

EMC Test Report

Project Number: 3953917

Report Number: 3953917EMC01

Revision Level: 0

Client: Continental Automotive Systems, Inc.

Equipment Under Test: Wireless Modem Module with WiFi

Model: FANW

FCC ID: LHJ-FANW

IC ID: 2807E-FANW

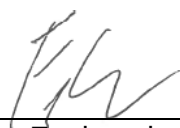
Applicable Standards: FCC Part 15 Subpart C, § 15.407

ANSI C63.10: 2013

Report issued on: 02 May 2016

Test Result: Compliant

Tested by:


Fendy Liauw, Engineering Technician

Reviewed by:


Jeremy Pickens, Senior EMC Engineer

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	Test Specification	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	N/A(1)

(1) Not Applicable – The host device for the module is battery-powered and has no facility for connection to the AC mains.

1.1 Modifications Required for Compliance

None

2 General Information

2.1 Client Information

Name: Continental Automotive System, Inc.
Address: 21440 West Lake Cook Road
City, State, Zip, Country: Deer Park, IL 60010, 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: Wireless Modem Module w/ WiFi
Model Number: FANW
Serial Number: CM082715B000193
FCC ID: LHJ-FANW
IC ID: 2807E-FANW
IMEI Number: 004401810201935
Firmware Version: 10.01

Frequency Range: 5150 to 5250 MHz and 5725 to 5825MHz
Data Modes: 802.11a, 802.11n (HT20), 802.11n (HT40)
Antenna: Not specified – professional installation only

Rated Voltage: 10.2 – 13.8Vdc
Test Voltage: 12Vdc

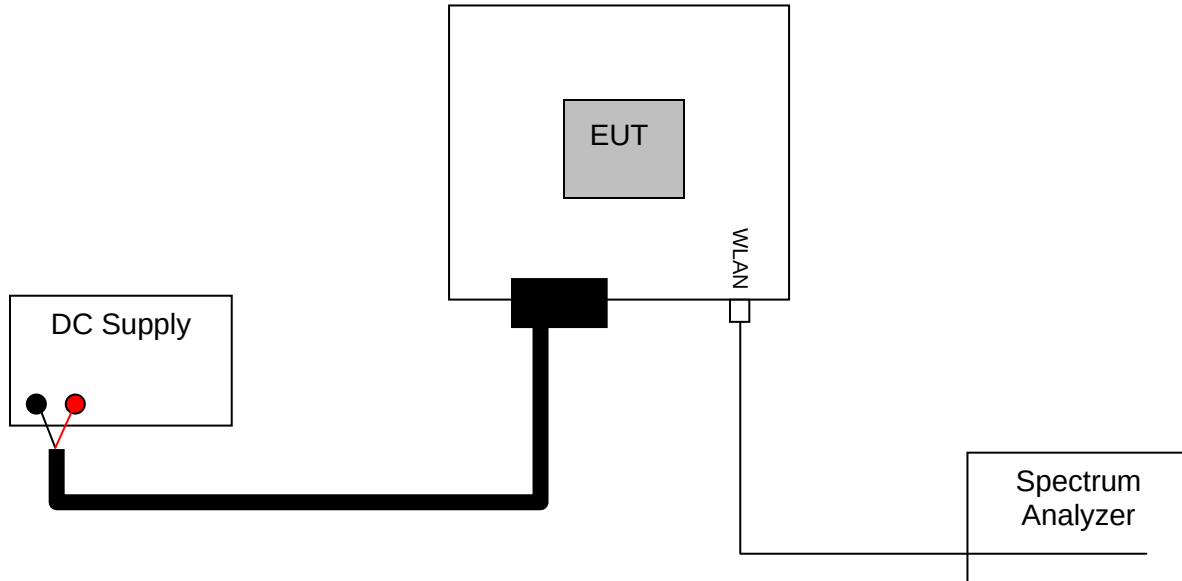
Sample Received Date: 29 March 2016
Dates of testing: 12 – 20 April 2016

2.4 Operating Modes and Conditions

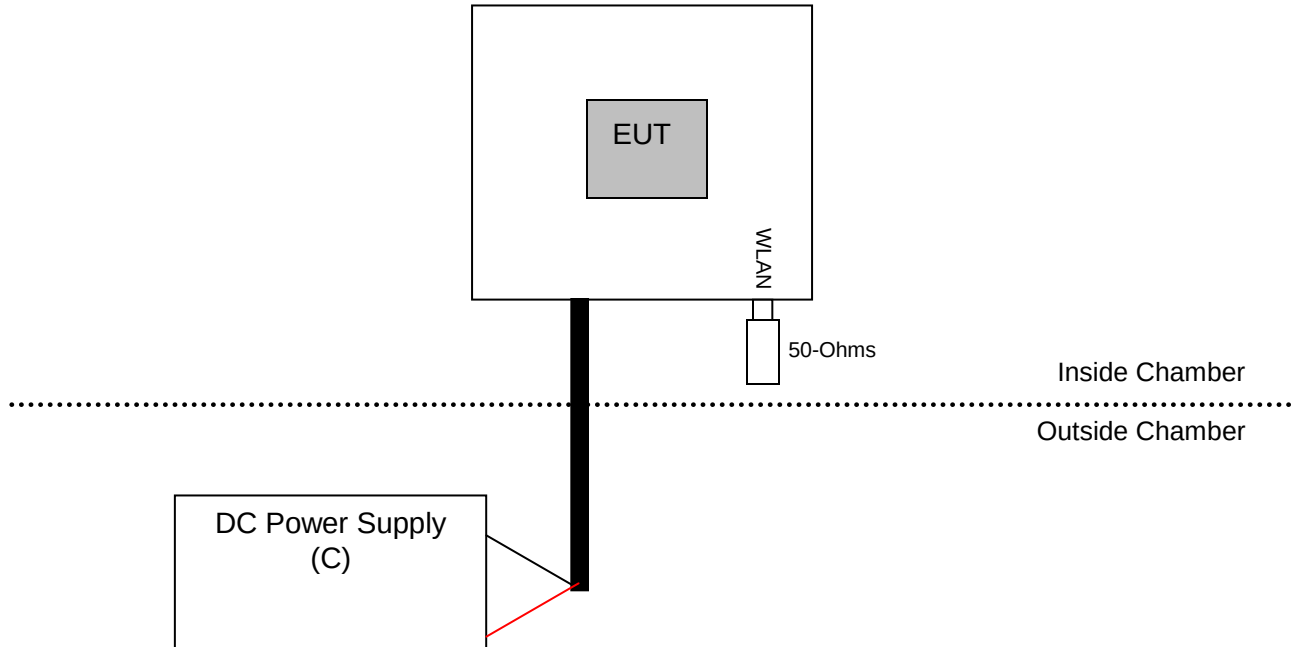
For spurious emissions measurements, only the worst-case mode with respect to peak power from the original filing was investigated: 802.11a, 6Mbps.

Continuous traffic was generated using QRCT test software which allowed selection of band, channel, modulation, and data rate. The lowest data rates for each modulation transmitted at >99% duty cycle. For higher data rates, duty cycle correction was applied where appropriate.

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	Continental Automotive	WLAN/Cellular Module	FANW	CM082715B000193
B	Extech	DC Power Supply	382280	12010471

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)	Compliant

3.2 Test Method

The procedures from ANSI C63.10: 2013 clause 12.4 and KDB document 789033 D02 General UNII Test Procedures New Rules v01r02 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: 23.4 °C
Relative Humidity: 34.7 %

3.4 Test Equipment

Test Date: 19-Apr-2016

Tester: JOP

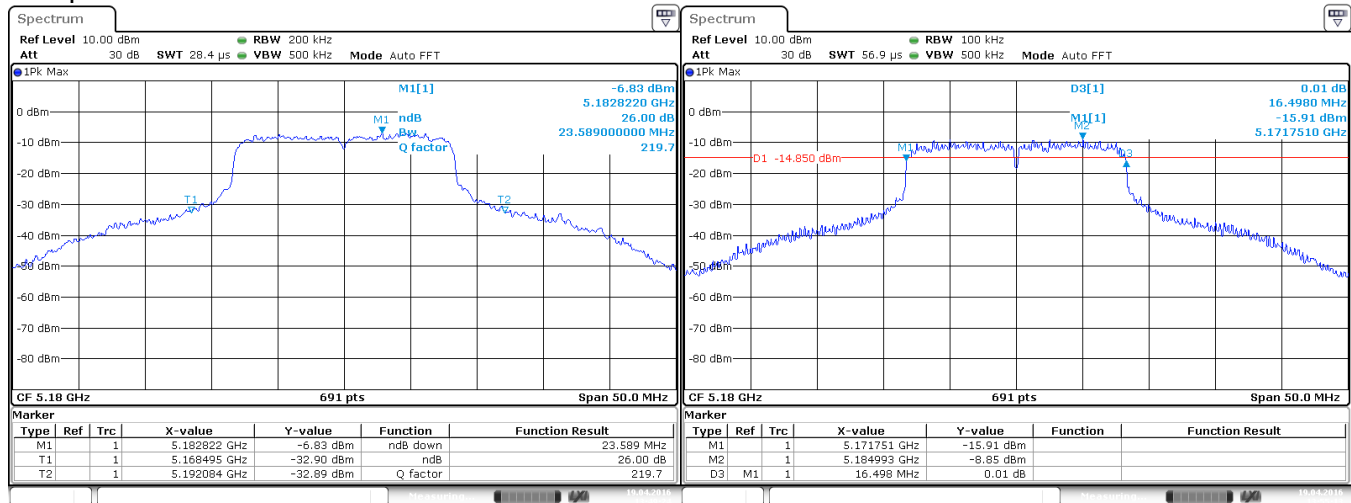
Equipment	Model	Manufacturer	Asset Number	Cal Due Date
SIGNAL ANALYZER	FSV30	ROHDE & SCHWARZ	B085749	8-Oct-2017
COAXIAL CABLE	SUCOFLEX 102	ROHDE & SCHWARZ	B079823	4-Aug-2016

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

3.5 Test Data

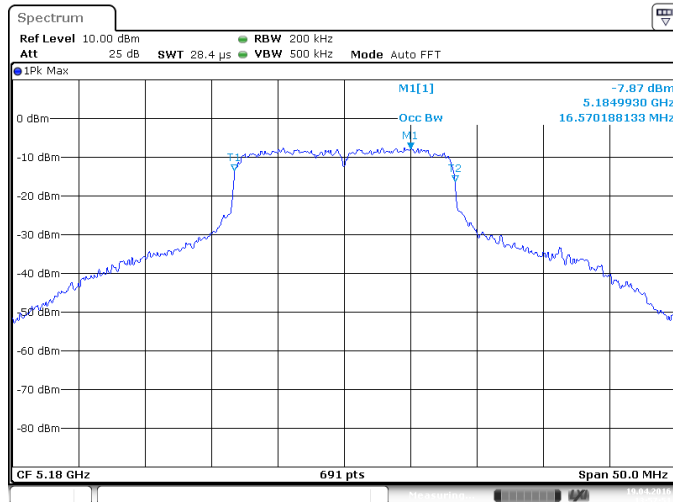
Protocol	Channel	Data Rate	26dB Bandwidth (MHz)	6dB Bandwidth (MHz)	OBW (99%) (MHz)
802.11a	36	54Mbps	23.589	16.498	16.57
802.11a	44	54Mbps	26.575	16.337	16.597
802.11a	48	54Mbps	26.155	16.327	16.567
802.11a	149	54Mbps	33.003	16.237	19.176
802.11a	157	54Mbps	32.543	16.247	18.746
802.11a	165	54Mbps	32.174	16.037	19.216
(HT20)	36	MCS7	24.615	17.69	17.873
(HT20)	44	MCS7	24.795	17.63	17.806
(HT20)	48	MCS7	24.195	17.576	17.796
(HT20)	149	MCS7	34.143	17.287	20.526
(HT20)	157	MCS7	33.023	17.576	19.466
(HT20)	165	MCS7	31.514	17.556	19.016
(HT40)	40	MCS7	59.448	35.573	37.492
(HT40)	44	MCS7	57.449	35.877	37.412
(HT40)	153	MCS7	76.165	36.013	49.01
(HT40)	157	MCS7	71.026	36.069	45.671
(HT40)	161	MCS7	71.626	35.865	41.451

Sample Plots:



Date: 19.APR.2016 13:49:24

Date: 19.APR.2016 13:55:13



Date: 19.APR.2016 13:57:52

4 Output Power

4.1 Test Result

Test Description	Test Specification	Test Result
Peak Output Power	15.407(a)	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 UNII Test Procedures New Rules v01r02.

Limit

For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi.

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

4.3 Test Site

SGS EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature: 23.5 °C
Relative Humidity: 40.5 %

4.4 Test Equipment

Test Date: 13-Apr-2016

Tester: JOP

Equipment	Model	Manufacturer	Asset Number	Cal Due Date
SIGNAL ANALYZER	FSV30	ROHDE & SCHWARZ	B085749	8-Oct-2017
COAXIAL CABLE	SUCOFLEX 102	ROHDE & SCHWARZ	B079823	4-Aug-2016

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

4.5 Test Data – 802.11a

Mode	RateMbps	Channel	Target dBm	Measured dBm	Measured mW
802.11a	6	36	15.5	14.06	25.47
		44	15.5	14.32	27.04
		48	15.5	14.07	25.53
		149	15.5	15.16	32.81
		157	15.5	15.5	35.48
		165	15.5	15.32	34.04
	9	36	15.5	14.07	25.53
		44	15.5	14.33	27.1
		48	15.5	14.07	25.53
		149	15.5	15.16	32.81
		157	15.5	15.51	35.56
		165	15.5	15.32	34.04
	12	36	15.5	14.08	25.59
		44	15.5	14.31	26.98
		48	15.5	14.09	25.64
		149	15.5	15.17	32.89
		157	15.5	15.53	35.73
		165	15.5	15.29	33.81
	18	36	15.5	14.08	25.59
		44	15.5	14.33	27.1
		48	15.5	14.09	25.64
		149	15.5	15.18	32.96
		157	15.5	15.55	35.89
		165	15.5	15.28	33.73
	24	36	15.5	13.69	23.39
		44	15.5	14.33	27.1
		48	15.5	14.1	25.7
		149	15.5	15.19	33.04
		157	15.5	15.08	32.21
		165	15.5	15.28	33.73
	36	36	15.5	13.7	23.44
		44	15.5	14.33	27.1
		48	15.5	14.11	25.76
		149	15.5	15.18	32.96
		157	15.5	15.1	32.36
		165	15.5	15.29	33.81
	48	36	15.5	13.68	23.33
		44	15.5	14.33	27.1
		48	15.5	14.09	25.64
		149	15.5	15.17	32.89
		157	15.5	15.09	32.28
		165	15.5	15.28	33.73
	54	36	15.5	13.69	23.39
		44	15.5	14.35	27.23
		48	15.5	14.09	25.64
		149	15.5	15.19	33.04
		157	15.5	15.09	32.28
		165	15.5	15.3	33.88

4.6 Test Data – 802.11n (HT20)

Mode	RateMbps	Channel	Target dBm	Measured dBm	Measured mW
802.11n (HT20)	MCS0	36	14.5	12.75	18.84
		44	14.5	13.33	21.53
		48	14.5	13.12	20.51
		149	14.5	14.43	27.73
		157	14.5	14.29	26.85
		161	14.5	14.6	28.84
	MCS1	36	14.5	12.77	18.92
		44	14.5	13.35	21.63
		48	14.5	13.11	20.46
		149	14.5	14.52	28.31
		157	14.5	14.32	27.04
		165	14.5	14.62	28.97
	MCS2	36	14.5	12.79	19.01
		44	14.5	13.35	21.63
		48	14.5	13.14	20.61
		149	14.5	14.53	28.38
		157	14.5	14.33	27.1
		165	14.5	14.63	29.04
	MCS3	36	14.5	12.82	19.14
		44	14.5	13.38	21.78
		48	14.5	12.74	18.79
		149	14.5	14.56	28.58
		157	14.5	14.37	27.35
		165	14.5	14.35	27.23
	MCS4	36	14.5	12.83	19.19
		44	14.5	13.4	21.88
		48	14.5	12.76	18.88
		149	14.5	14.6	28.84
		157	14.5	14.38	27.42
		165	14.5	14.36	27.29
	MCS5	36	14.5	12.86	19.32
		44	14.5	13.41	21.93
		48	14.5	12.8	19.05
		149	14.5	14.61	28.91
		157	14.5	14.41	27.61
		165	14.5	14.39	27.48
	MCS6	36	14.5	12.86	19.32
		44	14.5	13.4	21.88
		48	14.5	12.79	19.01
		149	14.5	14.61	28.91
		157	14.5	14.41	27.61
		165	14.5	14.37	27.35
	MCS7	36	14.5	12.85	19.28
		44	14.5	13.43	22.03
		48	14.5	12.79	19.01
		149	14.5	14.6	28.84
		157	14.5	14.41	27.61
		165	14.5	14.37	27.35

4.7 Test Data – 802.11n (HT40)

Mode	RateMbps	Channel	Target dBm	Measured dBm	Measured mW
802.11n (HT40)	MCS0	40	14.5	14.39	27.48
		44	14.5	14.75	29.85
		153	14.5	15.52	35.65
		157	14.5	15.77	37.76
		161	14.5	14.97	31.41
	MCS1	40	14.5	14.41	27.61
		44	14.5	14.73	29.72
		153	14.5	15.31	33.96
		157	14.5	15.75	37.58
		161	14.5	14.98	31.48
	MCS2	40	14.5	14.41	27.61
		44	14.5	14.73	29.72
		153	14.5	15.3	33.88
		157	14.5	15.49	35.4
		161	14.5	14.99	31.55
	MCS3	40	14.5	14.04	25.35
		44	14.5	14.36	27.29
		153	14.5	15.31	33.96
		157	14.5	15.23	33.34
		161	14.5	14.7	29.51
	MCS4	40	14.5	14.03	25.29
		44	14.5	14.33	27.1
		153	14.5	15.27	33.65
		157	14.5	15.21	33.19
		161	14.5	14.66	29.24
	MCS5	40	14.5	14.02	25.23
		44	14.5	14.33	27.1
		153	14.5	15.23	33.34
		157	14.5	15.2	33.11
		161	14.5	14.64	29.11
	MCS6	40	14.5	14.02	25.23
		44	14.5	14.33	27.1
		153	14.5	15.24	33.42
		157	14.5	15.21	33.19
		161	14.5	14.6	28.84
	MCS7	40	14.5	13.93	24.72
		44	14.5	14.29	26.85
		153	14.5	15.14	32.66
		157	14.5	15.2	33.11
		161	14.5	14.55	28.51

5 Power Spectral Density

5.1 Test Result

Test Description	Test Specification	Test Result
Power Spectral Density	15.407(a)	Compliant

5.2 Test Method

Fundamental power measurements were recorded using the procedures from ANSI C63.10: 2013 clause 12.5 and KDB document 789033 D02 General UNII Test Procedures New Rules v01r02. The lowest data rate for each modulation was determined to be the worst-case.

