

EMC Test Report

Project Number: 4272209

Report Number: 4272209EMC06

Revision Level: 0

Client: Curiouser Products Inc

Equipment Under Test: Smart Mirror

Model: M1R0

FCC ID: 2AOSD-RLSYM1R0

IC ID: 23685-RLSY

Applicable Standards: ANSI C63.10: 2013

FCC Part 15 Subpart C, § 15.407

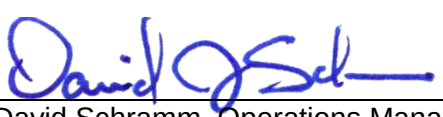
Report issued on: 4 August 2018

Test Result: Compliant

Tested by:


Shawn McGuinness, EMC Engineering Leader

Reviewed by:


David Schramm, Operations Manager

Remarks: This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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1 Summary of Test Results

Test Description	FCC	Test Result
Emission Bandwidth	15.407(a), 15.407(e)	Compliant
Spectral Density	15.407(a)	Compliant
Peak Power Output	15.407(a)	Compliant
Unwanted Emissions	15.407(b)	Compliant
AC Powerline Conducted Emission	15.107, 15.207	Compliant

1.1 Modifications Required for Compliance

None

2 General Information

2.1 Client Information

Name: Curiouser Products Inc
 Address: 524 Broadway 11th Floor
 City, State, Zip, Country: New York, NY 10013, USA

2.2 Test Laboratory

Name: SGS North America, Inc.
 Address: 620 Old Peachtree Road NW, Suite 100
 City, State, Zip, Country: Suwanee, GA 30024, USA

Accrediting Body: A2LA
 Type of lab: Testing Laboratory
 Certificate Number: 3212.01

2.3 General Information of EUT

Type of Product: Smart Mirror
 Model Number: 1
 Serial Number: M1R010050

Frequency Range: 5150 to 5250 MHz, 5250-5350 MHz, 5470-5725 MHz, 5725-5850 MHz
 Number of channels: U-NII Band 1 (Channels 36, 38, 40, 44, 46, 48)
 U-NII Band 2A (Channels 52, 54, 56, 60, 62, 64)
 U-NII Band 2B (Channels 100, 102, 104, 108, 110, 112, 116, 118, 120, 124, 126, 128, 132, 134, 136, 140)
 U-NII Band 3 (Channels 149, 151, 153, 157, 159, 161, 165)

Modulation type: 802.11a, 802.11n (HT20/HT40)
 Antenna: Internal, PCB – Molex, P/N: 146153-0100, 4.0dB Gain.

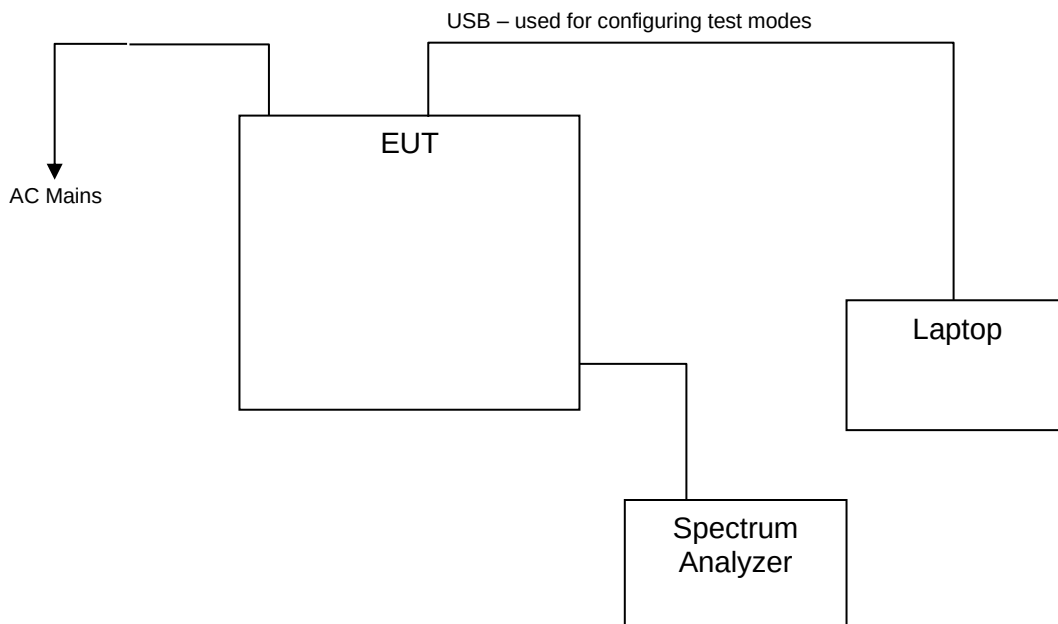
Rated Voltage: 120Vac, 60Hz
 Test Voltage: 120Vac, 60Hz

Sample Received Date: 20 February 2018
 Dates of testing: 20 February – 06 June 2018

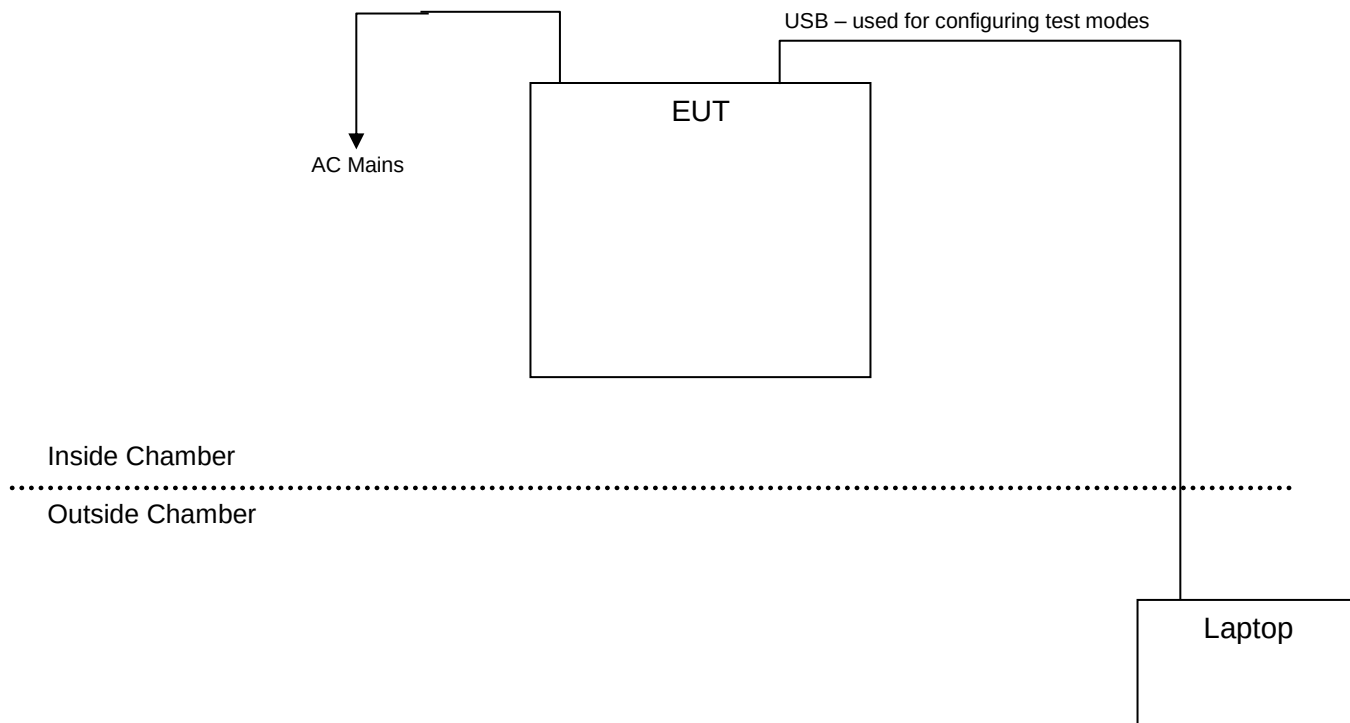
2.4 Operating Modes and Conditions

Using test commands, the EUT would transmit continuously on any of the U-NII Band 1, 2, or 3 channels at full power. Worst-case power and PSD were achieved at the lowest data rates. For radiated spurious emissions measurements, only the worst-case mode with respect to peak power and PSD was investigated (802.11a).

2.5 EUT Connection Block Diagram – Conducted Measurements



2.6 EUT Connection Block Diagram – Radiated Measurements



2.7 System Configurations

Device reference	Manufacturer	Description	Model Number	Serial Number
A	Curiouser Products Inc	Smart Mirror	M1R0	M1R010050
B	HP	Notebook	15-1233wm	5CD6415H9V

3 Emission Bandwidth and Occupied Bandwidth

3.1 Test Result

Test Description	Test Specification	Test Result
Emission bandwidth / 99% OBW	15.407(a), 15.407(e) RSS-247, S6.2.4.1	Compliant

3.2 Test Method

The procedures from ANSI C63.10: 2013 clause 12.4 and KDB document 789033 D02 General U-NII Test Procedures New Rules v02r01 were used to determine the 6 dB bandwidth, the 26dB bandwidth, and 99% OBW.

3.3 Test Site

SGS EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature: 22.8 °C
 Relative Humidity: 38.5 %

3.4 Test Equipment

Test End Date: 11-Apr-2018

Tester: JOP

Equipment	Model	Manufacturer	Asset Number	Cal Due Date
RF CABLE	SF102	HUBER & SUHNER	B079822	25-Jul-2019
SIGNAL ANALYZER (TS8997)	FSV30	ROHDE & SCHWARZ	B085749	1-Nov-2019
RF SWITCH (TS8997)	OSP	ROHDE & SCHWARZ	15039	15-Dec-2019
POWER METER (TS8997)	OSP-B157	ROHDE & SCHWARZ	15040	15-Dec-2019
VECTOR SIGNAL GENERATOR (TS8997)	SMBV 100A	ROHDE & SCHWARZ	15002	2-Oct-2018
SIGNAL GENERATOR (TS8997)	SMB 100A	ROHDE & SCHWARZ	B094876	12-Jan-2020

Note: The equipment calibration period is 1 year for the SF102, OSP, OPS-B157. The calibration period is 2 years for the FSV30, SMBV 100A, and SMB 100A.

3.5 Test Data

Note: 802.11a and 802.11n (HT20) bandwidths are the same.

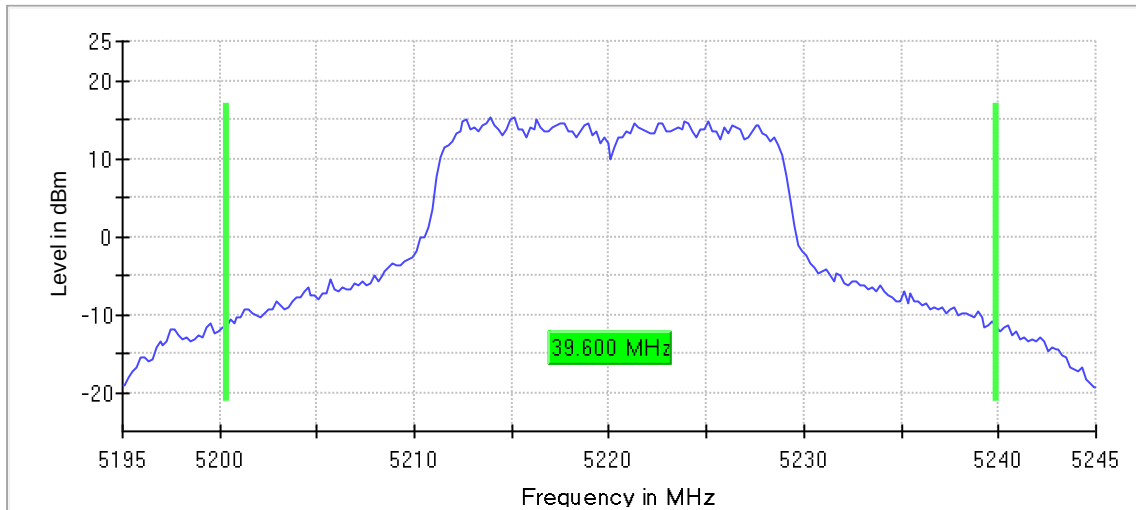
Band	Channel	Protocol	Frequency [MHz]	26dB Bandwidth [MHz]	6dB Bandwidth [MHz]	99% [MHz]
UNII 1	36	802.11a	5180	30.2	17.7	18.4
	44	802.11a	5220	39.6	17.7	20.4
	48	802.11a	5240	41.2	17.7	21.0
	38	802.11n (HT40)	5190	85.6	36.2	55.7
	46	802.11n (HT40)	5230	87.1	36.1	44.0

Band	Channel	Frequency [MHz]	Frequency [MHz]	26dB Bandwidth [MHz]	6dB Bandwidth [MHz]	99% [MHz]
UNII 2a	52	802.11a	5260	41.4	17.7	21.6
	64	802.11a	5320	42.2	17.7	20.8
	54	802.11n (HT40)	5270	87.4	36.0	44.6
	62	802.11n (HT40)	5310	88.9	35.8	43.1
UNII 2b	100	802.11a	5500	43.6	17.7	25.6
	116	802.11a	5580	42.8	17.7	26.2
	140	802.11a	5700	41.2	17.7	21.0
	102	802.11n (HT40)	5510	97.0	35.5	36.3
	134	802.11n (HT40)	5670	84.1	35.8	36.3

Band	Channel	26dB Bandwidth [MHz]	26dB Bandwidth [MHz]	6dB Bandwidth [MHz]	99% [MHz]	Calculated Limit [EIRP dBm]
149	149	802.11a	5745	46.2	17.7	28.2
157	157	802.11a	5785	46.8	17.7	30.2
165	165	802.11a	5825	46.0	17.7	29.6
151	151	802.11n (HT40)	5755	98.2	36.5	59.0
159	159	802.11n (HT40)	5795	98.2	36.5	61.4

3.6 Representative Plots and Settings:

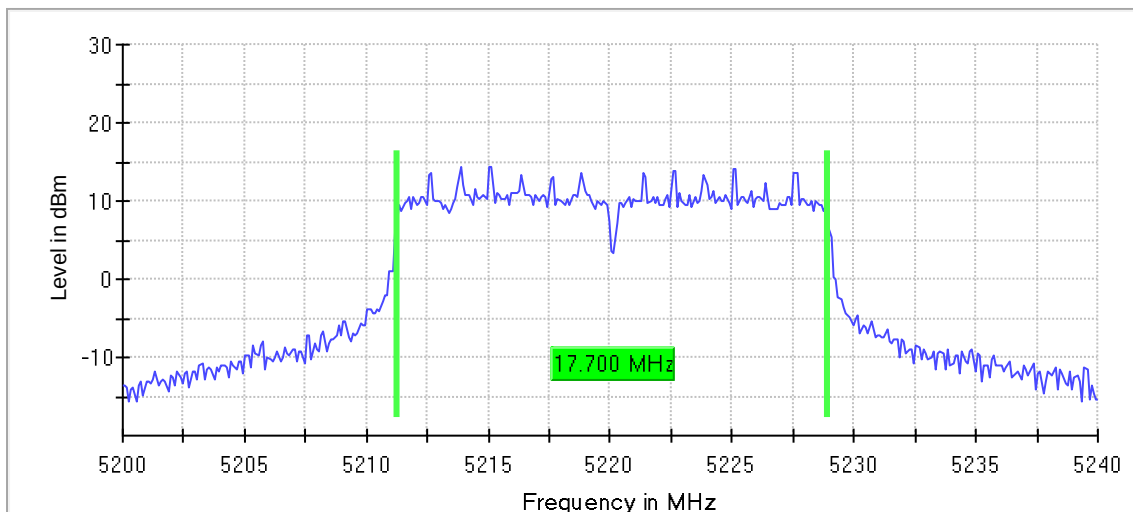
26dB Bandwidth Plot



Instrument settings

Setting	Instrument Value	Target Value
Start Frequency	5.19500 GHz	5.19500 GHz
Stop Frequency	5.24500 GHz	5.24500 GHz
Span	50.000 MHz	50.000 MHz
RBW	200.000 kHz	~ 200.000 kHz
VBW	1.000 MHz	>= 600.000 kHz
SweepPoints	250	~ 250
SweepTime	28.443 μ s	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	49 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.00 dB	0.30 dB

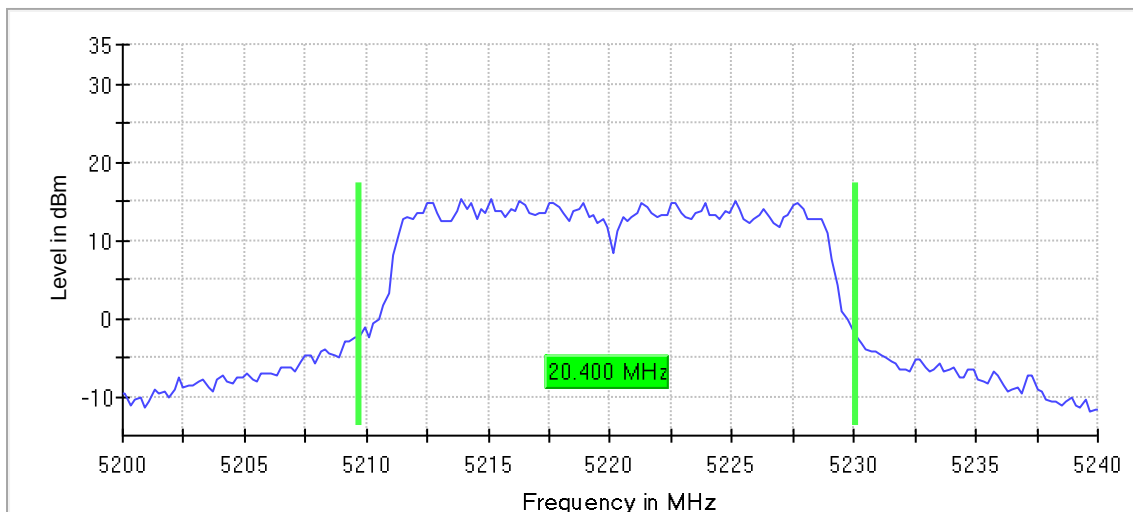
6dB Bandwidth



Representative Instrument Settings

Setting	Instrument Value	Target Value
Start Frequency	5.20000 GHz	5.20000 GHz
Stop Frequency	5.24000 GHz	5.24000 GHz
Span	40.000 MHz	40.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	400	~ 400
SweepTime	56.886 μ s	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	44 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.14 dB	0.30 dB

99% Occupied Bandwidth



Representative Instrument Settings

Setting	Instrument Value	Target Value
Start Frequency	5.20000 GHz	5.20000 GHz
Stop Frequency	5.24000 GHz	5.24000 GHz
Span	40.000 MHz	40.000 MHz
RBW	200.000 kHz	<= 200.000 kHz
VBW	1.000 MHz	>= 600.000 kHz
SweepPoints	200	~ 200
SweepTime	28.443 μ s	AUTO
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	30 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.09 dB	0.30 dB

4 Output Power

4.1 Test Result

Test Description	Test Specification	Test Result
Peak Output Power	15.407(a) RSS-247, S6.2.1.1 / S6.2.4.1	Compliant

4.2 Test Method

Fundamental power measurements were recorded using the procedures from ANSI C63.10: 2013 clause 12.3 and KDB document 789033 D02 General U-NII Test Procedures New Rules v02r01. Directional gain for cross-polarized antennas resulted in the highest gain between the two being applied.

