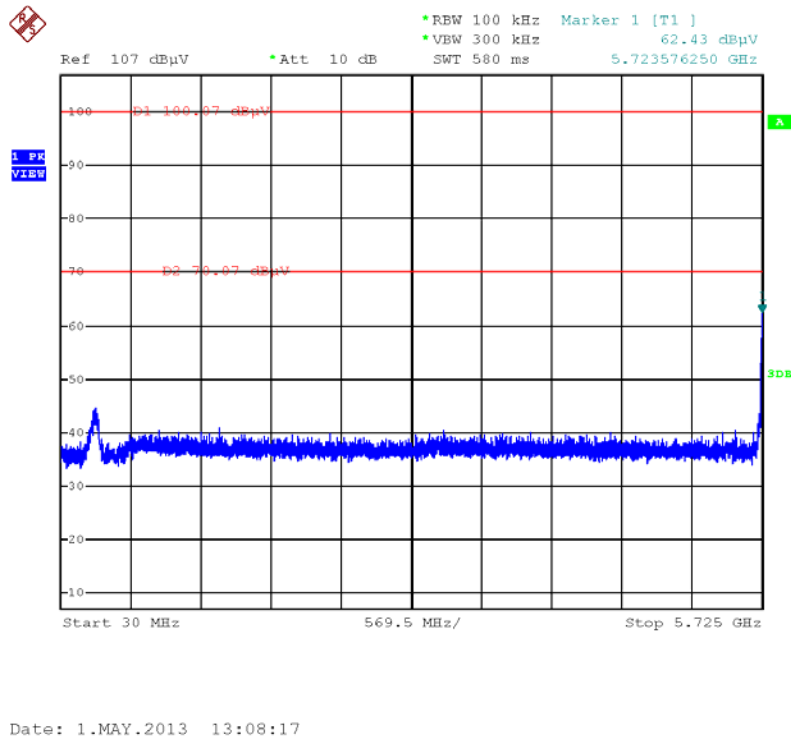


Date: 18.MAY.2013 07:59:36

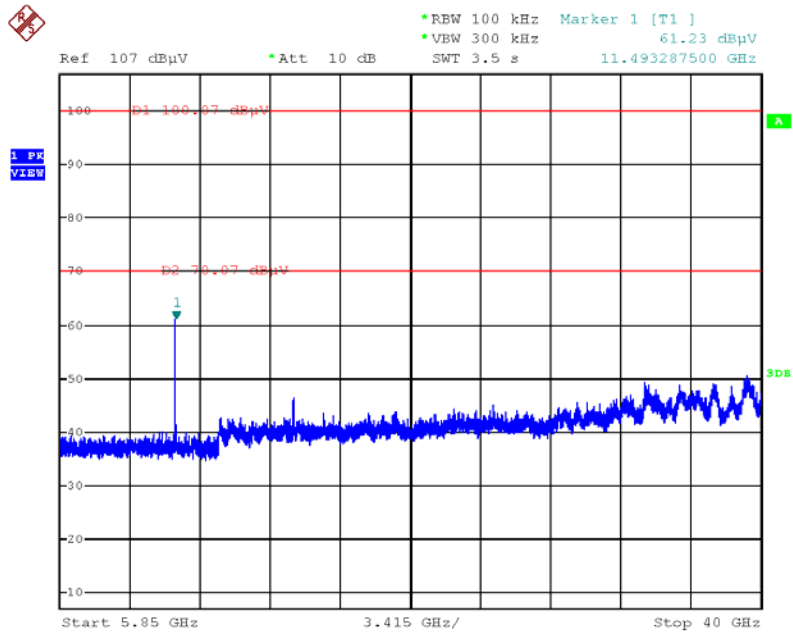
Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Reference Level



Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 149 / 30MHz~5725MHz (down 30dBc)

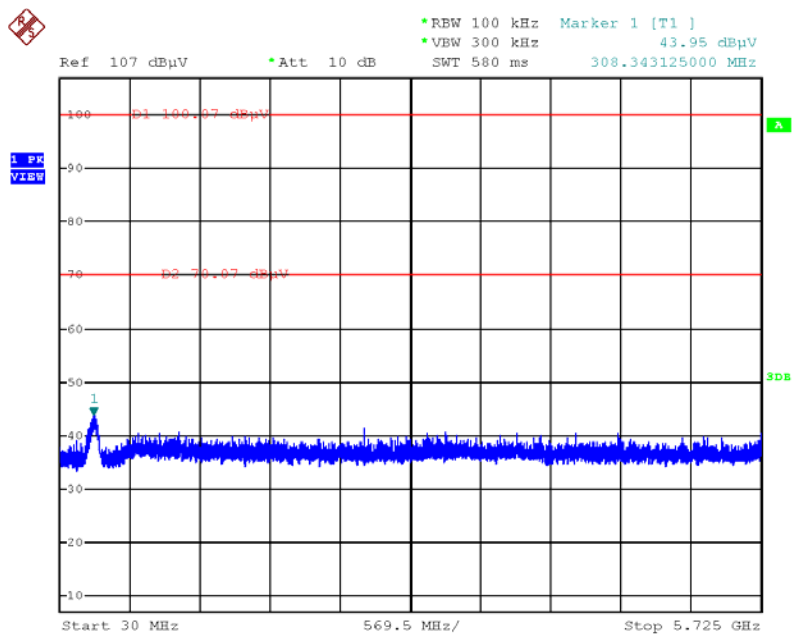


Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 149 / 5850MHz~40000MHz (down 30dBc)



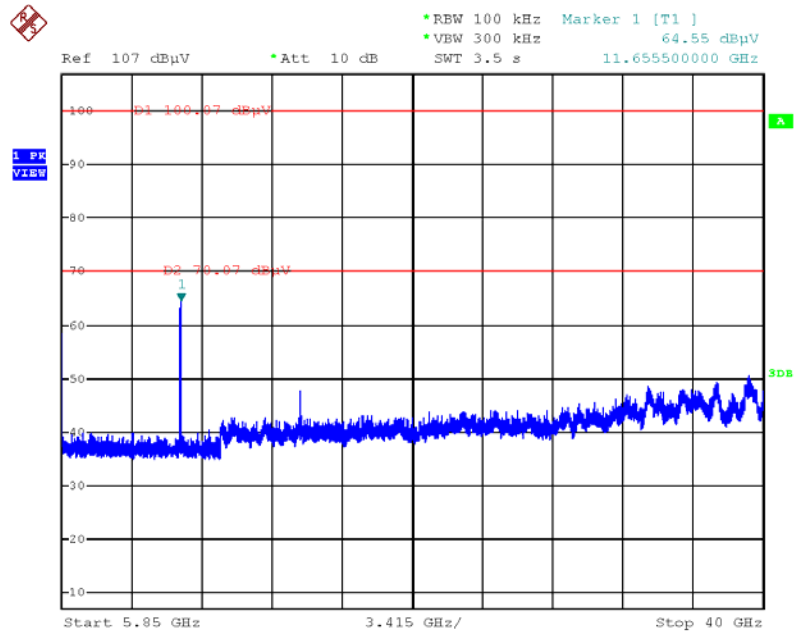
Date: 1.MAY.2013 13:09:37

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 165 / 30MHz~5725MHz (down 30dBc)



