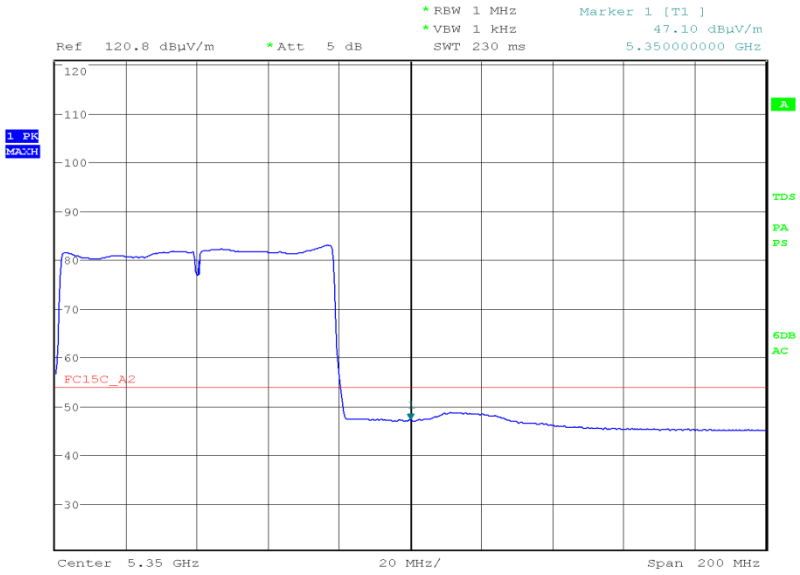
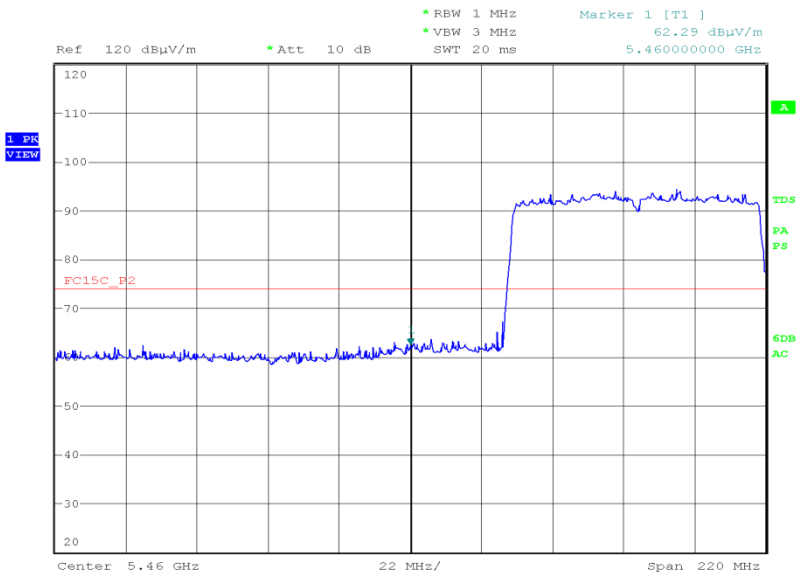
802.11ac 80 MHz Bandwidth, 5290 MHz, Measured Frequency 5350 MHz, MCS0, Final Average, Restricted Band Edges Plot



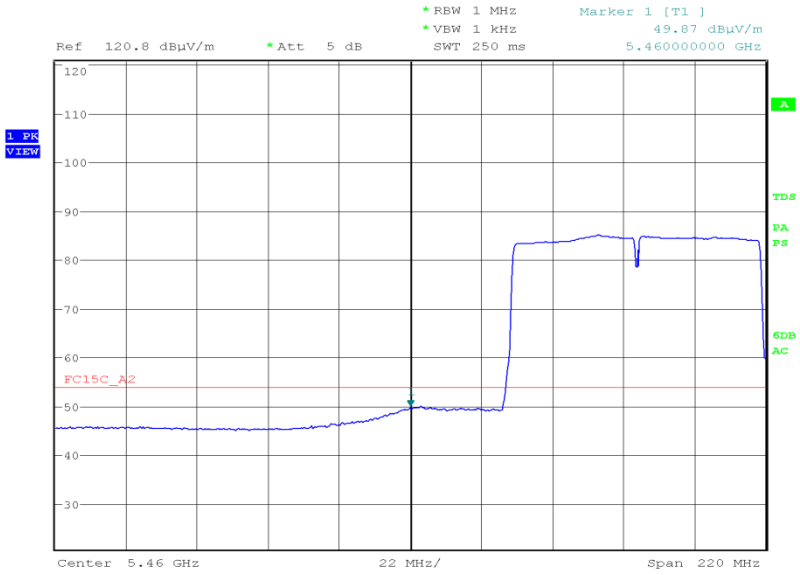
Date: 11.MAY.2016 16:30:01

802.11ac 80 MHz Bandwidth, 5530 MHz, Measured Frequency 5460 MHz, MCS0, Final Peak, Restricted Band Edges Plot



Date: 11.MAY.2016 16:09:12

802.11ac 80 MHz Bandwidth, 5530 MHz, Measured Frequency 5460 MHz, MCS0, Final Average, Restricted Band Edges Plot



Remark

The test was performed on MCS8 because this was deemed the worst case data rate for Conducted Output Power.

The test was performed on MCS0 because this was deemed the worst case data rate for 6 dB Bandwidth.

FCC 47 CFR Part 15, Limit Clause 15.205

	Peak (dBµV/m)	Average (dBµV/m)
Restricted Bands of Operation	74	54

Industry Canada RSS-GEN, Limit Clause 8.10

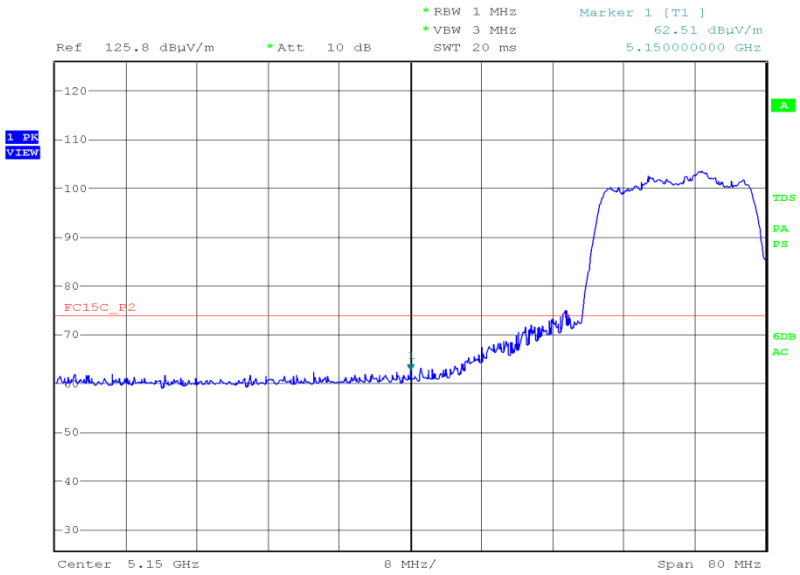
	Peak (dBµV/m)	Average (dBµV/m)
Restricted Bands of Operation	74	54

Product Service

802.11n 20 MHz Bandwidth, MCS0, Restricted Band Edges Results

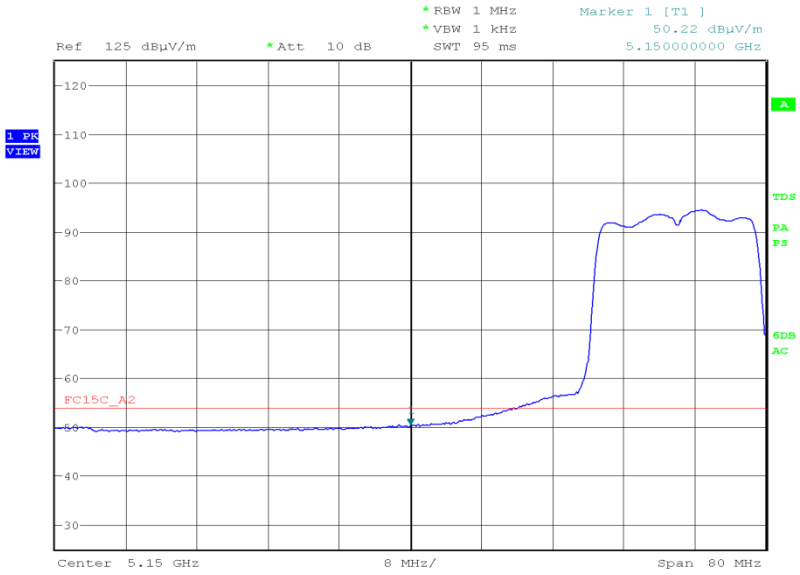
5180 MHz		5320 MHz		5500 MHz	
Measured Frequency 5150 MHz		Measured Frequency 5350 MHz		Measured Frequency 5460 MHz	
dBµV/m		dBµV/m		dBµV/m	
Final Peak	Final Average	Final Peak	Final Average	Final Peak	Final Average
62.51	50.22	61.70	50.96	60.39	50.26

802.11n 20 MHz Bandwidth, 5180 MHz, Measured Frequency 5150 MHz, MCS0, Final Peak, Restricted Band Edges Plot



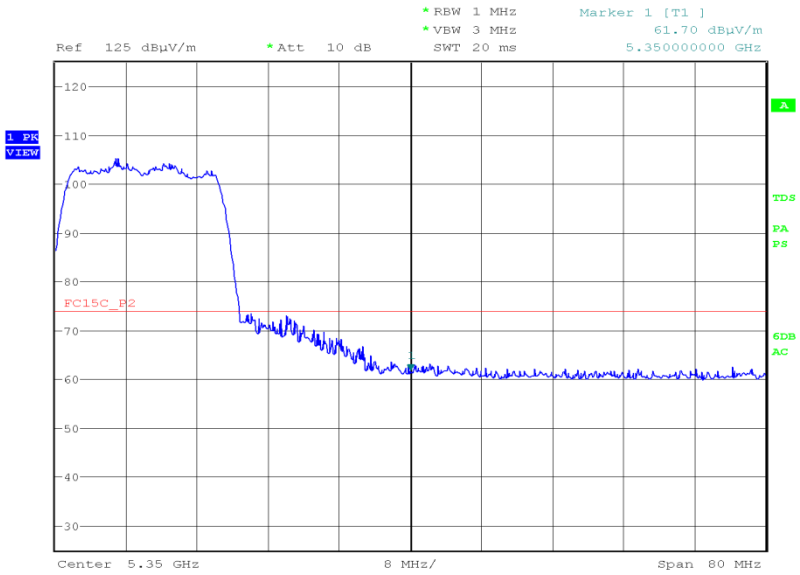
Date: 10.MAY.2016 16:32:14

802.11n 20 MHz Bandwidth, 5180 MHz, Measured Frequency 5150 MHz, MCS0, Final Average, Restricted Band Edges Plot



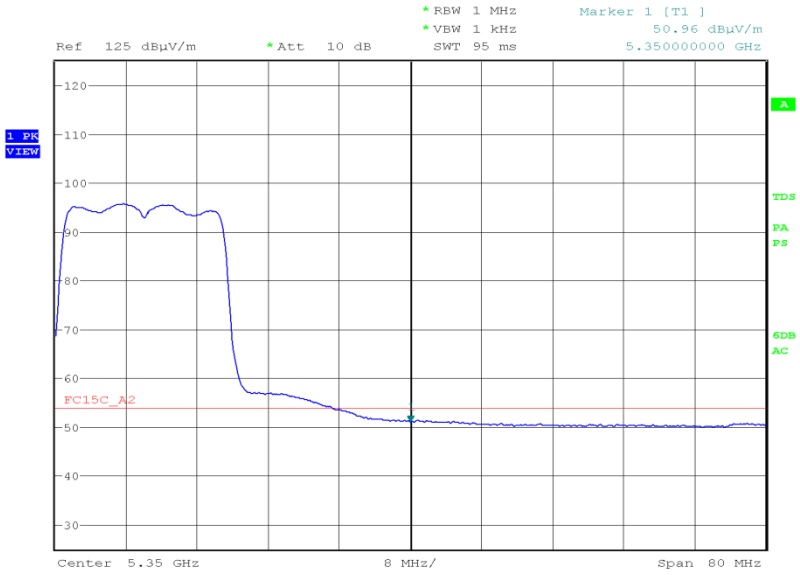
Date: 10.MAY.2016 16:56:44

802.11n 20 MHz Bandwidth, 5320 MHz, Measured Frequency 5350 MHz, MCS0, Final Peak, Restricted Band Edges Plot



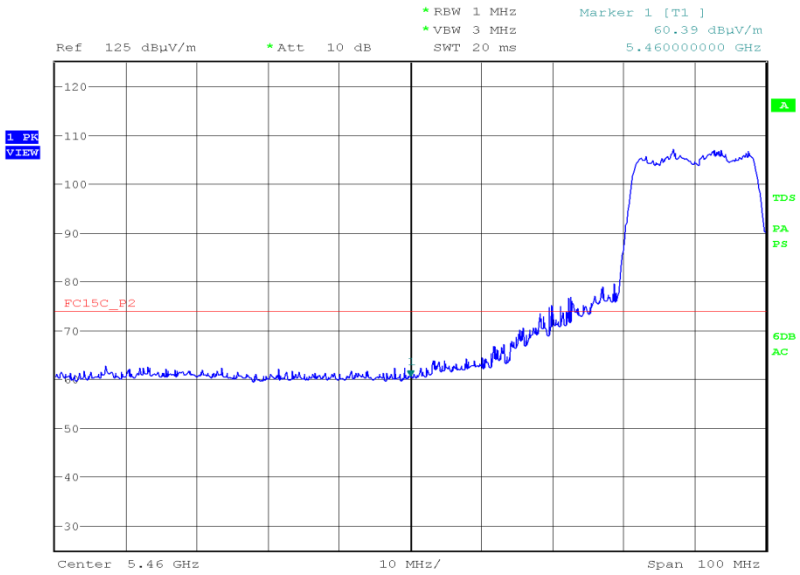
Date: 10.MAY.2016 16:59:48

802.11n 20 MHz Bandwidth, 5320 MHz, Measured Frequency 5350 MHz, MCS0, Final Average, Restricted Band Edges Plot



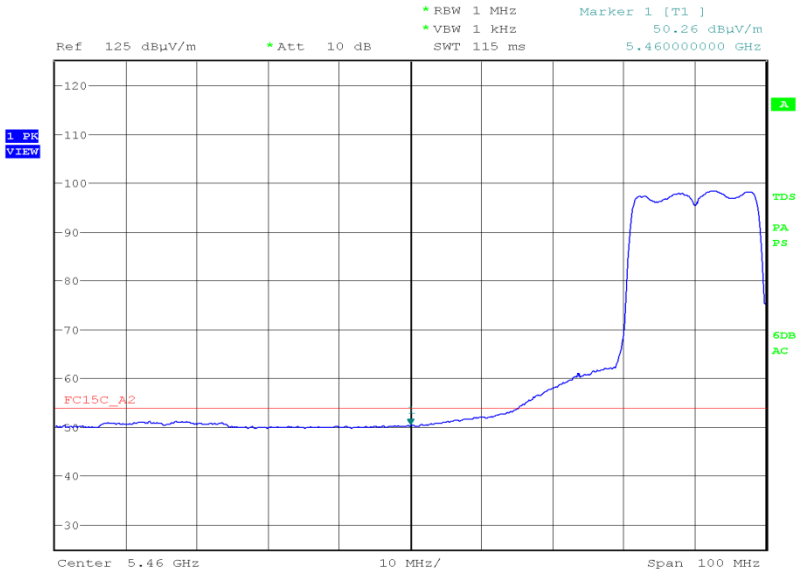
Date: 10.MAY.2016 16:59:17

802.11n 20 MHz Bandwidth, 5500 MHz, Measured Frequency 5460 MHz, MCS0, Final Peak, Restricted Band Edges Plot



Date: 10.MAY.2016 17:09:49

802.11n 20 MHz Bandwidth, 5500 MHz, Measured Frequency 5460 MHz, MCS0, Final Average, Restricted Band Edges Plot



Date: 10.MAY.2016 17:09:17

Remark

The test was performed on MCS0 because this was deemed the worst case data rate for Conducted Output Power.

The test was performed on MCS0 because this was deemed the worst case data rate for 6 dB Bandwidth.

FCC 47 CFR Part 15, Limit Clause 15.205

	Peak (dBµV/m)	Average (dBµV/m)
Restricted Bands of Operation	74	54

Industry Canada RSS-GEN, Limit Clause 8.10

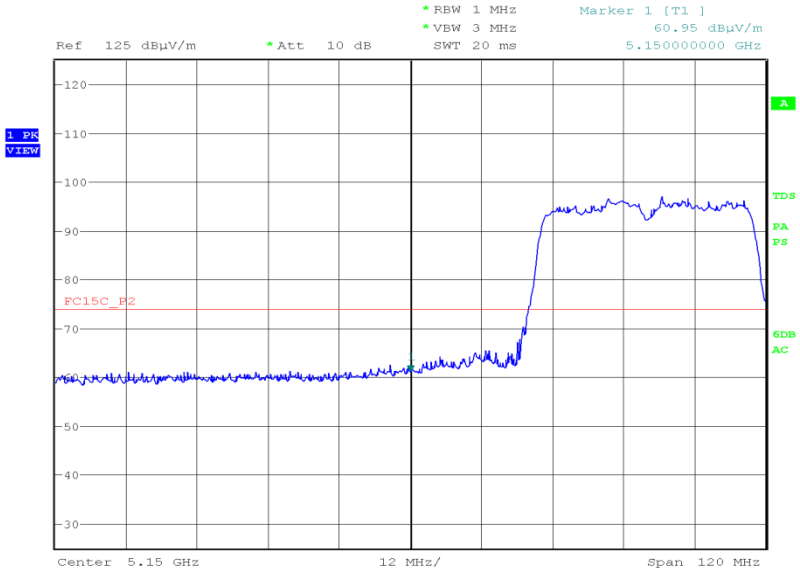
	Peak (dBµV/m)	Average (dBµV/m)
Restricted Bands of Operation	74	54

Product Service

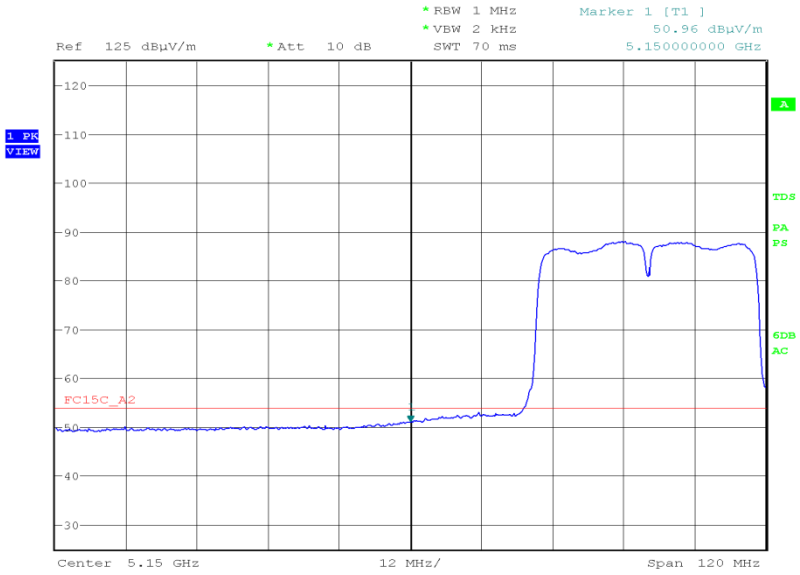
802.11n 40 MHz Bandwidth, MCS0, Restricted Band Edges Results

5190 MHz		5310 MHz		5510 MHz	
Measured Frequency 5150 MHz		Measured Frequency 5350 MHz		Measured Frequency 5460 MHz	
dBµV/m		dBµV/m		dBµV/m	
Final Peak	Final Average	Final Peak	Final Average	Final Peak	Final Average
60.95	50.96	61.47	50.89	61.30	50.36