Limits - FCC

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

For using antennas with greater than 6dBi of gain, the limit is reduced in dB by the amount the gain exceeds 6dBi

Limits - ISSED

For the frequency band 5150-5250 MHz, the maximum e.i.r.p. shall not exceed 200 mW or $10 + 10 \log_{10} B$, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz.

For the frequency bands 5250-5350 MHz and 5470-5600 MHz, the maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, dBm, whichever is less. Additionally, the maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log_{10} B$, dBm, whichever is less. B is the 99% emission bandwidth in megahertz.

For the frequency band 5725-5850 MHz, the maximum conducted output power shall not exceed 1 W.

4.3 Test Site

SGS EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature: 22.8 °C
 Relative Humidity: 38.5 %

4.4 18Test Equipment

Test End Date: 11-Apr-2018

Tester: JOP

Equipment	Model	Manufacturer	Asset Number	Cal Due Date
RF CABLE	SF102	HUBER & SUHNER	B079822	25-Jul-2019
SIGNAL ANALYZER (TS8997)	FSV30	ROHDE & SCHWARZ	B085749	1-Nov-2019
RF SWITCH (TS8997)	OSP	ROHDE & SCHWARZ	15039	15-Dec-2019
POWER METER (TS8997)	OSP-B157	ROHDE & SCHWARZ	15040	15-Dec-2019
VECTOR SIGNAL GENERATOR (TS8997)	SMBV 100A	ROHDE & SCHWARZ	15002	2-Oct-2018
SIGNAL GENERATOR (TS89997)	SMB 100A	ROHDE & SCHWARZ	B094876	12-Jan-2020

Note: The equipment calibration period is 1 year for the SF102, OSP, OPS-B157. The calibration period is 2 years for the FSV30, SMBV 100A, and SMB 100A.

4.5 Test Data – U-NII Band 1

Band	Protocol	CH	Freq [MHz]	Avg Power [dBm]	Limit [dBm]	Margin [dB]
U-NII 1 5150-5250	802.11a	36	5180	19.2	24.0	4.8
	802.11a	44	5220	21.0	24.0	3.0
	802.11a	48	5240	21.1	24.0	2.9
	802.11n (HT40)	38	5190	22.2	24.0	1.8
	802.11n (HT40)	46	5230	21.1	24.0	2.9

Power level was the same between 802.11a and 802.11n HT20

4.6 Test Data – U-NII Band 2A

Band	Protocol	CH	Freq [MHz]	Avg Power [dBm]	Limit [dBm]	Margin [dB]
U-NII 2A 5250-5350	802.11a	52	5260	21.0	24.0	3.0
	802.11a	64	5320	20.9	24.0	3.1
	802.11n (HT40)	54	5270	21.1	24.0	2.9
	802.11n (HT40)	62	5310	20.9	24.0	3.1

Power level was the same between 802.11a and 802.11n HT20

4.7 Test Data – U-NII Band 2C

Band	Protocol	CH	Freq [MHz]	Avg Power [dBm]	Limit [dBm]	Margin [dB]
U-NII 2C 5470-5725	802.11a	100	5500	20.7	24.0	3.3
	802.11a	116	5580	20.8	24.0	3.2
	802.11a	140	5700	19.5	24.0	4.5
	802.11n (HT40)	102	5510	13.4	24.0	10.6
	802.11n (HT40)	134	5670	14.4	24.0	9.6

Power level was the same between 802.11a and 802.11n HT20

4.8 Test Data – U-NII Band 3

Band	Protocol	CH	Freq [MHz]	Avg Power [dBm]	Limit [dBm]	Margin [dB]
U-NII 3 5725-850	802.11a	149	5745	20.9	30.0	9.1
	802.11a	157	5785	21.4	30.0	8.6
	802.11a	165	5825	22.0	30.0	8.0
	802.11n (HT40)	151	5755	21.1	30.0	8.9
	802.11n (HT40)	159	5795	21.8	30.0	8.2

Power level was the same between 802.11a and 802.11n HT20

5 Power Spectral Density

5.1 Test Result

Test Description	Test Specification	Test Result
Power Spectral Density	15.407(a) RSS-247, S6.2.1.1 / S6.2.4.1	Compliant

5.2 Test Method

Peak power spectral density measurements were recorded using the procedures from ANSI C63.10: 2013 clause 12.5 and KDB document 789033 D02 General U-NII Test Procedures New Rules v02r01. The lowest data rate for each modulation was determined to be the worst-case.

Limits - FCC

For client devices in the 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

For using antennas with greater than 6dBi of gain, the limit is reduced in dB by the amount the gain exceeds 6dBi

Limits - ISSED

For the frequency band 5150-5250 MHz, the e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

For the frequency bands 5250-5350 MHz and 5470-5600 MHz, the power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

For the frequency band 5725-5850 MHz, the output power spectral density shall not exceed 30 dBm in any 500 kHz band.

5.3 Test Site

SGS EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature: 22.8 °C

Relative Humidity: 38.5 %

5.4 Test Equipment

Test End Date: 11-Apr-2018

Tester: JOP

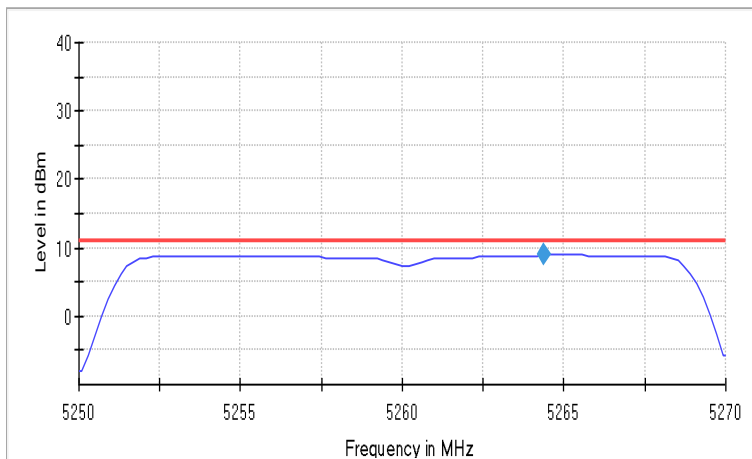
Equipment	Model	Manufacturer	Asset Number	Cal Due Date
RF CABLE	SF102	HUBER & SUHNER	B079822	25-Jul-2019
SIGNAL ANALYZER (TS8997)	FSV30	ROHDE & SCHWARZ	B085749	1-Nov-2019
RF SWITCH (TS8997)	OSP	ROHDE & SCHWARZ	15039	15-Dec-2019
POWER METER (TS8997)	OSP-B157	ROHDE & SCHWARZ	15040	15-Dec-2019
VECTOR SIGNAL GENERATOR (TS8997)	SMBV 100A	ROHDE & SCHWARZ	15002	2-Oct-2018
SIGNAL GENERATOR (TS89997)	SMB 100A	ROHDE & SCHWARZ	B094876	12-Jan-2020

Note: The equipment calibration period is 1 year for the SF102, OSP, OPS-B157. The calibration period is 2 years for the FSV30, SMBV 100A, and SMB 100A.

5.5 Test Data

Band	Protocol	CH	DUT Freq [MHz]	Frequency [MHz]	PSD [dBm]	Limit [dBm]	Margin [dB]
U-NII 1	802.11a	36	5180	5184.554455	9.2	11.0	1.8
U-NII 1	802.11a	44	5220	5215.445545	9.1	11.0	1.9
U-NII 1	802.11a	48	5240	5235.445545	8.9	11.0	2.1
U-NII 1	802.11n HT40	38	5190	5201.485149	7.6	11.0	3.4
U-NII 1	802.11n HT40	46	5230	5218.514851	6.6	11.0	4.4
U-NII 2A	802.11a	52	5260	5264.356436	8.9	11.0	2.1
U-NII 2A	802.11a	64	5320	5315.445545	8.8	11.0	2.2
U-NII 2A	802.11n HT40	54	5270	5281.485149	6.5	11.0	4.5
U-NII 2A	802.11n HT40	62	5310	5298.514851	6.3	11.0	4.8
U-NII 2C	802.11a	100	5500	5495.049505	8.9	11.0	2.1
U-NII 2C	802.11a	116	5580	5575.445545	8.8	11.0	2.2
U-NII 2C	802.11a	140	5700	5695.247525	7.7	11.0	3.3
U-NII 2C	802.11n HT40	102	5510	5498.910891	-1.1	11.0	12.1
U-NII 2C	802.11n HT40	134	5670	5681.485149	-0.5	11.0	11.5
U-NII 3	802.11a	149	5745	5740.049505	6.0	30.0	24.0
U-NII 3	802.11a	157	5785	5780.247525	6.6	30.0	23.4
U-NII 3	802.11a	165	5825	5820.049505	7.0	30.0	23.0
U-NII 3	802.11n HT40	151	5755	5743.875000	3.6	30.0	26.4
U-NII 3	802.11n HT40	159	5795	5783.875000	4.2	30.0	25.8

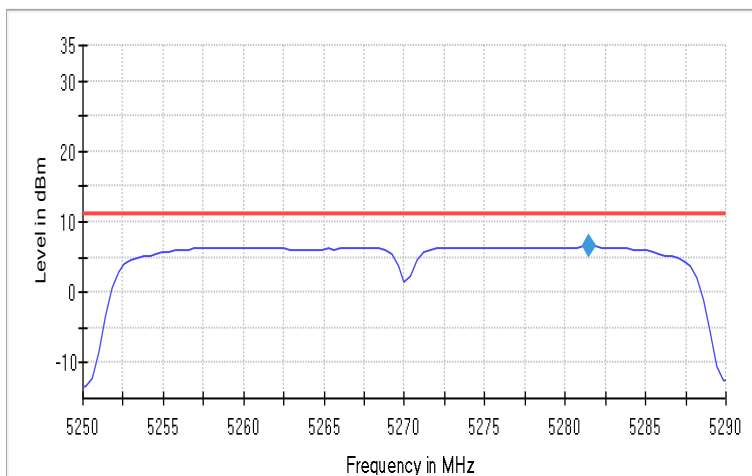
20 MHz CH bandwidths - Representative Plot and instrument settings



— Limit — Sum Level ◆ PSD

Setting	Instrument Value	Target Value
Start Frequency	5.25000 GHz	5.25000 GHz
Stop Frequency	5.27000 GHz	5.27000 GHz
Span	20.000 MHz	20.000 MHz
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	101	~ 40
Sweptime	2.020 s	2.020 s
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	AUTO
Detector	RMS	RMS
SweepCount	3	3
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	4 / max. 15	max. 15
Stable	3 / 3	3
Max Stable Difference	0.06 dB	0.30 dB

40 MHz CH bandwidths - Representative Plot and instrument settings



— Limit — Sum Level ◆ PSD

Setting	Instrument Value	Target Value
Start Frequency	5.25000 GHz	5.25000 GHz
Stop Frequency	5.29000 GHz	5.29000 GHz
Span	40.000 MHz	40.000 MHz
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	101	~ 80
Sweptime	2.020 s	2.020 s
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	AUTO
Detector	RMS	RMS
SweepCount	3	3
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	4 / max. 15	max. 15
Stable	3 / 3	3
Max Stable Difference	0.03 dB	0.30 dB

6 Unwanted Emissions

6.1 Test Result

Test Description	Test Specification	Test Result
Spurious Emissions	15.407(b) RSS-247, S6.2.1.2 / S6.2.4.1 ANSI C63.10: 2013	Compliant

6.2 Test Method

Testing was performed using the radiated and conducted methods defined in ANSI C63.10: 2013 clause 12.7 and KDB 789033 D02 General U-NII Test Procedures New Rules v02r01. In lieu of the marker-delta or integration methods, band edge compliance was shown using a peak detector and a 1MHz resolution bandwidth.

Lowest, middle, and highest channels were investigated for each band. Only the modulation providing the worst-case power was reported except at the band edges where all bandwidths were measured. The frequency range examined was 9kHz to 40GHz. A pre-scan was performed in the 9kHz-30MHz range and no emissions associated with the radio were observed.

Limit:

For transmitters operating in the 5.15-5.25 GHz, 5.25-5.35 GHz, or 5.47-5.725 GHz band: All emissions outside of the authorized band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz..

6.3 Test Site

SGS EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature: 22.8 °C
Relative Humidity: 38.5 %

6.4 Test Equipment

Test End Date: 11-Apr-2018

Tester: JOP

Equipment	Model	Manufacturer	Asset Number	Cal Due Date
RF CABLE	SF102	HUBER & SUHNER	B079822	25-Jul-2019
SIGNAL ANALYZER (TS8997)	FSV30	ROHDE & SCHWARZ	B085749	1-Nov-2019
RF SWITCH (TS8997)	OSP	ROHDE & SCHWARZ	15039	15-Dec-2019
POWER METER (TS8997)	OSP-B157	ROHDE & SCHWARZ	15040	15-Dec-2019
VECTOR SIGNAL GENERATOR (TS8997)	SMBV 100A	ROHDE & SCHWARZ	15002	2-Oct-2018
SIGNAL GENERATOR (TS89997)	SMB 100A	ROHDE & SCHWARZ	B094876	12-Jan-2020

Note: The equipment calibration period is 1 year for the SF102, OSP, OPS-B157. The calibration period is 2 years for the FSV30, SMBV 100A, and SMB 100A.

6.5 Test Equipment – Radiated Measurements

Measurements below 1GHz

Test End Date: 20-Mar-2018

Tester: JOP/AF

Equipment	Model	Manufacturer	Asset Number	Cal Due Date
EMI TEST RECEIVER	ESU8	ROHDE & SCHWARZ	B085759	25-Jul-2018
ANTENNA, BILOG	JB6	SUNOL	B079690	29-Nov-2018
RF CABLE	SF106	HUBER & SUHNER	B079661	25-Jul-2018
RF CABLE	SF106	HUBER & SUHNER	B079713	24-Jul-2018
RF CABLE	UC-N-MM-78	MAURY MICROWAVE	17017	25-Jul-2018
RF CABLE	SUCOFLEX 100	HUBER & SUHNER	B108523	24-Jul-2018
LOW NOISE AMPLIFIER	TS-PR18	ROHDE & SCHWARZ	B094463	6-Mar-2019
ANTENNA, LOOP, ACTIVE	6502	ETS LINDGREN	B085752	22-Aug-2018

Measurements above 1GHz

Test End Date: 6-Mar-2018

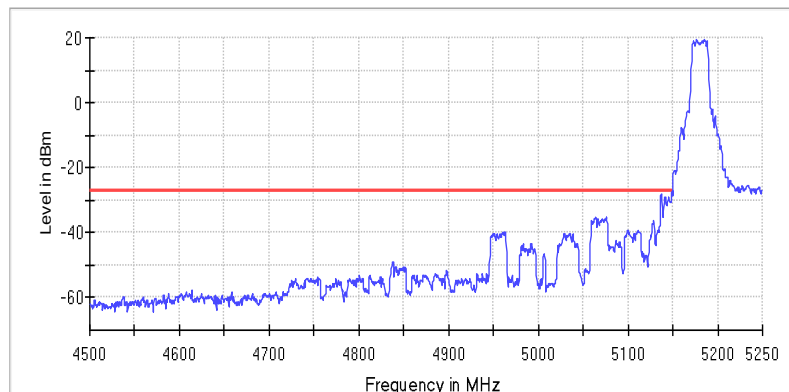
Tester: JOP/ASF

Equipment	Model	Manufacturer	Asset Number	Cal Due Date
EMI TEST RECEIVER	ESU40	ROHDE & SCHWARZ	B079629	25-Apr-2018
ANTENNA, DRG HORN (MEDIUM)	3117	ETS LINDGREN	B079691	27-Jul-2018
RF CABLE	SF106	HUBER & SUHNER	B079712	24-Jul-2018
RF CABLE	104PE	HUBER & SUHNER	B079793	24-Jul-2018
LOW NOISE AMPLIFIER	TS-PR18	ROHDE & SCHWARZ	15003	28-Jul-2018
FILTER, HIGH PASS (>6000MHZ)	HPM50112	MICRO-TRONICS	B093647	27-Jul-2018
HORN(SMALL)	LB-180400-20-C-KF	A-INFO	15007	21-Mar-2018
RF CABLE	SF102	HUBER & SUHNER	B079822	27-Jul-2018
RF CABLE	SF102	HUBER & SUHNER	B079824	26-Jul-2018
LOW NOISE AMPLIFIER	NSP1840-HG	MITEQ	B087572	28-Jul-2018

Note: The equipment calibration period is 1 year except for the FSV30 which is on a 2-year cycle.