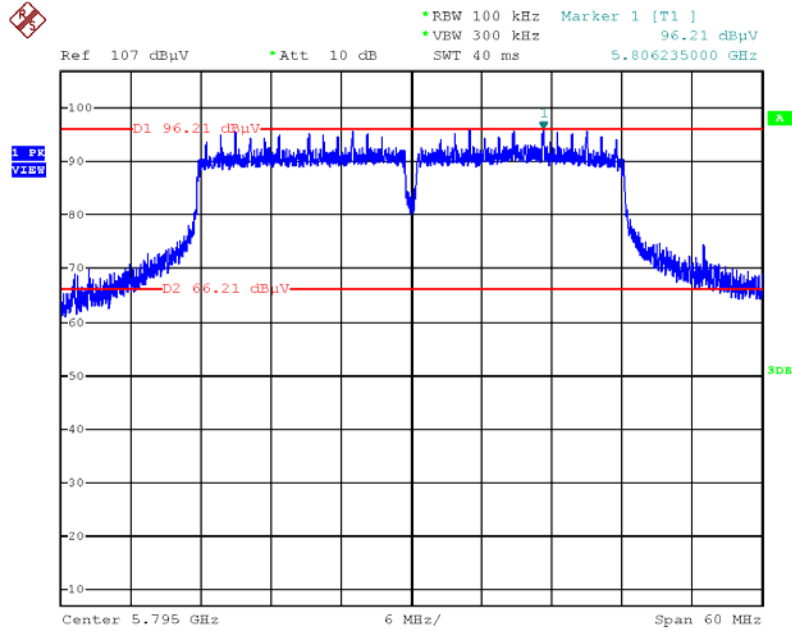
Date: 1.MAY.2013 13:01:15

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 165 / 5850MHz~40000MHz (down 30dBc)



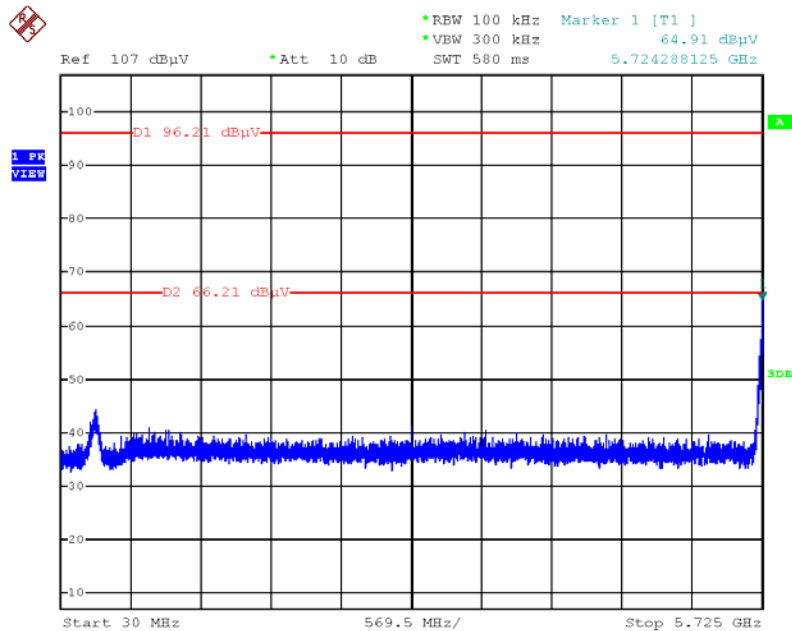
Date: 1.MAY.2013 13:02:37

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Reference Level



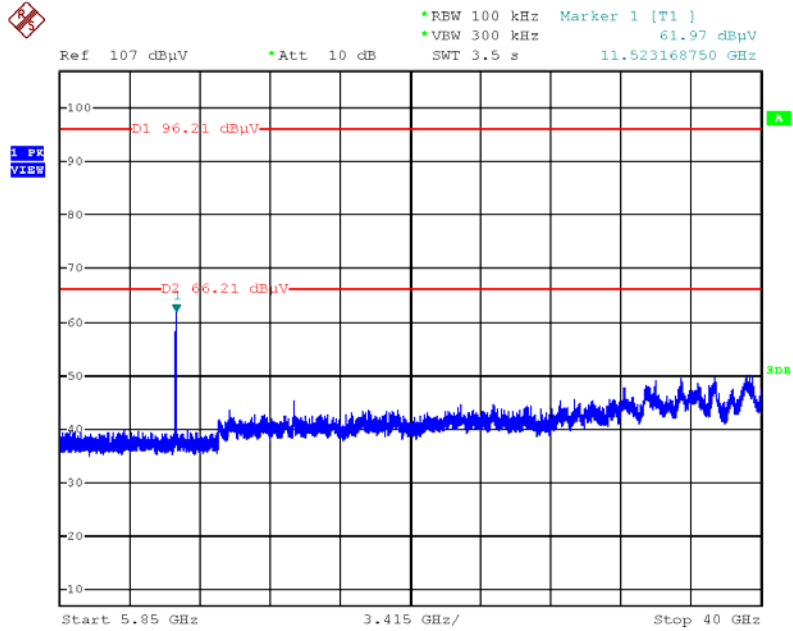
Date: 1.MAY.2013 13:16:04

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 151 / 30MHz~5725MHz (down 30dBc)



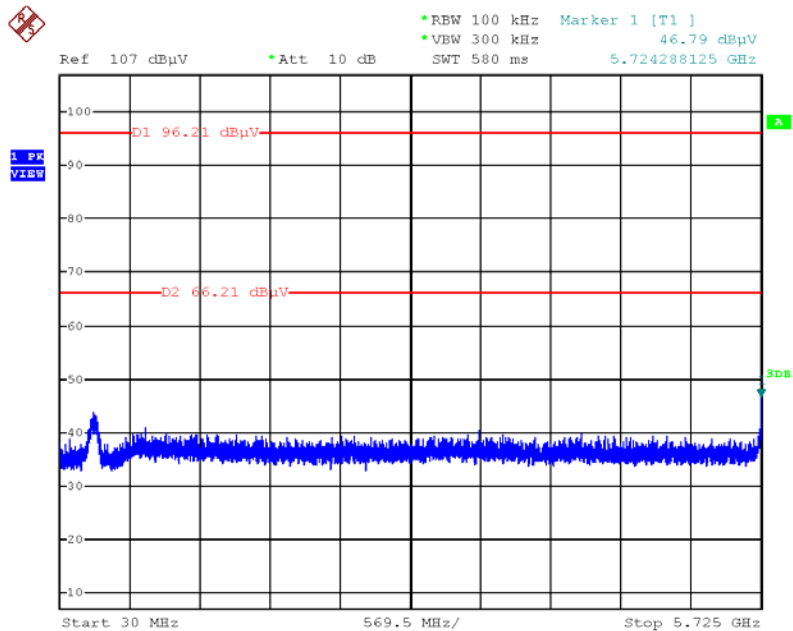
Date: 1.MAY.2013 13:22:31

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 151 / 5850MHz~40000MHz (down 30dBc)



