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Report On

FCC Testing of the Sharp Dual-band LTE (B1 / B26), Dual-band WCDMA (FDD I / V) &,Quad-band GSM (850/900/1800/1900) multi mode Cellular phone with Bluetooth, WLAN, SRD (NFC,FeliCa) and GPS in accordance with FCC 47 CFR Part 15C (WLAN and Bluetooth Low Energy)

COMMERCIAL-IN-CONFIDENCE

FCC ID: APYHRO00236

Document 75933584 Report 19 Issue 1 May 2016

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REPORT ON

FCC Testing of the Sharp Dual-band LTE (B1 / B26), Dual-band WCDMA (FDD I / V) &,Quad-band GSM (850/900/1800/1900) multi mode Cellular phone with Bluetooth, WLAN, SRD (NFC,FeliCa) and GPS in accordance with FCC 47 CFR Part 15C (WLAN and Bluetooth Low Energy)

Document 75933584 Report 19 Issue 1

May 2016

PREPARED FOR

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APPROVED BY

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Authorised Signatory

DATED 18 May 2016

ENGINEERING STATEMENT

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported testing was carried out on a sample equipment to demonstrate limited compliance with FCC 47 CFR Part 15C. The sample tested was found to comply with the requirements defined in the applied rules.

Test Engineer(s);

G Lawler N Rousell M Russell

UKAS TESTING 0141

Product Service

CONTENTS

Product Service

SECTION 1

REPORT SUMMARY

FCC Testing of the
Sharp Dual-band LTE (B1 / B26), Dual-band WCDMA (FDD I / V) &,Quad-band GSM (850/900/1800/1900) multi mode Cellular phone with Bluetooth, WLAN, SRD (NFC,FeliCa) and GPS
In accordance with FCC 47 CFR Part 15C (WLAN and Bluetooth Low Energy)

1.1 INTRODUCTION

The information contained in this report is intended to show the verification of FCC Testing of the Sharp Dual-band LTE (B1 / B26), Dual-band WCDMA (FDD I / V) &,Quad-band GSM (850/900/1800/1900) multi mode Cellular phone with Bluetooth, WLAN, SRD (NFC,FeliCa) and GPS to the requirements of FCC 47 CFR Part 15C.

Objective	To perform FCC Testing to determine the Equipment Under Test's (EUT's) compliance with the Test Specification, for the series of tests carried out.
Manufacturer	Sharp Corporation
Serial Number(s)	IMEI 004401115794345 IMEI 004401115794170
Number of Samples Tested	2
Test Specification/Issue/Date	FCC 47 CFR Part 15C (2015)
Disposal Reference Number Date	Held Pending Disposal Not Applicable Not Applicable
Order Number Date	10753 17 February 2016
Start of Test	19 April 2016
Finish of Test	29 April 2016
Name of Engineer(s)	G Lawler N Rousell M Russell
Related Document(s)	ANSI C63.10: 2013 KDB 558074 D01 v03r05

Product Service

1.2 BRIEF SUMMARY OF RESULTS

A brief summary of the tests carried out in accordance with FCC 47 CFR Part 15C is shown below.

Section	Specification Clause	Test Description	Result	Comments/Base Standard
802.11b				
2.1	15.207	AC Line Conducted Emissions	Pass	
2.2	15.247 (a)(2)	6 dB Bandwidth	Pass	
2.3	15.247 (b)(3)	Maximum Conducted Output Power	Pass	
2.4	15.247 (d), 15.205 and 15.209	Spurious Radiated Emissions	Pass	
2.5	15.205	Restricted Band Edges	Pass	
2.6	15.247 (d)	Authorised Band Edges	Pass	
2.7	15.247 (e)	Power Spectral Density	Pass	
802.11g				
2.2	15.247 (a)(2)	6 dB Bandwidth	Pass	
2.3	15.247 (b)(3)	Maximum Conducted Output Power	Pass	
2.4	15.247 (d), 15.205 and 15.209	Spurious Radiated Emissions	Pass	
2.5	15.205	Restricted Band Edges	Pass	
2.6	15.247 (d)	Authorised Band Edges	Pass	
2.7	15.247 (e)	Power Spectral Density	Pass	

Product Service

Section	Specification Clause	Test Description	Result	Comments/Base Standard
802.11n				
2.2	15.247 (a)(2)	6 dB Bandwidth	Pass	
2.3	15.247 (b)(3)	Maximum Conducted Output Power	Pass	
2.4	15.247 (d), 15.205 and 15.209	Spurious Radiated Emissions	Pass	
2.5	15.205	Restricted Band Edges	Pass	
2.6	15.247 (d)	Authorised Band Edges	Pass	
2.7	15.247 (e)	Power Spectral Density	Pass	
Bluetooth Low Energy				
2.2	15.247 (a)(2)	6 dB Bandwidth	Pass	
2.3	15.247 (b)(3)	Maximum Conducted Output Power	Pass	
2.4	15.247 (d), 15.205 and 15.209	Spurious Radiated Emissions	Pass	
2.5	15.205	Restricted Band Edges	Pass	
2.6	15.247 (d)	Authorised Band Edges	Pass	
2.7	15.247 (e)	Power Spectral Density	Pass	

1.3 PRODUCT TECHNICAL DESCRIPTION

Refer to Model Description APYHRO00236 Rev 1.0 document.

1.4 PRODUCT INFORMATION

1.4.1 Technical Description

The Equipment Under Test (EUT) was a Sharp Dual-band LTE (B1 / B26), Dual-band WCDMA (FDD I / V) &,Quad-band GSM (850/900/1800/1900) multi mode Cellular phone with Bluetooth, WLAN, SRD (NFC,FeliCa) and GPS. A full technical description can be found in the manufacturer's documentation.

1.5 TEST CONDITIONS

For all tests the EUT was set up in accordance with the relevant test standard and to represent typical operating conditions. Tests were applied with the EUT situated in a shielded enclosure.

The EUT was powered from a 4.0 V DC supply.

FCC Measurement Facility Registration Number
90987 Octagon House, Fareham Test Laboratory

1.6 DEVIATIONS FROM THE STANDARD

No deviations from the applicable test standard or test plan were made during testing.

1.7 MODIFICATION RECORD

Modification 0 - No modifications were made to the test sample during testing.

Product Service

SECTION 2

TEST DETAILS

FCC Testing of the
Sharp Dual-band LTE (B1 / B26), Dual-band WCDMA (FDD I / V) &,Quad-band GSM (850/900/1800/1900) multi mode Cellular phone with Bluetooth, WLAN, SRD (NFC,FeliCa) and GPS
In accordance with FCC 47 CFR Part 15C (WLAN and Bluetooth Low Energy)

2.1 AC LINE CONDUCTED EMISSIONS

2.1.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.207

2.1.2 Equipment Under Test and Modification State

S/N: IMEI 004401115794345 - Modification State 0

2.1.3 Date of Test

27 April 2016

2.1.4 Test Equipment Used

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

2.1.5 Test Procedure

The test was performed in accordance with ANSI C63.10, Clause 6.2.

Remarks

A mains supply cable of 1 m length was used to supply mains power to the EUT from the LISN.

All final measurements were assessed against the Class B emission limits in FCC 47 CFR Part 15, Clause 15.107.

2.1.6 Environmental Conditions

Ambient Temperature	20.2°C
Relative Humidity	24.0%

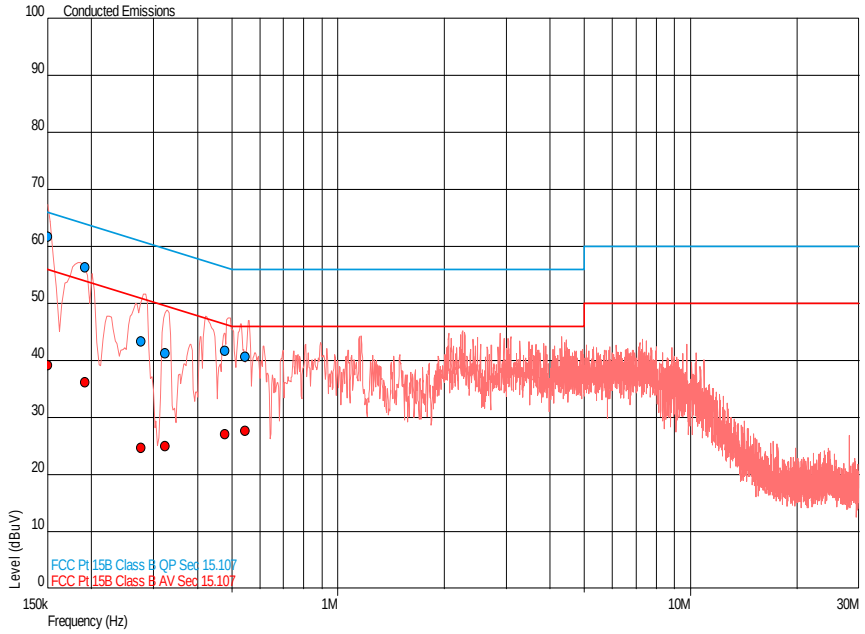
Product Service

2.1.7 Test Results

802.11b, Live Line, AC Line Conducted Emissions Result

Frequency (MHz)	QP Level (dBµV)	QP Limit (dBµV)	QP Margin (dBµV)	AV Level (dBµV)	AV Limit (dBµV)	AV Margin (dBµV)
0.150	61.8	66.0	-4.2	39.2	56.0	-16.8
0.191	56.3	64.0	-7.7	36.2	54.0	-17.8
0.277	43.4	60.9	-17.6	24.6	50.9	-26.3
0.324	41.3	59.6	-18.3	25.0	49.6	-24.6
0.478	41.7	56.4	-14.7	27.1	46.4	-19.3
0.547	40.7	56.0	-15.3	27.8	46.0	-18.2

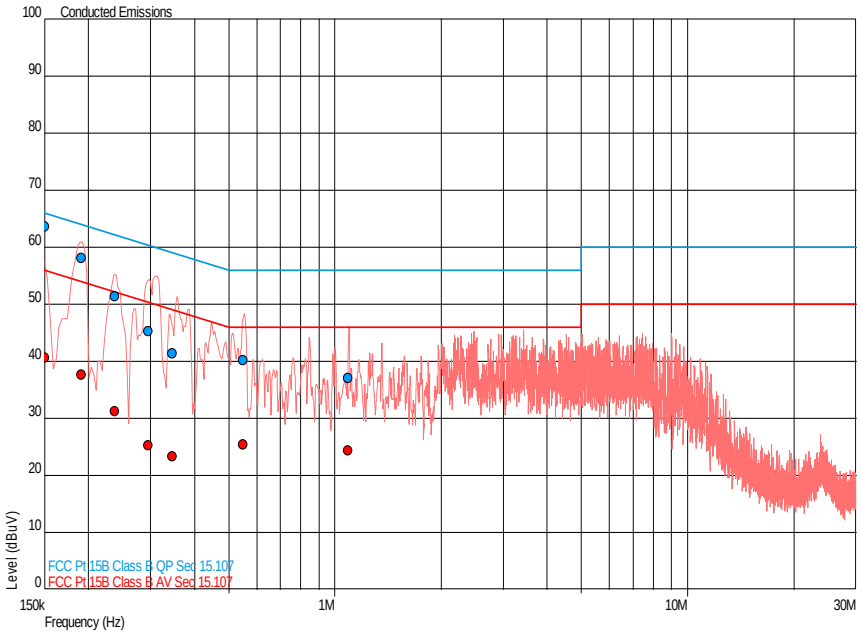
802.11b, Live Line, AC Line Conducted Emissions Plot



802.11b, Neutral Line, AC Line Conducted Emissions Result

Frequency (MHz)	QP Level (dBµV)	QP Limit (dBµV)	QP Margin (dBµV)	AV Level (dBµV)	AV Limit (dBµV)	AV Margin (dBµV)
0.150	63.7	66.0	-2.3	40.7	56.0	-15.3
0.191	58.2	64.0	-5.8	37.7	54.0	-16.3
0.237	51.4	62.2	-10.8	31.3	52.2	-20.9
0.296	45.3	60.4	-15.1	25.3	50.4	-25.1
0.345	41.4	59.1	-17.7	23.3	49.1	-25.8
0.547	40.2	56.0	-15.8	25.4	46.0	-20.6
1.087	37.1	56.0	-18.9	24.4	46.0	-21.6

802.11b, Neutral Line, AC Line Conducted Emissions Plot



FCC 47 CFR Part 15, Limit Clause 15.207

Frequency of Emission (MHz)	Conducted Limit (dBµV)	
	Quasi-Peak	Average
0.15 to 0.5	66 to 56*	56 to 46*
0.5 to 5	56	46
5 to 30	60	50

*Decreases with the logarithm of the frequency.

2.2 6 dB BANDWIDTH

2.2.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.247 (a)(2)

2.2.2 Equipment Under Test and Modification State

S/N: IMEI 004401115794170 - Modification State 0

2.2.3 Date of Test

20 April 2016

2.2.4 Test Equipment Used

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

2.2.5 Test Procedure

The test was performed in accordance with KDB 558074 D01 v03r05, clause 8.1.

Remarks

Preliminary checks were performed to determine the data rate with the widest bandwidth.

2.2.6 Environmental Conditions

Ambient Temperature	24.8°C
Relative Humidity	24.4%

Product Service

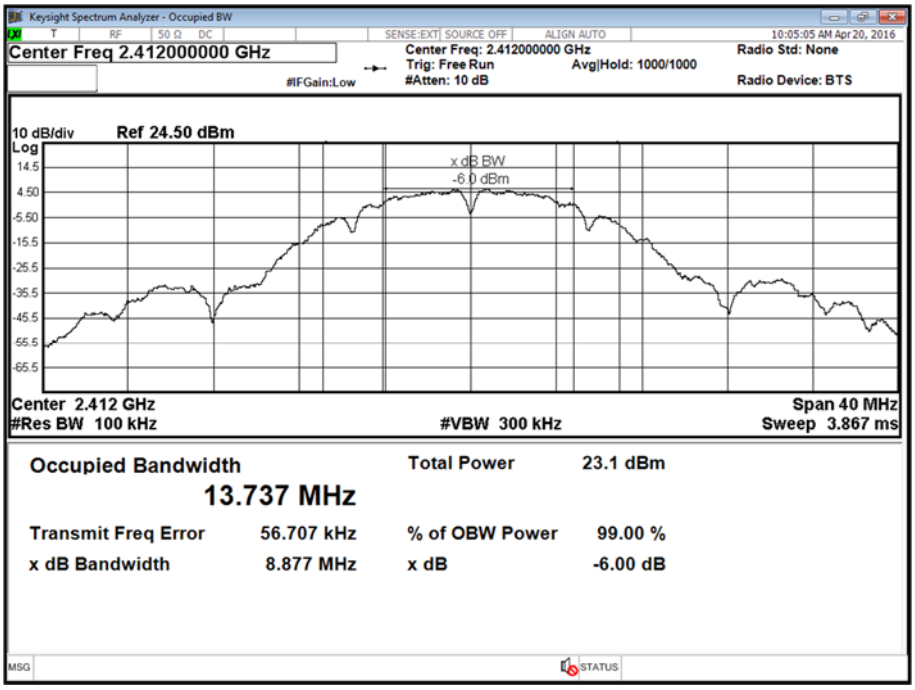
2.2.7 Test Results

4.0 V DC Supply

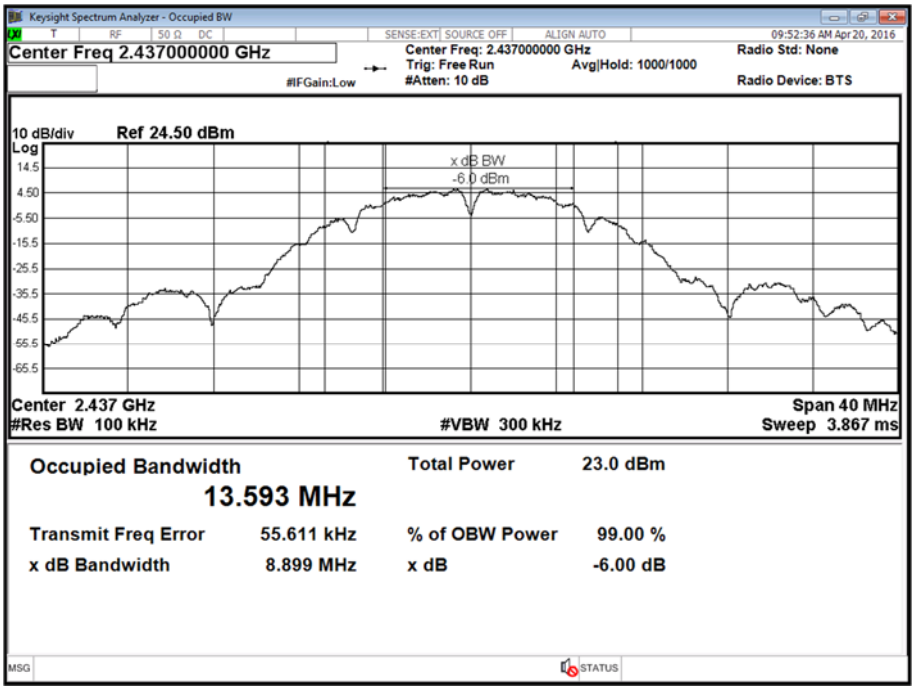
802.11b, DSSS, 2 Mbps, 6 dB Bandwidth Results

