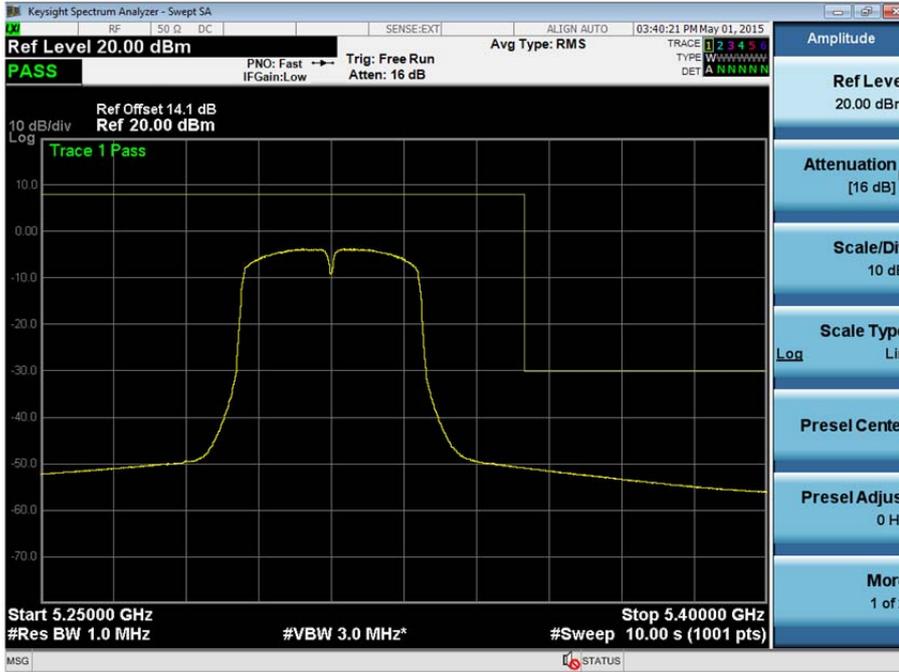




Product Service

802.11n - 5 GHz 40 MHz Bandwidth, 5310 MHz, +55.0, 3.7 V DC Frequency Band 2, Frequency Stability Plot



802.11n - 5 GHz 40 MHz Bandwidth, 5310 MHz, +55.0, 4.0 V DC, Frequency Band 2, Frequency Stability Plot

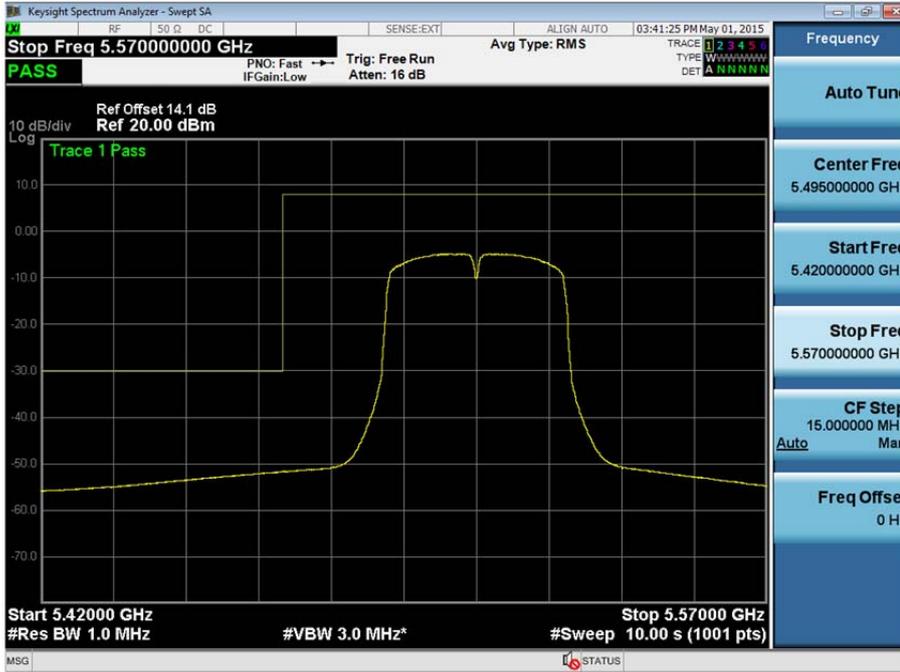




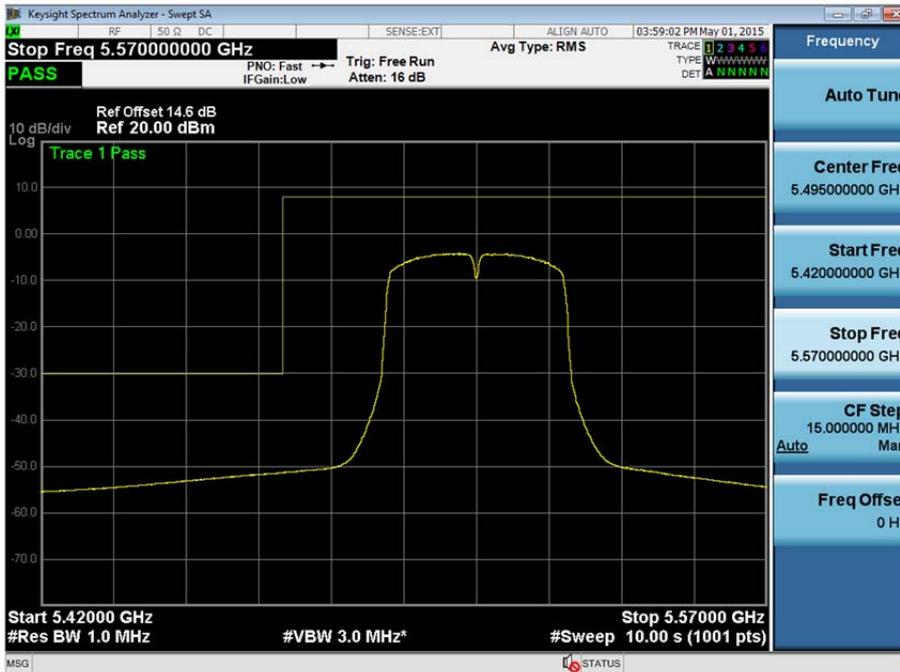


Product Service

802.11n - 5 GHz 40 MHz Bandwidth, 5510 MHz, +55.0, 3.7 V DC Frequency Band 3, Frequency Stability Plot



802.11n - 5 GHz 40 MHz Bandwidth, 5510 MHz, +55.0, 4.0 V DC, Frequency Band 3, Frequency Stability Plot







Product Service

802.11n - 5 GHz 40 MHz Bandwidth, 5670 MHz, +55.0, 3.7 V DC Frequency Band 3, Frequency Stability Plot



802.11n - 5 GHz 40 MHz Bandwidth, 5670 MHz, +55.0, 4.0 V DC, Frequency Band 3, Frequency Stability Plot



FCC 47 CFR Part 15, Limit Clause 15.407 (g)

Fundamental shall be maintained within the band of operation under all conditions of normal operations as specified in the user's manual.



Product Service

**2.7 RESTRICTED BAND EDGES****2.7.1 Specification Reference**

FCC 47 CFR Part 15E, Clause 15.205

**2.7.2 Equipment Under Test and Modification State**

SHV32 S/N: IMEI 004401115406825 - Modification State 0

**2.7.3 Date of Test**

26 April 2015

**2.7.4 Test Equipment Used**

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

**2.7.5 Test Procedure**

This test was performed in accordance with KDB 789033 D02 v01, Section II clause G.1, G.3, G.4 and G.5.

**2.7.6 Environmental Conditions**

Ambient Temperature	20.2°C
Relative Humidity	38.0%



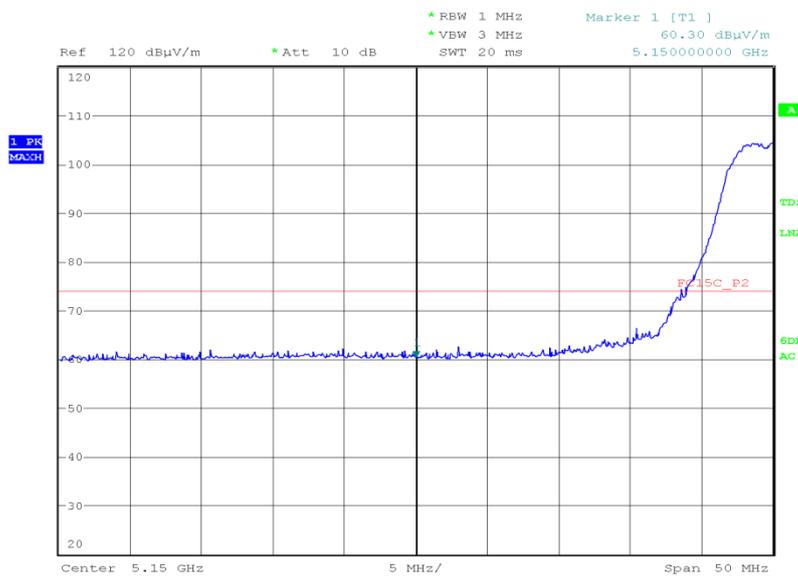
Product Service

2.7.7 Test Results

802.11a, 9 Mbps, 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
60.30	49.30	61.12	50.02	61.27	49.86

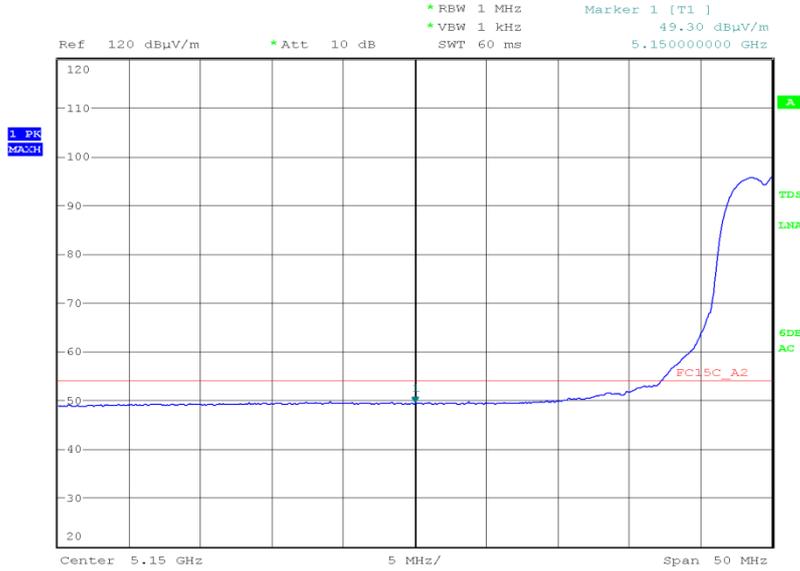
802.11a, 5180 MHz, Measured Frequency 5150 MHz, 9 Mbps, Final Peak, Restricted Band Edges Plot



Date: 20.APR.2015 19:59:35

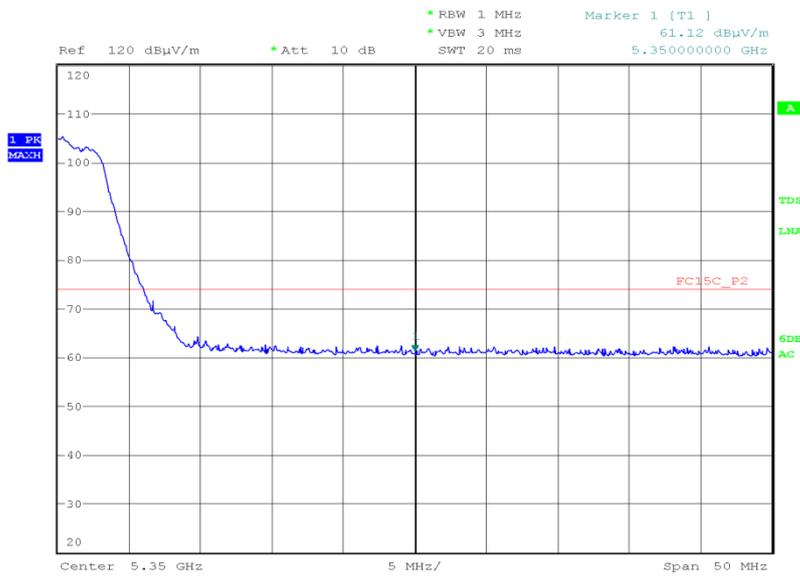


**802.11a, 5180 MHz, Measured Frequency 5150 MHz, 9 Mbps, Final Average, Restricted Band Edges Plot**



Date: 20.APR.2015 20:00:35

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

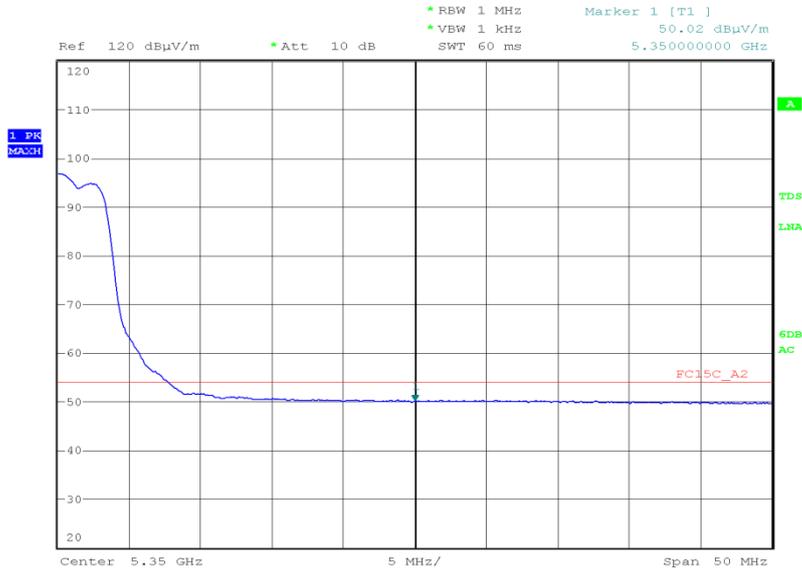


Date: 20.APR.2015 20:11:17



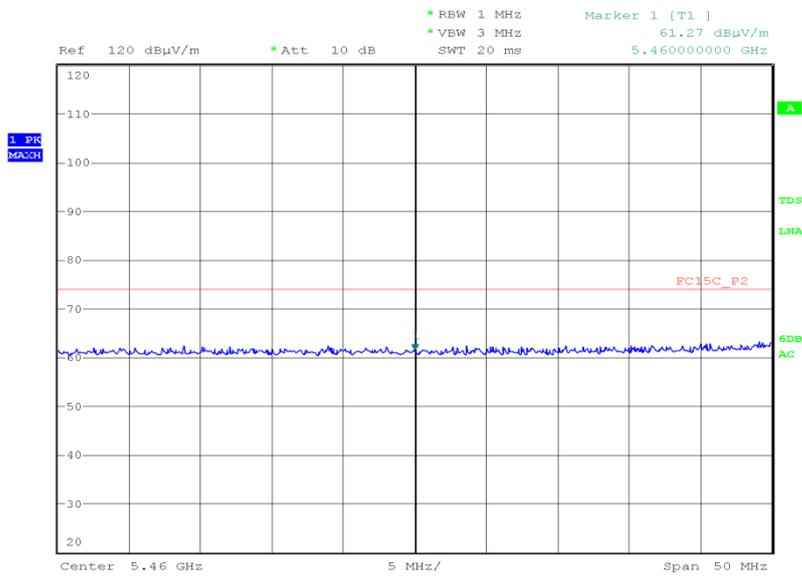
Product Service

**802.11a, 5320 MHz, Measured Frequency 5350 MHz, 9 Mbps, Final Average, Restricted Band Edges Plot**



Date: 20.APR.2015 20:11:59

**802.11a, 5500 MHz, Measured Frequency 5460 MHz, 9 Mbps, Final Peak, Restricted Band Edges Plot**

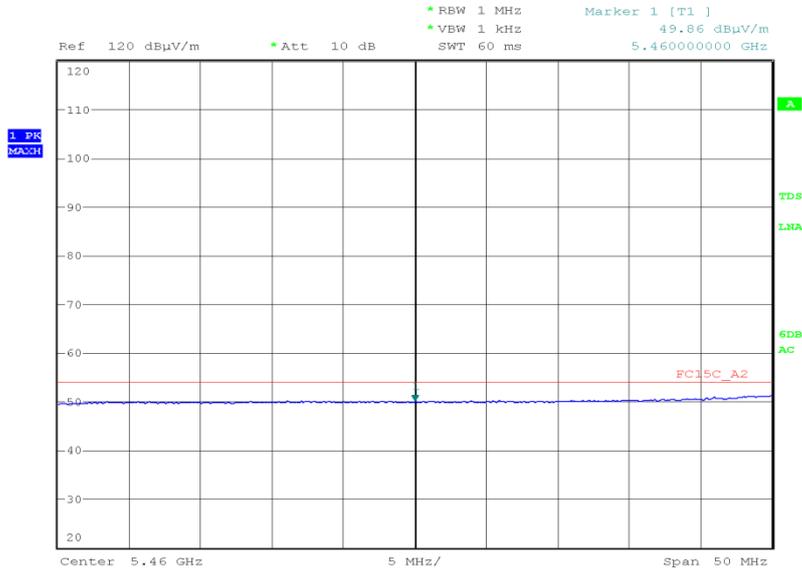


Date: 20.APR.2015 20:39:32



Product Service

802.11a, 5500 MHz, Measured Frequency 5460 MHz, 9 Mbps, Final Average, Restricted Band Edges Plot



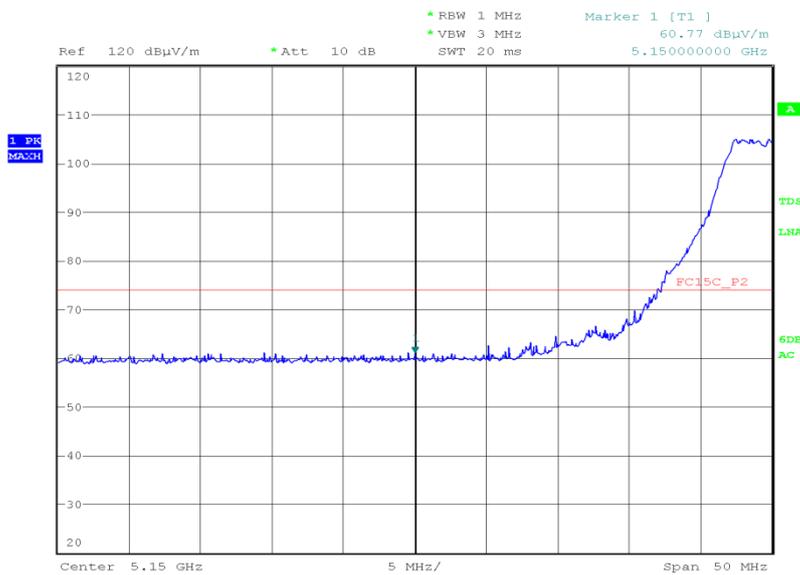
Date: 20.APR.2015 20:40:43



802.11a, 36 Mbps, 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
60.77	49.60	60.30	50.35	60.59	50.44

802.11a, 5180 MHz, Measured Frequency 5150 MHz, 36 Mbps, Final Peak, Restricted Band Edges Plot

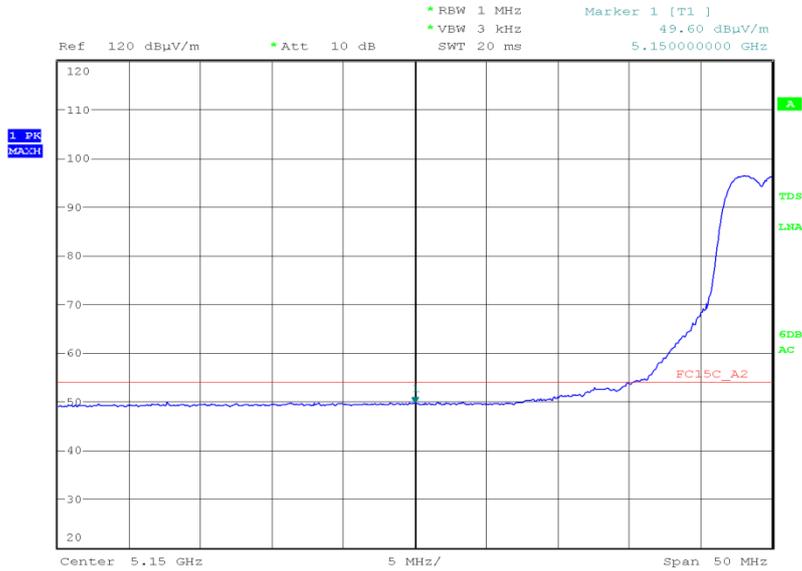


Date: 20.APR.2015 20:57:21



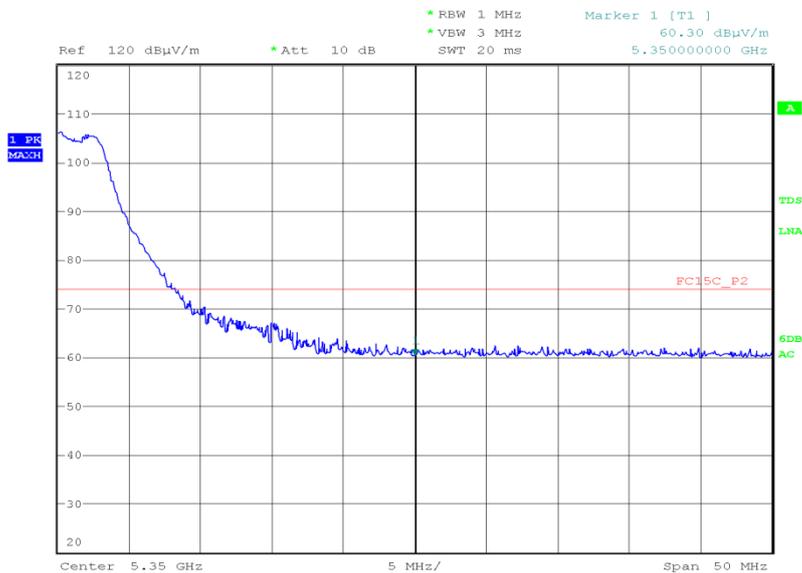
Product Service

**802.11a, 5180 MHz, Measured Frequency 5150 MHz, 36 Mbps, Final Average, Restricted Band Edges Plot**



Date: 20.APR.2015 20:58:34

**802.11a, 5320 MHz, Measured Frequency 5350 MHz, 36 Mbps, Final Peak, Restricted Band Edges Plot**

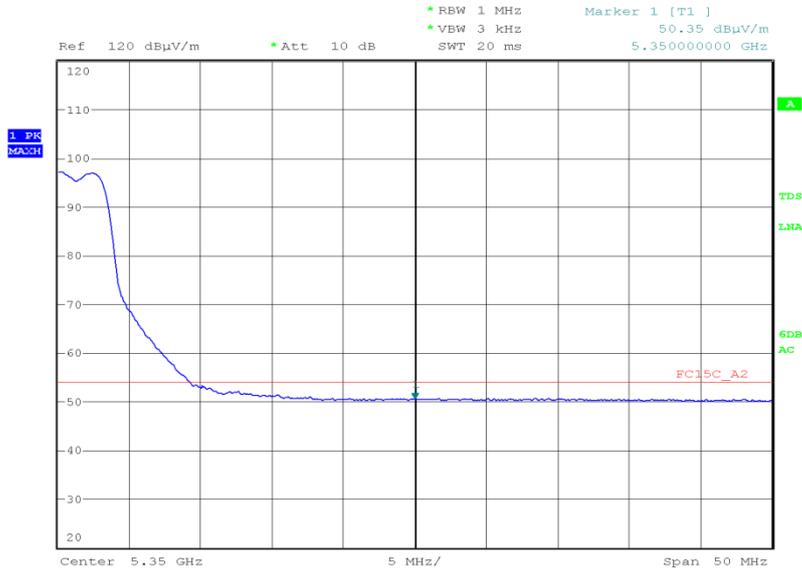


Date: 20.APR.2015 21:05:29



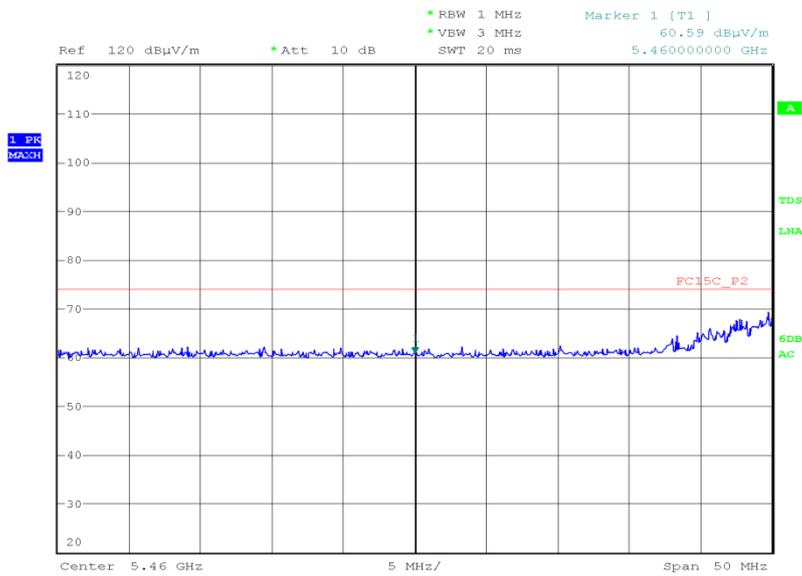
Product Service

**802.11a, 5320 MHz, Measured Frequency 5350 MHz, 36 Mbps, Final Average, Restricted Band Edges Plot**



Date: 20.APR.2015 21:03:43

**802.11a, 5500 MHz, Measured Frequency 5460 MHz, 36 Mbps, Final Peak, Restricted Band Edges Plot**

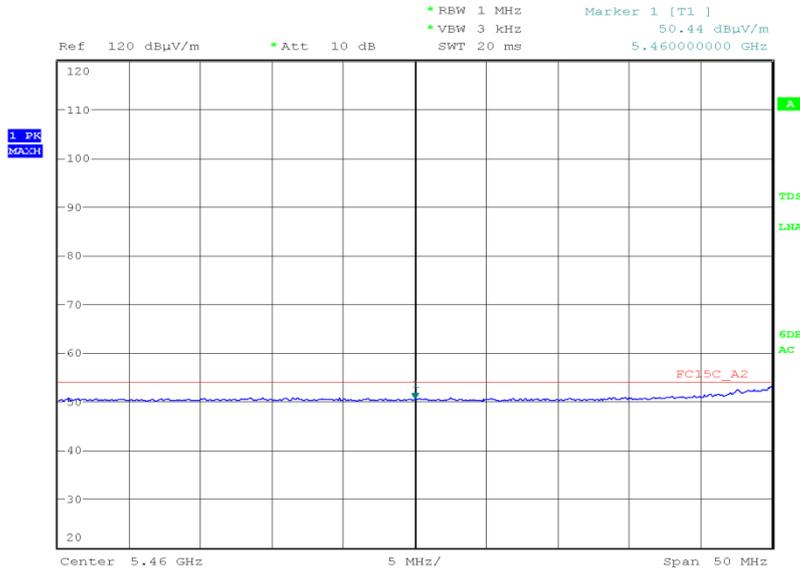


Date: 20.APR.2015 21:10:42



Product Service

802.11a, 5500 MHz, Measured Frequency 5460 MHz, 36 Mbps, Final Average, Restricted Band Edges Plot



Date: 20.APR.2015 21:11:49

Remark

The test was performed on 9 Mbps because this was deemed the worst case data rate for Conducted Output Power.

The test was performed on 36 Mbps because this was deemed the worst case data rate for 26 dB Bandwidth.