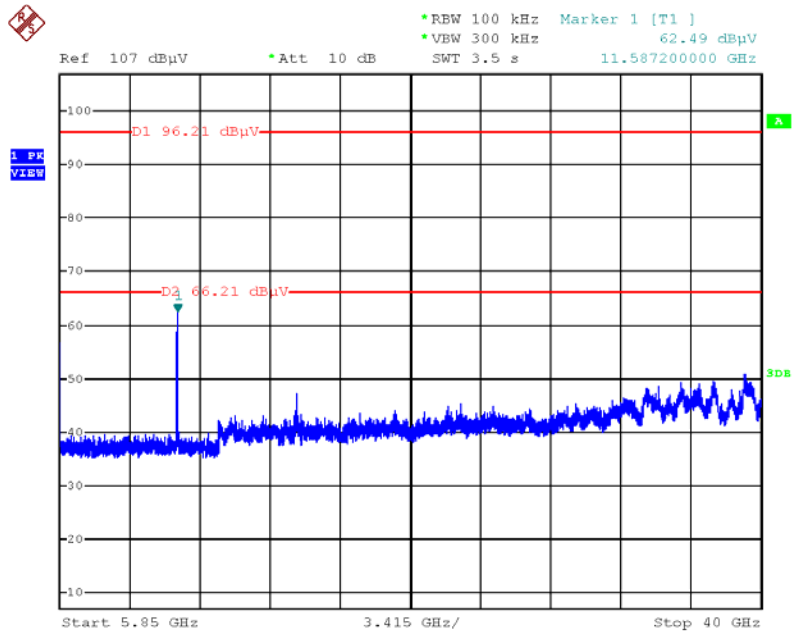
Date: 1.MAY.2013 13:23:45

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 159 / 30MHz~5725MHz (down 30dBc)



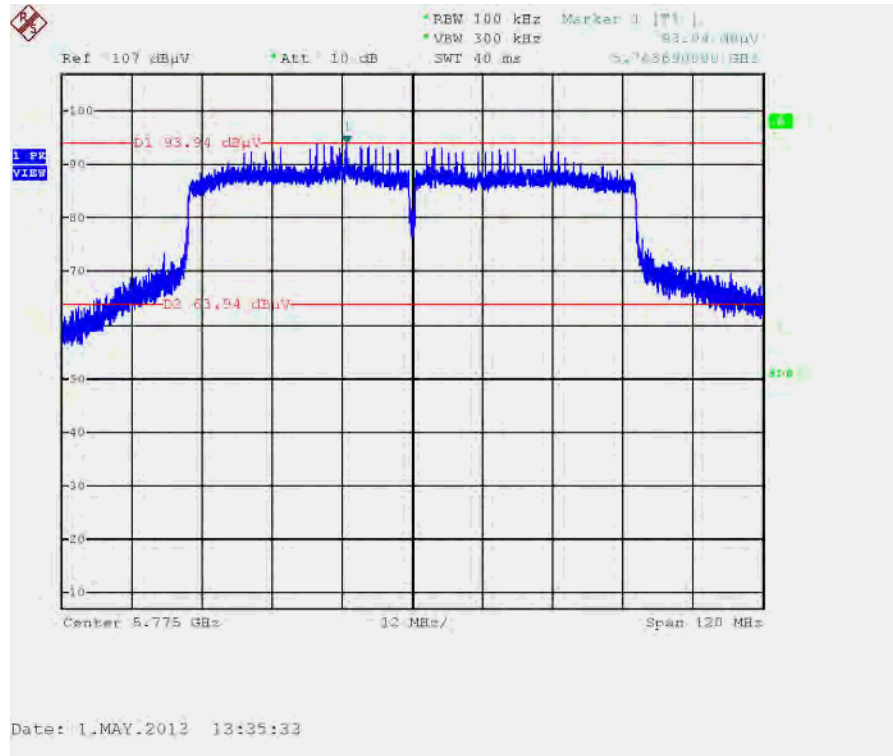
Date: 1.MAY.2013 13:16:55

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / CH 159 / 5850MHz~40000MHz (down 30dBc)

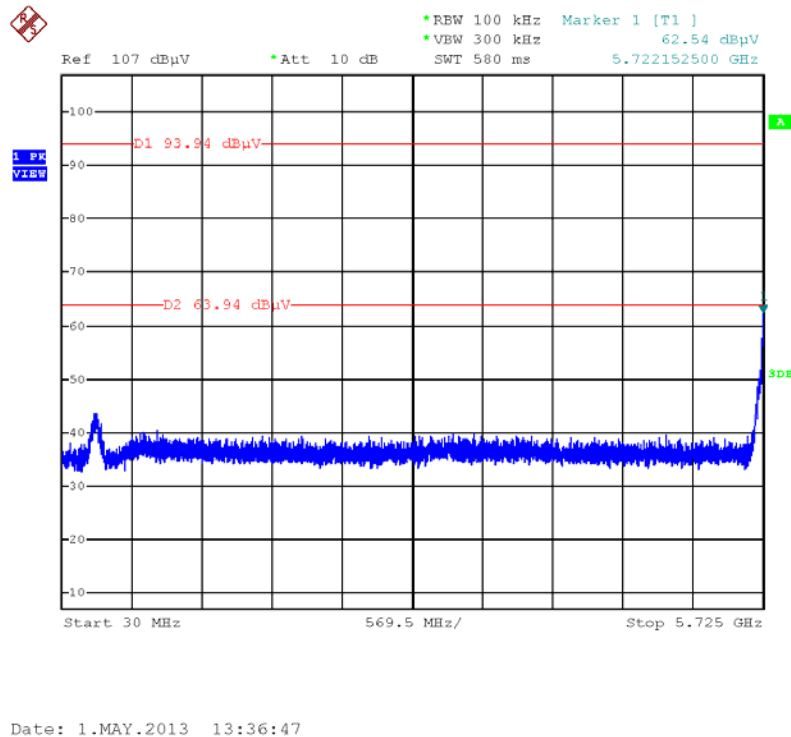


Date: 1.MAY.2013 13:18:19

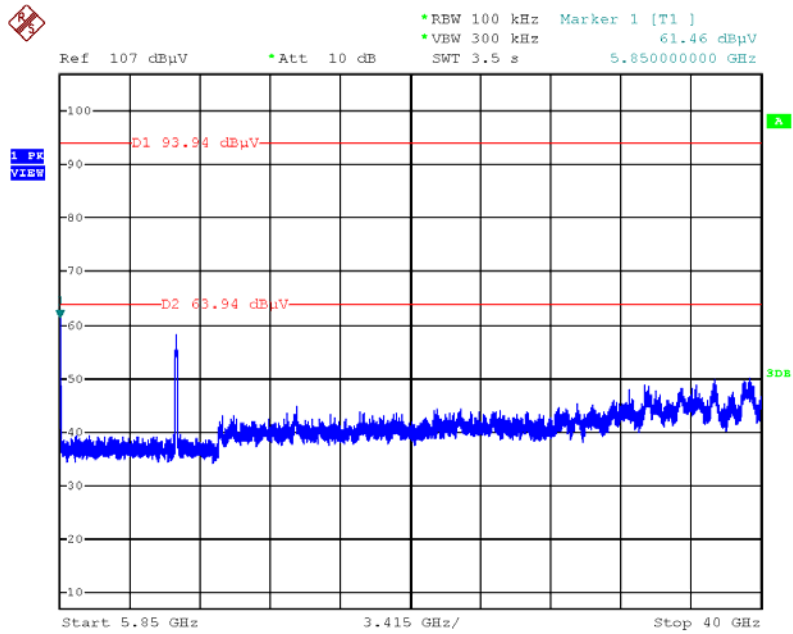
Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Reference Level



Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / CH 155 / 30MHz~5725MHz (down 30dBc)

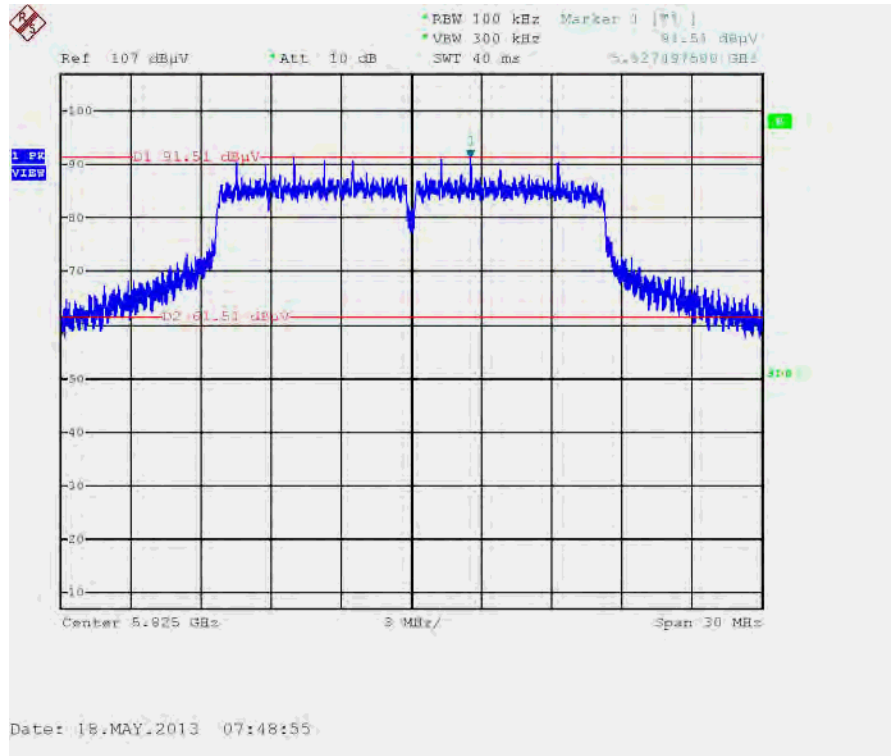


Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / CH 155 / 5850MHz~40000MHz (down 30dBc)

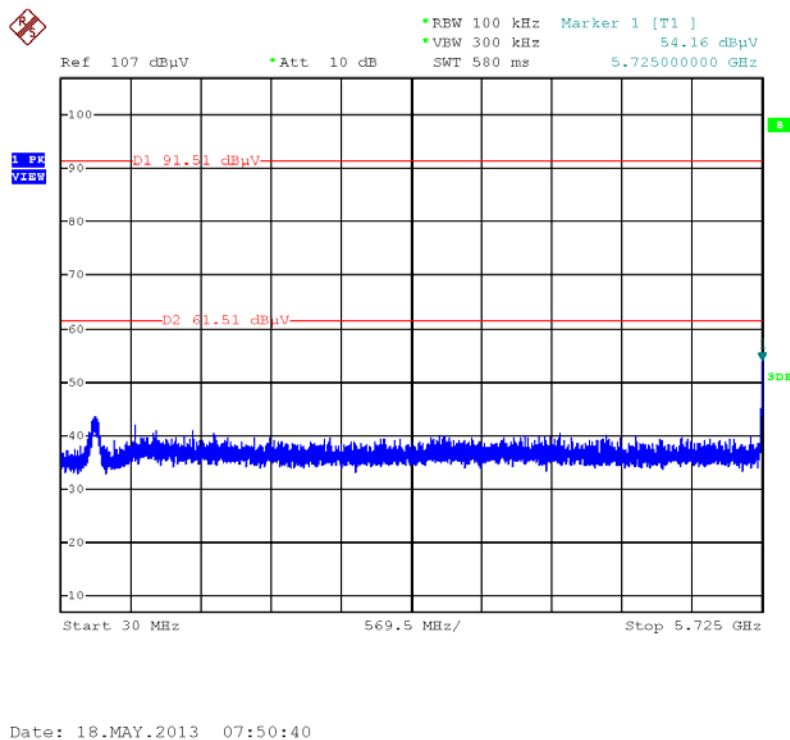


Date: 1.MAY.2013 13:38:17

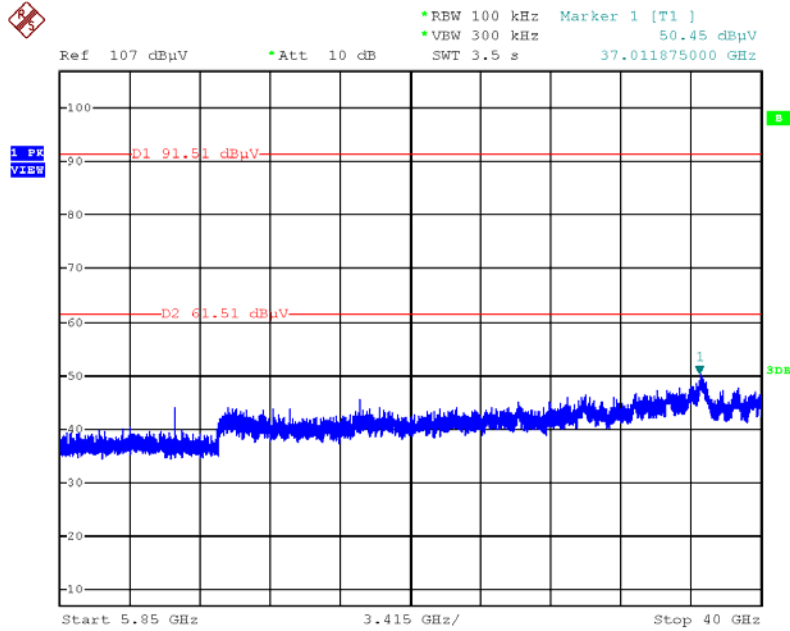
Plot on Configuration IEEE 802.11a / Reference Level



Plot on Configuration IEEE 802.11a / CH 149 / 30MHz~5725MHz (down 30dBc)

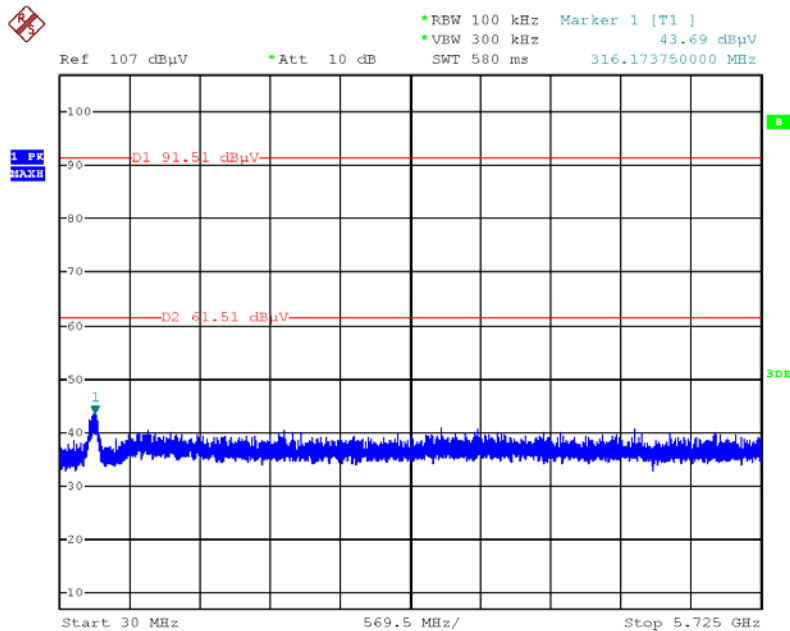


Plot on Configuration IEEE 802.11a / CH 149 / 5850MHz~40000MHz (down 30dBc)