Limit

The limit is 17dBm in any 1MHz band for channels in the 5.15-5.25GHz band and 30dBm in any 500-kHz band for channels in the 5.725-5.85GHz band.

5.3 Test Site

SGS EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature: 24.1 °C
Relative Humidity: 39.5 %

5.4 Test Equipment

Test Date: 20-Apr-2016

Tester: JOP

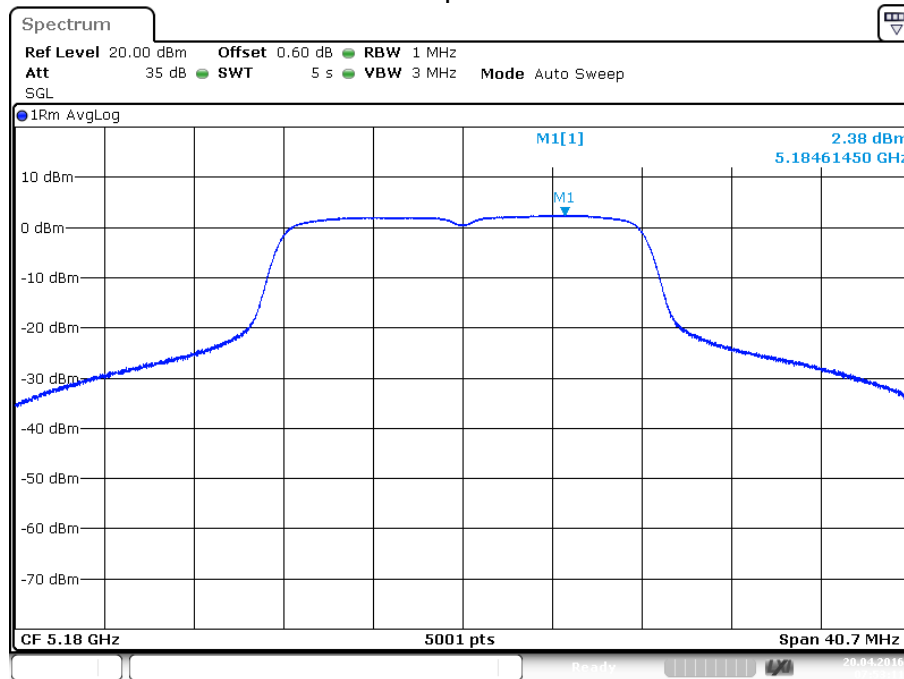
Equipment	Model	Manufacturer	Asset Number	Cal Due Date
SIGNAL ANALYZER	FSV30	ROHDE & SCHWARZ	B085749	8-Oct-2017
COAXIAL CABLE	SUCOFLEX 102	ROHDE & SCHWARZ	B079823	4-Aug-2016

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

5.5 Test Data (UNII Band 1)

Protocol	Channel	Data Rate	DC (%)	DC Corr (dB)	PSD (dBm/MHz)	Limit (dBm)	Margin (dB)
802.11a	36	6 Mbps	99.1	0	2.38	17	-14.62
802.11a	44	6 Mbps	99.1	0	2.05	17	-14.95
802.11a	48	6 Mbps	99.1	0	1.85	17	-15.15
802.11n (HT20)	36	MCS0	99.0	0	0.92	17	-16.08
802.11n (HT20)	44	MCS0	99.0	0	0.80	17	-16.20
802.11n (HT20)	48	MCS0	99.0	0	0.7	17	-16.3
802.11n (HT40)	40	MCS0	98.0	0	-0.5	17	-17.5
802.11n (HT40)	44	MCS0	98.0	0	-0.35	17	-17.35

Sample Plot

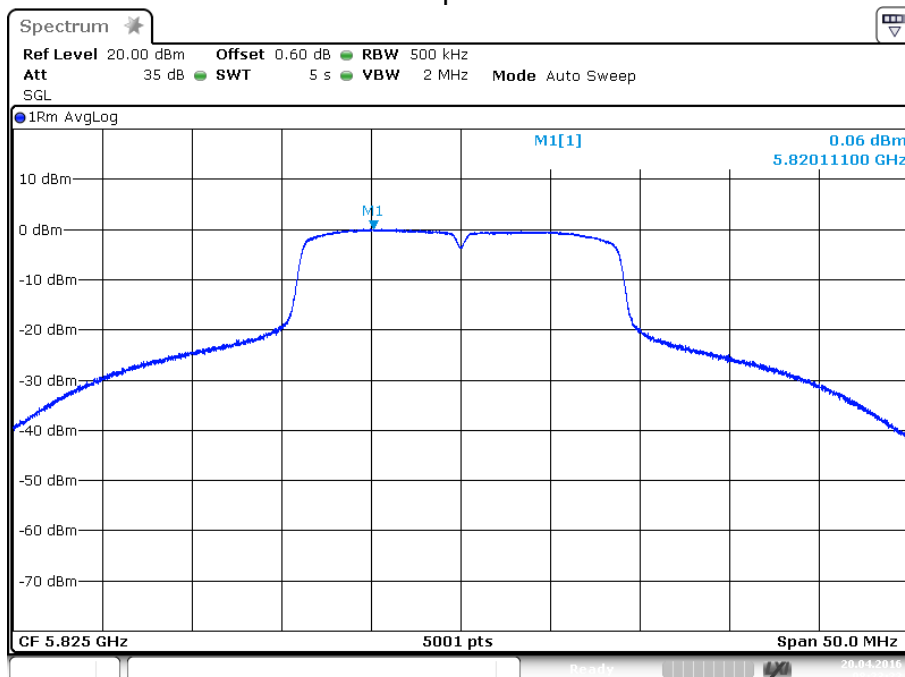


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5.6 Test Data (UNII Band 3)

Protocol	Channel	Data Rate	DC (%)	DC Corr (dB)	PSD (dBm/500kHz)	Limit (dBm)	Margin (dB)
802.11a	149	6 Mbps	99.1	0	0.14	30	-29.86
802.11a	157	6 Mbps	99.1	0	0.47	30	-29.53
802.11a	165	6 Mbps	99.1	0	0.82	30	-29.18
802.11n (HT20)	149	MCS0	99.0	0	-0.81	30	-30.81
802.11n (HT20)	157	MCS0	99.0	0	-0.89	30	-30.89
802.11n (HT20)	165	MCS0	99.0	0	0.06	30	-29.94
802.11n (HT40)	153	MCS0	98.0	0	-2.85	30	-32.85
802.11n (HT40)	157	MCS0	98.0	0	-2.47	30	-32.47
802.11n (HT40)	161	MCS0	98.8	0	-2.68	30	-32.68

Sample Plot



Date: 20.APR.2016 08:23:22

6 Unwanted Emissions – Antenna Port

6.1 Test Result

Test Description	Test Specification	Test Result
Spurious Emissions	15.407(b) ANSI C63.10: 2013	Compliant

6.2 Test Method

Testing was performed using the radiated methods defined in ANSI C63.10: 2013 clause 12.7 and KDB 789033 D02 General UNII Test Procedures New Rules v01r02. In lieu of the marker-delta or integration methods, band edge compliance was shown using a peak detector and a 1MHz resolution bandwidth. The correction factor for both the band edge measurements and the conducted spurious tests included cable loss and assumed a 2dBi antenna gain (minimum that may be applied per the KDB for conducted methods).

Lowest, middle, and highest channels were investigated for each band. Only the worst-case (802.11a, 6Mbps) was reported except at the band edges where all three modulations were measured.

Limit:

For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz 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: 25.3 °C

Relative Humidity: 36.3 %

6.4 Test Equipment

Test Date: 20-Apr-2016

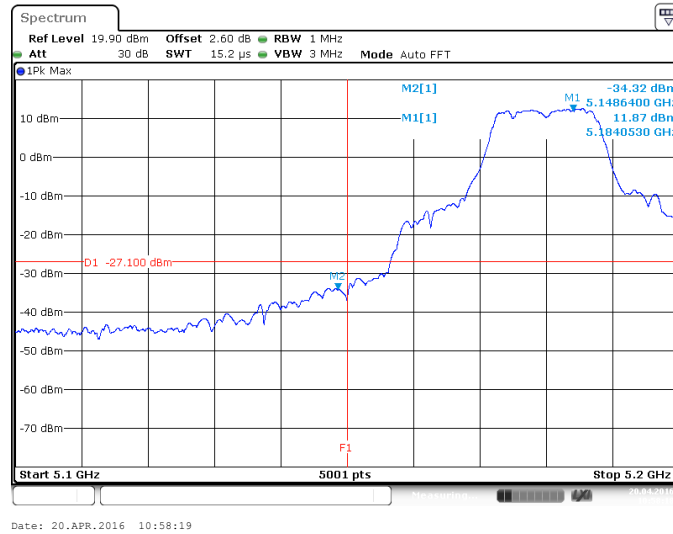
Tester: JOP

Equipment	Model	Manufacturer	Asset Number	Cal Due Date
SIGNAL ANALYZER	FSV30	ROHDE & SCHWARZ	B085749	8-Oct-2017
COAXIAL CABLE	SUCOFLEX 102	ROHDE & SCHWARZ	B079823	4-Aug-2016
EMI TEST RECEIVER	ESU40	ROHDE & SCHWARZ	B079629	4-Aug-2016

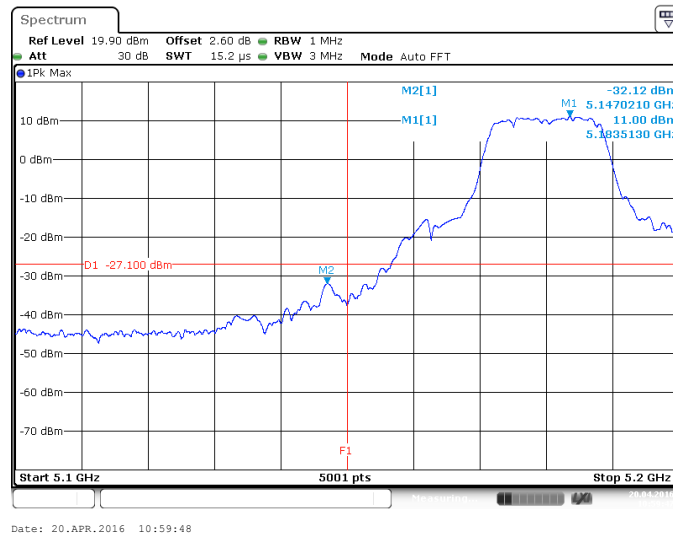
Note: The calibration period equipment is 1 year except for the FSV30 which is on a 2-year cycle.

6.5 Test Data – Band Edge

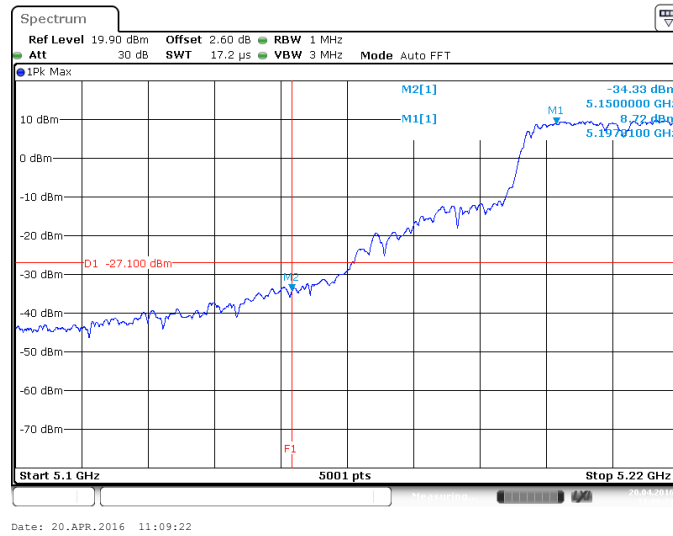
802.11a
Lower band edge
Channel 36
6Mbit/s



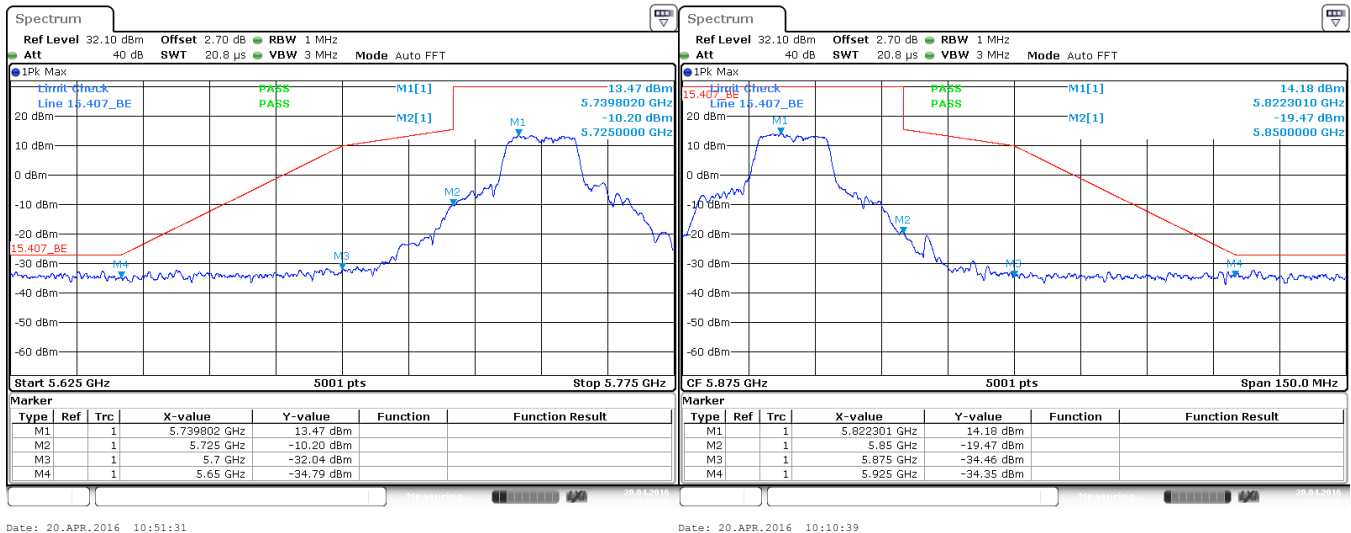
802.11n (HT20)
Lower band edge
Channel 36
MCS0