6.6 Test Data - U-NII Band 1 – Radiated Band Edge

20 MHz Bandwidth
Channel 36 (5180 MHz)

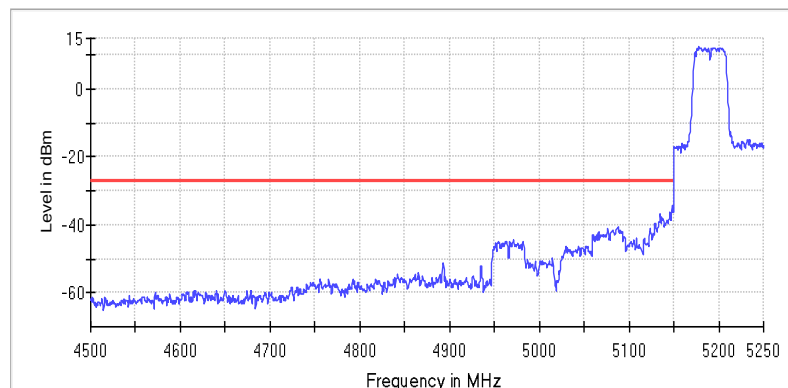


Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5149.250000	-27.3	0.3	-27.0	PASS
5148.750000	-27.3	0.3	-27.0	PASS
5137.250000	-28.2	1.2	-27.0	PASS
5136.750000	-28.4	1.4	-27.0	PASS
5137.750000	-28.5	1.5	-27.0	PASS
5149.750000	-28.7	1.7	-27.0	PASS
5148.250000	-28.9	1.9	-27.0	PASS
5141.250000	-29.0	2.0	-27.0	PASS
5141.750000	-29.1	2.1	-27.0	PASS
5145.250000	-29.2	2.2	-27.0	PASS
5140.750000	-29.3	2.3	-27.0	PASS
5144.750000	-29.4	2.4	-27.0	PASS
5145.750000	-29.5	2.5	-27.0	PASS
5142.250000	-29.6	2.6	-27.0	PASS
5138.250000	-30.1	3.1	-27.0	PASS

Instrument Settings	4500-5150 MHz		5150-5250 MHz	
	Instrument Value	Target Value	Target Value	Target Value
Start Frequency	4.50000 GHz	4.50000 GHz	5.15000 GHz	5.15000 GHz
Stop Frequency	5.15000 GHz	5.15000 GHz	5.25000 GHz	5.25000 GHz
Span	650.000 MHz	650.000 MHz	100.000 MHz	100.000 MHz
RBW	1.000 MHz	<= 1.000 MHz	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz	3.000 MHz	>= 3.000 MHz
SweepPoints	1300	~ 1300	200	~ 200
SweepTime	87.688 µs	AUTO	15.250 µs	AUTO
Reference Level	-20.000 dBm	-20.000 dBm	10.000 dBm	10.000 dBm
Attenuation	0.000 dB	AUTO	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak	MaxPeak	MaxPeak
SweepCount	100	100	100	100
Filter	3 dB	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold	Max Hold
SweepType	FFT	AUTO	FFT	AUTO
Preamp	off	off	off	off
Stablemode	Trace	Trace	Trace	Trace
Stablevalue	0.50 dB	0.50 dB	0.50 dB	0.50 dB
Run	9 / max. 150	max. 150	16 / max. 150	max. 150
Stable	3 / 3	3	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB	0.01 dB	0.50 dB

40 MHz Bandwidth Channel 38



— Limit — Sum Level × Fail

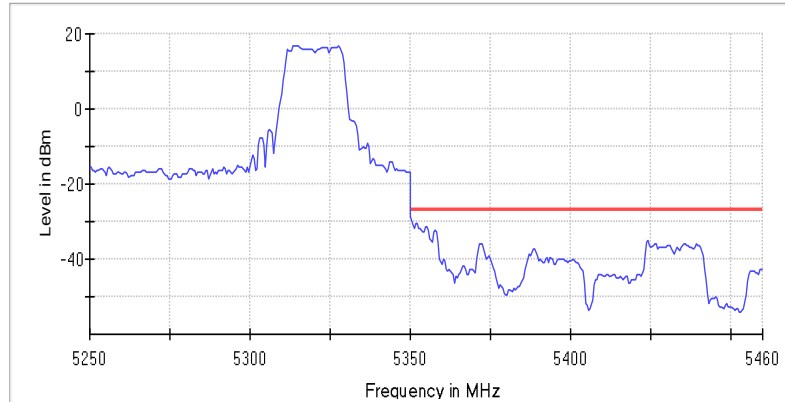
Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5148.250000	-34.5	7.5	-27.0	PASS
5147.750000	-34.6	7.6	-27.0	PASS
5149.750000	-35.0	8.0	-27.0	PASS
5148.750000	-36.2	9.2	-27.0	PASS
5149.250000	-36.4	9.4	-27.0	PASS
5145.750000	-36.4	9.4	-27.0	PASS
5145.250000	-36.6	9.6	-27.0	PASS
5135.250000	-36.7	9.7	-27.0	PASS
5146.250000	-36.9	9.9	-27.0	PASS
5147.250000	-36.9	9.9	-27.0	PASS
5134.750000	-37.3	10.3	-27.0	PASS
5136.750000	-37.8	10.8	-27.0	PASS
5137.750000	-38.0	11.0	-27.0	PASS
5144.750000	-38.0	11.0	-27.0	PASS
5138.250000	-38.0	11.0	-27.0	PASS

Instrument Settings	4500-5150 MHz		5150-5250 MHz	
	Instrument Value	Target Value	Target Value	Target Value
Start Frequency	4.50000 GHz	4.50000 GHz	5.15000 GHz	5.15000 GHz
Stop Frequency	5.15000 GHz	5.15000 GHz	5.25000 GHz	5.25000 GHz
Span	650.000 MHz	650.000 MHz	100.000 MHz	100.000 MHz
RBW	1.000 MHz	<= 1.000 MHz	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz	3.000 MHz	>= 3.000 MHz
SweepPoints	1300	~ 1300	200	~ 200
SweepTime	87.688 µs	AUTO	15.250 µs	AUTO
Reference Level	-20.000 dBm	-20.000 dBm	20.000 dBm	20.000 dBm
Attenuation	0.000 dB	AUTO	40.000 dB	AUTO
Detector	MaxPeak	MaxPeak	MaxPeak	MaxPeak
SweepCount	100	100	100	100
Filter	3 dB	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold	Max Hold
SweepType	FFT	AUTO	FFT	AUTO
Preamp	off	off	off	off
Stablemode	Trace	Trace	Trace	Trace
Stablevalue	0.50 dB	0.50 dB	0.50 dB	0.50 dB
Run	6 / max. 150	max. 150	19 / max. 150	max. 150
Stable	3 / 3	3	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB	0.02 dB	0.50 dB

6.7 Test Data – U-NII Band 2A – Radiated Band Edge

20 MHz Bandwidth
Channels 64 (5320 MHz)



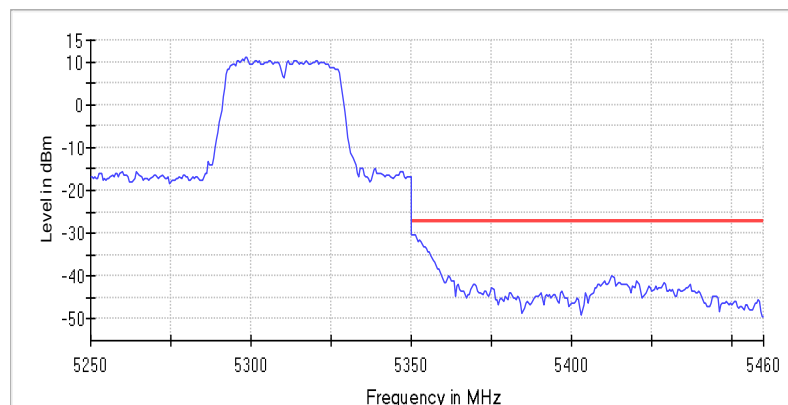
— Limit — Sum Level × Fail

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5350.250000	-28.4	1.4	-27.0	PASS
5351.750000	-30.3	3.3	-27.0	PASS
5352.250000	-30.4	3.4	-27.0	PASS
5350.750000	-31.0	4.0	-27.0	PASS
5355.250000	-31.4	4.4	-27.0	PASS
5354.750000	-31.5	4.5	-27.0	PASS
5352.750000	-31.8	4.8	-27.0	PASS
5353.250000	-31.9	4.9	-27.0	PASS
5351.250000	-32.0	5.0	-27.0	PASS
5355.750000	-32.2	5.2	-27.0	PASS
5357.750000	-32.4	5.4	-27.0	PASS
5353.750000	-32.5	5.5	-27.0	PASS
5354.250000	-32.6	5.6	-27.0	PASS
5358.250000	-32.8	5.8	-27.0	PASS
5357.250000	-32.9	5.9	-27.0	PASS

Instrument Settings	5250-5350 MHz		5350-5460 MHz	
	Instrument Value	Target Value	Target Value	Target Value
Start Frequency	5.25000 GHz	5.25000 GHz	5.35000 GHz	5.35000 GHz
Stop Frequency	5.35000 GHz	5.35000 GHz	5.46000 GHz	5.46000 GHz
Span	100.000 MHz	100.000 MHz	110.000 MHz	110.000 MHz
RBW	1.000 MHz	<= 1.000 MHz	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz	3.000 MHz	>= 3.000 MHz
SweepPoints	200	~ 200	220	~ 220
SweepTime	15.250 µs	AUTO	15.250 µs	AUTO
Reference Level	20.000 dBm	20.000 dBm	-20.000 dBm	-20.000 dBm
Attenuation	40.000 dB	AUTO	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak	MaxPeak	MaxPeak
SweepCount	100	100	100	100
Filter	3 dB	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold	Max Hold
SweepType	FFT	AUTO	FFT	AUTO
Preamp	off	off	off	off
Stablemode	Trace	Trace	Trace	Trace
Stablevalue	0.50 dB	0.50 dB	0.50 dB	0.50 dB
Run	21 / max. 150	max. 150	4 / max. 150	max. 150
Stable	3 / 3	3	3 / 3	3
Max Stable Difference	0.09 dB	0.50 dB	0.00 dB	0.50 dB

40 MHz Bandwidth Channel 62



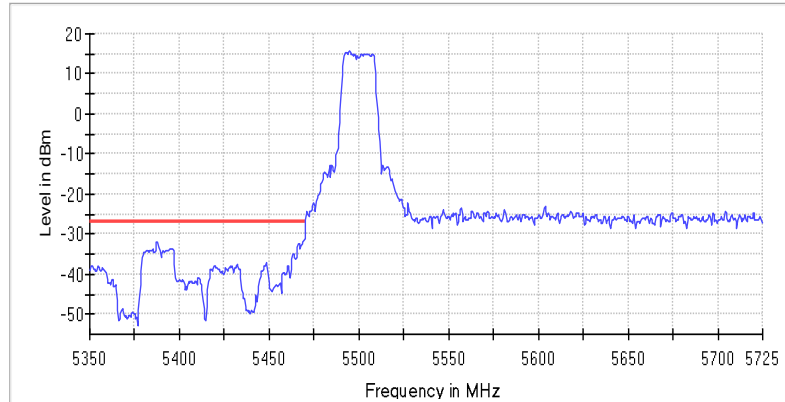
Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5350.750000	-30.3	3.3	-27.0	PASS
5351.250000	-30.4	3.4	-27.0	PASS
5350.250000	-30.5	3.5	-27.0	PASS
5351.750000	-31.3	4.3	-27.0	PASS
5352.750000	-31.5	4.5	-27.0	PASS
5352.250000	-31.8	4.8	-27.0	PASS
5353.250000	-31.8	4.8	-27.0	PASS
5353.750000	-33.0	6.0	-27.0	PASS
5354.250000	-33.1	6.1	-27.0	PASS
5354.750000	-33.6	6.6	-27.0	PASS
5355.750000	-34.3	7.3	-27.0	PASS
5355.250000	-34.3	7.3	-27.0	PASS
5356.250000	-35.1	8.1	-27.0	PASS
5356.750000	-36.4	9.4	-27.0	PASS
5357.250000	-36.7	9.7	-27.0	PASS

Instrument Settings	5250-5350 MHz		5350-5460 MHz	
	Instrument Value	Target Value	Target Value	Target Value
Start Frequency	5.25000 GHz	5.25000 GHz	5.35000 GHz	5.35000 GHz
Stop Frequency	5.35000 GHz	5.35000 GHz	5.46000 GHz	5.46000 GHz
Span	100.000 MHz	100.000 MHz	110.000 MHz	110.000 MHz
RBW	1.000 MHz	<= 1.000 MHz	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz	3.000 MHz	>= 3.000 MHz
SweepPoints	200	~ 200	220	~ 220
Sweeptime	15.250 µs	AUTO	15.250 µs	AUTO
Reference Level	20.000 dBm	20.000 dBm	-20.000 dBm	-20.000 dBm
Attenuation	40.000 dB	AUTO	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak	MaxPeak	MaxPeak
SweepCount	100	100	100	100
Filter	3 dB	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold	Max Hold
SweepType	FFT	AUTO	FFT	AUTO
Preamp	off	off	off	off
Stablemode	Trace	Trace	Trace	Trace
Stablevalue	0.50 dB	0.50 dB	0.50 dB	0.50 dB
Run	16 / max. 150	max. 150	4 / max. 150	max. 150
Stable	3 / 3	3	3 / 3	3
Max Stable Difference	0.31 dB	0.50 dB	0.00 dB	0.50 dB

6.8 Test Data – U-NII Band 2C – Radiated Band Edge

20 MHz Bandwidth
Channels 100 (5500 MHz)



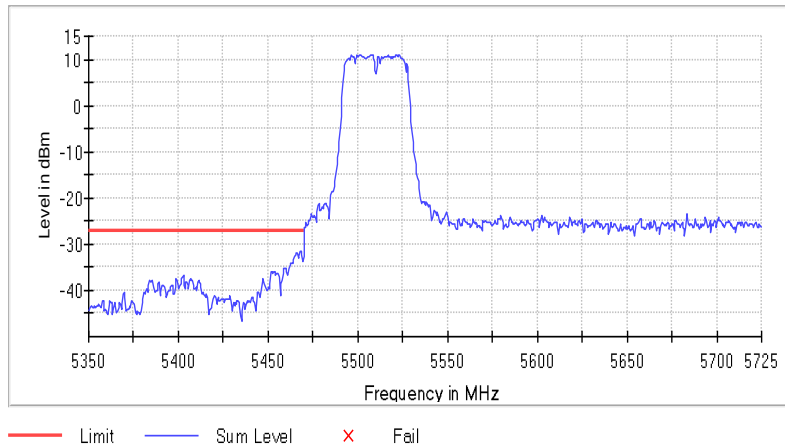
— Limit — Sum Level × Fail

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5469.750000	-31.2	4.2	-27.0	PASS
5469.250000	-31.6	4.6	-27.0	PASS
5387.250000	-32.1	5.1	-27.0	PASS
5468.750000	-32.1	5.1	-27.0	PASS
5387.750000	-32.1	5.1	-27.0	PASS
5468.250000	-32.4	5.4	-27.0	PASS
5466.250000	-32.4	5.4	-27.0	PASS
5466.750000	-32.4	5.4	-27.0	PASS
5467.750000	-33.0	6.0	-27.0	PASS
5388.250000	-33.2	6.2	-27.0	PASS
5388.750000	-33.2	6.2	-27.0	PASS
5465.750000	-33.4	6.4	-27.0	PASS
5396.250000	-33.6	6.6	-27.0	PASS
5467.250000	-33.6	6.6	-27.0	PASS
5394.750000	-33.7	6.7	-27.0	PASS

Instrument Settings	5470-5725MHz		5350-5470 MHz	
	Instrument Value	Target Value	Target Value	Target Value
Start Frequency	5.47000 GHz	5.47000 GHz	5.35000 GHz	5.35000 GHz
Stop Frequency	5.72500 GHz	5.72500 GHz	5.47000 GHz	5.47000 GHz
Span	255.000 MHz	255.000 MHz	120.000 MHz	120.000 MHz
RBW	1.000 MHz	<= 1.000 MHz	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz	3.000 MHz	>= 3.000 MHz
SweepPoints	510	~ 510	240	~ 240
SweepTime	34.313 µs	AUTO	17.156 µs	AUTO
Reference Level	10.000 dBm	10.000 dBm	-20.000 dBm	-20.000 dBm
Attenuation	30.000 dB	AUTO	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak	MaxPeak	MaxPeak
SweepCount	100	100	100	100
Filter	3 dB	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold	Max Hold
SweepType	FFT	AUTO	FFT	AUTO
Preamp	off	off	off	off
Stablemode	Trace	Trace	Trace	Trace
Stablevalue	0.50 dB	0.50 dB	0.50 dB	0.50 dB
Run	18 / max. 150	max. 150	21 / max. 150	max. 150
Stable	3 / 3	3	3 / 3	3
Max Stable Difference	0.41 dB	0.50 dB	0.17 dB	0.50 dB

40 MHz Bandwidth Channel 102

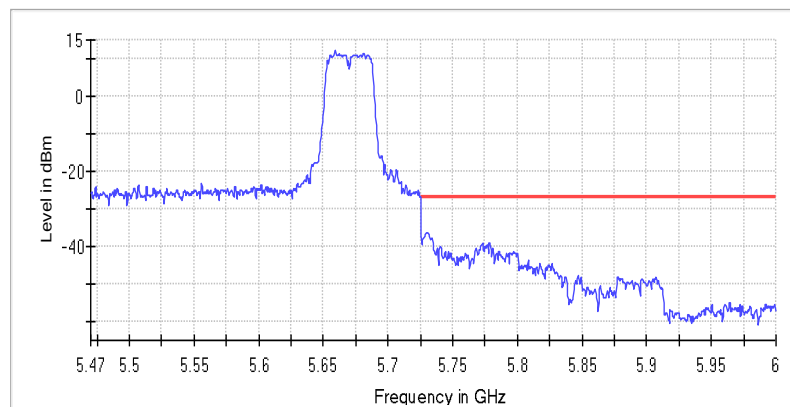


Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5468.250000	-31.6	4.6	-27.0	PASS
5467.750000	-31.7	4.7	-27.0	PASS
5465.750000	-32.0	5.0	-27.0	PASS
5466.250000	-32.0	5.0	-27.0	PASS
5468.750000	-32.2	5.2	-27.0	PASS
5465.250000	-32.2	5.2	-27.0	PASS
5469.750000	-32.7	5.7	-27.0	PASS
5464.750000	-32.8	5.8	-27.0	PASS
5467.250000	-32.8	5.8	-27.0	PASS
5466.750000	-32.8	5.8	-27.0	PASS
5464.250000	-33.5	6.5	-27.0	PASS
5469.250000	-33.7	6.7	-27.0	PASS
5463.250000	-33.9	6.9	-27.0	PASS
5462.750000	-34.0	7.0	-27.0	PASS
5463.750000	-34.1	7.1	-27.0	PASS

Instrument Settings	5350-5470 MHz		5470-5725 MHz	
	Instrument Value	Target Value	Target Value	Target Value
Start Frequency	5.35000 GHz	5.35000 GHz	5.47000 GHz	5.47000 GHz
Stop Frequency	5.47000 GHz	5.47000 GHz	5.72500 GHz	5.72500 GHz
Span	120.000 MHz	120.000 MHz	255.000 MHz	255.000 MHz
RBW	1.000 MHz	<= 1.000 MHz	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz	3.000 MHz	>= 3.000 MHz
SweepPoints	240	~ 240	510	~ 510
Sweeptime	17.156 µs	AUTO	34.313 µs	AUTO
Reference Level	-20.000 dBm	-20.000 dBm	10.000 dBm	10.000 dBm
Attenuation	0.000 dB	AUTO	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak	MaxPeak	MaxPeak
SweepCount	100	100	100	100
Filter	3 dB	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold	Max Hold
SweepType	FFT	AUTO	FFT	AUTO
Preamp	off	off	off	off
Stablemode	Trace	Trace	Trace	Trace
Stablevalue	0.50 dB	0.50 dB	0.50 dB	0.50 dB
Run	5 / max. 150	max. 150	25 / max. 150	max. 150
Stable	3 / 3	3	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB	0.07 dB	0.50 dB