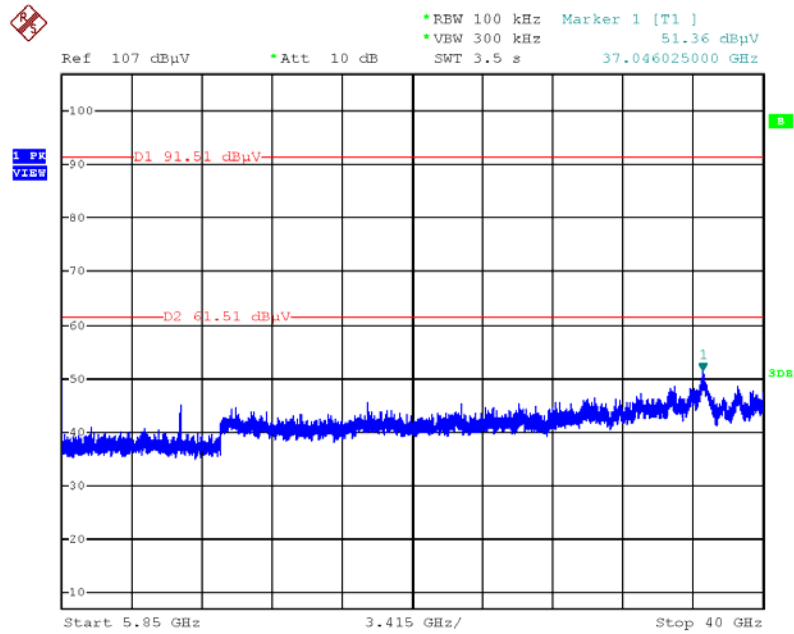
Date: 18.MAY.2013 07:51:10

Plot on Configuration IEEE 802.11a / CH 165 / 30MHz~5725MHz (down 30dBc)



Date: 18.MAY.2013 07:49:30

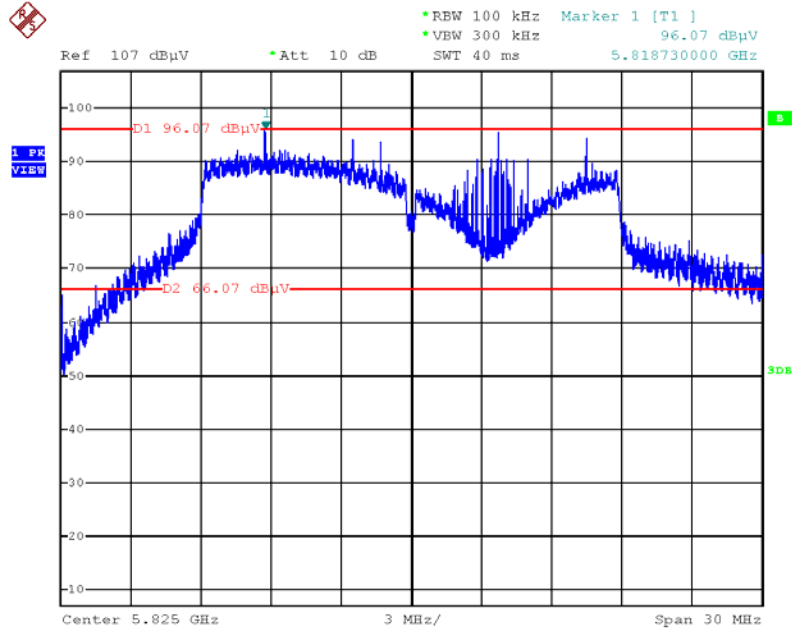
Plot on Configuration IEEE 802.11a / CH 165 / 5850MHz~4000MHz (down 30dBc)



Date: 18.MAY.2013 07:50:06

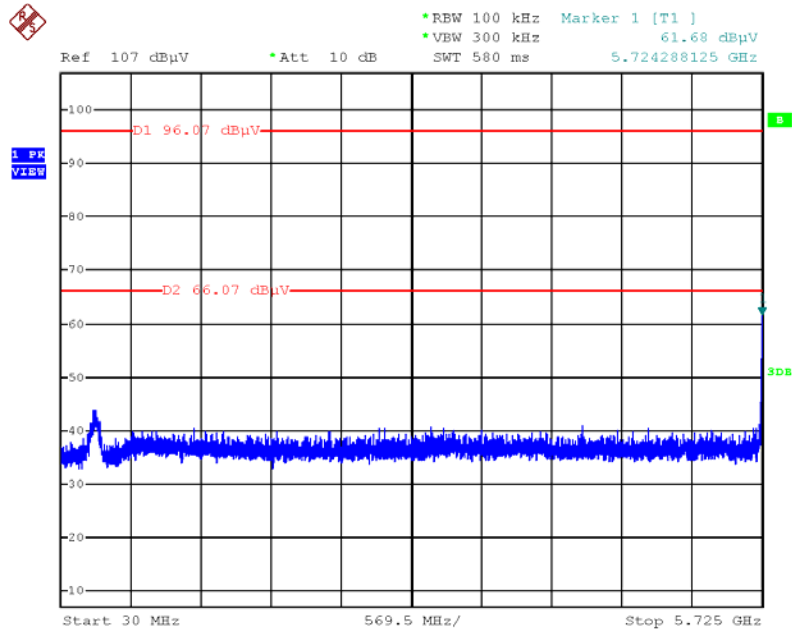
2TX

Plot on Configuration IEEE 802.11n MCS0 HT20 / Reference Level



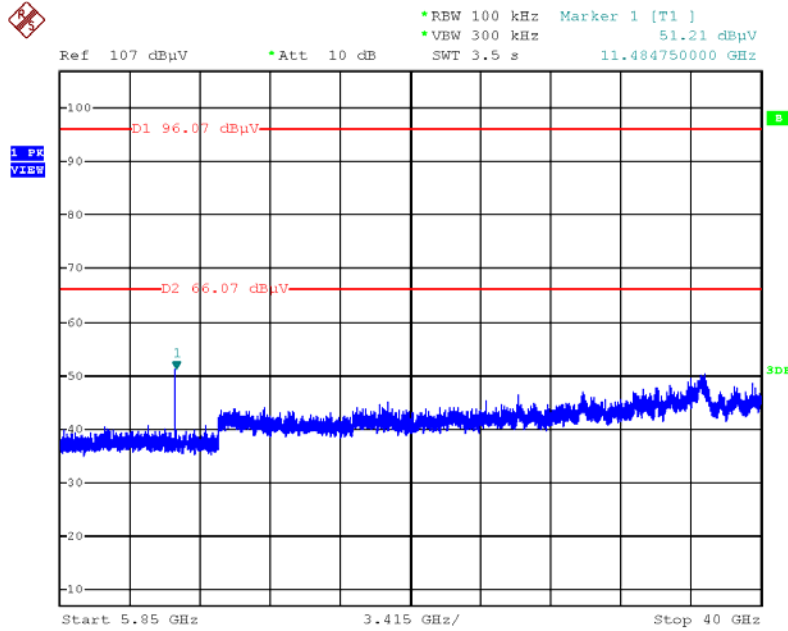
Date: 18.MAY.2013 08:08:33

Plot on Configuration IEEE 802.11n MCS0 HT20 / CH 149 / 30MHz~5725MHz (down 30dBc)