802.11n 40 MHz Bandwidth, 5190 MHz, Measured Frequency 5150 MHz, MCS0, Final Peak, Restricted Band Edges Plot

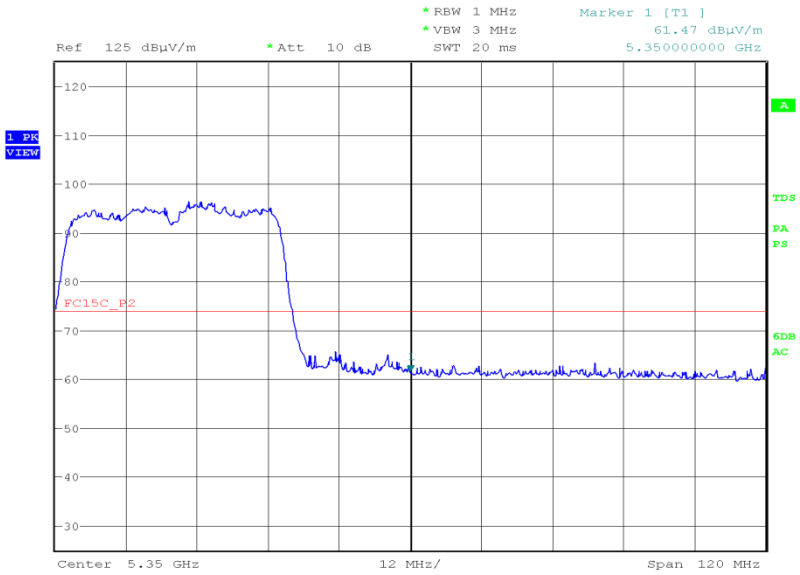


802.11n 40 MHz Bandwidth, 5190 MHz, Measured Frequency 5150 MHz, MCS0, Final Average, Restricted Band Edges Plot



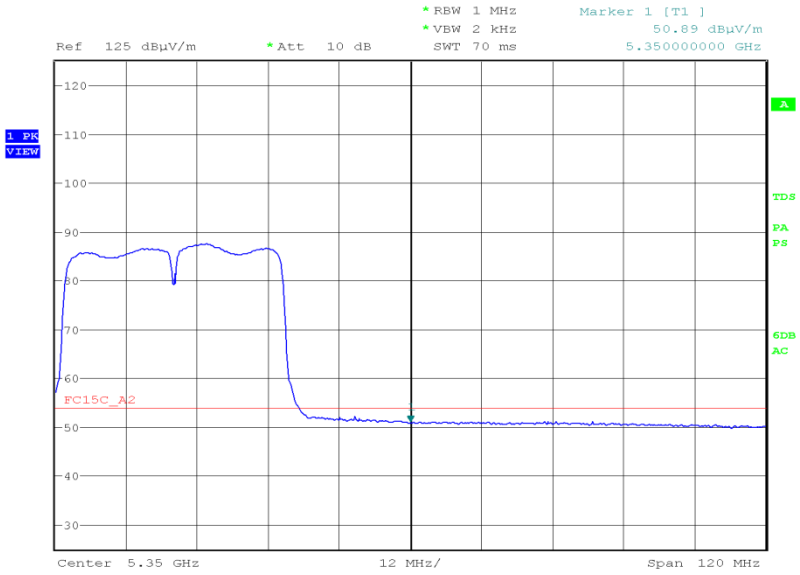
Date: 10.MAY.2016 18:15:08

802.11n 40 MHz Bandwidth, 5310 MHz, Measured Frequency 5350 MHz, MCS0, Final Peak, Restricted Band Edges Plot



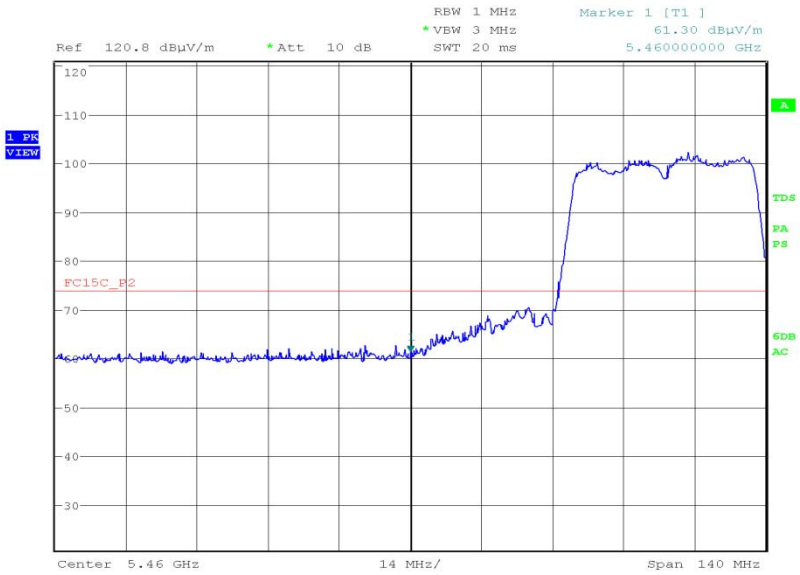
Date: 10.MAY.2016 18:36:48

802.11n 40 MHz Bandwidth, 5310 MHz, Measured Frequency 5350 MHz, MCS0, Final Average, Restricted Band Edges Plot



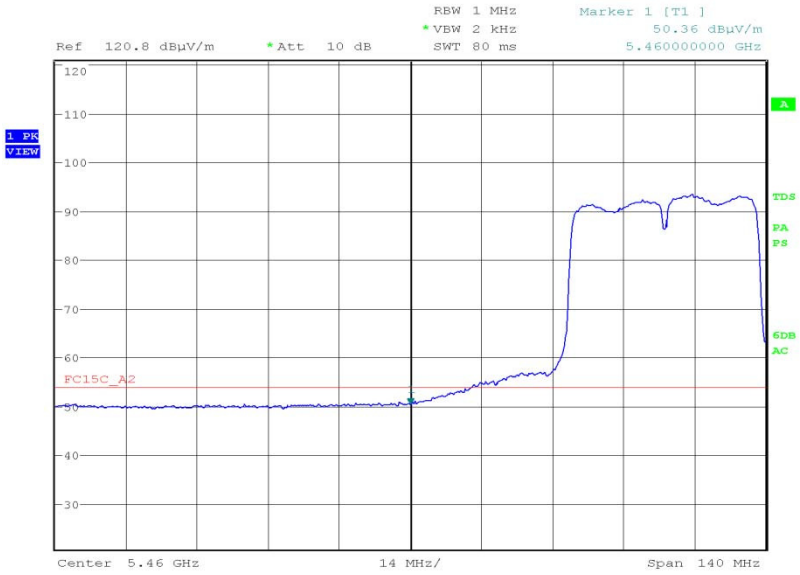
Date: 10.MAY.2016 18:36:10

802.11n 40 MHz Bandwidth, 5510 MHz, Measured Frequency 5460 MHz, MCS0, Final Peak, Restricted Band Edges Plot



Date: 10.MAY.2016 21:05:32

802.11n 40 MHz Bandwidth, 5510 MHz, Measured Frequency 5460 MHz, MCS0, Final Average, Restricted Band Edges Plot

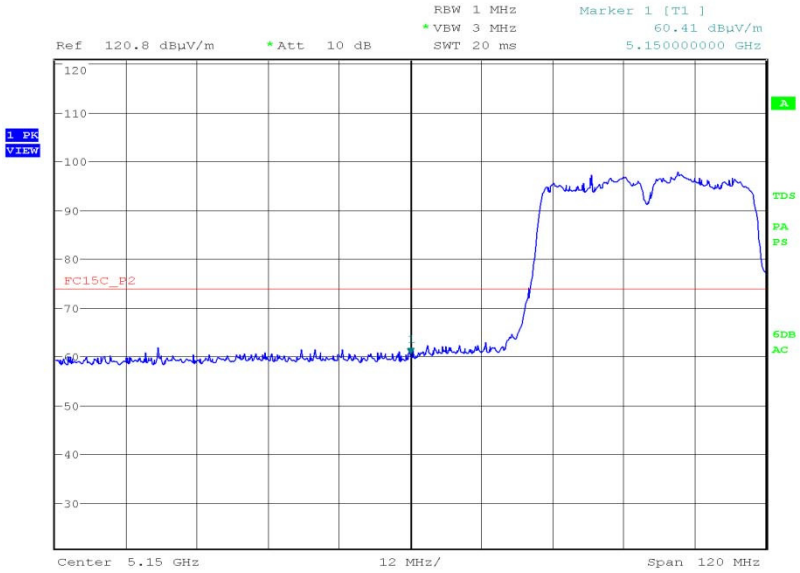


Date: 10.MAY.2016 21:06:16

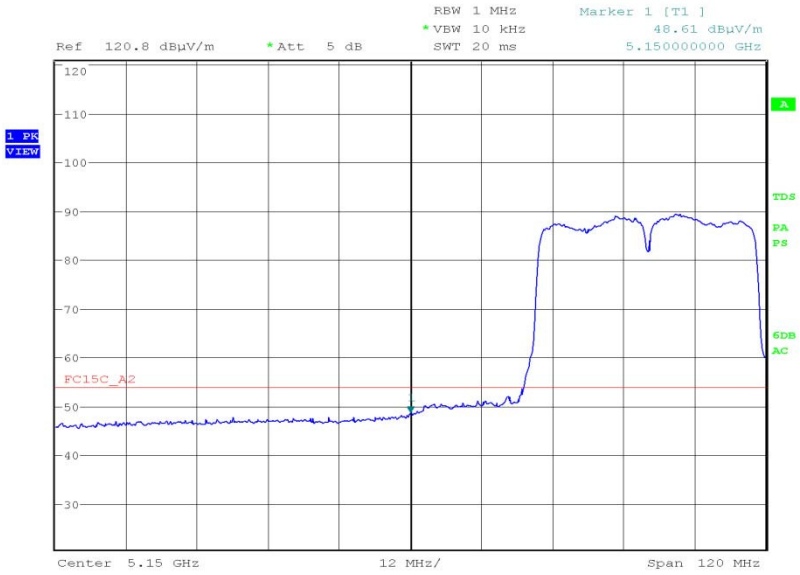
802.11n 40 MHz Bandwidth, MCS7, Restricted Band Edges Results

5190 MHz		5310 MHz		5510 MHz	
Measured Frequency 5150 MHz		Measured Frequency 5350 MHz		Measured Frequency 5460 MHz	
dBµV/m		dBµV/m		dBµV/m	
Final Peak	Final Average	Final Peak	Final Average	Final Peak	Final Average
60.41	48.61	62.14	50.40	61.56	48.41

802.11n 40 MHz Bandwidth, 5190 MHz, Measured Frequency 5150 MHz, MCS7, Final Peak, Restricted Band Edges Plot

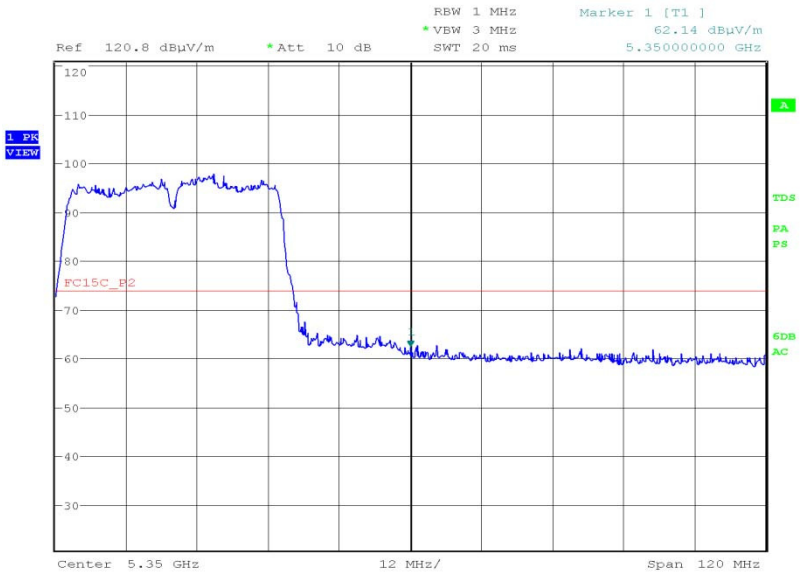


802.11n 40 MHz Bandwidth, 5190 MHz, Measured Frequency 5150 MHz, MCS7, Final Average, Restricted Band Edges Plot



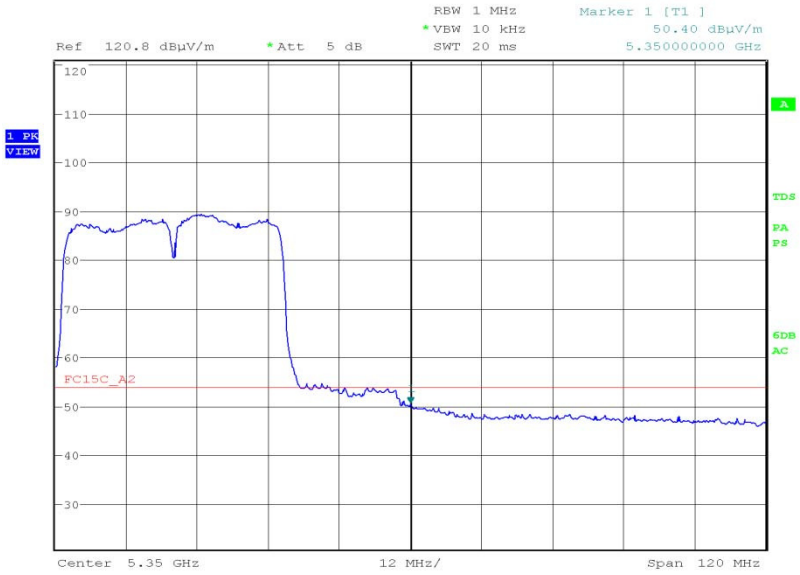
Date: 10.MAY.2016 21:00:18

802.11n 40 MHz Bandwidth, 5310 MHz, Measured Frequency 5350 MHz, MCS7, Final Peak, Restricted Band Edges Plot



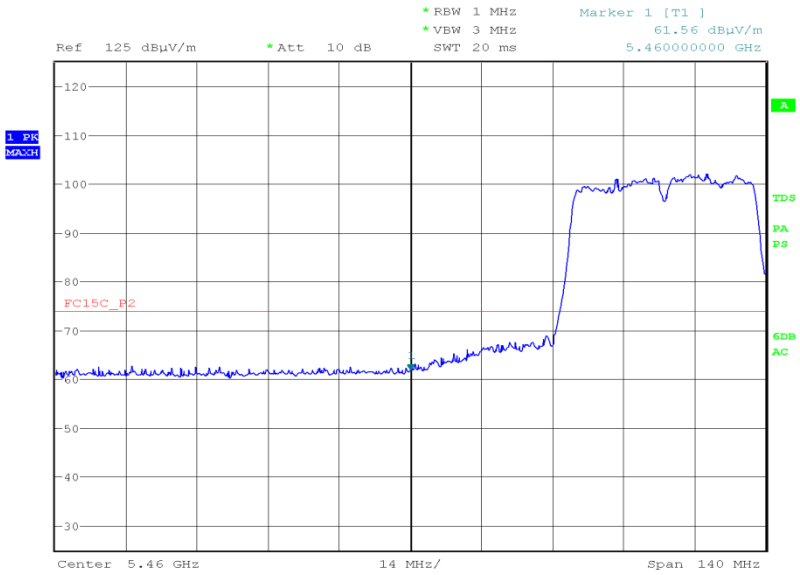
Date: 10.MAY.2016 20:52:28

802.11n 40 MHz Bandwidth, 5310 MHz, Measured Frequency 5350 MHz, MCS7, Final Average, Restricted Band Edges Plot



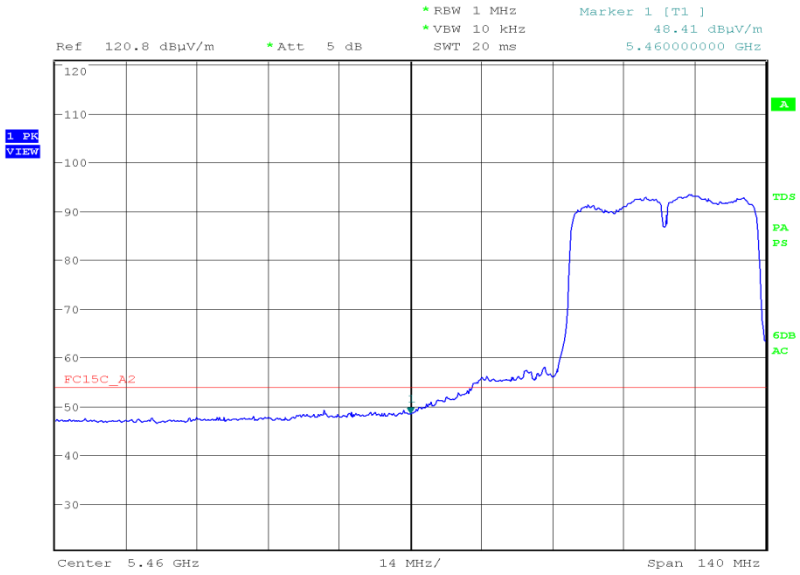
Date: 10.MAY.2016 20:51:51

802.11n 40 MHz Bandwidth, 5510 MHz, Measured Frequency 5460 MHz, MCS7, Final Peak, Restricted Band Edges Plot



Date: 10.MAY.2016 20:36:01

802.11n 40 MHz Bandwidth, 5510 MHz, Measured Frequency 5460 MHz, MCS7, Final Average, Restricted Band Edges Plot



Date: 10.MAY.2016 20:42:00

Remark

The test was performed on MCS0 because this was deemed the worst case data rate for Conducted Output Power.

The test was performed on MCS7 because this was deemed the worst case data rate for 6 dB Bandwidth.

FCC 47 CFR Part 15, Limit Clause 15.205

	Peak (dBµV/m)	Average (dBµV/m)
Restricted Bands of Operation	74	54

Industry Canada RSS-GEN, Limit Clause 8.10

	Peak (dBµV/m)	Average (dBµV/m)
Restricted Bands of Operation	74	54

Product Service

2.8 AUTHORISED BAND EDGES

2.8.1 Specification Reference

FCC 47 CFR Part 15E, Clause 15.407 (b)(1)(2)(3)(4)
Industry Canada RSS-247, Clause 6.2

2.8.2 Equipment Under Test and Modification State

Minuet/FS5332 S/N:RAD108616 (Module) and RAD108700 (Platform) - Modification State 0

2.8.3 Date of Test

10 May 2016, 11 May 2016, 13 May 2016 & 25 May 2016

2.8.4 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.8.5 Test Procedure

The test was performed in accordance with ANSI C63.10, clause 12.7.6.

Remarks

The following formula was used as per KDB 412172 D01 v01 to convert from field strength (dBµV/m) to E.I.R.P (dBm).

E.I.R.P = (E x d)2 / 30

For a measurement distance of 3m, the used conversion factor from dBµV/m to dBm is -95.2 dB.