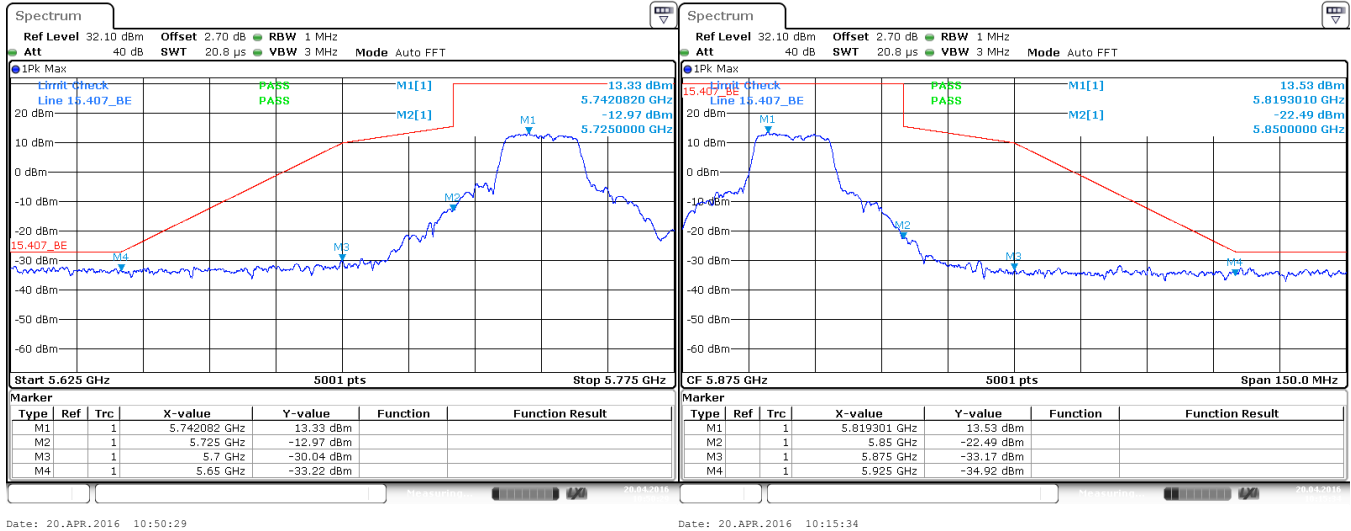
802.11n (HT40) Lower band edge Channel 40 MCS0



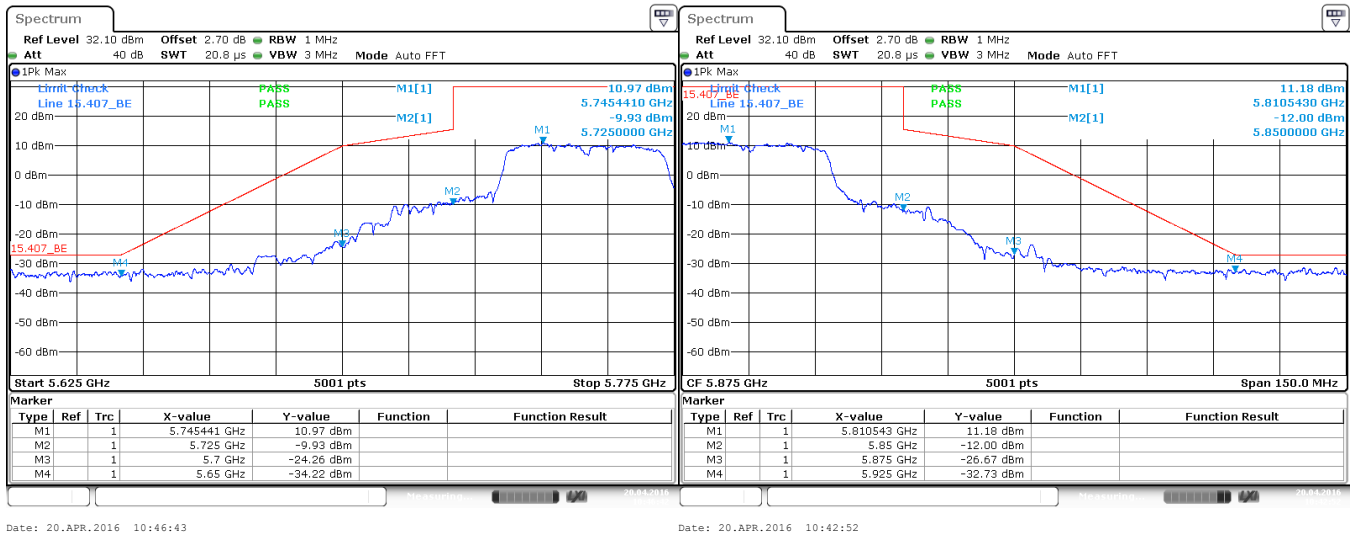
802.11a Lower band edge / Upper band edge Channel 149 / Channel 165 6Mbit/s



802.11n (HT20)
Lower band edge / Upper band edge
Channel 149 / Channel 165
MCS0

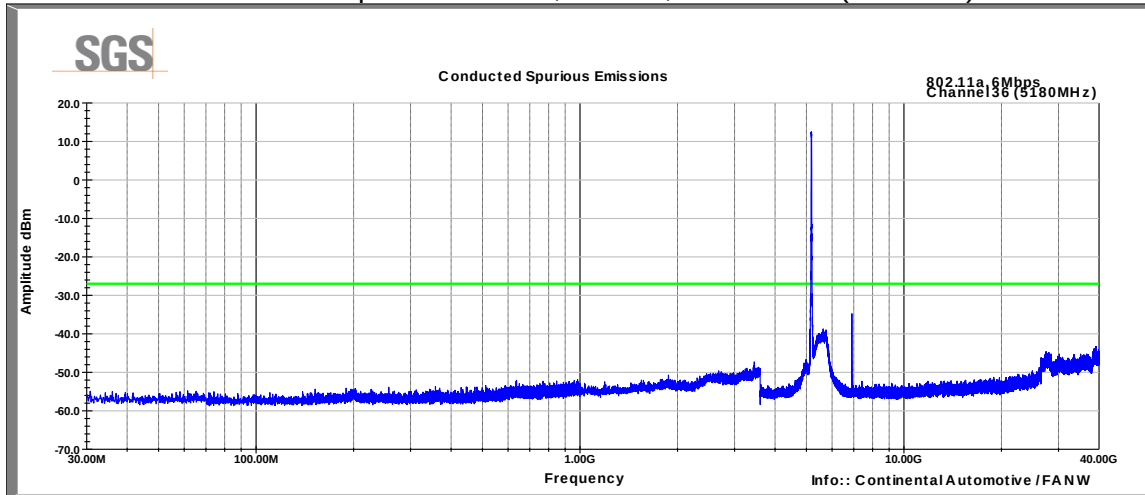


802.11n (HT40)
Lower band edge / Upper band edge
Channel 153 / Channel 161
MCS0

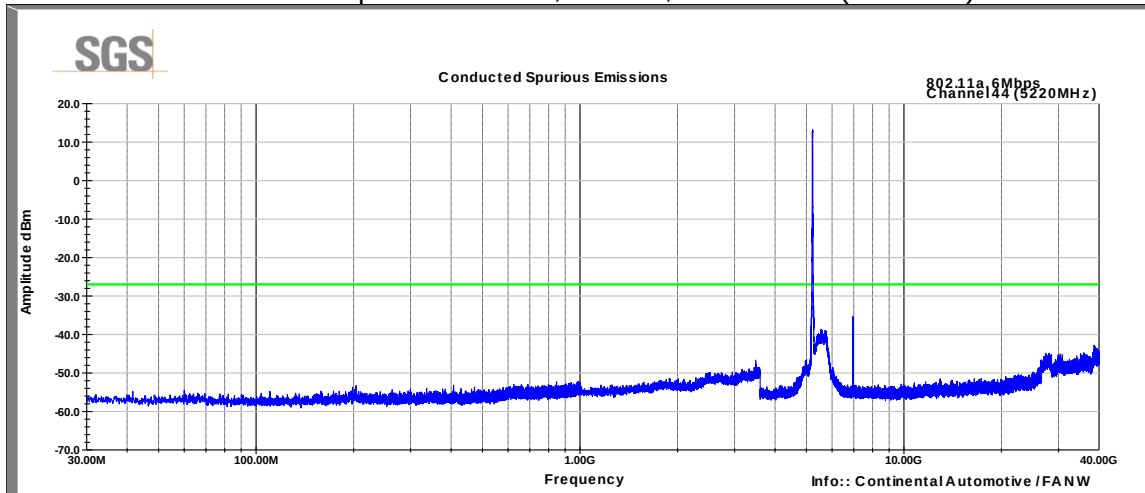


6.6 Test Data – Conducted Spurs

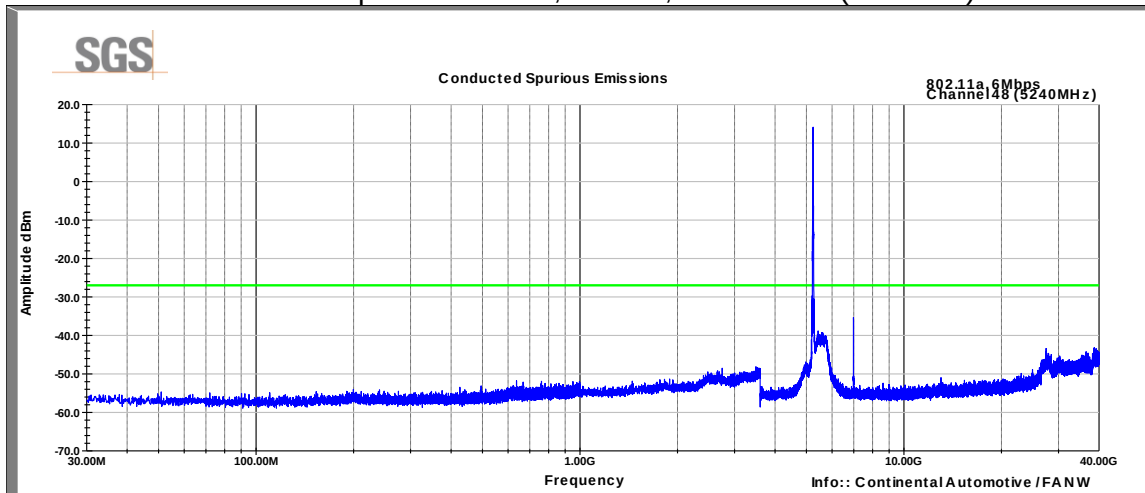
Conducted Spurs – 802.11a, 6Mbit/s, Channel 36 (15.5dBm)



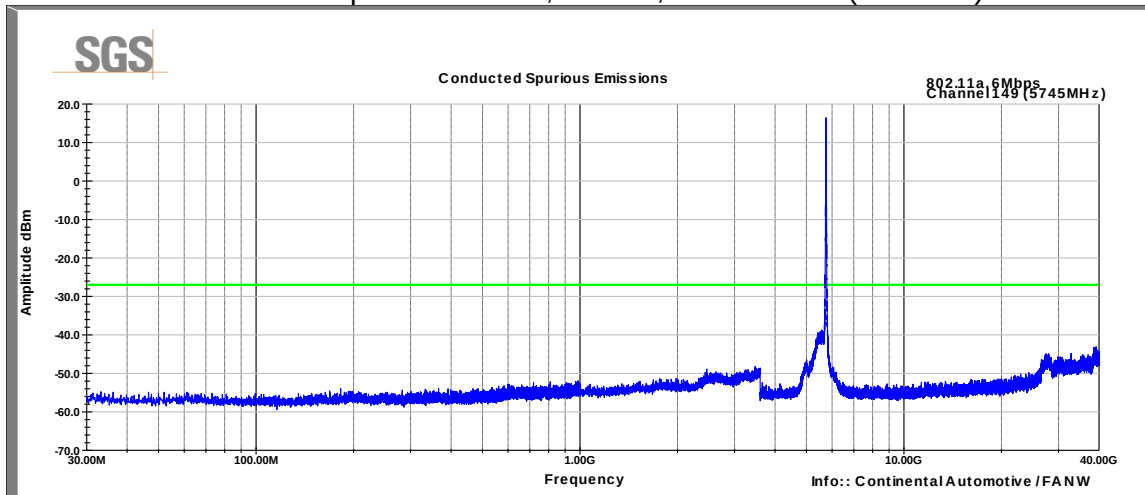
Conducted Spurs – 802.11a, 6Mbit/s, Channel 44 (15.5dBm)



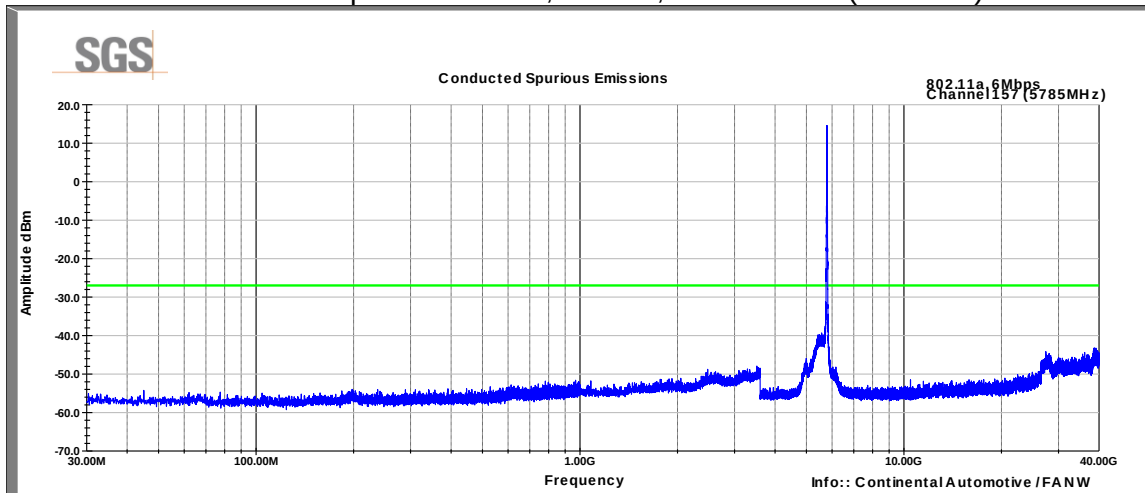
Conducted Spurs – 802.11a, 6Mbit/s, Channel 48 (15.5dBm)



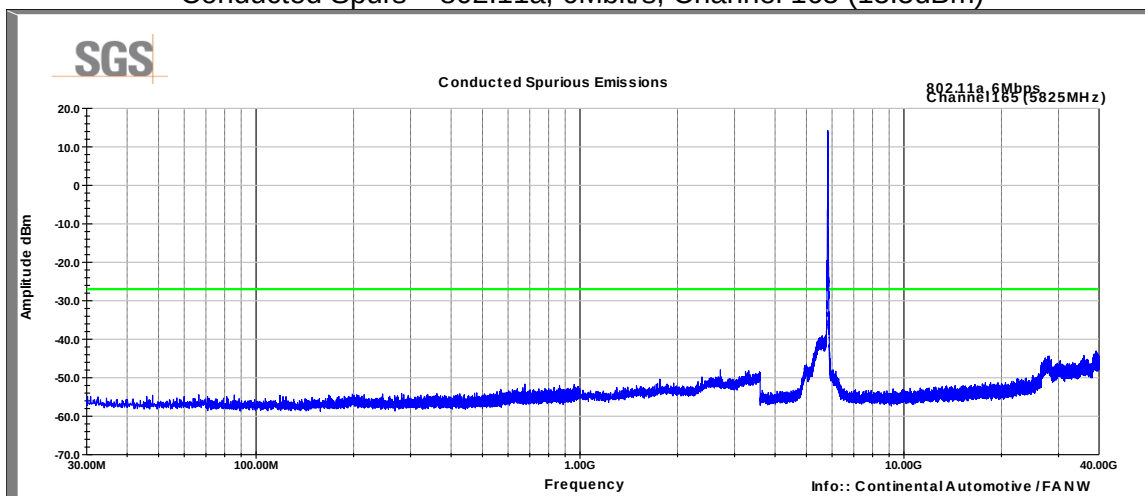
Conducted Spurs – 802.11a, 6Mbit/s, Channel 149 (15.5dBm)



Conducted Spurs – 802.11a, 6Mbit/s, Channel 157 (15.5dBm)



Conducted Spurs – 802.11a, 6Mbit/s, Channel 165 (15.5dBm)



7 Unwanted Emissions – Cabinet Radiation

7.1 Test Result

Test Description	Test Specification		Test Result
Spurious Emissions	15.247 (d) and 15.209	RSS-247 S5.5	Compliant

7.2 Test Method

Cabinet radiation emission measurements were performed with the antenna port terminated with a 50-Ohm load. The measurement methods defined in ANSI C63.4: 2014 were used.

Lowest, middle, and highest channels were investigated. Only the worst-case (802.11a, 6Mbps) was reported except at the restricted band edges where all three modulations were measured.

Test distance:

30 to 1000 MHz - The EUT to measurement antenna distance was 3 meters

1 to 18 GHz - The EUT to measurement antenna distance was 1.6 meters

18 to 40 GHz - The EUT to measurement antenna distance was 1.6 meter

Limits within restricted bands of operation:

Frequency	Limits ⁽¹⁾		Peak Limits dBuV/m
	Microvolts/m	dBuV/m	
30 - 88 MHz	100	40 ⁽²⁾	--
88 - 216 MHz	150	43.5 ⁽²⁾	--
216 - 960 MHz	200	46 ⁽²⁾	--
960 - 1000 MHz	500	54 ⁽²⁾	--
1 - 40 GHz	500	54 ⁽³⁾	74

(1) These limits are applicable to emissions outside of the intentional transmit frequency band.