FCC 47 CFR Part 15, Limit Clause 15.205

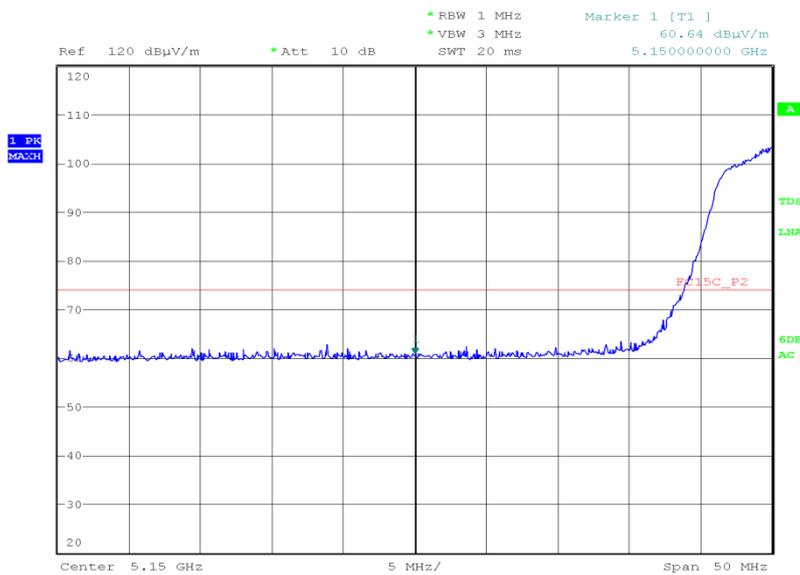
	Peak (dBµV/m)	Average (dBµV/m)
Restricted Bands of Operation	74	54



802.11ac - 5 GHz 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
60.64	49.28	60.44	49.81	60.40	49.56

802.11ac - 5 GHz 20 MHz Bandwidth, 5180 MHz, Measured Frequency 5150 MHz, MCS0, Final Peak, Restricted Band Edges Plot

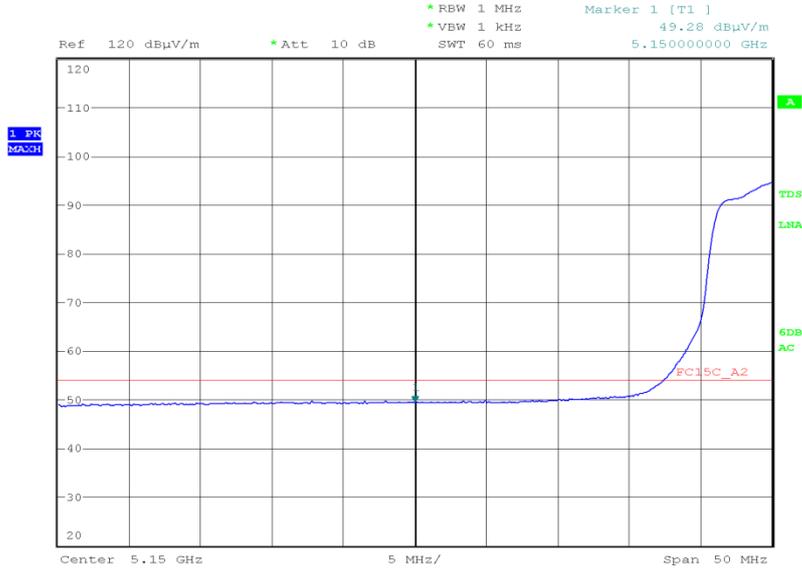


Date: 22.APR.2015 16:57:05



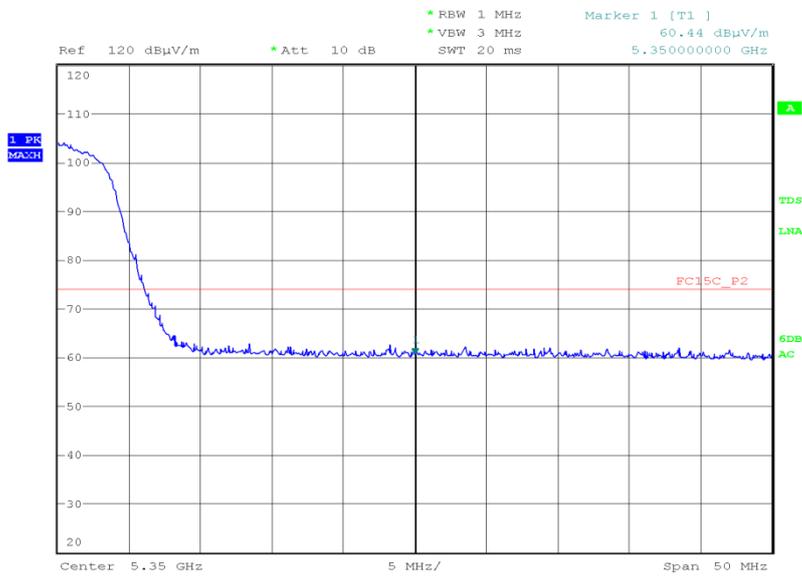
Product Service

802.11ac - 5 GHz 20 MHz Bandwidth, 5180 MHz, Measured Frequency 5150 MHz, MCS0, Final Average, Restricted Band Edges Plot



Date: 22.APR.2015 16:59:16

802.11ac - 5 GHz 20 MHz Bandwidth, 5320 MHz, Measured Frequency 5350 MHz, MCS0, Final Peak, Restricted Band Edges Plot

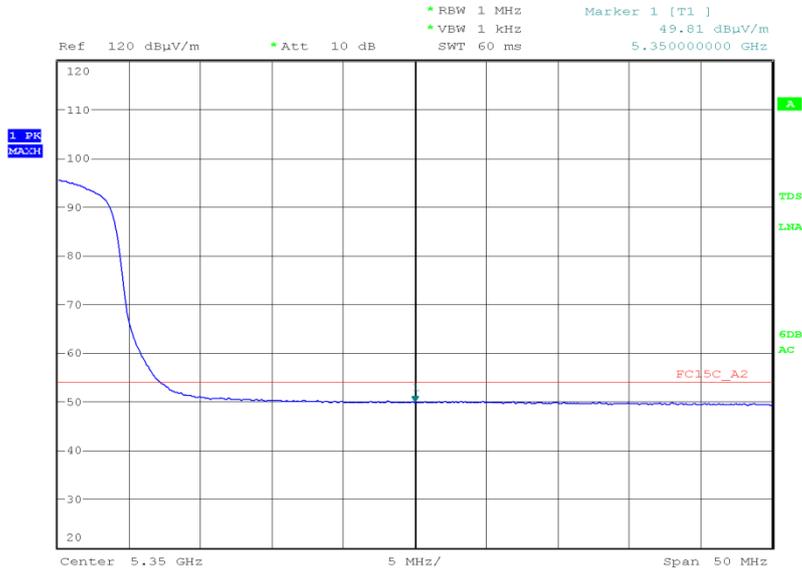


Date: 22.APR.2015 17:30:40



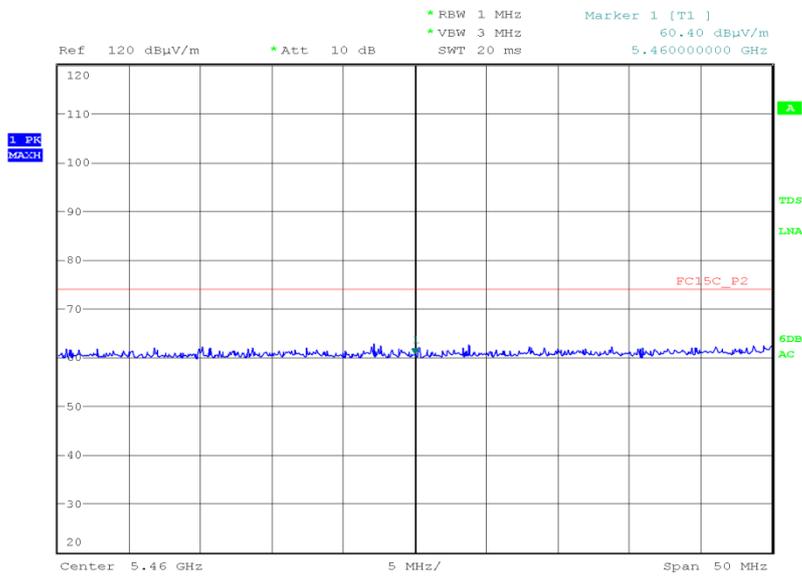
Product Service

**802.11ac - 5 GHz 20 MHz Bandwidth, 5320 MHz, Measured Frequency 5350 MHz, MCS0, Final Average, Restricted Band Edges Plot**



Date: 22.APR.2015 17:31:38

**802.11ac - 5 GHz 20 MHz Bandwidth, 5500 MHz, Measured Frequency 5460 MHz, MCS0, Final Peak, Restricted Band Edges Plot**

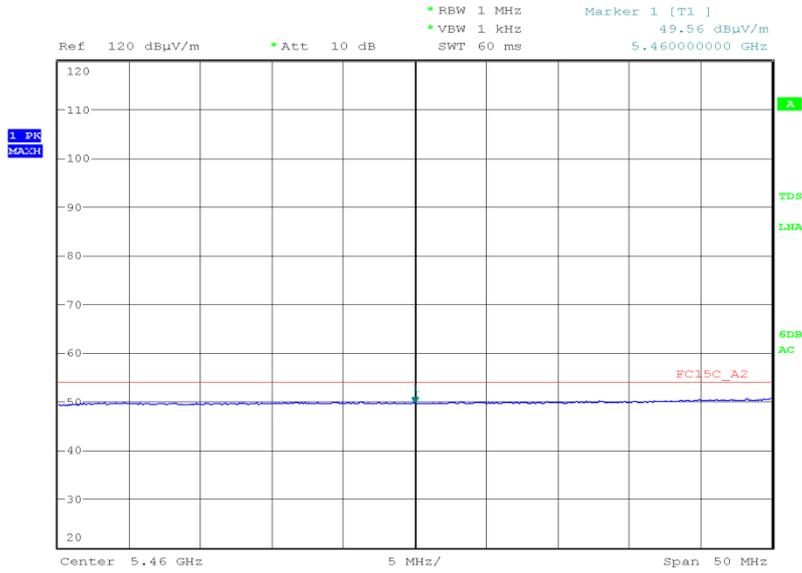


Date: 22.APR.2015 17:39:40



Product Service

802.11ac - 5 GHz 20 MHz Bandwidth, 5500 MHz, Measured Frequency 5460 MHz, MCS0, Final Average, Restricted Band Edges Plot



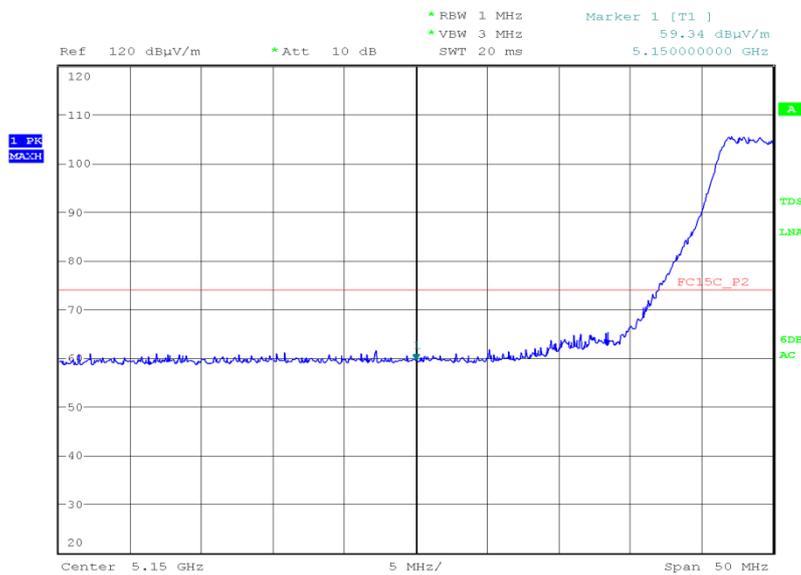
Date: 22.APR.2015 17:40:21



802.11ac - 5 GHz 20 MHz Bandwidth, MCS5, 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
59.34	49.66	60.15	50.15	60.13	50.37

802.11ac - 5 GHz 20 MHz Bandwidth, 5180 MHz, Measured Frequency 5150 MHz, MCS5, Final Peak, Restricted Band Edges Plot

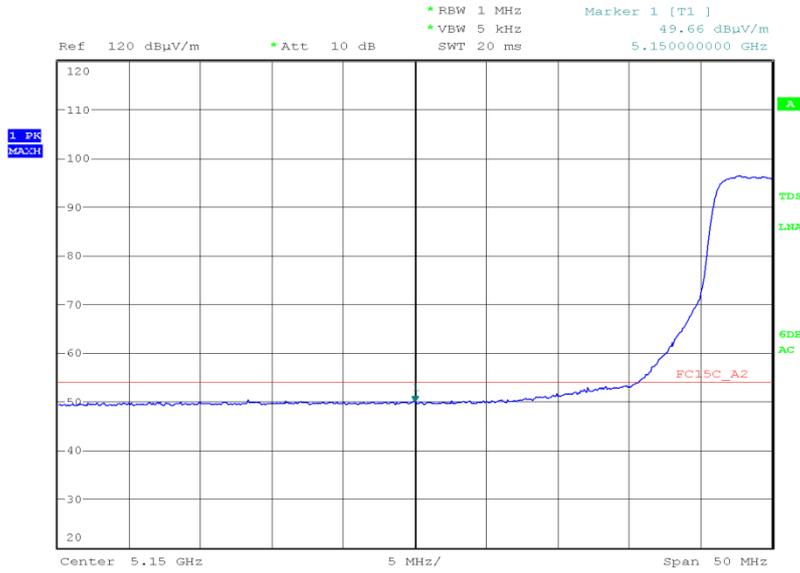


Date: 22.APR.2015 18:04:42



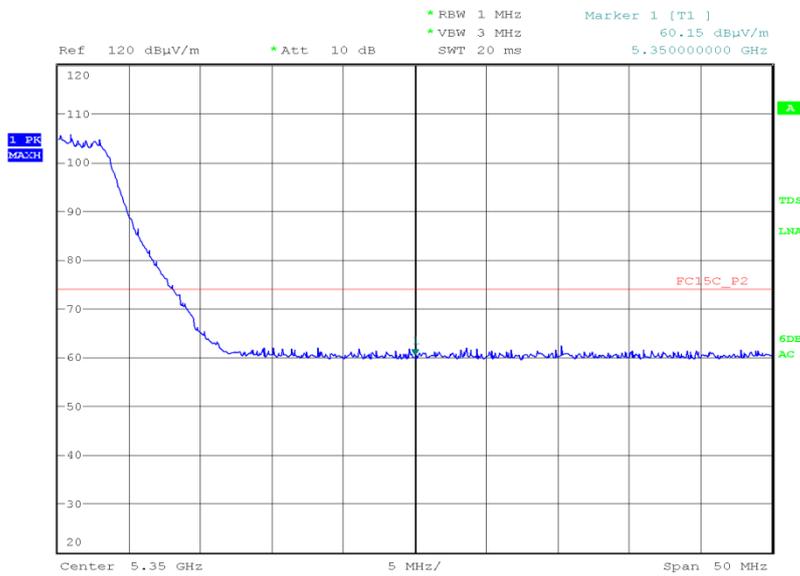
Product Service

802.11ac - 5 GHz 20 MHz Bandwidth, 5180 MHz, Measured Frequency 5150 MHz, MCS5, Final Average, Restricted Band Edges Plot



Date: 22.APR.2015 18:06:26

802.11ac - 5 GHz 20 MHz Bandwidth, 5320 MHz, Measured Frequency 5350 MHz, MCS5, Final Peak, Restricted Band Edges Plot

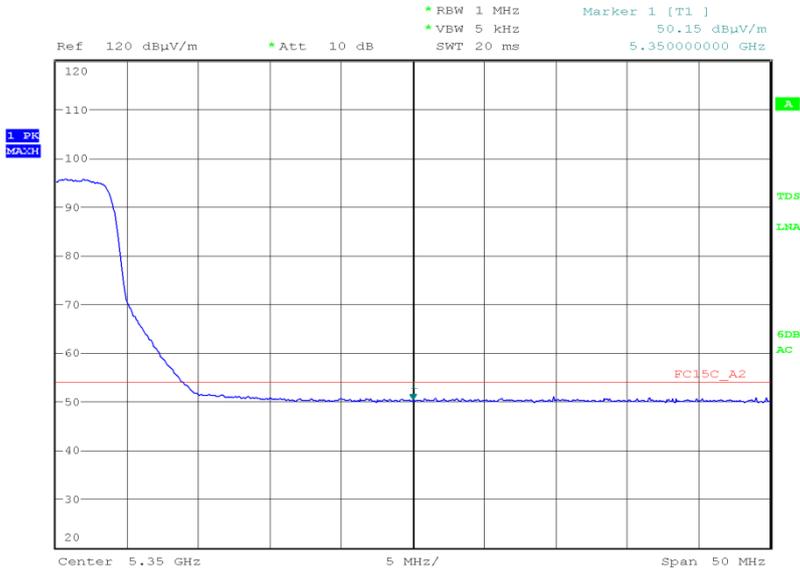


Date: 22.APR.2015 18:17:57



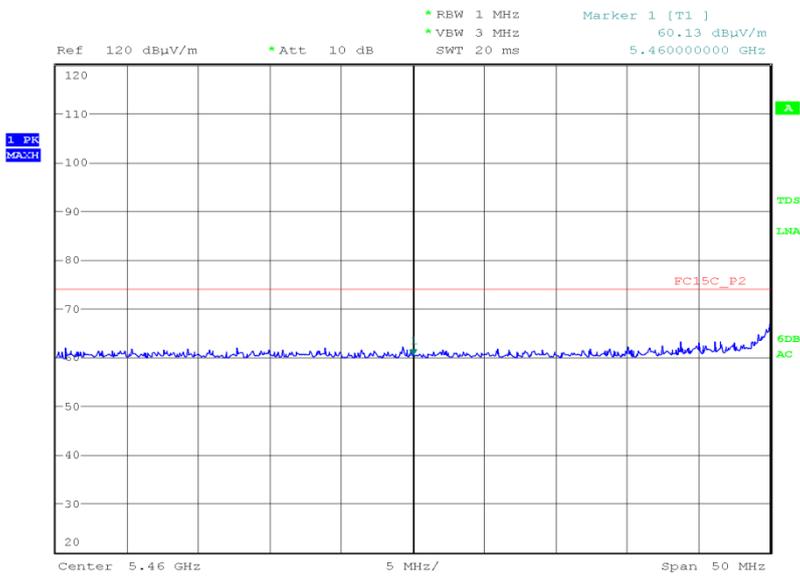
Product Service

802.11ac - 5 GHz 20 MHz Bandwidth, 5320 MHz, Measured Frequency 5350 MHz, MCS5, Final Average, Restricted Band Edges Plot



Date: 22.APR.2015 18:16:35

802.11ac - 5 GHz 20 MHz Bandwidth, 5500 MHz, Measured Frequency 5460 MHz, MCS5, Final Peak, Restricted Band Edges Plot

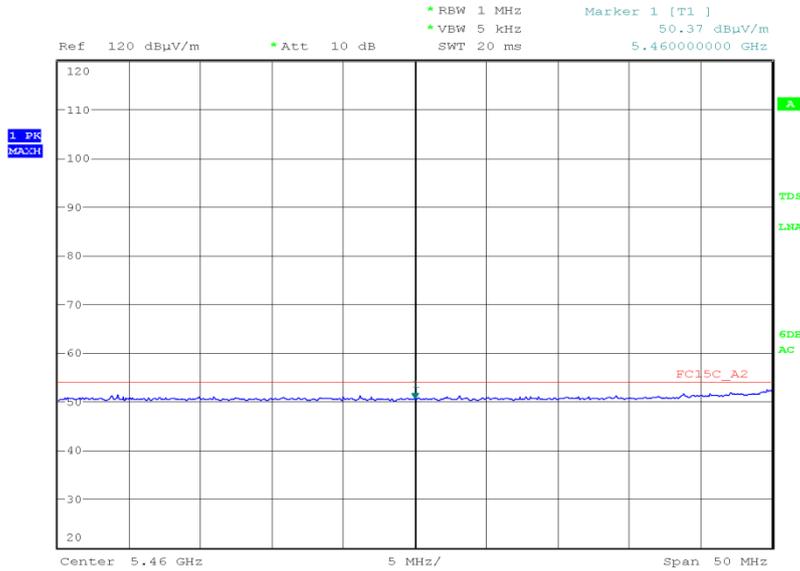


Date: 22.APR.2015 18:28:16



Product Service

802.11ac - 5 GHz 20 MHz Bandwidth, 5500 MHz, Measured Frequency 5460 MHz, MCS5, Final Average, Restricted Band Edges Plot



Date: 22.APR.2015 18:30:04

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 MCS5 because this was deemed the worst case data rate for 26 dB Bandwidth.

FCC 47 CFR Part 15, Limit Clause 15.205

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

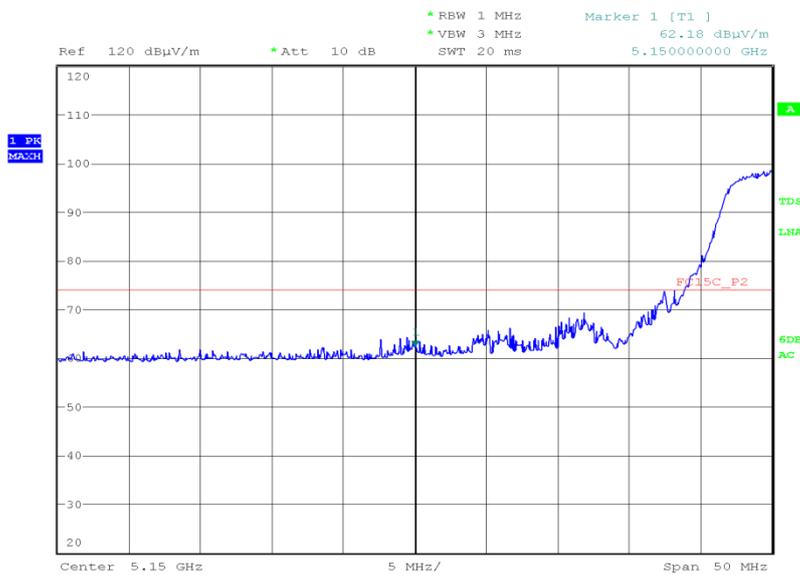


Product Service

802.11ac - 5 GHz 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
62.18	49.77	64.10	51.00	62.85	50.96

802.11ac - 5 GHz 40 MHz Bandwidth, 5190 MHz, Measured Frequency 5150 MHz, MCS0, Final Peak, Restricted Band Edges Plot

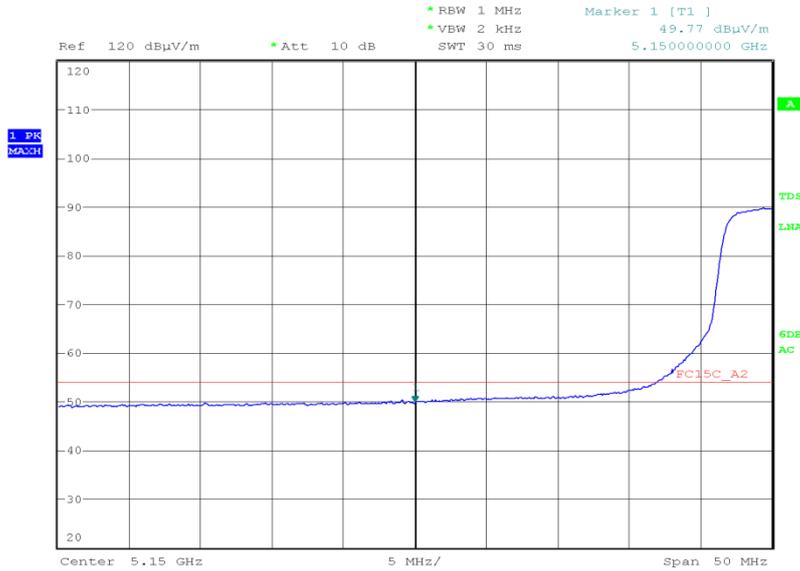


Date: 22.APR.2015 18:44:13



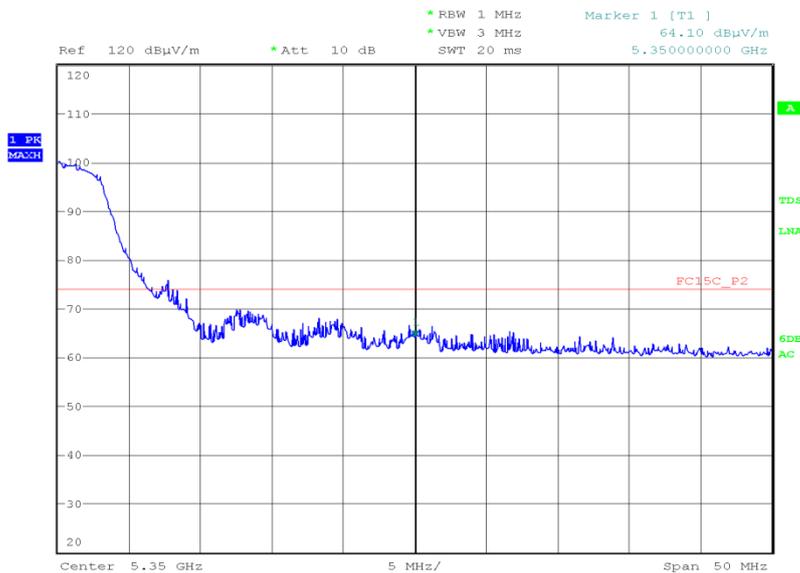
Product Service

**802.11ac - 5 GHz 40 MHz Bandwidth, 5190 MHz, Measured Frequency 5150 MHz, MCS0, Final Average, Restricted Band Edges Plot**



Date: 22.APR.2015 18:44:52

**802.11ac - 5 GHz 40 MHz Bandwidth, 5310 MHz, Measured Frequency 5350 MHz, MCS0, Final Peak, Restricted Band Edges Plot**

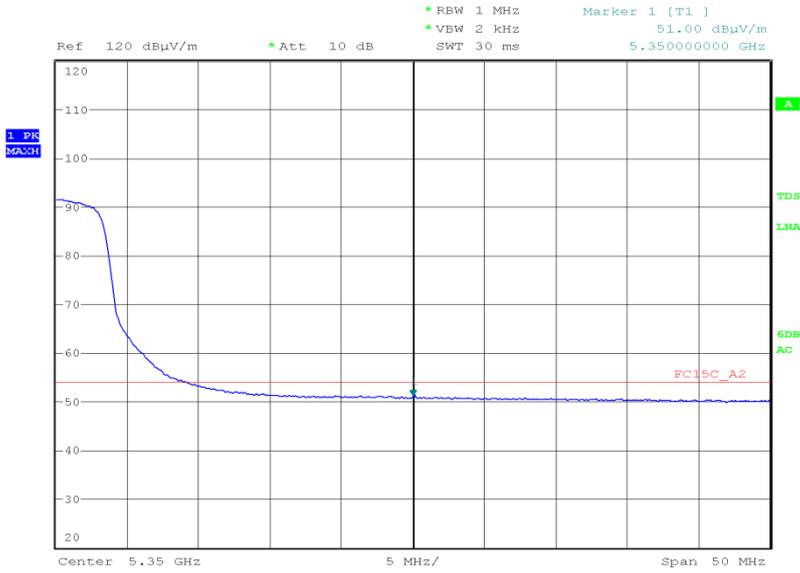


Date: 22.APR.2015 18:52:15



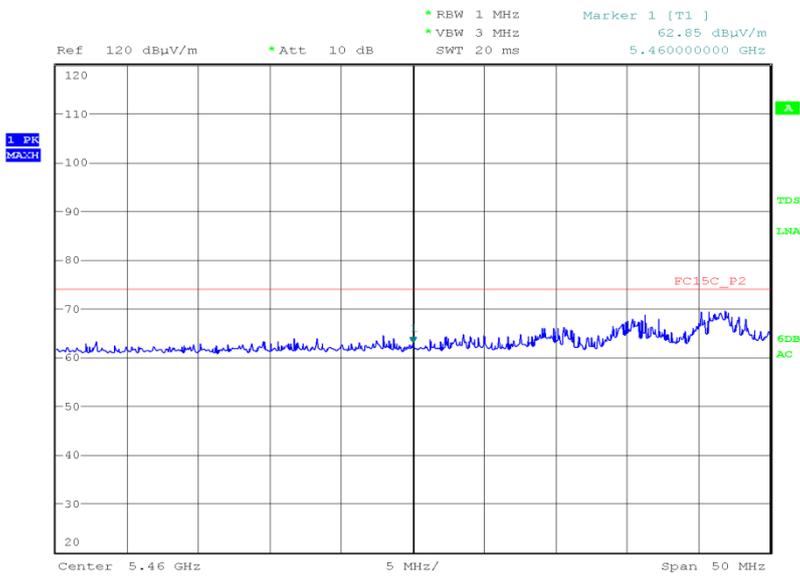
Product Service

**802.11ac - 5 GHz 40 MHz Bandwidth, 5310 MHz, Measured Frequency 5350 MHz, MCS0, Final Average, Restricted Band Edges Plot**