2.8.6 Environmental Conditions

Ambient Temperature	18.7 - 21.6°C
Relative Humidity	36.0 - 48.0%

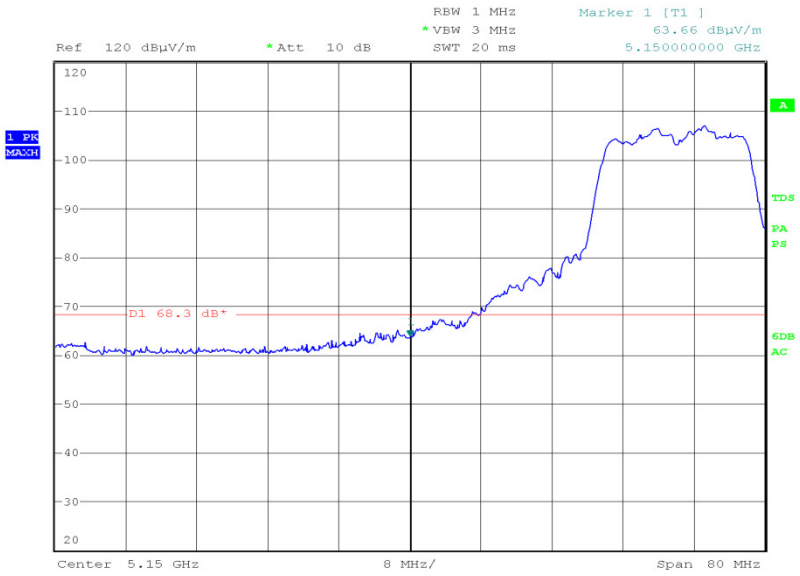
Product Service

2.8.7 Test Results

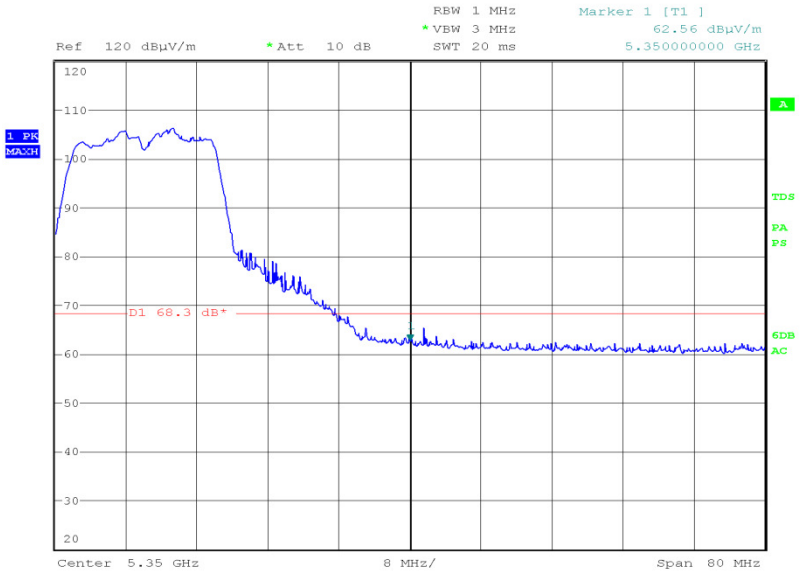
802.11a, 6 Mbps, Authorised Band Edges Results

5180 MHz	5320 MHz	5500 MHz	5700 MHz	5745 MHz		5825 MHz	
Measured Frequency 5150 MHz	Measured Frequency 5350 MHz	Measured Frequency 5470 MHz	Measured Frequency 5725 MHz	Measured Frequency 5715 MHz	Measured Frequency 5725 MHz	Measured Frequency 5850 MHz	Measured Frequency 5860 MHz
dBm	dBm	dBm	dBm	dBm	dBm	dBm	dBm
Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak
-31.54	-32.64	-33.60	-31.32	-31.82	-27.08	-31.75	-33.70

802.11a, 5180 MHz, Measured Frequency 5150 MHz, 6 Mbps, Final Peak, Authorised Band Edges Plot

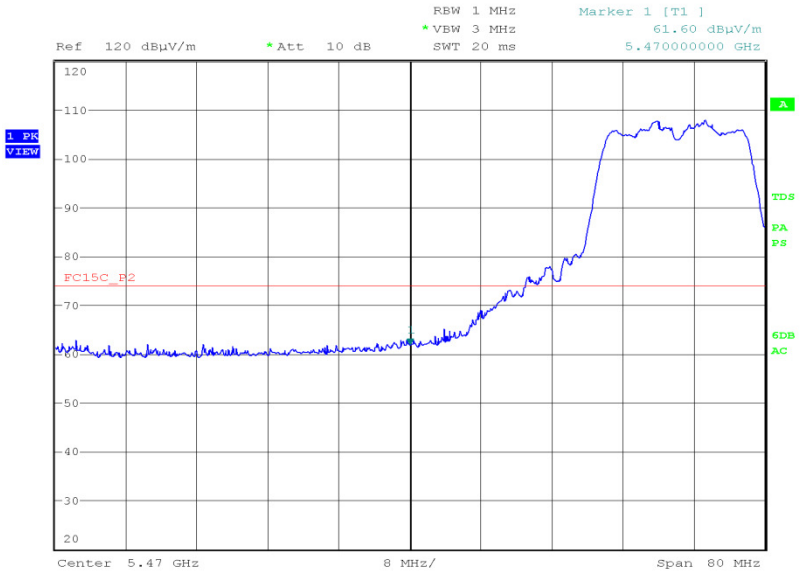


802.11a, 5320 MHz, Measured Frequency 5350 MHz, 6 Mbps, Final Peak, Authorised Band Edges Plot



Date: 10.MAY.2016 11:23:44

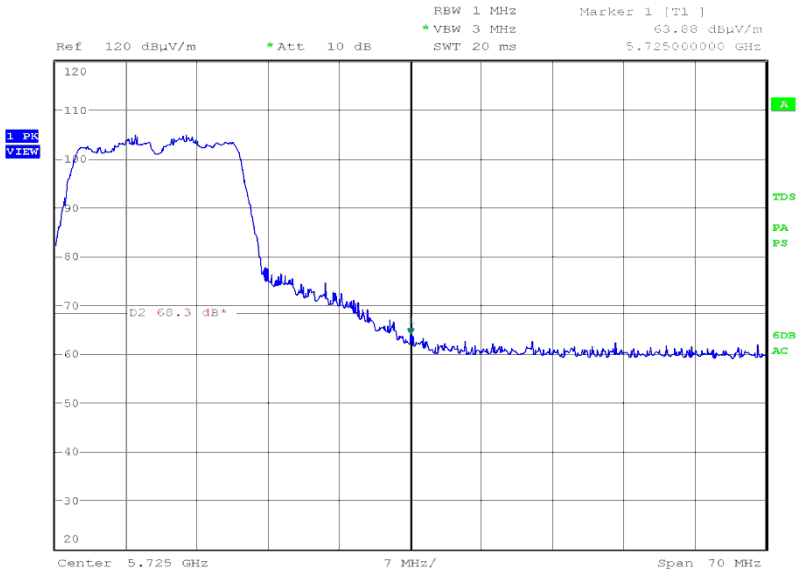
802.11a, 5500 MHz, Measured Frequency 5470 MHz, 6 Mbps, Final Peak, Authorised Band Edges Plot



Date: 10.MAY.2016 11:48:01

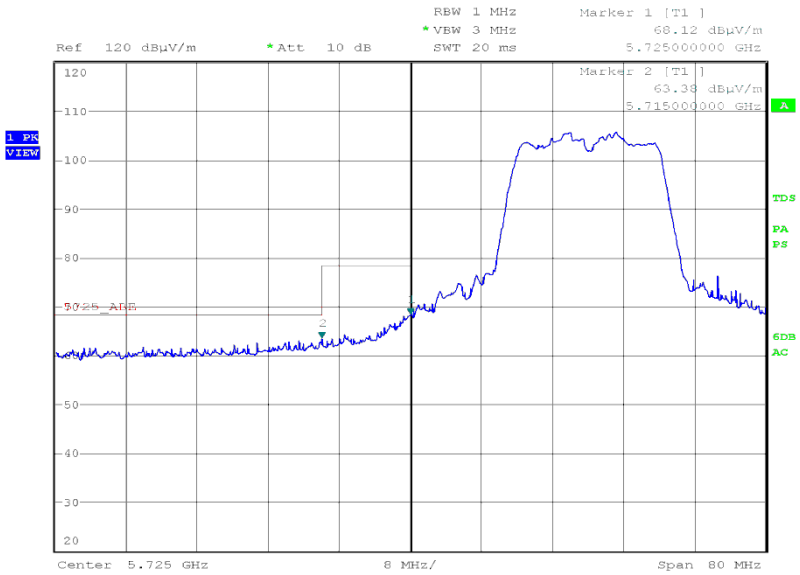
Product Service

802.11a, 5700 MHz, Measured Frequency 5725 MHz, 6 Mbps, Final Peak, Authorised Band Edges Plot



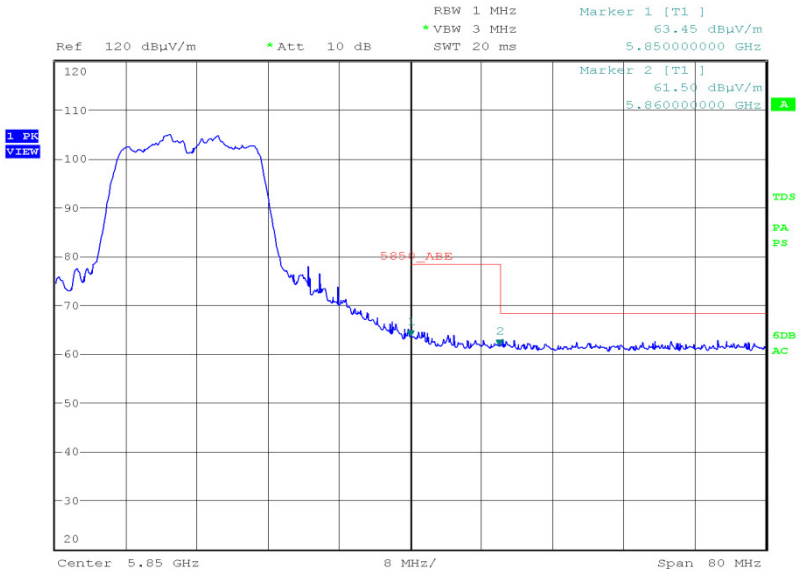
Date: 10.MAY.2016 12:39:05

802.11a, 5745 MHz, Measured Frequency 5725 MHz, 6 Mbps, Final Peak, Authorised Band Edges Plot



Date: 10.MAY.2016 13:54:26

802.11a, 5825 MHz, Measured Frequency 5850 MHz, 6 Mbps, Final Peak, Authorised Band Edges Plot



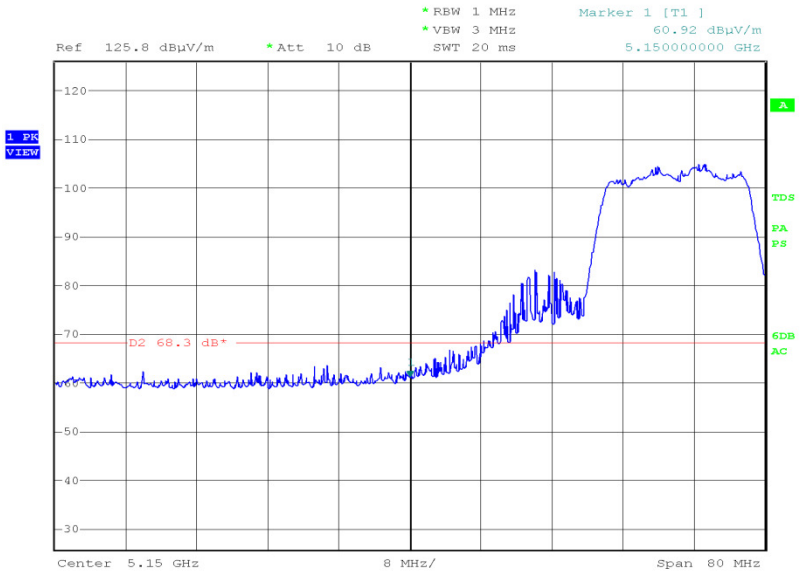
Date: 10.MAY.2016 13:44:49

Product Service

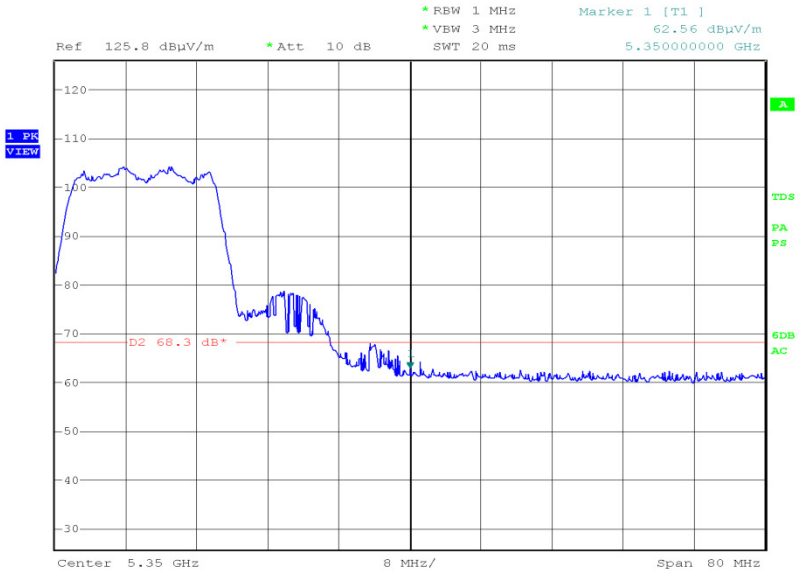
802.11a, 9 Mbps, Authorised Band Edges Results

5180 MHz	5320 MHz	5500 MHz	5700 MHz	5745 MHz		5825 MHz	
Measured Frequency 5150 MHz	Measured Frequency 5350 MHz	Measured Frequency 5470 MHz	Measured Frequency 5725 MHz	Measured Frequency 5715 MHz	Measured Frequency 5725 MHz	Measured Frequency 5850 MHz	Measured Frequency 5860 MHz
dBm	dBm	dBm	dBm	dBm	dBm	dBm	dBm
Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak
-34.28	-32.64	-33.58	-30.54	-33.70	-25.95	-31.31	-34.81

802.11a, 5180 MHz, Measured Frequency 5150 MHz, 9 Mbps, Final Peak, Authorised Band Edges Plot

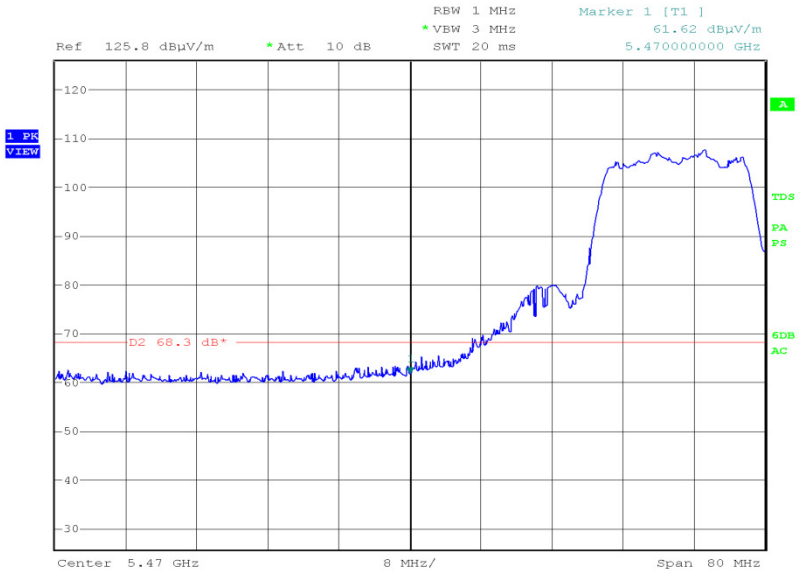


802.11a, 5320 MHz, Measured Frequency 5350 MHz, 9 Mbps, Final Peak, Authorised Band Edges Plot



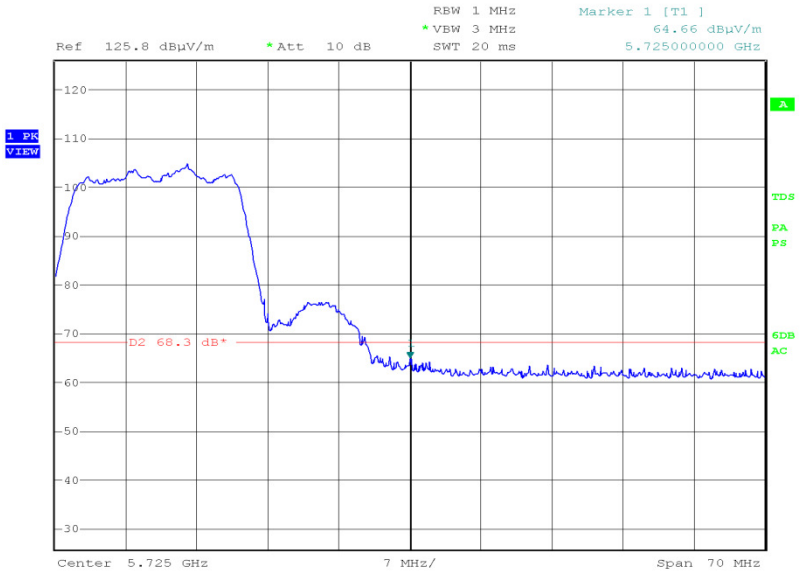
Date: 10.MAY.2016 15:53:51

802.11a, 5500 MHz, Measured Frequency 5470 MHz, 9 Mbps, Final Peak, Authorised Band Edges Plot



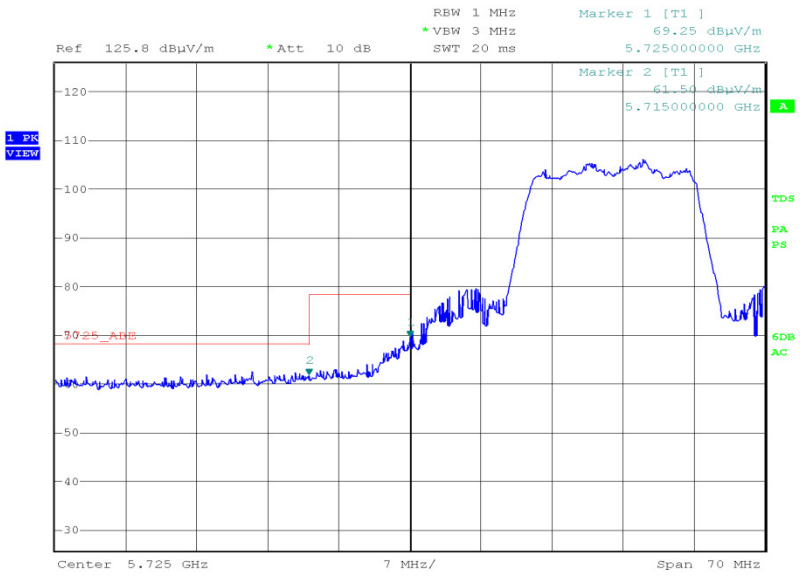
Date: 10.MAY.2016 15:36:00

802.11a, 5700 MHz, Measured Frequency 5725 MHz, 9 Mbps, Final Peak, Authorised Band Edges Plot



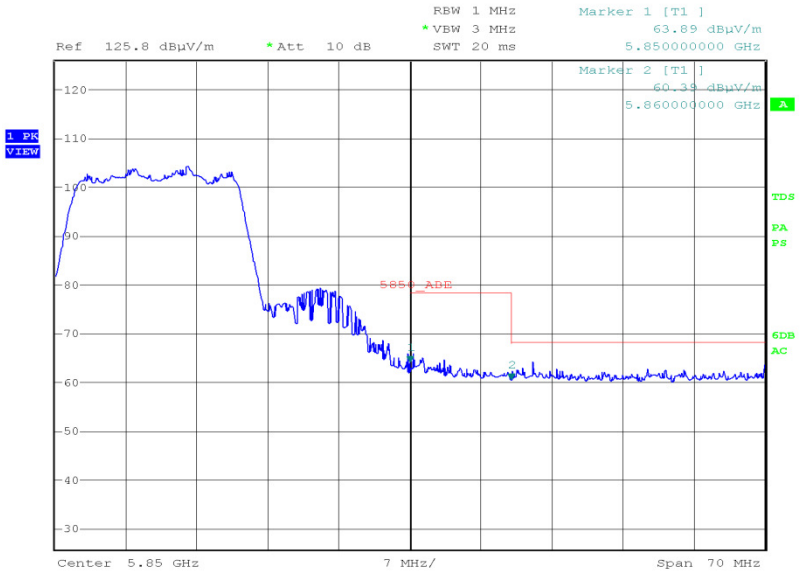
Date: 10.MAY.2016 15:21:43

802.11a, 5745 MHz, Measured Frequency 5725 MHz, 9 Mbps, Final Peak, Authorised Band Edges Plot



Date: 10.MAY.2016 14:19:32

802.11a, 5825 MHz, Measured Frequency 5850 MHz, 9 Mbps, Final Peak, Authorised Band Edges Plot



Remark

The test was performed on 6 Mbps because this was deemed the worst case data rate for Conducted Output Power.