40 MHz Bandwidth
Channel 134



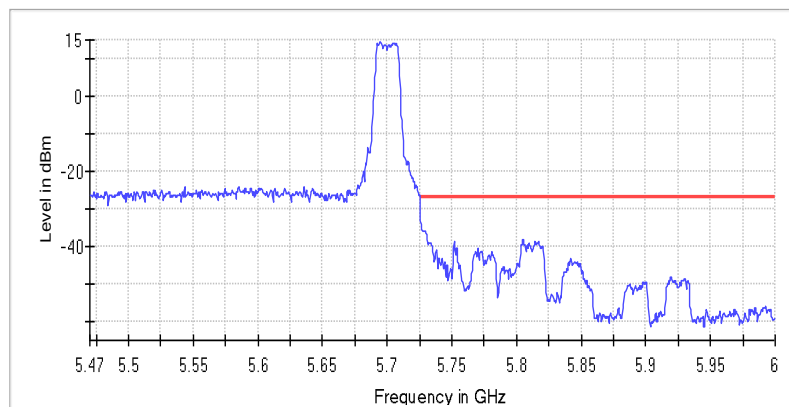
— Limit — Sum Level × Fail

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5725.250000	-35.6	8.6	-27.0	PASS
5730.750000	-36.3	9.3	-27.0	PASS
5731.250000	-36.3	9.3	-27.0	PASS
5729.750000	-36.4	9.4	-27.0	PASS
5729.250000	-36.4	9.4	-27.0	PASS
5730.250000	-36.4	9.4	-27.0	PASS
5728.750000	-36.6	9.6	-27.0	PASS
5731.750000	-36.6	9.6	-27.0	PASS
5728.250000	-37.1	10.1	-27.0	PASS
5725.750000	-37.2	10.2	-27.0	PASS
5732.250000	-37.2	10.2	-27.0	PASS
5733.750000	-37.7	10.7	-27.0	PASS
5727.750000	-37.7	10.7	-27.0	PASS
5734.250000	-37.8	10.8	-27.0	PASS
5727.250000	-37.9	10.9	-27.0	PASS

Instrument Settings	5470-5725 MHz		5725-6000 MHz	
	Instrument Value	Target Value	Target Value	Target Value
Start Frequency	5.47000 GHz	5.47000 GHz	5.72500 GHz	5.72500 GHz
Stop Frequency	5.72500 GHz	5.72500 GHz	6.00000 GHz	6.00000 GHz
Span	255.000 MHz	255.000 MHz	275.000 MHz	275.000 MHz
RBW	1.000 MHz	<= 1.000 MHz	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz	3.000 MHz	>= 3.000 MHz
SweepPoints	510	~ 510	550	~ 550
SweepTime	34.313 µs	AUTO	38.125 µs	AUTO
Reference Level	10.000 dBm	10.000 dBm	-20.000 dBm	-20.000 dBm
Attenuation	30.000 dB	AUTO	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak	MaxPeak	MaxPeak
SweepCount	100	100	100	100
Filter	3 dB	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold	Max Hold
SweepType	FFT	AUTO	FFT	AUTO
Preamp	off	off	off	off
Stablemode	Trace	Trace	Trace	Trace
Stablevalue	0.50 dB	0.50 dB	0.50 dB	0.50 dB
Run	19 / max. 150	max. 150	4 / max. 150	max. 150
Stable	3 / 3	3	3 / 3	3
Max Stable Difference	0.46 dB	0.50 dB	0.00 dB	0.50 dB

20 MHz Bandwidth
 Channel 140 (5700 MHz)



— Limit — Sum Level × Fail

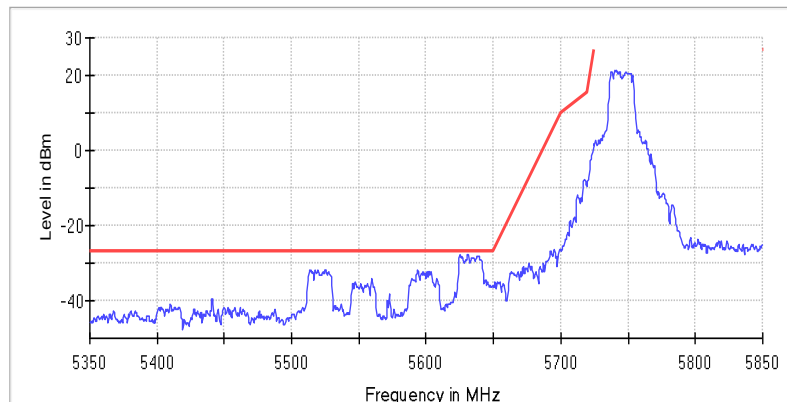
Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5725.250000	-32.1	5.1	-27.0	PASS
5725.750000	-33.0	6.0	-27.0	PASS
5726.250000	-34.2	7.2	-27.0	PASS
5726.750000	-35.4	8.4	-27.0	PASS
5728.750000	-35.7	8.7	-27.0	PASS
5727.750000	-35.7	8.7	-27.0	PASS
5728.250000	-35.7	8.7	-27.0	PASS
5729.250000	-35.8	8.8	-27.0	PASS
5727.250000	-35.9	8.9	-27.0	PASS
5729.750000	-36.2	9.2	-27.0	PASS
5730.250000	-36.7	9.7	-27.0	PASS
5730.750000	-37.6	10.6	-27.0	PASS
5804.750000	-38.2	11.2	-27.0	PASS
5805.250000	-38.3	11.3	-27.0	PASS
5731.250000	-38.4	11.4	-27.0	PASS

Instrument Settings	5470-5725 MHz		5725-6000 MHz	
	Instrument Value	Target Value	Target Value	Target Value
Start Frequency	5.47000 GHz	5.47000 GHz	5.72500 GHz	5.72500 GHz
Stop Frequency	5.72500 GHz	5.72500 GHz	6.00000 GHz	6.00000 GHz
Span	255.000 MHz	255.000 MHz	275.000 MHz	275.000 MHz
RBW	1.000 MHz	<= 1.000 MHz	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz	3.000 MHz	>= 3.000 MHz
SweepPoints	510	~ 510	550	~ 550
SweepTime	34.313 µs	AUTO	38.125 µs	AUTO
Reference Level	10.000 dBm	10.000 dBm	-20.000 dBm	-20.000 dBm
Attenuation	30.000 dB	AUTO	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak	MaxPeak	MaxPeak
SweepCount	100	100	100	100
Filter	3 dB	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold	Max Hold
SweepType	FFT	AUTO	FFT	AUTO
Preamp	off	off	off	off
Stablemode	Trace	Trace	Trace	Trace
Stablevalue	0.50 dB	0.50 dB	0.50 dB	0.50 dB
Run	18 / max. 150	max. 150	4 / max. 150	max. 150
Stable	3 / 3	3	3 / 3	3
Max Stable Difference	0.18 dB	0.50 dB	0.00 dB	0.50 dB

6.9 Test Data – U-NII Band 3 – Radiated Band Edge

20 MHz Bandwidth
Channel 149 (5745 MHz)



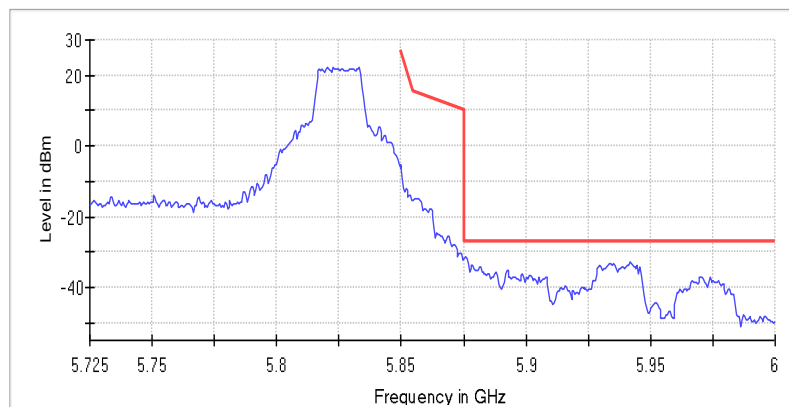
— Limit — Sum Level × Fail

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5631.250000	-27.6	0.6	-27.0	PASS
5630.750000	-27.8	0.8	-27.0	PASS
5631.750000	-27.9	0.9	-27.0	PASS
5624.750000	-28.0	1.0	-27.0	PASS
5626.250000	-28.0	1.0	-27.0	PASS
5639.250000	-28.1	1.1	-27.0	PASS
5638.250000	-28.2	1.2	-27.0	PASS
5638.750000	-28.3	1.3	-27.0	PASS
5625.250000	-28.3	1.3	-27.0	PASS
5637.750000	-28.4	1.4	-27.0	PASS
5633.750000	-28.5	1.5	-27.0	PASS
5626.750000	-28.5	1.5	-27.0	PASS
5625.750000	-28.5	1.5	-27.0	PASS
5635.750000	-28.5	1.5	-27.0	PASS
5637.250000	-28.6	1.6	-27.0	PASS

Instrument Settings	5725-5850 MHz		5350-5725 MHz	
	Instrument Value	Target Value	Target Value	Target Value
Start Frequency	5.72500 GHz	5.72500 GHz	5.35000 GHz	5.35000 GHz
Stop Frequency	5.85000 GHz	5.85000 GHz	5.72500 GHz	5.72500 GHz
Span	125.000 MHz	125.000 MHz	375.000 MHz	375.000 MHz
RBW	1.000 MHz	<= 1.000 MHz	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz	3.000 MHz	>= 3.000 MHz
SweepPoints	250	~ 250	750	~ 750
SweepTime	17.156 µs	AUTO	51.469 µs	AUTO
Reference Level	10.000 dBm	10.000 dBm	-10.000 dBm	-20.000 dBm
Attenuation	30.000 dB	AUTO	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak	MaxPeak	MaxPeak
SweepCount	100	100	100	100
Filter	3 dB	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold	Max Hold
SweepType	FFT	AUTO	FFT	AUTO
Preamp	off	off	off	off
Stablemode	Trace	Trace	Trace	Trace
Stablevalue	0.50 dB	0.50 dB	0.50 dB	0.50 dB
Run	18 / max. 150	max. 150	17 / max. 150	max. 150
Stable	3 / 3	3	3 / 3	3
Max Stable Difference	0.43 dB	0.50 dB	0.00 dB	0.50 dB

20 MHz Bandwidth Channels 165 (5825 MHz)



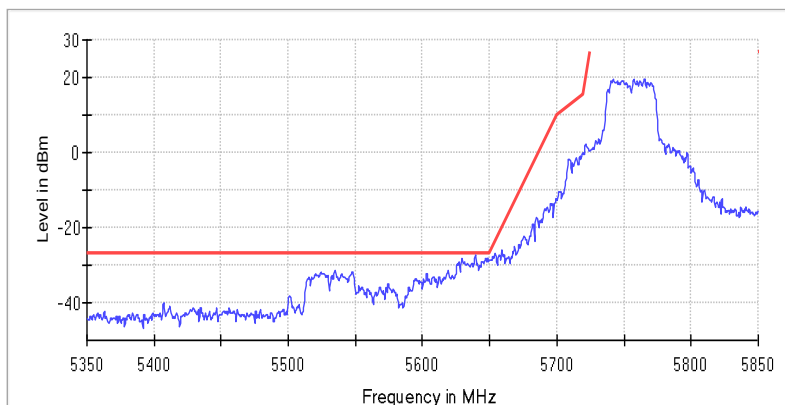
— Limit — Sum Level × Fail

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5875.750000	-31.5	4.5	-27.0	PASS
5876.250000	-31.8	4.8	-27.0	PASS
5875.250000	-31.9	4.9	-27.0	PASS
5941.750000	-32.9	5.9	-27.0	PASS
5876.750000	-33.2	6.2	-27.0	PASS
5933.750000	-33.2	6.2	-27.0	PASS
5942.250000	-33.2	6.2	-27.0	PASS
5934.250000	-33.3	6.3	-27.0	PASS
5933.250000	-33.3	6.3	-27.0	PASS
5935.250000	-33.4	6.4	-27.0	PASS
5935.750000	-33.5	6.5	-27.0	PASS
5942.750000	-33.6	6.6	-27.0	PASS
5932.750000	-33.6	6.6	-27.0	PASS
5878.250000	-33.6	6.6	-27.0	PASS
5878.750000	-33.6	6.6	-27.0	PASS

Instrument Settings	5725-5850 MHz		5850-6000 MHz	
	Instrument Value	Target Value	Target Value	Target Value
Start Frequency	5.72500 GHz	5.72500 GHz	5.85000 GHz	5.85000 GHz
Stop Frequency	5.85000 GHz	5.85000 GHz	6.00000 GHz	6.00000 GHz
Span	125.000 MHz	125.000 MHz	150.000 MHz	150.000 MHz
RBW	1.000 MHz	<= 1.000 MHz	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz	3.000 MHz	>= 3.000 MHz
SweepPoints	250	~ 250	300	~ 300
SweepTime	17.156 μ s	AUTO	20.969 μ s	AUTO
Reference Level	20.000 dBm	20.000 dBm	-10.000 dBm	-20.000 dBm
Attenuation	40.000 dB	AUTO	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak	MaxPeak	MaxPeak
SweepCount	100	100	100	100
Filter	3 dB	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold	Max Hold
SweepType	FFT	AUTO	FFT	AUTO
Preamplifier	off	off	off	off
Stablemode	Trace	Trace	Trace	Trace
Stablevalue	0.50 dB	0.50 dB	0.50 dB	0.50 dB
Run	15 / max. 150	max. 150	12 / max. 150	max. 150
Stable	3 / 3	3	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB	0.00 dB	0.50 dB

40 MHz Bandwidth Channel 151



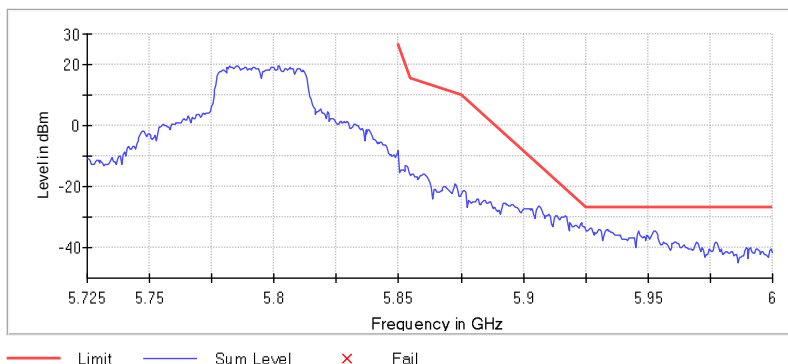
— Limit — Sum Level × Fail

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5639.250000	-27.3	0.3	-27.0	PASS
5639.750000	-27.9	0.9	-27.0	PASS
5648.250000	-28.0	1.0	-27.0	PASS
5646.750000	-28.1	1.1	-27.0	PASS
5648.750000	-28.2	1.2	-27.0	PASS
5629.250000	-28.2	1.2	-27.0	PASS
5629.750000	-28.3	1.3	-27.0	PASS
5638.750000	-28.4	1.4	-27.0	PASS
5647.750000	-28.5	1.5	-27.0	PASS
5646.250000	-28.7	1.7	-27.0	PASS
5649.750000	-28.9	1.9	-27.0	PASS
5628.750000	-28.9	1.9	-27.0	PASS
5645.750000	-28.9	1.9	-27.0	PASS
5644.250000	-28.9	1.9	-27.0	PASS
5643.750000	-29.0	2.0	-27.0	PASS

Instrument Settings	5725-5850 MHz		5350-5725 MHz	
	Instrument Value	Target Value	Target Value	Target Value
Start Frequency	5.72500 GHz	5.72500 GHz	5.35000 GHz	5.35000 GHz
Stop Frequency	5.85000 GHz	5.85000 GHz	5.72500 GHz	5.72500 GHz
Span	125.000 MHz	125.000 MHz	375.000 MHz	375.000 MHz
RBW	1.000 MHz	<= 1.000 MHz	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz	3.000 MHz	>= 3.000 MHz
SweepPoints	250	~ 250	750	~ 750
SweepTime	17.156 μ s	AUTO	51.469 μ s	AUTO
Reference Level	20.000 dBm	20.000 dBm	-10.000 dBm	-20.000 dBm
Attenuation	40.000 dB	AUTO	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak	MaxPeak	MaxPeak
SweepCount	100	100	100	100
Filter	3 dB	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold	Max Hold
SweepType	FFT	AUTO	FFT	AUTO
Preamp	off	off	off	off
Stablemode	Trace	Trace	Trace	Trace
Stablevalue	0.50 dB	0.50 dB	0.50 dB	0.50 dB
Run	26 / max. 150	max. 150	25 / max. 150	max. 150
Stable	3 / 3	3	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB	0.00 dB	0.50 dB

40 MHz Bandwidth
Channels 159



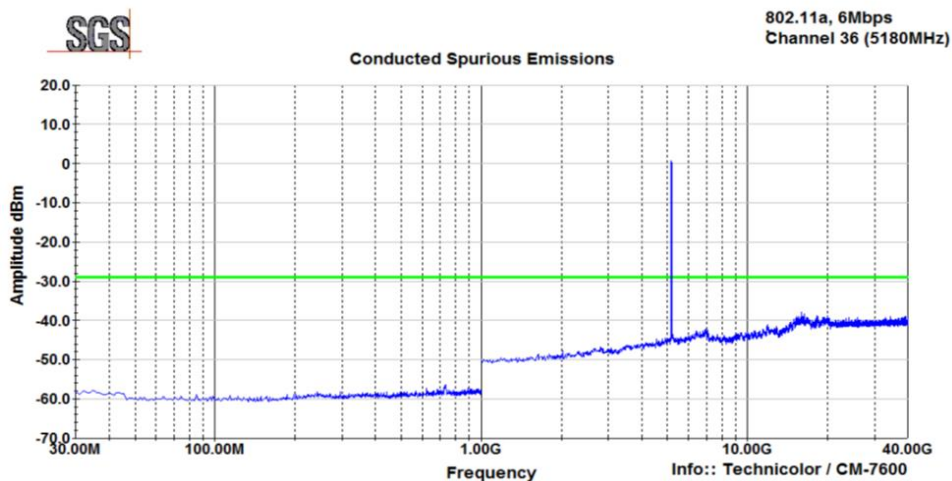
Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5923.250000	-31.8	6.1	-25.7	PASS
5924.750000	-33.0	6.2	-26.8	PASS
5924.250000	-33.0	6.5	-26.4	PASS
5923.750000	-32.7	6.6	-26.1	PASS
5926.750000	-33.7	6.7	-27.0	PASS
5922.750000	-32.2	6.8	-25.3	PASS
5927.250000	-33.9	6.9	-27.0	PASS
5926.250000	-33.9	6.9	-27.0	PASS
5933.250000	-34.0	7.0	-27.0	PASS
5930.250000	-34.1	7.1	-27.0	PASS
5933.750000	-34.1	7.1	-27.0	PASS
5930.750000	-34.1	7.1	-27.0	PASS
5952.750000	-34.5	7.5	-27.0	PASS
5952.250000	-34.5	7.5	-27.0	PASS
5925.750000	-34.6	7.6	-27.0	PASS