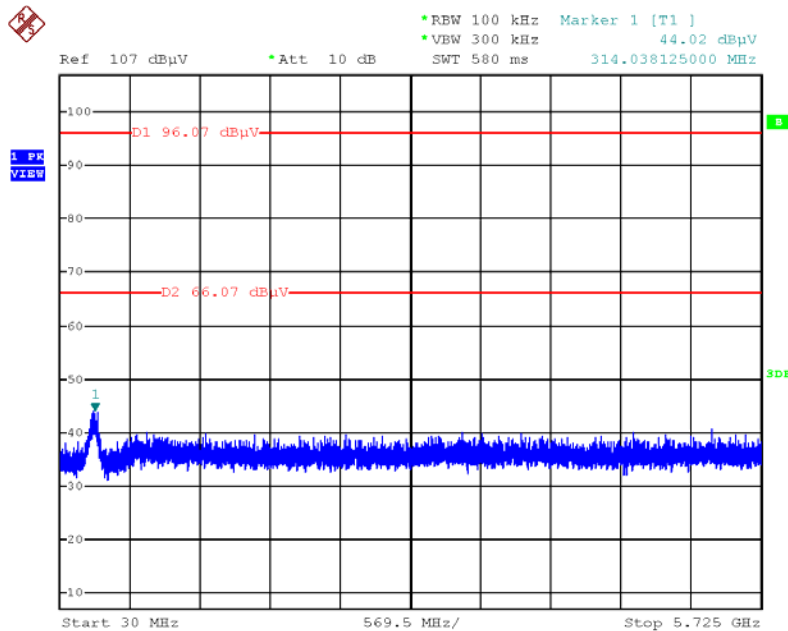
Date: 18.MAY.2013 08:10:07

Plot on Configuration IEEE 802.11n MCS0 HT20 / CH 149 / 5850MHz~40000MHz (down 30dBc)



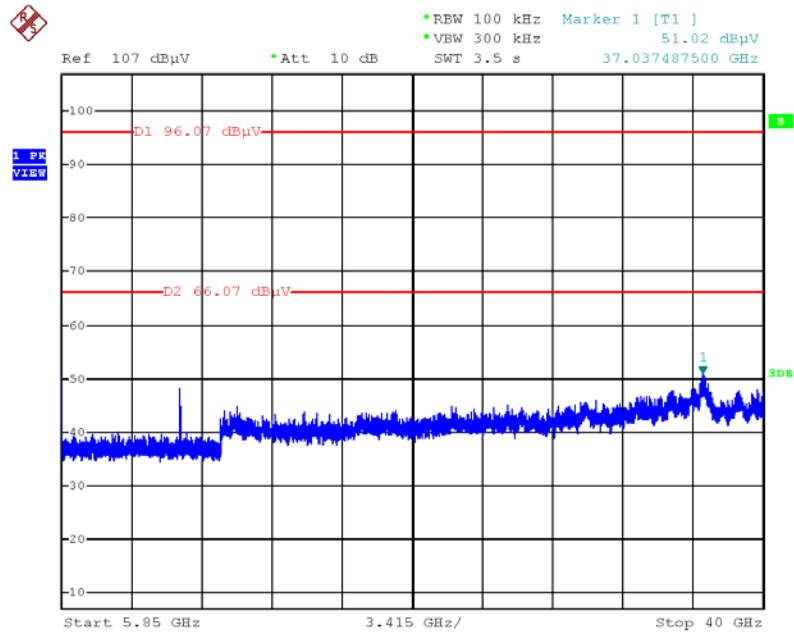
Date: 18.MAY.2013 08:10:45

Plot on Configuration IEEE 802.11n MCS0 HT20 / CH 165 / 30MHz~5725MHz (down 30dBc)



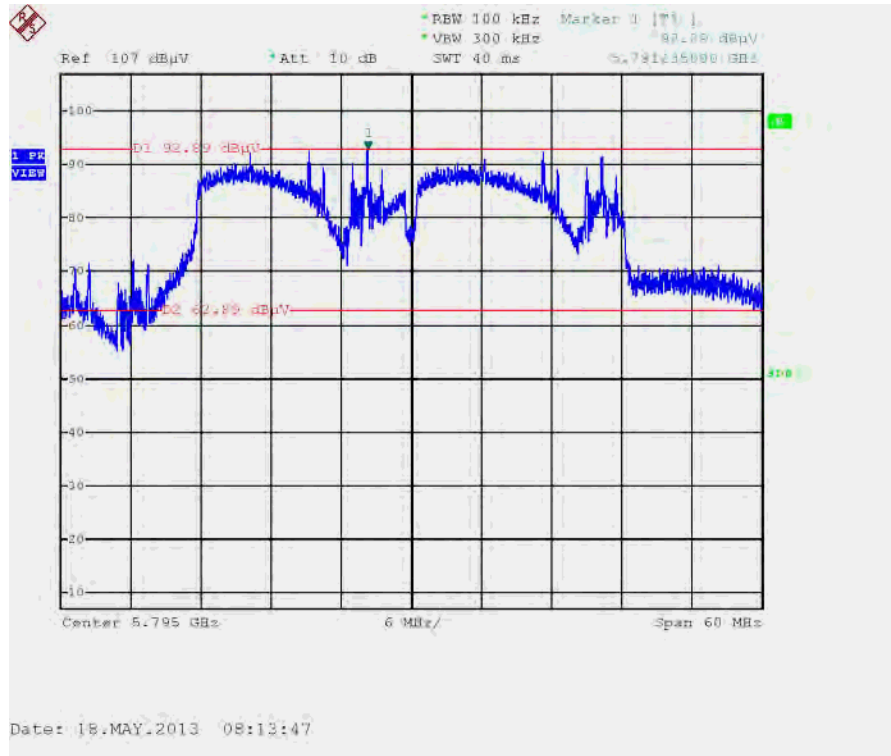
Date: 18.MAY.2013 08:08:56

Plot on Configuration IEEE 802.11n MCS0 HT20 / CH 165 / 5850MHz~4000MHz (down 30dBc)