The test was performed on 9 Mbps because this was deemed the worst case data rate for 6 dB Bandwidth.

FCC 47 CFR Part 15, Limit Clause 15.407 (b(1)(2)(3)(4)

5.15 GHz to 5.25 GHz	-27 dBm/MHz
5.25 GHz to 5.35 GHz	-27 dBm/MHz
5.47 GHz to 5.725 GHz	-27 dBm/MHz
5.725 GHz to 5.850 GHz	-17 dBm/MHz

Industry Canada RSS-247, Limit Clause 6.2

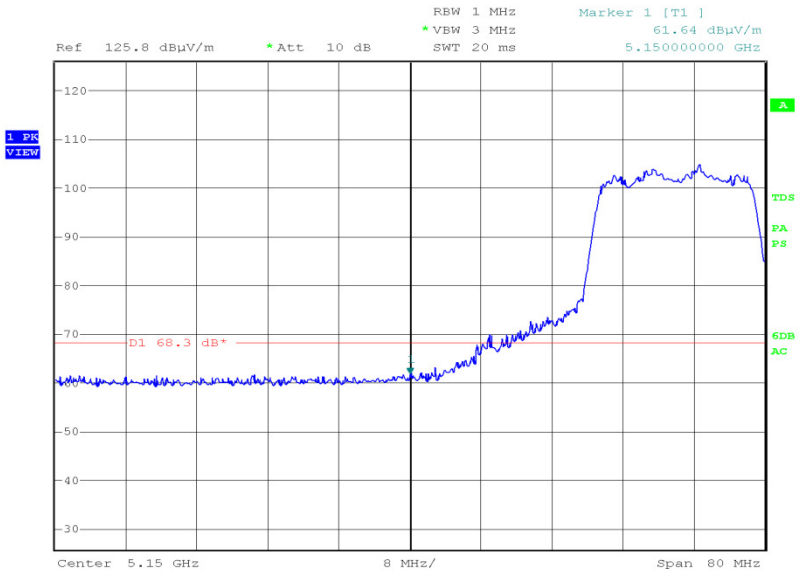
5.15 GHz to 5.25 GHz	-27 dBm/MHz
5.25 GHz to 5.35 GHz	-27 dBm/MHz
5.47 GHz to 5.725 GHz	-27 dBm/MHz
5.725 GHz to 5.850 GHz	-17 dBm/MHz

Product Service

802.11ac 20 MHz Bandwidth, MCS1, Authorised Band Edges Results

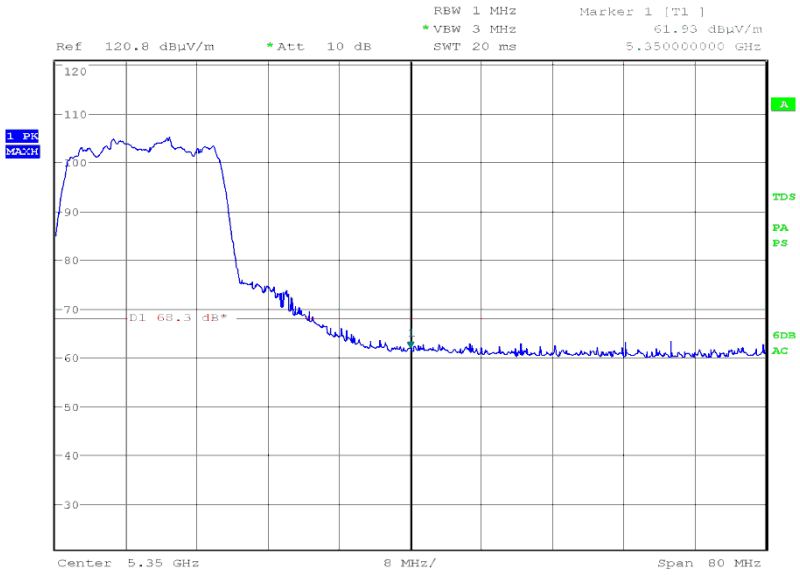
5180 MHz	5320 MHz	5500 MHz	5700 MHz	5745 MHz		5825 MHz	
Measured Frequency 5150 MHz	Measured Frequency 5350 MHz	Measured Frequency 5470 MHz	Measured Frequency 5725 MHz	Measured Frequency 5715 MHz	Measured Frequency 5725 MHz	Measured Frequency 5850 MHz	Measured Frequency 5860 MHz
dBm	dBm	dBm	dBm	dBm	dBm	dBm	dBm
Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak
-33.56	-33.27	-34.02	-32.51	-33.17	-26.79	-30.07	-32.94

802.11ac 20 MHz Bandwidth, 5180 MHz, Measured Frequency 5150 MHz, MCS1, Final Peak, Authorised Band Edges Plot



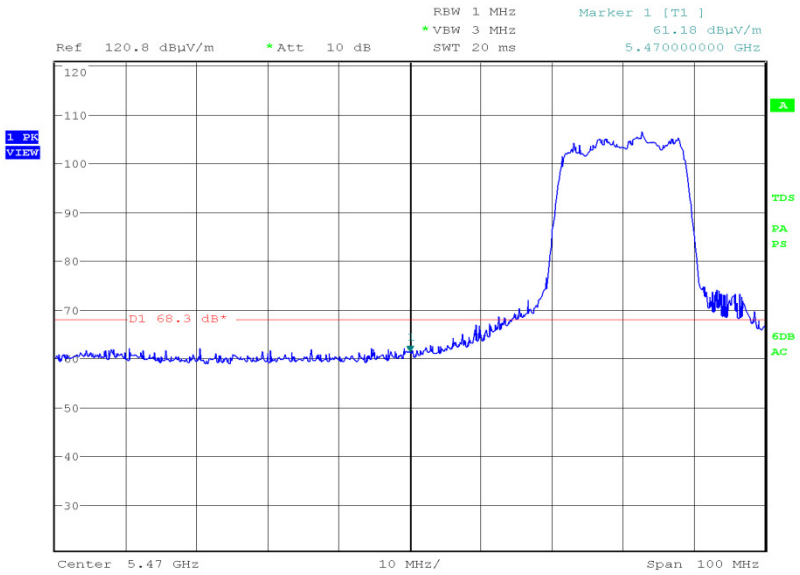
Date: 11.MAY.2016 09:14:35

802.11ac 20 MHz Bandwidth, 5320 MHz, Measured Frequency 5350 MHz, MCS1, Final Peak, Authorised Band Edges Plot



Date: 11.MAY.2016 09:25:05

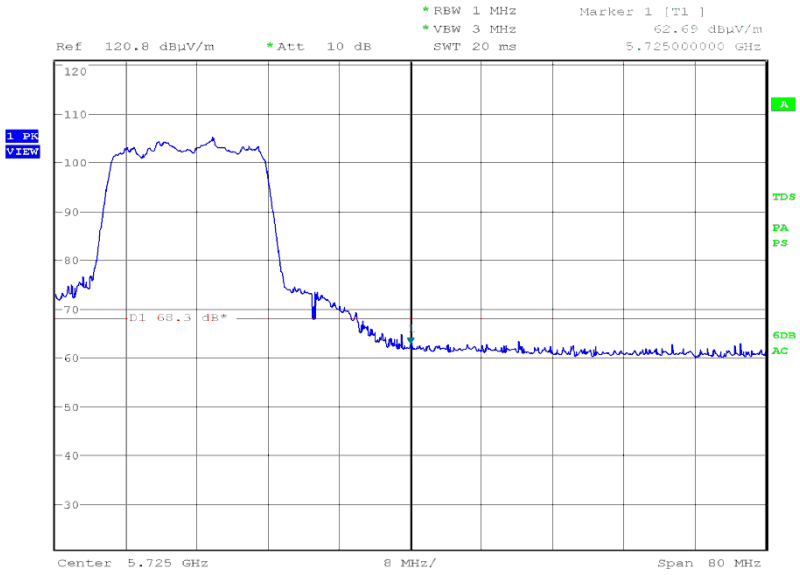
802.11ac 20 MHz Bandwidth, 5500 MHz, Measured Frequency 5470 MHz, MCS1, Final Peak, Authorised Band Edges Plot



Date: 11.MAY.2016 09:42:06

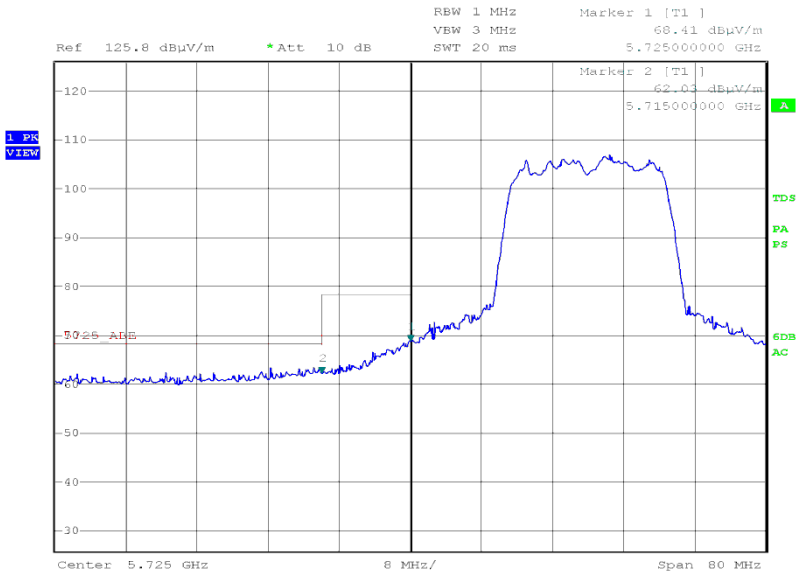
Product Service

802.11ac 20 MHz Bandwidth, 5700 MHz, Measured Frequency 5725 MHz, MCS1, Final Peak, Authorised Band Edges Plot



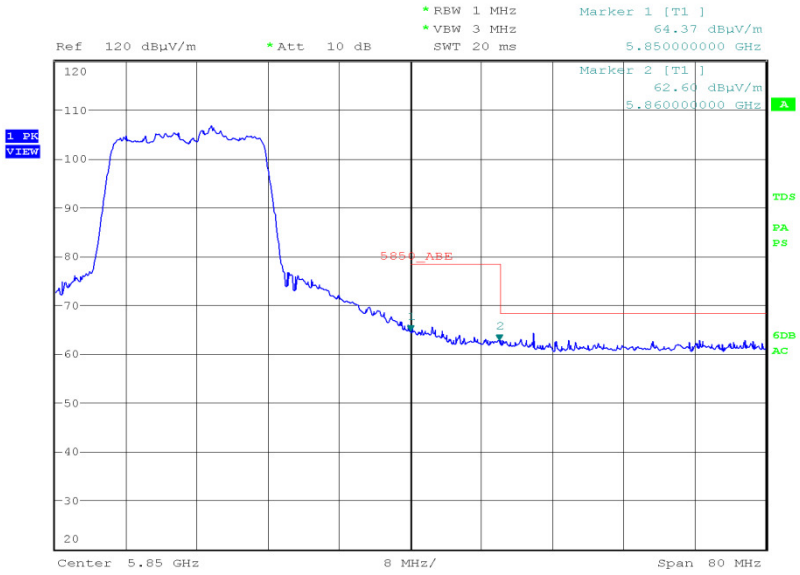
Date: 11.MAY.2016 10:03:37

802.11ac 20 MHz Bandwidth, 5745 MHz, Measured Frequency 5725 MHz, MCS1, Final Peak, Authorised Band Edges Plot



Date: 11.MAY.2016 10:17:40

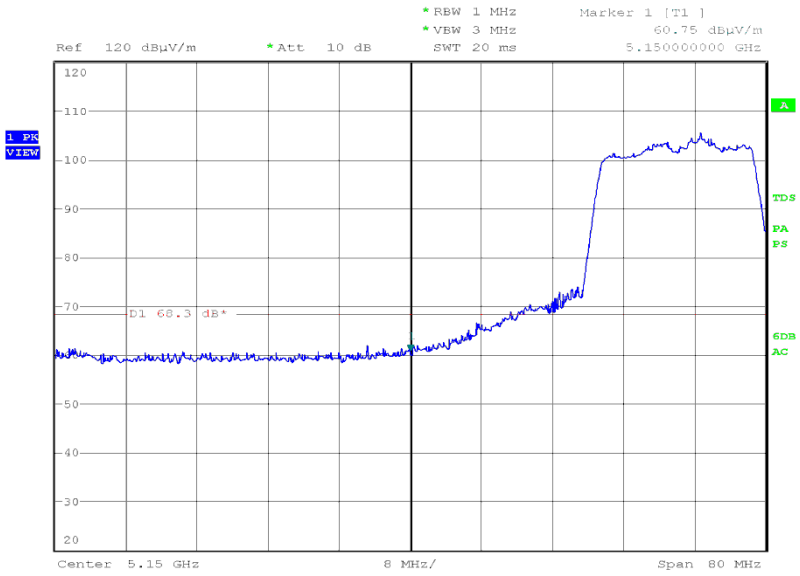
802.11ac 20 MHz Bandwidth, 5825 MHz, Measured Frequency 5850 MHz, MCS1, Final Peak, Authorised Band Edges Plot



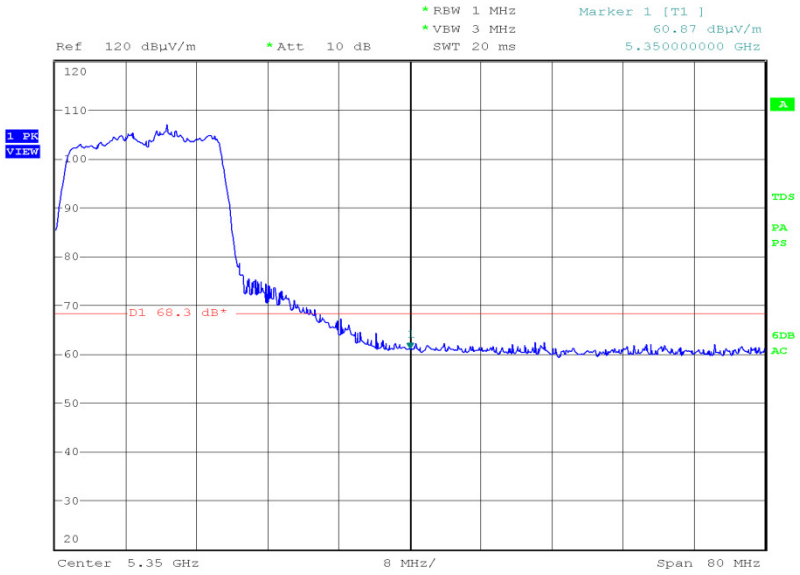
802.11ac 20 MHz Bandwidth, MCS7, Authorised Band Edges Results

5180 MHz	5320 MHz	5500 MHz	5700 MHz	5745 MHz		5825 MHz	
Measured Frequency 5150 MHz	Measured Frequency 5350 MHz	Measured Frequency 5470 MHz	Measured Frequency 5725 MHz	Measured Frequency 5715 MHz	Measured Frequency 5725 MHz	Measured Frequency 5850 MHz	Measured Frequency 5860 MHz
dBm	dBm	dBm	dBm	dBm	dBm	dBm	dBm
Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak
-34.51	-34.33	-34.74	-33.31	-32.54	-26.51	-30.83	-32.60

802.11ac 20 MHz Bandwidth, 5180 MHz, Measured Frequency 5150 MHz, MCS7, Final Peak, Authorised Band Edges Plot

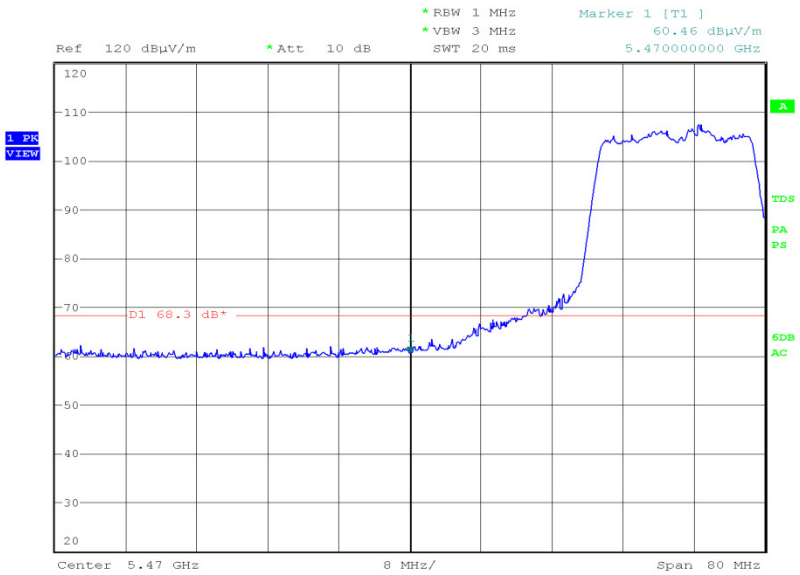


802.11ac 20 MHz Bandwidth, 5320 MHz, Measured Frequency 5350 MHz, MCS7, Final Peak, Authorised Band Edges Plot



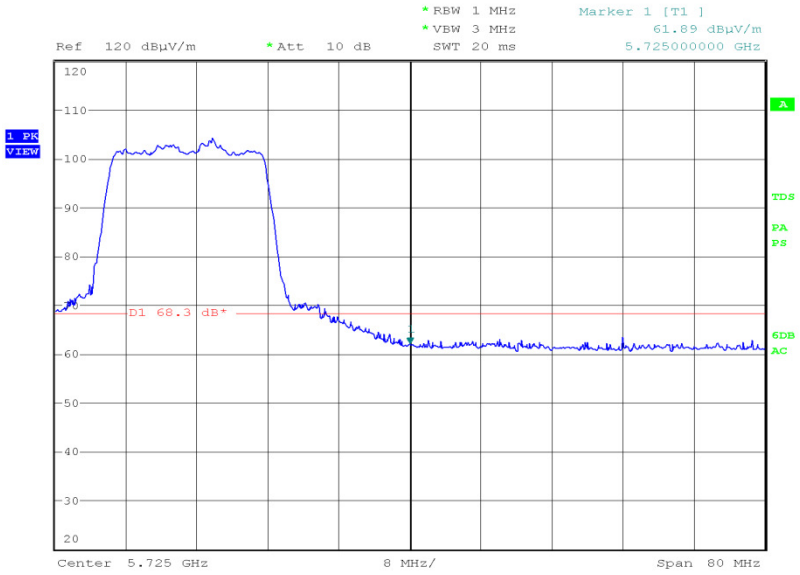
Date: 11.MAY.2016 12:10:17

802.11ac 20 MHz Bandwidth, 5500 MHz, Measured Frequency 5470 MHz, MCS7, Final Peak, Authorised Band Edges Plot

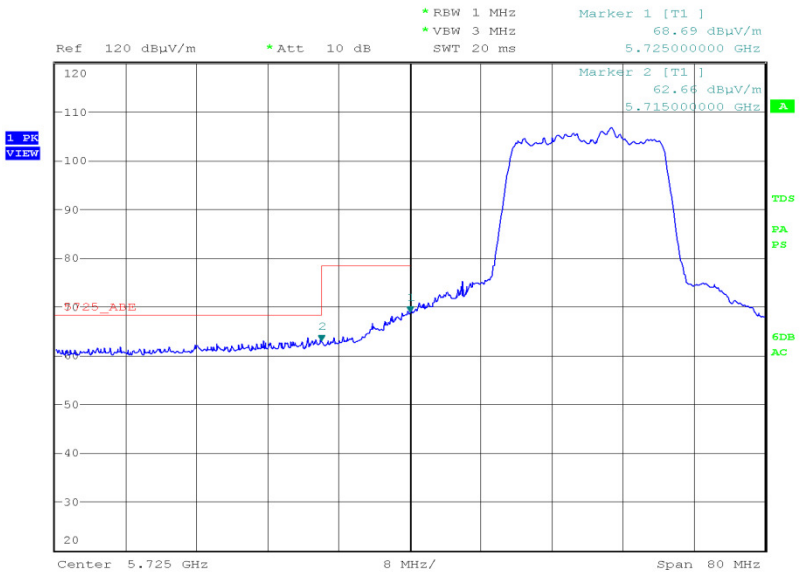


Date: 11.MAY.2016 11:36:59

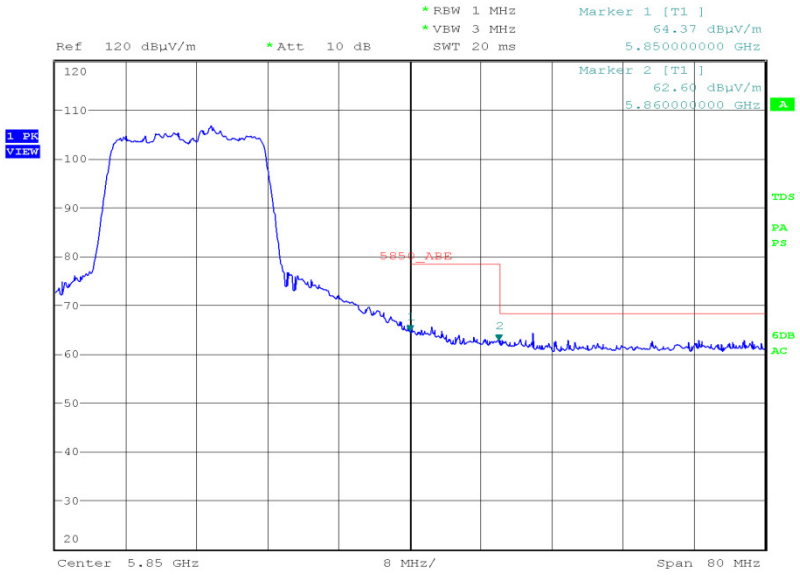
802.11ac 20 MHz Bandwidth, 5700 MHz, Measured Frequency 5725 MHz, MCS7, Final Peak, Authorised Band Edges Plot



802.11ac 20 MHz Bandwidth, 5745 MHz, Measured Frequency 5725 MHz, MCS7, Final Peak, Authorised Band Edges Plot



802.11ac 20 MHz Bandwidth, 5825 MHz, Measured Frequency 5850 MHz, MCS7, Final Peak, Authorised Band Edges Plot



Remark

The test was performed on MCS1 because this was deemed the worst case data rate for Conducted Output Power.