Date: 22.APR.2015 18:51:12

**802.11ac - 5 GHz 40 MHz Bandwidth, 5510 MHz, Measured Frequency 5460 MHz, MCS0, Final Peak, Restricted Band Edges Plot**

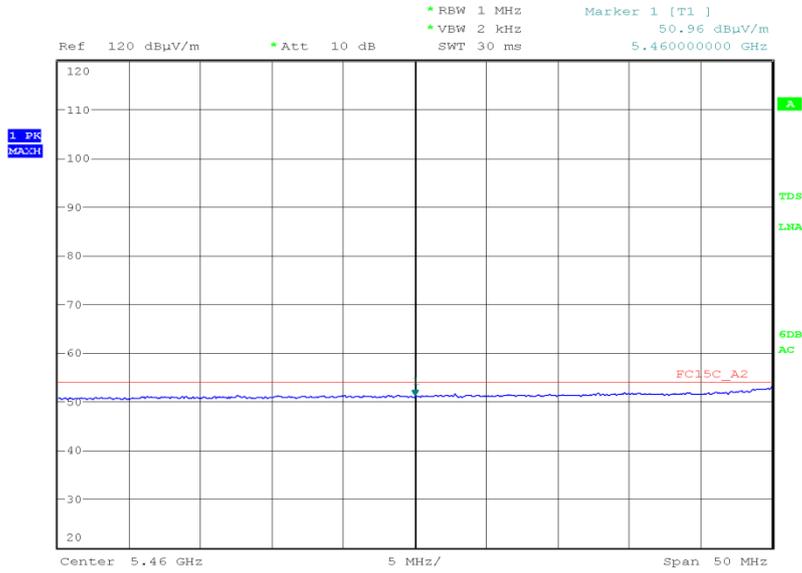


Date: 25.APR.2015 08:04:32



Product Service

802.11ac - 5 GHz 40 MHz Bandwidth, 5510 MHz, Measured Frequency 5460 MHz, MCS0, Final Average, Restricted Band Edges Plot



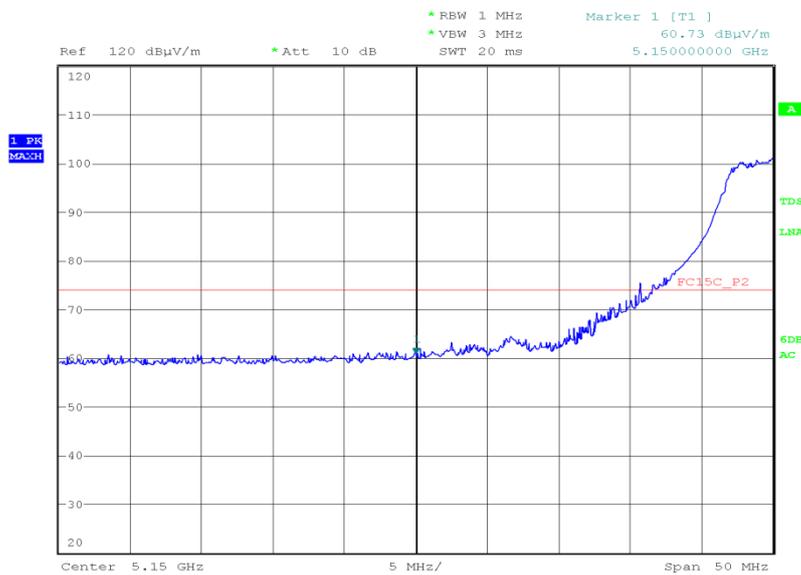
Date: 25.APR.2015 08:05:15



802.11ac - 5 GHz 40 MHz Bandwidth, MCS3, 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
60.73	50.31	60.22	50.52	61.38	51.30

802.11ac - 5 GHz 40 MHz Bandwidth, 5190 MHz, Measured Frequency 5150 MHz, MCS3, Final Peak, Restricted Band Edges Plot

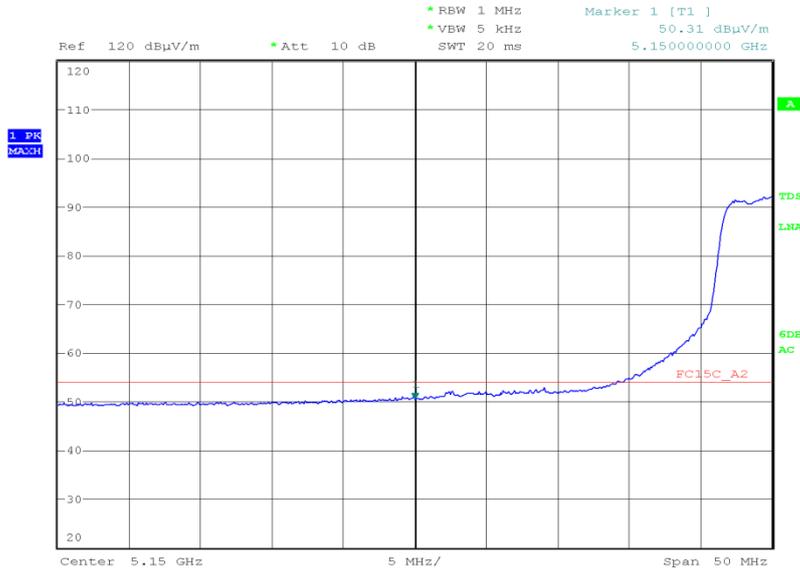


Date: 22.APR.2015 19:37:04



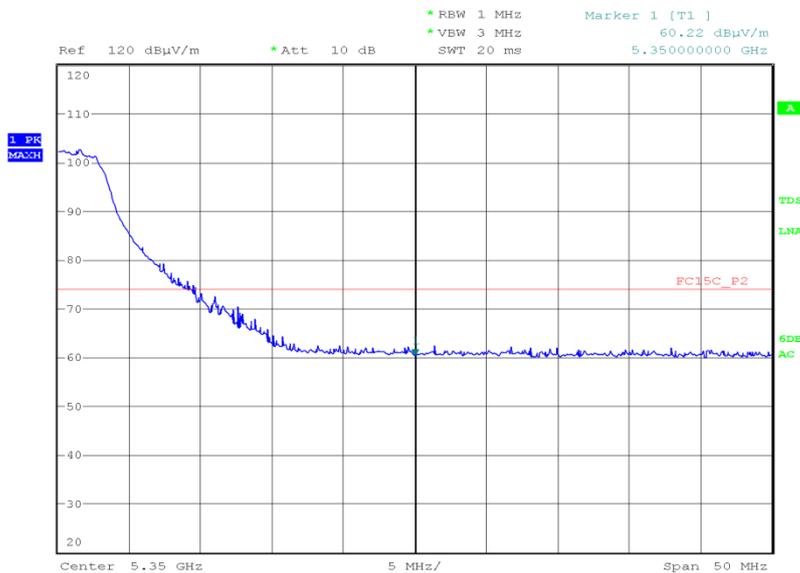
Product Service

**802.11ac - 5 GHz 40 MHz Bandwidth, 5190 MHz, Measured Frequency 5150 MHz, MCS3, Final Average, Restricted Band Edges Plot**



Date: 22.APR.2015 19:38:03

**802.11ac - 5 GHz 40 MHz Bandwidth, 5310 MHz, Measured Frequency 5350 MHz, MCS3, Final Peak, Restricted Band Edges Plot**

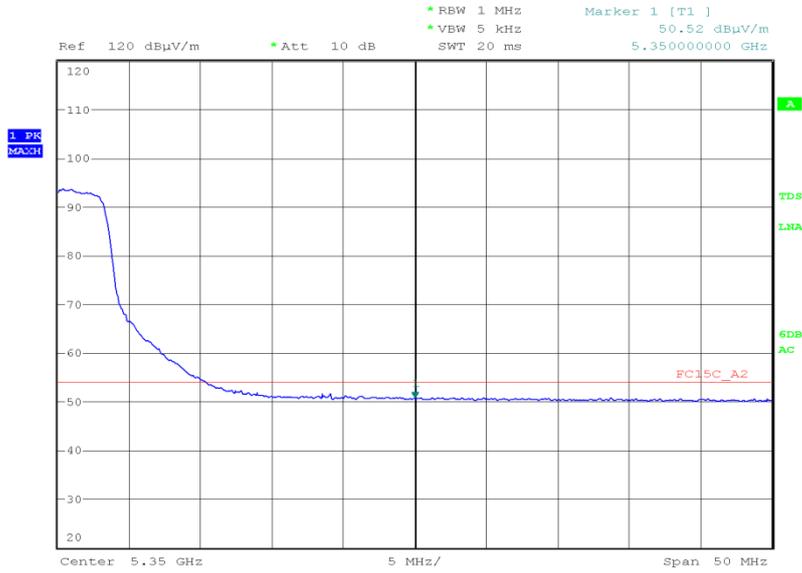


Date: 22.APR.2015 19:46:19



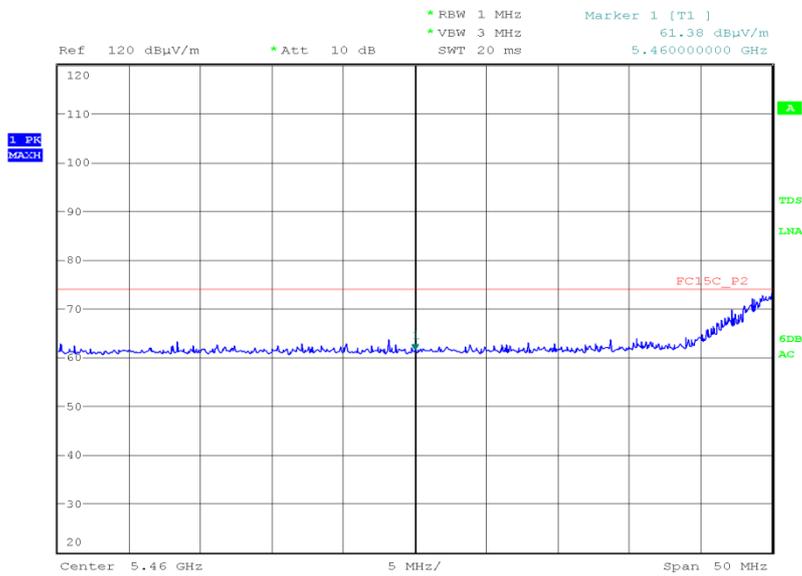
Product Service

**802.11ac - 5 GHz 40 MHz Bandwidth, 5310 MHz, Measured Frequency 5350 MHz, MCS3, Final Average, Restricted Band Edges Plot**



Date: 22.APR.2015 19:43:07

**802.11ac - 5 GHz 40 MHz Bandwidth, 5510 MHz, Measured Frequency 5460 MHz, MCS3, Final Peak, Restricted Band Edges Plot**

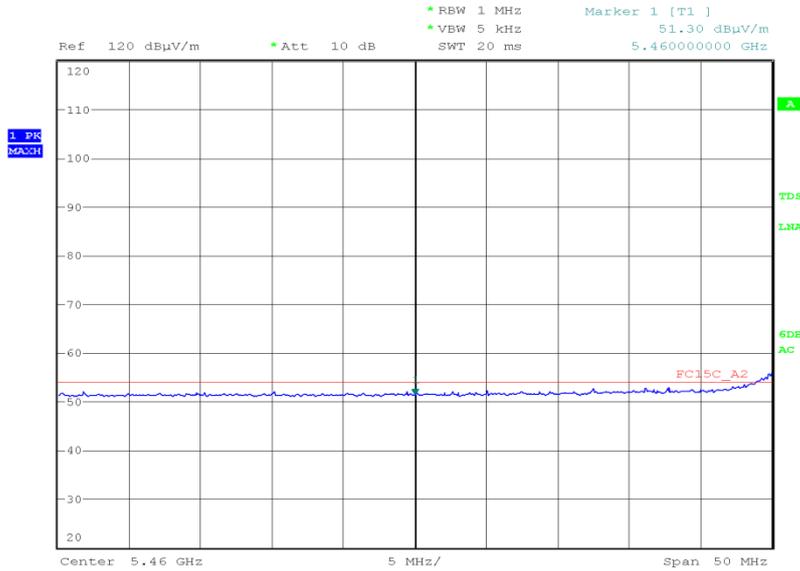


Date: 25.APR.2015 08:16:19



Product Service

**802.11ac - 5 GHz 40 MHz Bandwidth, 5510 MHz, Measured Frequency 5460 MHz, MCS3, Final Average, Restricted Band Edges Plot**



Date: 25.APR.2015 08:17:26

**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 MCS3 because this was deemed the worst case data rate for 26 dB Bandwidth.

**FCC 47 CFR Part 15, Limit Clause 15.205**

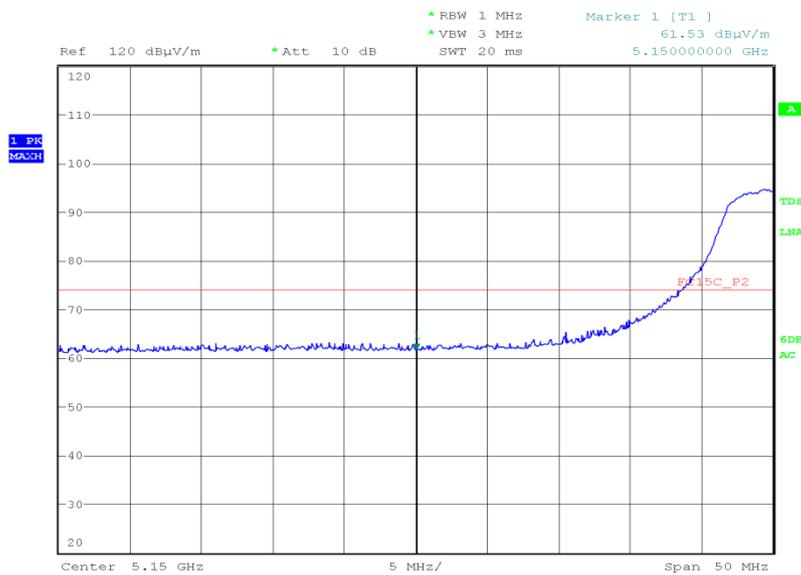
	Peak (dBµV/m)	Average (dBµV/m)
Restricted Bands of Operation	74	54



802.11ac - 5 GHz 80 MHz Bandwidth, MCS0, Restricted Band Edges Results

5210 MHz		5290 MHz		5530 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
61.53	50.82	62.15	51.64	62.27	51.70

802.11ac - 5 GHz 80 MHz Bandwidth, 5210 MHz, Measured Frequency 5150 MHz, MCS0, Final Peak, Restricted Band Edges Plot

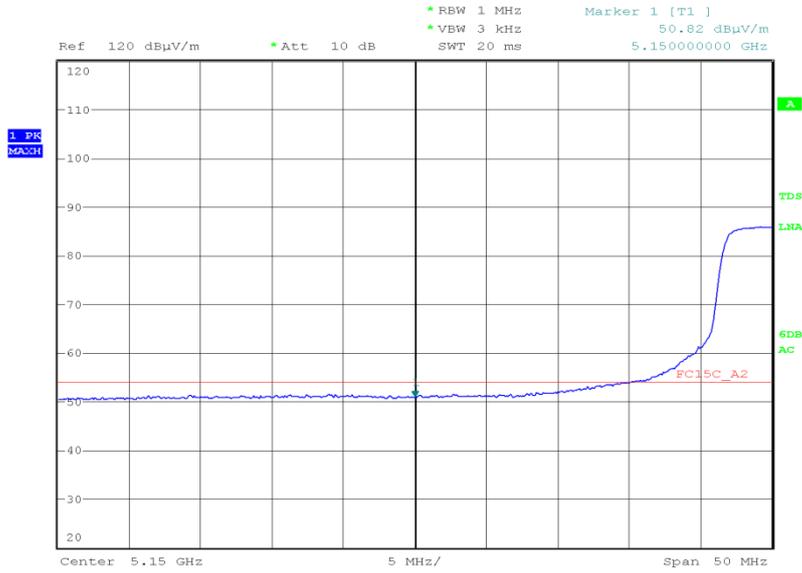


Date: 25.APR.2015 08:55:40



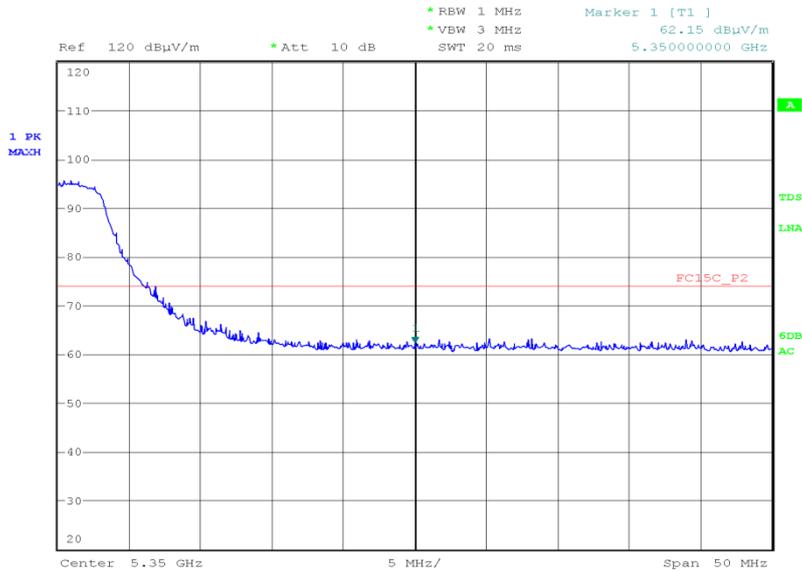
Product Service

**802.11ac - 5 GHz 80 MHz Bandwidth, 5210 MHz, Measured Frequency 5150 MHz, MCS0, Final Average, Restricted Band Edges Plot**



Date: 25.APR.2015 08:56:30

**802.11ac - 5 GHz 80 MHz Bandwidth, 5290 MHz, Measured Frequency 5350 MHz, MCS0, Final Peak, Restricted Band Edges Plot**

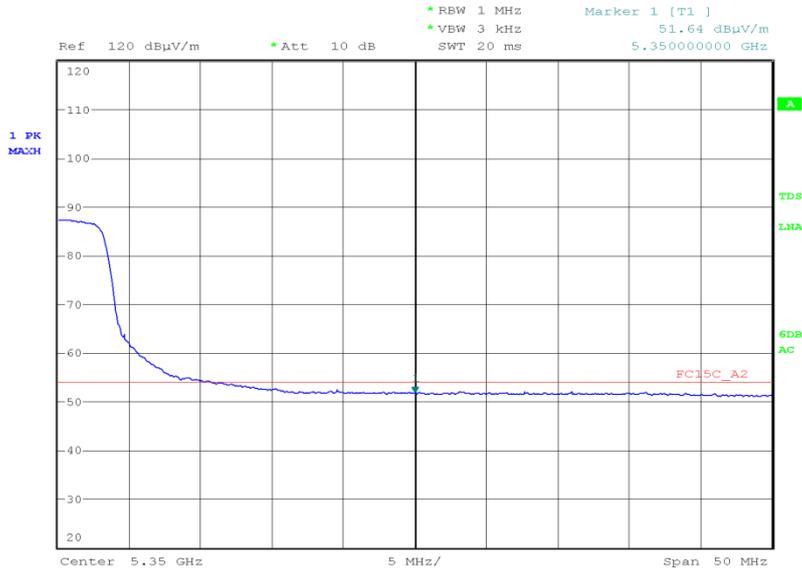


Date: 25.APR.2015 09:17:57



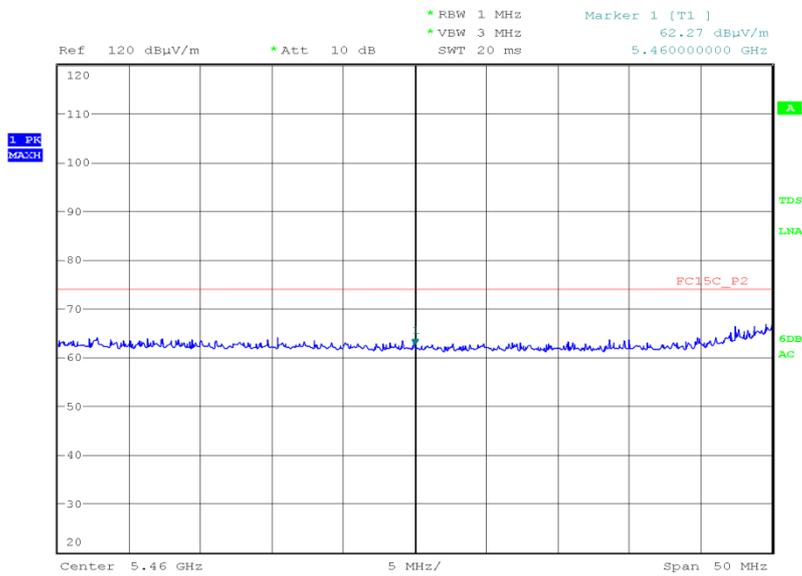
Product Service

**802.11ac - 5 GHz 80 MHz Bandwidth, 5290 MHz, Measured Frequency 5350 MHz, MCS0, Final Average, Restricted Band Edges Plot**



Date: 25.APR.2015 09:17:27

**802.11ac - 5 GHz 80 MHz Bandwidth, 5530 MHz, Measured Frequency 5460 MHz, MCS0, Final Peak, Restricted Band Edges Plot**

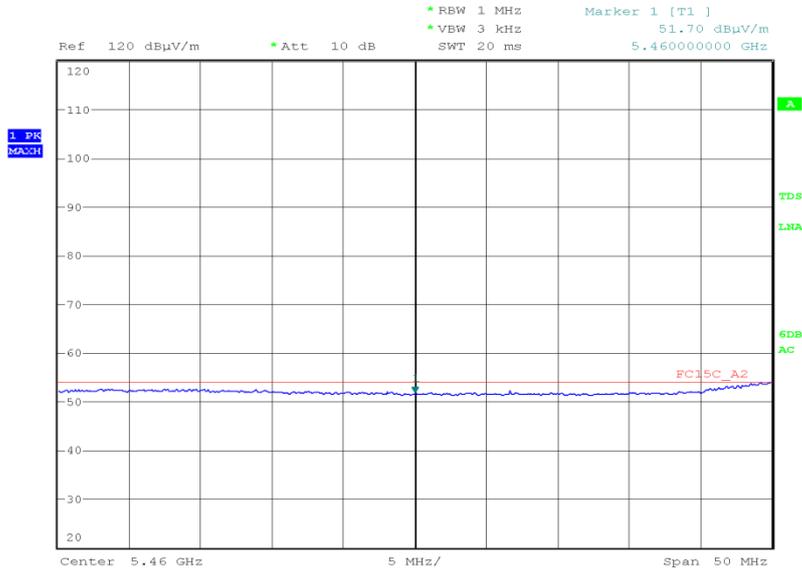


Date: 25.APR.2015 09:22:47



Product Service

802.11ac - 5 GHz 80 MHz Bandwidth, 5530 MHz, Measured Frequency 5460 MHz, MCS0, Final Average, Restricted Band Edges Plot



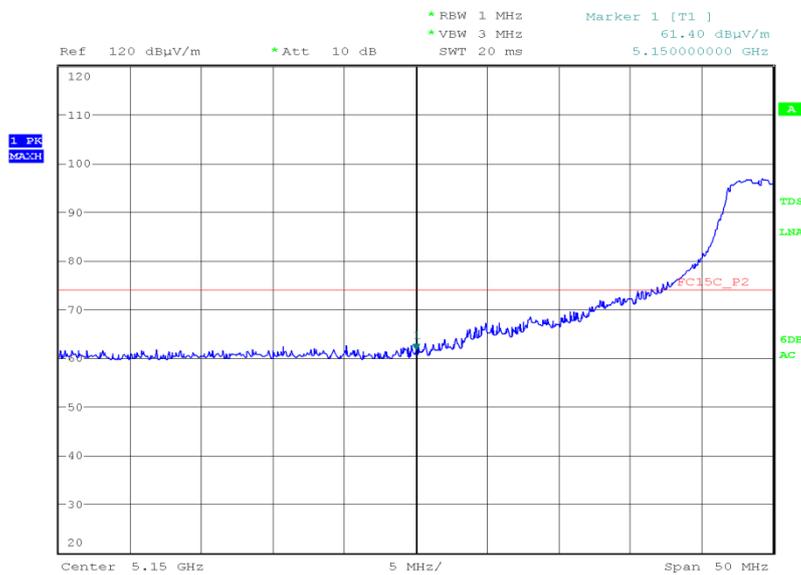
Date: 25.APR.2015 09:23:31



802.11ac - 5 GHz 80 MHz Bandwidth, MCS8, Restricted Band Edges Results

5210 MHz		5290 MHz		5530 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
61.40	50.75	62.85	49.29	62.40	51.32

802.11ac - 5 GHz 80 MHz Bandwidth, 5210 MHz, Measured Frequency 5150 MHz, MCS8, Final Peak, Restricted Band Edges Plot

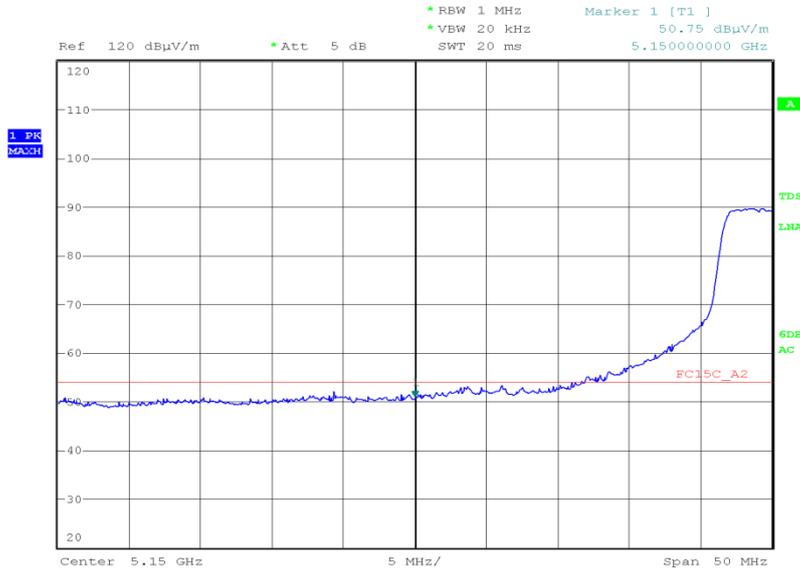


Date: 25.APR.2015 09:37:40



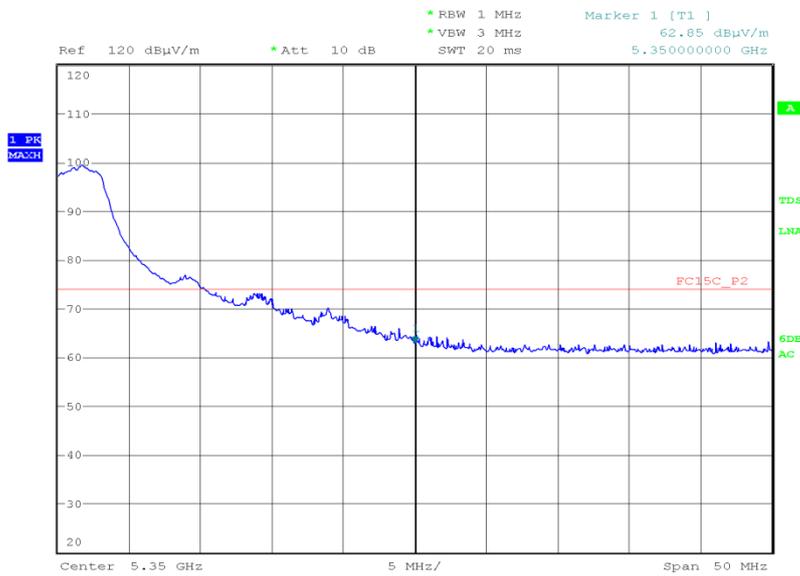
Product Service

**802.11ac - 5 GHz 80 MHz Bandwidth, 5210 MHz, Measured Frequency 5150 MHz, MCS8, Final Average, Restricted Band Edges Plot**



Date: 27.APR.2015 16:22:32

**802.11ac - 5 GHz 80 MHz Bandwidth, 5290 MHz, Measured Frequency 5350 MHz, MCS8, Final Peak, Restricted Band Edges Plot**