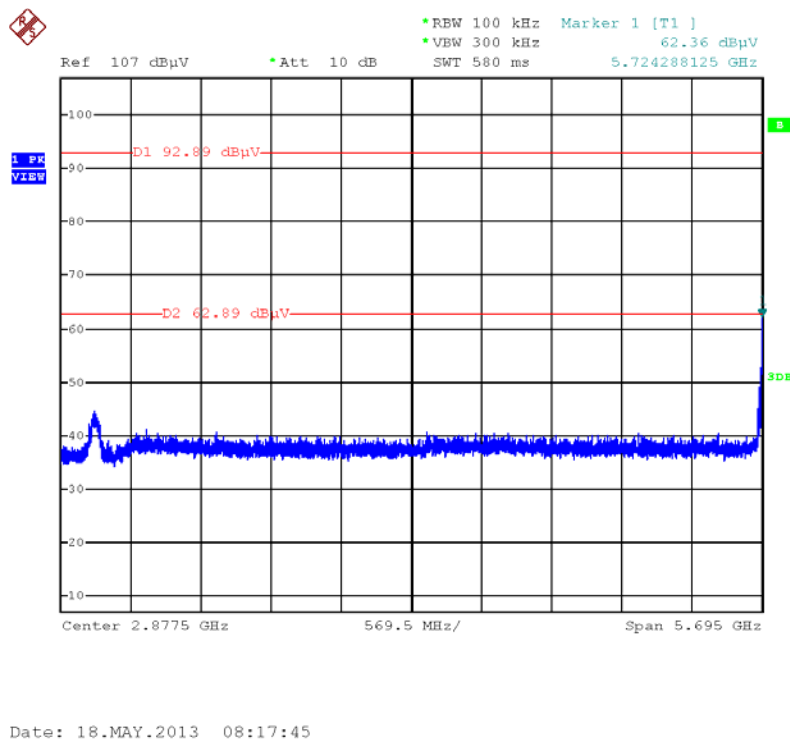


Date: 18.MAY.2013 08:09:23

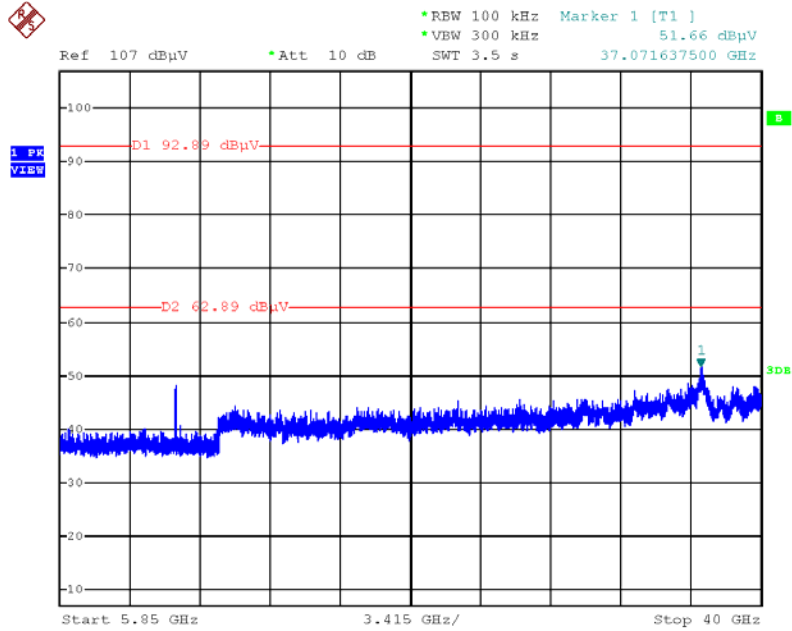
Plot on Configuration IEEE 802.11n MCS0 HT40 / Reference Level



Plot on Configuration IEEE 802.11n MCS0 HT40 / CH 151 / 30MHz~5725MHz (down 30dBc)

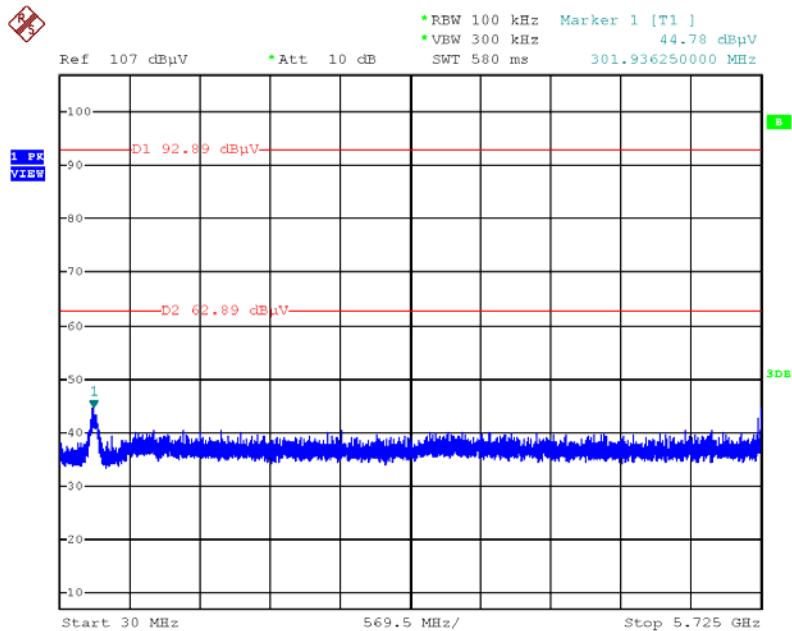


Plot on Configuration IEEE 802.11n MCS0 HT40 / CH 151 / 5850MHz~40000MHz (down 30dBc)



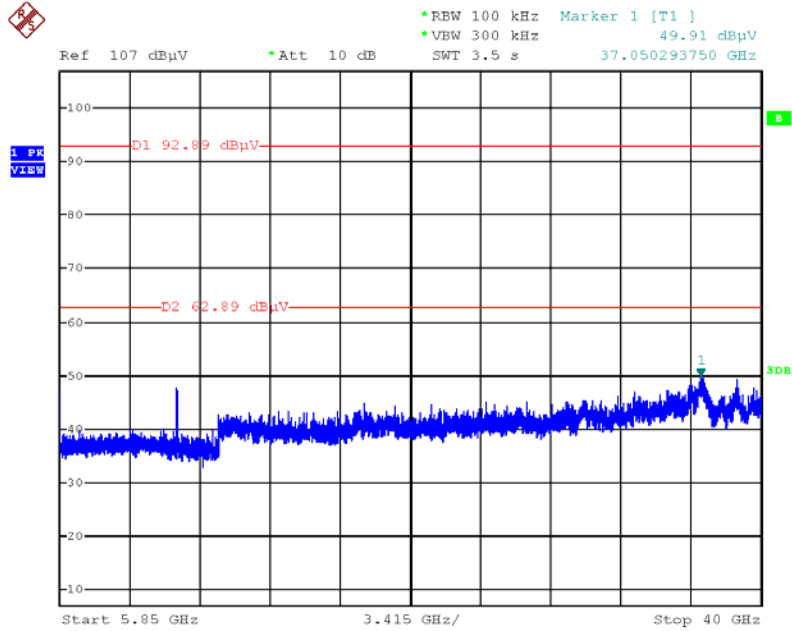
Date: 18.MAY.2013 08:18:17

Plot on Configuration IEEE 802.11n MCS0 HT40 / CH 159 / 30MHz~5725MHz (down 30dBc)