(2) Quasi-peak limit

(3) Average limit

7.3 Test Site

SGS EMC Laboratory, Suwanee, GA

Environmental Conditions

Temperature: 23.9 °C

Relative Humidity: 53.5 %

7.4 Test Equipment

Test Date: 20 April 2016

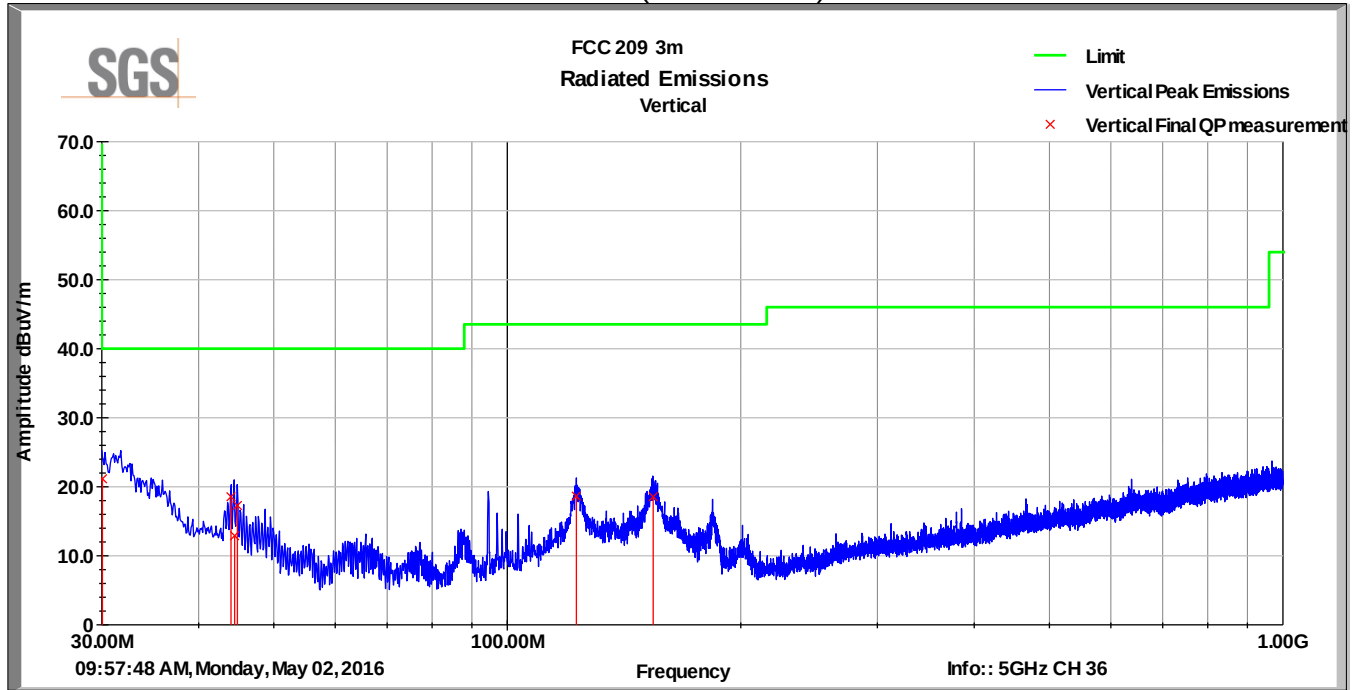
Tester: FL

Equipment	Model	Manufacturer	Asset Number	Cal Due Date
EMI TEST RECEIVER	ESU8	ROHDE & SCHWARZ	B085759	9-Jul-2016
EMI TEST RECEIVER	ESU40	ROHDE & SCHWARZ	B079629	4-Aug-2016
ANTENNA, BILOG	JB6	SUNOL	B079689	11-Sep-2016
DRG HORN (MEDIUM)	3117	ETS-LINDGREN	B079699	26-Apr-2017
SMALL HORN	LB-180400-20-C_KF	A-INFO	15007	11-Mar-2016
RF CABLE	NFS-290-78.7-NFS	FLORIDA RF LABS	B095019	4-Aug-2016
RF CABLE	NMS-290-236.2-NMS	FLORIDA RF LABS	B095020	4-Aug-2016
17 FT N TYPE COAX CABLE	HS 84133232	HUBER&SUHNER	B079661	3-Aug-2016
RF CABLE	SF106	HUBER&SUHNER	B085903	3-Aug-2016
COAXIAL CABLE	SUCOFLEX 102	HUBER&SUHNER	B079822	4-Aug-2016
COAXIAL CABLE	SUCOFLEX 102	HUBER&SUHNER	B079824	4-Aug-2016
PREAMPLIFIER	TS-PR18	ROHDE & SCHWARZ	B094463	16-Feb-2017
FIXED GAIN AMPLIFIER	NSP1840-HG	MITEQ	B087572	15-Oct-2016

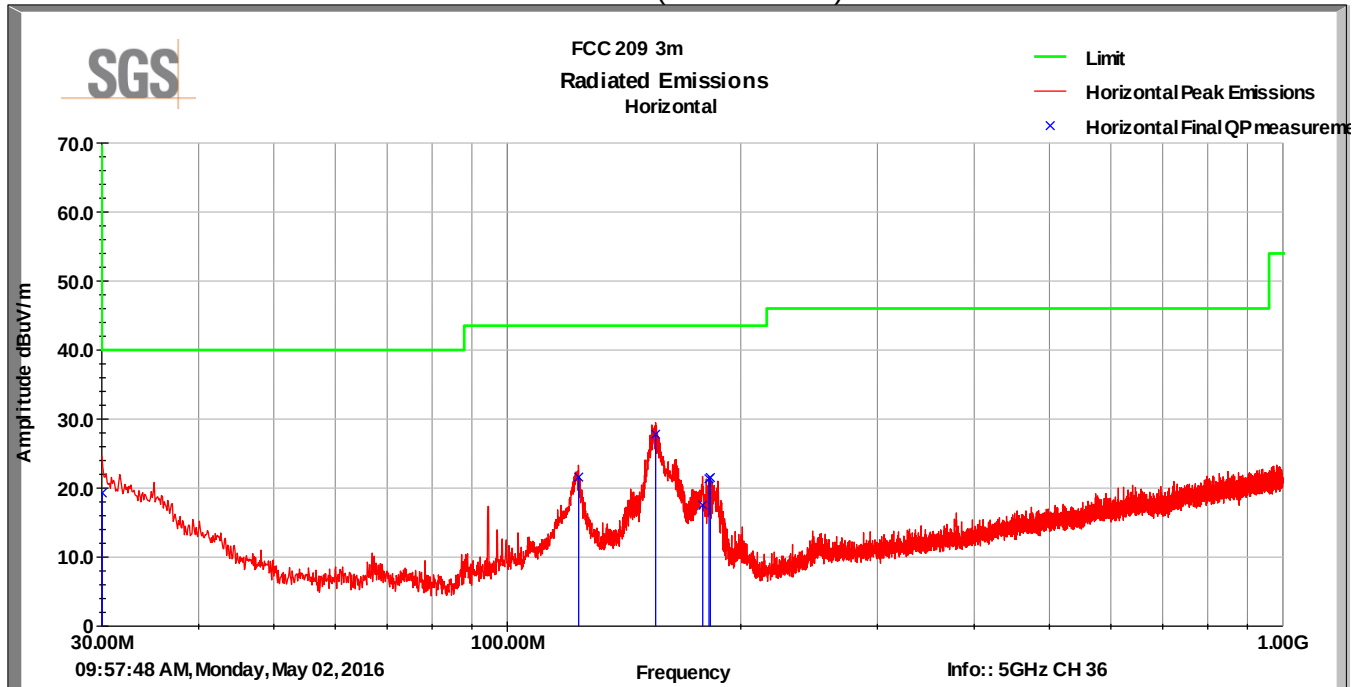
Note: The calibration period equipment is 1 year.

7.5 Test Data – Cabinet Radiation

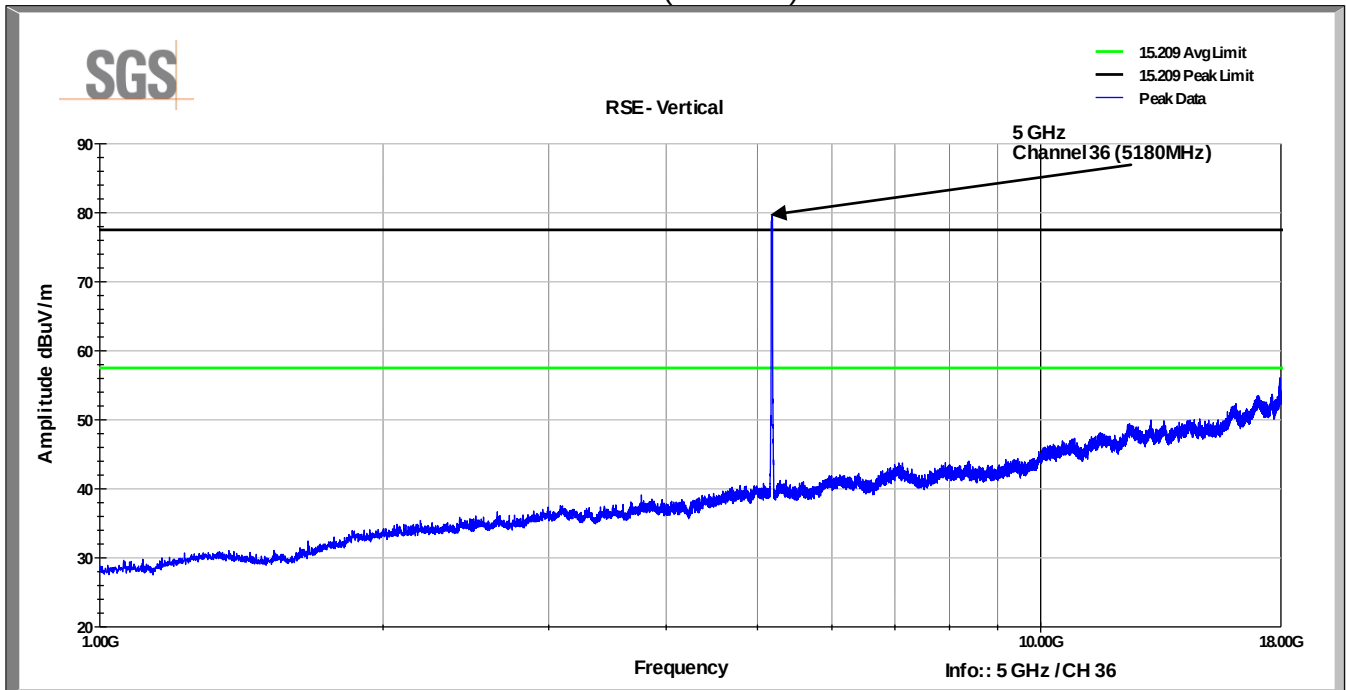
5 GHz CH 36, 6Mbps
Vertical (30-1000MHz)



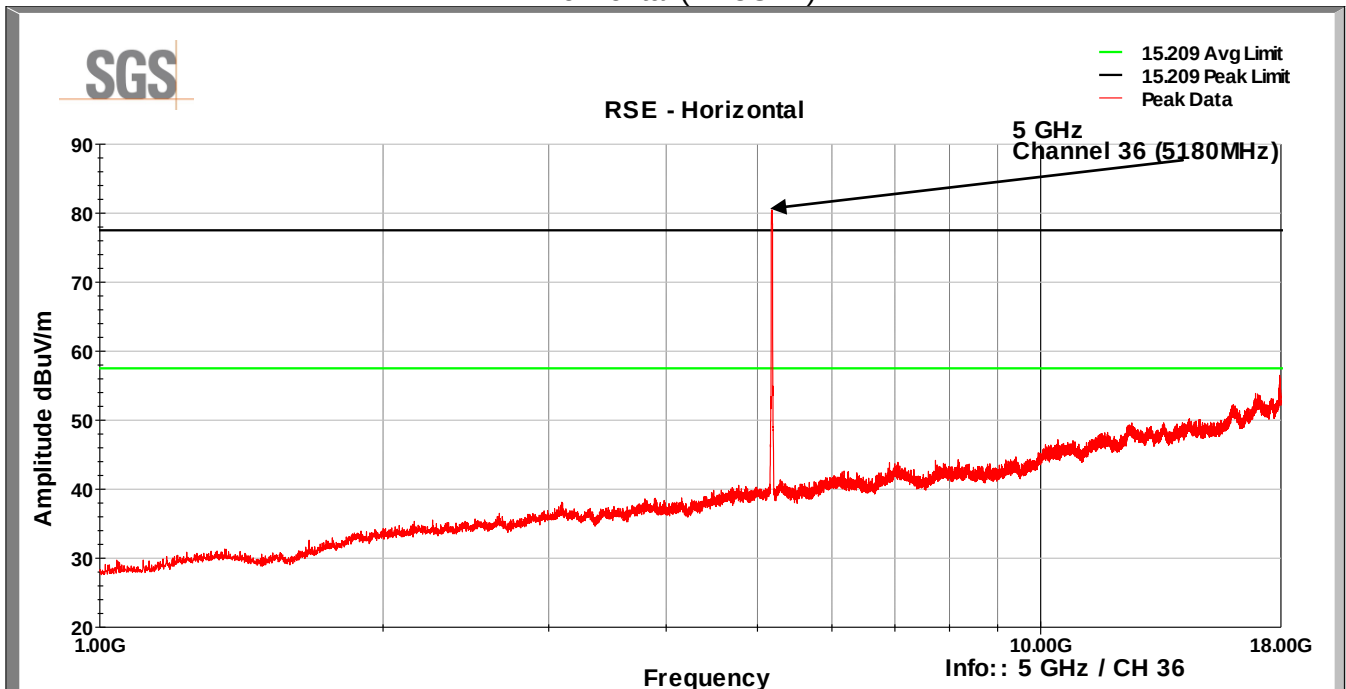
5 GHz CH36, 6Mbps
Horizontal (30-1000MHz)



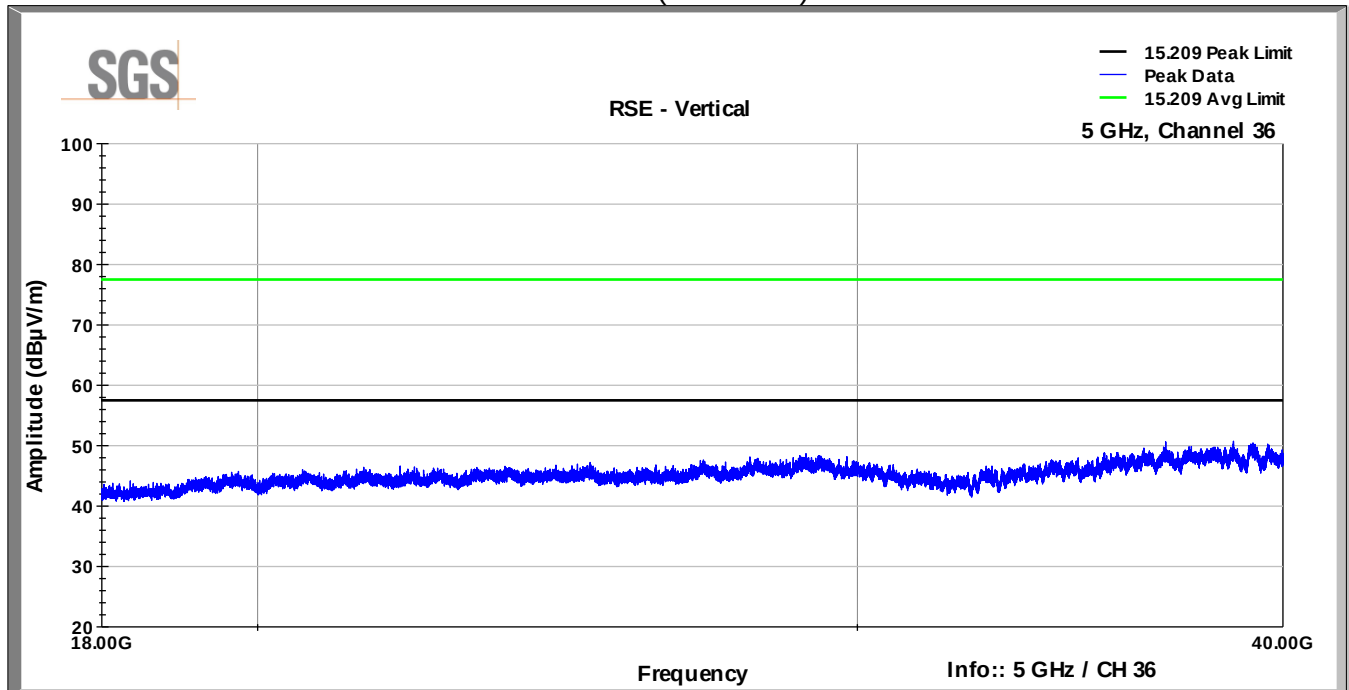
5 GHz CH 36, 6Mbps
Vertical (1-18GHz)