2412 MHz	2437 MHz	2462 MHz
kHz	kHz	kHz
8877	8899	8138

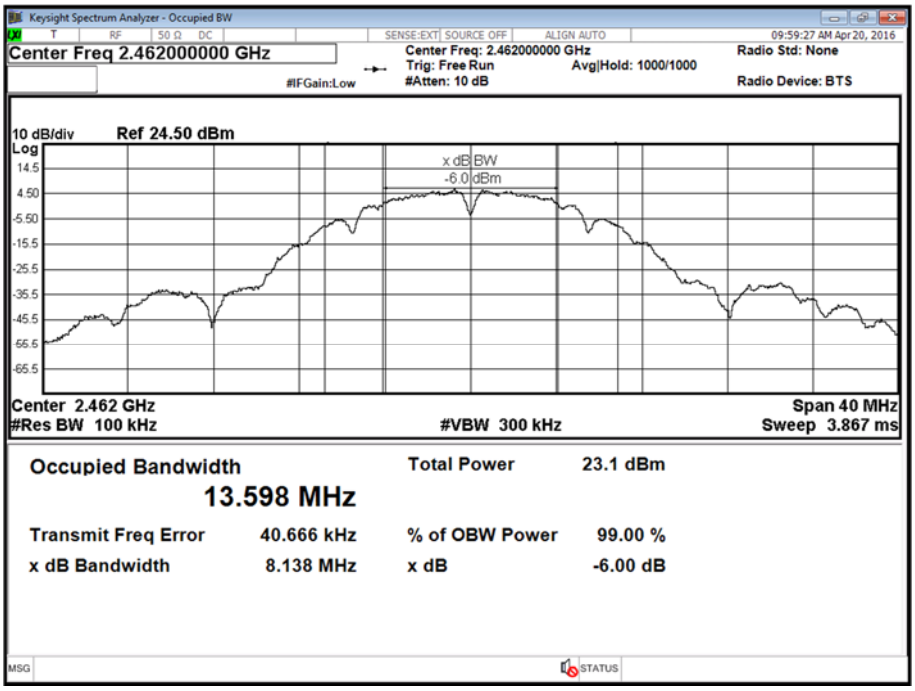
802.11b, 2412 MHz, DSSS, 2 Mbps, 6 dB Bandwidth Plot



802.11b, 2437 MHz, DSSS, 2 Mbps, 6 dB Bandwidth Plot



802.11b, 2462 MHz, DSSS, 2 Mbps, 6 dB Bandwidth Plot



FCC 47 CFR Part 15, Limit Clause 15.247 (a)(2)

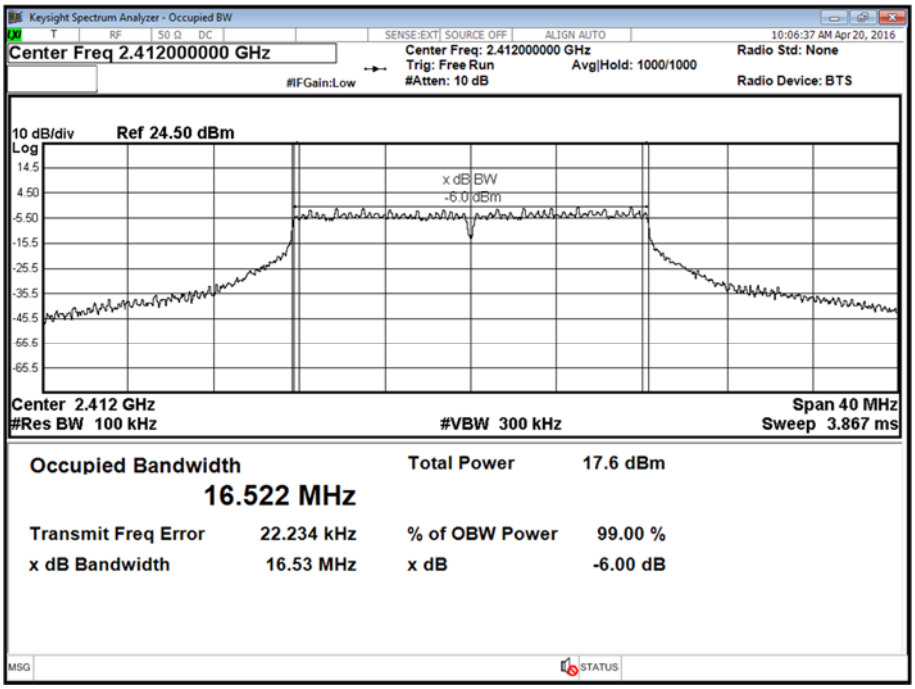
The minimum 6 dB Bandwidth shall be at least 500 kHz.

4.0 V DC Supply

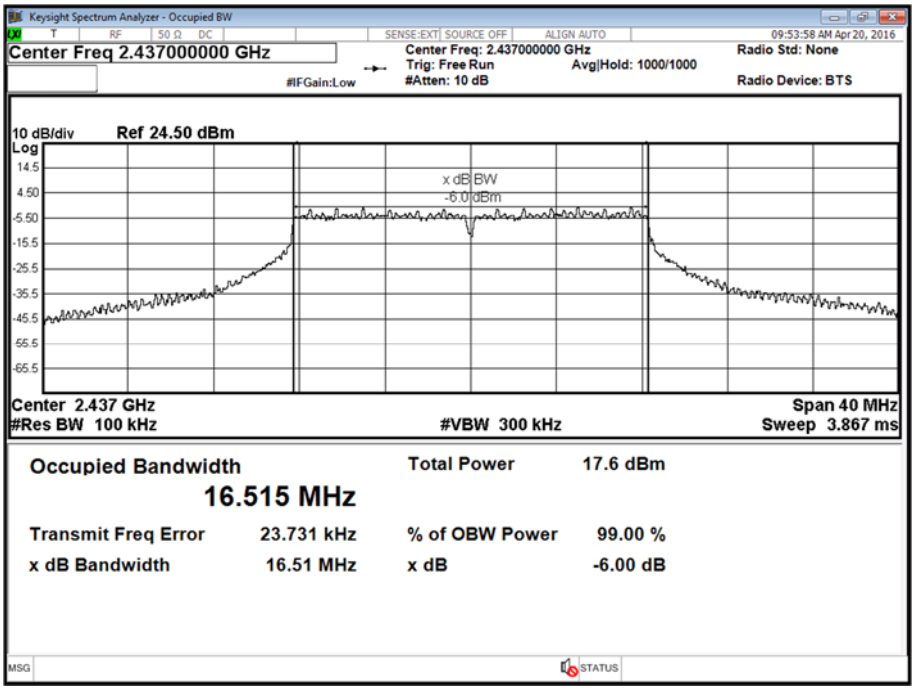
802.11g, OFDM, 54 Mbps, 6 dB Bandwidth Results

2412 MHz	2437 MHz	2462 MHz
kHz	kHz	kHz
16530	16510	16510

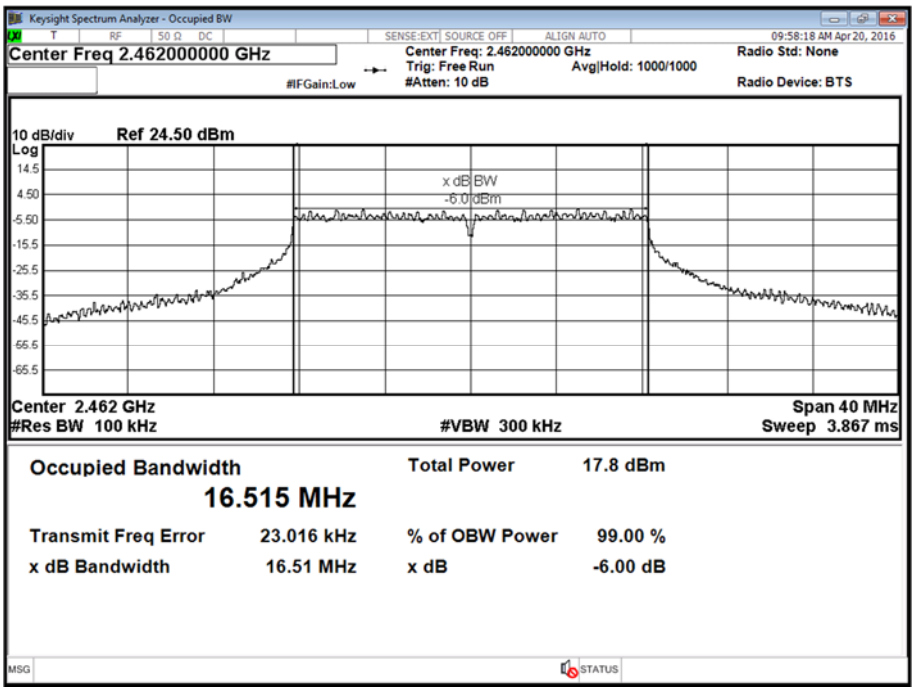
802.11g, 2412 MHz, OFDM, 54 Mbps, 6 dB Bandwidth Plot



802.11g, 2437 MHz, OFDM, 54 Mbps, 6 dB Bandwidth Plot



802.11g, 2462 MHz, OFDM, 54 Mbps, 6 dB Bandwidth Plot



FCC 47 CFR Part 15, Limit Clause 15.247 (a)(2)

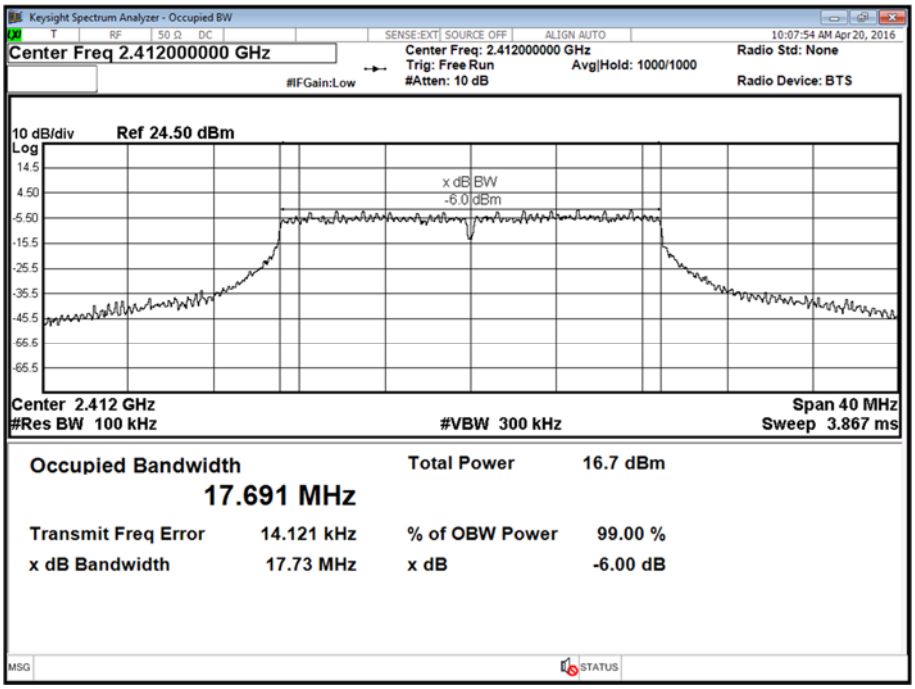
The minimum 6 dB Bandwidth shall be at least 500 kHz.

4.0 V DC Supply

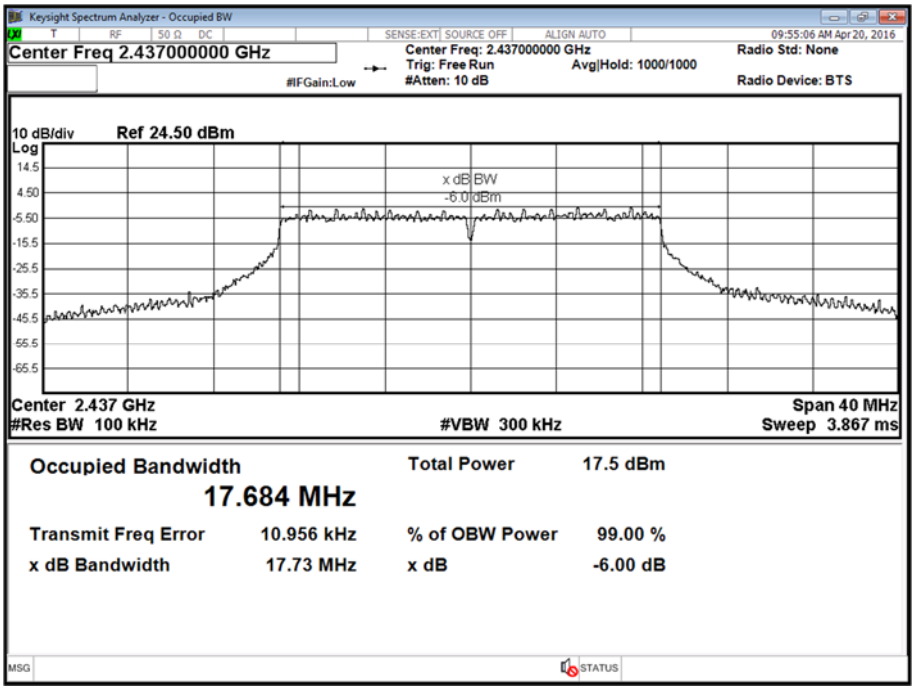
802.11n, OFDM, 65 Mbps, 6 dB Bandwidth Results

2412 MHz	2437 MHz	2462 MHz
kHz	kHz	kHz
17730	17730	17740

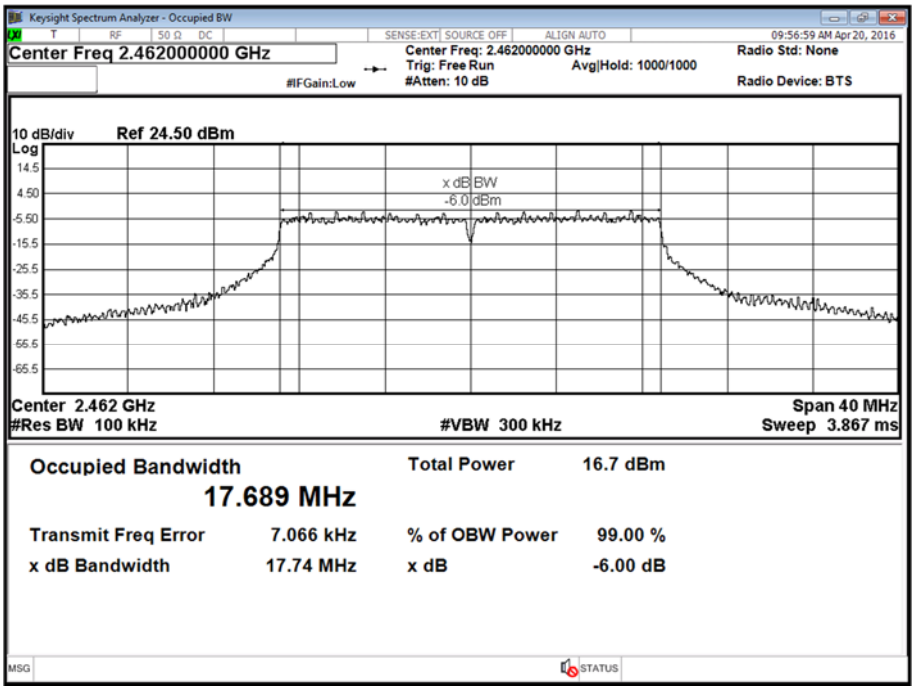
802.11n, 2412 MHz, OFDM, 65 Mbps, 6 dB Bandwidth Plot