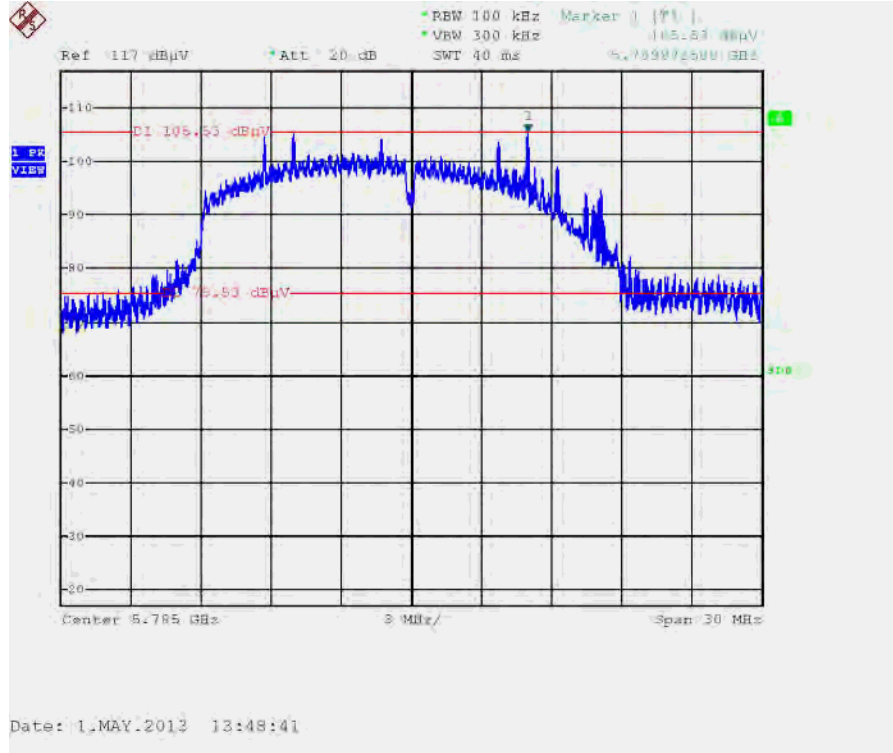
Date: 18.MAY.2013 08:14:26

Plot on Configuration IEEE 802.11n MCS0 HT40 / CH 159 / 5850MHz~4000MHz (down 30dBc)

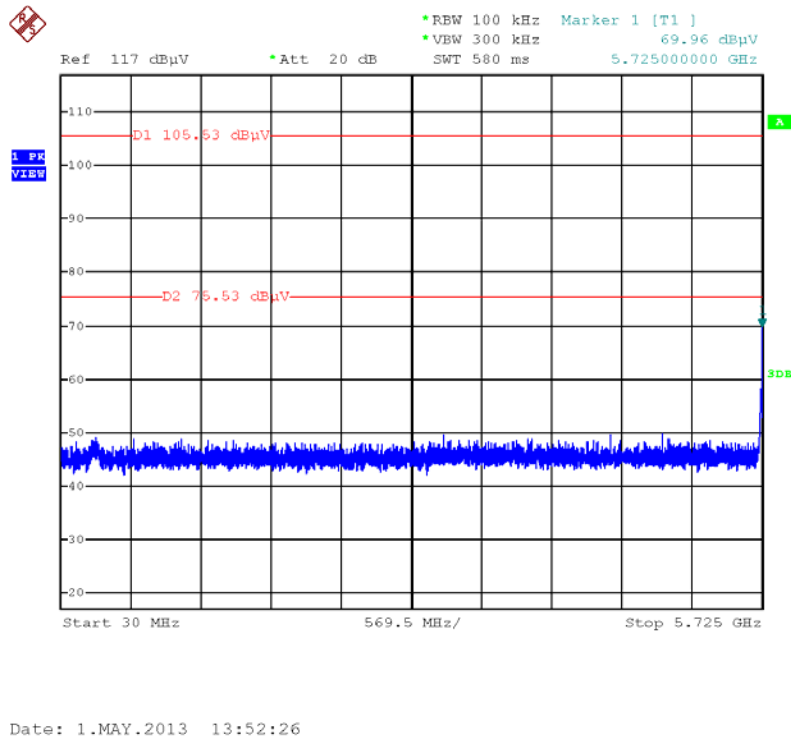


Date: 18.MAY.2013 08:15:56

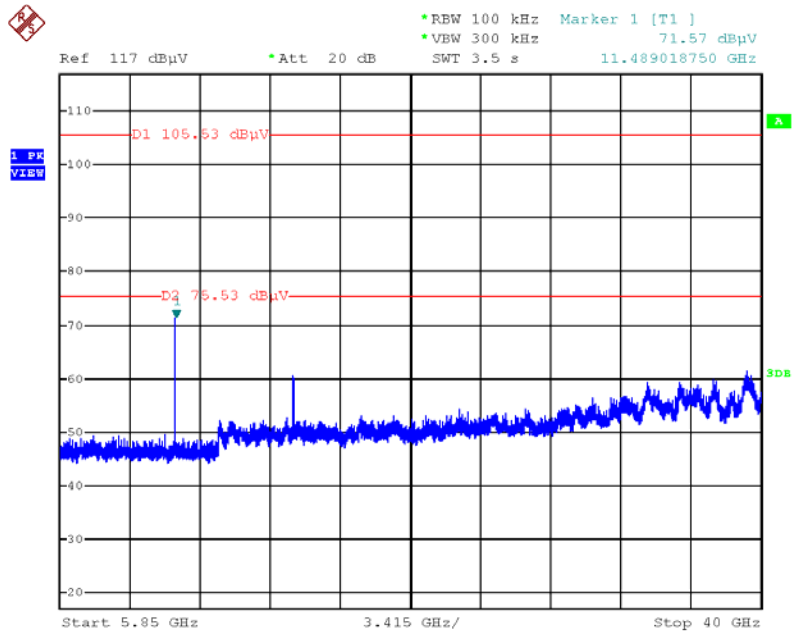
Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Reference Level



Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 149 / 30MHz~5725MHz (down 30dBc)

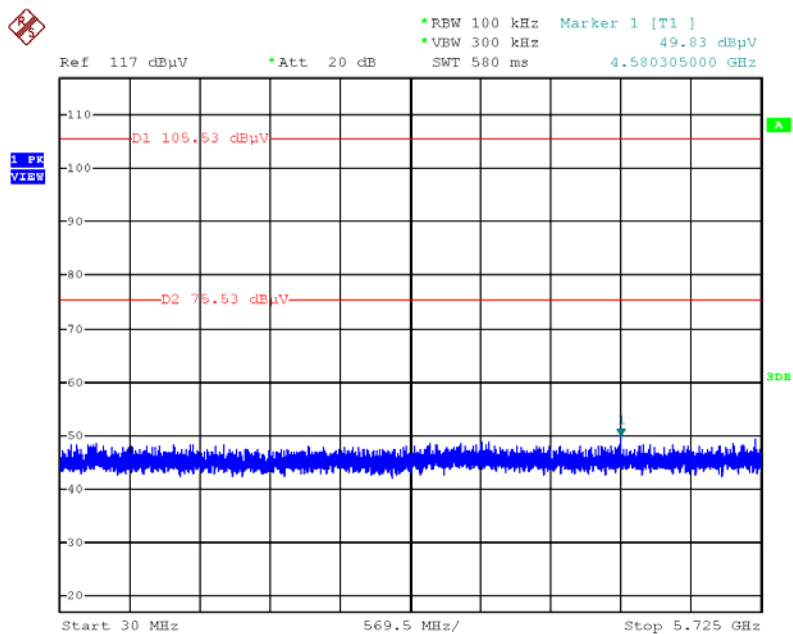


Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 149 / 5850MHz~40000MHz (down 30dBc)



Date: 1.MAY.2013 13:53:25

Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / CH 165 / 30MHz~5725MHz (down 30dBc)



Date: 1.MAY.2013 13:55:59