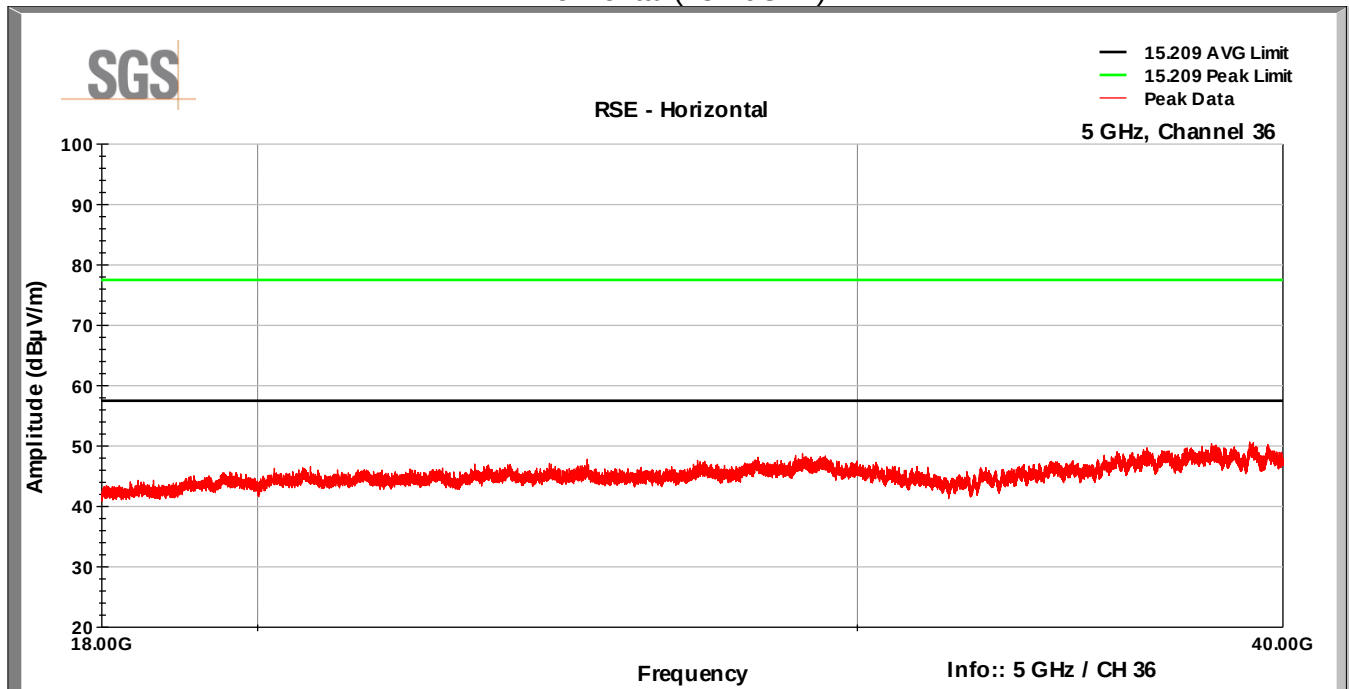
5 GHz CH36, 6Mbps
Horizontal (1-18GHz)



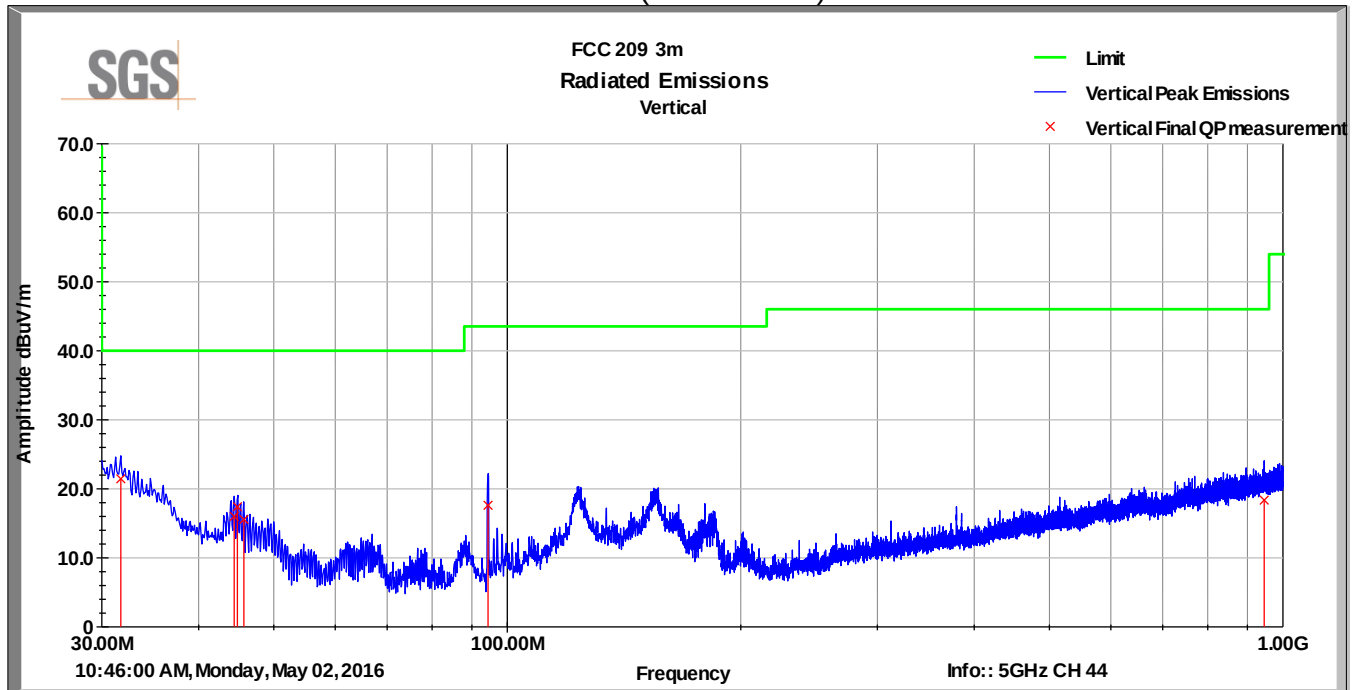
5 GHz CH 36, 6Mbps
Vertical (18-40GHz)



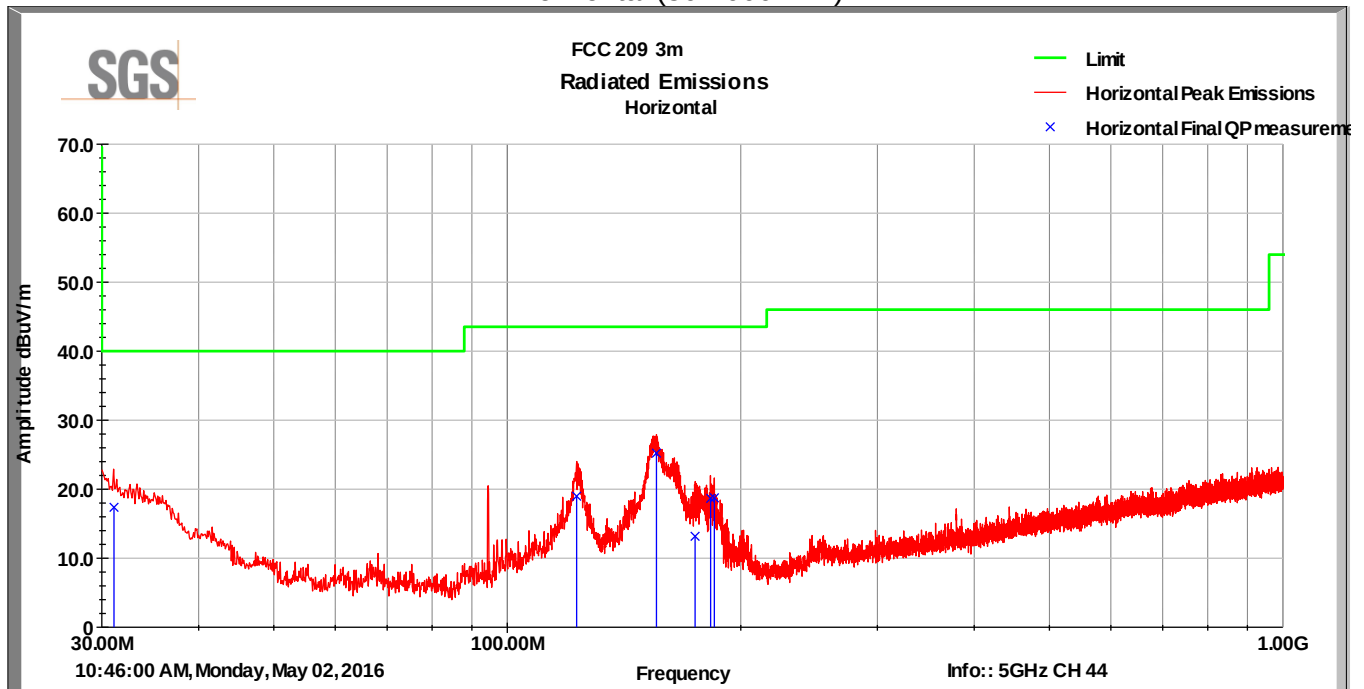
5 GHz CH 36, 6Mbps
Horizontal (18-40GHz)



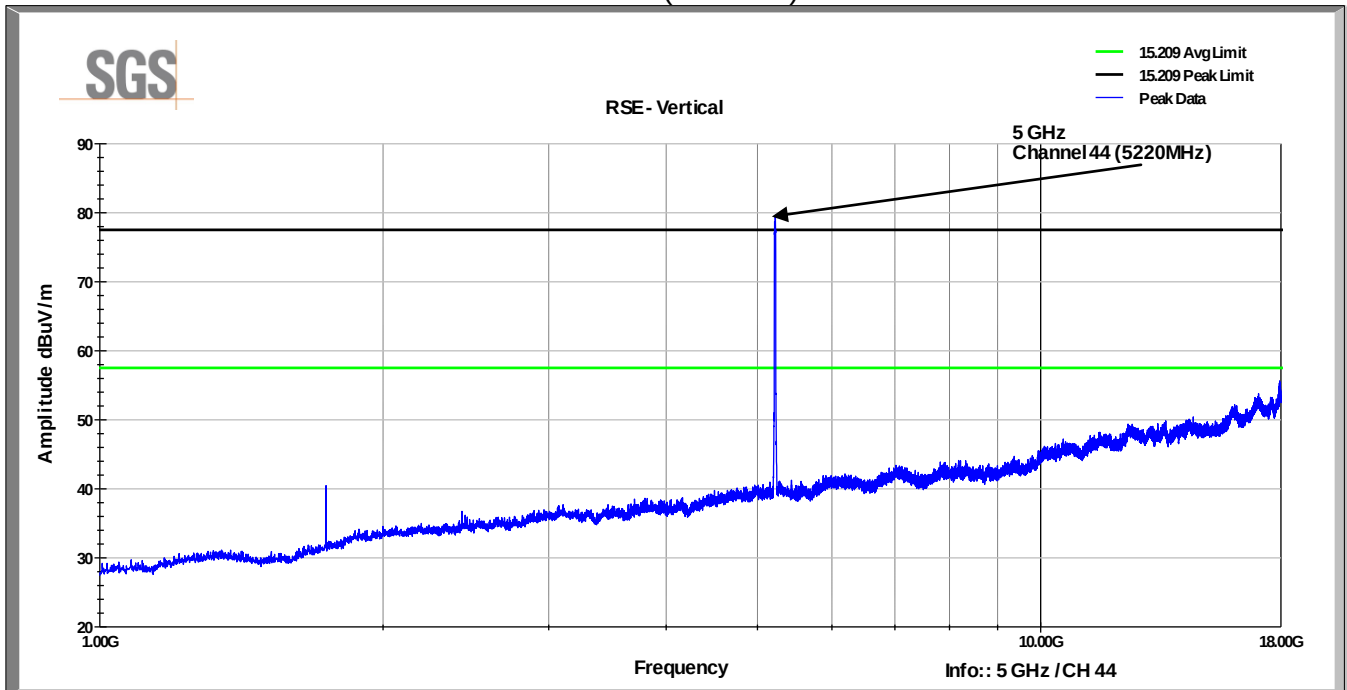
5 GHz CH 44, 6Mbps Vertical (30-1000MHz)



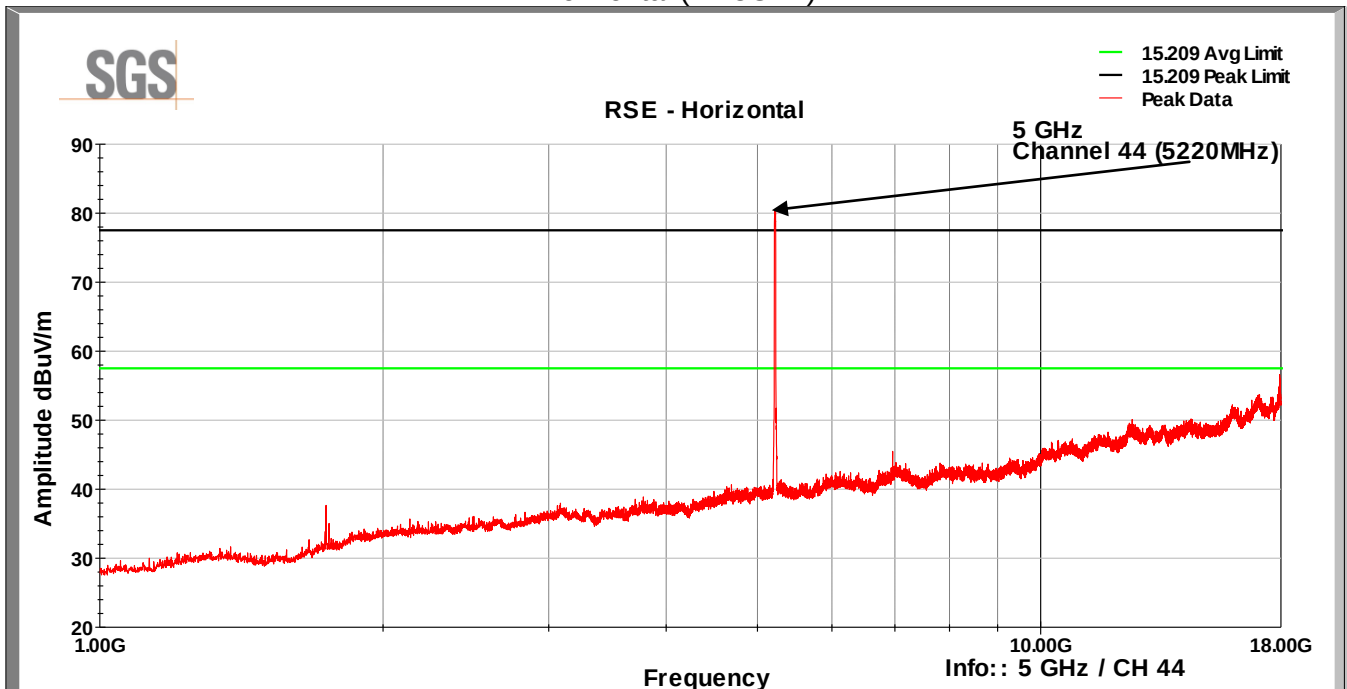
5 GHz CH 44, 6Mbps Horizontal (30-1000MHz)