The test was performed on MCS7 because this was deemed the worst case data rate for 6 dB Bandwidth.

FCC 47 CFR Part 15, Limit Clause 15.407 (b(1)(2)(3)(4)

5.15 GHz to 5.25 GHz	-27 dBm/MHz
5.25 GHz to 5.35 GHz	-27 dBm/MHz
5.47 GHz to 5.725 GHz	-27 dBm/MHz
5.725 GHz to 5.850 GHz	-17 dBm/MHz

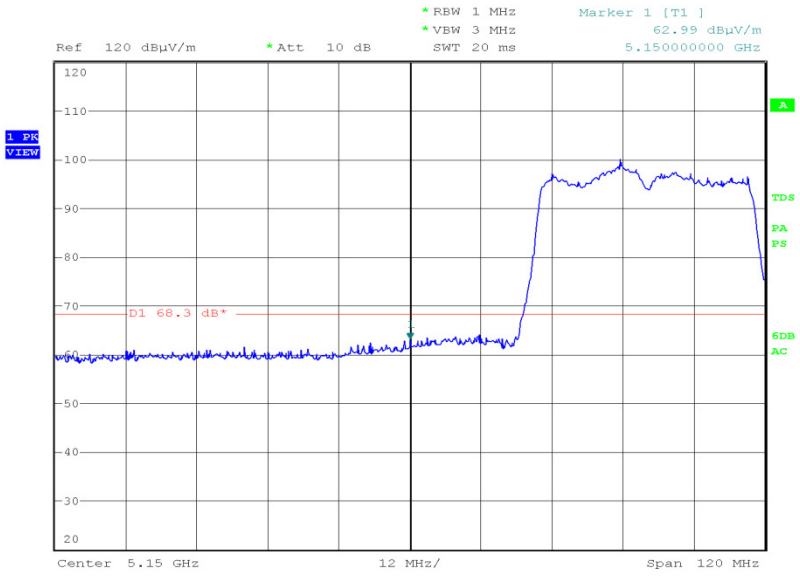
Industry Canada RSS-247, Limit Clause 6.2

5.15 GHz to 5.25 GHz	-27 dBm/MHz
5.25 GHz to 5.35 GHz	-27 dBm/MHz
5.47 GHz to 5.725 GHz	-27 dBm/MHz
5.725 GHz to 5.850 GHz	-17 dBm/MHz

802.11ac 40 MHz Bandwidth, MCS4, Authorised Band Edges Results

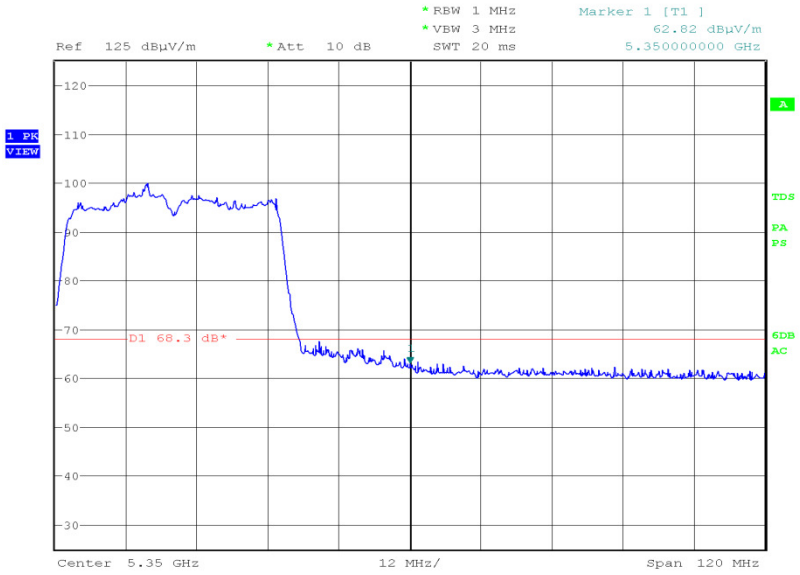
5190 MHz	5310 MHz	5510 MHz	5670 MHz	5755 MHz		5795 MHz	
Measured Frequency 5150 MHz	Measured Frequency 5350 MHz	Measured Frequency 5470 MHz	Measured Frequency 5725 MHz	Measured Frequency 5715 MHz	Measured Frequency 5725 MHz	Measured Frequency 5850 MHz	Measured Frequency 5860 MHz
dBm	dBm	dBm	dBm	dBm	dBm	dBm	dBm
Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak
-32.21	-32.38	-32.32	-35.12	-30.46	-29.92	-33.82	-34.20

802.11ac 40 MHz Bandwidth, 5190 MHz, Measured Frequency 5150 MHz, MCS4, Final Peak, Authorised Band Edges Plot



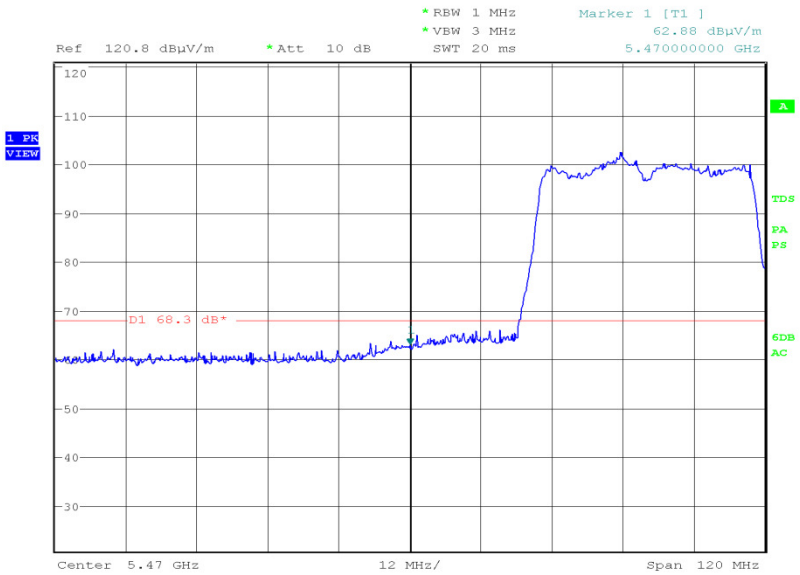
Date: 11.MAY.2016 13:25:33

802.11ac 40 MHz Bandwidth, 5310 MHz, Measured Frequency 5350 MHz, MCS4, Final Peak, Authorised Band Edges Plot



Date: 11.MAY.2016 13:36:41

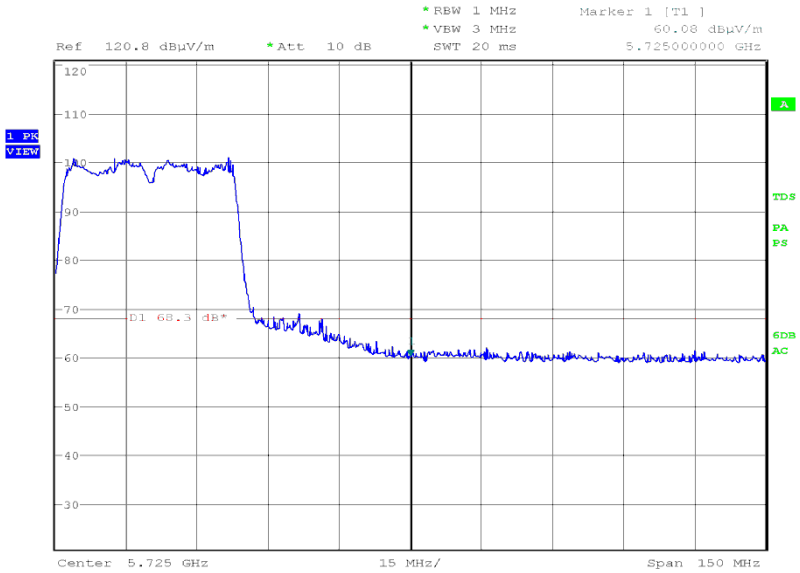
802.11ac 40 MHz Bandwidth, 5510 MHz, Measured Frequency 5470 MHz, MCS4, Final Peak, Authorised Band Edges Plot



Date: 11.MAY.2016 13:48:39

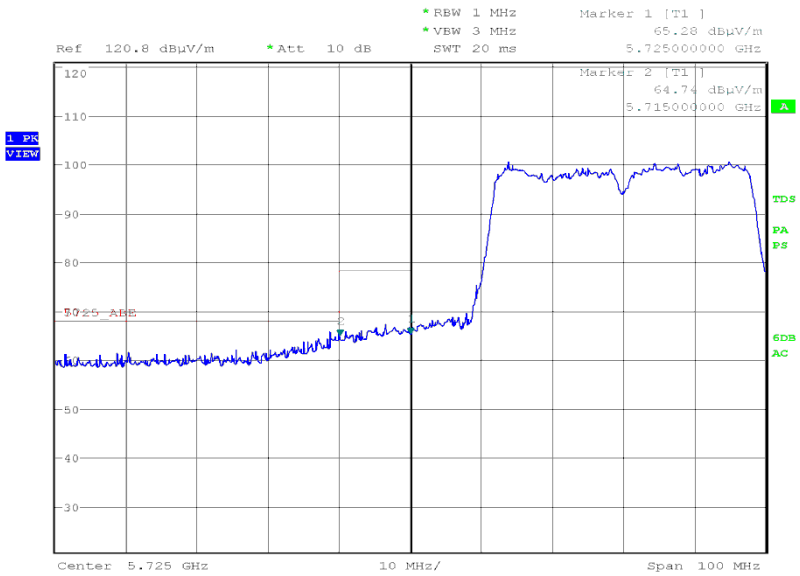
Product Service

802.11ac 40 MHz Bandwidth, 5670 MHz, Measured Frequency 5725 MHz, MCS4, Final Peak, Authorised Band Edges Plot



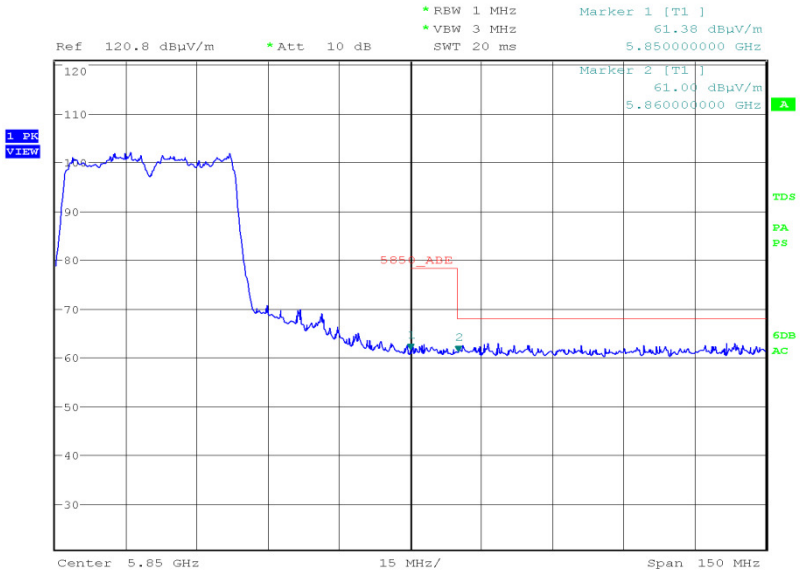
Date: 11.MAY.2016 13:57:28

802.11ac 40 MHz Bandwidth, 5755 MHz, Measured Frequency 5725 MHz, MCS4, Final Peak, Authorised Band Edges Plot



Date: 11.MAY.2016 14:10:28

802.11ac 40 MHz Bandwidth, 5795 MHz, Measured Frequency 5850 MHz, MCS4, Final Peak, Authorised Band Edges Plot



Date: 11.MAY.2016 14:17:56

Remark

The test was performed on MCS4 because this was deemed the worst case data rate for Conducted Output Power.

The test was performed on MCS7 because this was deemed the worst case data rate for 6 dB Bandwidth.

FCC 47 CFR Part 15, Limit Clause 15.407 (b(1)(2)(3)(4)

5.15 GHz to 5.25 GHz	-27 dBm/MHz
5.25 GHz to 5.35 GHz	-27 dBm/MHz
5.47 GHz to 5.725 GHz	-27 dBm/MHz
5.725 GHz to 5.850 GHz	-17 dBm/MHz

Industry Canada RSS-247, Limit Clause 6.2

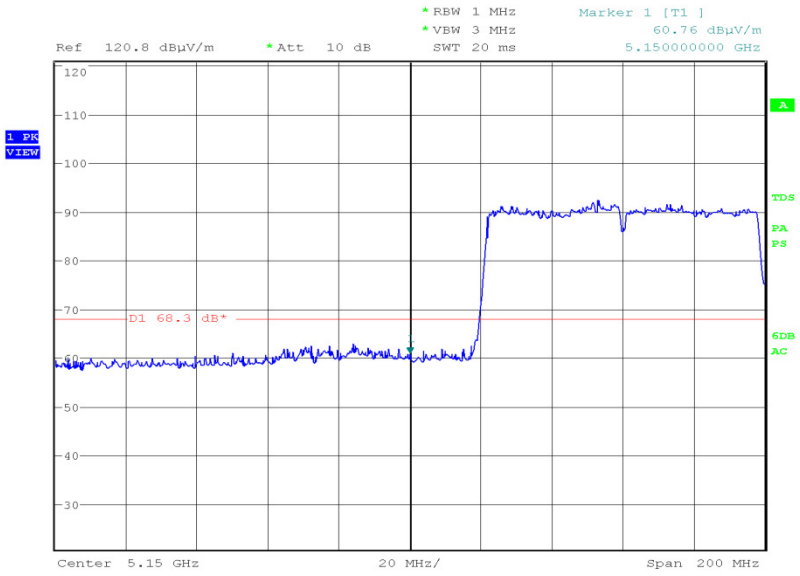
5.15 GHz to 5.25 GHz	-27 dBm/MHz
5.25 GHz to 5.35 GHz	-27 dBm/MHz
5.47 GHz to 5.725 GHz	-27 dBm/MHz
5.725 GHz to 5.850 GHz	-17 dBm/MHz

Product Service

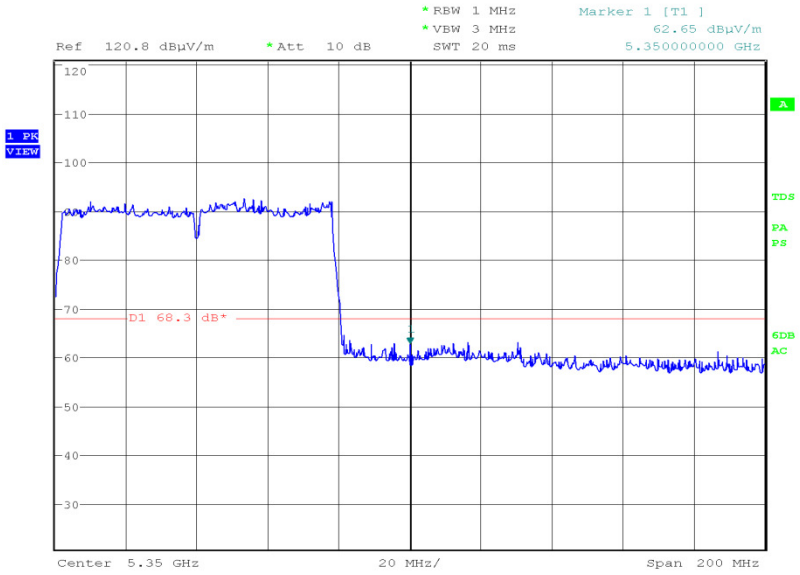
802.11ac 80 MHz Bandwidth, MCS8, Authorised Band Edges Results

5210 MHz	5290 MHz	5530 MHz	5610 MHz	5775 MHz			
Measured Frequency 5150 MHz	Measured Frequency 5350 MHz	Measured Frequency 5470 MHz	Measured Frequency 5725 MHz	Measured Frequency 5715 MHz	Measured Frequency 5725 MHz	Measured Frequency 5850 MHz	Measured Frequency 5860 MHz
dBm	dBm	dBm	dBm	dBm	dBm	dBm	dBm
Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak
-34.44	-32.55	-33.91	-34.50	-35.40	-31.96	-33.50	-34.84

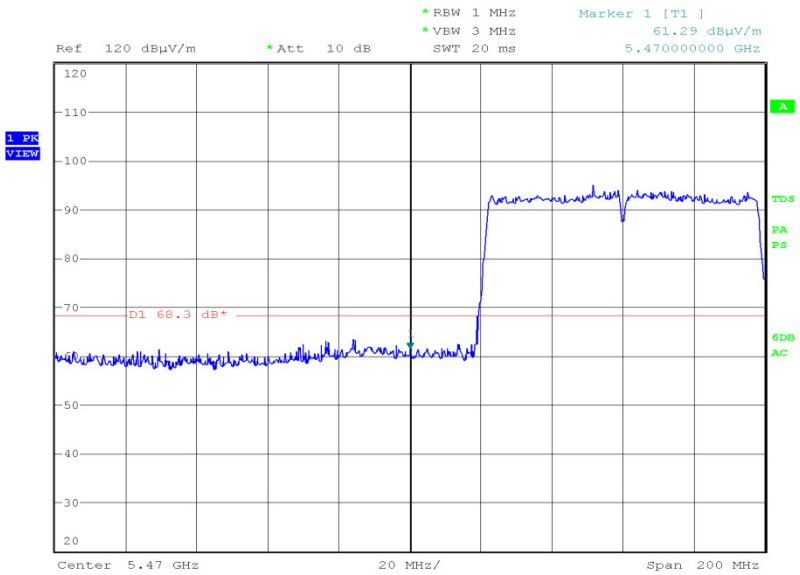
802.11ac 80 MHz Bandwidth, 5210 MHz, Measured Frequency 5150 MHz, MCS8, Final Peak, Authorised Band Edges Plot