802.11n, 2437 MHz, OFDM, 65 Mbps, 6 dB Bandwidth Plot



802.11n, 2462 MHz, OFDM, 65 Mbps, 6 dB Bandwidth Plot



FCC 47 CFR Part 15, Limit Clause 15.247 (a)(2)

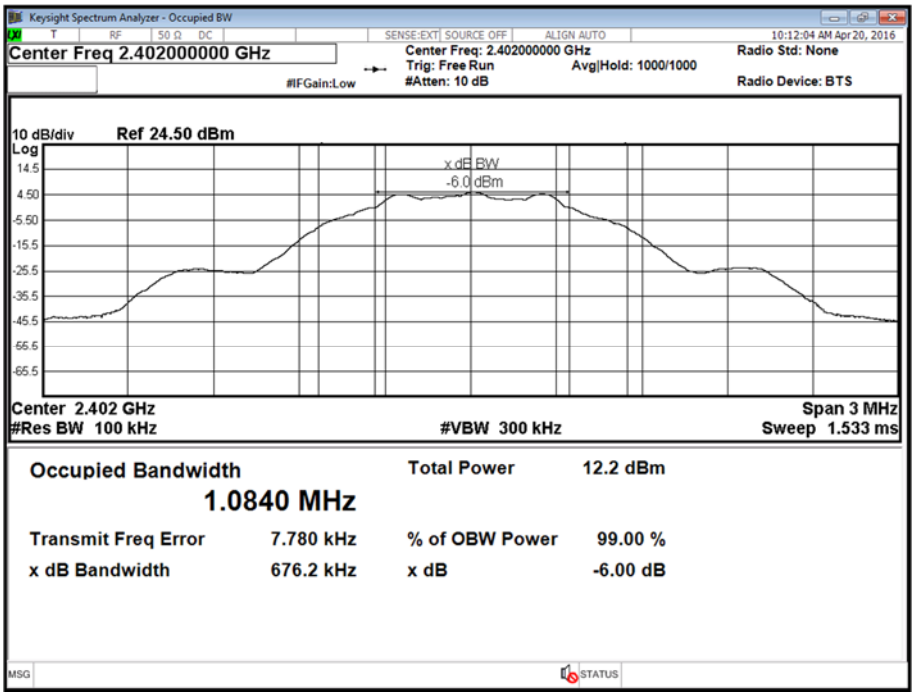
The minimum 6 dB Bandwidth shall be at least 500 kHz.

4.0 V DC Supply

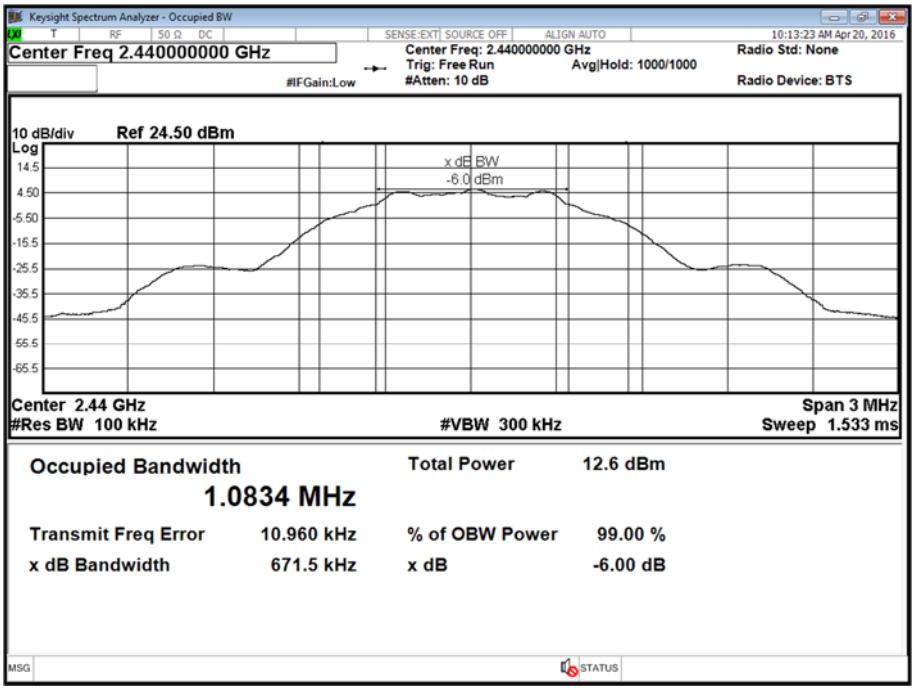
Bluetooth Low Energy, GFSK, 6 dB Bandwidth Results

2402 MHz	2441 MHz	2480 MHz
kHz	kHz	kHz
676.2	671.5	672.4

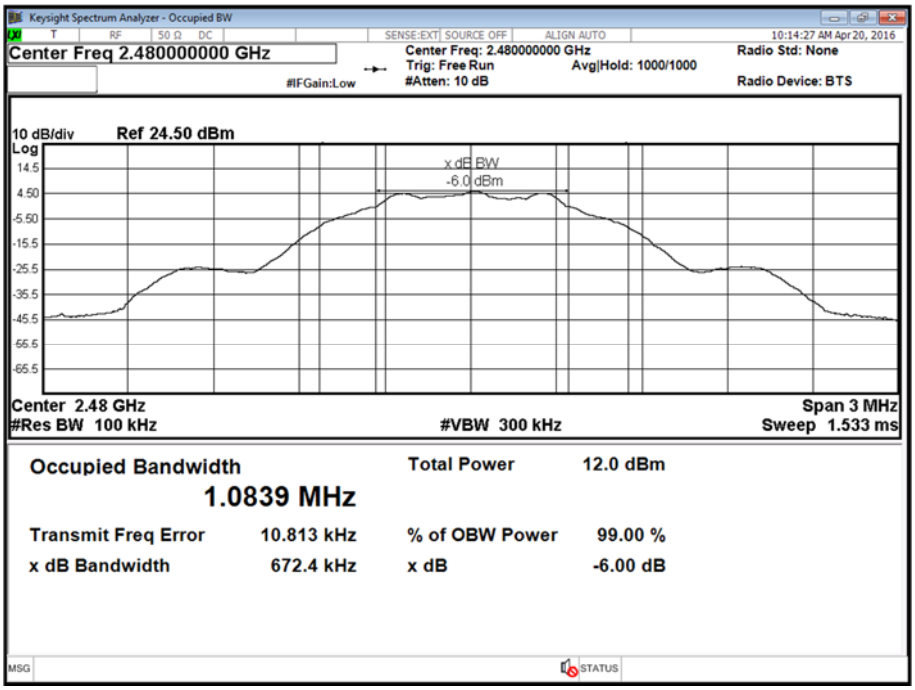
Bluetooth Low Energy, 2402 MHz, GFSK, 6 dB Bandwidth Plot



Bluetooth Low Energy, 2441 MHz, GFSK, 6 dB Bandwidth Plot



Bluetooth Low Energy, 2480 MHz, GFSK, 6 dB Bandwidth Plot



FCC 47 CFR Part 15, Limit Clause 15.247 (a)(2)

The minimum 6 dB Bandwidth shall be at least 500 kHz.

2.3 MAXIMUM CONDUCTED OUTPUT POWER

2.3.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.247 (b)(3)

2.3.2 Equipment Under Test and Modification State

S/N: IMEI 004401115794170 - Modification State 0

2.3.3 Date of Test

23 April 2016 & 28 April 2016

2.3.4 Test Equipment Used

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

2.3.5 Test Procedure

The test was performed in accordance with KDB 558074 D01 v03r05, clause 9.1.2.

2.3.6 Environmental Conditions

Ambient Temperature	23.2 - 25.4°C
Relative Humidity	19.0 - 25.8%

Product Service

2.3.7 Test Results

4.0 V DC Supply

802.11b, 1 Mbps, Maximum Conducted Output Power Results

2412 MHz		2437 MHz		2462 MHz	
dBm	mW	dBm	mW	dBm	mW
17.84	60.81	17.95	62.37	17.97	62.66

FCC 47 CFR Part 15, Limit Clause 15.247 (b)

The maximum peak conducted output power of the intentional radiator shall not exceed the following:

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non overlapping hopping channels, and all frequency hopping systems in the 5725-5850MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt.

4.0 V DC Supply

802.11g, 36 Mbps, Maximum Conducted Output Power Results

2412 MHz		2437 MHz		2462 MHz	
dBm	mW	dBm	mW	dBm	mW
19.25	84.14	18.91	77.80	18.97	78.89

FCC 47 CFR Part 15, Limit Clause 15.247 (b)

The maximum peak conducted output power of the intentional radiator shall not exceed the following:

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non overlapping hopping channels, and all frequency hopping systems in the 5725-5850MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt.

4.0 V DC Supply

802.11n, 65 Mbps, Maximum Conducted Output Power Results

2412 MHz		2437 MHz		2462 MHz	
dBm	mW	dBm	mW	dBm	mW
18.49	70.63	18.26	66.99	18.28	67.30

FCC 47 CFR Part 15, Limit Clause 15.247 (b)

The maximum peak conducted output power of the intentional radiator shall not exceed the following:

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non overlapping hopping channels, and all frequency hopping systems in the 5725-5850MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt.

4.0 V DC Supply

Bluetooth Low Energy, Maximum Conducted Output Power Results

2402 MHz		2441 MHz		2480 MHz	
dBm	mW	dBm	mW	dBm	mW
5.534	3.576	5.855	3.850	5.593	3.625

FCC 47 CFR Part 15, Limit Clause 15.247 (b)

The maximum peak conducted output power of the intentional radiator shall not exceed the following:

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non overlapping hopping channels, and all frequency hopping systems in the 5725-5850MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt.

2.4 SPURIOUS RADIATED EMISSIONS

2.4.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.247 (d), 15.205 and 15.209

2.4.2 Equipment Under Test and Modification State

S/N: IMEI 004401115794345 - Modification State 0

2.4.3 Date of Test

19 April 2016, 24 April 2016, 25 April 2016 & 29 April 2016

2.4.4 Test Equipment Used

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

2.4.5 Test Procedure

Testing was performed in accordance with ANSI C63.10, clause 11.11, 11.12.1 and 11.12.2.7.

Remarks

Plots for average measurements were taken in accordance with ANSI C63.10, clause 4.1.4.2.3
Final average measurements were taken in accordance with ANSI C63.10, clause 4.1.4.2.2

2.4.6 Environmental Conditions

Ambient Temperature	19.2 - 20.5°C
Relative Humidity	25.0 - 1005.0%

Product Service

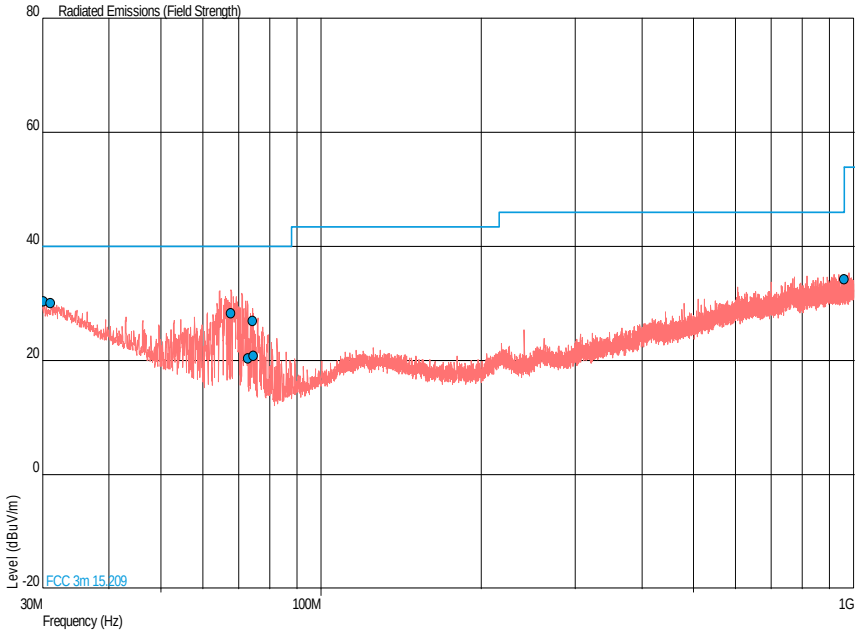
2.4.7 Test Results

4.0 V DC Supply

802.11b, 2412 MHz, 1 Mbps, 30 MHz to 1 GHz, Spurious Radiated Emissions Results

Frequency (MHz)	QP Level (dBµV/m)	QP Margin (dBµV/m)	QP Level (µV/m)	QP Margin (µV/m)	Angle (°)	Height (m)	Polarisation
30.133	30.3	-9.7	32.7	-67.3	357	2.40	Vertical
31.054	30.0	-10.0	31.6	-68.4	21	1.00	Vertical
67.806	28.4	-11.6	26.3	-73.7	159	1.00	Vertical
73.000	20.3	-19.7	10.4	-89.6	206	1.00	Vertical
74.426	26.9	-13.1	22.1	-77.9	352	1.08	Vertical
74.600	20.8	-19.2	11.0	-89.0	10	1.00	Vertical
960.000	34.3	-11.7	51.9	-148.1	183	1.00	Vertical

802.11b, 2412 MHz, 1 Mbps, 30 MHz to 1 GHz, Spurious Radiated Emissions Plot

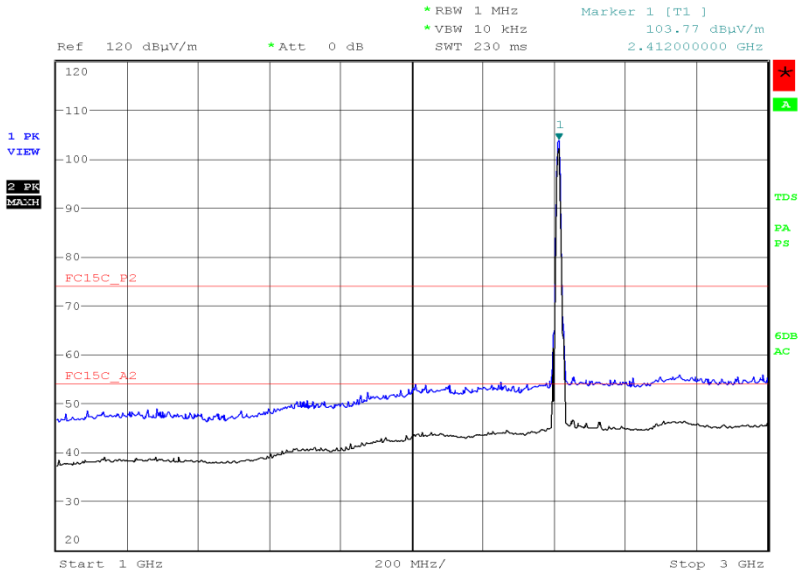


802.11b, 2412 MHz, 1 Mbps, 1 GHz to 25 GHz, Spurious Radiated Emissions Results

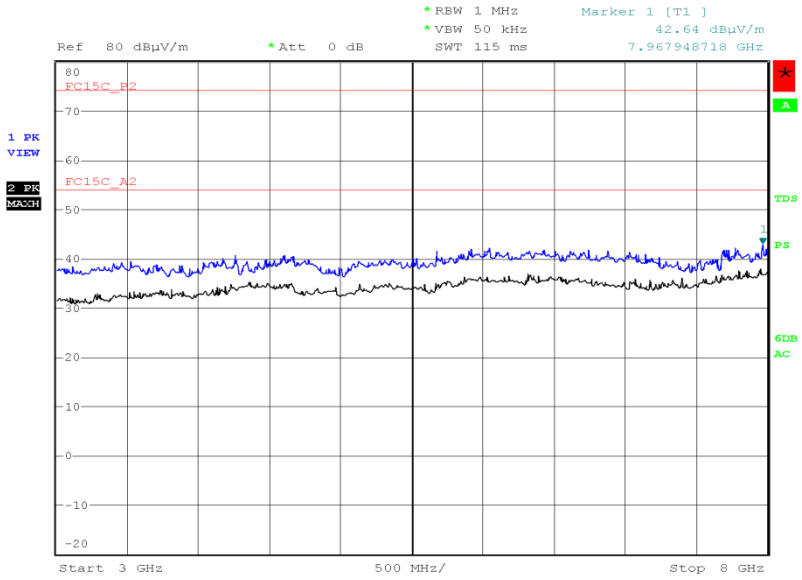
Frequency (MHz)	Final Peak (dBµV/m)	Final Average (dBµV/m)	Final Peak (µV/m)	Final Average (µV/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.