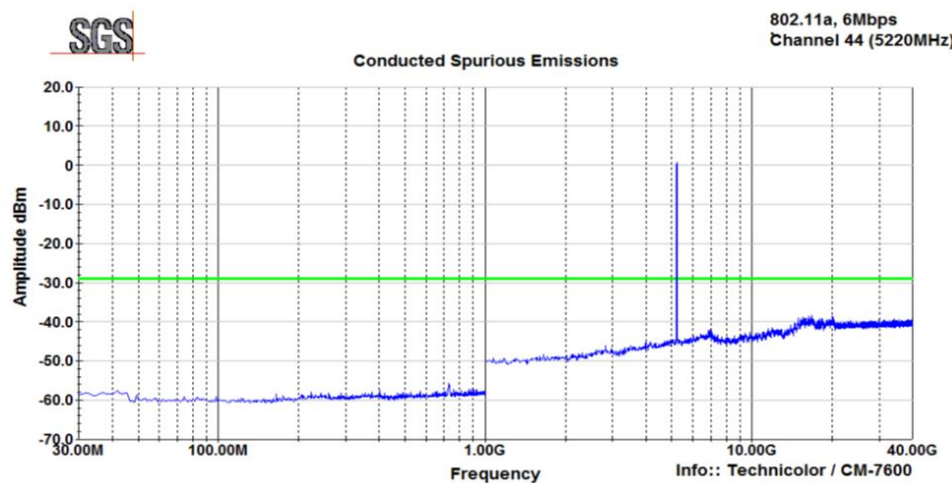
Instrument Settings	5725-5850 MHz		5350-5725 MHz	
	Instrument Value	Target Value	Target Value	Target Value
Start Frequency	5.72500 GHz	5.72500 GHz	5.85000 GHz	5.85000 GHz
Stop Frequency	5.85000 GHz	5.85000 GHz	6.00000 GHz	6.00000 GHz
Span	125.000 MHz	125.000 MHz	150.000 MHz	150.000 MHz
RBW	1.000 MHz	<= 1.000 MHz	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz	3.000 MHz	>= 3.000 MHz
SweepPoints	250	~ 250	300	~ 300
SweepTime	17.156 μ s	AUTO	20.969 μ s	AUTO
Reference Level	20.000 dBm	20.000 dBm	-10.000 dBm	-20.000 dBm
Attenuation	40.000 dB	AUTO	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak	MaxPeak	MaxPeak
SweepCount	100	100	100	100
Filter	3 dB	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold	Max Hold
SweepType	FFT	AUTO	FFT	AUTO
Preamp	off	off	off	off
Stablemode	Trace	Trace	Trace	Trace
Stablevalue	0.50 dB	0.50 dB	0.50 dB	0.50 dB
Run	19 / max. 150	max. 150	7 / max. 150	max. 150
Stable	3 / 3	3	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB	0.00 dB	0.50 dB

6.10 Test Data – Conducted Spurs

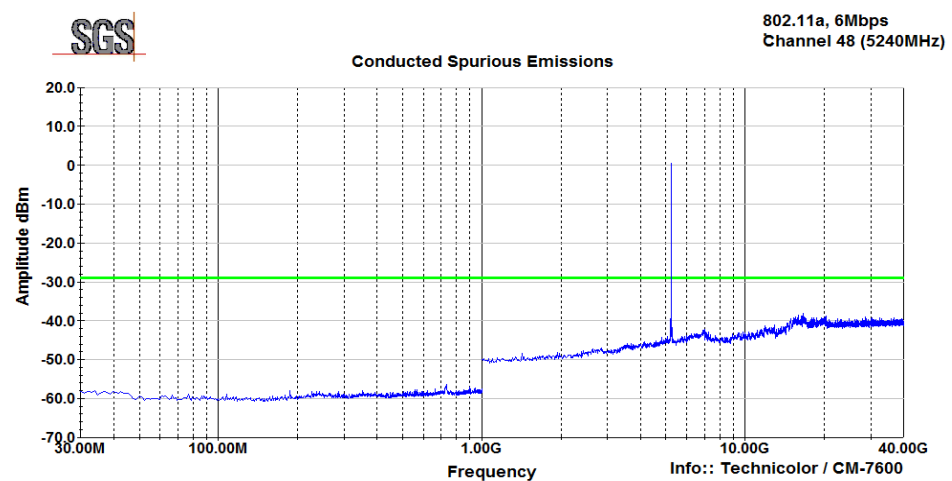
Conducted Spurs – 802.11a, 6Mbit/s, Channel 36



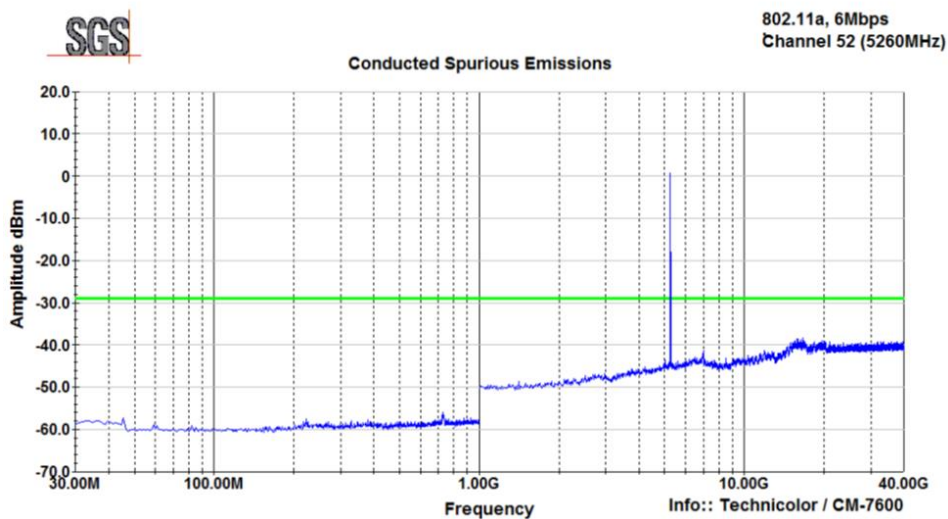
Conducted Spurs – 802.11a, 6Mbit/s, Channel 44



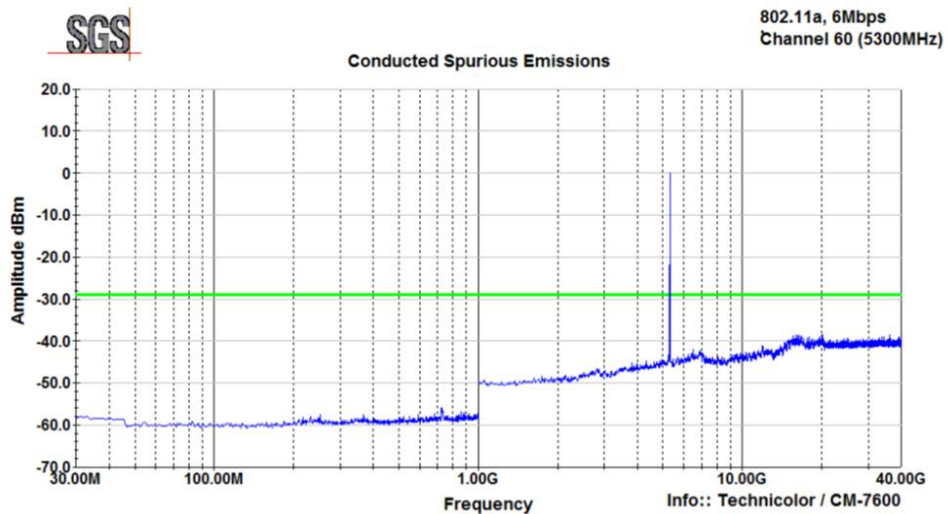
Conducted Spurs – 802.11a, 6Mbit/s, Channel 48



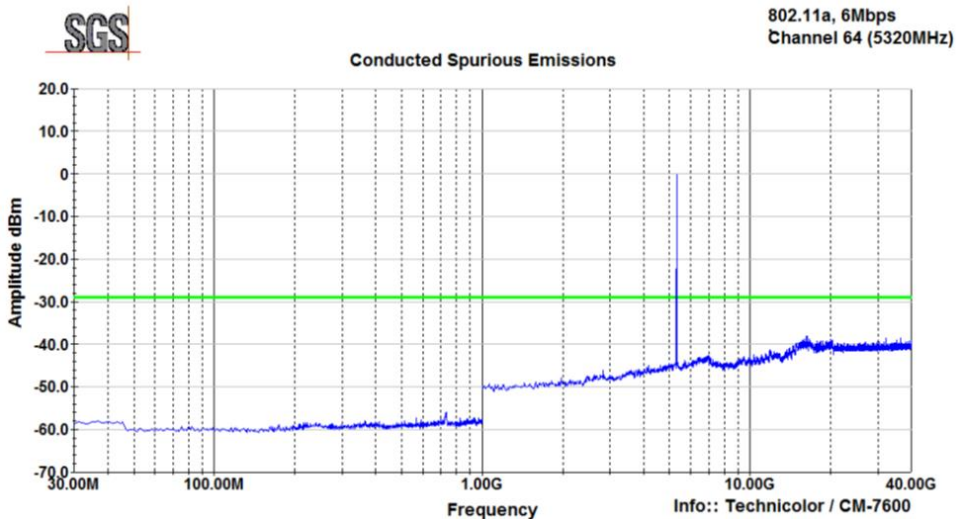
Conducted Spurs – 802.11a, 6Mbit/s, Channel 52



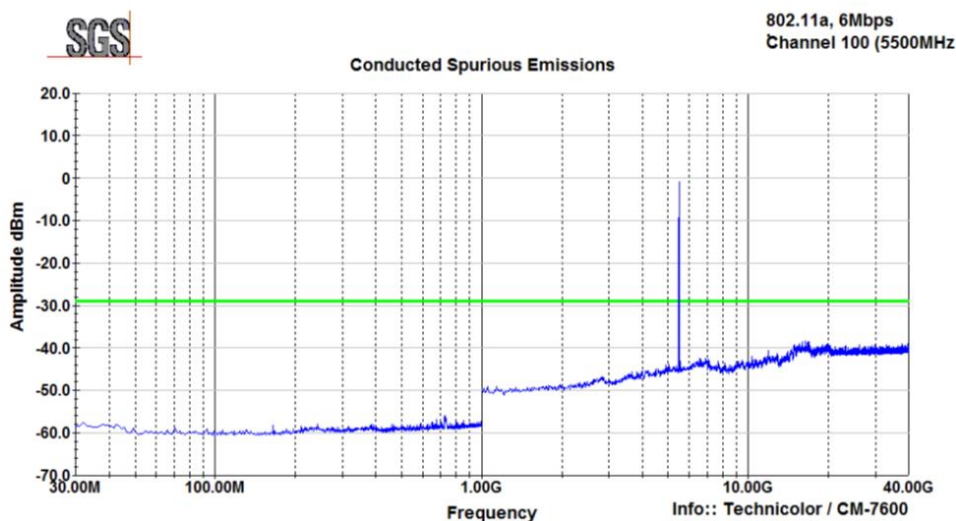
Conducted Spurs – 802.11a, 6Mbit/s, Channel 60



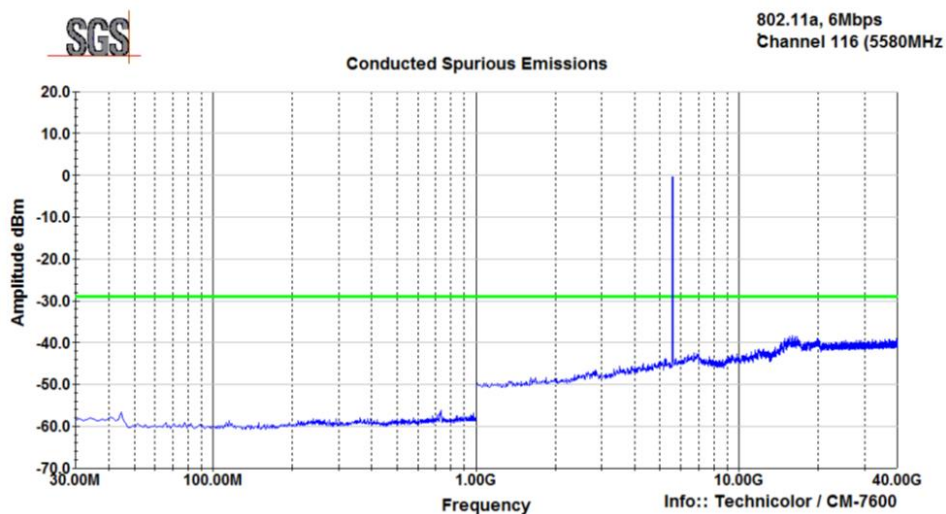
Conducted Spurs – 802.11a, 6Mbit/s, Channel 64



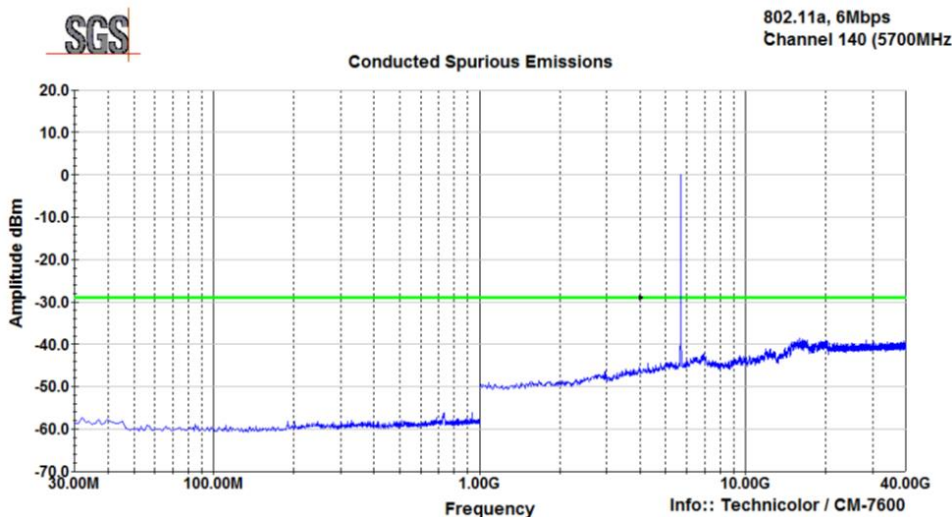
Conducted Spurs – 802.11a, 6Mbit/s, Channel 100



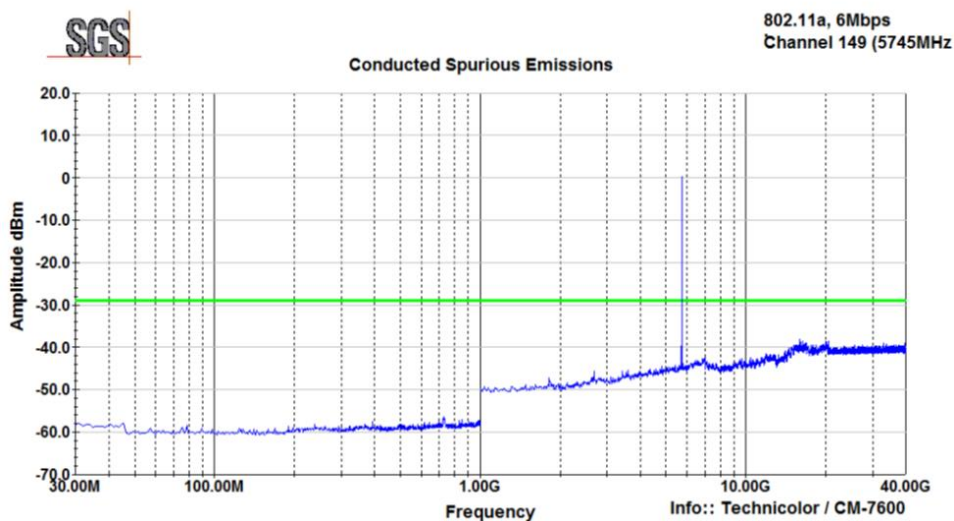
Conducted Spurs – 802.11a, 6Mbit/s, Channel 116



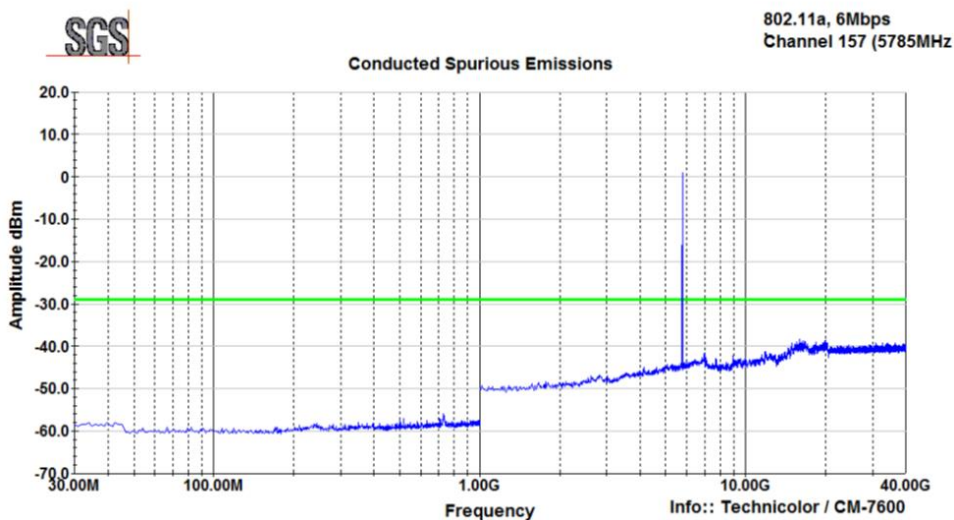
Conducted Spurs – 802.11a, 6Mbit/s, Channel 140



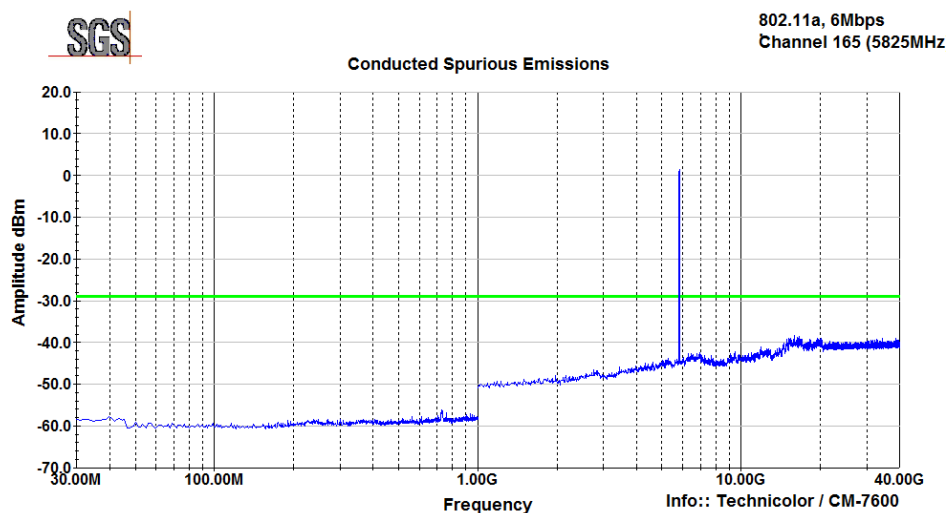
Conducted Spurs – 802.11a, 6Mbit/s, Channel 149