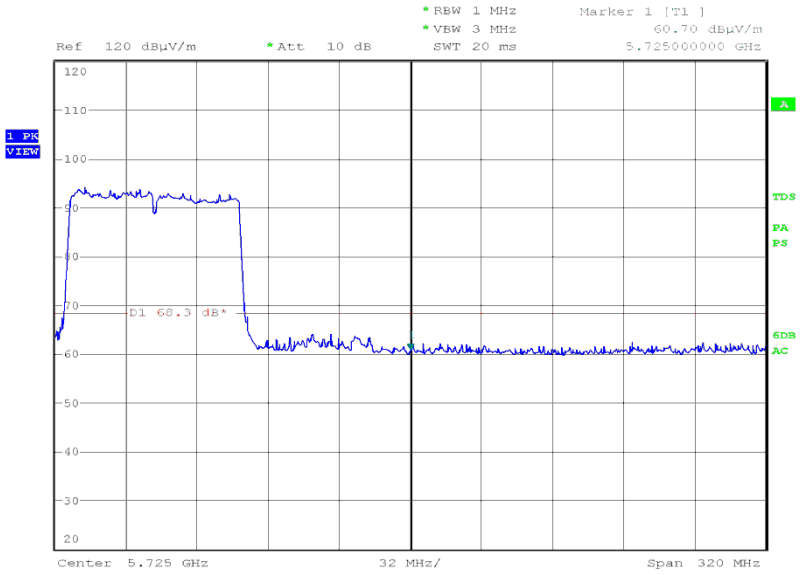
802.11ac 80 MHz Bandwidth, 5290 MHz, Measured Frequency 5350 MHz, MCS8, Final Peak, Authorised Band Edges Plot



802.11ac 80 MHz Bandwidth, 5530 MHz, Measured Frequency 5470 MHz, MCS8, Final Peak, Authorised Band Edges Plot

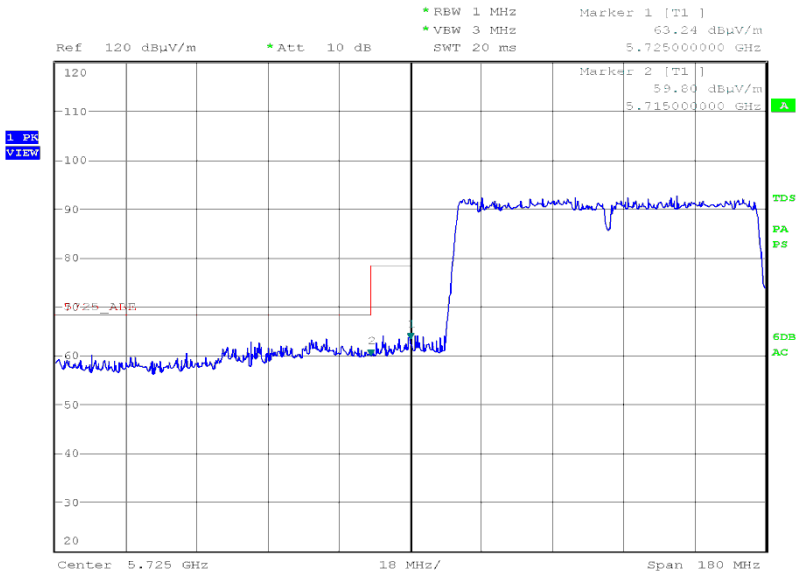


802.11ac 80 MHz Bandwidth, 5610 MHz, Measured Frequency 5725 MHz, MCS8, Final Peak, Authorised Band Edges Plot



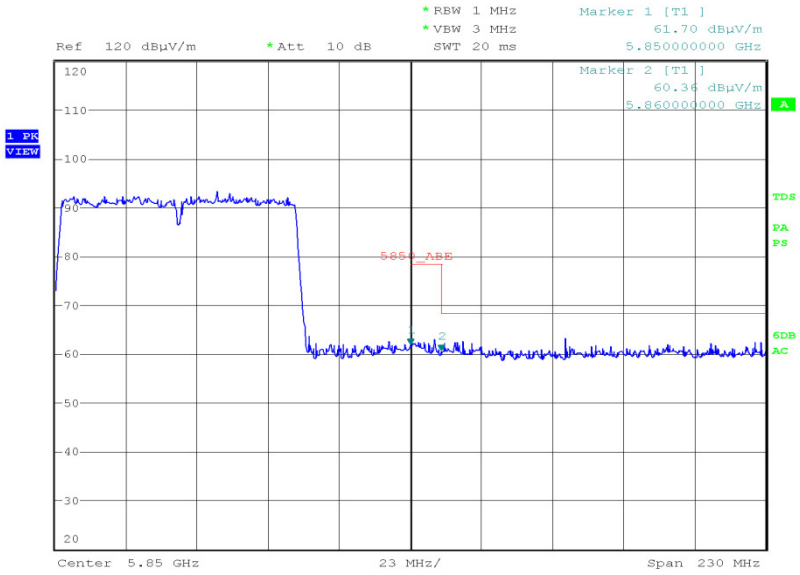
Date: 11.MAY.2016 15:31:05

802.11ac 80 MHz Bandwidth, 5775 MHz, Measured Frequency 5725 MHz, MCS8, Final Peak, Authorised Band Edges Plot



Date: 11.MAY.2016 15:39:46

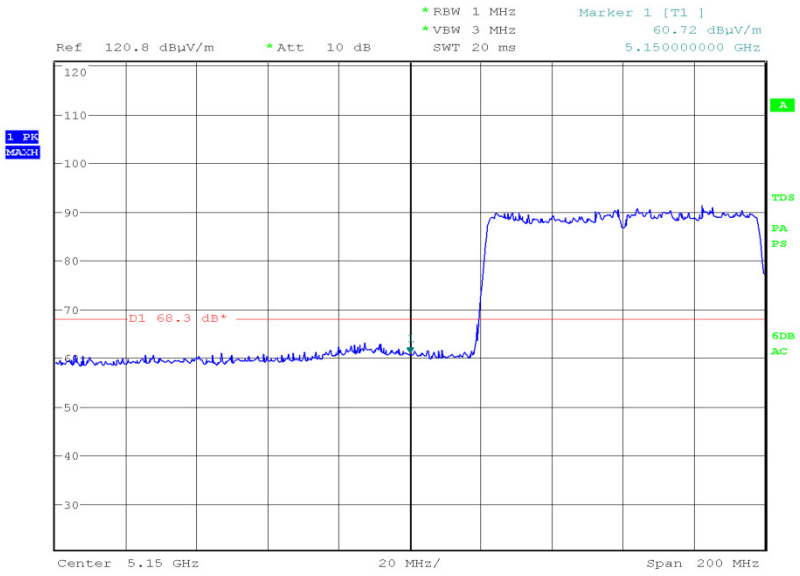
802.11ac 80 MHz Bandwidth, 5775 MHz, Measured Frequency 5850 MHz, MCS8, Final Peak, Authorised Band Edges Plot



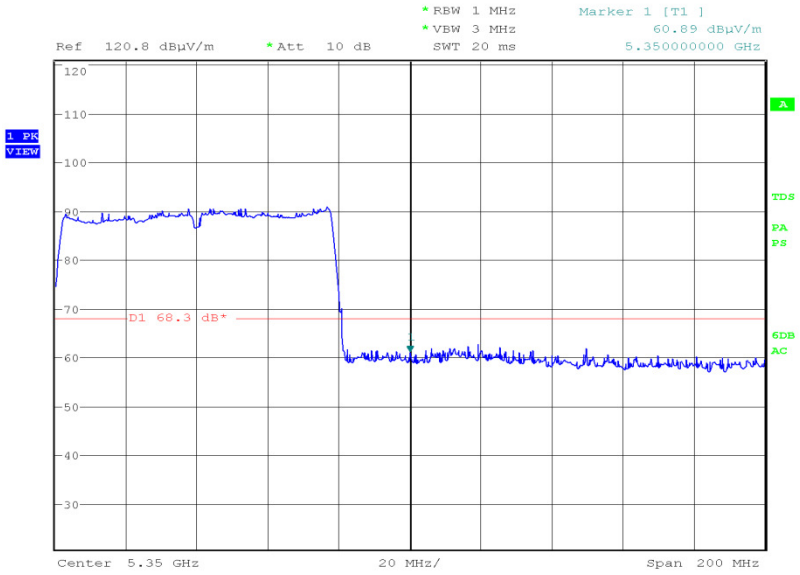
802.11ac 80 MHz Bandwidth, MCS0, Authorised Band Edges Results

5210 MHz	5290 MHz	5530 MHz	5610 MHz	5775 MHz			
Measured Frequency 5150 MHz	Measured Frequency 5350 MHz	Measured Frequency 5470 MHz	Measured Frequency 5725 MHz	Measured Frequency 5715 MHz	Measured Frequency 5725 MHz	Measured Frequency 5850 MHz	Measured Frequency 5860 MHz
dBm	dBm	dBm	dBm	dBm	dBm	dBm	dBm
Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak
-34.48	-34.31	-33.38	-35.57	-31.95	-32.19	-32.01	-34.00

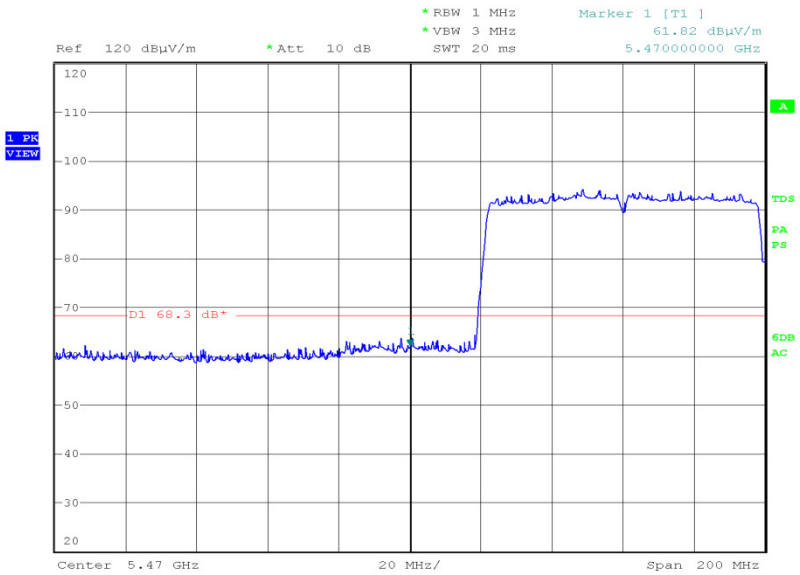
802.11ac 80 MHz Bandwidth, 5210 MHz, Measured Frequency 5150 MHz, MCS0, Final Peak, Authorised Band Edges Plot



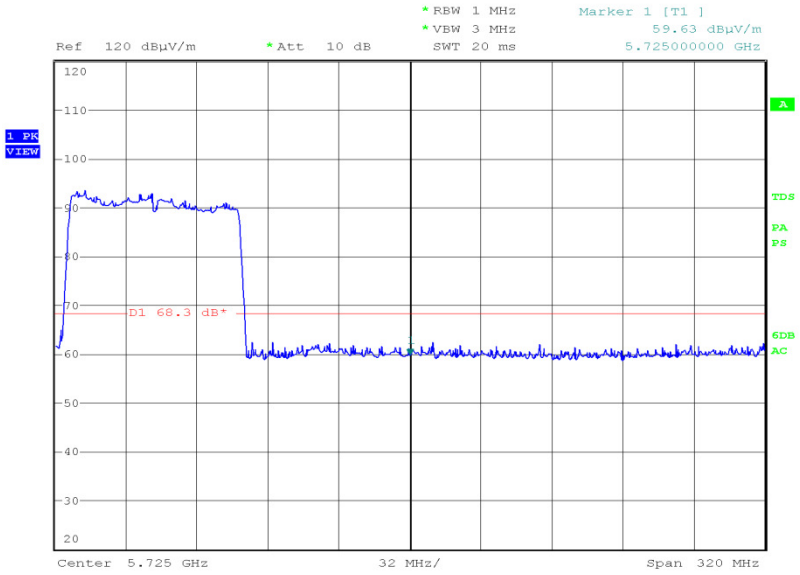
802.11ac 80 MHz Bandwidth, 5290 MHz, Measured Frequency 5350 MHz, MCS0, Final Peak, Authorised Band Edges Plot



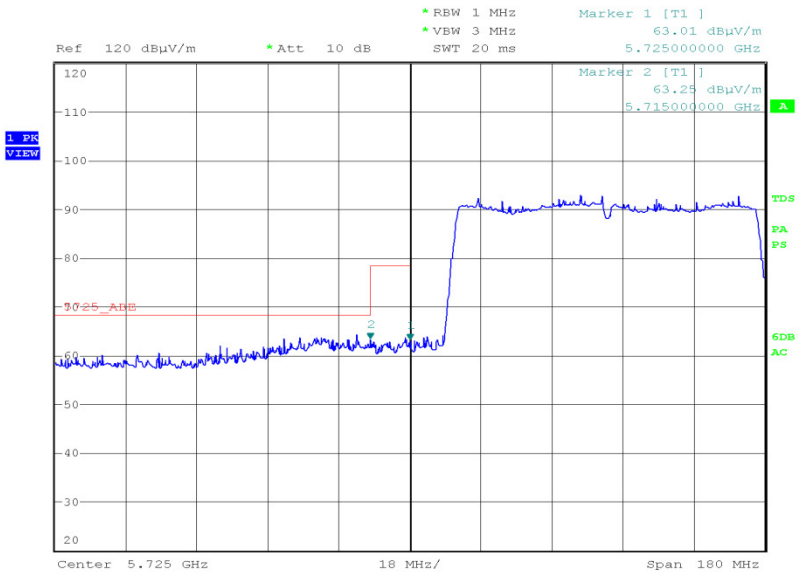
802.11ac 80 MHz Bandwidth, 5530 MHz, Measured Frequency 5470 MHz, MCS0, Final Peak, Authorised Band Edges Plot



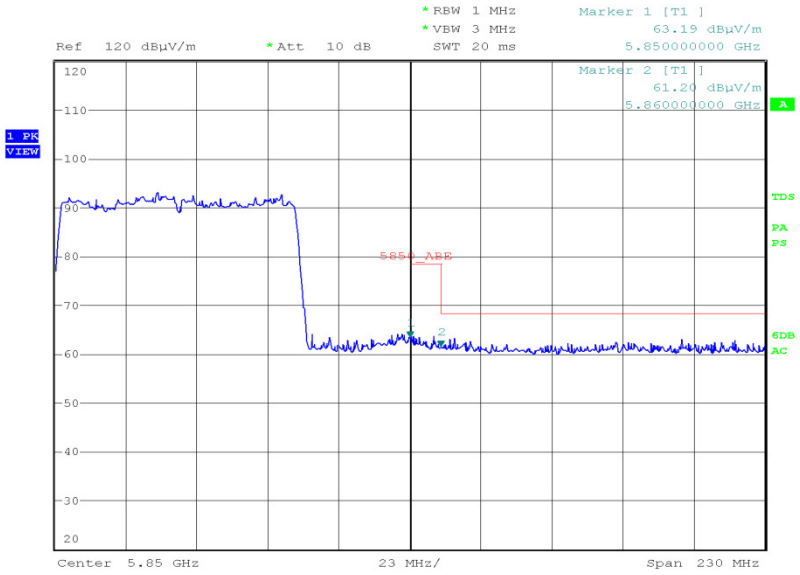
802.11ac 80 MHz Bandwidth, 5610 MHz, Measured Frequency 5725 MHz, MCS0, Final Peak, Authorised Band Edges Plot



802.11ac 80 MHz Bandwidth, 5775 MHz, Measured Frequency 5725 MHz, MCS0, Final Peak, Authorised Band Edges Plot



802.11ac 80 MHz Bandwidth, 5775 MHz, Measured Frequency 5850 MHz, MCS0, Final Peak, Authorised Band Edges Plot



Remark

The test was performed on MCS8 because this was deemed the worst case data rate for Conducted Output Power.

The test was performed on MCS0 because this was deemed the worst case data rate for 6 dB Bandwidth.

FCC 47 CFR Part 15, Limit Clause 15.407 (b(1)(2)(3)(4)

5.15 GHz to 5.25 GHz	-27 dBm/MHz
5.25 GHz to 5.35 GHz	-27 dBm/MHz
5.47 GHz to 5.725 GHz	-27 dBm/MHz
5.725 GHz to 5.850 GHz	-17 dBm/MHz

Industry Canada RSS-247, Limit Clause 6.2

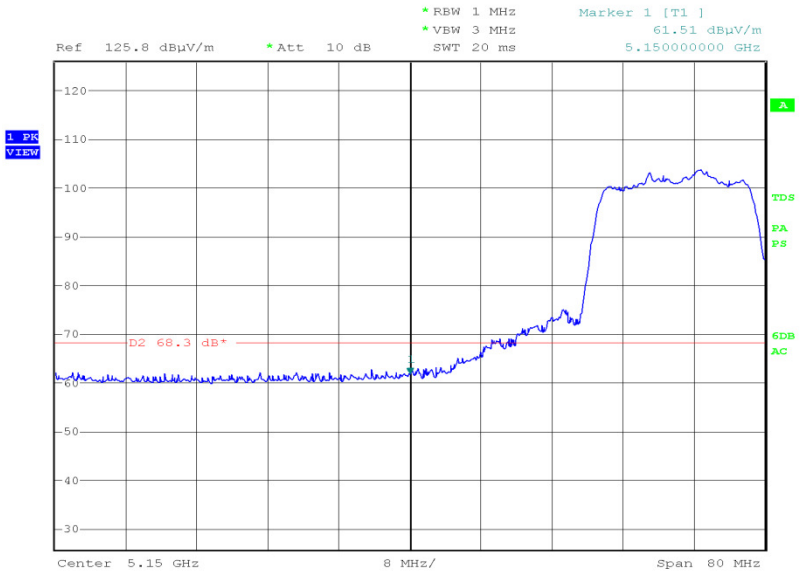
5.15 GHz to 5.25 GHz	-27 dBm/MHz
5.25 GHz to 5.35 GHz	-27 dBm/MHz
5.47 GHz to 5.725 GHz	-27 dBm/MHz
5.725 GHz to 5.850 GHz	-17 dBm/MHz

Product Service

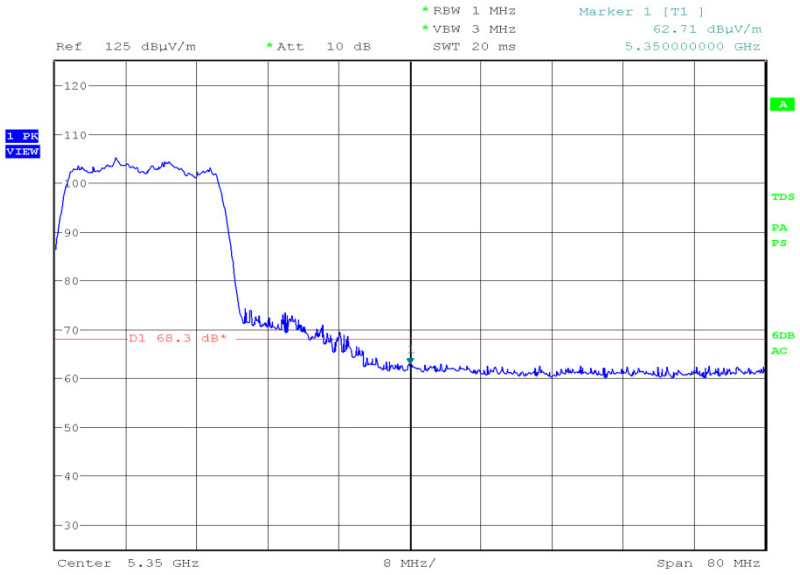
802.11n 20 MHz Bandwidth, MCS0, Authorised Band Edges Results