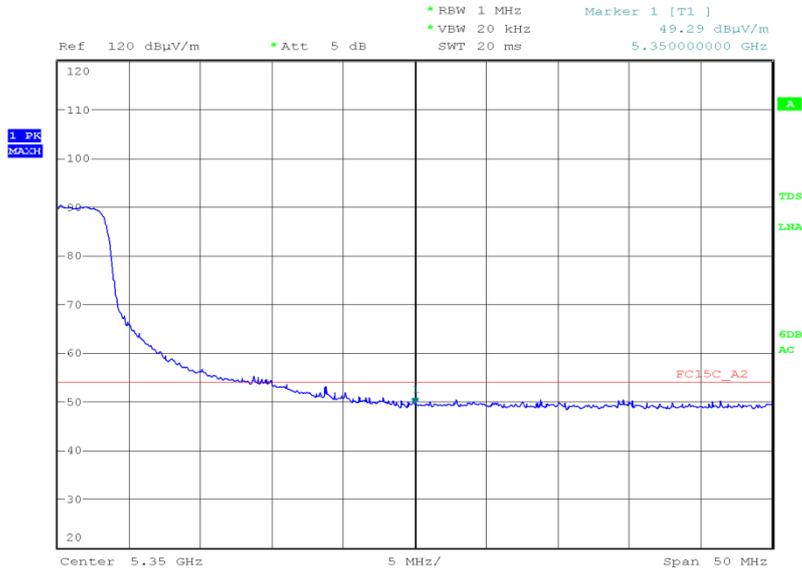


Date: 25.APR.2015 09:45:59



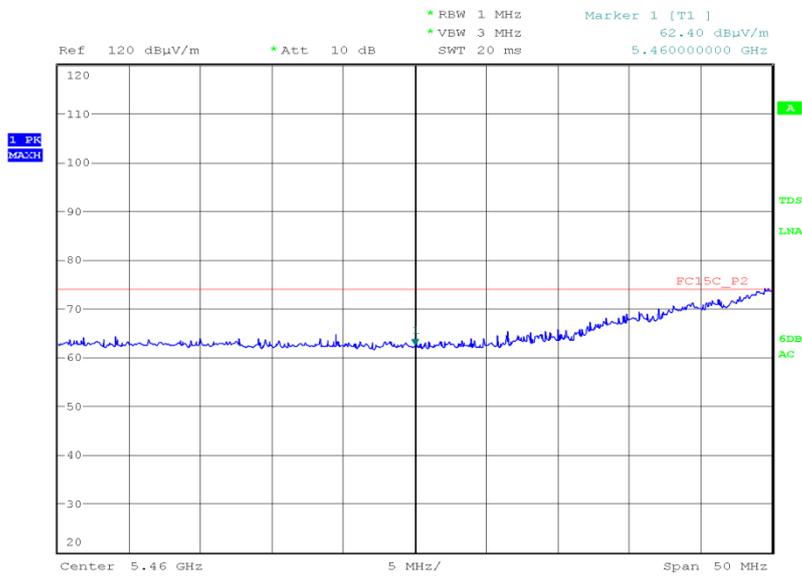
Product Service

**802.11ac - 5 GHz 80 MHz Bandwidth, 5290 MHz, Measured Frequency 5350 MHz, MCS8, Final Average, Restricted Band Edges Plot**



Date: 27.APR.2015 16:31:57

**802.11ac - 5 GHz 80 MHz Bandwidth, 5530 MHz, Measured Frequency 5460 MHz, MCS8, Final Peak, Restricted Band Edges Plot**

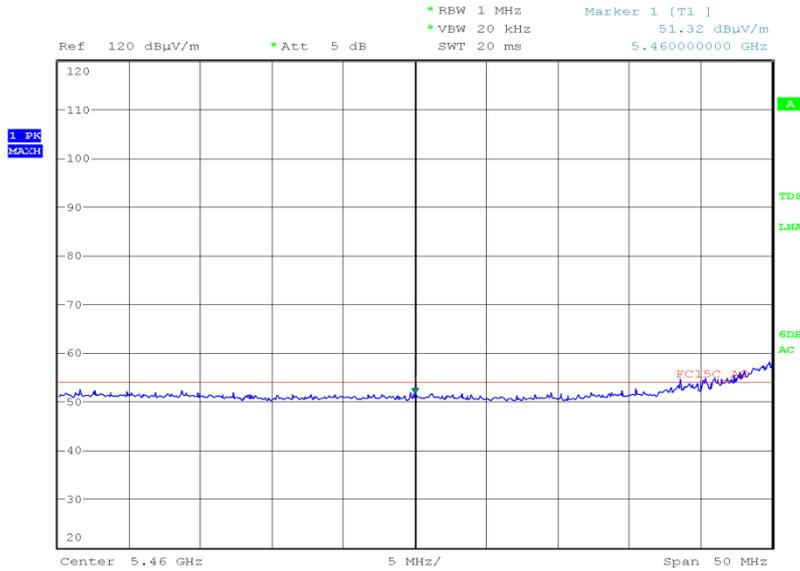


Date: 25.APR.2015 10:00:17



Product Service

802.11ac - 5 GHz 80 MHz Bandwidth, 5530 MHz, Measured Frequency 5460 MHz, MCS8, Final Average, Restricted Band Edges Plot



Date: 27.APR.2015 16:38:22

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 MCS8 because this was deemed the worst case data rate for 26 dB Bandwidth.

FCC 47 CFR Part 15, Limit Clause 15.205

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

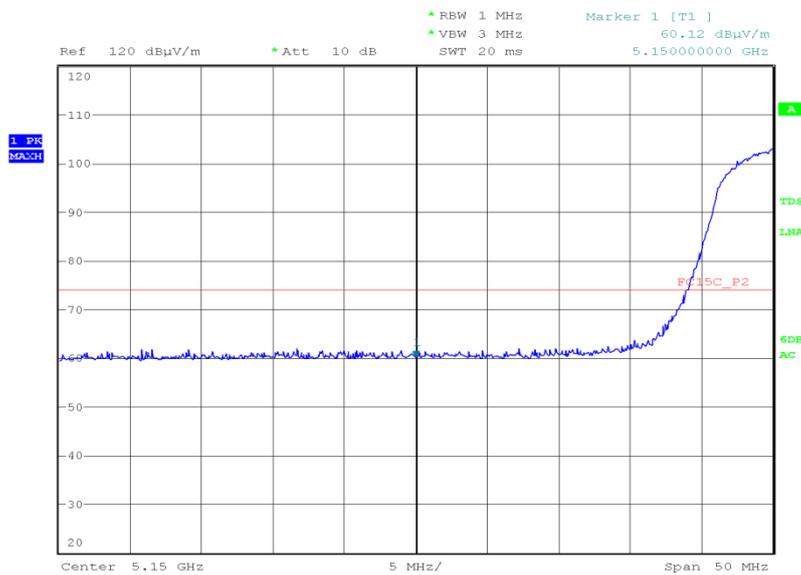


Product Service

802.11n - 5 GHz 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
60.12	49.39	61.14	49.76	61.41	50.03

802.11n - 5 GHz 20 MHz Bandwidth, 5180 MHz, Measured Frequency 5150 MHz, MCS0, Final Peak, Restricted Band Edges Plot

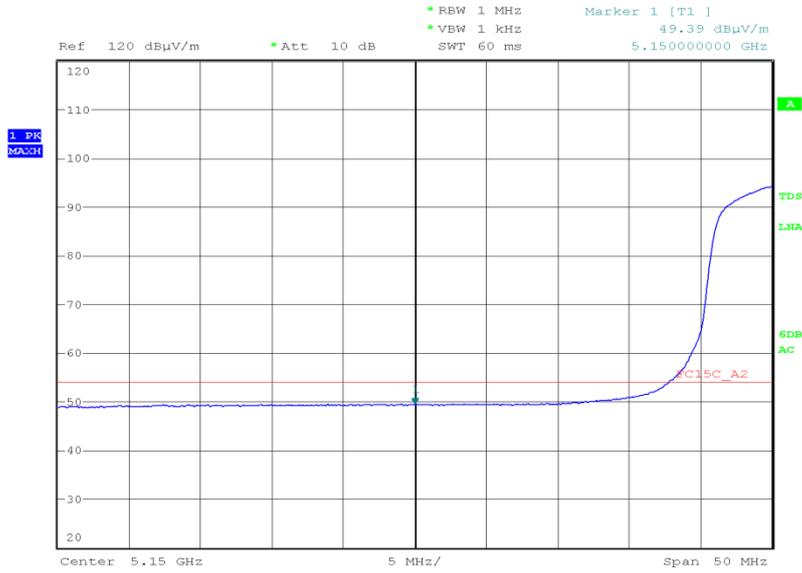


Date: 21.APR.2015 19:09:30



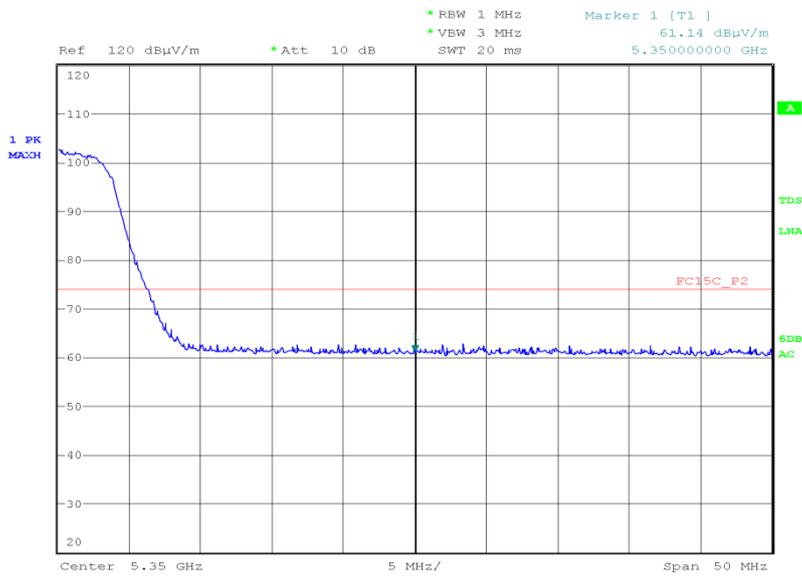
Product Service

**802.11n - 5 GHz 20 MHz Bandwidth, 5180 MHz, Measured Frequency 5150 MHz, MCS0, Final Average, Restricted Band Edges Plot**



Date: 21.APR.2015 19:20:20

**802.11n - 5 GHz 20 MHz Bandwidth, 5320 MHz, Measured Frequency 5350 MHz, MCS0, Final Peak, Restricted Band Edges Plot**

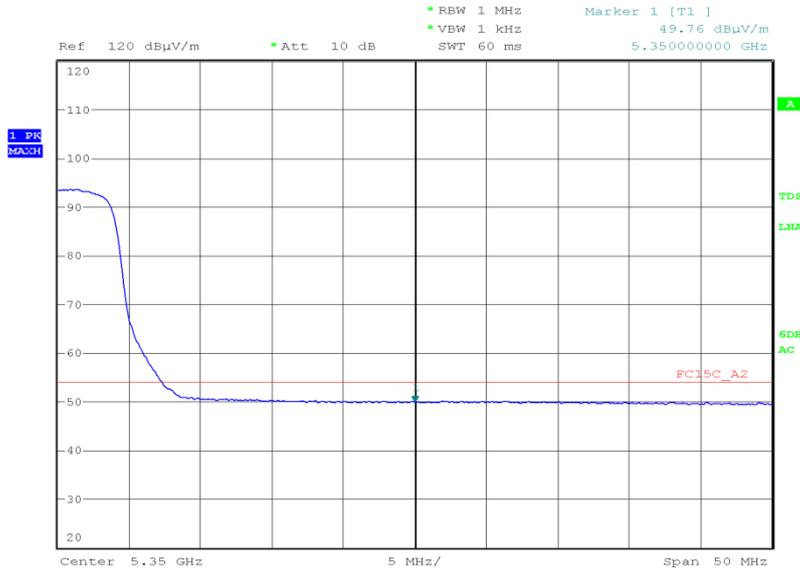


Date: 21.APR.2015 19:38:41



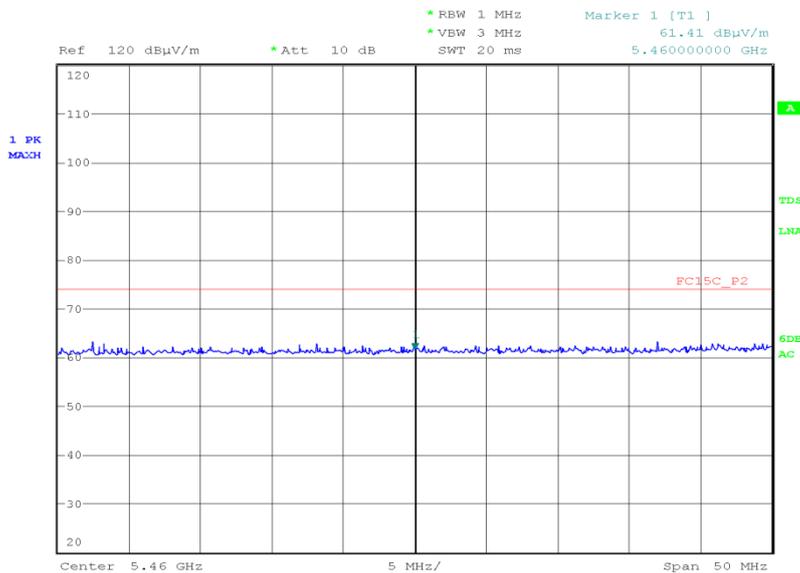
Product Service

**802.11n - 5 GHz 20 MHz Bandwidth, 5320 MHz, Measured Frequency 5350 MHz, MCS0, Final Average, Restricted Band Edges Plot**



Date: 21.APR.2015 19:24:12

**802.11n - 5 GHz 20 MHz Bandwidth, 5500 MHz, Measured Frequency 5460 MHz, MCS0, Final Peak, Restricted Band Edges Plot**

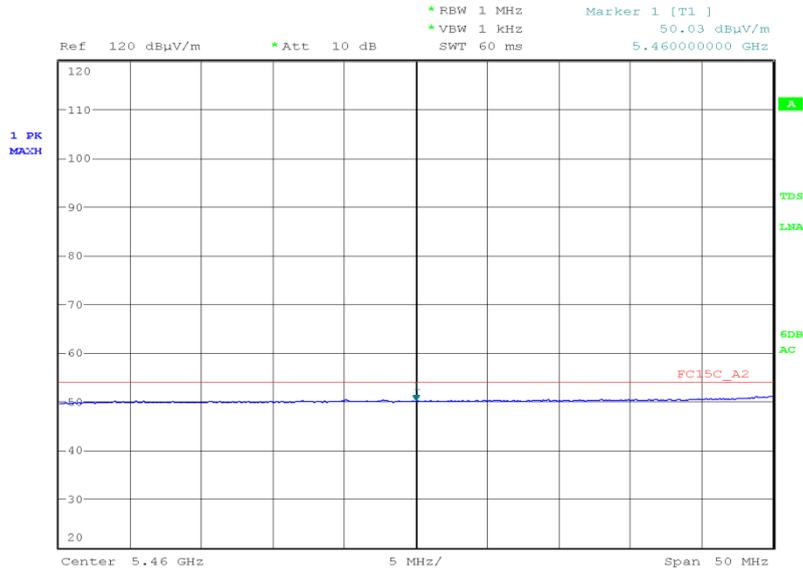


Date: 21.APR.2015 19:35:15



Product Service

802.11n - 5 GHz 20 MHz Bandwidth, 5500 MHz, Measured Frequency 5460 MHz, MCS0, Final Average, Restricted Band Edges Plot



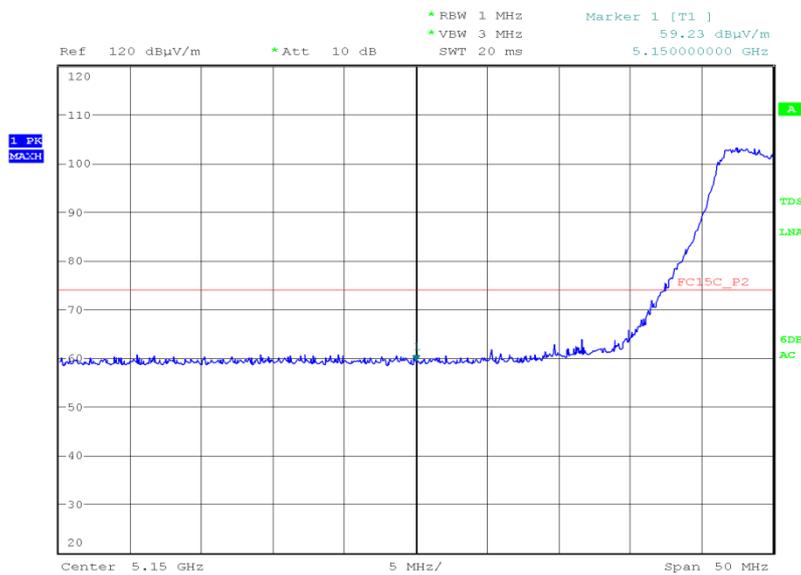
Date: 21.APR.2015 19:36:01



802.11n - 5 GHz 20 MHz Bandwidth, MCS5, 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
59.23	50.03	60.84	50.59	60.13	50.72

802.11n - 5 GHz 20 MHz Bandwidth, 5180 MHz, Measured Frequency 5150 MHz, MCS5, Final Peak, Restricted Band Edges Plot

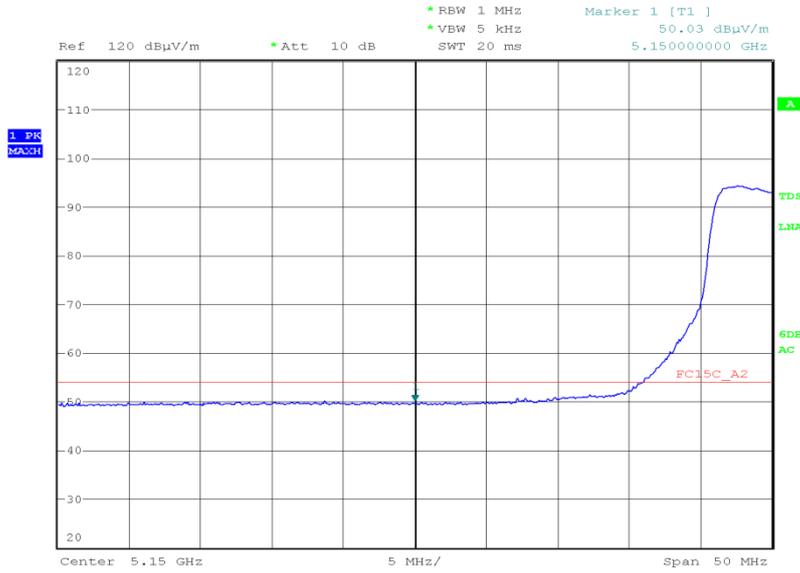


Date: 21.APR.2015 20:01:03



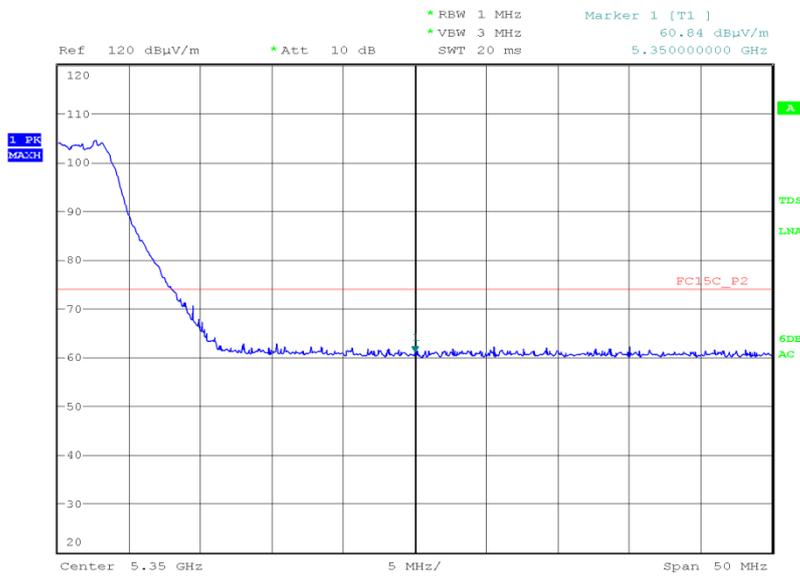
Product Service

**802.11n - 5 GHz 20 MHz Bandwidth, 5180 MHz, Measured Frequency 5150 MHz, MCS5, Final Average, Restricted Band Edges Plot**



Date: 21.APR.2015 20:00:23

**802.11n - 5 GHz 20 MHz Bandwidth, 5320 MHz, Measured Frequency 5350 MHz, MCS5, Final Peak, Restricted Band Edges Plot**

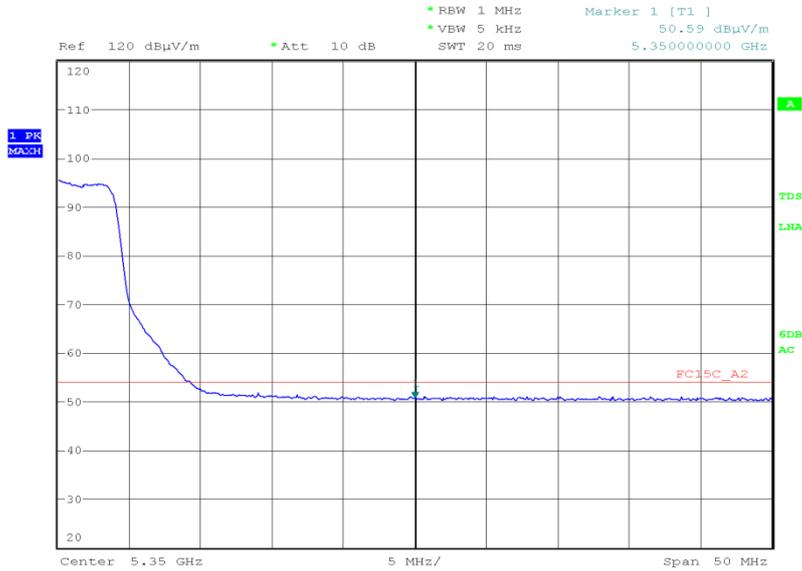


Date: 21.APR.2015 20:06:18



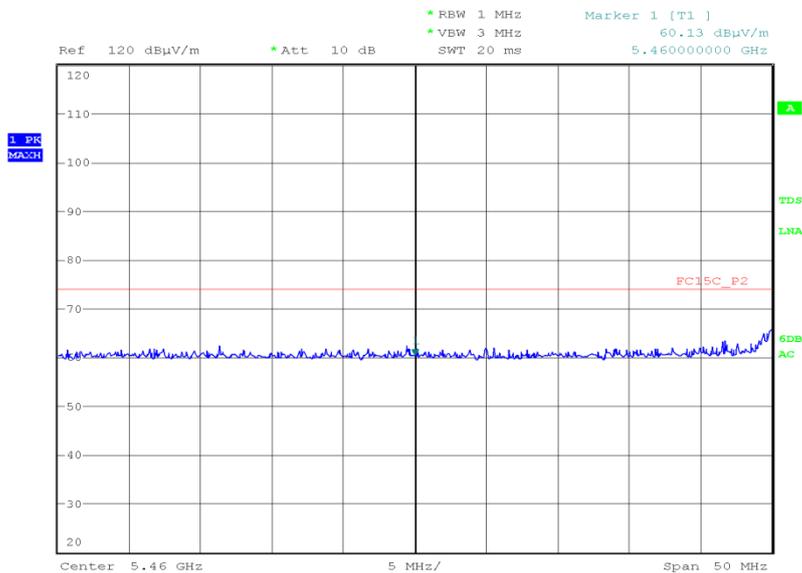
Product Service

**802.11n - 5 GHz 20 MHz Bandwidth, 5320 MHz, Measured Frequency 5350 MHz, MCS5, Final Average, Restricted Band Edges Plot**



Date: 21.APR.2015 20:08:26

**802.11n - 5 GHz 20 MHz Bandwidth, 5500 MHz, Measured Frequency 5460 MHz, MCS5, Final Peak, Restricted Band Edges Plot**

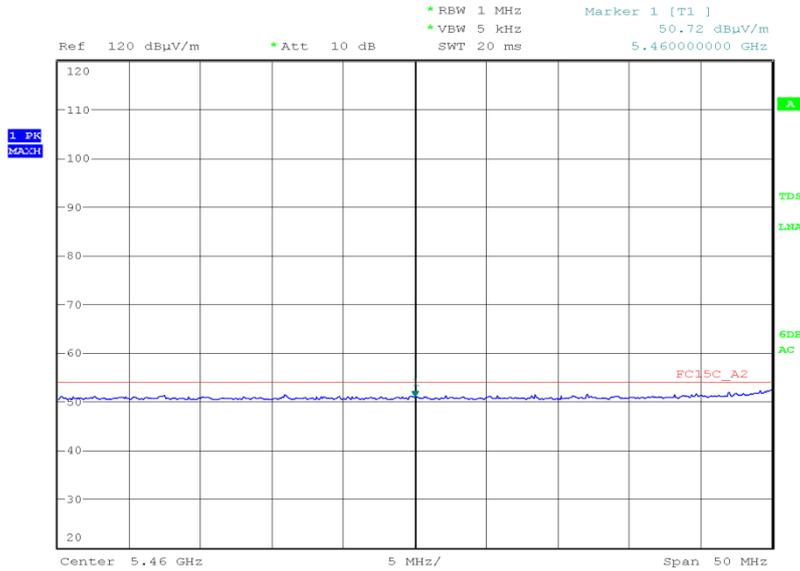


Date: 21.APR.2015 20:14:43



Product Service

802.11n - 5 GHz 20 MHz Bandwidth, 5500 MHz, Measured Frequency 5460 MHz, MCS5, Final Average, Restricted Band Edges Plot



Date: 21.APR.2015 20:13:53

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 MCS5 because this was deemed the worst case data rate for 26 dB Bandwidth.