802.11b, 2412 MHz, 1 Mbps, 1 GHz to 3 GHz, Spurious Radiated Emissions Plot

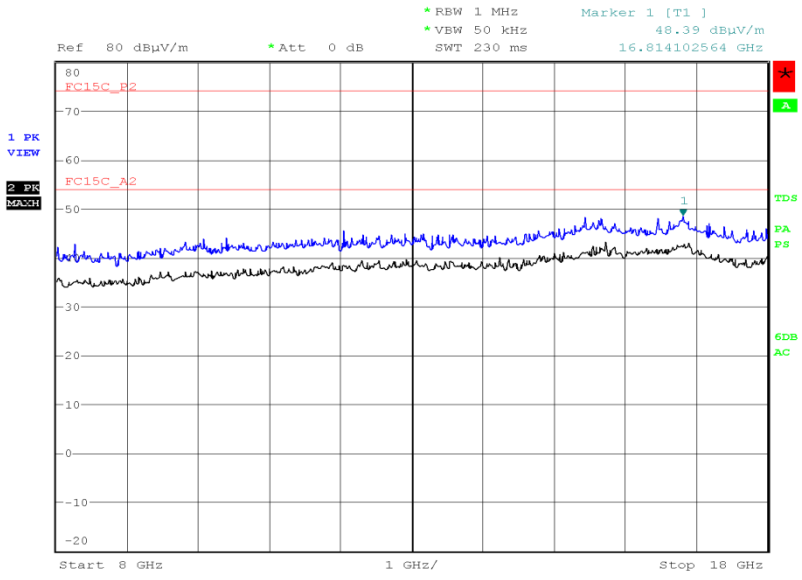


802.11b, 2412 MHz,1 Mbps, 3 GHz to 8 GHz, Spurious Radiated Emissions Plot



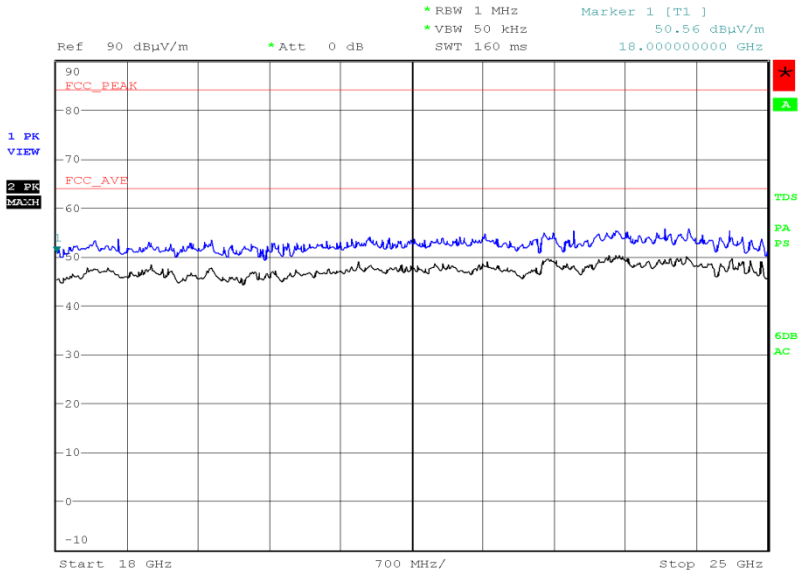
Date: 24.APR.2016 12:28:07

802.11b, 2412 MHz,1 Mbps, 8 GHz to 18 GHz, Spurious Radiated Emissions Plot



Date: 24.APR.2016 13:36:45

802.11b, 2412 MHz, 1 Mbps, 18 GHz to 25 GHz, Spurious Radiated Emissions Plot



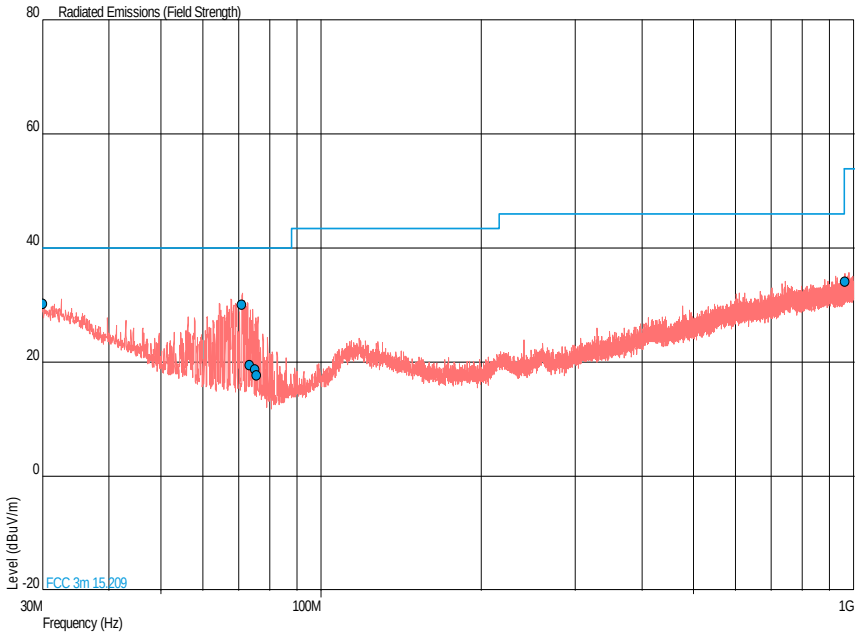
Date: 25.APR.2016 18:50:48

Product Service

802.11b, 2437 MHz, 1 Mbps, 30 MHz to 1 GHz, Spurious Radiated Emissions Results

Frequency (MHz)	QP Level (dBµV/m)	QP Margin (dBµV/m)	QP Level (µV/m)	QP Margin (µV/m)	Angle (°)	Height (m)	Polarisation
30.049	30.2	-9.8	32.4	-67.6	0	1.00	Horizontal
71.080	30.1	-9.9	32.0	-68.0	0	1.00	Vertical
73.505	19.5	-20.5	9.4	-90.6	0	1.00	Vertical
75.251	18.8	-21.2	8.7	-91.3	0	1.00	Vertical
75.784	17.7	-22.3	7.7	-92.3	0	1.00	Vertical
962.469	34.1	-19.9	50.7	-450.3	0	1.00	Vertical

802.11b, 2437 MHz, 1 Mbps, 30 MHz to 1 GHz, Spurious Radiated Emissions Plot

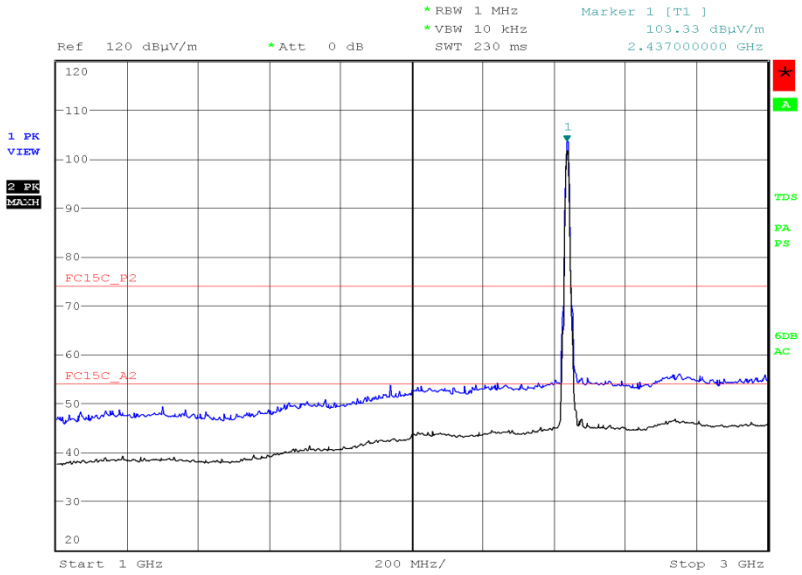


802.11b, 2437 MHz, 1 Mbps, 1 GHz to 25 GHz, Spurious Radiated Emissions Results

Frequency (MHz)	Final Peak (dBµV/m)	Final Average (dBµV/m)	Final Peak (µV/m)	Final Average (µV/m)	Angle (°)	Height (m)	Polarisation
*							

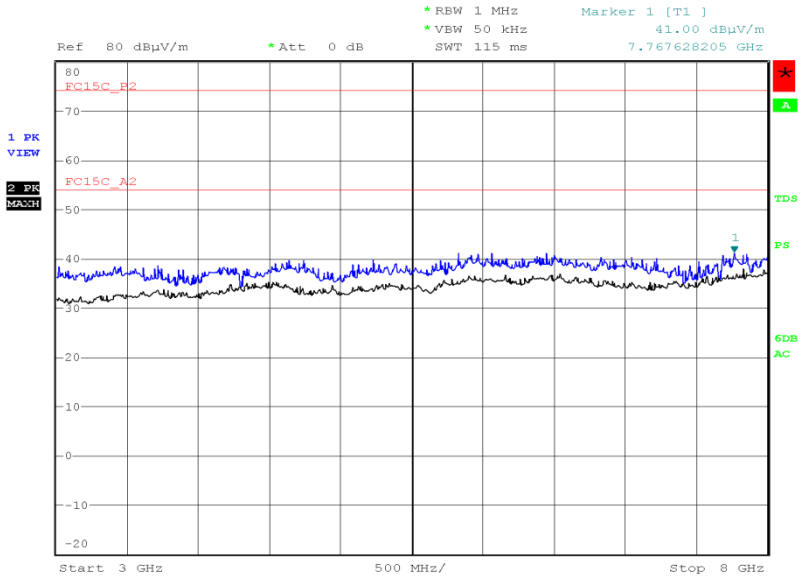
*No emissions were detected within 10 dB of the limit.

802.11b, 2437 MHz, 1 Mbps, 1 GHz to 3 GHz, Spurious Radiated Emissions Plot



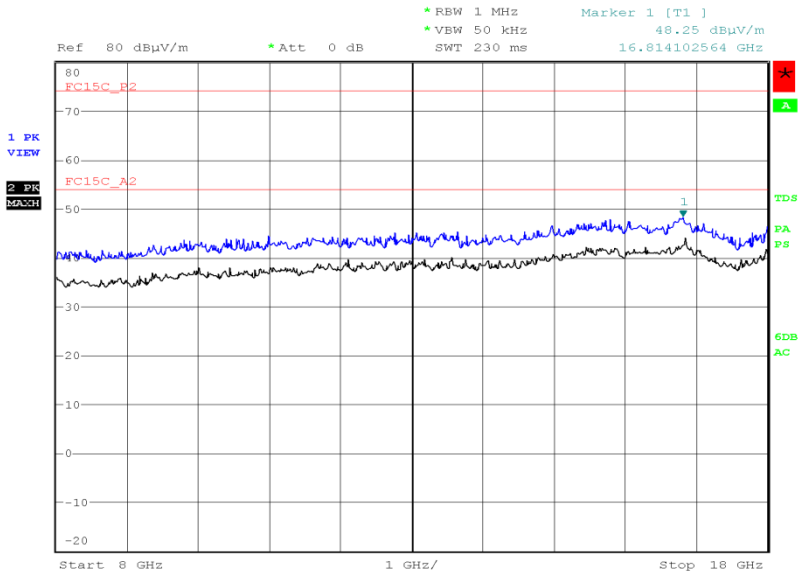
Date: 19.APR.2016 20:01:22

802.11b, 2437 MHz, 1 Mbps, 3 GHz to 8 GHz, Spurious Radiated Emissions Plot



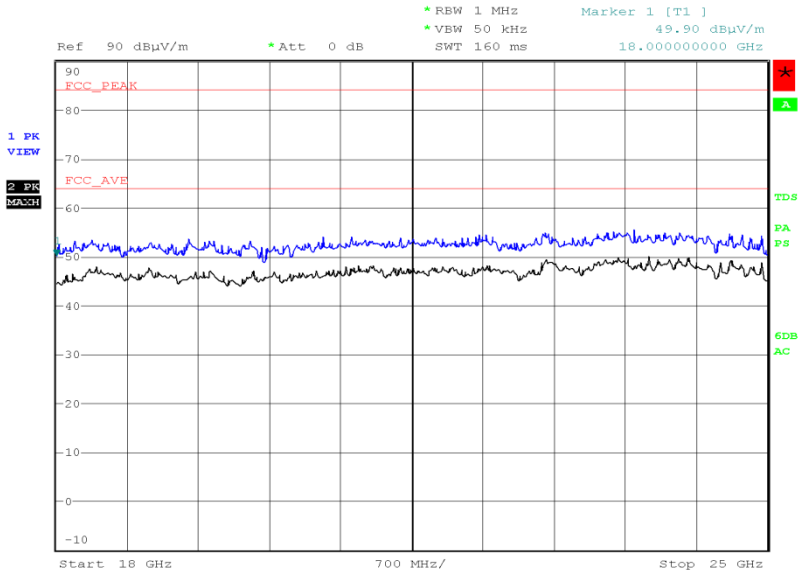
Date: 24.APR.2016 12:33:03

802.11b, 2437 MHz, 1 Mbps, 8 GHz to 18 GHz, Spurious Radiated Emissions Plot



Date: 24.APR.2016 13:46:27

802.11b, 2437 MHz, 1 Mbps, 18 GHz to 25 GHz, Spurious Radiated Emissions Plot

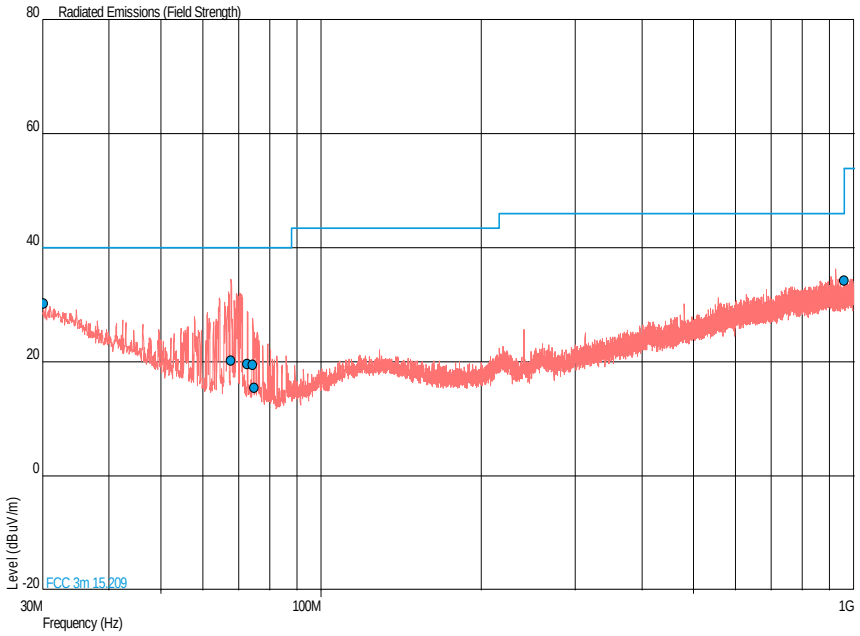


Date: 25.APR.2016 18:52:39

802.11b, 2462 MHz, 1 Mbps, 30 MHz to 1 GHz, Spurious Radiated Emissions Results

Frequency (MHz)	QP Level (dBµV/m)	QP Margin (dBµV/m)	QP Level (µV/m)	QP Margin (µV/m)	Angle (°)	Height (m)	Polarisation
30.194	30.2	-9.8	32.4	-67.6	0	1.00	Vertical
67.733	20.3	-19.7	10.4	-89.6	0	1.00	Vertical
72.777	19.6	-20.4	9.5	-90.5	0	1.00	Vertical
74.426	19.4	-20.6	9.3	-90.7	0	1.00	Vertical
74.960	15.4	-24.6	5.9	-94.1	180	1.00	Vertical
959.557	34.2	-11.8	51.3	-148.7	180	1.00	Vertical