5180 MHz	5320 MHz	5500 MHz	5700 MHz	5745 MHz		5825 MHz	
Measured Frequency 5150 MHz	Measured Frequency 5350 MHz	Measured Frequency 5470 MHz	Measured Frequency 5725 MHz	Measured Frequency 5715 MHz	Measured Frequency 5725 MHz	Measured Frequency 5850 MHz	Measured Frequency 5860 MHz
dBm	dBm	dBm	dBm	dBm	dBm	dBm	dBm
Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak
-33.69	-32.49	-31.50	-32.61	-32.15	-23.79	-28.77	-32.03

802.11n 20 MHz Bandwidth, 5180 MHz, Measured Frequency 5150 MHz, MCS0, Final Peak, Authorised Band Edges Plot

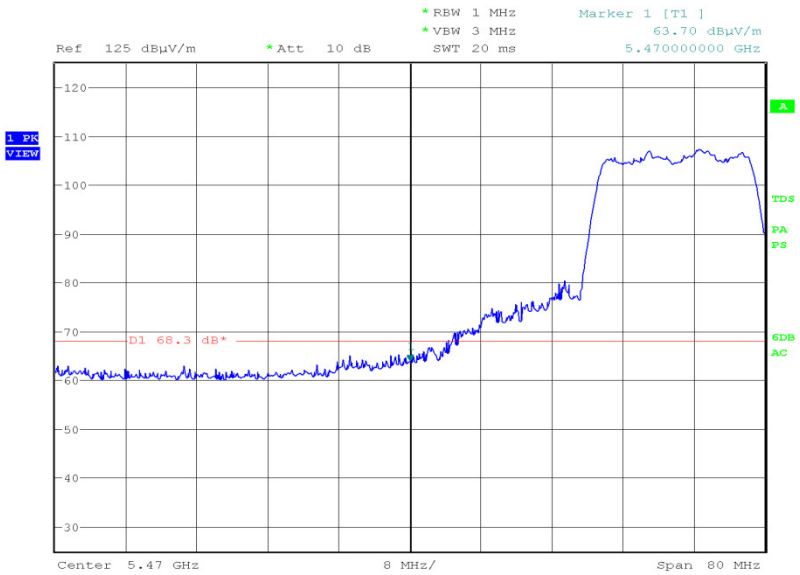


802.11n 20 MHz Bandwidth, 5320 MHz, Measured Frequency 5350 MHz, MCS0, Final Peak, Authorised Band Edges Plot



Date: 10.MAY.2016 17:00:47

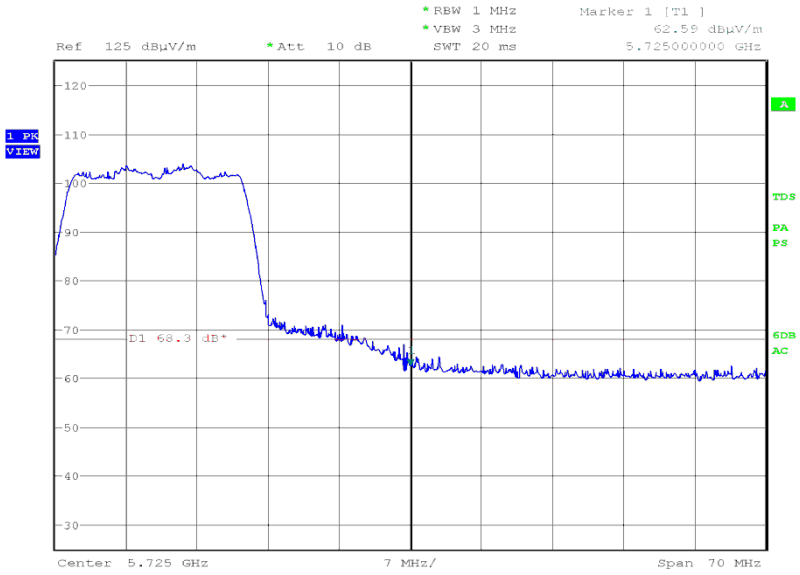
802.11n 20 MHz Bandwidth, 5500 MHz, Measured Frequency 5470 MHz, MCS0, Final Peak, Authorised Band Edges Plot



Date: 10.MAY.2016 17:11:24

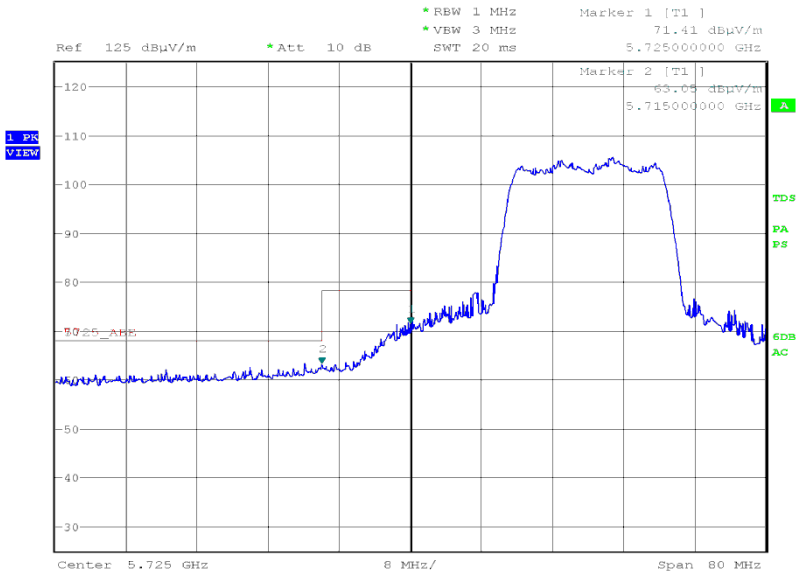
Product Service

802.11n 20 MHz Bandwidth, 5700 MHz, Measured Frequency 5725 MHz, MCS0, Final Peak, Authorised Band Edges Plot



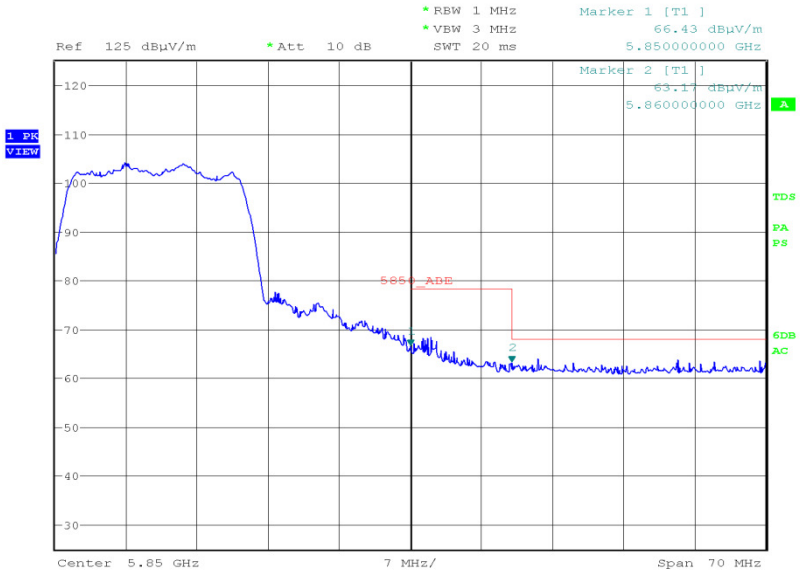
Date: 10.MAY.2016 17:23:11

802.11n 20 MHz Bandwidth, 5745 MHz, Measured Frequency 5725 MHz, MCS0, Final Peak, Authorised Band Edges Plot



Date: 10.MAY.2016 17:29:46

802.11n 20 MHz Bandwidth, 5825 MHz, Measured Frequency 5850 MHz, MCS0, Final Peak, Authorised Band Edges Plot



Remark

The test was performed on MCS0 because this was deemed the worst case data rate for Conducted Output Power.

The test was performed on MCS0 because this was deemed the worst case data rate for 6 dB Bandwidth.

FCC 47 CFR Part 15, Limit Clause 15.407 (b(1)(2)(3)(4)

5.15 GHz to 5.25 GHz	-27 dBm/MHz
5.25 GHz to 5.35 GHz	-27 dBm/MHz
5.47 GHz to 5.725 GHz	-27 dBm/MHz
5.725 GHz to 5.850 GHz	-17 dBm/MHz

Industry Canada RSS-247, Limit Clause 6.2

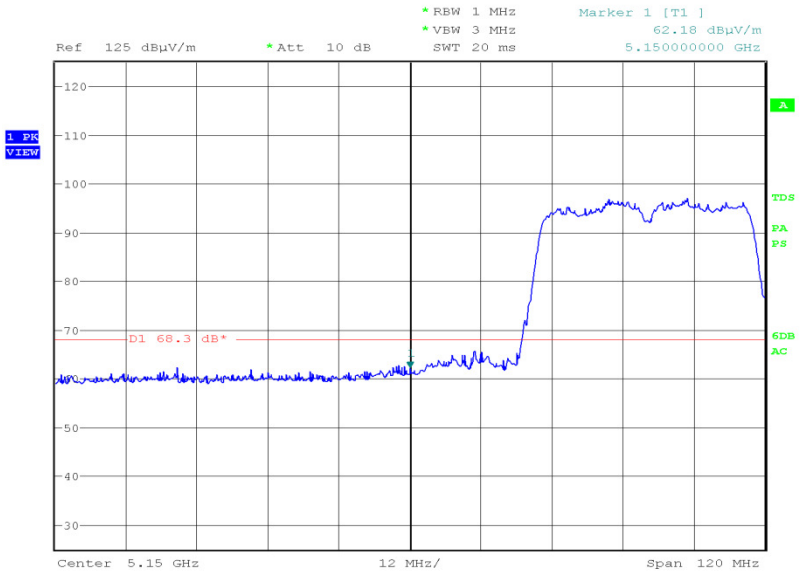
5.15 GHz to 5.25 GHz	-27 dBm/MHz
5.25 GHz to 5.35 GHz	-27 dBm/MHz
5.47 GHz to 5.725 GHz	-27 dBm/MHz
5.725 GHz to 5.850 GHz	-17 dBm/MHz

Product Service

802.11n 40 MHz Bandwidth, MCS0, Authorised Band Edges Results

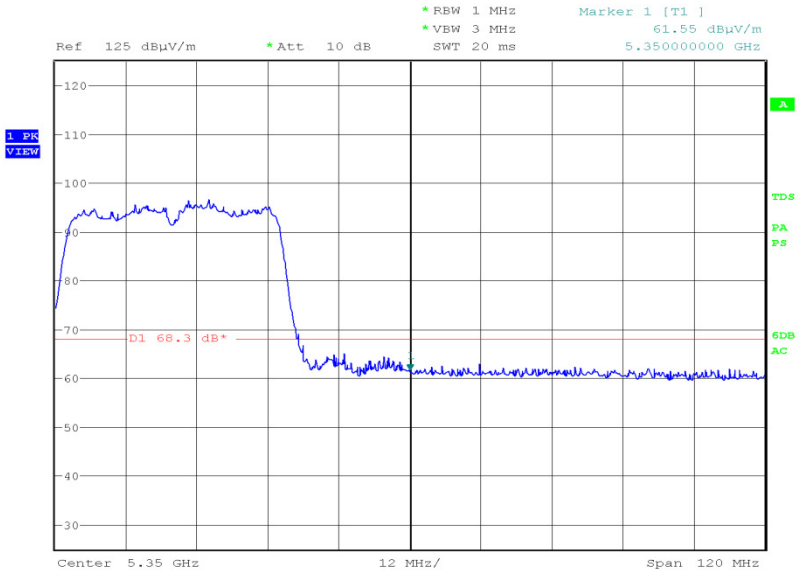
5190 MHz	5310 MHz	5510 MHz	5670 MHz	5755 MHz		5795 MHz	
Measured Frequency 5150 MHz	Measured Frequency 5350 MHz	Measured Frequency 5470 MHz	Measured Frequency 5725 MHz	Measured Frequency 5715 MHz	Measured Frequency 5725 MHz	Measured Frequency 5850 MHz	Measured Frequency 5860 MHz
dBm	dBm	dBm	dBm	dBm	dBm	dBm	dBm
Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak
-33.02	-33.65	-31.35	-32.69	-31.50	-30.71	-34.10	-32.62

802.11n 40 MHz Bandwidth, 5190 MHz, Measured Frequency 5150 MHz, MCS0, Final Peak, Authorised Band Edges Plot



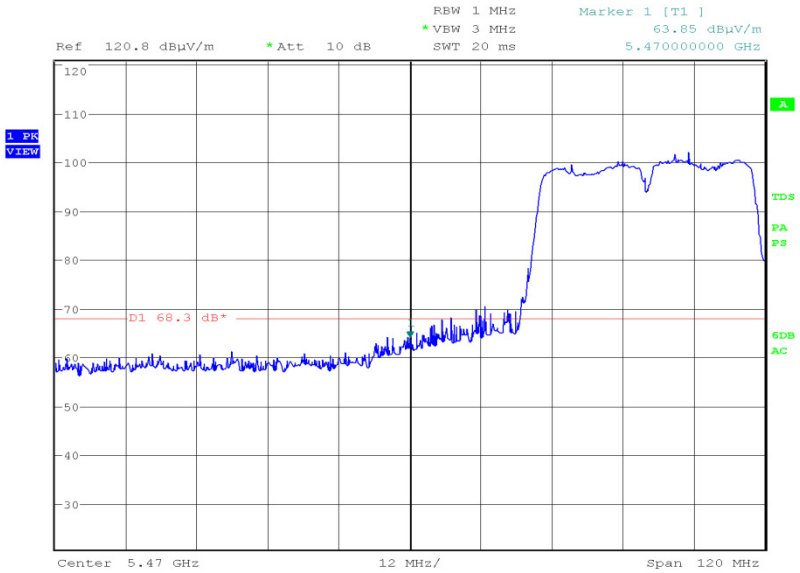
Date: 10.MAY.2016 18:16:27

802.11n 40 MHz Bandwidth, 5310 MHz, Measured Frequency 5350 MHz, MCS0, Final Peak, Authorised Band Edges Plot



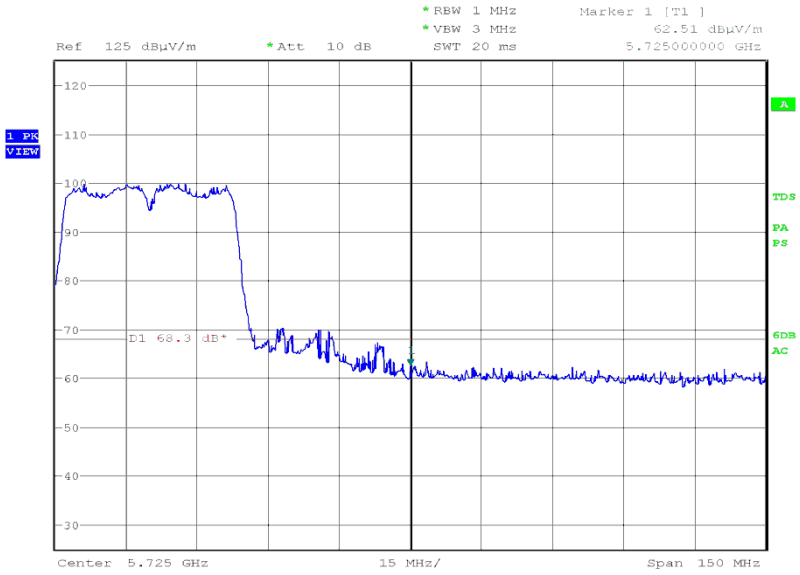
Date: 10.MAY.2016 18:37:27

802.11n 40 MHz Bandwidth, 5510 MHz, Measured Frequency 5470 MHz, MCS0, Final Peak, Authorised Band Edges Plot



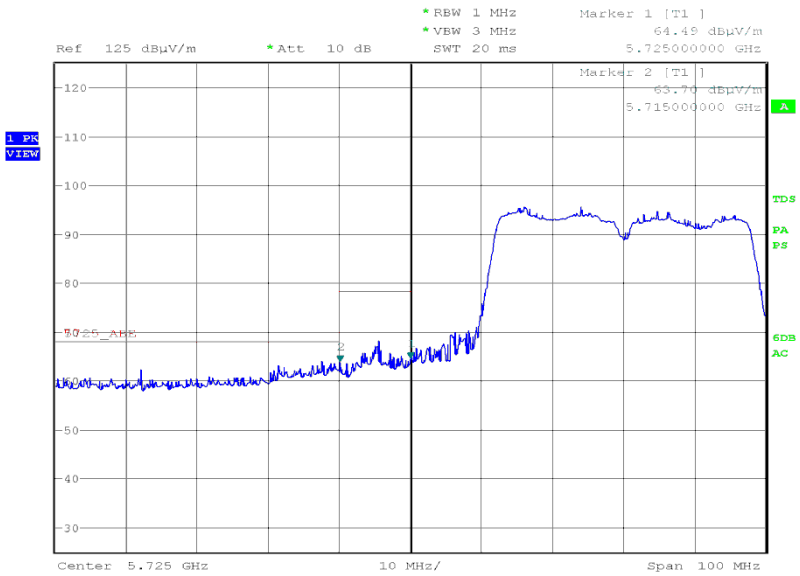
Date: 10.MAY.2016 21:08:49

802.11n 40 MHz Bandwidth, 5670 MHz, Measured Frequency 5725 MHz, MCS0, Final Peak, Authorised Band Edges Plot



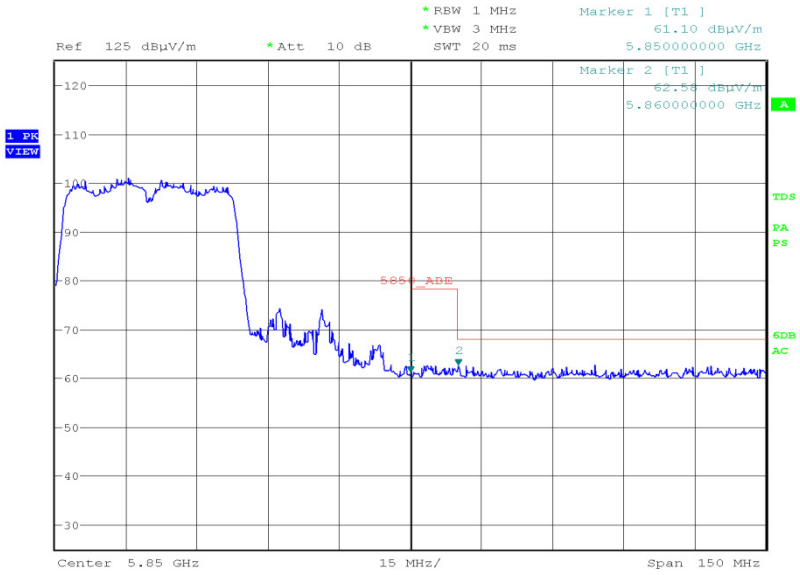
Date: 10.MAY.2016 19:06:05

802.11n 40 MHz Bandwidth, 5755 MHz, Measured Frequency 5725 MHz, MCS0, Final Peak, Authorised Band Edges Plot