FCC 47 CFR Part 15, Limit Clause 15.205

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

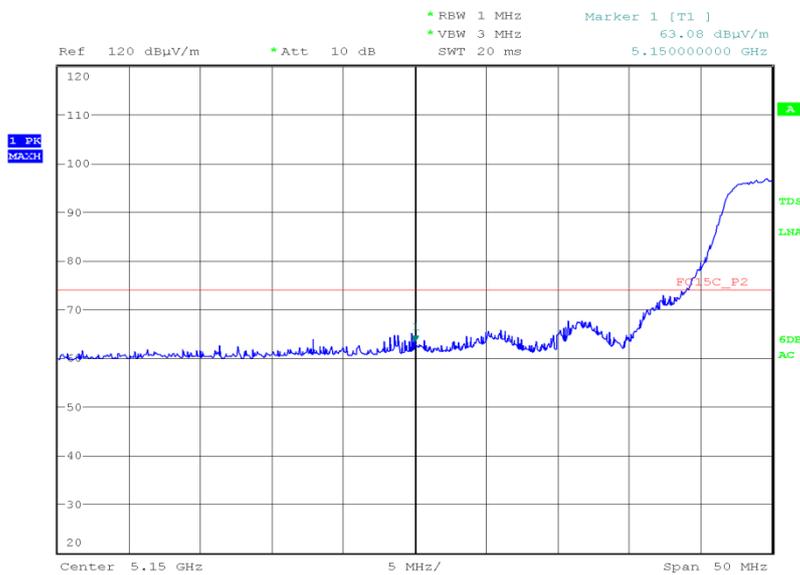


Product Service

802.11n - 5 GHz 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
63.08	50.14	64.41	51.01	61.10	50.45

802.11n - 5 GHz 40 MHz Bandwidth, 5190 MHz, Measured Frequency 5150 MHz, MCS0, Final Peak, Restricted Band Edges Plot

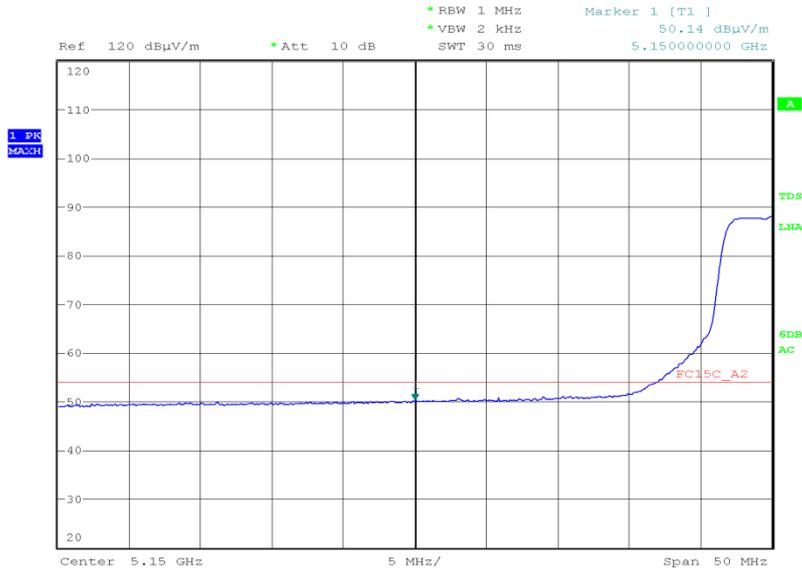


Date: 21.APR.2015 21:40:52



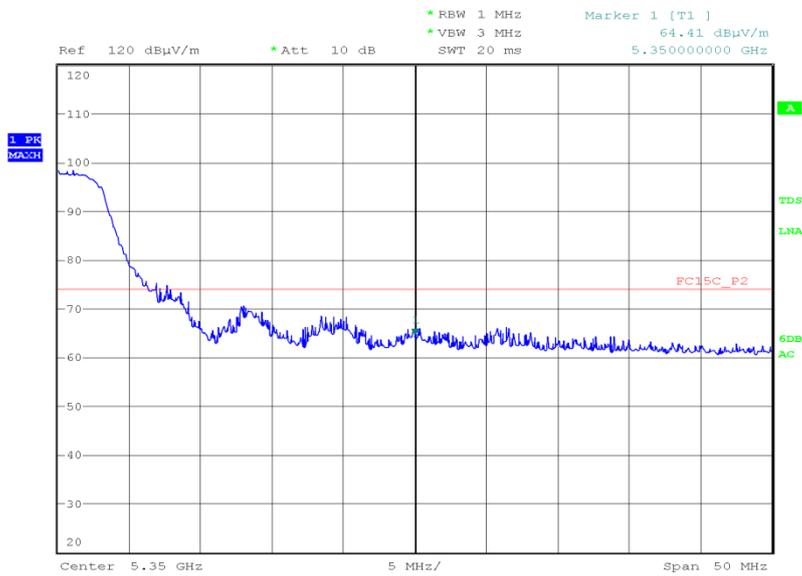
Product Service

**802.11n - 5 GHz 40 MHz Bandwidth, 5190 MHz, Measured Frequency 5150 MHz, MCS0, Final Average, Restricted Band Edges Plot**



Date: 21.APR.2015 21:41:45

**802.11n - 5 GHz 40 MHz Bandwidth, 5310 MHz, Measured Frequency 5350 MHz, MCS0, Final Peak, Restricted Band Edges Plot**

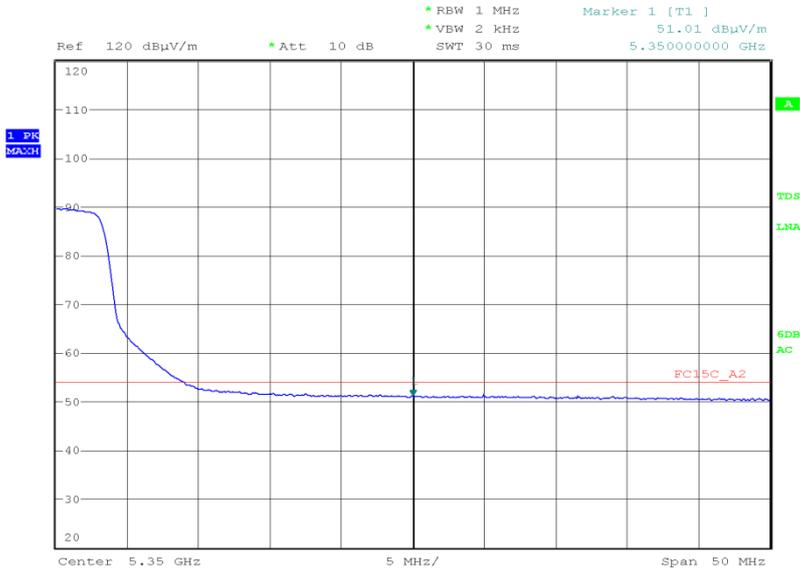


Date: 21.APR.2015 21:51:59



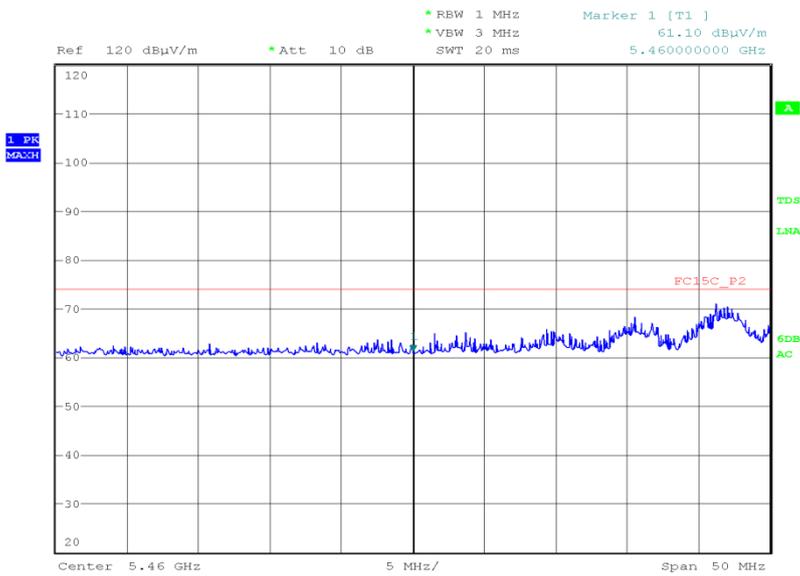
Product Service

**802.11n - 5 GHz 40 MHz Bandwidth, 5310 MHz, Measured Frequency 5350 MHz, MCS0, Final Average, Restricted Band Edges Plot**



Date: 21.APR.2015 21:52:52

**802.11n - 5 GHz 40 MHz Bandwidth, 5510 MHz, Measured Frequency 5460 MHz, MCS0, Final Peak, Restricted Band Edges Plot**

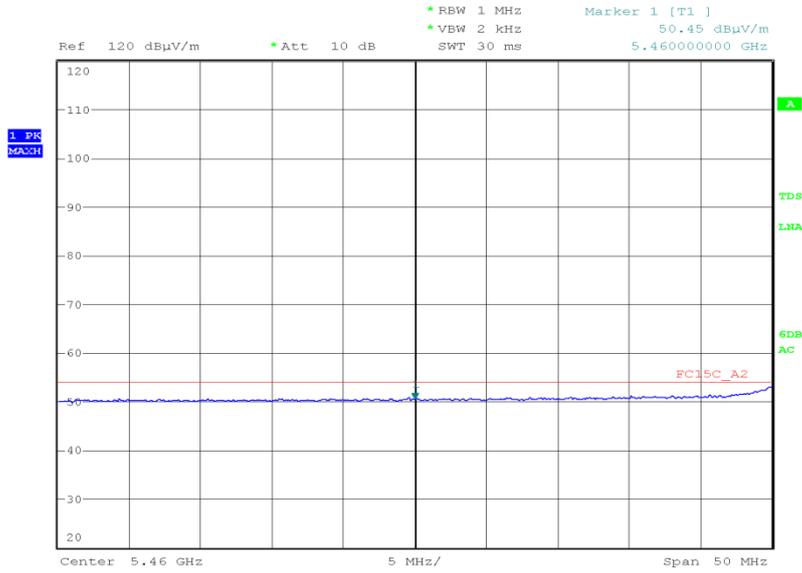


Date: 21.APR.2015 22:01:35



Product Service

802.11n - 5 GHz 40 MHz Bandwidth, 5510 MHz, Measured Frequency 5460 MHz, MCS0, Final Average, Restricted Band Edges Plot



Date: 21.APR.2015 22:02:06

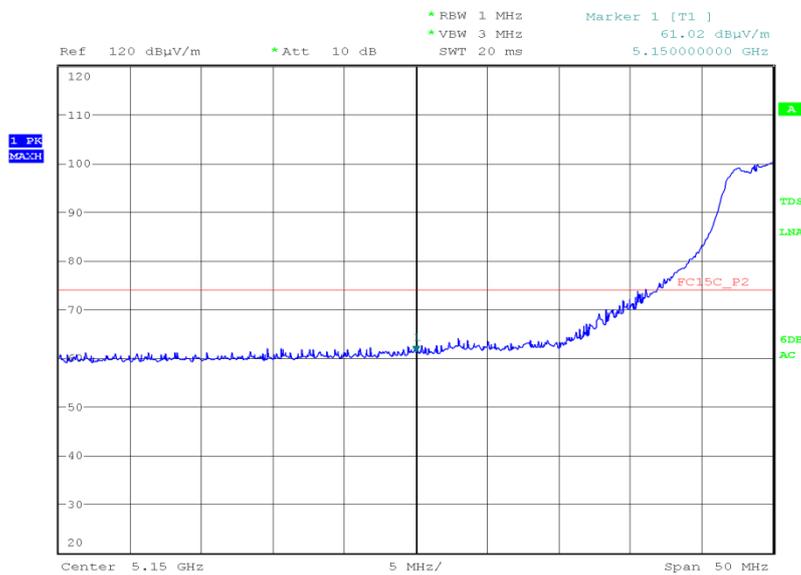


Product Service

802.11n - 5 GHz 40 MHz Bandwidth, MCS5, 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
61.02	51.72	61.65	51.62	60.49	51.96

802.11n - 5 GHz 40 MHz Bandwidth, 5190 MHz, Measured Frequency 5150 MHz, MCS5, Final Peak, Restricted Band Edges Plot

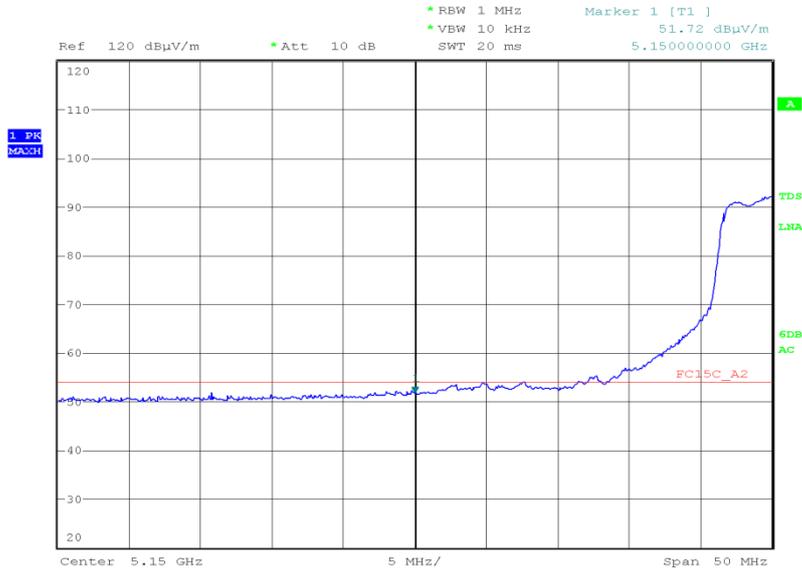


Date: 21.APR.2015 22:22:03



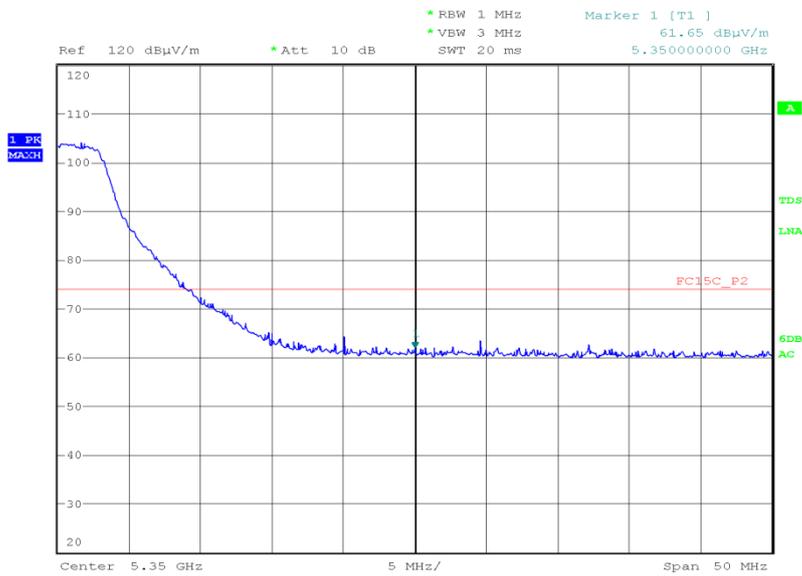
Product Service

**802.11n - 5 GHz 40 MHz Bandwidth, 5190 MHz, Measured Frequency 5150 MHz, MCS5, Final Average, Restricted Band Edges Plot**



Date: 21.APR.2015 22:22:57

**802.11n - 5 GHz 40 MHz Bandwidth, 5310 MHz, Measured Frequency 5350 MHz, MCS5, Final Peak, Restricted Band Edges Plot**

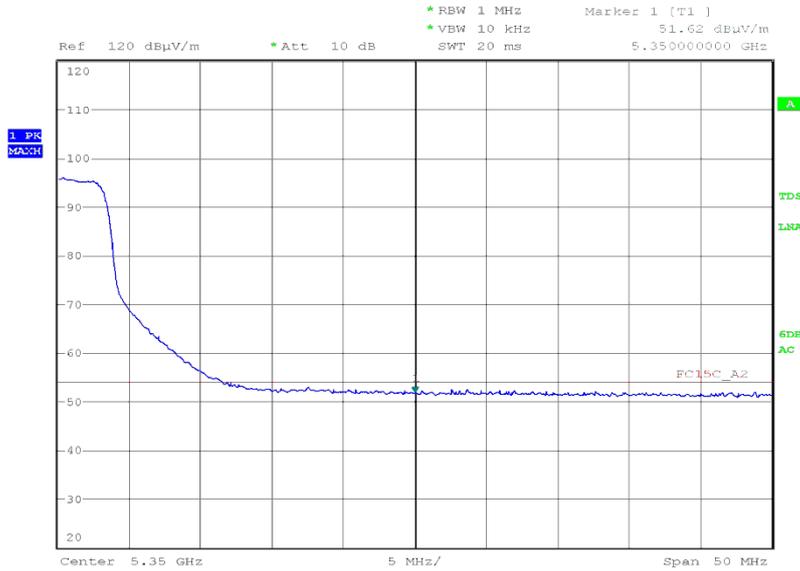


Date: 21.APR.2015 22:29:24



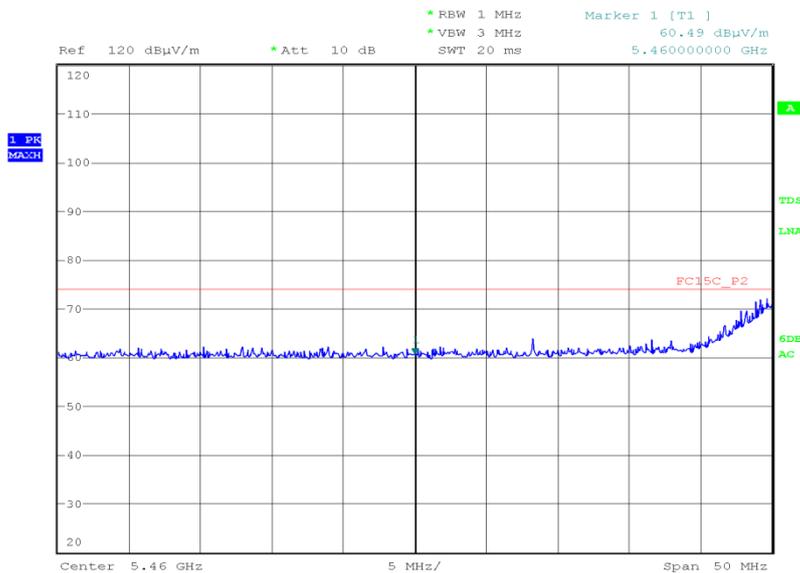
Product Service

**802.11n - 5 GHz 40 MHz Bandwidth, 5310 MHz, Measured Frequency 5350 MHz, MCS5, Final Average, Restricted Band Edges Plot**



Date: 21.APR.2015 22:28:25

**802.11n - 5 GHz 40 MHz Bandwidth, 5510 MHz, Measured Frequency 5460 MHz, MCS5, Final Peak, Restricted Band Edges Plot**

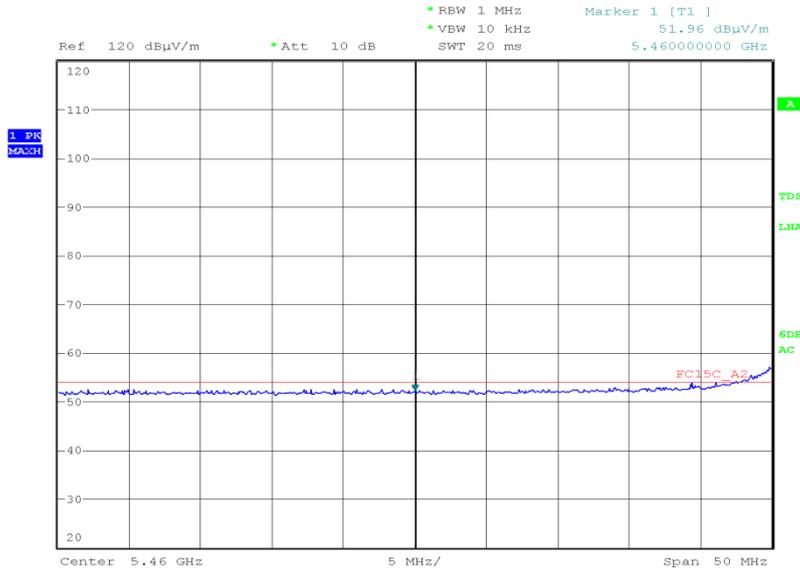


Date: 21.APR.2015 22:38:12



Product Service

802.11n - 5 GHz 40 MHz Bandwidth, 5510 MHz, Measured Frequency 5460 MHz, MCS5, Final Average, Restricted Band Edges Plot



Date: 21.APR.2015 22:39:11

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 MCS5 because this was deemed the worst case data rate for 26 dB Bandwidth.

FCC 47 CFR Part 15, Limit Clause 15.205

	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)

**2.8.2 Equipment Under Test and Modification State**

SHV32 S/N: IMEI 004401115406825 - Modification State 0

**2.8.3 Date of Test**

26 April 2015

**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 6.9.2.

Remarks

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

$$\text{E.I.R.P} = (E \times d)^2 / 30$$

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

**2.8.6 Environmental Conditions**

Ambient Temperature	20.2°C
Relative Humidity	38.0%

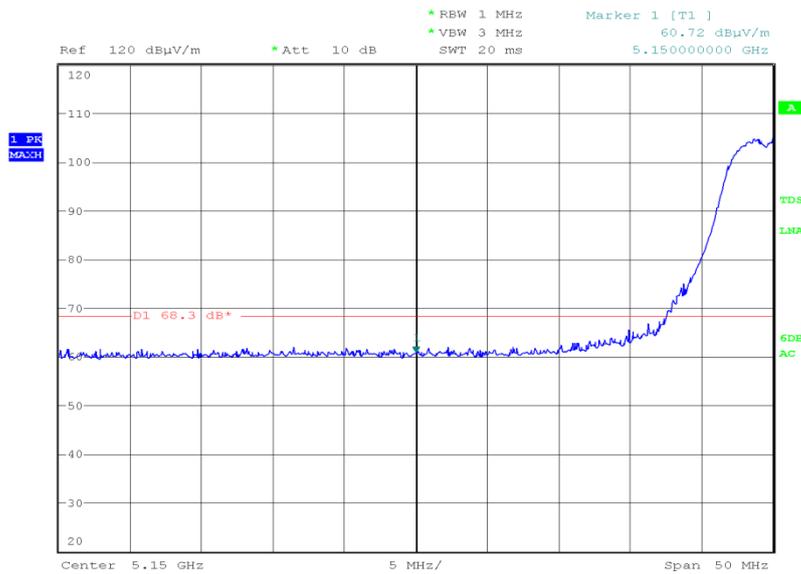


2.8.7 Test Results

802.11a, 9 Mbps, Authorised Band Edges Results

5180 MHz	5320 MHz	5500 MHz	5700 MHz
Measured Frequency 5150 MHz	Measured Frequency 5350 MHz	Measured Frequency 5470 MHz	Measured Frequency 5725 MHz
dBm	dBm	dBm	dBm
Final Peak	Final Peak	Final Peak	Final Peak
-34.48	-33.83	-33.74	-33.28

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

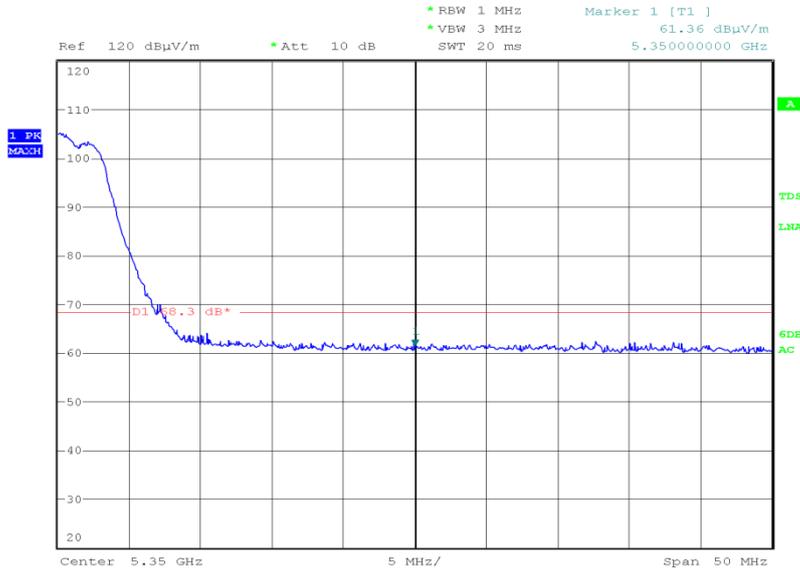


Date: 20.APR.2015 20:02:51



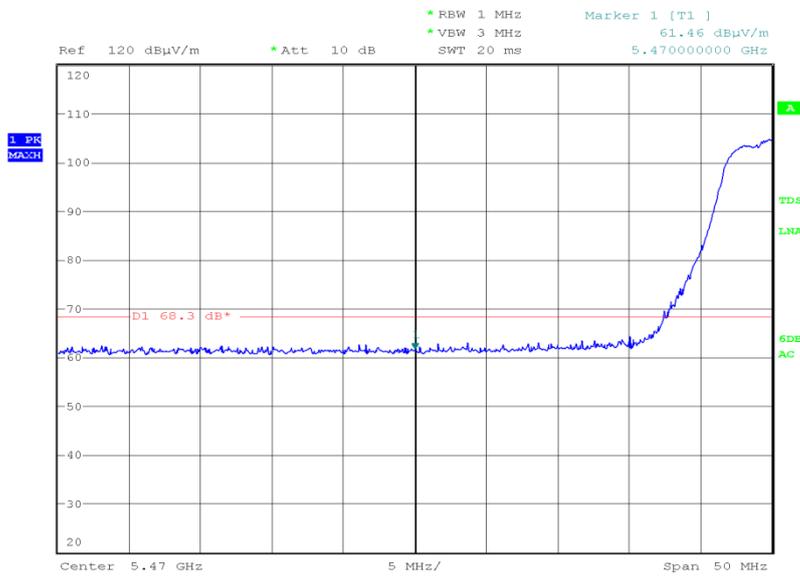
Product Service

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



Date: 20.APR.2015 20:09:41

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

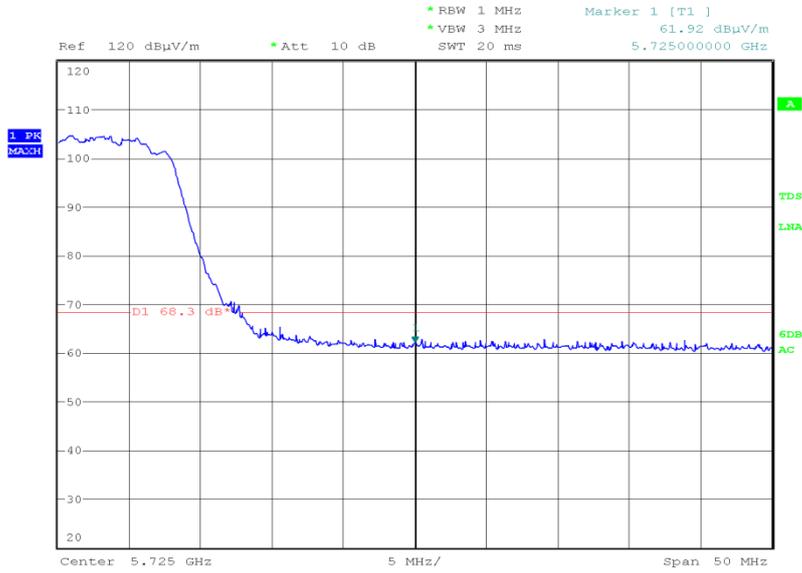


Date: 20.APR.2015 20:43:01



Product Service

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



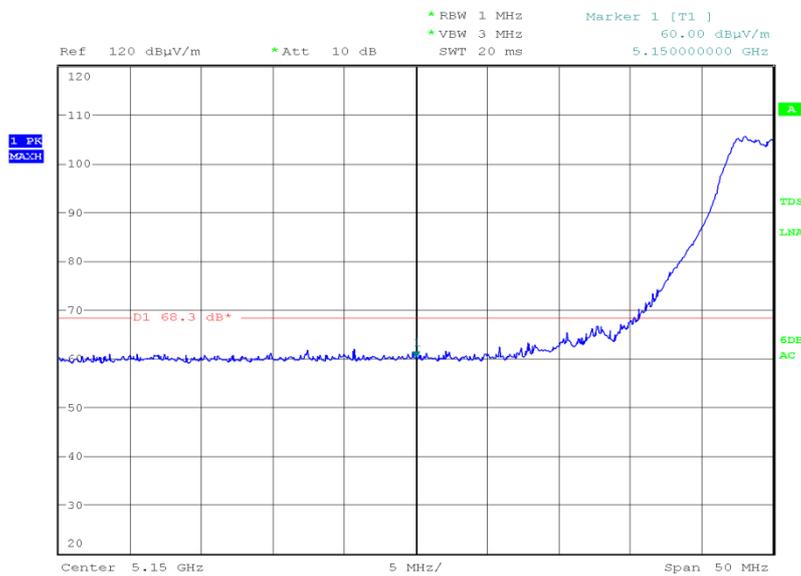
Date: 20.APR.2015 20:49:41



**802.11a, 36 Mbps, Authorised Band Edges Results**

5180 MHz	5320 MHz	5500 MHz	5700 MHz
Measured Frequency 5150 MHz	Measured Frequency 5350 MHz	Measured Frequency 5470 MHz	Measured Frequency 5725 MHz
dBm	dBm	dBm	dBm
Final Peak	Final Peak	Final Peak	Final Peak
-33.83	-33.17	-34.11	-33.27

**802.11a, 5180 MHz, Measured Frequency 5150 MHz, 36 Mbps, Final Peak, Authorised Band Edges Plot**

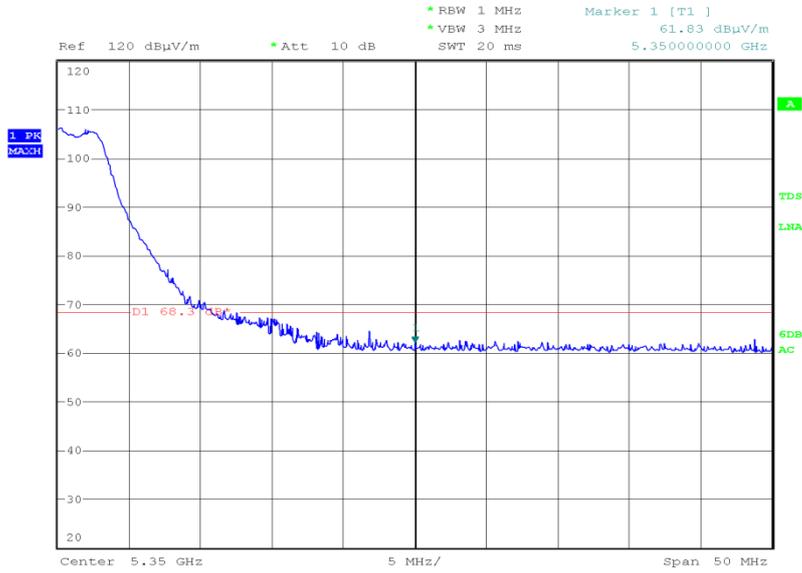


Date: 20.APR.2015 20:56:05



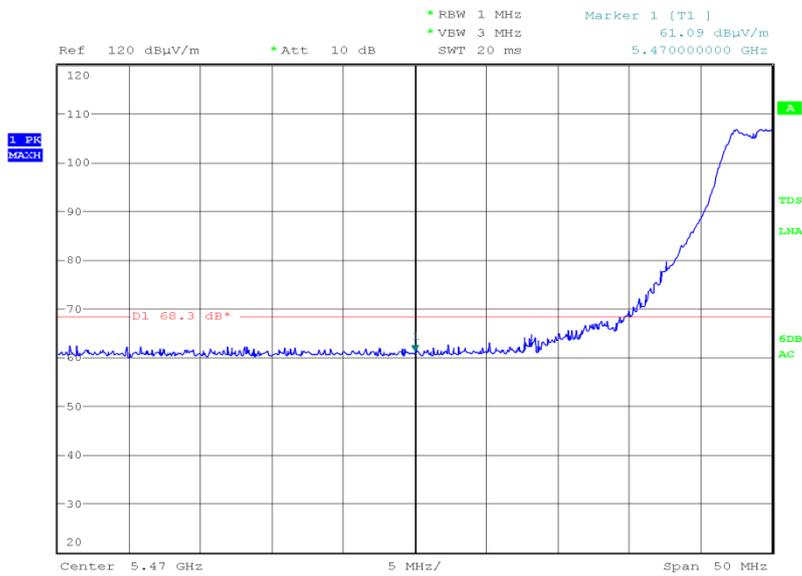
Product Service

**802.11a, 5320 MHz, Measured Frequency 5350 MHz, 36 Mbps, Final Peak, Authorised Band Edges Plot**



Date: 20.APR.2015 21:06:11

**802.11a, 5500 MHz, Measured Frequency 5470 MHz, 36 Mbps, Final Peak, Authorised Band Edges Plot**

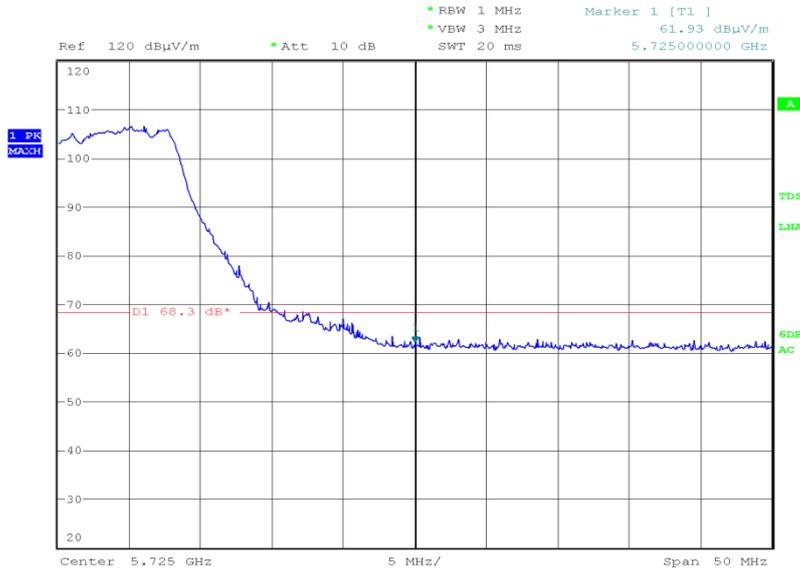


Date: 20.APR.2015 21:13:09



Product Service

802.11a, 5700 MHz, Measured Frequency 5725 MHz, 36 Mbps, Final Peak, Authorised Band Edges Plot



Date: 20.APR.2015 21:18:41

Remark

The test was performed on 9 Mbps because this was deemed the worst case data rate for Conducted Output Power.