Conducted Spurs – 802.11a, 6Mbit/s, Channel 157

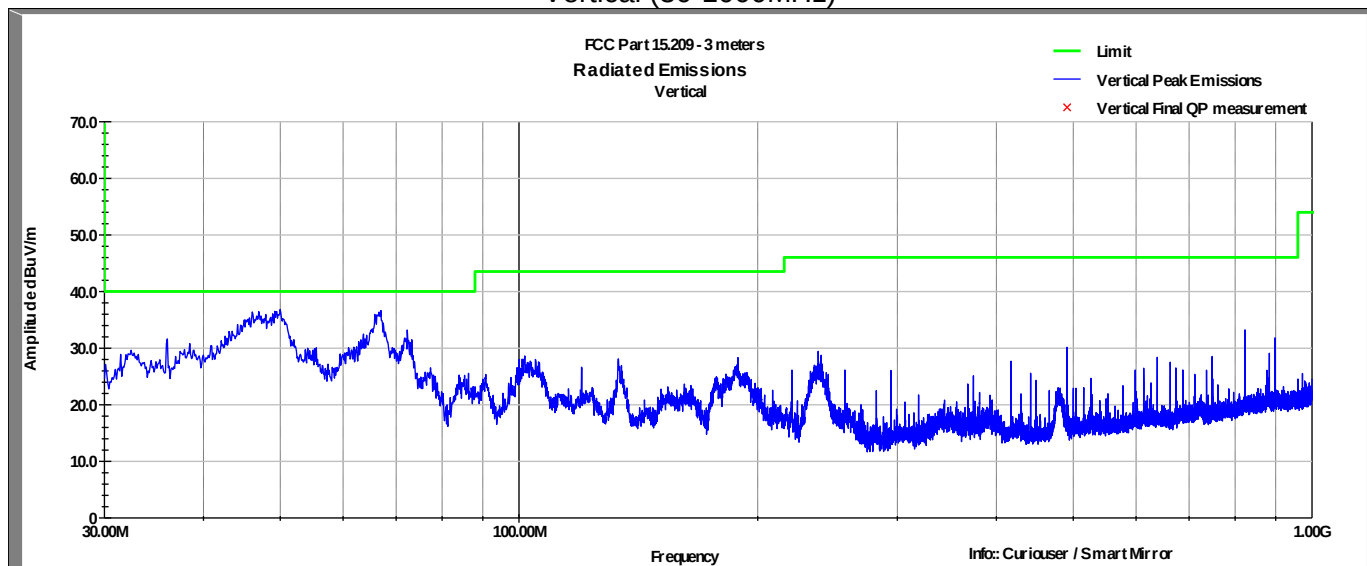


Conducted Spurs – 802.11a, 6Mbit/s, Channel 165

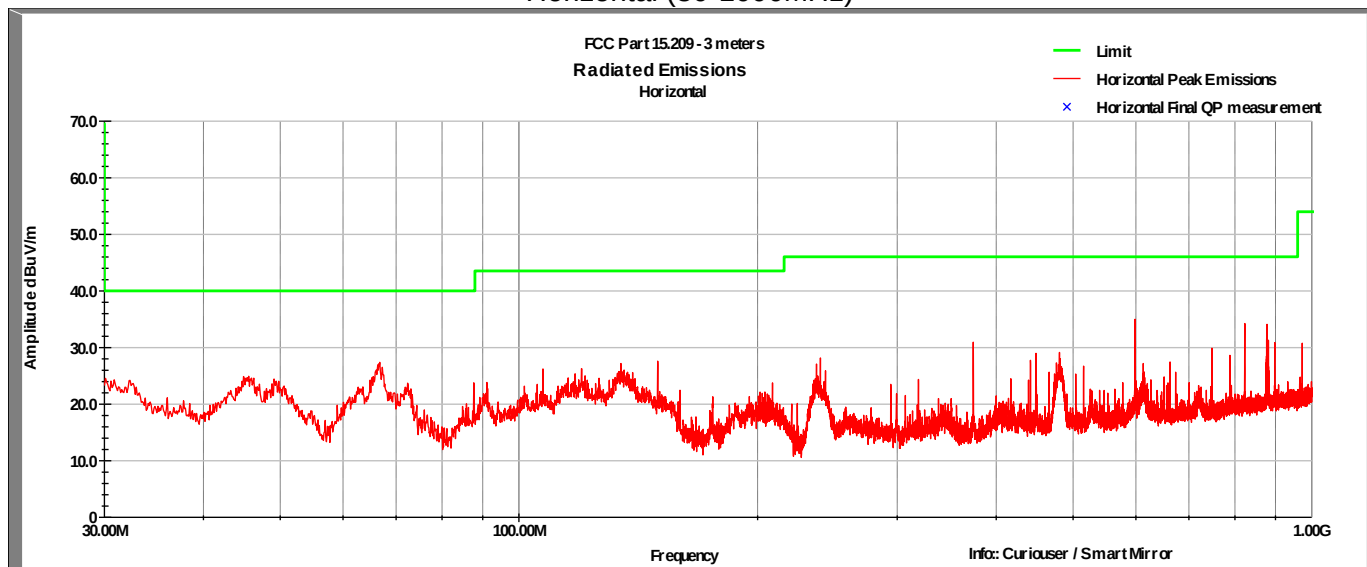


6.11 Unwanted Emissions – Cabinet Radiation

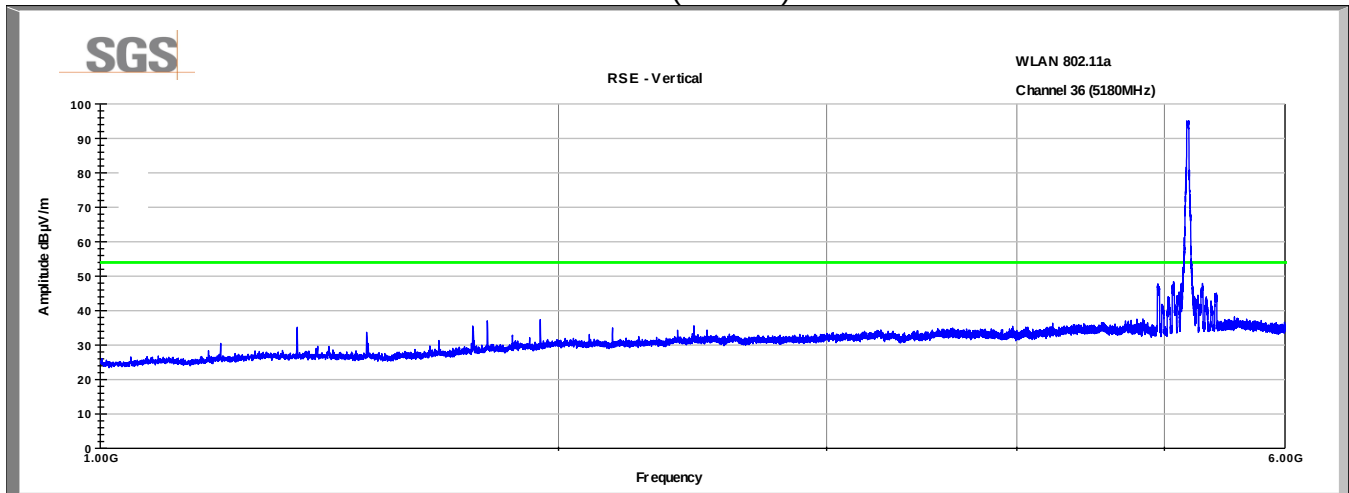
Channel 36
 Vertical (30-1000MHz)



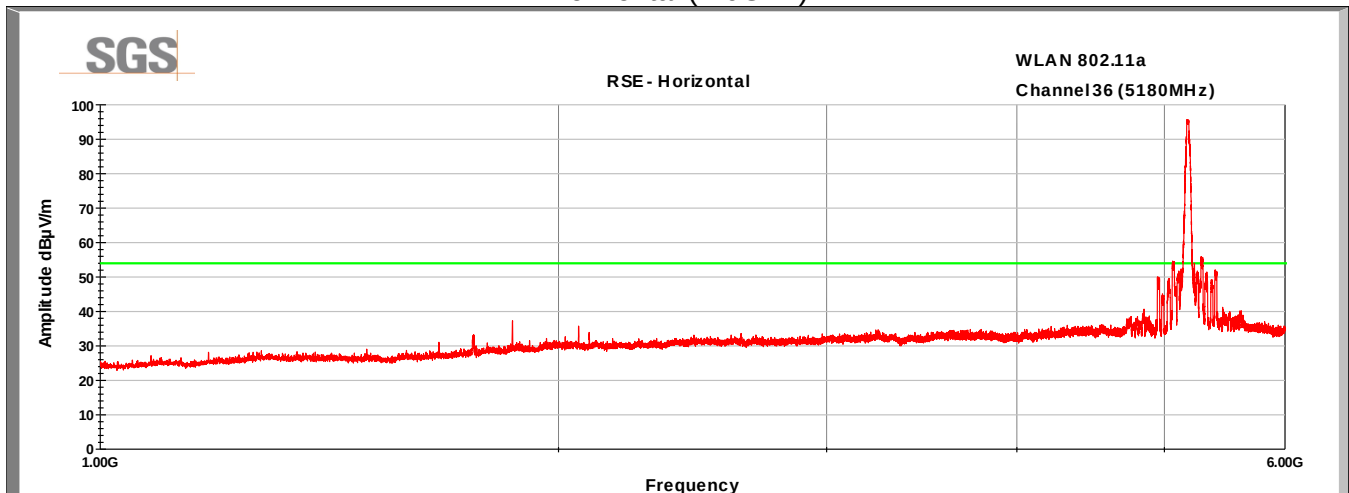
Channel 36
 Horizontal (30-1000MHz)



Channel 36
Vertical (1-6GHz)

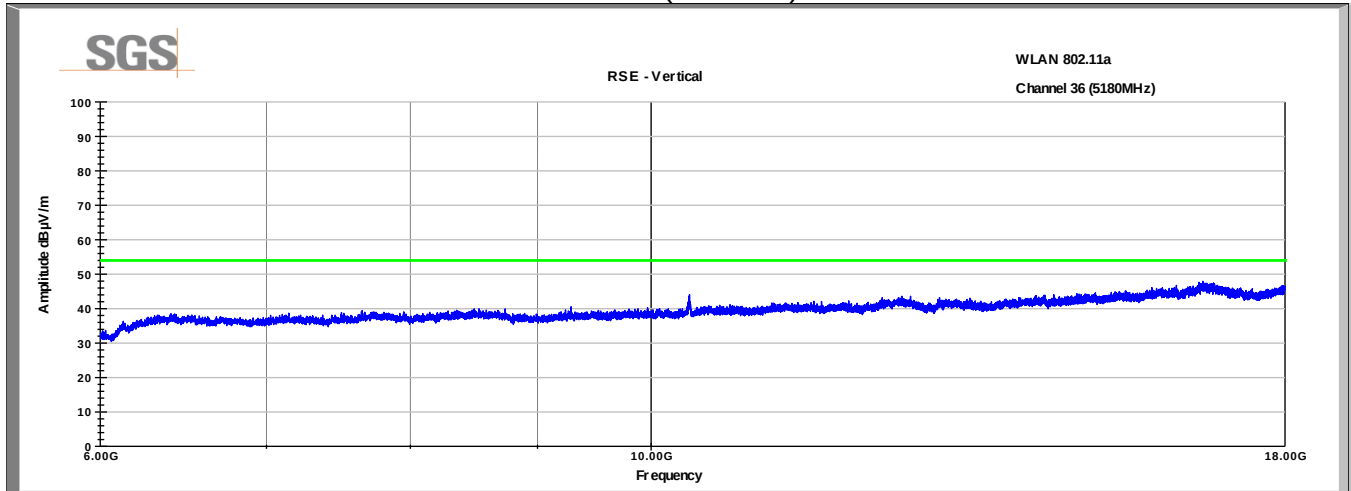


Channel 36
Horizontal (1-6GHz)

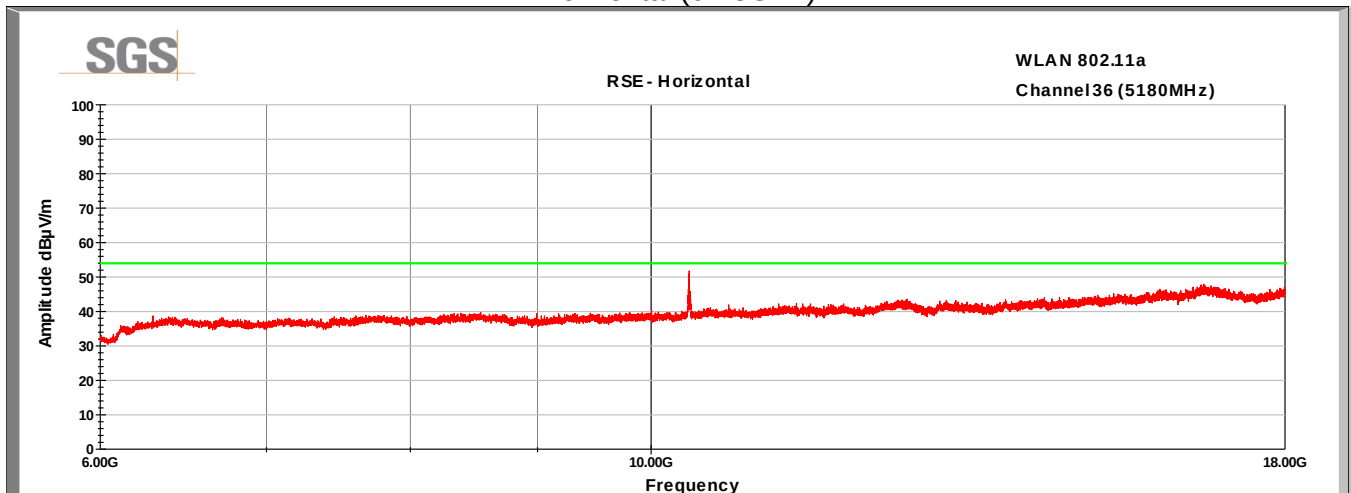


See section 6.6 for details of radiated emissions around the fundamental.

Channel 36
 Vertical (6-18GHz)

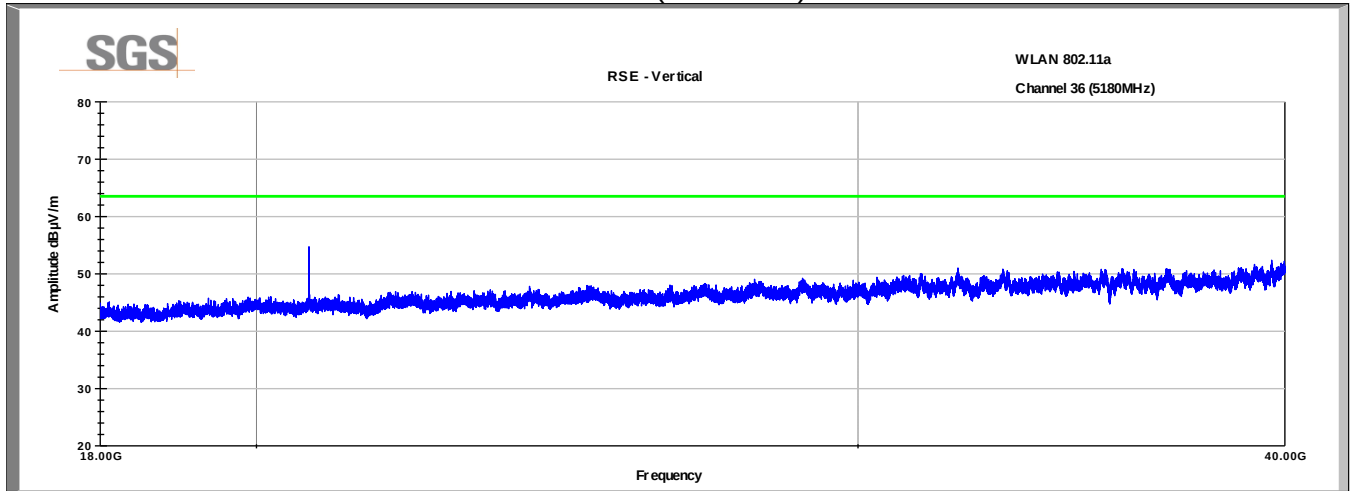


Channel 36
 Horizontal (6-18GHz)

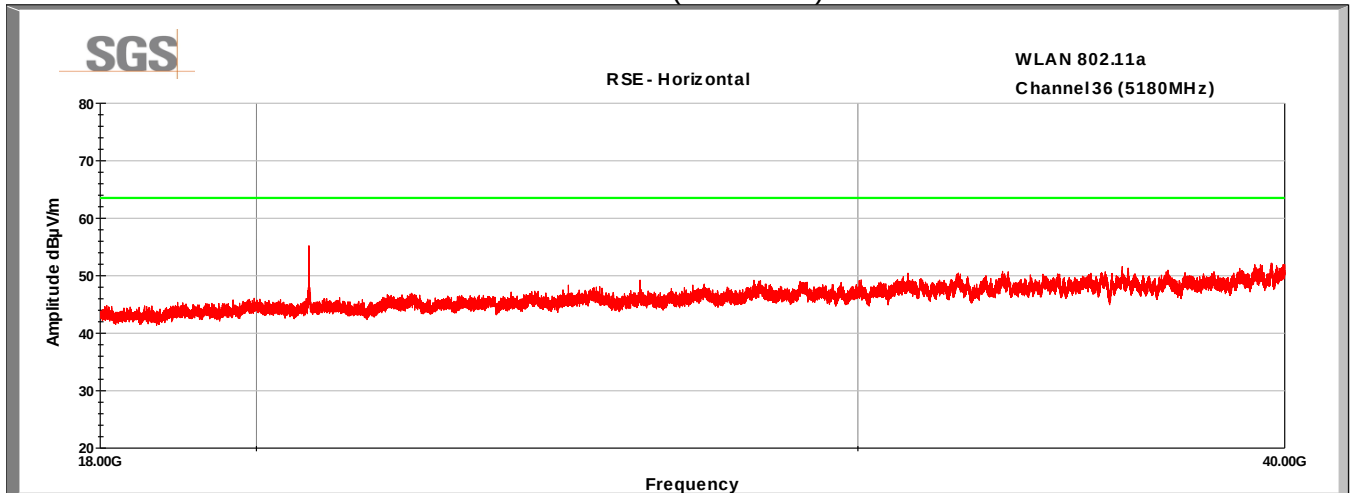


Peak value is 3.2 dB below the average limit.