802.11b, 2462 MHz, 1 Mbps, 30 MHz to 1 GHz, Spurious Radiated Emissions Plot

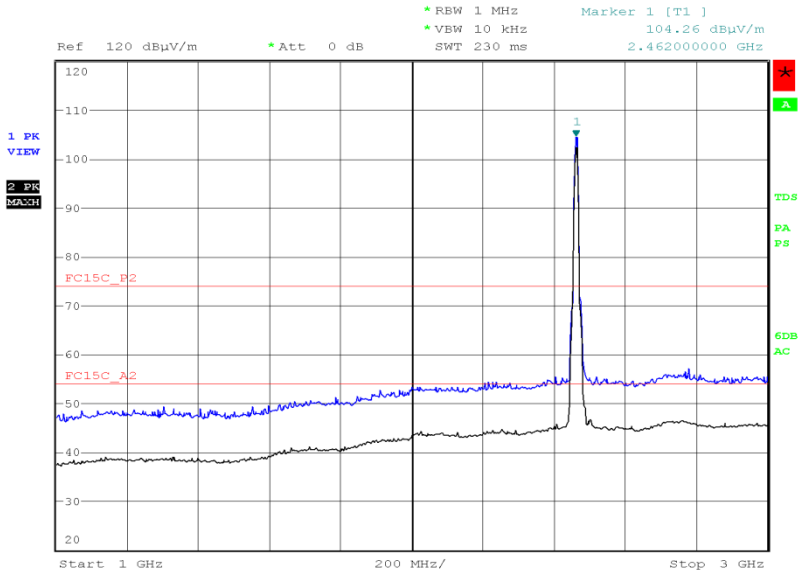


802.11b, 2462 MHz, 1 Mbps, 1 GHz to 25 GHz, Spurious Radiated Emissions Results

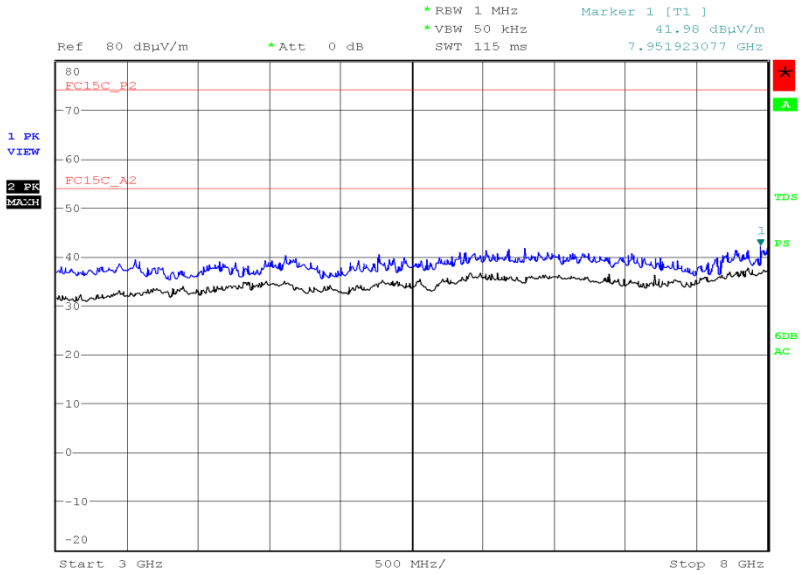
Frequency (MHz)	Final Peak (dBµV/m)	Final Average (dBµV/m)	Final Peak (µV/m)	Final Average (µV/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.

802.11b, 2462 MHz, 1 Mbps, 1 GHz to 3 GHz, Spurious Radiated Emissions Plot

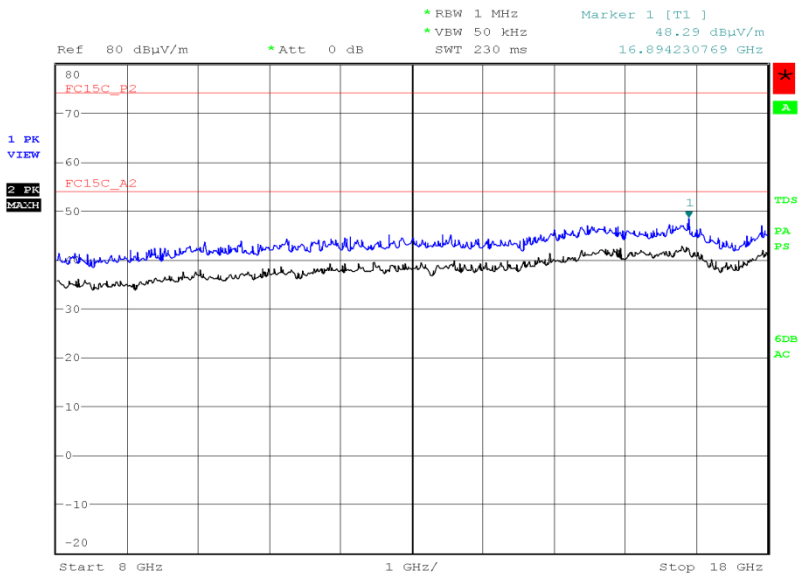


802.11b, 2462 MHz, 1 Mbps, 3 GHz to 8 GHz, Spurious Radiated Emissions Plot



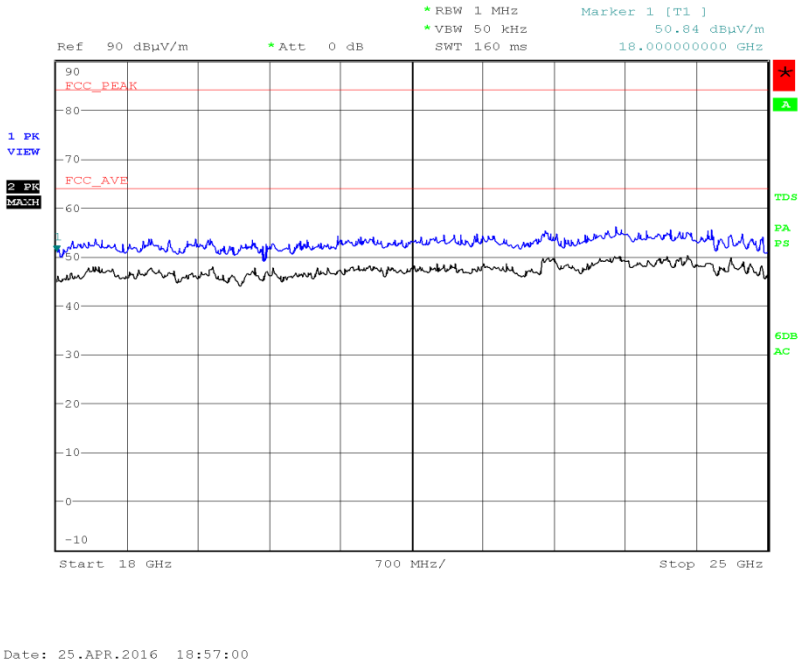
Date: 24.APR.2016 12:38:34

802.11b, 2462 MHz, 1 Mbps, 8 GHz to 18 GHz, Spurious Radiated Emissions Plot



Date: 24.APR.2016 13:57:35

802.11b, 2462 MHz, 1 Mbps, 18 GHz to 25 GHz, Spurious Radiated Emissions Plot



FCC 47 CFR Part 15, Limit Clause 15.247 (d)

Emissions outside the restricted bands shall be at least 20 dB below the fundamental measured in a 100 kHz bandwidth using a peak detector. If the transmitter complies with the conducted power limits, based on the use of RMS averaging over a time interval, the attenuation required shall be 30 dB below the fundamental instead of 20 dB.

FCC 47 CFR Part 15, Limit Clause 15.205

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

FCC 47 CFR Part 15, Limit Clause 15.209

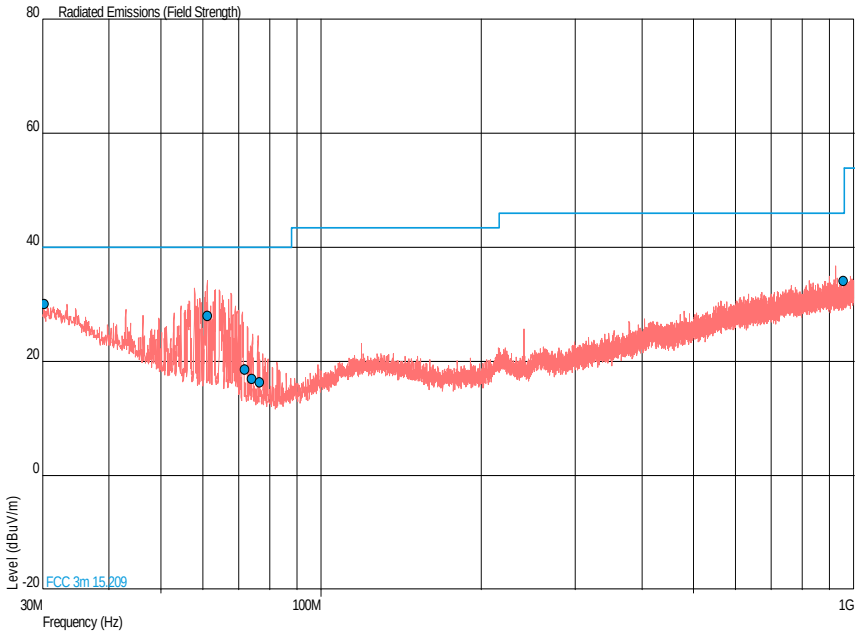
Frequency (MHz)	Field Strength			Measurement Distance (m)
	(µV/m)	Average (dBµV/m)	Peak (dBµV/m)	
30-88	100	40.0	60.0	3
88-216	150	43.5	63.5	3
216-960	200	46.0	66.0	3
Above 960	500	54.0	74.0	3

4.0 V DC Supply

802.11g, 2412 MHz, 36 Mbps, 30 MHz to 1 GHz, Spurious Radiated Emissions Results

Frequency (MHz)	QP Level (dBµV/m)	QP Margin (dBµV/m)	QP Level (µV/m)	QP Margin (µV/m)	Angle (°)	Height (m)	Polarisation
30.291	30.1	-9.9	32.0	-68.0	0	1.00	Vertical
61.186	28.0	-12.0	25.1	-74.9	0	1.00	Vertical
71.855	18.6	-21.4	8.5	-91.5	0	1.00	Vertical
74.182	16.9	-23.1	7.0	-93.0	0	1.00	Vertical
76.585	16.4	-23.6	6.6	-93.4	0	1.00	Vertical
956.352	34.1	-11.9	50.7	-149.3	0	1.00	Vertical

802.11g, 2412 MHz, 36 Mbps, 30 MHz to 1 GHz, Spurious Radiated Emissions Plot

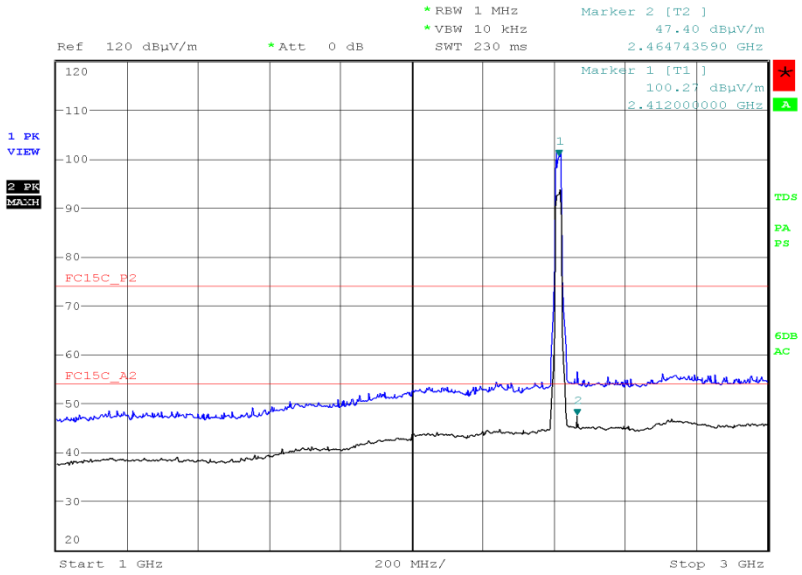


802.11g, 2412 MHz, 36 Mbps, 1 GHz to 25 GHz, Spurious Radiated Emissions Results

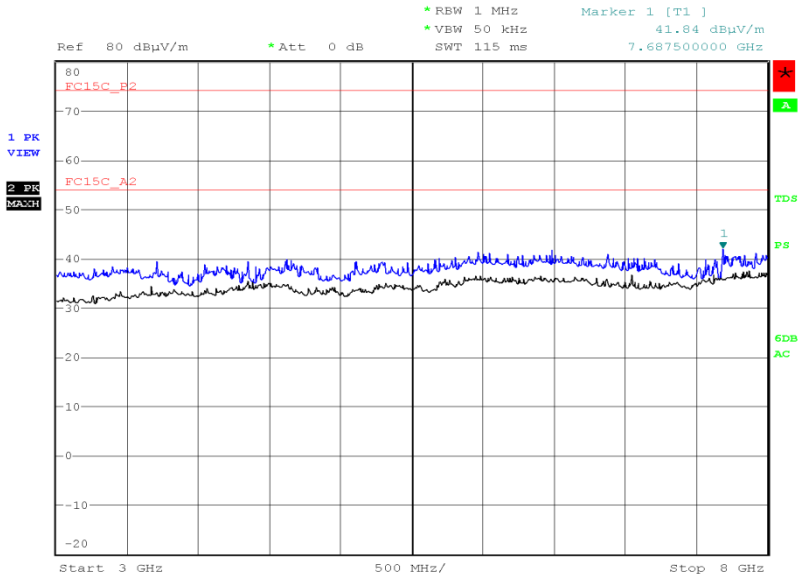
Frequency (MHz)	Final Peak (dBµV/m)	Final Average (dBµV/m)	Final Peak (µV/m)	Final Average (µV/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.