Date: 10.MAY.2016 19:19:42

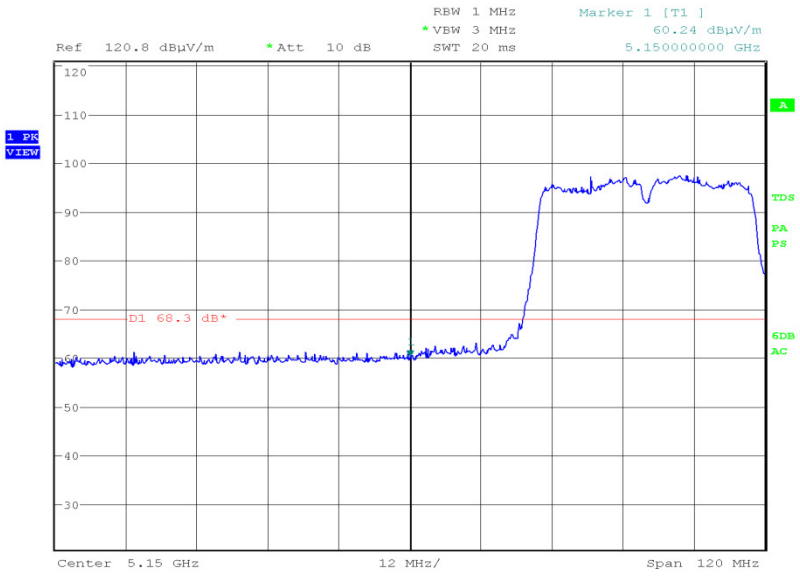
802.11n 40 MHz Bandwidth, 5795 MHz, Measured Frequency 5850 MHz, MCS0, Final Peak, Authorised Band Edges Plot



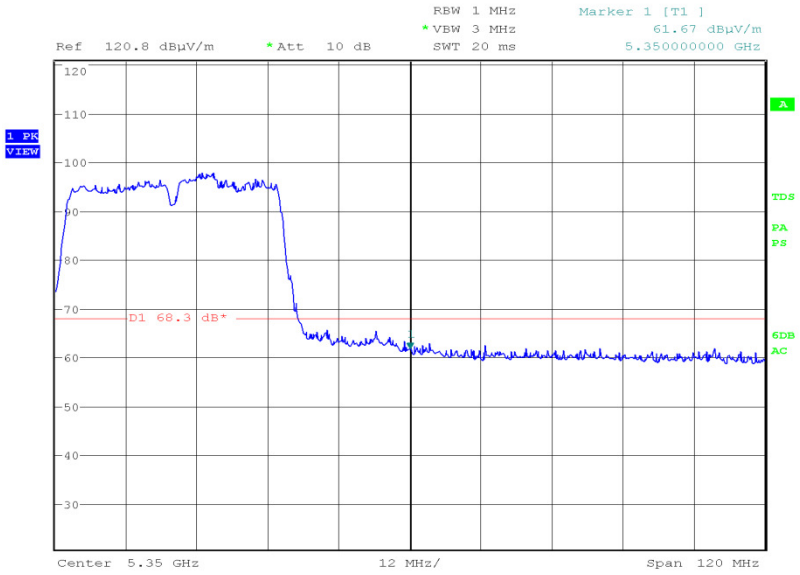
802.11n 40 MHz Bandwidth, MCS7, Authorised Band Edges Results

5190 MHz	5310 MHz	5510 MHz	5670 MHz	5755 MHz		5795 MHz	
Measured Frequency 5150 MHz	Measured Frequency 5350 MHz	Measured Frequency 5470 MHz	Measured Frequency 5725 MHz	Measured Frequency 5715 MHz	Measured Frequency 5725 MHz	Measured Frequency 5850 MHz	Measured Frequency 5860 MHz
dBm	dBm	dBm	dBm	dBm	dBm	dBm	dBm
Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak	Final Peak
-34.96	-33.53	-31.39	-34.99	-31.05	-29.79	-34.88	-34.23

802.11n 40 MHz Bandwidth, 5190 MHz, Measured Frequency 5150 MHz, MCS7, Final Peak, Authorised Band Edges Plot

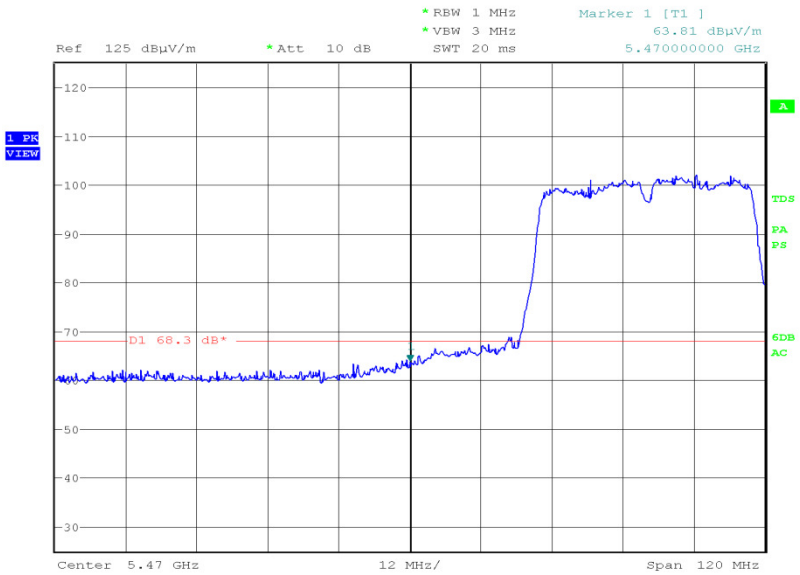


802.11n 40 MHz Bandwidth, 5310 MHz, Measured Frequency 5350 MHz, MCS7, Final Peak, Authorised Band Edges Plot



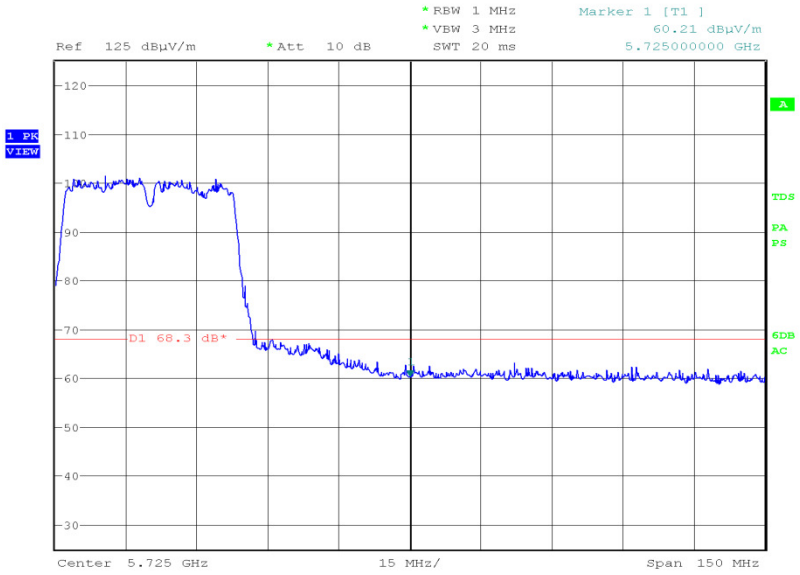
Date: 10.MAY.2016 20:53:39

802.11n 40 MHz Bandwidth, 5510 MHz, Measured Frequency 5470 MHz, MCS7, Final Peak, Authorised Band Edges Plot

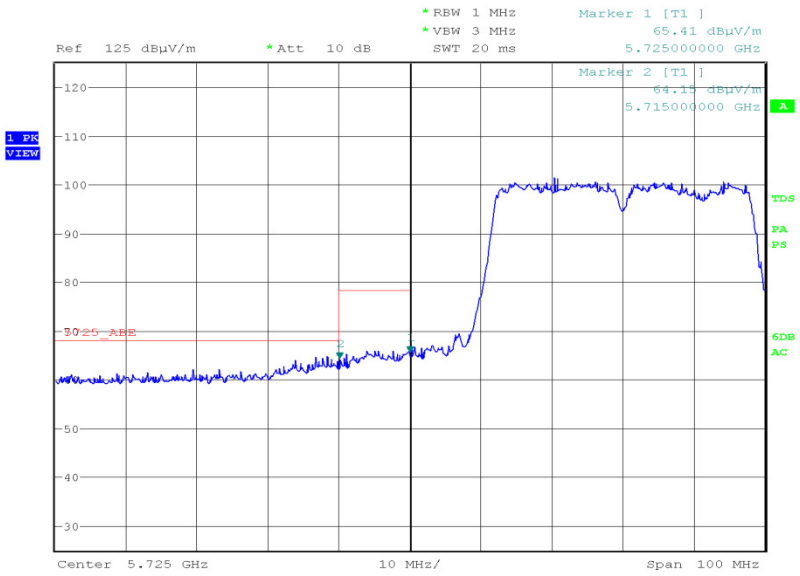


Date: 10.MAY.2016 20:32:03

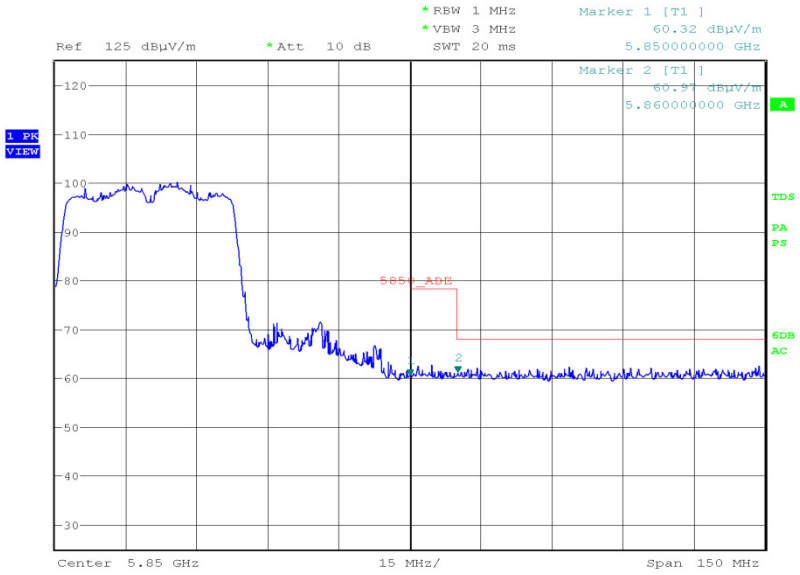
802.11n 40 MHz Bandwidth, 5670 MHz, Measured Frequency 5725 MHz, MCS7, Final Peak, Authorised Band Edges Plot



802.11n 40 MHz Bandwidth, 5755 MHz, Measured Frequency 5725 MHz, MCS7, Final Peak, Authorised Band Edges Plot



802.11n 40 MHz Bandwidth, 5795 MHz, Measured Frequency 5850 MHz, MCS7, Final Peak, Authorised Band Edges Plot



Date: 10.MAY.2016 19:52:30

Remark

The test was performed on MCS0 because this was deemed the worst case data rate for Conducted Output Power.

The test was performed on MCS7 because this was deemed the worst case data rate for 6 dB Bandwidth.

FCC 47 CFR Part 15, Limit Clause 15.407 (b(1)(2)(3)(4)

5.15 GHz to 5.25 GHz	-27 dBm/MHz
5.25 GHz to 5.35 GHz	-27 dBm/MHz
5.47 GHz to 5.725 GHz	-27 dBm/MHz
5.725 GHz to 5.850 GHz	-17 dBm/MHz

Industry Canada RSS-247, Limit Clause 6.2

5.15 GHz to 5.25 GHz	-27 dBm/MHz
5.25 GHz to 5.35 GHz	-27 dBm/MHz
5.47 GHz to 5.725 GHz	-27 dBm/MHz
5.725 GHz to 5.850 GHz	-17 dBm/MHz

Product Service

SECTION 3

TEST EQUIPMENT USED

Product Service

3.1 TEST EQUIPMENT USED

List of absolute measuring and other principal items of test equipment.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
Section 2.1 – AC Line Conducted Emissions					
LISN	Rohde & Schwarz	ESH2-Z5	17	12	11-Feb-2017
Multimeter	Iso-tech	IDM-101	466	12	11-Sep-2016
Hygrometer	Rotronic	A1	1388	12	13-Apr-2017
Screened Room (5)	Rainford	Rainford	1545	36	20-Dec-2017
Transient Limiter	Hewlett Packard	11947A	2377	12	16-Feb-2017
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	2-Nov-2016
7m Armoured RF Cable	SSI Cable Corp.	1501-13-13-7m WA(-)	3600	-	TU
Section 2.2 - 26 dB Bandwidth					
Power Supply Unit	Farnell	LB30-4	158	-	O/P Mon
20dB/2W Attenuator	Narda	4772-20	462	-	TU
Cable (2m, SMA-SMA)	Reynolds	262-0248-2000	2400	12	20-Aug-2016
Multimeter	Iso-tech	IDM101	2424	12	29-Sep-2016
Hygrometer	Rotronic	I-1000	3220	12	19-Aug-2016
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	2-Sep-2016
Calibration Unit	Rohde & Schwarz	ZV-Z54	4368	12	7-Sep-2016
Frequency Standard	Spectracom	Secure Sync 1200-0408-0601	4393	6	3-Sep-2016
Section 2.3 - Maximum Conducted Output Power					
Power Supply Unit	Farnell	LB30-4	158	-	O/P Mon
20dB/2W Attenuator	Narda	4772-20	462	-	TU
Cable (2m, SMA-SMA)	Reynolds	262-0248-2000	2400	12	20-Aug-2016
Multimeter	Iso-tech	IDM101	2424	12	29-Sep-2016
Hygrometer	Rotronic	I-1000	3220	12	19-Aug-2016
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	2-Sep-2016
P-Series Power Meter	Agilent Technologies	N1911A	3980	12	25-Sep-2016
50 MHz-18 GHz Wideband Power Sensor	Agilent Technologies	N1921A	3982	12	25-Sep-2016
Calibration Unit	Rohde & Schwarz	ZV-Z54	4368	12	7-Sep-2016
Section 2.4 - Peak Power Spectral Density					
Power Supply Unit	Farnell	LB30-4	158	-	O/P Mon
20dB/2W Attenuator	Narda	4772-20	462	-	TU
Cable (2m, SMA-SMA)	Reynolds	262-0248-2000	2400	12	20-Aug-2016
Multimeter	Iso-tech	IDM101	2424	12	29-Sep-2016
Hygrometer	Rotronic	I-1000	3220	12	19-Aug-2016
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	2-Sep-2016
Calibration Unit	Rohde & Schwarz	ZV-Z54	4368	12	7-Sep-2016
Frequency Standard	Spectracom	Secure Sync 1200-0408-0601	4393	6	3-Sep-2016
PXA Signal Analyser	Agilent Technologies	N9030A PXA	4409	12	8-Mar-2017
RadiPower Pulse Wireless Power Meter	DARE!! Instruments	RPR3006W	4438	0	15-Sep-2016
PXA Signal Analyser	Keysight Technologies	N9030A	4654	12	8-Oct-2016

Product Service

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
Section 2.5 - Spurious Radiated Emissions					
Antenna 18-40GHz (Double Ridge Guide)	Link Microtek Ltd	AM180HA-K-TU2	230	24	12-Feb-2018
Antenna (Double Ridge Guide, 1GHz-18GHz)	EMCO	3115	234	12	29-Apr-2017
Multimeter	Iso-tech	IDM-101	466	12	11-Sep-2016
Hygrometer	Rotronic	A1	1388	12	13-Apr-2017
Antenna 18-40GHz (Double Ridge Guide)	Q-Par Angus Ltd	QSH 180K	1511	24	27-Nov-2016
Pre-Amplifier	Phase One	PS04-0086	1533	12	30-Jul-2016
18GHz - 40GHz Pre-Amplifier	Phase One	PSO4-0087	1534	12	23-Dec-2016
Screened Room (5)	Rainford	Rainford	1545	36	20-Dec-2017
Turntable Controller	Inn-Co GmbH	CO 1000	1606	-	TU
Hygromer	Rotronic	A1	2138	12	9-Dec-2016
Cable (2m)	Rosenberger	FA147A2020002020	2195	12	19-Aug-2016
Multimeter	Iso-tech	IDM101	2417	12	29-Sep-2016
Filter (Hi Pass)	Lorch	9HP7-7000-SR	2833	12	5-Feb-2017
Antenna (Bilog)	Chase	CBL6143	2904	24	11-Jun-2017
Compliance 5 Emissions	Schaffner	C5e Software V.5.00.00	3275	-	N/A - Software
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	2-Nov-2016
9m RF Cable (N Type)	Rhophase	NPS-2303-9000-NPS	3791	-	TU
Tilt Antenna Mast	maturo Gmbh	TAM 4.0-P	3916	-	TU
Mast Controller	maturo Gmbh	NCD	3917	-	TU
Cable 1503 2M 2.92(P)m 2.92(P)m	Rhophase	KPS-1503A-2000-KPS	4293	-	O/P Mon
1GHz to 8GHz Low Noise Amplifier	Wright Technologies	APS04-0085	4365	12	6-Oct-2016
Suspended Substrate Highpass Filter	Advance Power Components	11SH10-3000/X18000-O/O	4411	12	23-Mar-2017
Cable (Yellow, Rx, Km-Km 2m)	Scott Cables	KPS-1501-2000-KPS	4527	-	TU
Double Ridged Waveguide Horn Antenna	ETS-Lindgren	3117	4722	12	29-Dec-2016
Section 2.6 - Frequency Stability					
Power Supply Unit	Farnell	LB30-4	158	-	O/P Mon
Climatic Chamber	Votsch	VT4002	161	-	O/P Mon
20dB/2W Attenuator	Narda	4772-20	462	-	TU
Digital Temperature Indicator	Fluke	51	2267	12	9-Dec-2016
Cable (2m, SMA-SMA)	Reynolds	262-0248-2000	2400	12	20-Aug-2016
Multimeter	Iso-tech	IDM101	2424	12	29-Sep-2016
Hygrometer	Rotronic	I-1000	3220	12	19-Aug-2016
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	2-Sep-2016
Calibration Unit	Rohde & Schwarz	ZV-Z54	4368	12	7-Sep-2016
Frequency Standard	Spectracom	Secure Sync 1200-0408-0601	4393	6	3-Sep-2016
PXA Signal Analyser	Agilent Technologies	N9030A PXA	4409	12	8-Mar-2017
PXA Signal Analyser	Keysight Technologies	N9030A	4654	12	8-Oct-2016

Product Service

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
Section 2.7 - Restricted Band Edges					
Screened Room (5)	Rainford	Rainford	1545	36	20-Dec-2017
Turntable Controller	Inn-Co GmbH	CO 1000	1606	-	TU
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	2-Nov-2016
Tilt Antenna Mast	maturo Gmbh	TAM 4.0-P	3916	-	TU
Mast Controller	maturo Gmbh	NCD	3917	-	TU
Double Ridged Waveguide Horn Antenna	ETS-Lindgren	3117	4722	12	29-Dec-2016
Section 2.8 - Authorised Band Edges					
Screened Room (5)	Rainford	Rainford	1545	36	20-Dec-2017
Turntable Controller	Inn-Co GmbH	CO 1000	1606	-	TU
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	2-Nov-2016
Tilt Antenna Mast	maturo Gmbh	TAM 4.0-P	3916	-	TU
Mast Controller	maturo Gmbh	NCD	3917	-	TU
Double Ridged Waveguide Horn Antenna	ETS-Lindgren	3117	4722	12	29-Dec-2016

TU – Traceability Unscheduled
O/P MON – Output Monitored with Calibrated Equipment

Product Service

3.2 MEASUREMENT UNCERTAINTY

For a 95% confidence level, the measurement uncertainties for defined systems are:-

Test Discipline	MU
Authorised Band Edges	Conducted: ± 3.454 dB Radiated: ± 3.08 dB
26 dB Bandwidth	± 5.72 kHz
Spurious Radiated Emissions	± 3.08 dB
Maximum Conducted Output Power	Conducted: ± 0.70 dB
Peak Power Spectral Density	± 3.0 dB
Frequency Stability	± 90.32 Hz
AC Line Conducted Emissions	± 3.2 dB
Restricted Band Edges	Conducted: ± 3.454 dB Radiated: ± 3.08 dB

Product Service

SECTION 4

ACCREDITATION, DISCLAIMERS AND COPYRIGHT

4.1 ACCREDITATION, DISCLAIMERS AND COPYRIGHT

This report relates only to the actual item/items tested.

Our UKAS Accreditation does not cover opinions and interpretations and any expressed are outside the scope of our UKAS Accreditation.

Results of tests not covered by our UKAS Accreditation Schedule are marked NUA (Not UKAS Accredited).