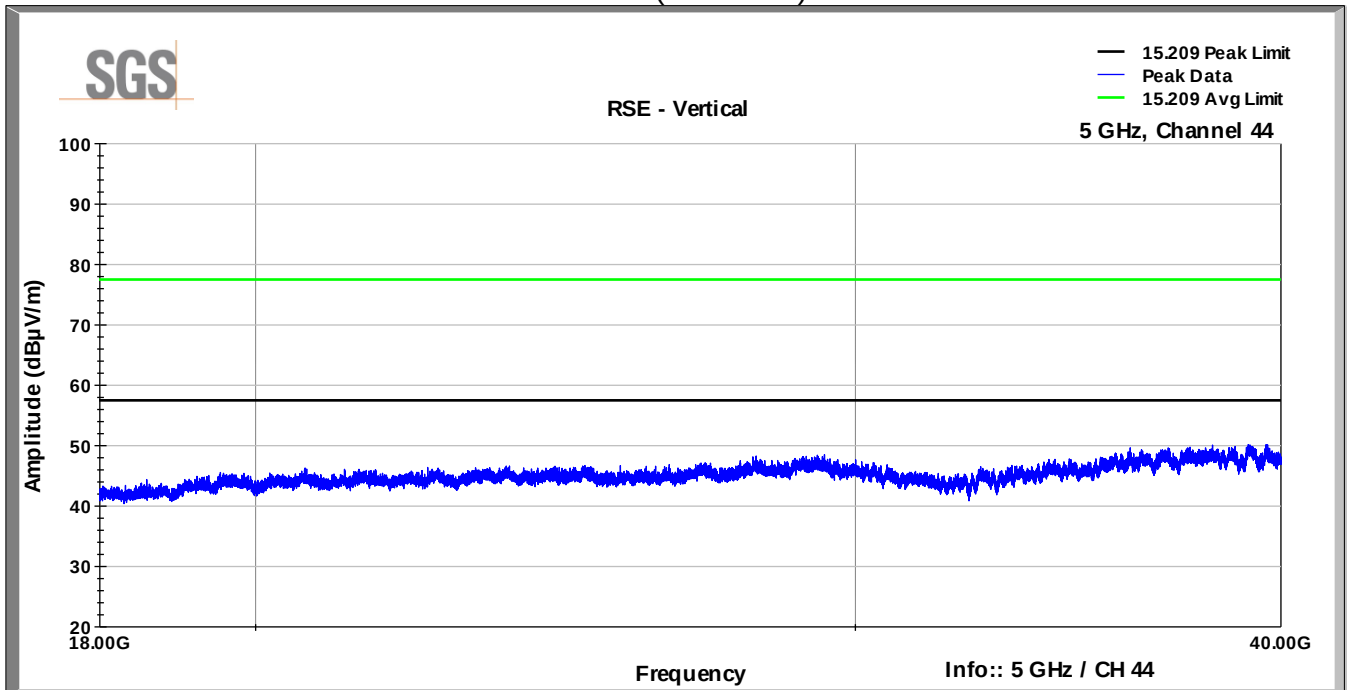
5 GHz CH 44, 6Mbps Vertical (1-18GHz)



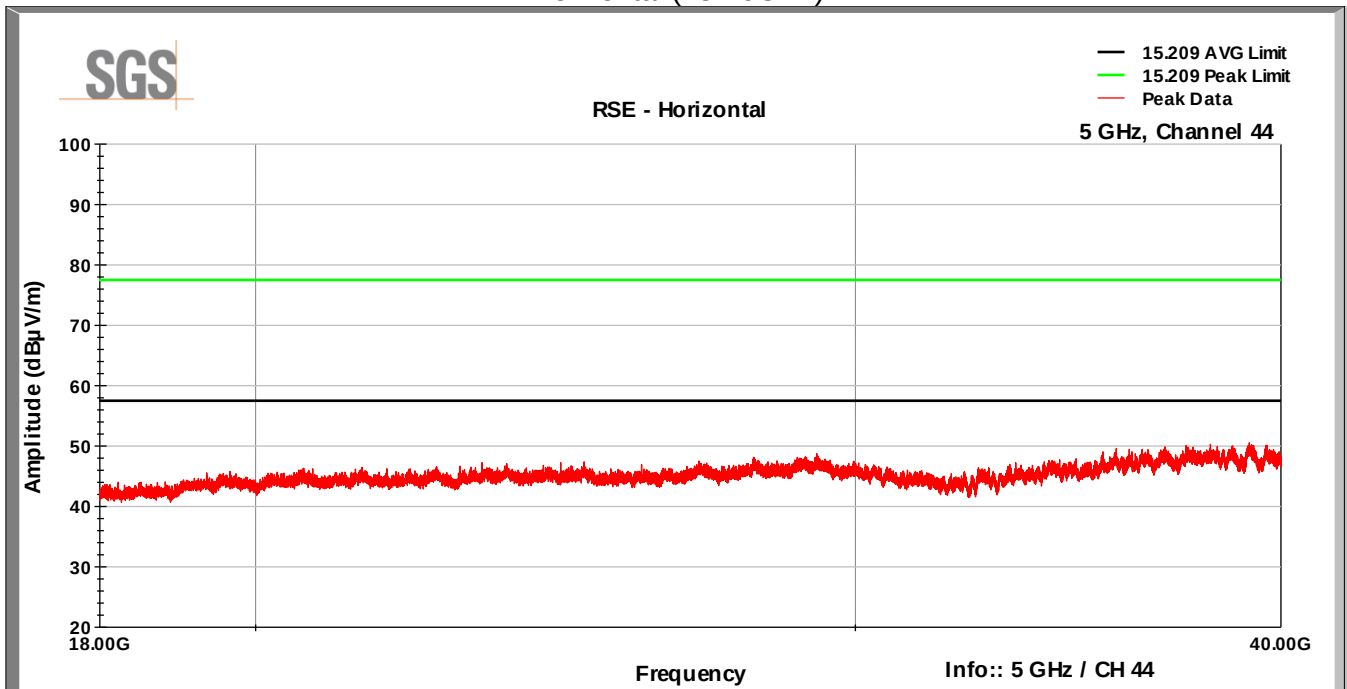
5 GHz CH 44, 6Mbps Horizontal (1-18GHz)



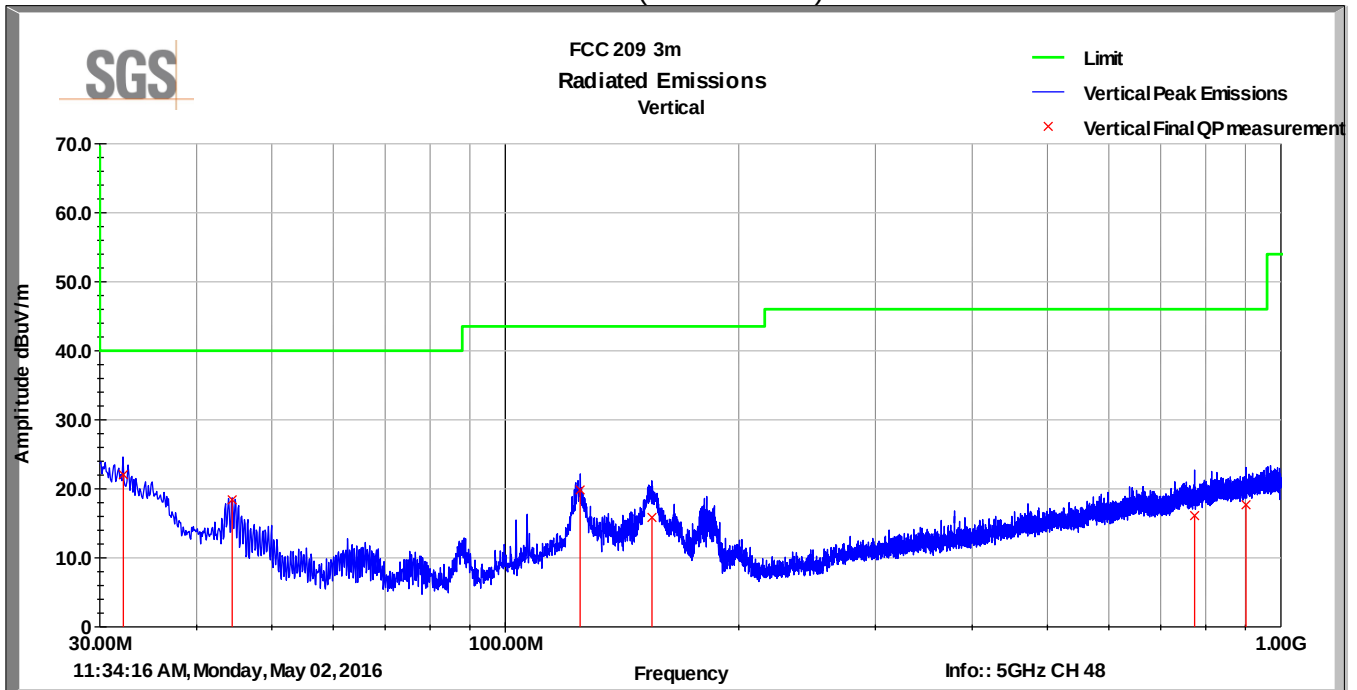
5 GHz CH 44, 6Mbps
Vertical (18-40GHz)



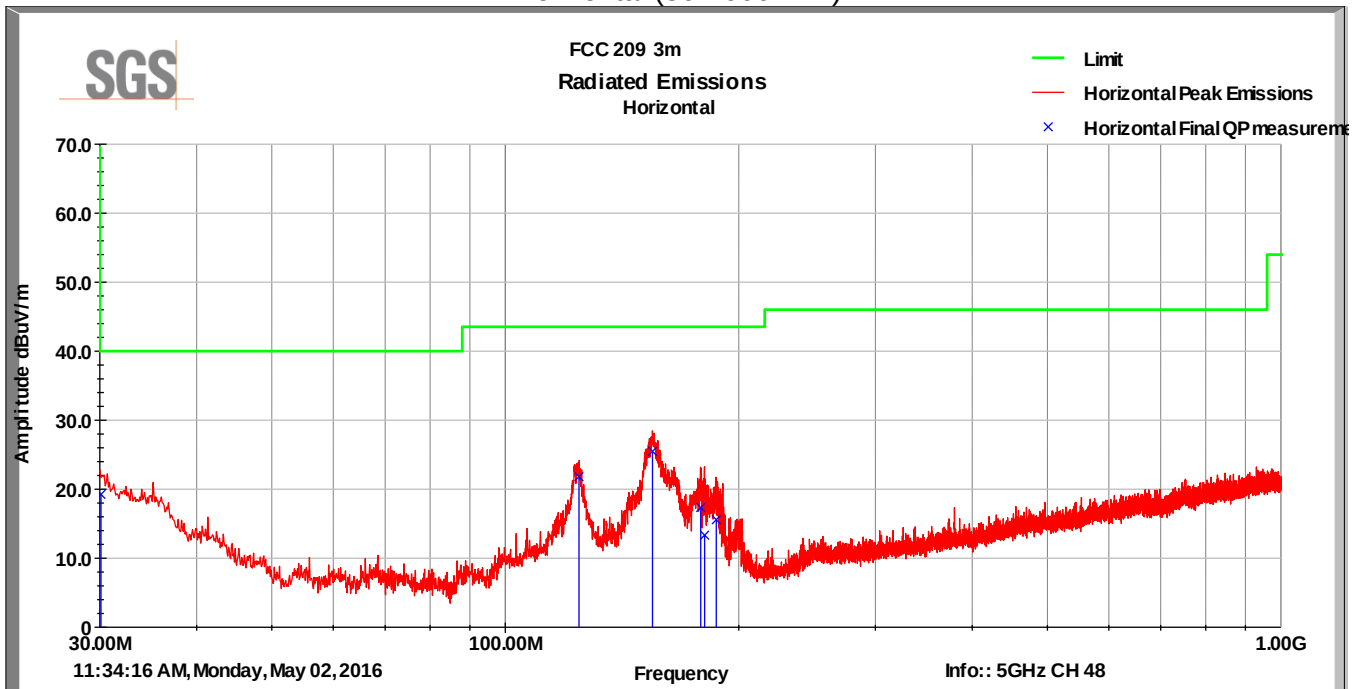
5 GHz CH 44, 6Mbps
Horizontal (18-40GHz)



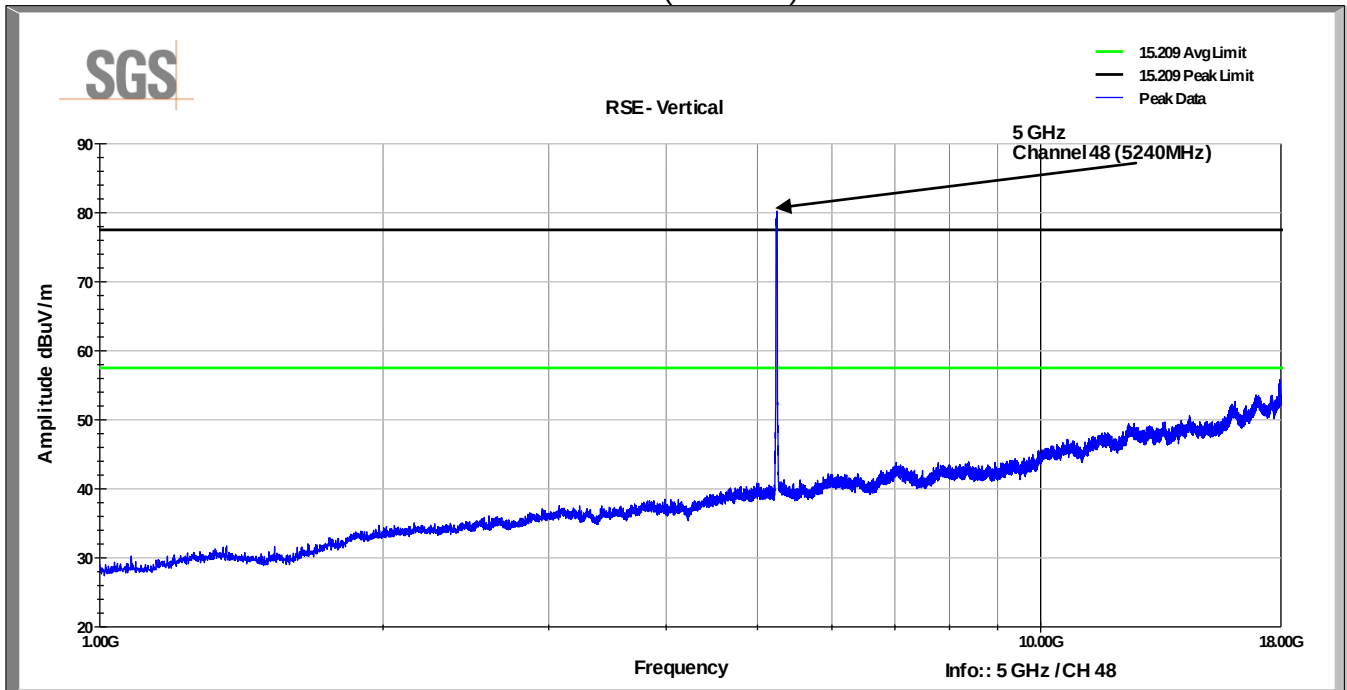
5 GHz CH 48, 6Mbps
Vertical (30-1000MHz)



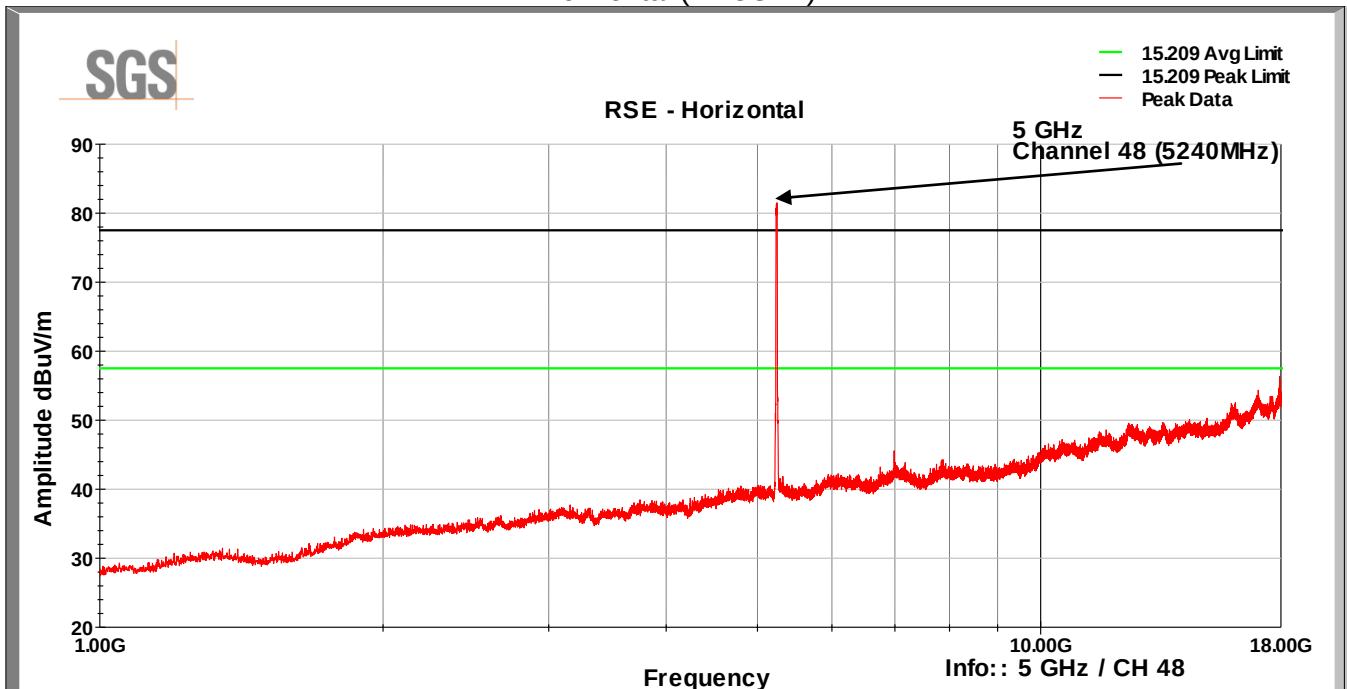
5 GHz CH 48, 6Mbps
Horizontal (30-1000MHz)