802.11g, 2412 MHz, 36 Mbps, 1 GHz to 3 GHz , Spurious Radiated Emissions Plot

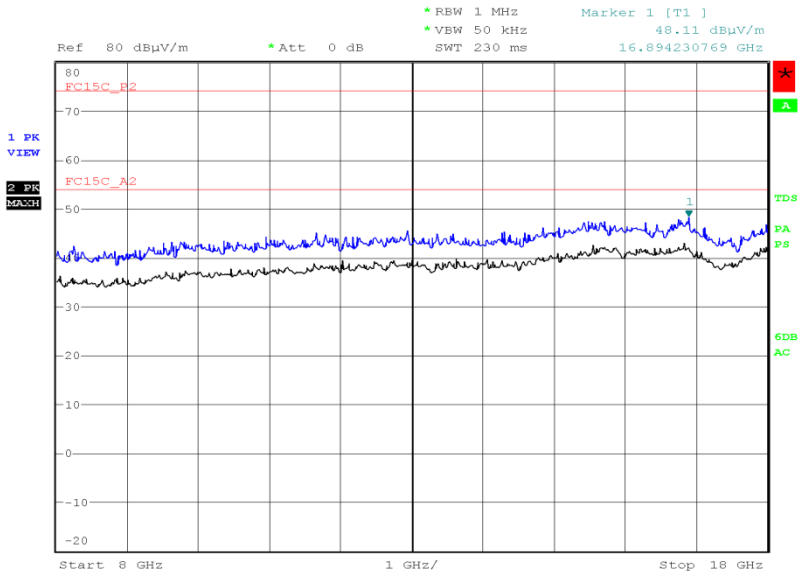


802.11g, 2412 MHz,36 Mbps, 3 GHz to 8 GHz, Spurious Radiated Emissions Plot



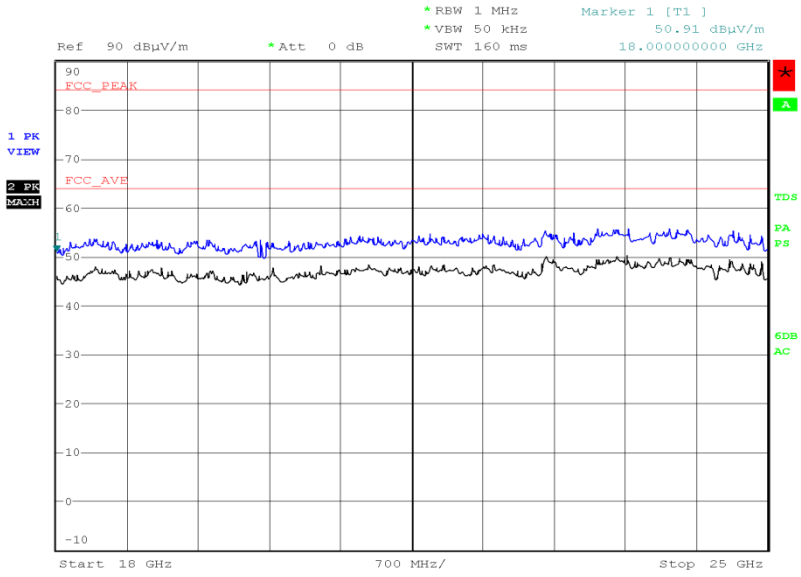
Date: 24.APR.2016 12:44:30

802.11g, 2412 MHz,36 Mbps, 8 GHz to 18 GHz, Spurious Radiated Emissions Plot



Date: 24.APR.2016 14:08:35

802.11g, 2412 MHz, 36 Mbps, 18 GHz to 25 GHz, Spurious Radiated Emissions Plot

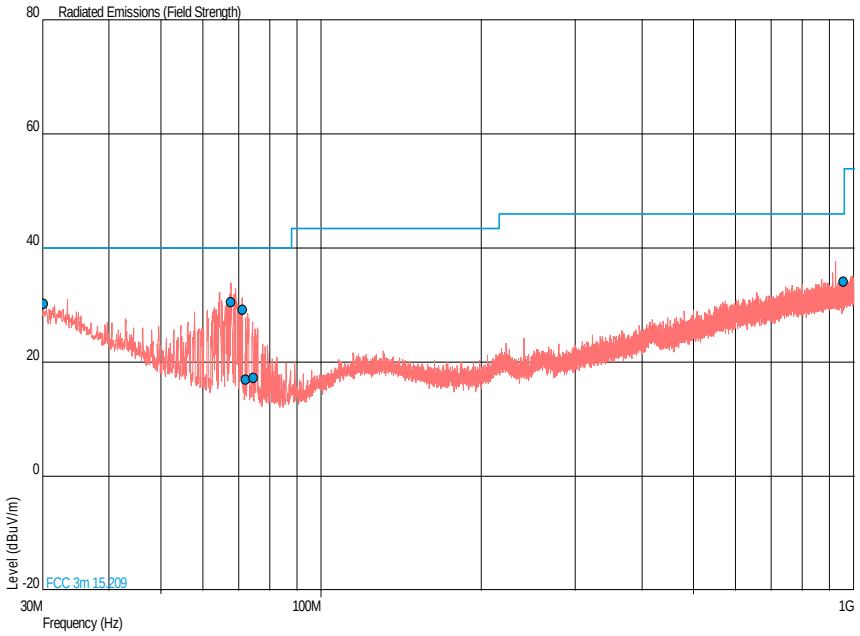


Date: 25.APR.2016 19:00:18

802.11g, 2437 MHz, 36 Mbps, 30 MHz to 1 GHz, Spurious Radiated Emissions Results

Frequency (MHz)	QP Level (dBµV/m)	QP Margin (dBµV/m)	QP Level (µV/m)	QP Margin (µV/m)	Angle (°)	Height (m)	Polarisation
30.194	30.2	-9.8	32.4	-67.6	0	1.00	Vertical
67.733	30.6	-9.4	33.9	-66.1	0	1.00	Vertical
71.177	29.2	-10.8	28.8	-71.2	0	1.00	Vertical
72.314	16.9	-23.1	7.0	-93.0	0	1.00	Vertical
74.657	17.3	-22.7	7.3	-92.7	0	1.00	Vertical
956.352	34.0	-12.0	50.1	-149.9	0	0.00	Horizontal

802.11g, 2437 MHz, 36 Mbps, 30 MHz to 1 GHz, Spurious Radiated Emissions Plot

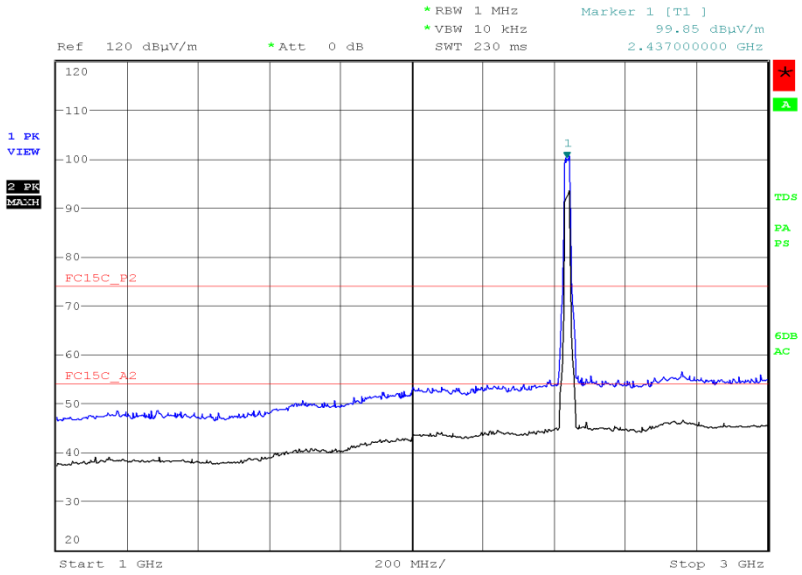


802.11g, 2437 MHz, 36 Mbps, 1 GHz to 25 GHz, Spurious Radiated Emissions Results

Frequency (MHz)	Final Peak (dBµV/m)	Final Average (dBµV/m)	Final Peak (µV/m)	Final Average (µV/m)	Angle (°)	Height (m)	Polarisation
*							

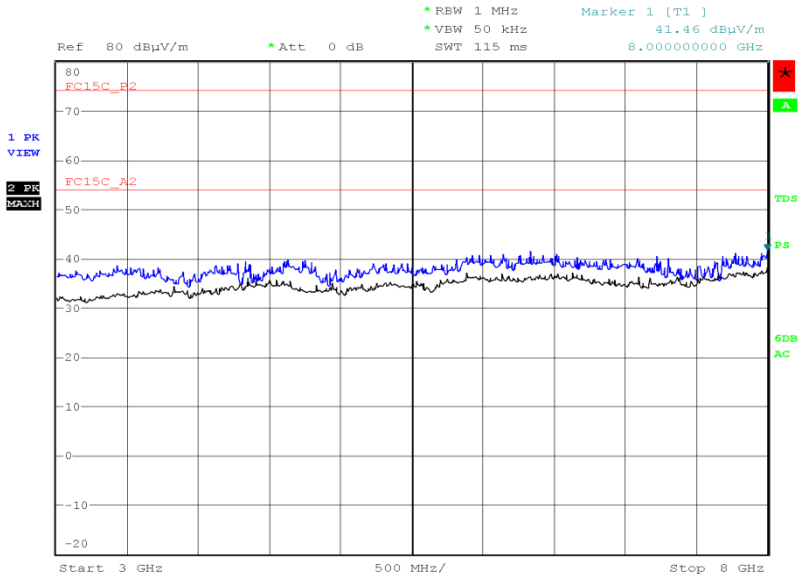
*No emissions were detected within 10 dB of the limit.

802.11g, 2437 MHz, 36 Mbps, 1 GHz to 3 GHz , Spurious Radiated Emissions Plot



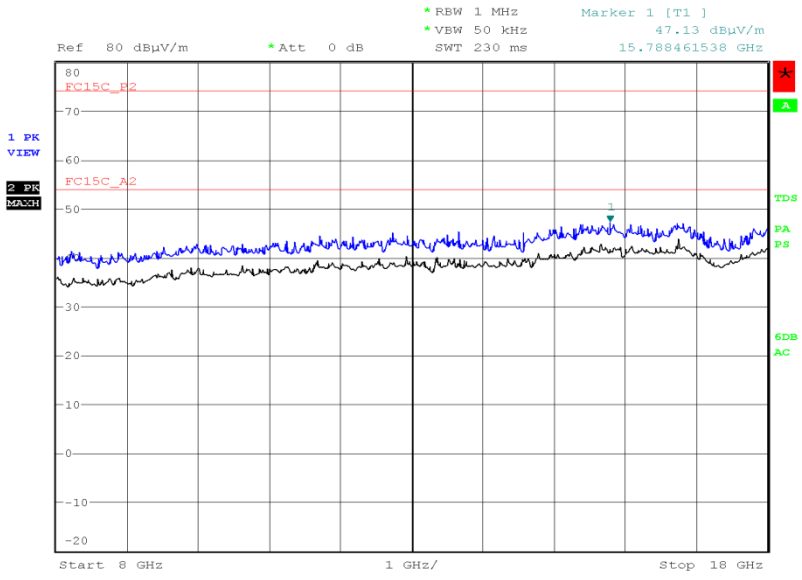
Date: 19.APR.2016 20:17:25

802.11g, 2437 MHz, 36 Mbps, 3 GHz to 8 GHz, Spurious Radiated Emissions Plot



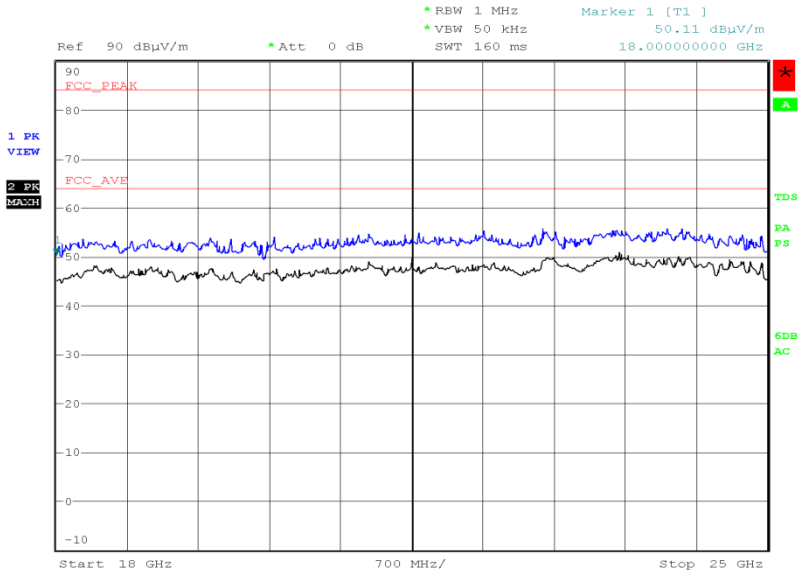
Date: 24.APR.2016 12:56:00

802.11g, 2437 MHz, 36 Mbps, 8 GHz to 18 GHz, Spurious Radiated Emissions Plot



Date: 24.APR.2016 14:24:51

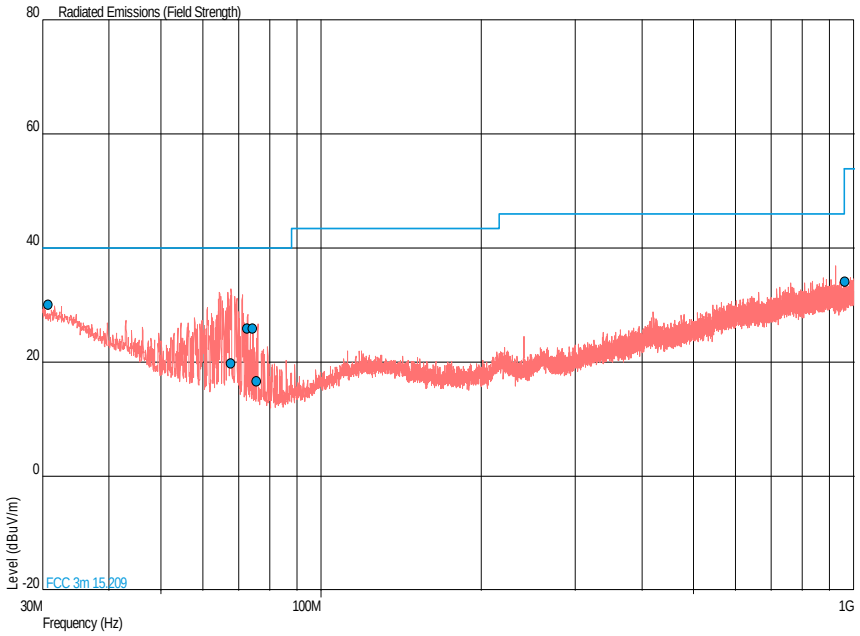
802.11g, 2437 MHz, 36 Mbps, 18 GHz to 25 GHz, Spurious Radiated Emissions Plot



802.11g, 2462 MHz, 36 Mbps, 30 MHz to 1 GHz, Spurious Radiated Emissions Results

Frequency (MHz)	QP Level (dBµV/m)	QP Margin (dBµV/m)	QP Level (µV/m)	QP Margin (µV/m)	Angle (°)	Height (m)	Polarisation
30.775	30.0	-10.0	31.6	-68.4	0	0.00	Horizontal
67.636	19.7	-20.3	9.7	-90.3	0	1.00	Vertical
72.729	25.9	-14.1	19.7	-80.3	0	1.00	Vertical
74.426	25.8	-14.2	19.5	-80.5	0	1.00	Vertical
75.736	16.6	-23.4	6.8	-93.2	0	1.00	Vertical
962.469	34.1	-19.9	50.7	-450.3	0	1.00	Vertical

802.11g, 2462 MHz, 36 Mbps, 30 MHz to 1 GHz, Spurious Radiated Emissions Plot

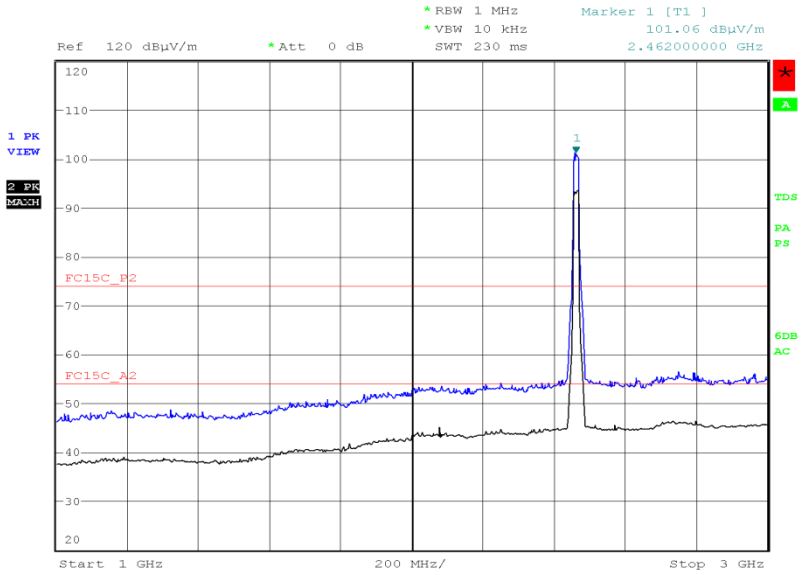


802.11g, 2462 MHz, 36 Mbps, 1 GHz to 25 GHz, Spurious Radiated Emissions Results

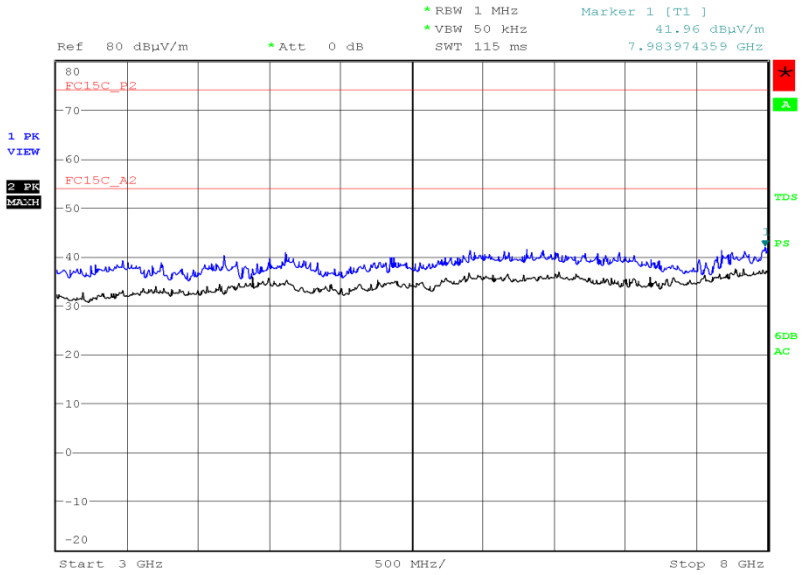
Frequency (MHz)	Final Peak (dBµV/m)	Final Average (dBµV/m)	Final Peak (µV/m)	Final Average (µV/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.