The test was performed on 36 Mbps because this was deemed the worst case data rate for 26 dB Bandwidth.

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

5.15 GHz to 5.35 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

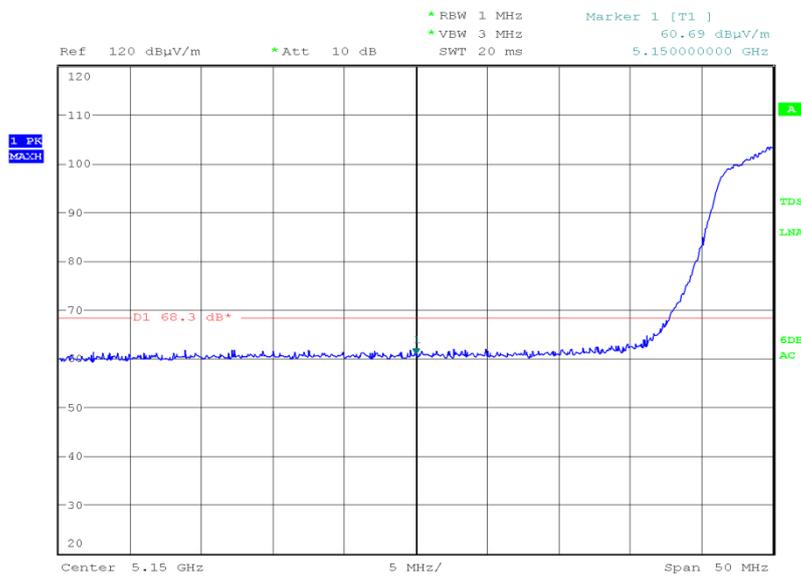


Product Service

**802.11ac - 5 GHz 20 MHz Bandwidth, MCS0, Authorised Band Edges Results**

5180 MHz	5320 MHz	5500 MHz	5700 MHz
Measured Frequency 5150 MHz	Measured Frequency 5350 MHz	Measured Frequency 5470 MHz	Measured Frequency 5725 MHz
dBm	dBm	dBm	dBm
Final Peak	Final Peak	Final Peak	Final Peak
-34.51	-34.65	-33.96	-34.45

**802.11ac - 5 GHz 20 MHz Bandwidth, 5180 MHz, Measured Frequency 5150 MHz, MCS0, Final Peak, Authorised Band Edges Plot**

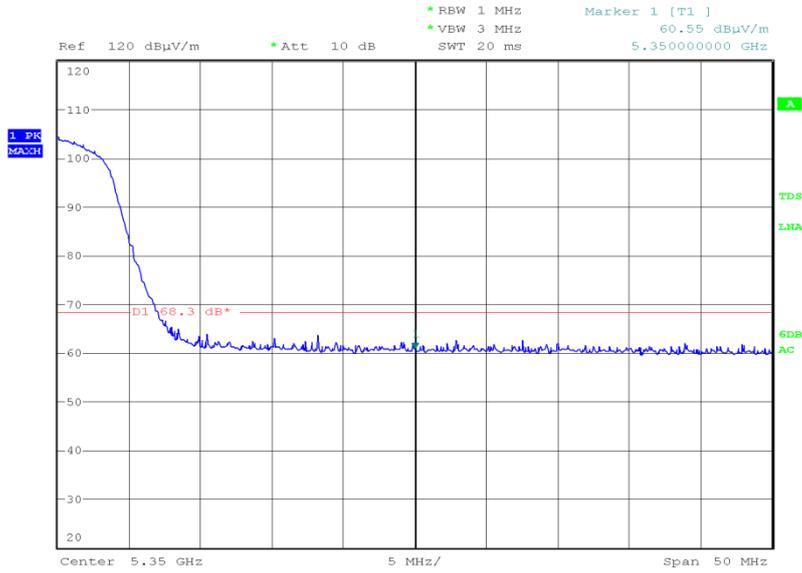


Date: 22.APR.2015 17:01:16



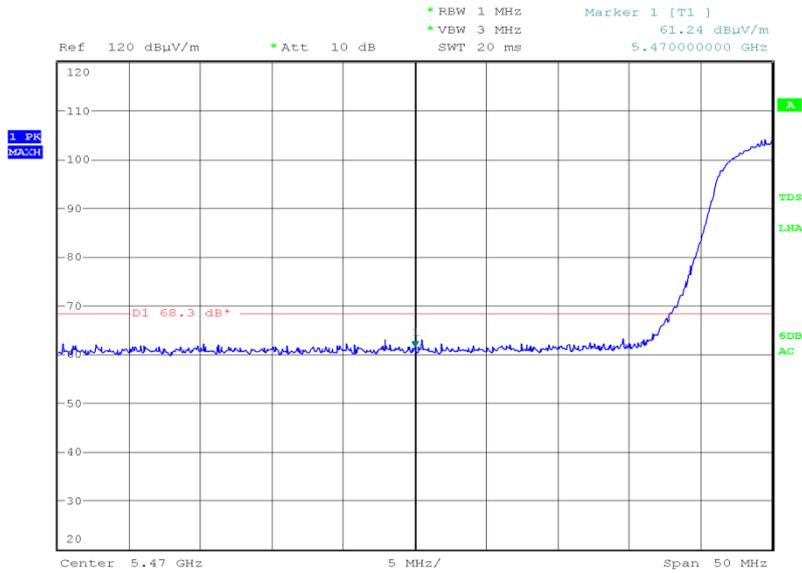
Product Service

**802.11ac - 5 GHz 20 MHz Bandwidth, 5320 MHz, Measured Frequency 5350 MHz, MCS0, Final Peak, Authorised Band Edges Plot**



Date: 22.APR.2015 17:29:46

**802.11ac - 5 GHz 20 MHz Bandwidth, 5500 MHz, Measured Frequency 5470 MHz, MCS0, Final Peak, Authorised Band Edges Plot**

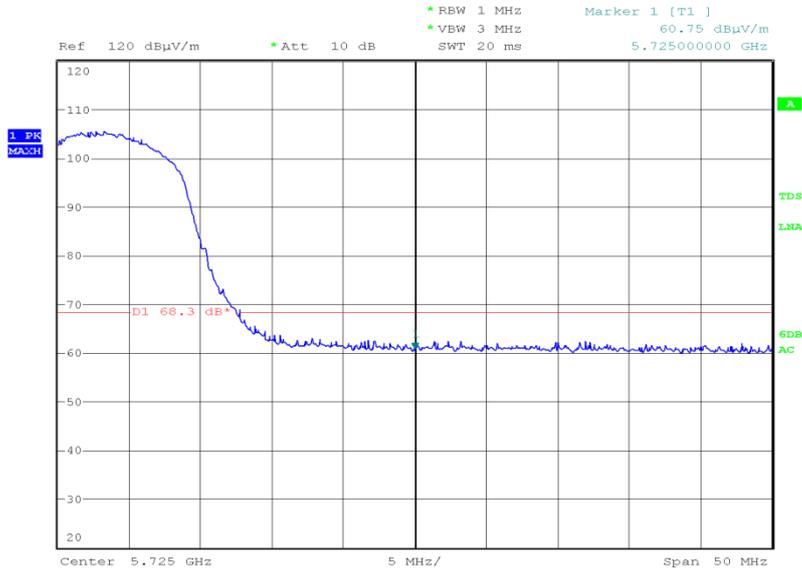


Date: 22.APR.2015 17:42:17



Product Service

802.11ac - 5 GHz 20 MHz Bandwidth, 5700 MHz, Measured Frequency 5725 MHz, MCS0, Final Peak, Authorised Band Edges Plot



Date: 22.APR.2015 17:47:58

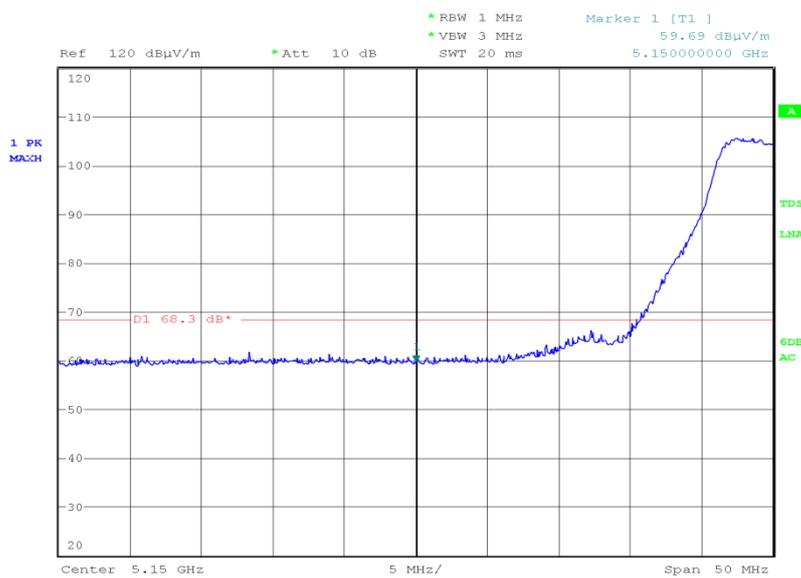


Product Service

**802.11ac - 5 GHz 20 MHz Bandwidth, MCS5, Authorised Band Edges Results**

5180 MHz	5320 MHz	5500 MHz	5700 MHz
Measured Frequency 5150 MHz	Measured Frequency 5350 MHz	Measured Frequency 5470 MHz	Measured Frequency 5725 MHz
dBm	dBm	dBm	dBm
Final Peak	Final Peak	Final Peak	Final Peak
-34.65	-35.85	-34.38	-33.74

**802.11ac - 5 GHz 20 MHz Bandwidth, 5180 MHz, Measured Frequency 5150 MHz, MCS5, Final Peak, Authorised Band Edges Plot**

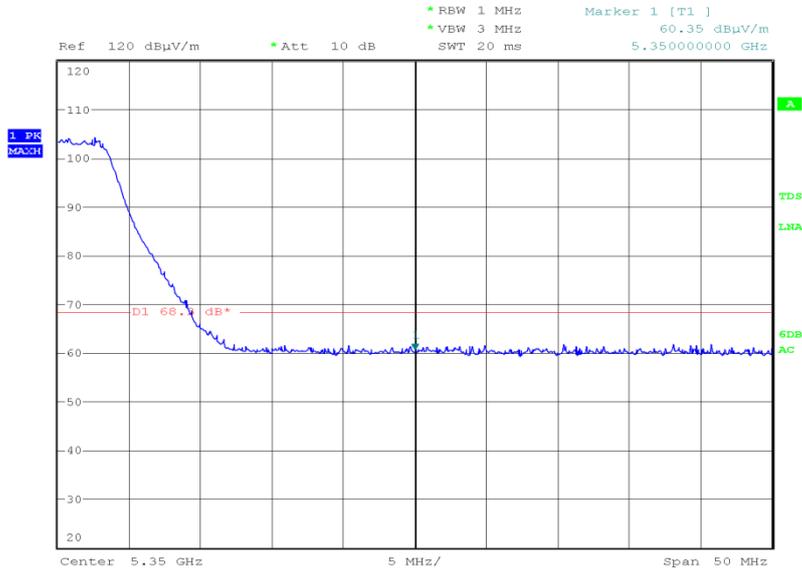


Date: 22.APR.2015 18:03:17



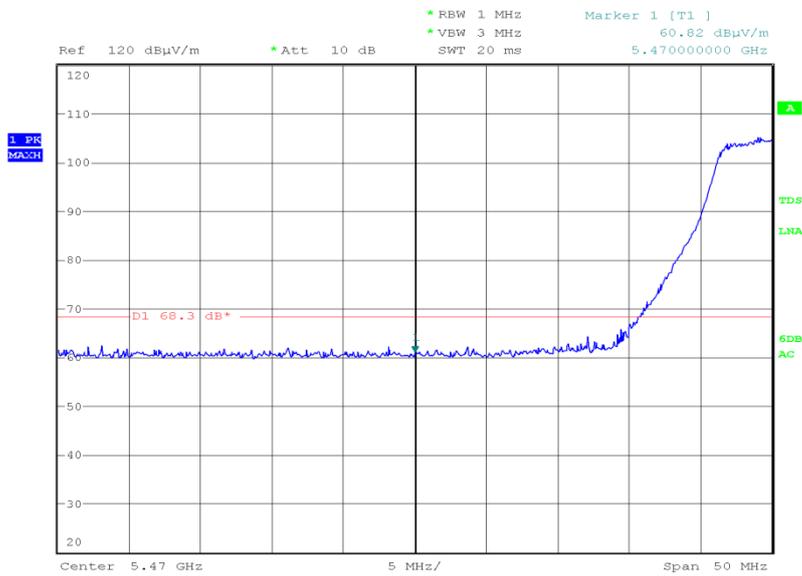
Product Service

**802.11ac - 5 GHz 20 MHz Bandwidth, 5320 MHz, Measured Frequency 5350 MHz, MCS5, Final Peak, Authorised Band Edges Plot**



Date: 22.APR.2015 18:19:14

**802.11ac - 5 GHz 20 MHz Bandwidth, 5500 MHz, Measured Frequency 5470 MHz, MCS5, Final Peak, Authorised Band Edges Plot**

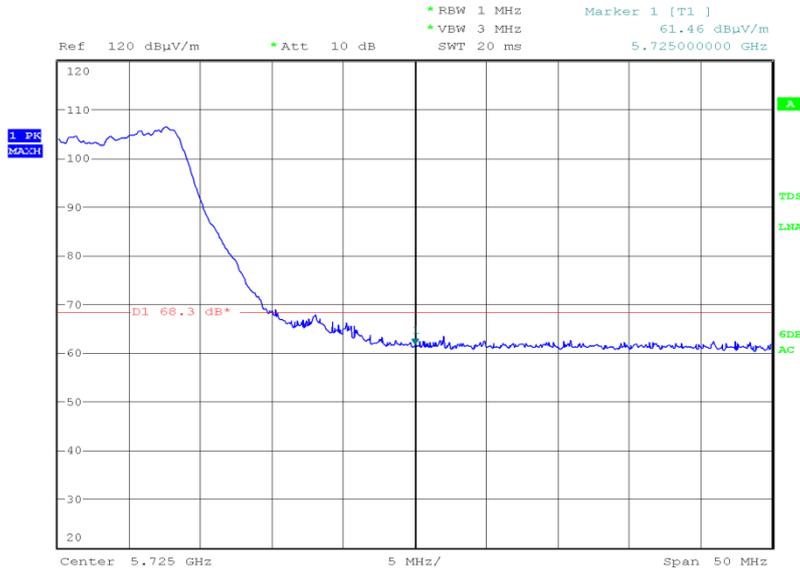


Date: 22.APR.2015 18:31:31



Product Service

**802.11ac - 5 GHz 20 MHz Bandwidth, 5700 MHz, Measured Frequency 5725 MHz, MCS5, Final Peak, Authorised Band Edges Plot**



Date: 22.APR.2015 17:57:53

**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 MCS5 because this was deemed the worst case data rate for 26 dB Bandwidth.

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

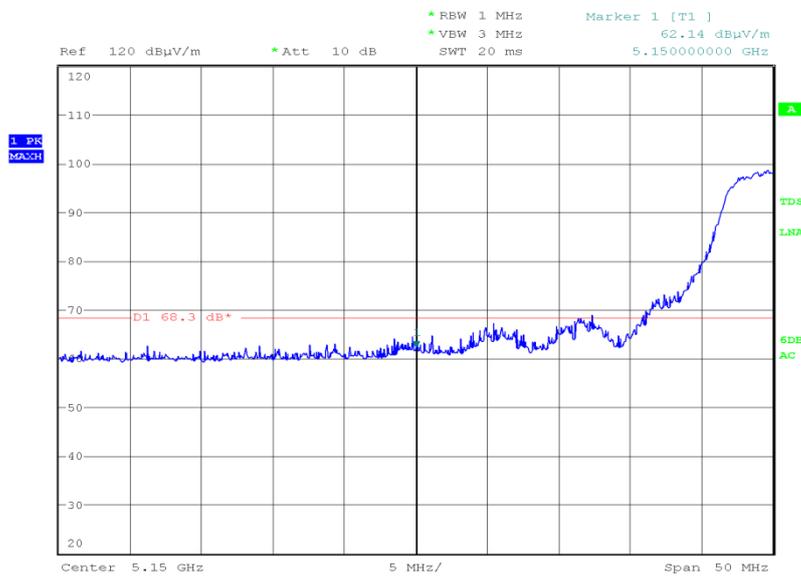
5.15 GHz to 5.35 GHz	-27 dBm/MHz
5.25 GHz to 5.35 GHz	-27 dBm/MHz
5.47 GHz to 5.725 GHz	-27 dBm/MHz
5.725 GHz to 5.850 GHz	-17 dBm/MHz



**802.11ac - 5 GHz 40 MHz Bandwidth, MCS0, Authorised Band Edges Results**

5190 MHz	5310 MHz	5510 MHz	5670 MHz
Measured Frequency 5150 MHz	Measured Frequency 5350 MHz	Measured Frequency 5470 MHz	Measured Frequency 5425.00 MHz
dBm	dBm	dBm	dBm
Final Peak	Final Peak	Final Peak	Final Peak
-33.06	-29.36	-30.87	-34.42

**802.11ac - 5 GHz 40 MHz Bandwidth, 5190 MHz, Measured Frequency 5150 MHz, MCS0, Final Peak, Authorised Band Edges Plot**

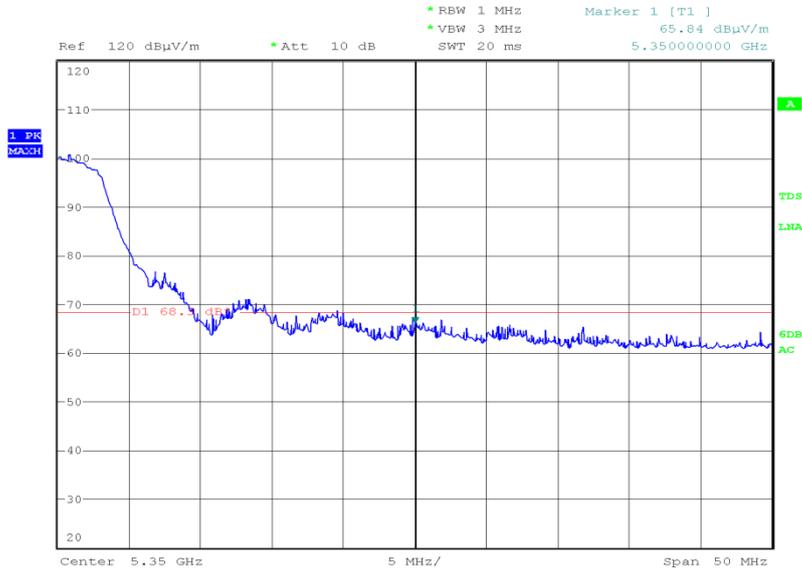


Date: 22.APR.2015 18:43:03



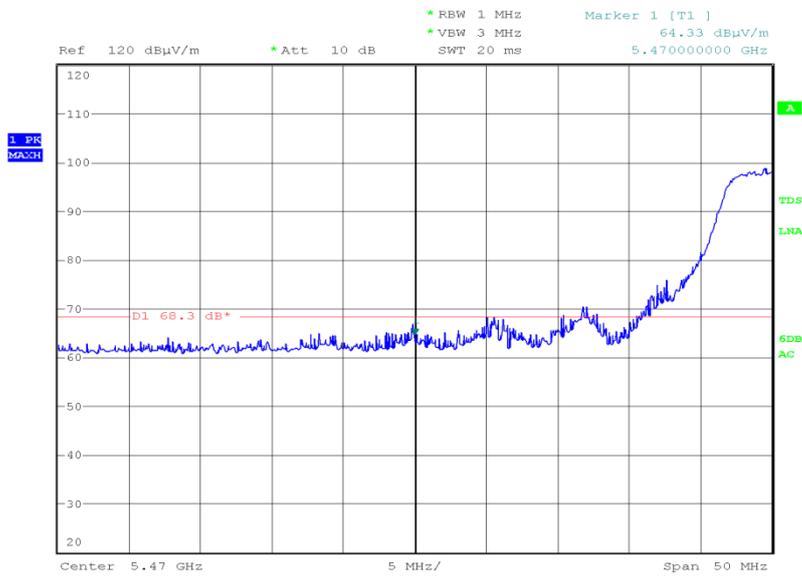
Product Service

**802.11ac - 5 GHz 40 MHz Bandwidth, 5310 MHz, Measured Frequency 5350 MHz, MCS0, Final Peak, Authorised Band Edges Plot**



Date: 22.APR.2015 18:56:05

**802.11ac - 5 GHz 40 MHz Bandwidth, 5510 MHz, Measured Frequency 5470 MHz, MCS0, Final Peak, Authorised Band Edges Plot**

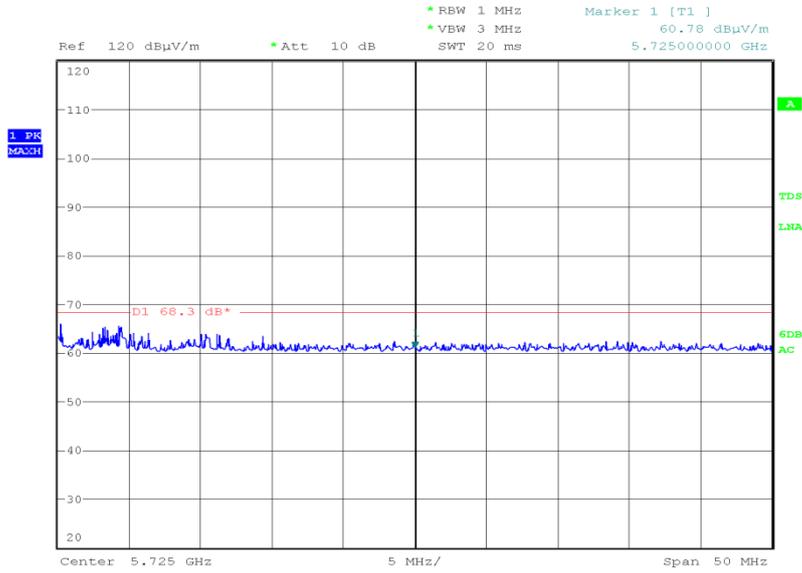


Date: 25.APR.2015 08:06:20



Product Service

802.11ac - 5 GHz 40 MHz Bandwidth, 5670 MHz, Measured Frequency 5725 MHz, MCS0, Final Peak, Authorised Band Edges Plot



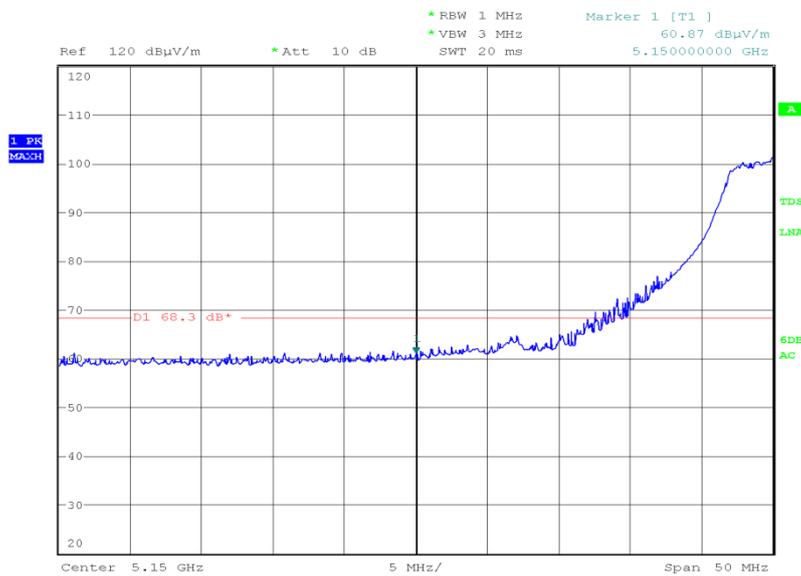
Date: 25.APR.2015 08:09:20



**802.11ac - 5 GHz 40 MHz Bandwidth, MCS3, Authorised Band Edges Results**

5190 MHz	5310 MHz	5510 MHz	5670 MHz
Measured Frequency 5150 MHz	Measured Frequency 5350 MHz	Measured Frequency 5470 MHz	Measured Frequency 5725 MHz
dBm	dBm	dBm	dBm
Final Peak	Final Peak	Final Peak	Final Peak
-29.36	-34.87	-33.82	-34.16

**802.11ac - 5 GHz 40 MHz Bandwidth, 5190 MHz, Measured Frequency 5150 MHz, MCS3, Final Peak, Authorised Band Edges Plot**