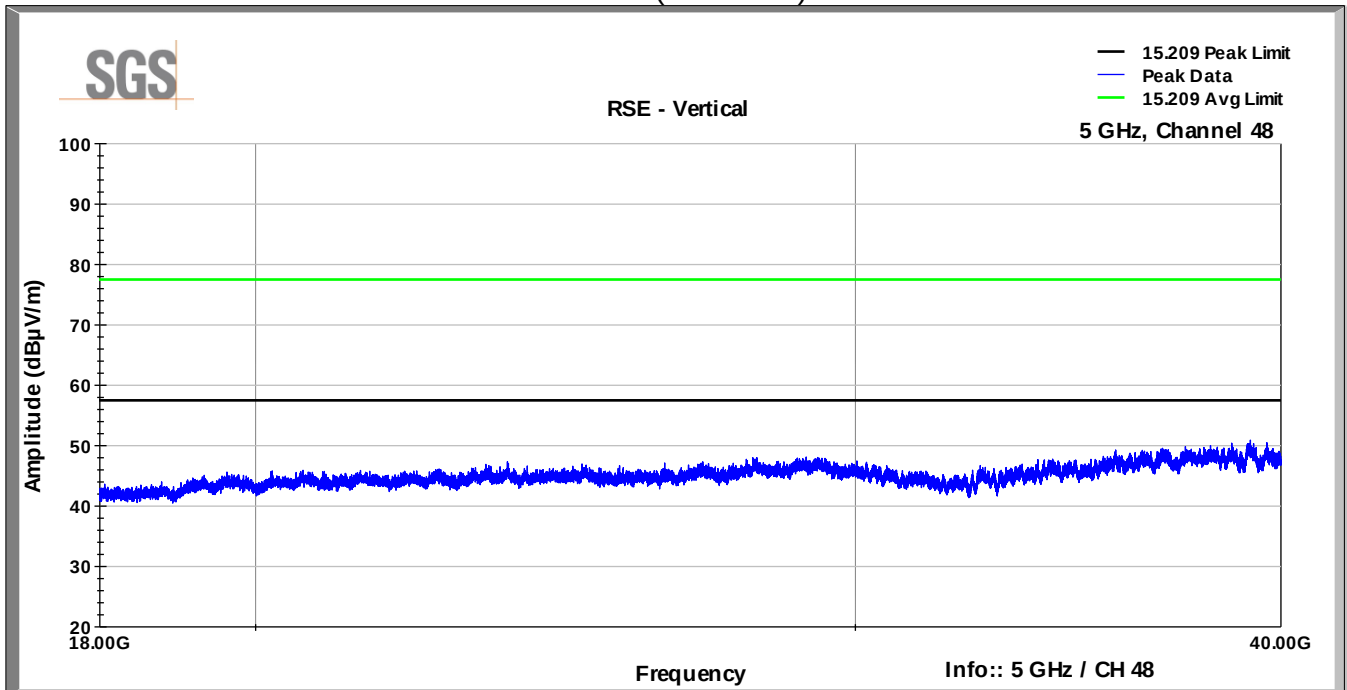
5 GHz CH 48, 6Mbps
Vertical (1-18GHz)



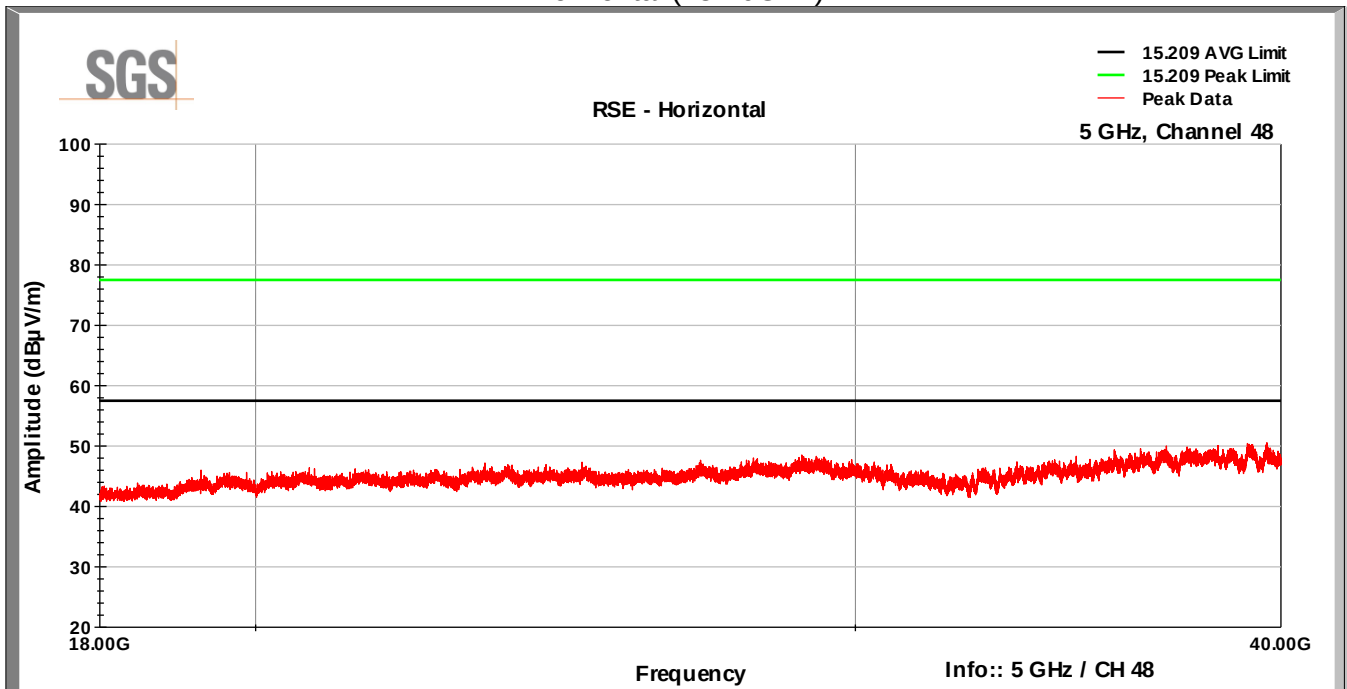
5 GHz CH 48, 6Mbps
Horizontal (1-18GHz)



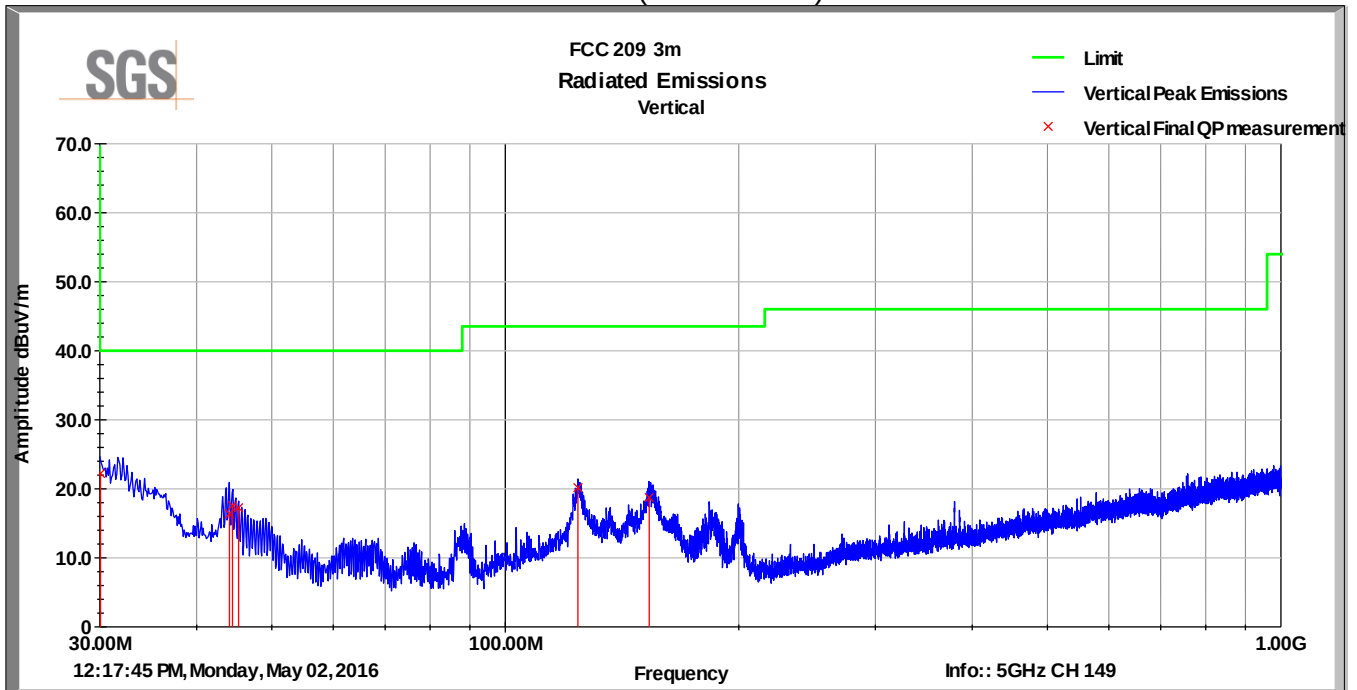
5 GHz CH 48, 6Mbps
Vertical (18-40GHz)



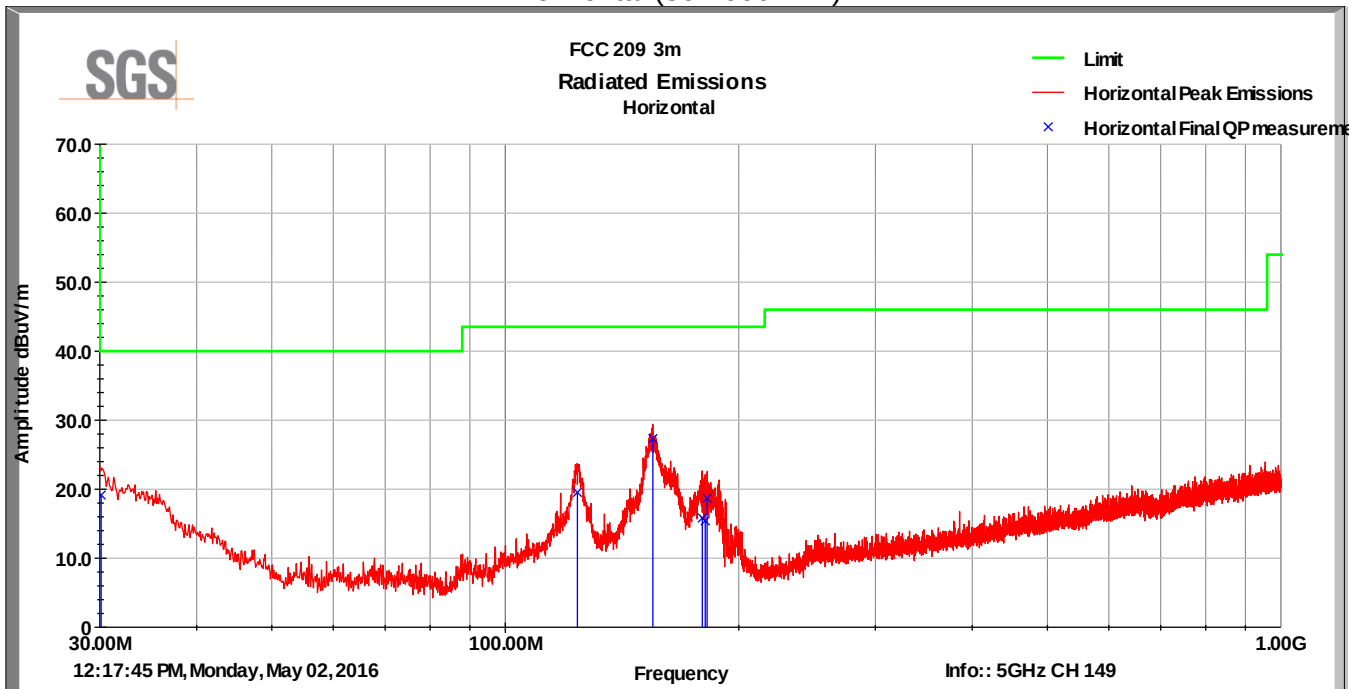
5 GHz CH 48, 6Mbps
Horizontal (18-40GHz)



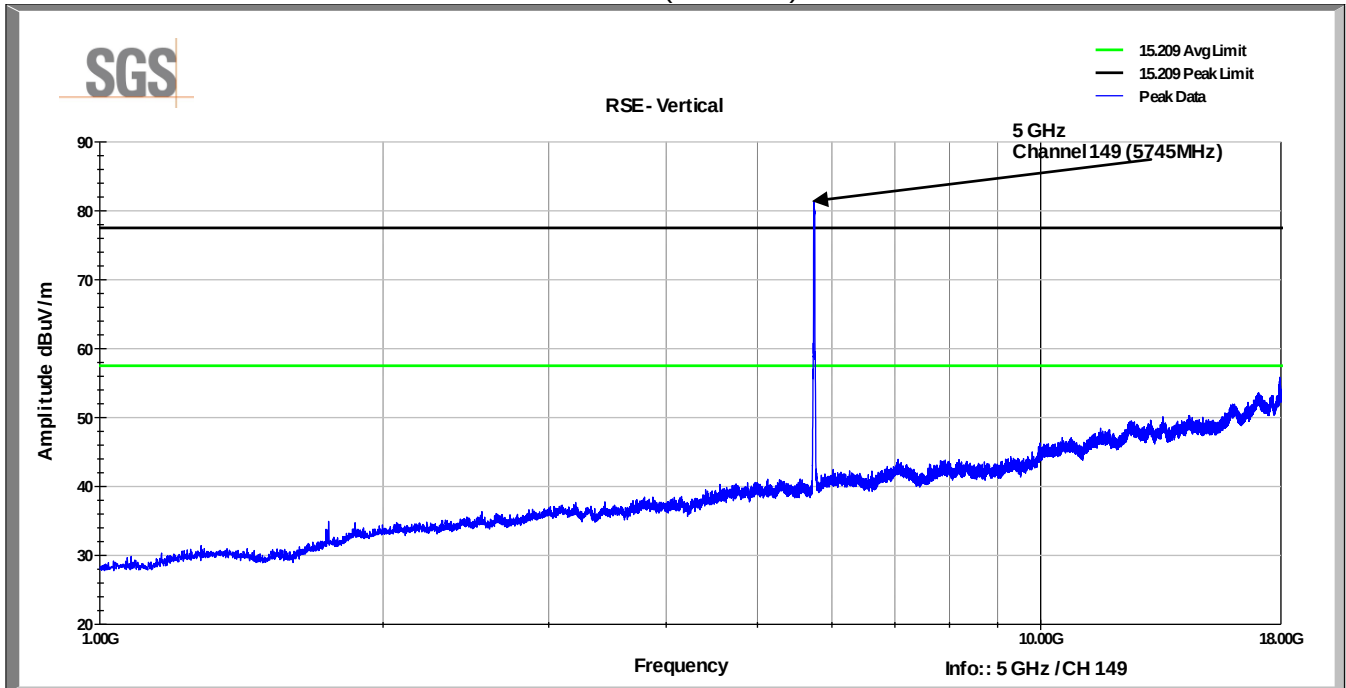
5 GHz CH 149, 6Mbps Vertical (30-1000MHz)