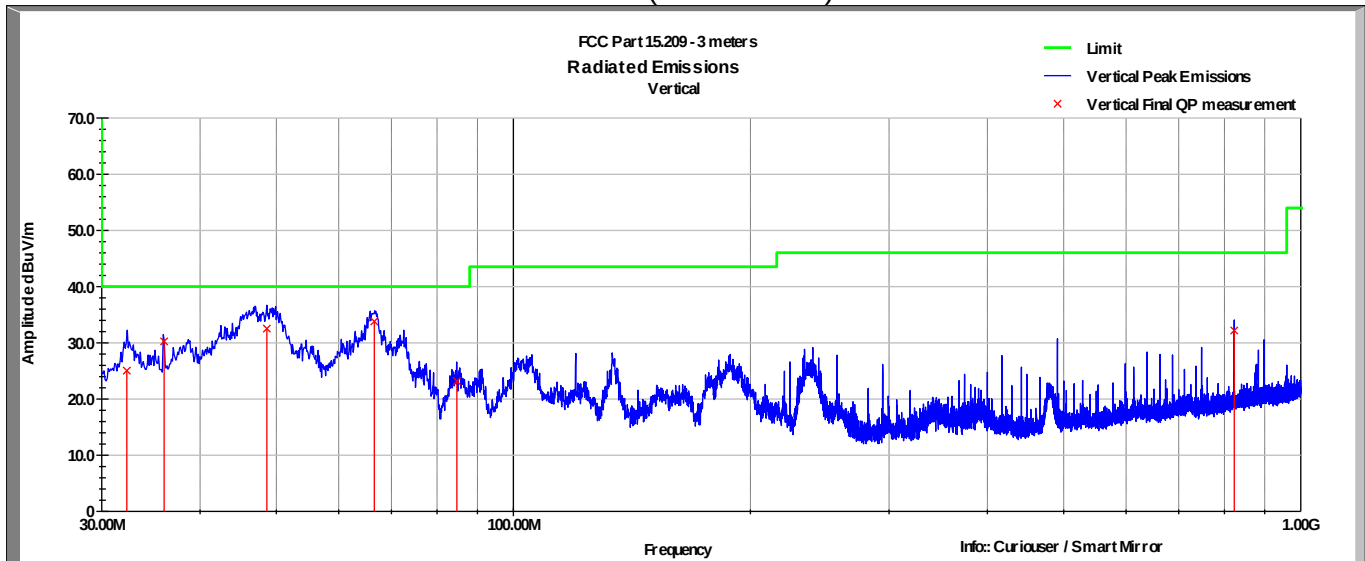
Channel 36
Vertical (18-40GHz)



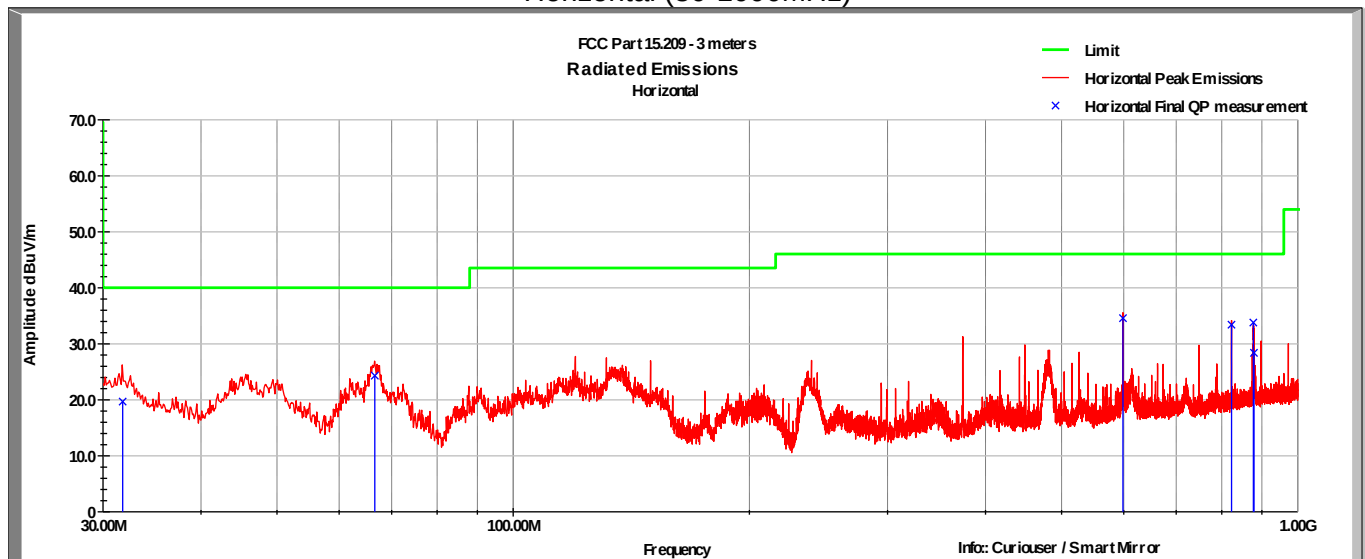
Channel 36
Horizontal (18-40GHz)



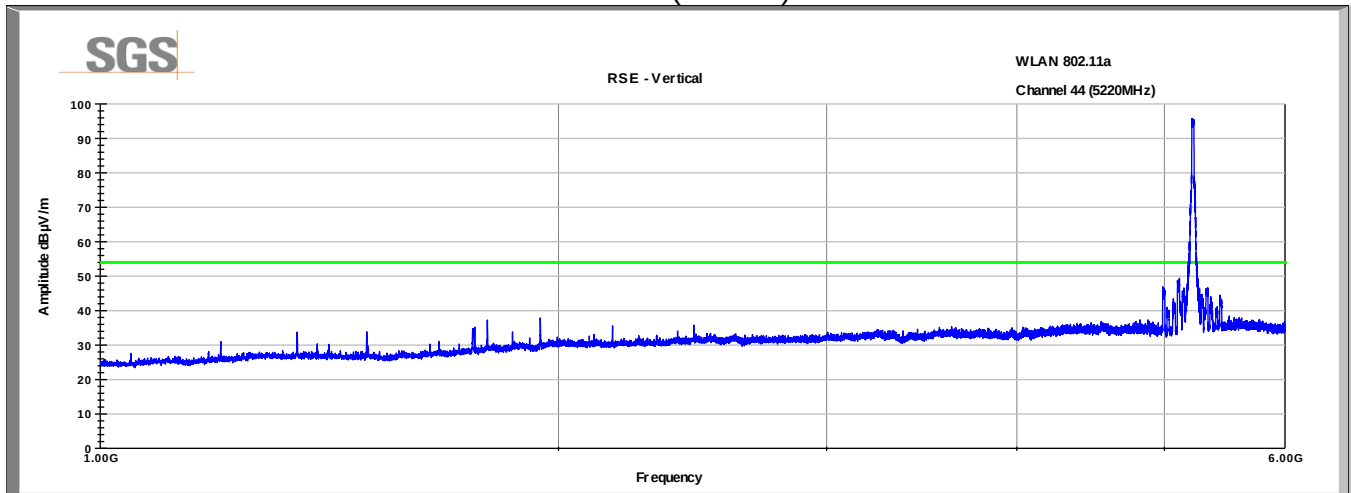
Channel 44 Vertical (30-1000MHz)



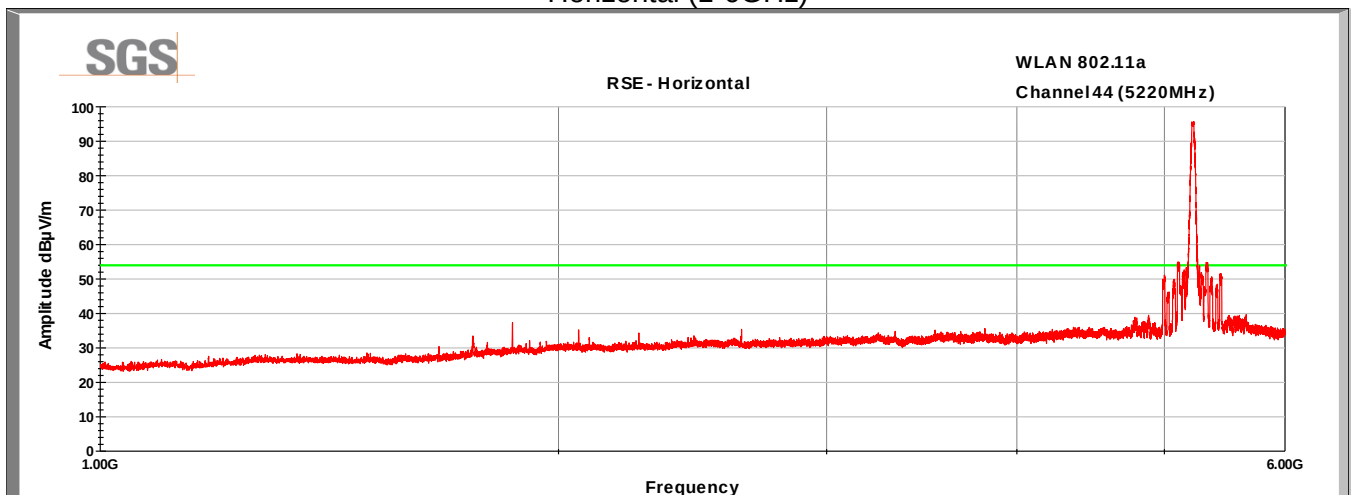
Channel 44 Horizontal (30-1000MHz)



Channel 44 Vertical (1-6GHz)

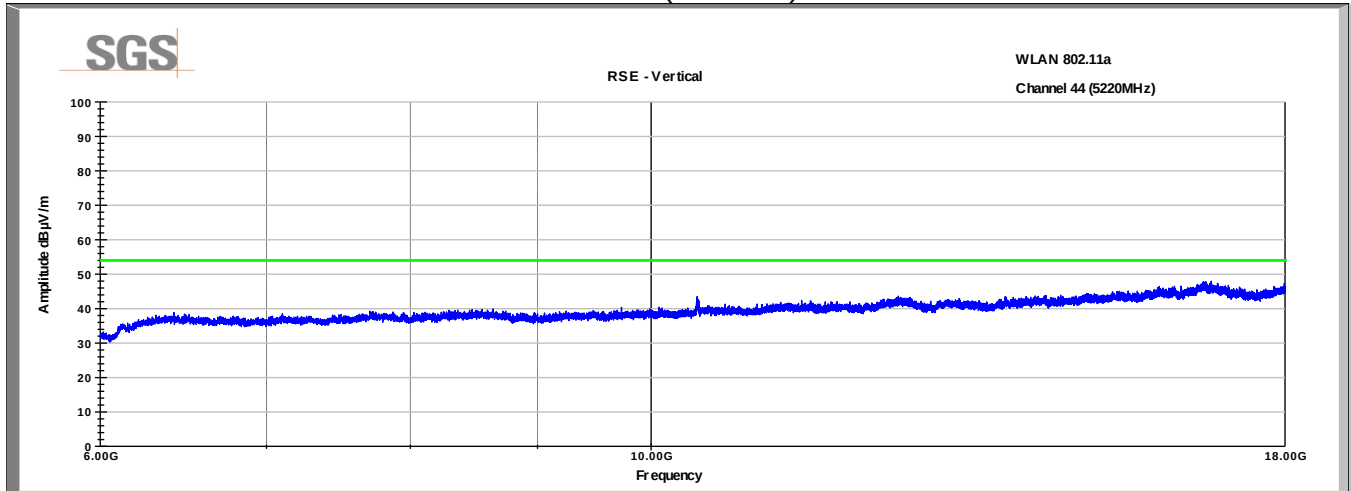


Channel 44 Horizontal (1-6GHz)

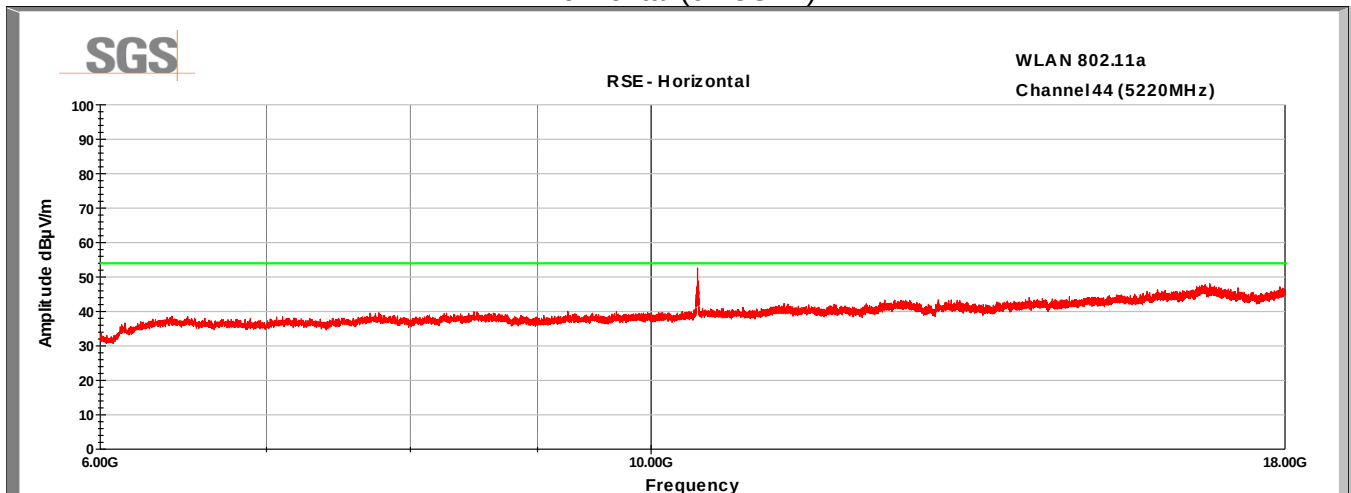


See section 6.6 for details of radiated emissions around the fundamental.

Channel 44
 Vertical (6-18GHz)

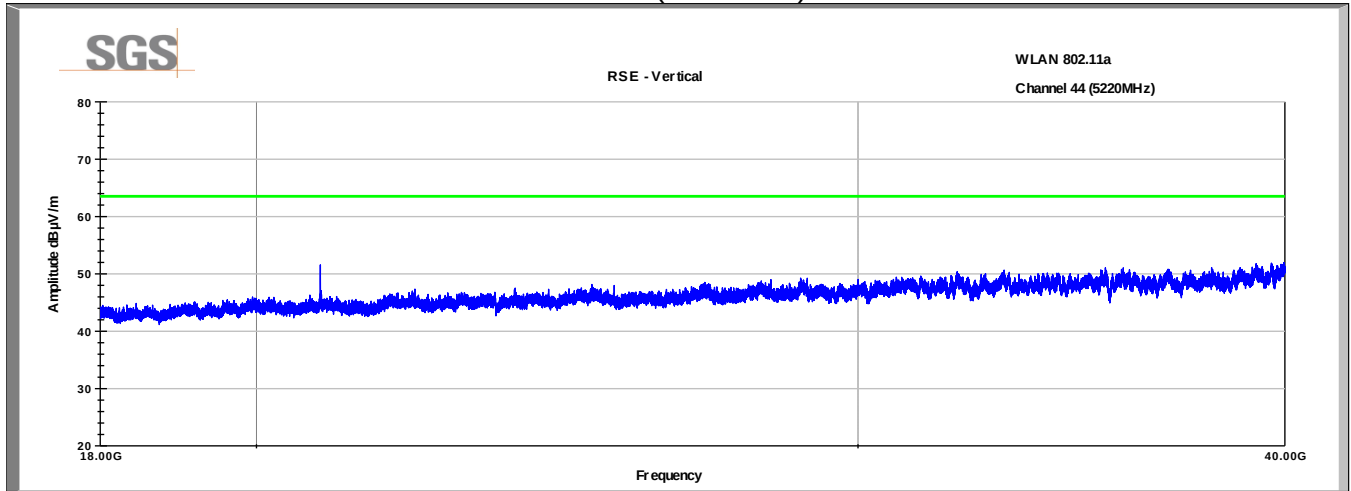


Channel 44
 Horizontal (6-18GHz)

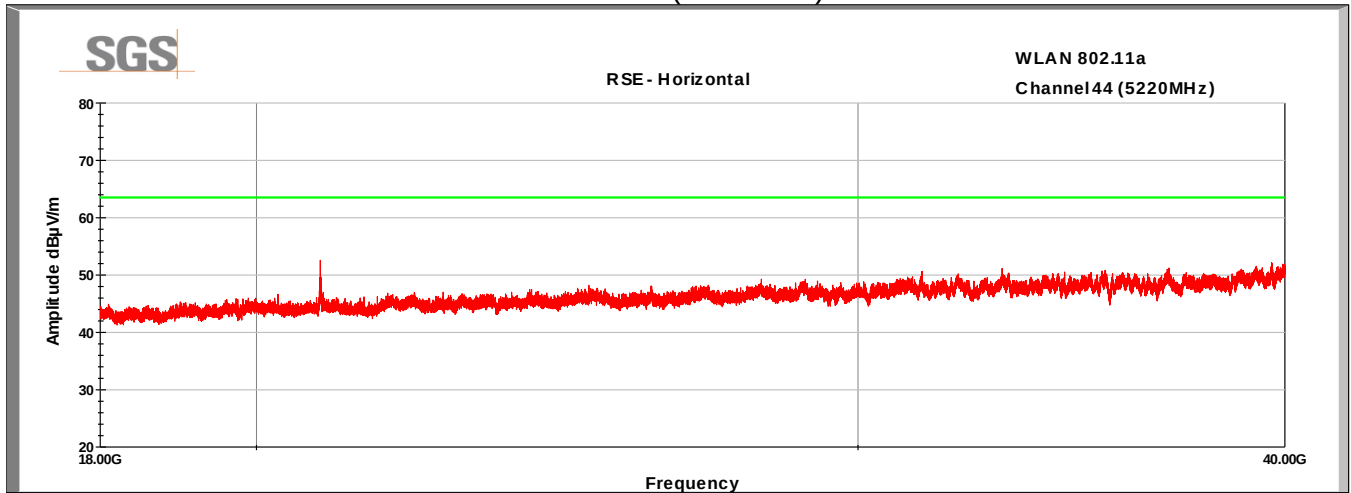


Peak value is 1.4 dB below the average limit.