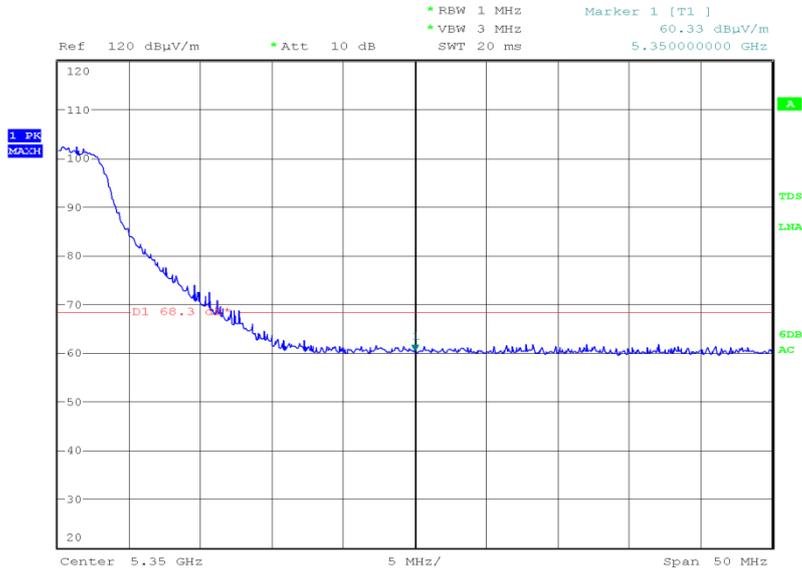


Date: 22.APR.2015 19:36:15



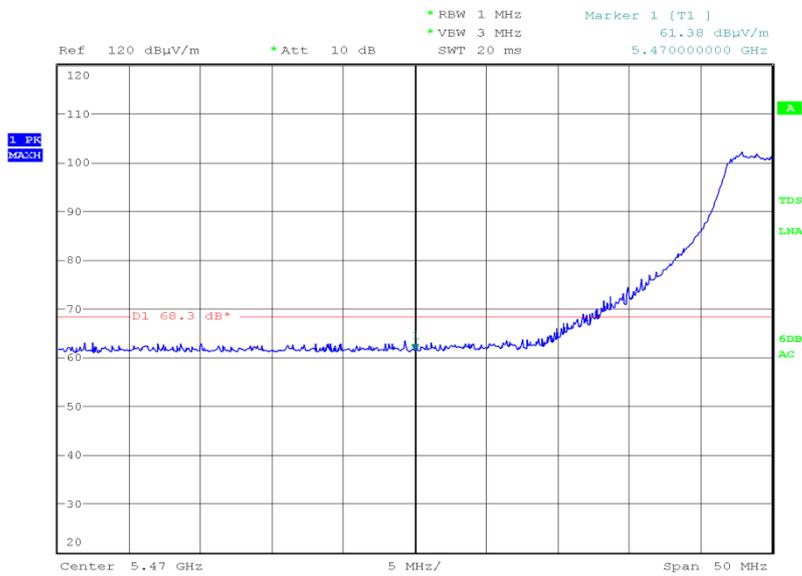
Product Service

**802.11ac - 5 GHz 40 MHz Bandwidth, 5310 MHz, Measured Frequency 5350 MHz, MCS3, Final Peak, Authorised Band Edges Plot**



Date: 22.APR.2015 19:49:06

**802.11ac - 5 GHz 40 MHz Bandwidth, 5510 MHz, Measured Frequency 5470 MHz, MCS3, Final Peak, Authorised Band Edges Plot**

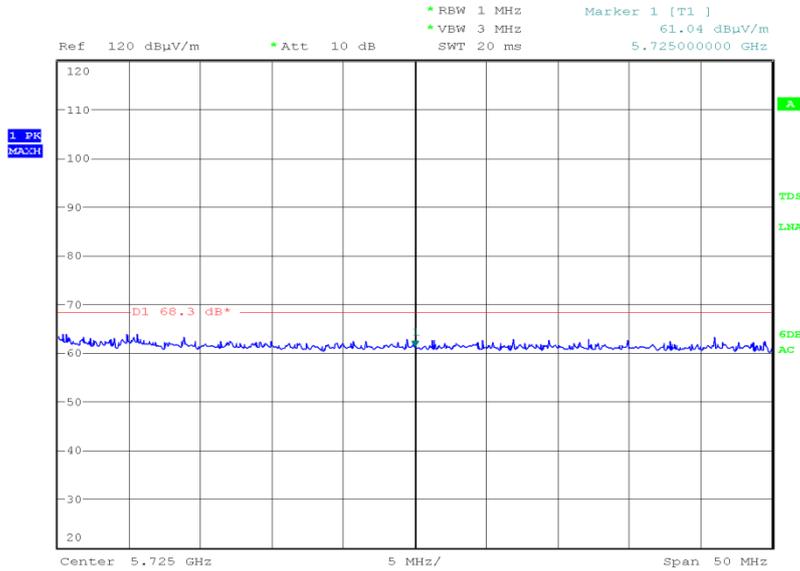


Date: 25.APR.2015 08:19:15



Product Service

**802.11ac - 5 GHz 40 MHz Bandwidth, 5670 MHz, Measured Frequency 5725 MHz, MCS3, Final Peak, Authorised Band Edges Plot**



Date: 25.APR.2015 08:24:24

**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 MCS3 because this was deemed the worst case data rate for 26 dB Bandwidth.

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

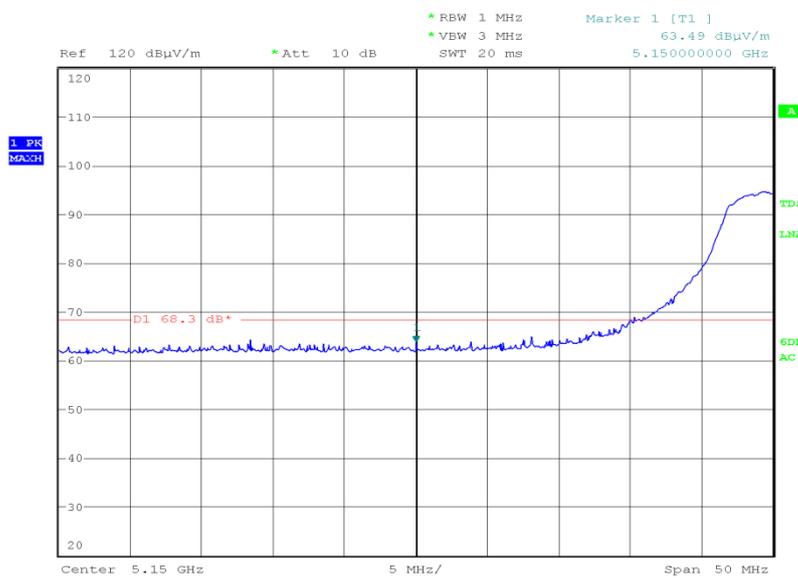
5.15 GHz to 5.35 GHz	-27 dBm/MHz
5.25 GHz to 5.35 GHz	-27 dBm/MHz
5.47 GHz to 5.725 GHz	-27 dBm/MHz
5.725 GHz to 5.850 GHz	-17 dBm/MHz



**802.11ac - 5 GHz 80 MHz Bandwidth, MCS0, Authorised Band Edges Results**

5210 MHz	5290 MHz	5530 MHz	5610 MHz
Measured Frequency 5150 MHz	Measured Frequency 5350 MHz	Measured Frequency 5470 MHz	Measured Frequency 5725 MHz
dBm	dBm	dBm	dBm
Final Peak	Final Peak	Final Peak	Final Peak
-31.71	-33.52	-32.92	-34.55

**802.11ac - 5 GHz 80 MHz Bandwidth, 5210 MHz, Measured Frequency 5150 MHz, MCS0, Final Peak, Authorised Band Edges Plot**

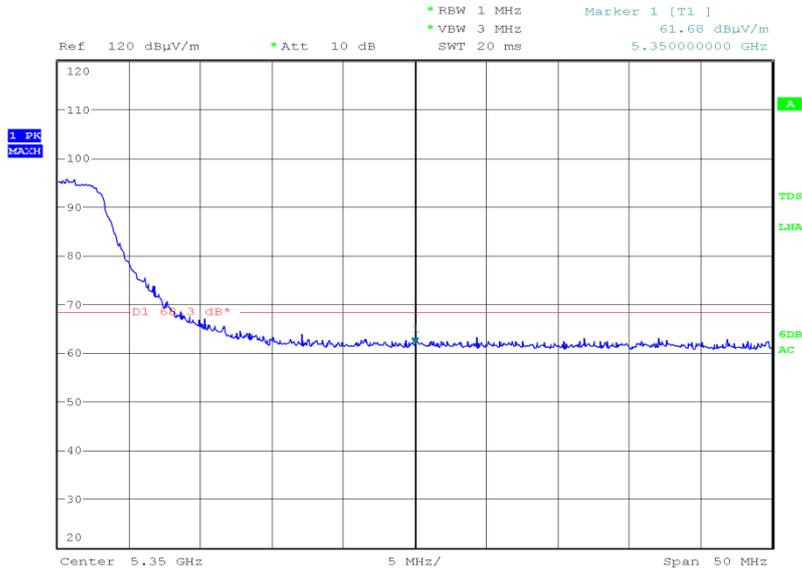


Date: 25.APR.2015 08:48:41



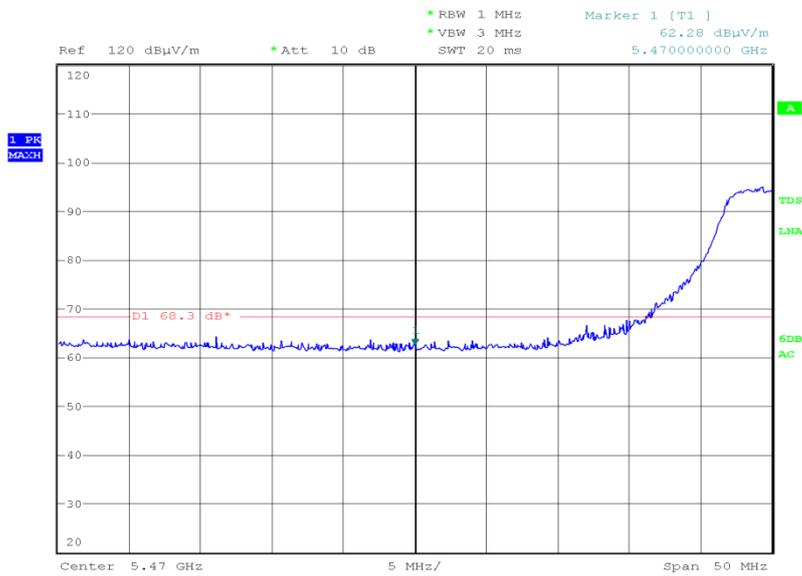
Product Service

**802.11ac - 5 GHz 80 MHz Bandwidth, 5290 MHz, Measured Frequency 5350 MHz, MCS0, Final Peak, Authorised Band Edges Plot**



Date: 25.APR.2015 09:18:39

**802.11ac - 5 GHz 80 MHz Bandwidth, 5530 MHz, Measured Frequency 5470 MHz, MCS0, Final Peak, Authorised Band Edges Plot**

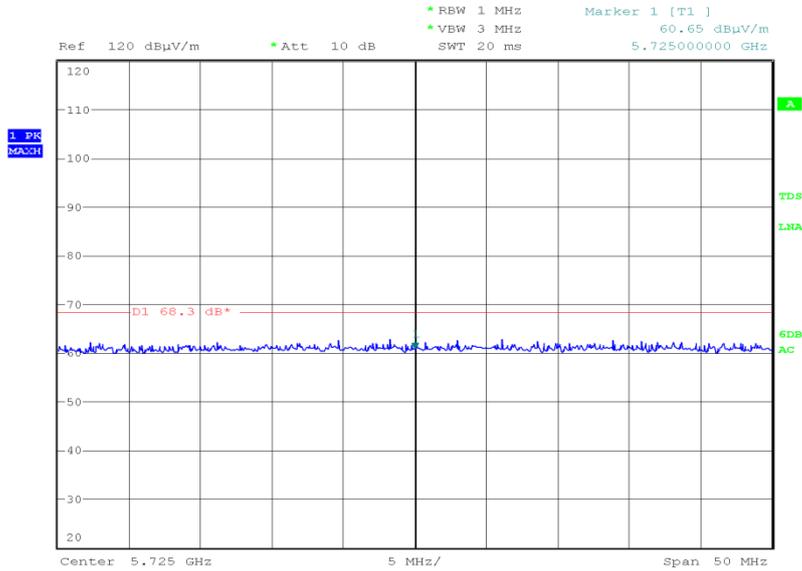


Date: 25.APR.2015 09:24:50



Product Service

802.11ac - 5 GHz 80 MHz Bandwidth, 5610 MHz, Measured Frequency 5725 MHz, MCS0, Final Peak, Authorised Band Edges Plot



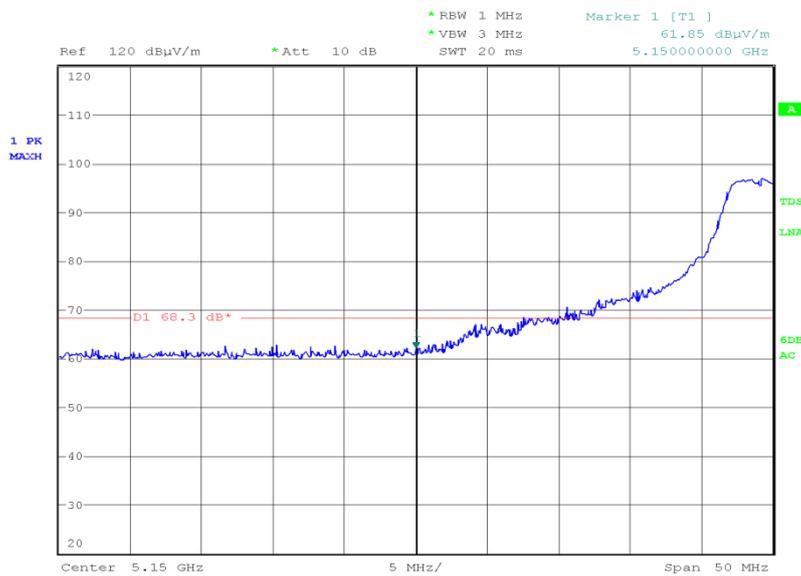
Date: 25.APR.2015 09:32:19



**802.11ac - 5 GHz 80 MHz Bandwidth, MCS8, Authorised Band Edges Results**

5210 MHz	5290 MHz	5530 MHz	5610 MHz
Measured Frequency 5150 MHz	Measured Frequency 5350 MHz	Measured Frequency 5470 MHz	Measured Frequency 5725 MHz
dBm	dBm	dBm	dBm
Final Peak	Final Peak	Final Peak	Final Peak
-33.52	-32.65	-33.07	-34.98

**802.11ac - 5 GHz 80 MHz Bandwidth, 5210 MHz, Measured Frequency 5150 MHz, MCS8, Final Peak, Authorised Band Edges Plot**

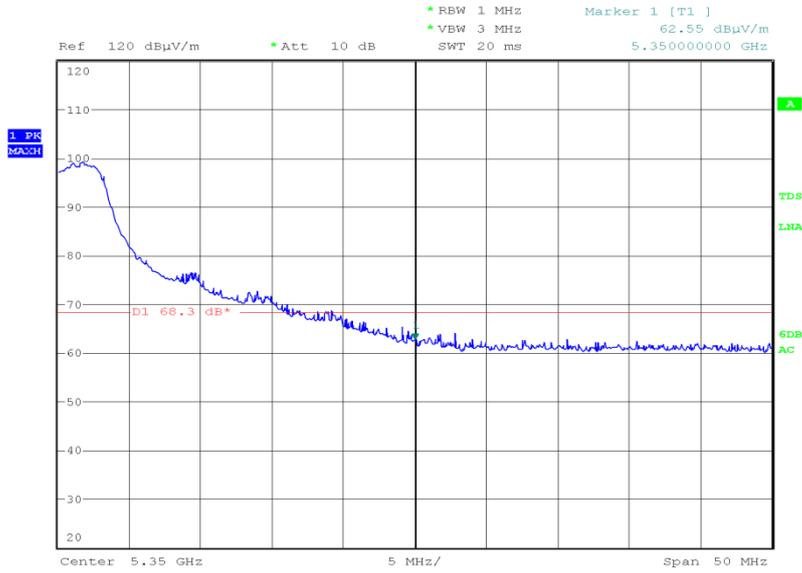


Date: 25.APR.2015 09:36:45



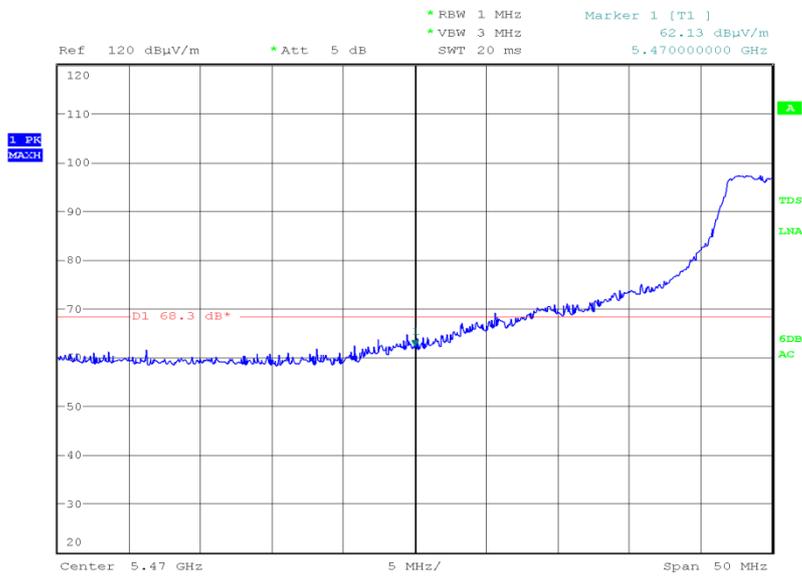
Product Service

**802.11ac - 5 GHz 80 MHz Bandwidth, 5290 MHz, Measured Frequency 5350 MHz, MCS8, Final Peak, Authorised Band Edges Plot**



Date: 25.APR.2015 09:46:59

**802.11ac - 5 GHz 80 MHz Bandwidth, 5530 MHz, Measured Frequency 5470 MHz, MCS8, Final Peak, Authorised Band Edges Plot**

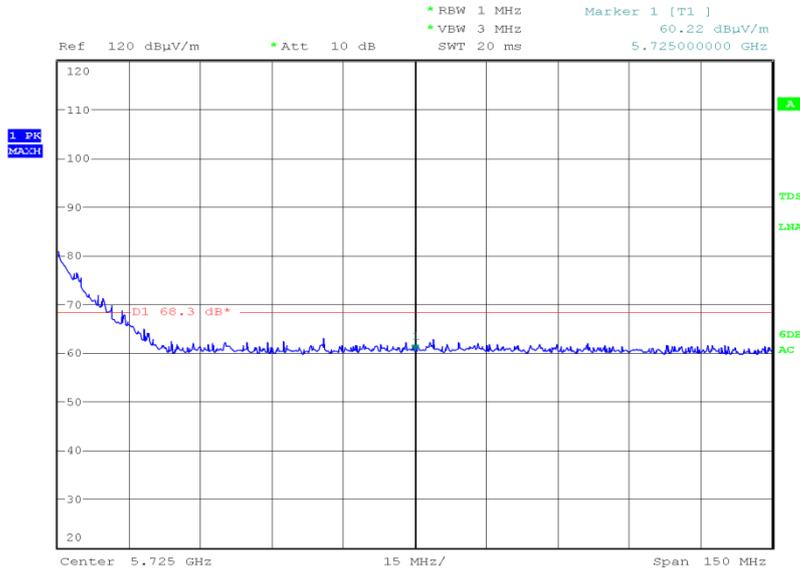


Date: 25.APR.2015 10:03:23



Product Service

**802.11ac - 5 GHz 80 MHz Bandwidth, 5610 MHz, Measured Frequency 5725 MHz, MCS8, Final Peak, Authorised Band Edges Plot**



Date: 25.APR.2015 10:08:36

**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 MCS8 because this was deemed the worst case data rate for 26 dB Bandwidth.

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

5.15 GHz to 5.35 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

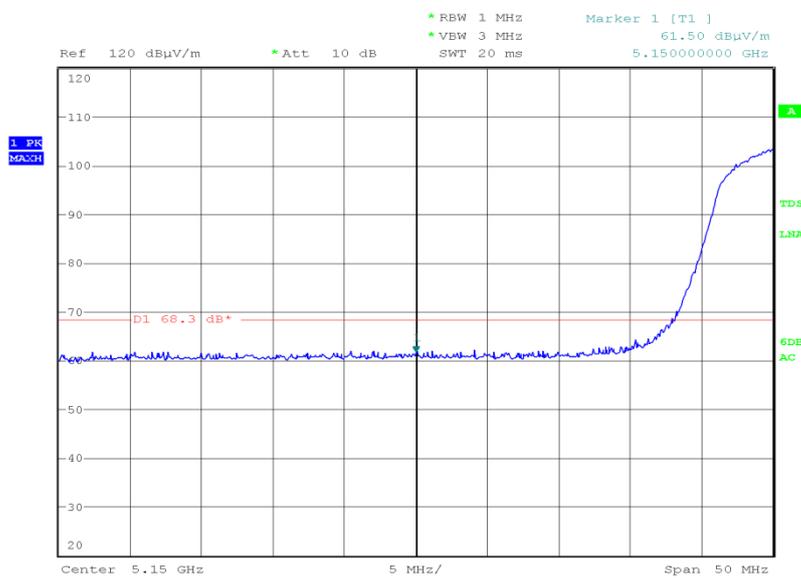


Product Service

802.11n - 5 GHz 20 MHz Bandwidth, MCS0, Authorised Band Edges Results

5180 MHz	5320 MHz	5500 MHz	5700 MHz
Measured Frequency 5150 MHz	Measured Frequency 5350 MHz	Measured Frequency 5470 MHz	Measured Frequency 5725 MHz
dBm	dBm	dBm	dBm
Final Peak	Final Peak	Final Peak	Final Peak
-33.70	-34.23	-33.51	-34.42

802.11n - 5 GHz 20 MHz Bandwidth, 5180 MHz, Measured Frequency 5150 MHz, MCS0, Final Peak, Authorised Band Edges Plot

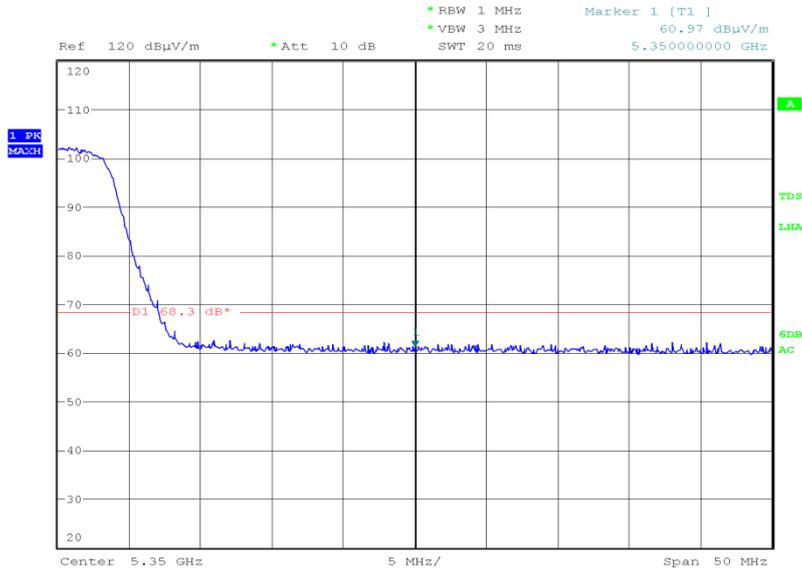


Date: 21.APR.2015 19:15:49



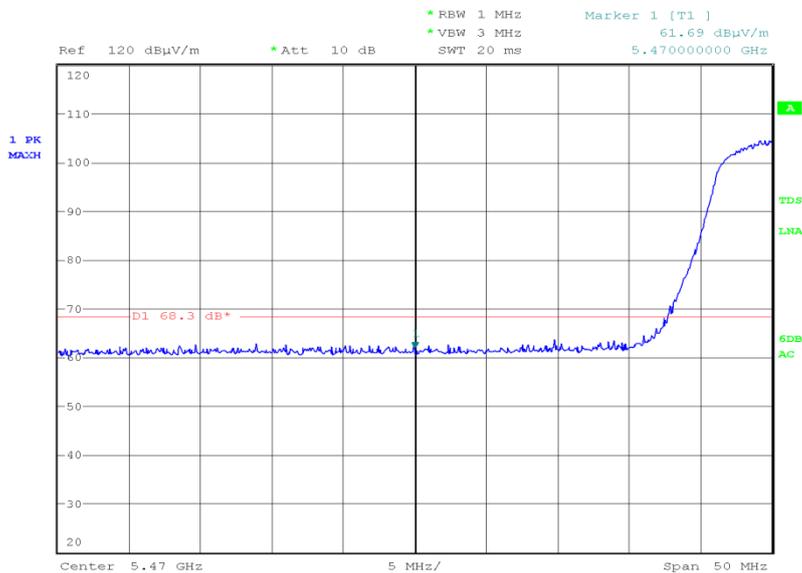
Product Service

**802.11n - 5 GHz 20 MHz Bandwidth, 5320 MHz, Measured Frequency 5350 MHz, MCS0, Final Peak, Authorised Band Edges Plot**



Date: 21.APR.2015 19:25:58

**802.11n - 5 GHz 20 MHz Bandwidth, 5500 MHz, Measured Frequency 5470 MHz, MCS0, Final Peak, Authorised Band Edges Plot**

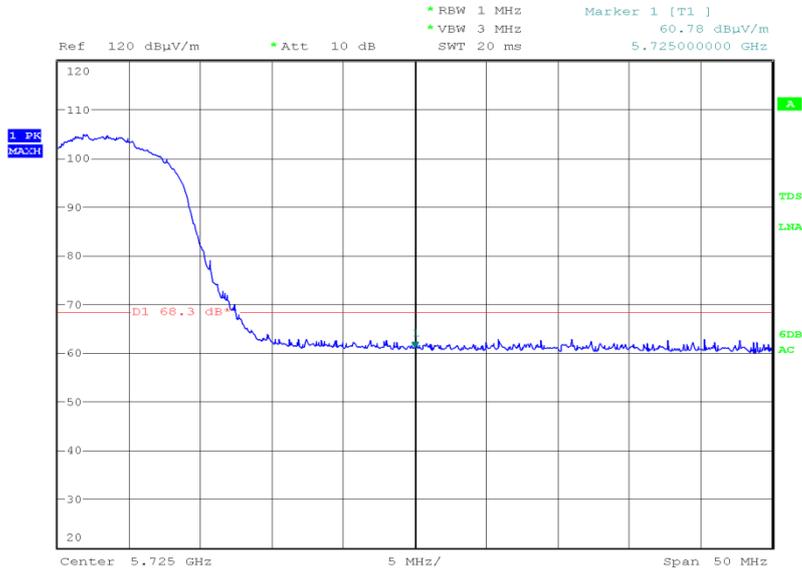


Date: 21.APR.2015 19:42:59



Product Service

802.11n - 5 GHz 20 MHz Bandwidth, 5700 MHz, Measured Frequency 5725 MHz, MCS0, Final Peak, Authorised Band Edges Plot



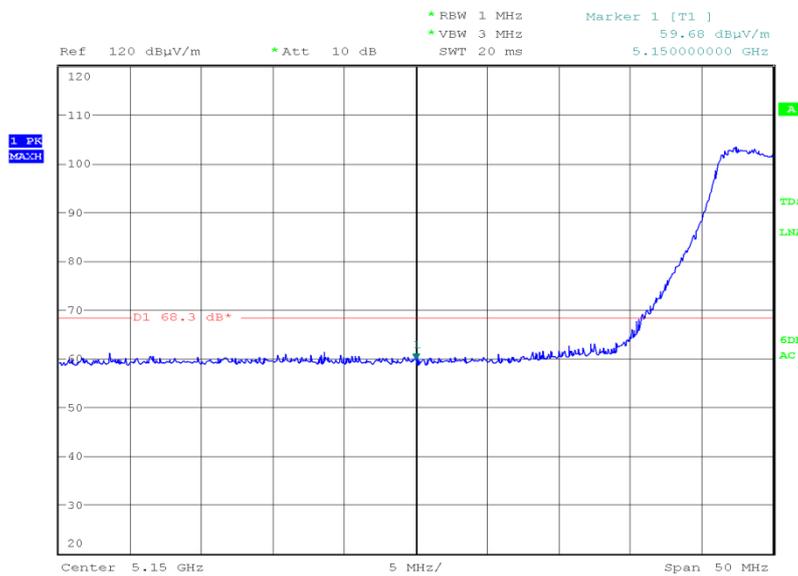
Date: 21.APR.2015 19:48:13



**802.11n - 5 GHz 20 MHz Bandwidth, MCS5, Authorised Band Edges Results**

5180 MHz	5320 MHz	5500 MHz	5700 MHz
Measured Frequency 5150 MHz	Measured Frequency 5350 MHz	Measured Frequency 5470 MHz	Measured Frequency 5725 MHz
dBm	dBm	dBm	dBm
Final Peak	Final Peak	Final Peak	Final Peak
-34.23	-34.57	-35.15	-33.77