802.11g, 2462 MHz, 36 Mbps, 1 GHz to 3 GHz , Spurious Radiated Emissions Plot

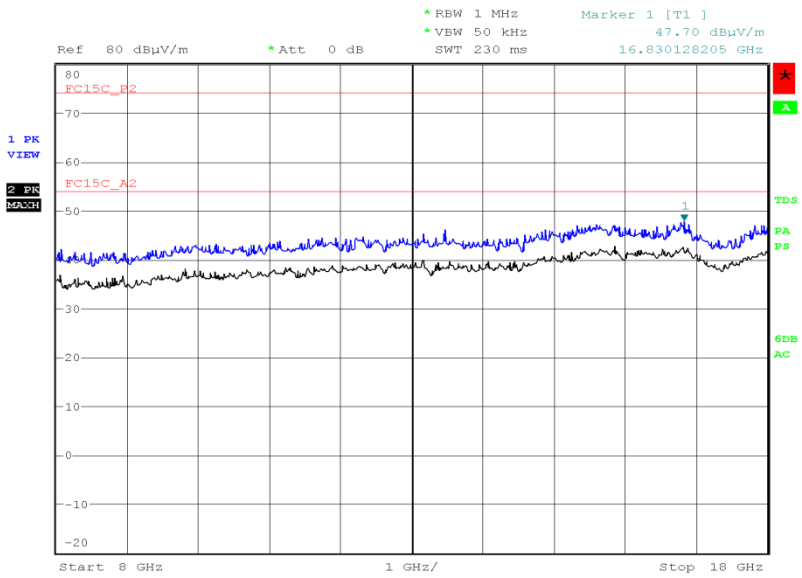


802.11g, 2462 MHz, 36 Mbps, 3 GHz to 8 GHz, Spurious Radiated Emissions Plot



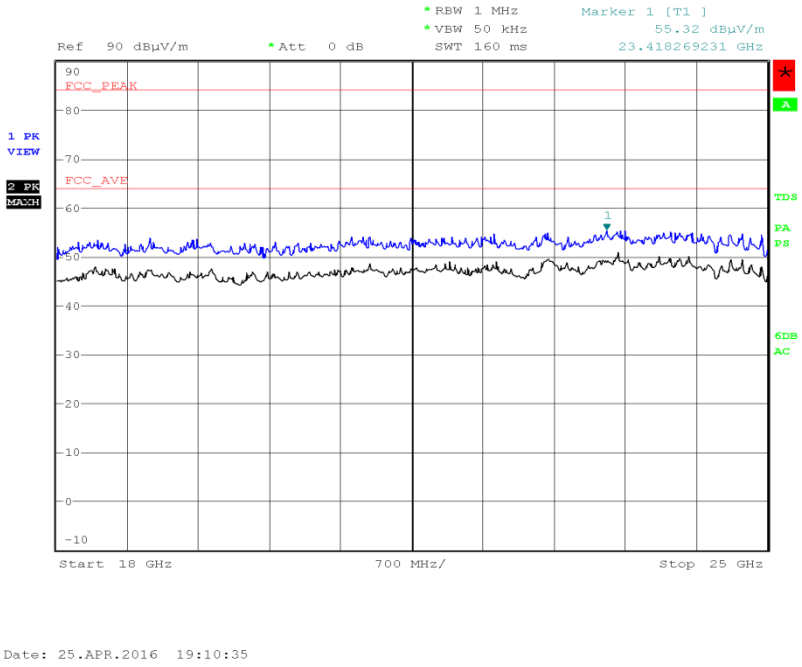
Date: 24.APR.2016 13:02:20

802.11g, 2462 MHz, 36 Mbps, 8 GHz to 18 GHz, Spurious Radiated Emissions Plot



Date: 24.APR.2016 14:36:19

802.11g, 2462 MHz, 36 Mbps, 18 GHz to 25 GHz, Spurious Radiated Emissions Plot



FCC 47 CFR Part 15, Limit Clause 15.247 (d)

Emissions outside the restricted bands shall be at least 20 dB below the fundamental measured in a 100 kHz bandwidth using a peak detector. If the transmitter complies with the conducted power limits, based on the use of RMS averaging over a time interval, the attenuation required shall be 30 dB below the fundamental instead of 20 dB.

FCC 47 CFR Part 15, Limit Clause 15.205

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

FCC 47 CFR Part 15, Limit Clause 15.209

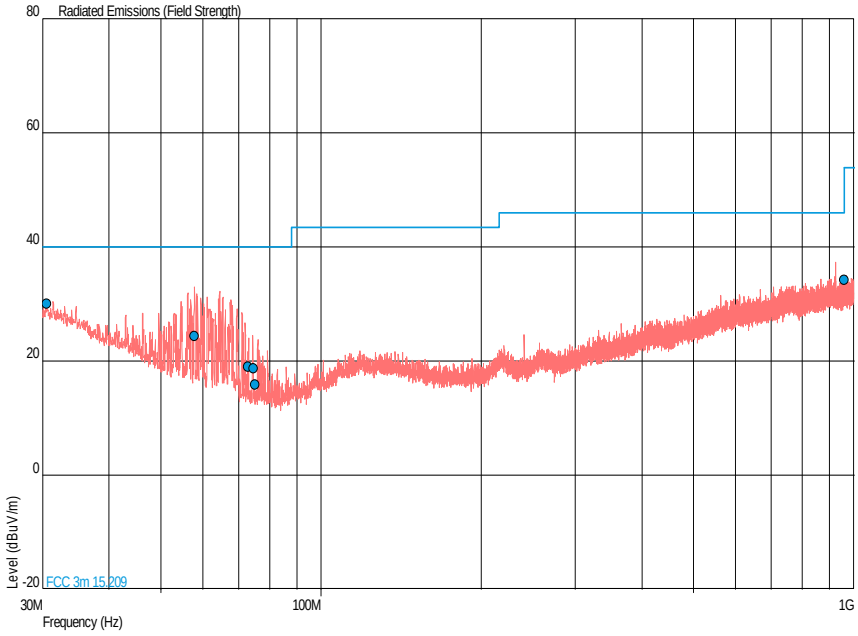
Frequency (MHz)	Field Strength			Measurement Distance (m)
	(µV/m)	Average (dBµV/m)	Peak (dBµV/m)	
30-88	100	40.0	60.0	3
88-216	150	43.5	63.5	3
216-960	200	46.0	66.0	3
Above 960	500	54.0	74.0	3

4.0 V DC Supply

802.11n, 2412 MHz, 65 Mbps, 30 MHz to 1 GHz, Spurious Radiated Emissions Results

Frequency (MHz)	QP Level (dBµV/m)	QP Margin (dBµV/m)	QP Level (µV/m)	QP Margin (µV/m)	Angle (°)	Height (m)	Polarisation
30.582	30.1	-9.9	32.0	-68.0	0	1.00	Vertical
57.839	24.4	-15.6	16.6	-83.4	0	1.00	Vertical
72.944	19.1	-20.9	9.0	-91.0	0	1.00	Vertical
74.582	18.7	-21.3	8.6	-91.4	0	1.00	Vertical
75.107	15.9	-24.1	6.2	-93.8	0	1.00	Vertical
959.813	34.2	-11.8	51.3	-148.7	0	1.00	Vertical

802.11n, 2412 MHz, 65 Mbps, 30 MHz to 1 GHz, Spurious Radiated Emissions Plot

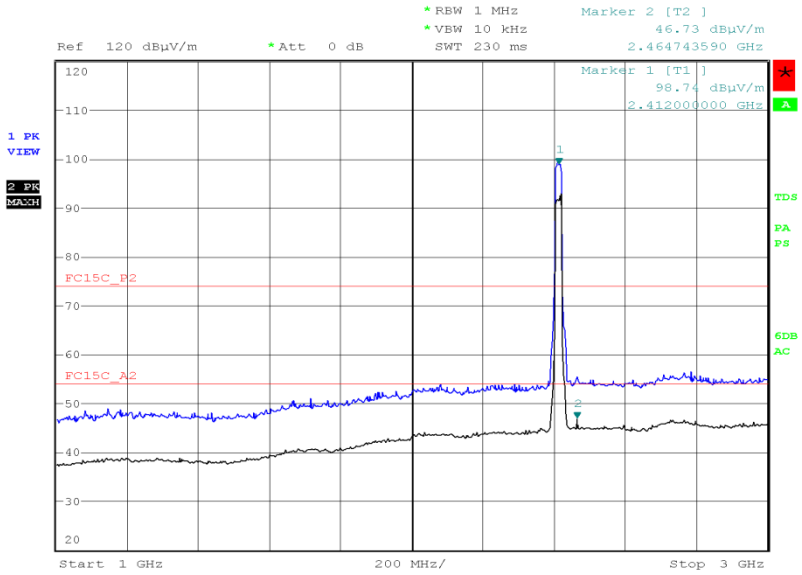


802.11n, 2412 MHz, 65 Mbps, 1 GHz to 25 GHz, Spurious Radiated Emissions Results

Frequency (MHz)	Final Peak (dBµV/m)	Final Average (dBµV/m)	Final Peak (µV/m)	Final Average (µV/m)	Angle (°)	Height (m)	Polarisation
*							

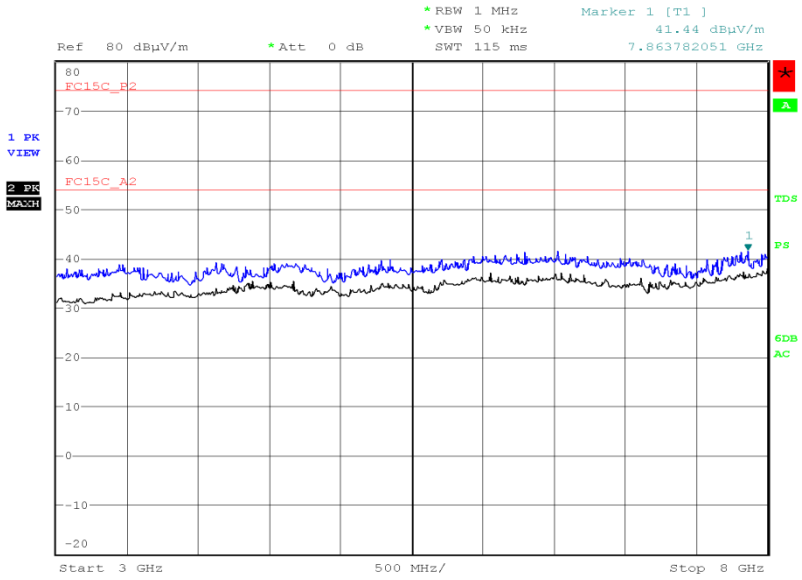
*No emissions were detected within 10 dB of the limit.

802.11n, 2412 MHz, 65 Mbps, 1 GHz to 3 GHz , Spurious Radiated Emissions Plot



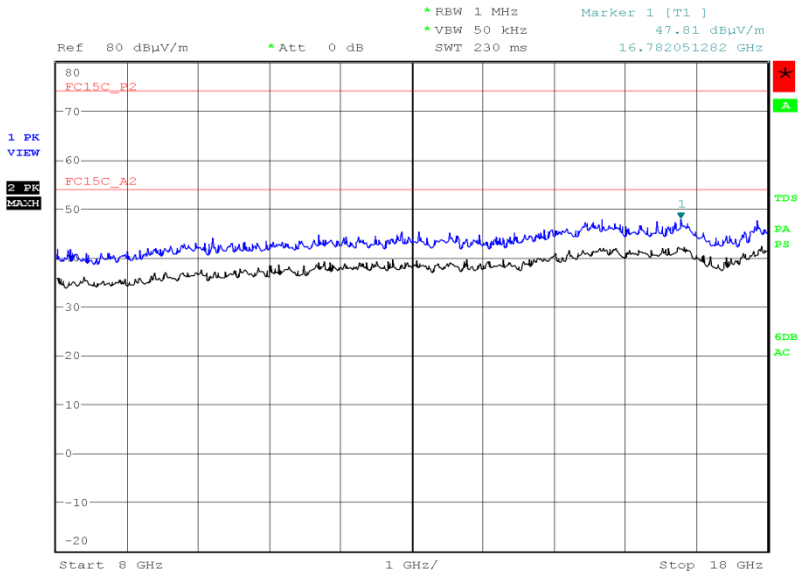
Date: 19.APR.2016 20:25:08

802.11n, 2412 MHz,65 Mbps, 3 GHz to 8 GHz, Spurious Radiated Emissions Plot



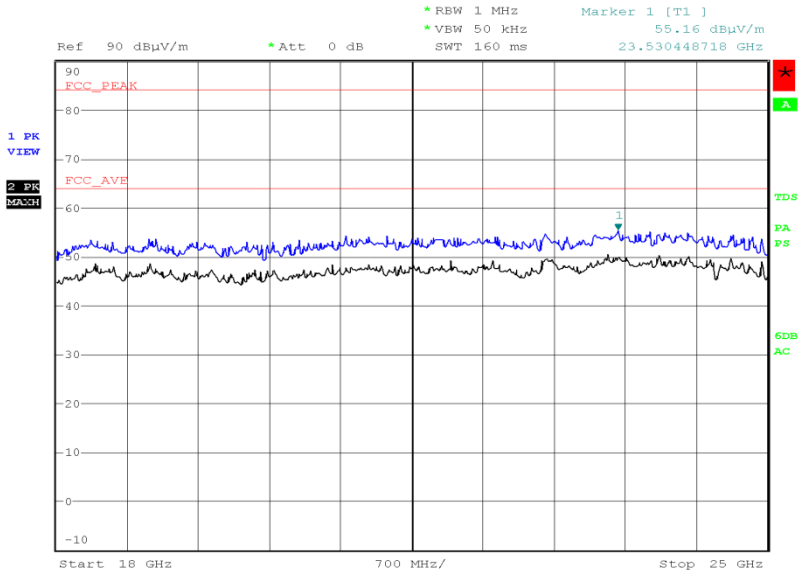
Date: 24.APR.2016 13:07:06

802.11n, 2412 MHz,65 Mbps, 8 GHz to 18 GHz, Spurious Radiated Emissions Plot



Date: 24.APR.2016 14:45:08

802.11n, 2412 MHz, 65 Mbps, 18 GHz to 25 GHz, Spurious Radiated Emissions Plot

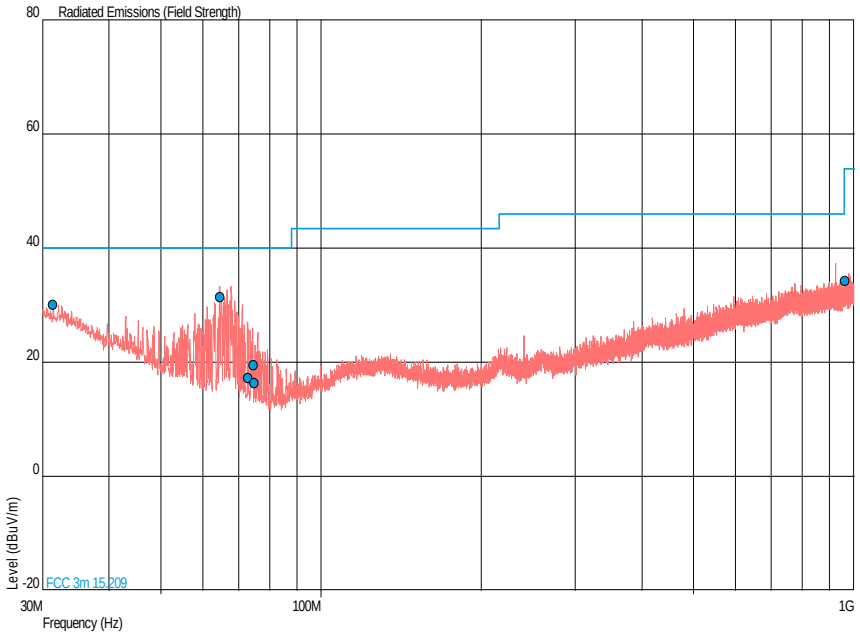


Date: 25.APR.2016 19:17:30

802.11n, 2437 MHz, 65 Mbps, 30 MHz to 1 GHz, Spurious Radiated Emissions Results

Frequency (MHz)	QP Level (dBµV/m)	QP Margin (dBµV/m)	QP Level (µV/m)	QP Margin (µV/m)	Angle (°)	Height (m)	Polarisation
31.407	30.1	-9.9	32.0	-68.0	0	1.00	Vertical
64.581	31.4	-8.6	37.2	-62.8	0	1.00	Vertical
73.000	17.2	-22.8	7.2	-92.8	0	1.00	Vertical
74.573	19.5	-20.5	9.4	-90.6	0	1.00	Vertical
74.798	16.3	-23.7	6.5	-93.5	0	1.00	Vertical
960.560	34.2	-19.8	51.3	-449.7	0	1.00	Vertical