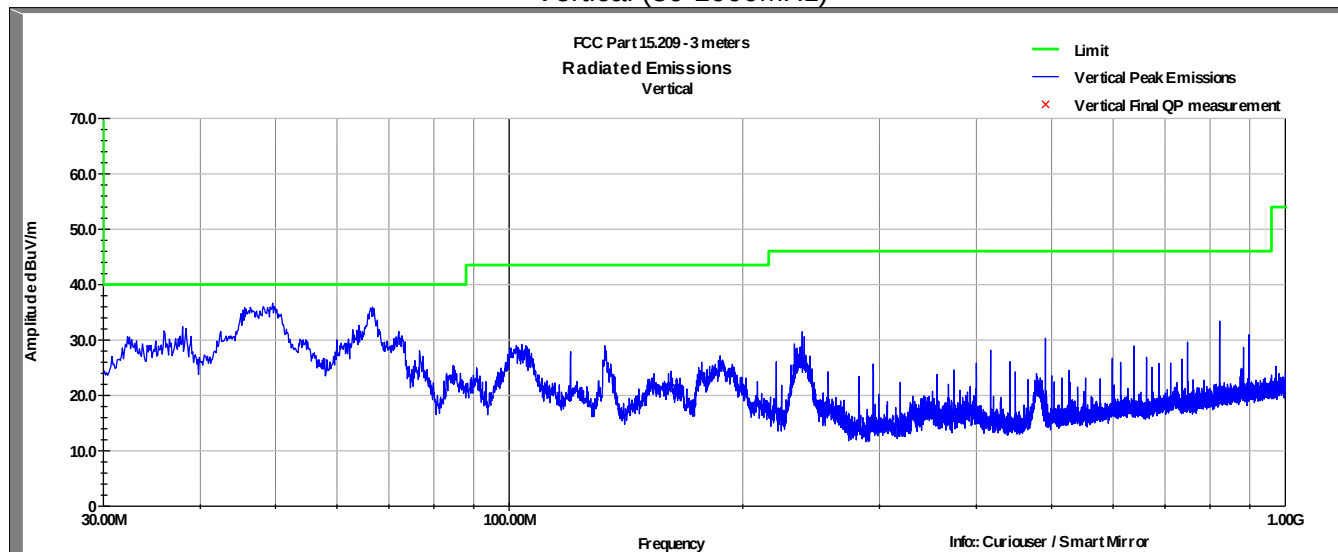
Channel 44
Vertical (18-40GHz)



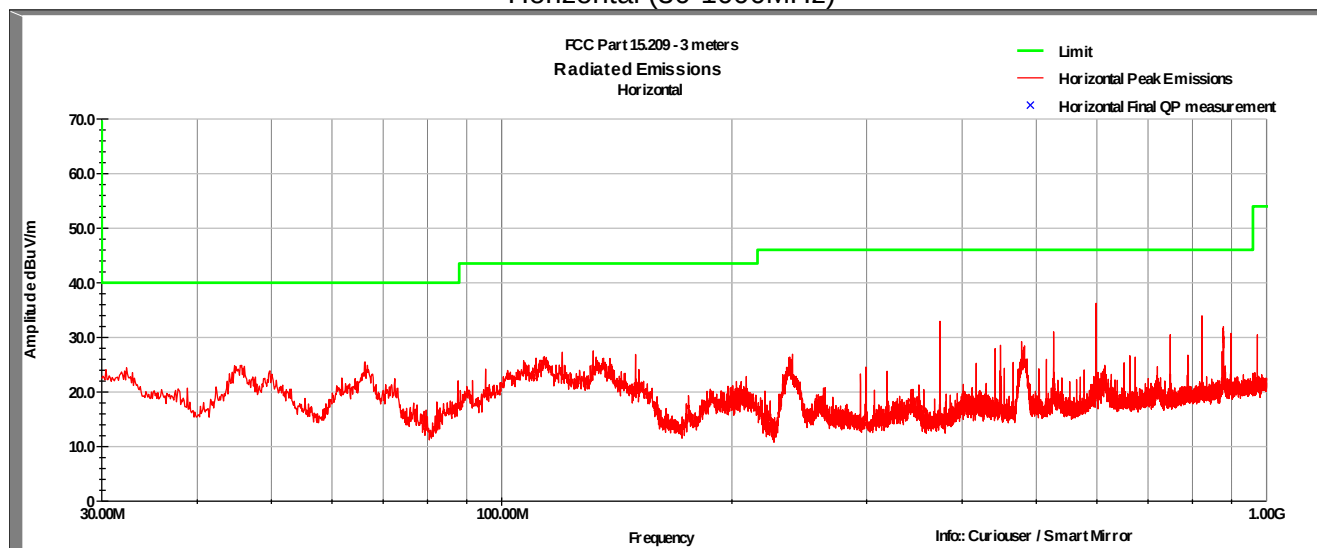
Channel 44
Horizontal (18-40GHz)



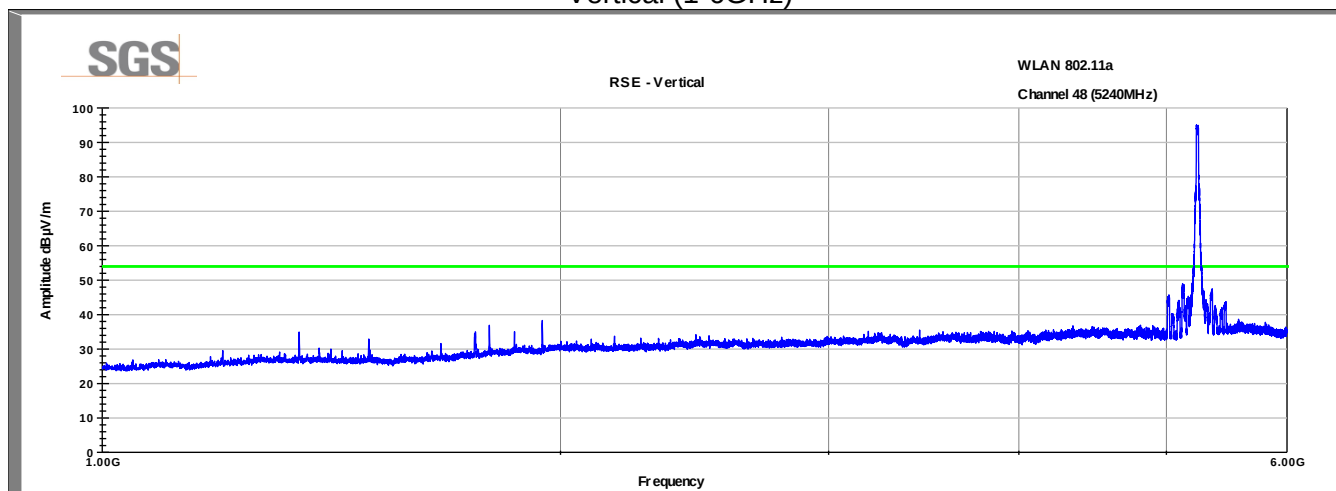
Channel 48 Vertical (30-1000MHz)



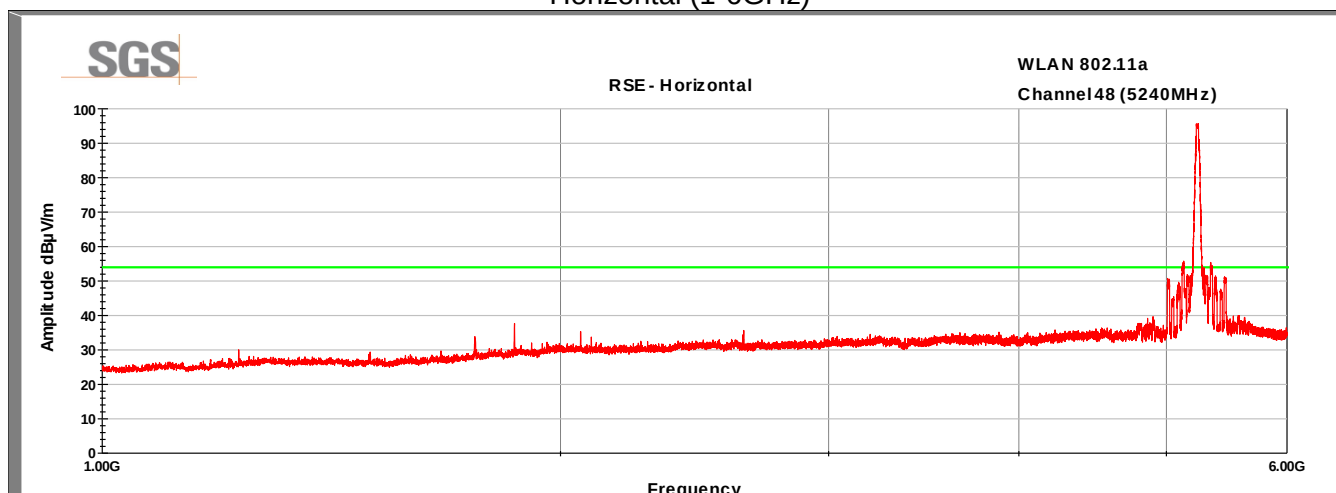
Channel 48 Horizontal (30-1000MHz)



Channel 48 Vertical (1-6GHz)

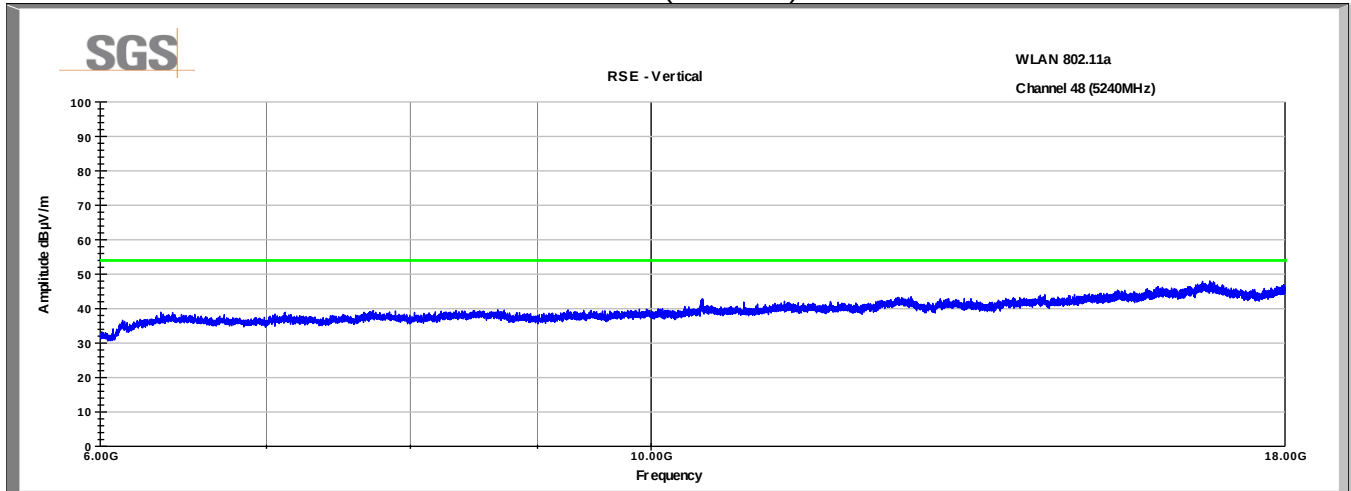


Channel 48 Horizontal (1-6GHz)

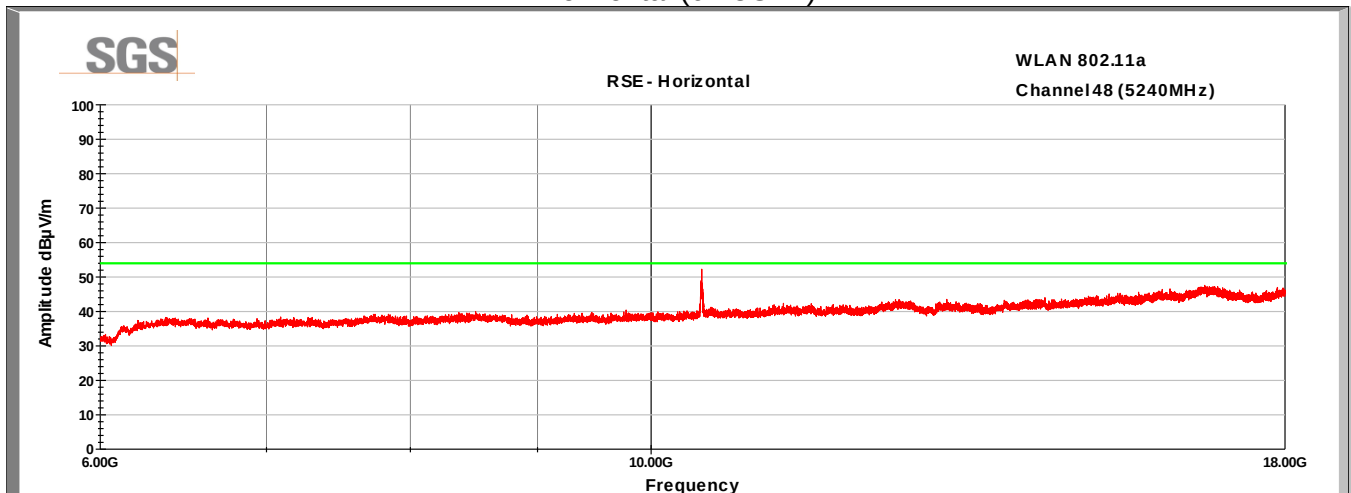


See section 6.6 for details of radiated emissions around the fundamental.

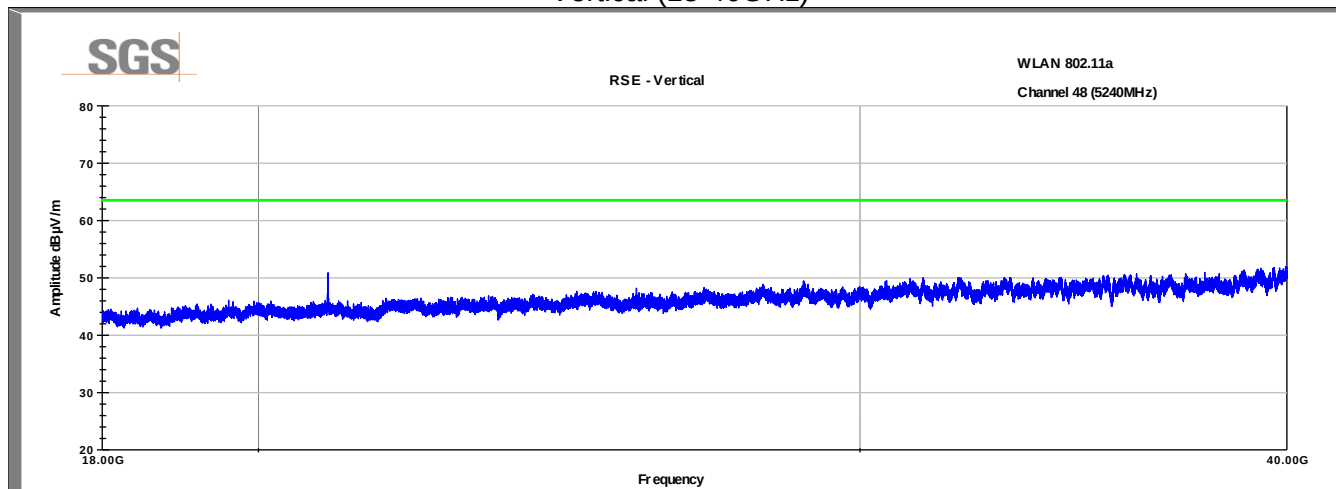
Channel 48 Vertical (6-18GHz)



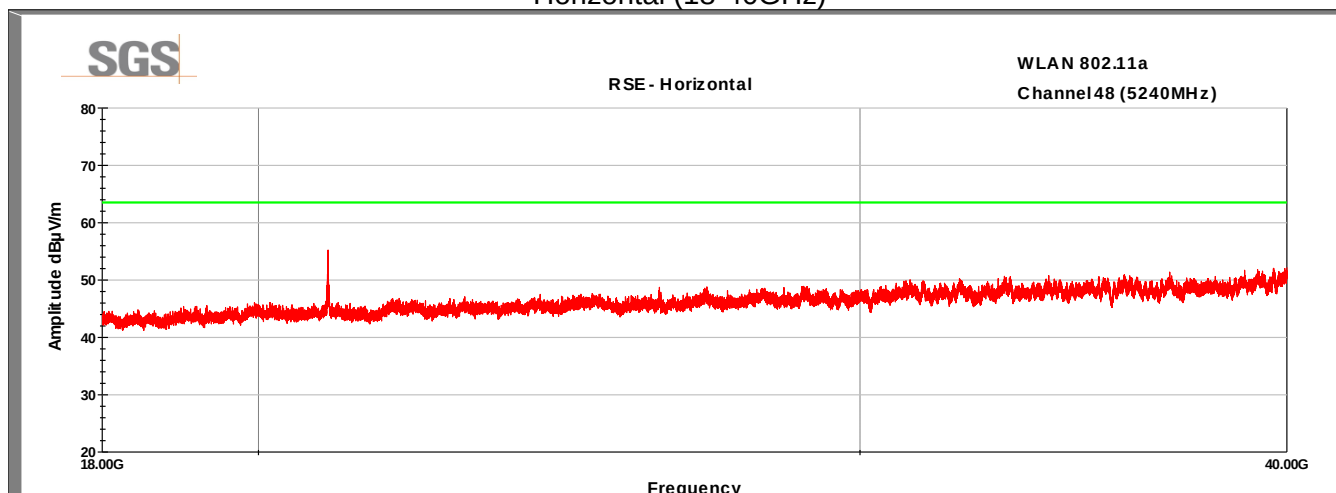
Channel 48 Horizontal (6-18GHz)



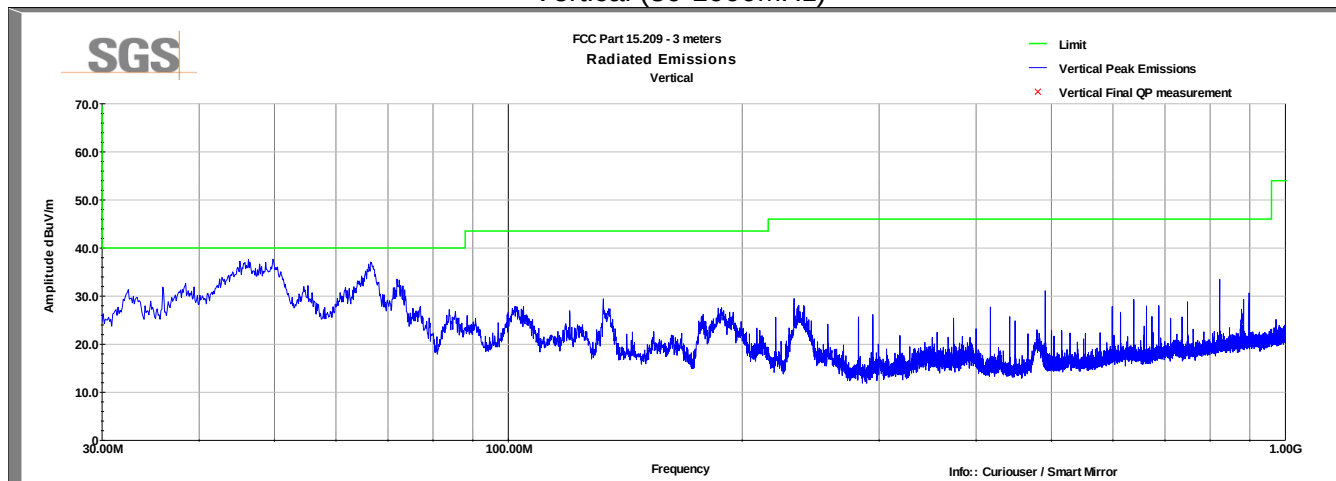
Channel 48
 Vertical (18-40GHz)



Channel 48
 Horizontal (18-40GHz)



Channel 52 Vertical (30-1000MHz)



Channel 52 Horizontal (30-1000MHz)