**802.11n - 5 GHz 20 MHz Bandwidth, 5180 MHz, Measured Frequency 5150 MHz, MCS5, Final Peak, Authorised Band Edges Plot**

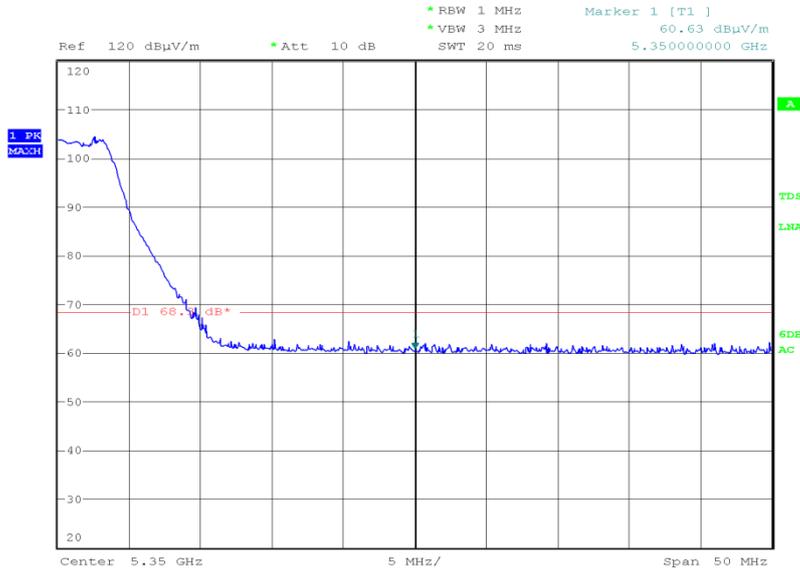


Date: 21.APR.2015 19:59:20



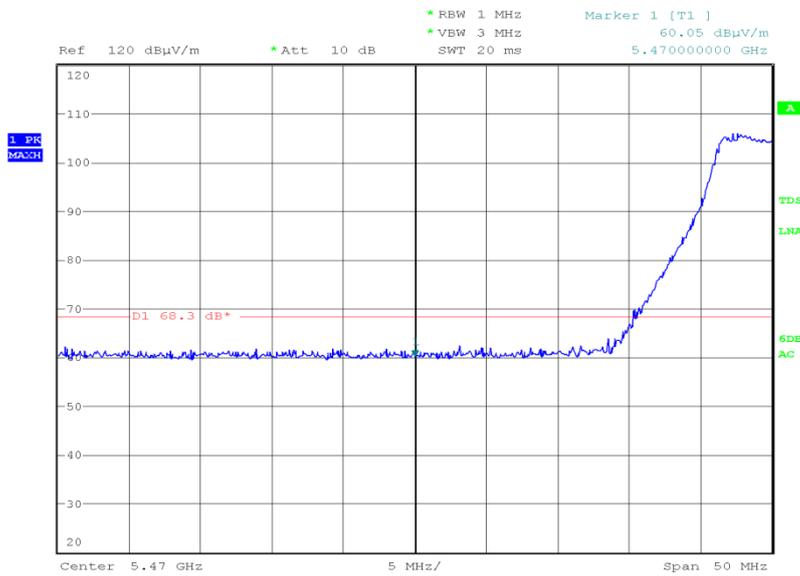
Product Service

802.11n - 5 GHz 20 MHz Bandwidth, 5320 MHz, Measured Frequency 5350 MHz, MCS5, Final Peak, Authorised Band Edges Plot



Date: 21.APR.2015 20:07:31

802.11n - 5 GHz 20 MHz Bandwidth, 5500 MHz, Measured Frequency 5470 MHz, MCS5, Final Peak, Authorised Band Edges Plot

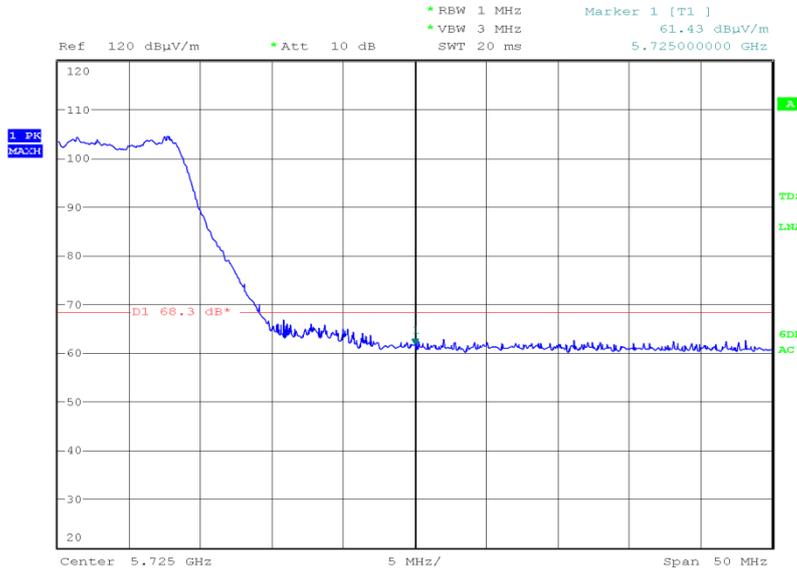


Date: 21.APR.2015 20:15:31



Product Service

802.11n - 5 GHz 20 MHz Bandwidth, 5700 MHz, Measured Frequency 5725 MHz, MCS5, Final Peak, Authorised Band Edges Plot



Date: 21.APR.2015 19:54:14

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 MCS5 because this was deemed the worst case data rate for 26 dB Bandwidth.

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

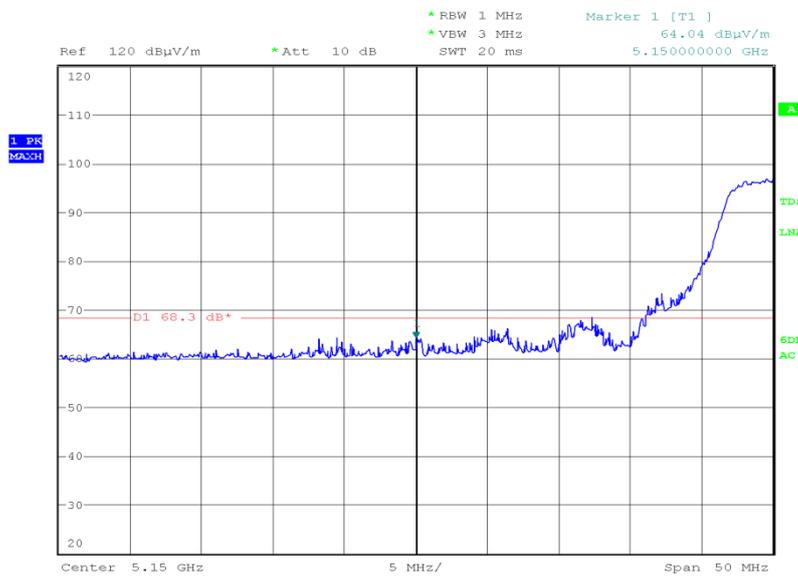
5.15 GHz to 5.35 GHz	-27 dBm/MHz
5.25 GHz to 5.35 GHz	-27 dBm/MHz
5.47 GHz to 5.725 GHz	-27 dBm/MHz
5.725 GHz to 5.850 GHz	-17 dBm/MHz



**802.11n - 5 GHz 40 MHz Bandwidth, MCS0, Authorised Band Edges Results**

5190 MHz	5310 MHz	5510 MHz	5670 MHz
Measured Frequency 5150 MHz	Measured Frequency 5350 MHz	Measured Frequency 5470 MHz	Measured Frequency 5725 MHz
dBm	dBm	dBm	dBm
Final Peak	Final Peak	Final Peak	Final Peak
-31.16	-31.00	-31.78	-33.74

**802.11n - 5 GHz 40 MHz Bandwidth, 5190 MHz, Measured Frequency 5150 MHz, MCS0, Final Peak, Authorised Band Edges Plot**

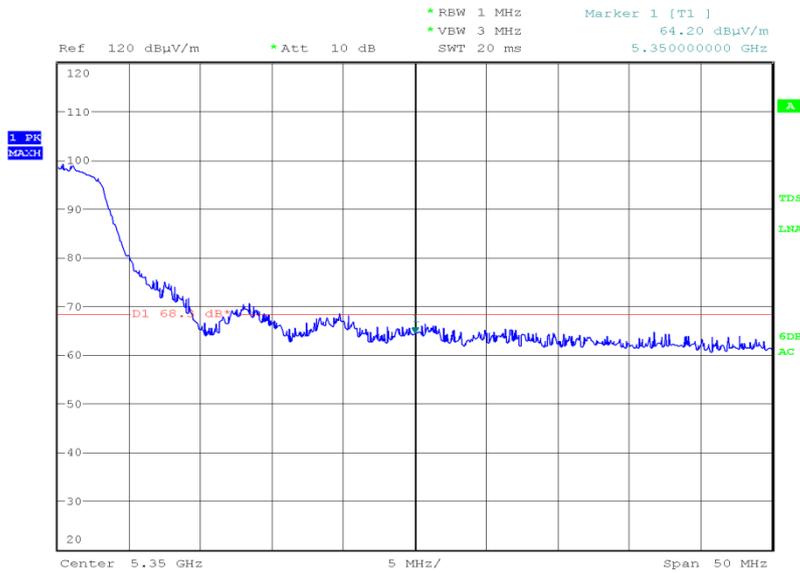


Date: 21.APR.2015 21:43:45



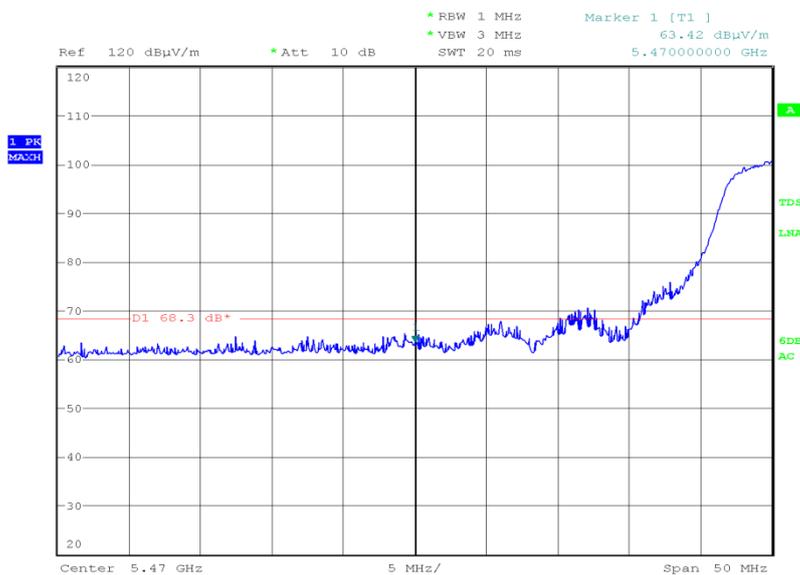
Product Service

**802.11n - 5 GHz 40 MHz Bandwidth, 5310 MHz, Measured Frequency 5350 MHz, MCS0, Final Peak, Authorised Band Edges Plot**



Date: 21.APR.2015 21:50:26

**802.11n - 5 GHz 40 MHz Bandwidth, 5510 MHz, Measured Frequency 5470 MHz, MCS0, Final Peak, Authorised Band Edges Plot**

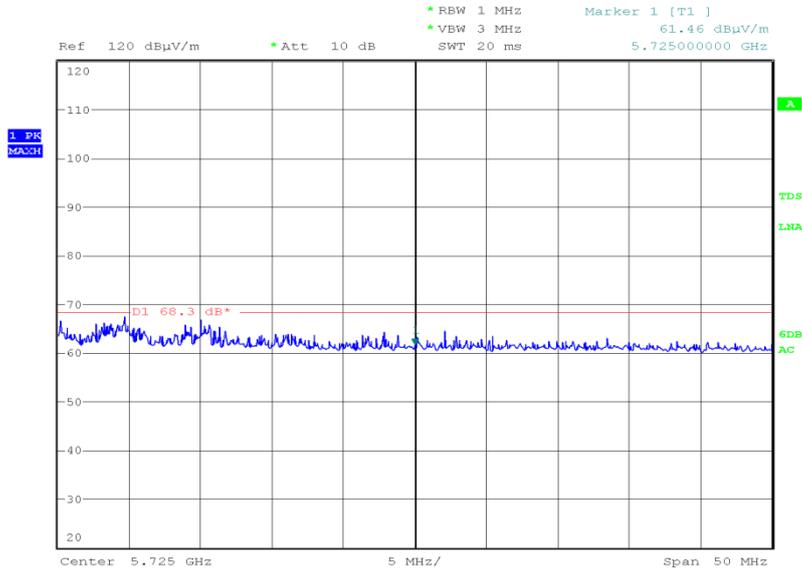


Date: 21.APR.2015 22:04:19



Product Service

802.11n - 5 GHz 40 MHz Bandwidth, 5670 MHz, Measured Frequency 5725 MHz, MCS0, Final Peak, Authorised Band Edges Plot



Date: 21.APR.2015 22:09:53

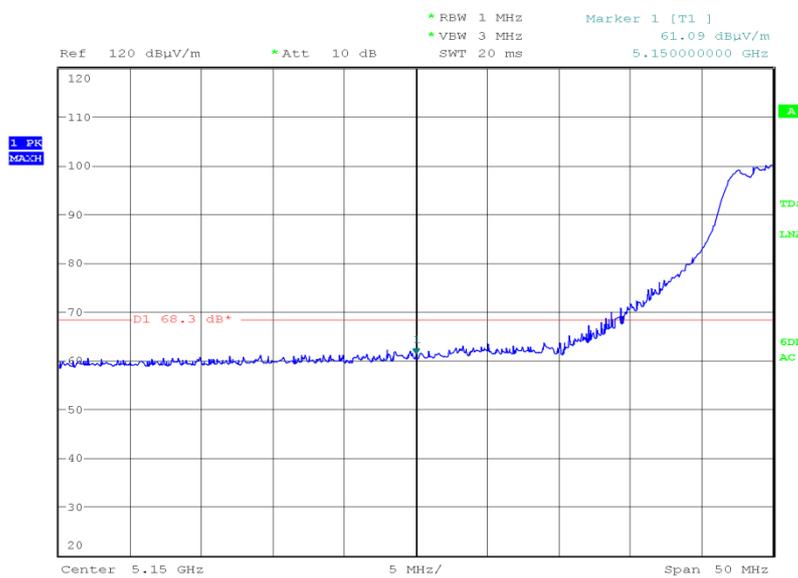


Product Service

**802.11n - 5 GHz 40 MHz Bandwidth, MCS5, Authorised Band Edges Results**

5190 MHz	5310 MHz	5510 MHz	5670 MHz
Measured Frequency 5150 MHz	Measured Frequency 5350 MHz	Measured Frequency 5470 MHz	Measured Frequency 5725 MHz
dBm	dBm	dBm	dBm
Final Peak	Final Peak	Final Peak	Final Peak
-31.00	-34.47	-33.84	-33.65

**802.11n - 5 GHz 40 MHz Bandwidth, 5190 MHz, Measured Frequency 5150 MHz, MCS5, Final Peak, Authorised Band Edges Plot**

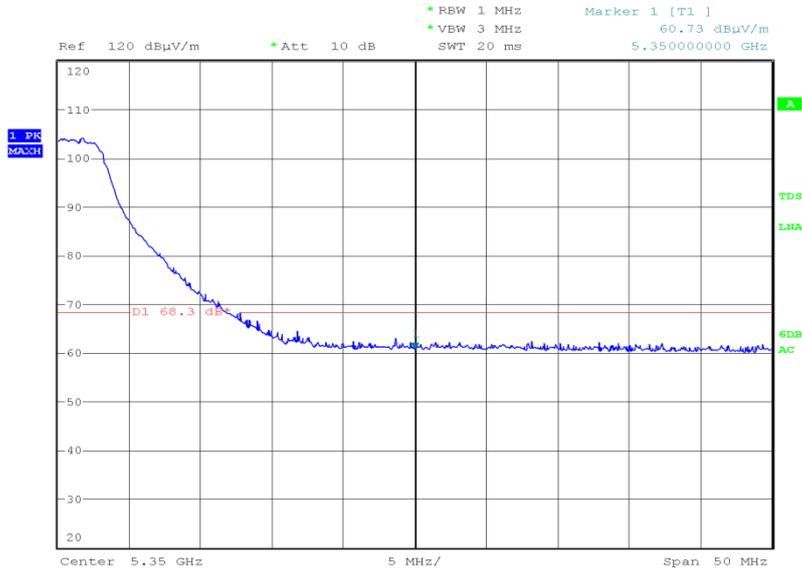


Date: 21.APR.2015 22:20:00



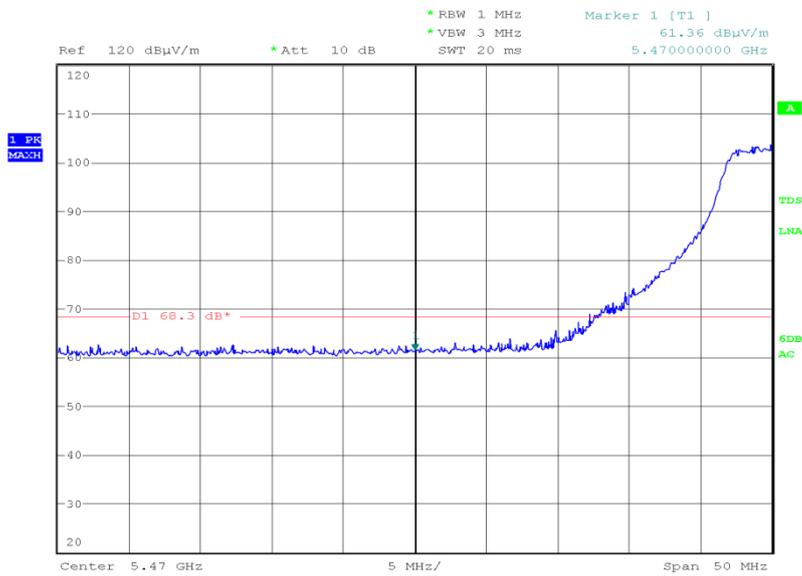
Product Service

802.11n - 5 GHz 40 MHz Bandwidth, 5310 MHz, Measured Frequency 5350 MHz, MCS5, Final Peak, Authorised Band Edges Plot



Date: 21.APR.2015 22:31:40

802.11n - 5 GHz 40 MHz Bandwidth, 5510 MHz, Measured Frequency 5470 MHz, MCS5, Final Peak, Authorised Band Edges Plot

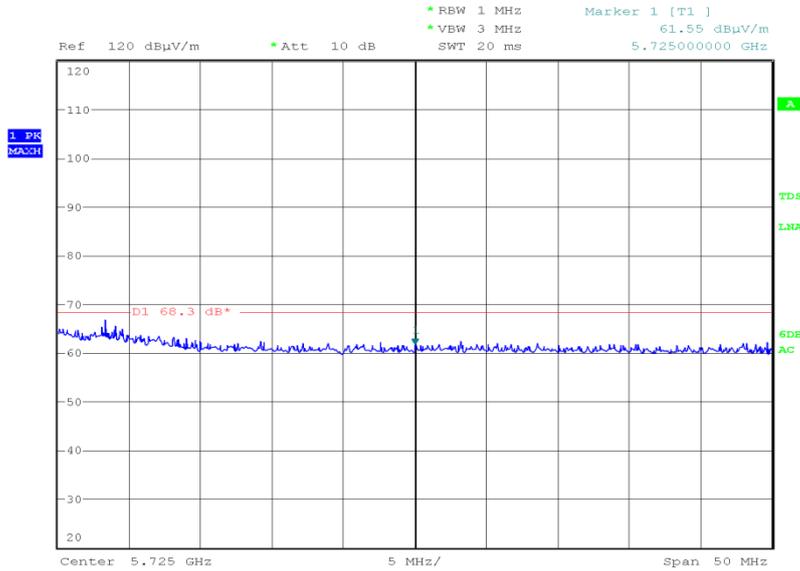


Date: 21.APR.2015 22:37:23



Product Service

802.11n - 5 GHz 40 MHz Bandwidth, 5670 MHz, Measured Frequency 5725 MHz, MCS5, Final Peak, Authorised Band Edges Plot



Date: 21.APR.2015 22:16:22

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 MCS5 because this was deemed the worst case data rate for 26 dB Bandwidth.

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

5.15 GHz to 5.35 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**



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
<b>Section 2.1 – AC Line Conducted Emissions</b>					
Transient Limiter	Hewlett Packard	11947A	15	12	16-Dec-2015
LISN (1 Phase)	Chase	MN 2050	336	12	1-Apr-2016
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	27-Oct-2015
<b>Section 2.2 - 26 dB Bandwidth</b>					
Attenuator 10dB/25W	Weinschel	46-10-43	400	12	4-Jun-2015
Power Supply	Hewlett Packard	6104A	1316	-	TU
Power Supply	Hewlett Packard	6104A	1948	-	TU
Multimeter	Iso-tech	IDM101	2419	12	07-Oct-2015
Hygrometer	Rotronic	I-1000	3220	12	24-Jul-2015
Signal Analyser	Rohde & Schwarz	FSQ 26	3545	12	6-Aug-2015
Frequency Standard	Spectracom	Secure Sync 1200-0408-0601	4393	6	28-Jul-2015
1 metre SMA Cable	IW Microwave	3PS-1806LC-394-3PS	4521	12	27-Jan-2016
<b>Section 2.3 – Maximum Conducted Output Power</b>					
Power Supply Unit	Hewlett Packard	6267B	21	-	TU
Power Supply Unit	Hewlett Packard	6253A	441	-	O/P Mon
Broadband Resistive Power Divider	Weinschel	1506A	601	12	24-Mar-2016
Radio Communications Test Set	Rohde & Schwarz	CMU 200	3035	12	06-Nov-2015
Hygrometer	Rotronic	I-1000	3220	12	24-Jul-2015
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	3-Sep-2015
Combiner/Splitter	Weinschel	1506A	3877	12	24-Mar-2016
P-Series Power Meter	Agilent Technologies	N1911A	3980	12	22-Sep-2015
P-Series Power Meter	Agilent Technologies	N1911A	3981	12	22-Sep-2015
50 MHz-18 GHz Wideband Power Sensor	Agilent Technologies	N1921A	3982	12	22-Sep-2015
True RMS Multimeter	Fluke	179	4007	12	31-Jul-2015
Calibration Unit	Rohde & Schwarz	ZV-Z54	4368	12	24-Sep-2015
PXA Signal Analyser	Agilent Technologies	N9030A PXA	4409	12	16-Feb-2016
1 metre N-Type Cable	IW Microwave	NPS-1806LC-394-NPS	4505	12	26-Feb-2016
1 metre N-Type Cable	IW Microwave	NPS-1806LC-394-NPS	4506	12	26-Feb-2016



Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
<b>Section 2.4 - Peak Power Spectral Density</b>					
Attenuator 10dB/25W	Weinschel	46-10-43	400	12	4-Jun-2015
Multimeter	Fluke	79 Series III	611	12	1-Sep-2015
Rubidium Standard	Rohde & Schwarz	XSRM	1316	6	28-Jul-2015
Attenuator (10dB, 50W)	Aeroflex / Weinschel	47-10-34	3166	12	16-Sep-2015
Hygrometer	Rotronic	I-1000	3220	12	24-Jul-2015
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	3-Sep-2015
True RMS Multimeter	Fluke	179	4007	12	31-Jul-2015
Calibration Unit	Rohde & Schwarz	ZV-Z54	4368	12	24-Sep-2015
Frequency Standard	Spectracom	Secure Sync 1200-0408-0601	4393	6	28-Jul-2015
PXA Signal Analyser	Agilent Technologies	N9030A PXA	4409	12	16-Feb-2016
<b>Section 2.5 - Spurious Radiated Emissions</b>					
Antenna (Double Ridge Guide)	Link Microtek Ltd	AM180HA-K-TU2	230	24	26-Nov-2015
Antenna (Double Ridge Guide, 1GHz-18GHz)	EMCO	3115	234	12	29-Apr-2016
Signal Generator (10MHz to 40GHz)	Rohde & Schwarz	SMR40	1002	12	19-Sep-2015
Pre-Amplifier	Phase One	PSO4-0087	1534	12	23-Dec-2015
Screened Room (5)	Rainford	Rainford	1545	24	26-Jun-2015
Turntable Controller	Inn-Co GmbH	CO 1000	1606	-	TU
Hygromer	Rotronic	A1	2138	12	3-Dec-2015
Antenna (Bilog)	Chase	CBL6143	2904	24	10-Jun-2015
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	27-Oct-2015
9m RF Cable (N Type)	Rhophase	NPS-2303-9000-NPS	3791	-	TU
Tilt Antenna Mast	maturio GmbH	TAM 4.0-P	3916	-	TU
Mast Controller	maturio GmbH	NCD	3917	-	TU
1 Metre K Type Cable	Rhophase	KPS-1501A-1000-KPS	4105	12	7-Nov-2015
Cable 1503 2M 2.92(P)m 2.92(P)m	Rhophase	KPS-1503A-2000-KPS	4293	12	3-Jun-2015
1GHz to 8GHz Low Noise Amplifier	Wright Technologies	APS04-0085	4365	12	1-Oct-2015
2m K-Type Cable (Rx)	Scott Cables	KPS-1501-2000-KPS	4527	6	29-Jul-2015
0.5m SMA Cable (Rx)	Scott Cables	SLSLL18-SMSM-00.50M	4528	6	29-Jul-2015
<b>Section 2.6 - Frequency Stability</b>					
Attenuator 10dB/25W	Weinschel	46-10-43	400	12	4-Jun-2015
Multimeter	Fluke	75 Mk3	455	12	23-Jul-2015
Rubidium Standard	Rohde & Schwarz	XSRM	1316	6	28-Jul-2015
Power Supply	Hewlett Packard	6104A	1948	-	TU
Spectrum Analyser	Rohde & Schwarz	FSU26	2747	12	20-Jan-2016
Climatic Chamber	TAS	Micro 225	2892	-	O/P Mon
Thermocouple Thermometer	Fluke	51	3173	12	4-Dec-2015
Hygrometer	Rotronic	I-1000	3220	12	24-Jul-2015
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	3-Sep-2015
Frequency Standard	Spectracom	Secure Sync 1200-0408-0601	4393	6	28-Jul-2015
PXA Signal Analyser	Agilent Technologies	N9030A PXA	4409	12	16-Feb-2016
<b>Section 2.7 - Restricted Band Edges</b>					
Antenna (Double Ridge Guide, 1GHz-18GHz)	EMCO	3115	234	12	2-May-2015
Screened Room (5)	Rainford	Rainford	1545	24	26-Jun-2015
Turntable Controller	Inn-Co GmbH	CO 1000	1606	-	TU
Hygromer	Rotronic	A1	2138	12	3-Dec-2015
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	27-Oct-2015
Tilt Antenna Mast	maturio GmbH	TAM 4.0-P	3916	-	TU
Mast Controller	maturio GmbH	NCD	3917	-	TU



Product Service

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
<b>Section 2.8 - Authorised Band Edges</b>					
Antenna (Double Ridge Guide, 1GHz-18GHz)	EMCO	3115	234	12	29-Apr-2016
Screened Room (5)	Rainford	Rainford	1545	24	26-Jun-2015
Turntable Controller	Inn-Co GmbH	CO 1000	1606	-	TU
Hygromer	Rotronic	A1	2138	12	3-Dec-2015
Antenna (Bilog)	Chase	CBL6143	2904	24	10-Jun-2015
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	27-Oct-2015
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
2m K-Type Cable (Rx)	Scott Cables	KPS-1501-2000-KPS	4527	6	29-Jul-2015

TU – Traceability Unscheduled

O/P MON – Output Monitored with Calibrated Equipment



### 3.2 MEASUREMENT UNCERTAINTY

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

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



Product Service

## **SECTION 4**

### **ACCREDITATION, DISCLAIMERS AND COPYRIGHT**



Product Service

#### 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).

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