802.11n, 2437 MHz, 65 Mbps, 30 MHz to 1 GHz, Spurious Radiated Emissions Plot

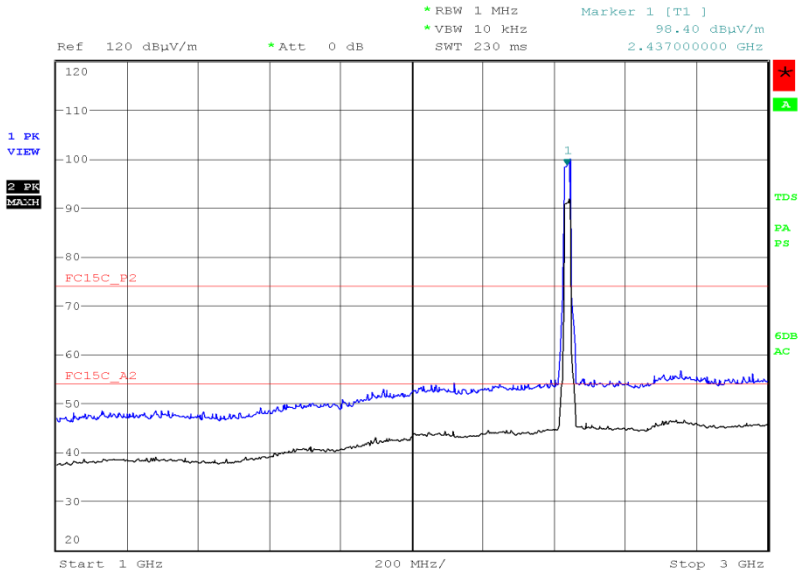


802.11n, 2437 MHz, 65 Mbps, 1 GHz to 25 GHz, Spurious Radiated Emissions Results

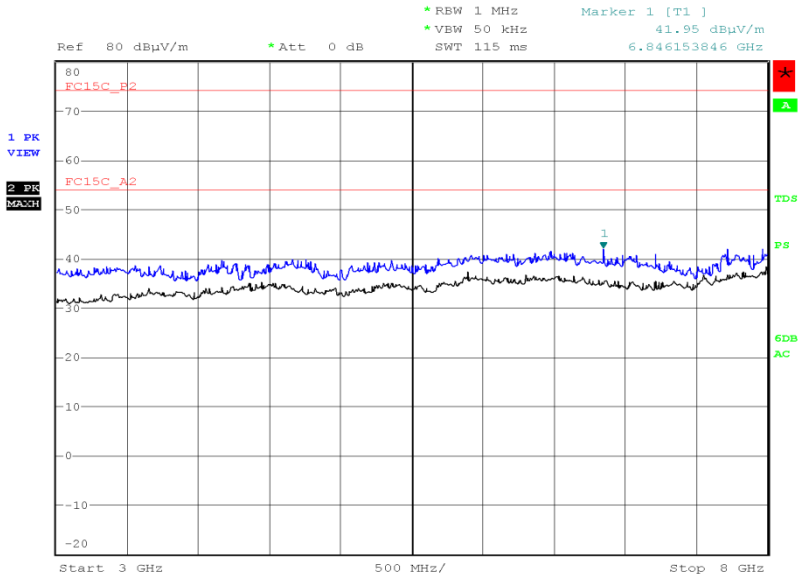
Frequency (MHz)	Final Peak (dBµV/m)	Final Average (dBµV/m)	Final Peak (µV/m)	Final Average (µV/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissionswere detected within 10 dB of the limit.

802.11n, 2437 MHz, 65 Mbps, 1 GHz to 3 GHz , Spurious Radiated Emissions Plot



802.11n, 2437 MHz, 65 Mbps, 3 GHz to 8 GHz, Spurious Radiated Emissions Plot



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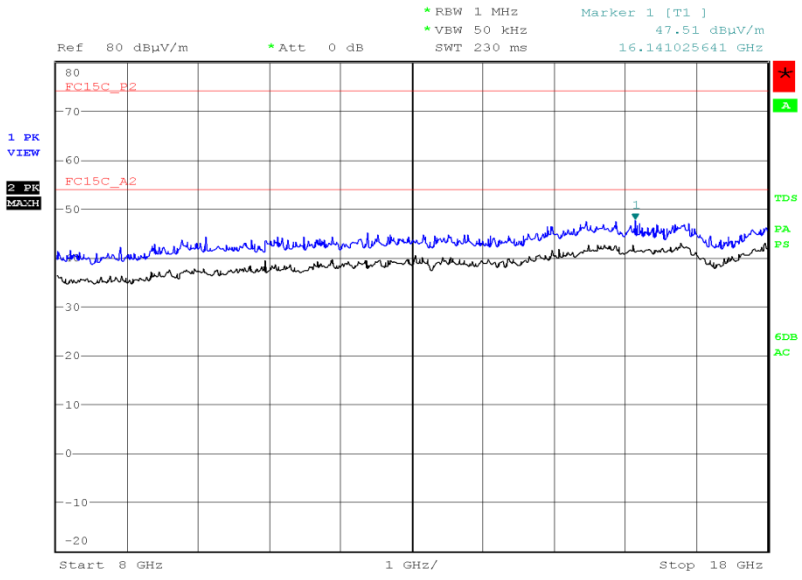
802.11n, 2437 MHz, 65 Mbps, 8 GHz to 18 GHz, Spurious Radiated Emissions Plot



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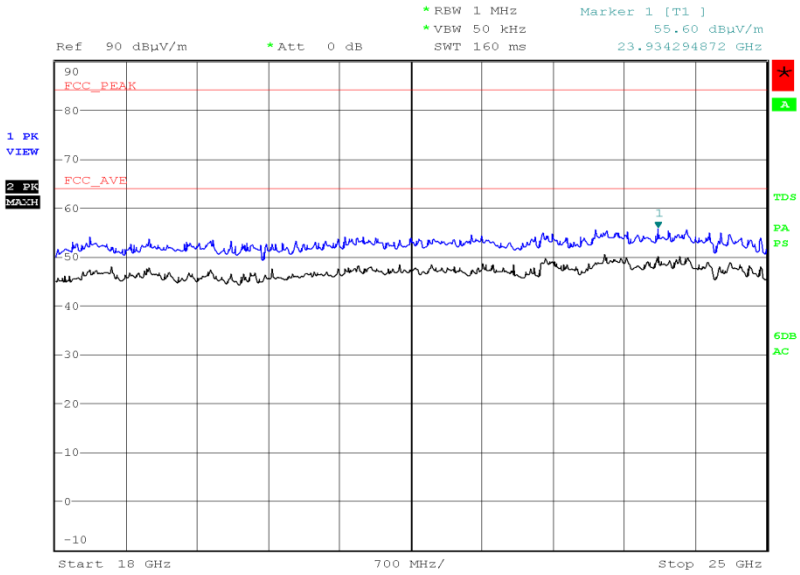
802.11n, 2437 MHz, 65 Mbps, 18 GHz to 25 GHz, Spurious Radiated Emissions Plot



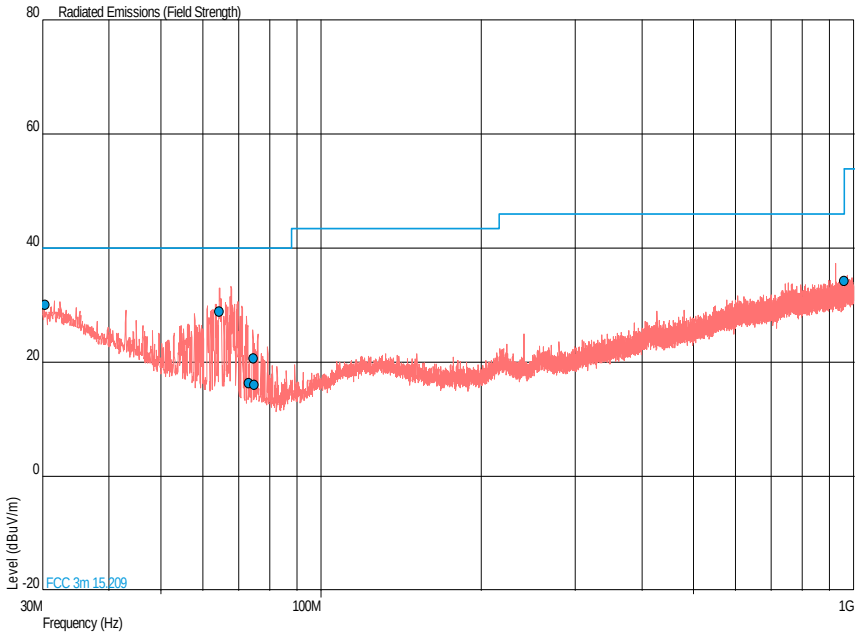
Date: 25.APR.2016 19:20:24

Product Service

802.11n, 2462 MHz, 65 Mbps, 30 MHz to 1 GHz, Spurious Radiated Emissions Results

Frequency (MHz)	QP Level (dBµV/m)	QP Margin (dBµV/m)	QP Level (µV/m)	QP Margin (µV/m)	Angle (°)	Height (m)	Polarisation
30.388	30.1	-9.9	32.0	-68.0	180	1.00	Vertical
64.435	28.9	-11.1	27.9	-72.1	180	1.00	Vertical
73.154	16.4	-23.6	6.6	-93.4	180	1.00	Vertical
74.569	20.6	-19.4	10.7	-89.3	180	1.00	Vertical
74.831	16.1	-23.9	6.4	-93.6	180	1.00	Vertical
960.019	34.3	-19.7	51.9	-449.1	180	1.00	Vertical

802.11n, 2462 MHz, 65 Mbps, 30 MHz to 1 GHz, Spurious Radiated Emissions Plot

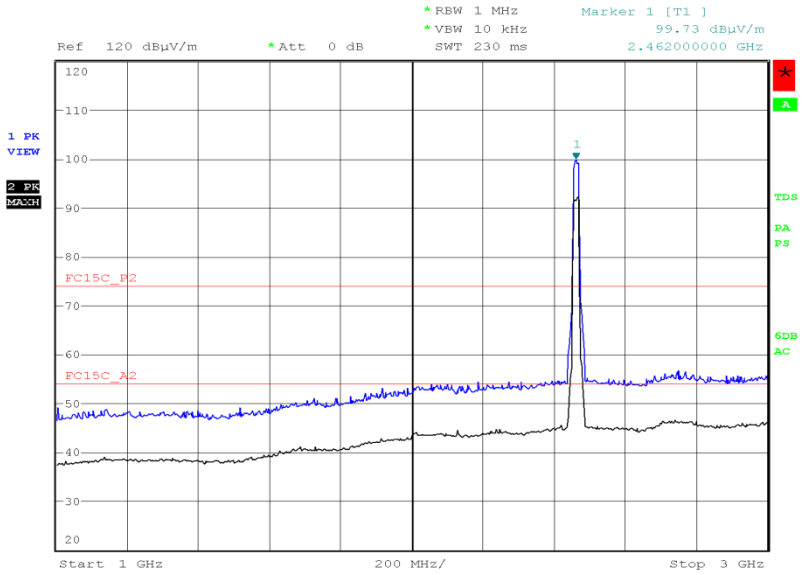


802.11n, 2462 MHz, 65 Mbps, 1 GHz to 25 GHz, Spurious Radiated Emissions Results

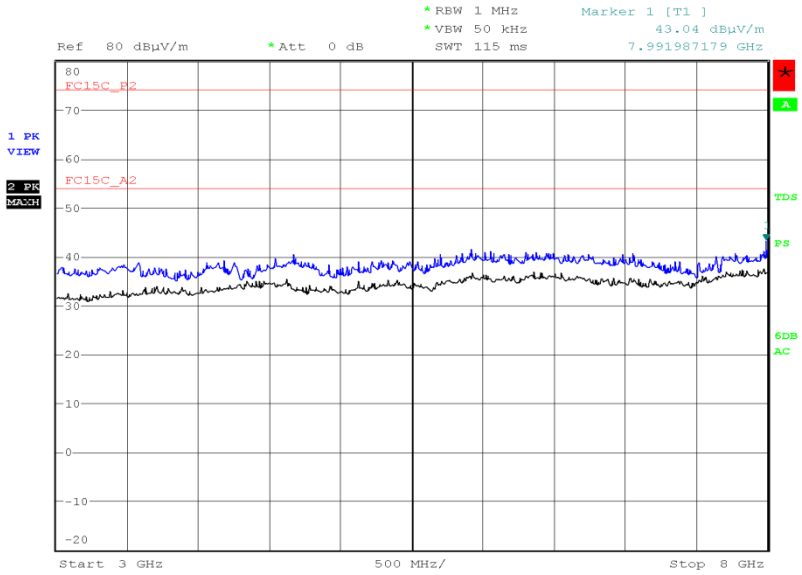
Frequency (MHz)	Final Peak (dBµV/m)	Final Average (dBµV/m)	Final Peak (µV/m)	Final Average (µV/m)	Angle (°)	Height (m)	Polarisation
*							

*No emissions were detected within 10 dB of the limit.

802.11n, 2462 MHz, 65 Mbps, 1 GHz to 3 GHz , Spurious Radiated Emissions Plot



802.11n, 2462 MHz, 65 Mbps, 3 GHz to 8 GHz, Spurious Radiated Emissions Plot



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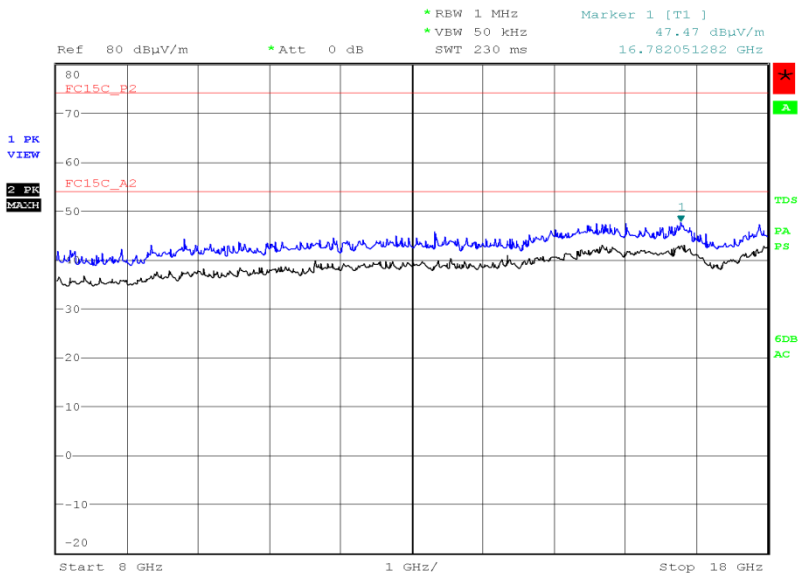
802.11n, 2462 MHz, 65 Mbps, 8 GHz to 18 GHz, Spurious Radiated Emissions Plot



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