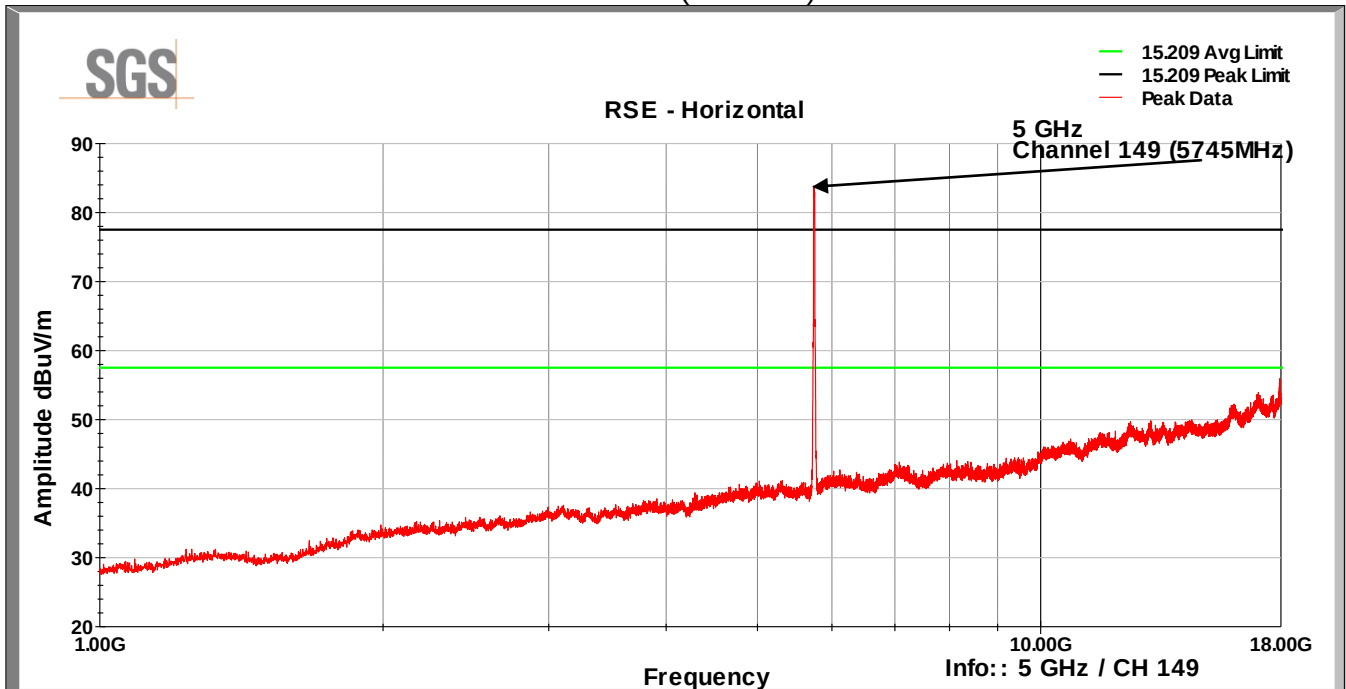
5 GHz CH149, 6Mbps Horizontal (30-1000MHz)



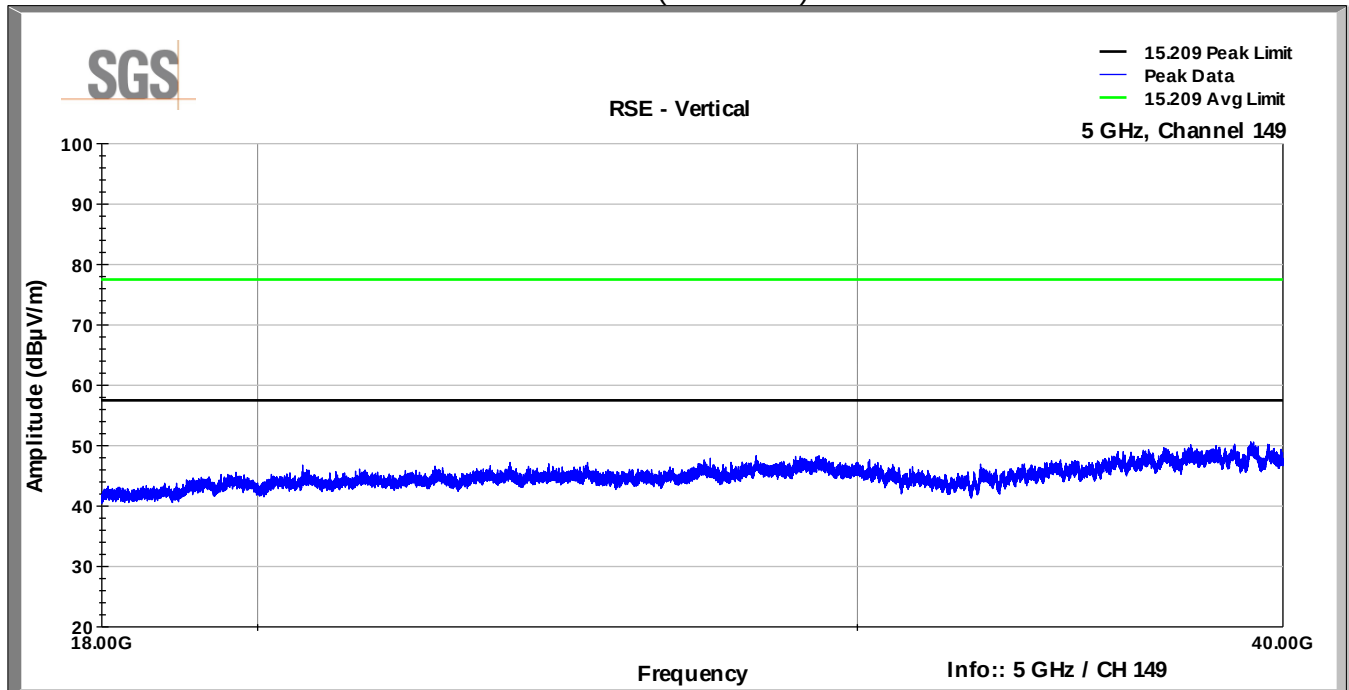
5 GHz CH 149, 6Mbps
Vertical (1-18GHz)



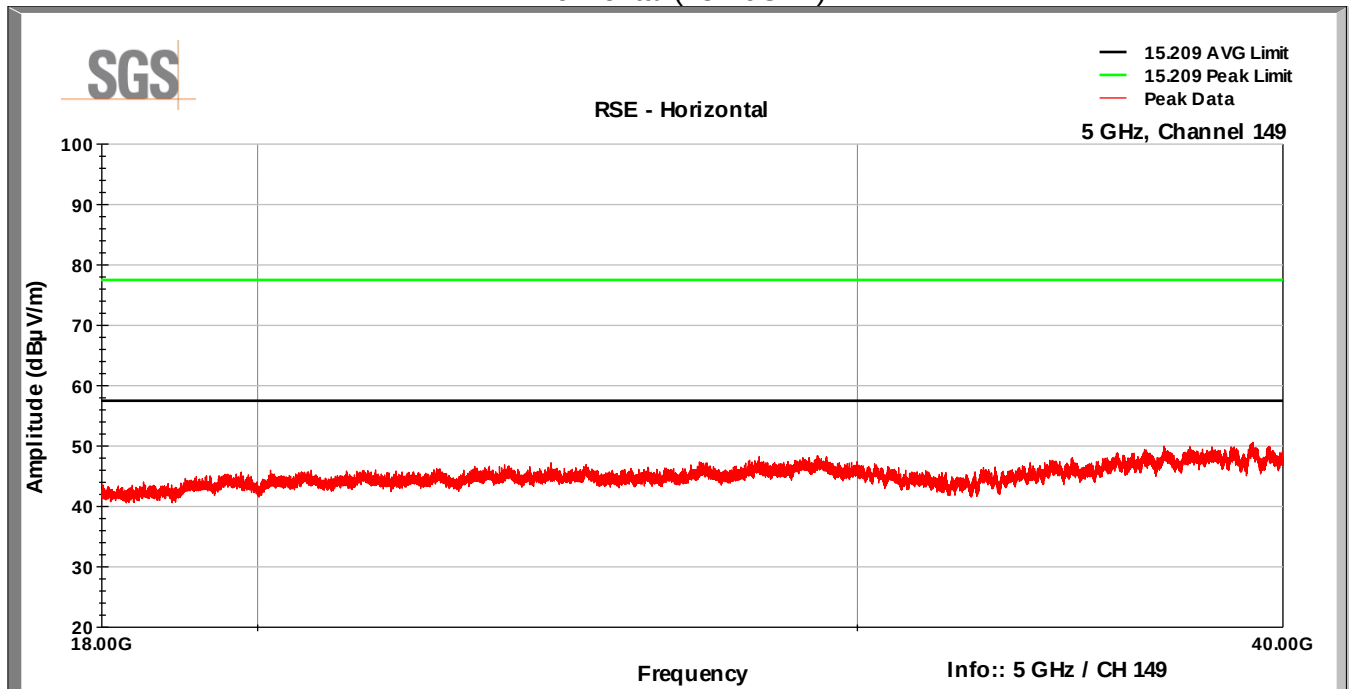
5 GHz CH 149, 6Mbps
Horizontal (1-18GHz)



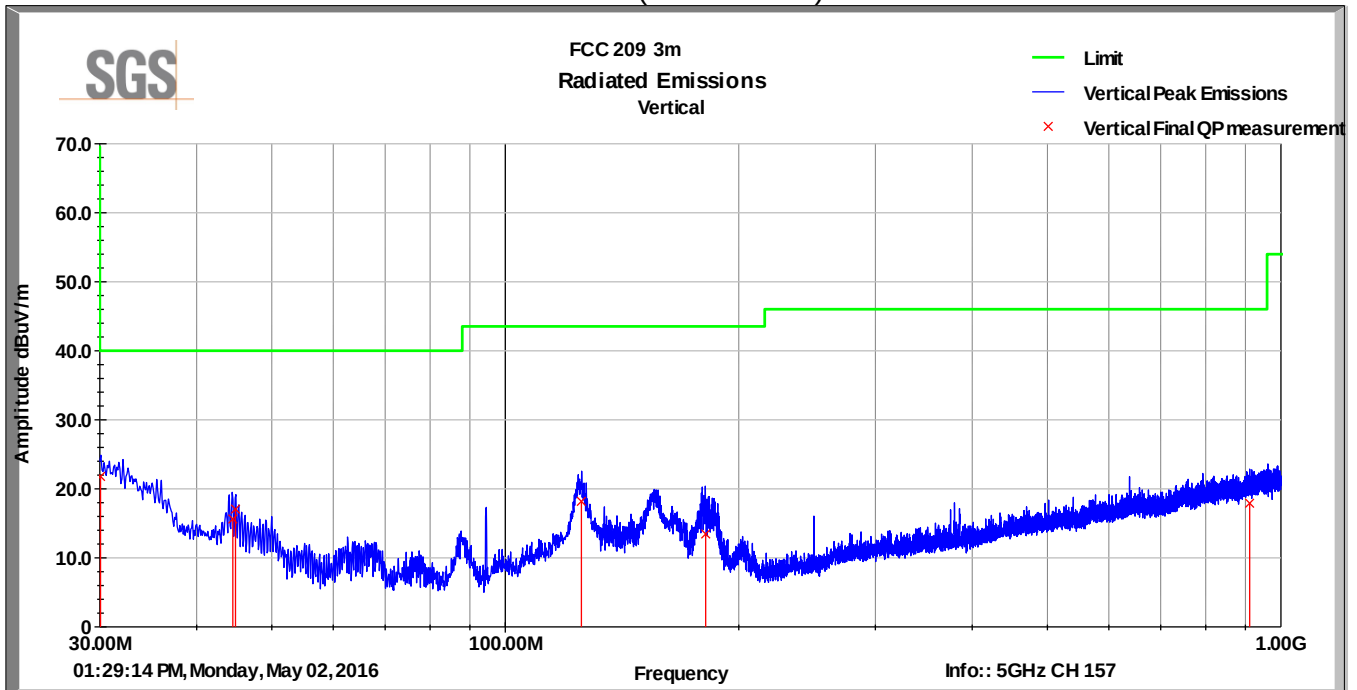
5 GHz CH 149, 6Mbps
Vertical (18-40GHz)



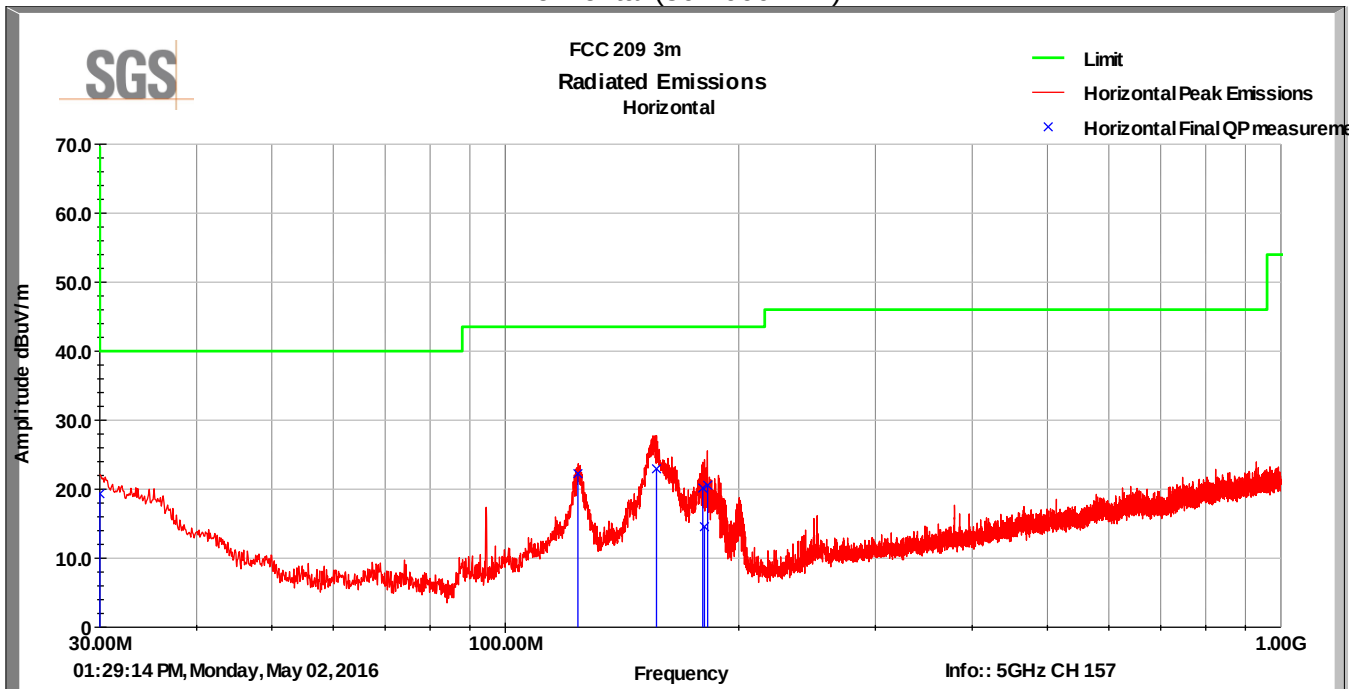
5 GHz CH 149, 6Mbps
Horizontal (18-40GHz)



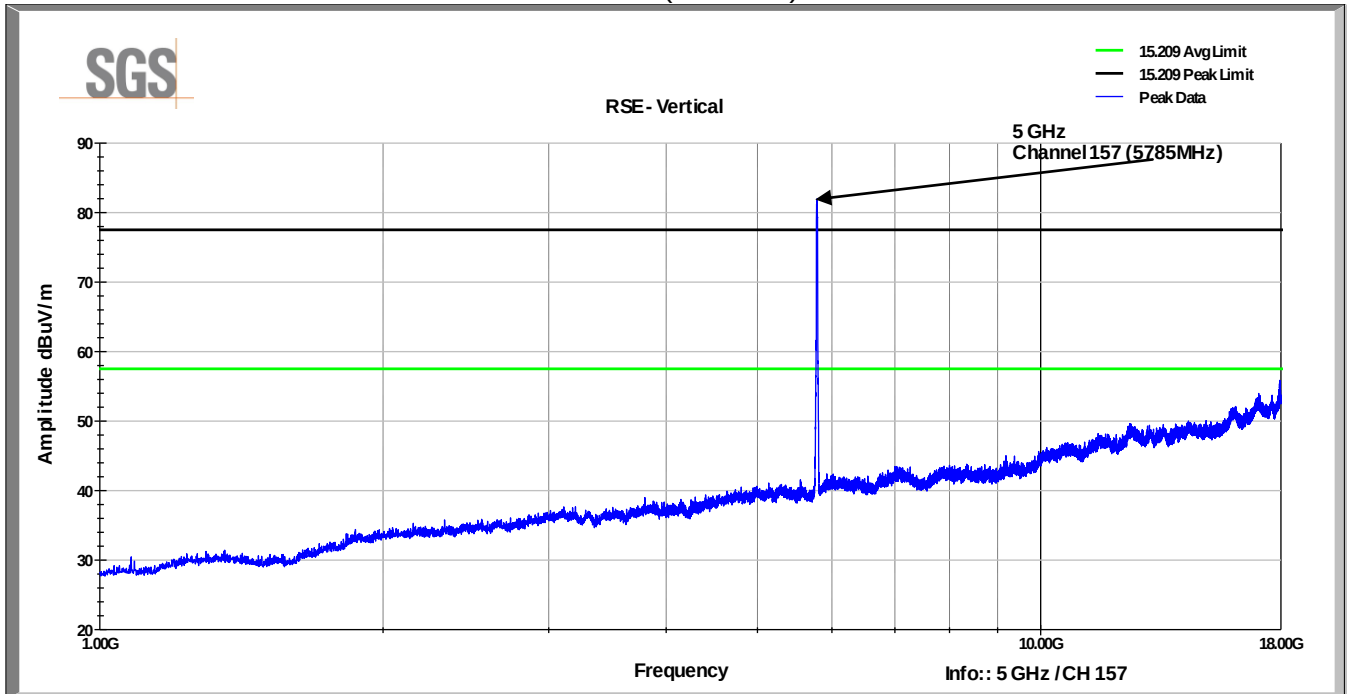
5 GHz CH 157, 6Mbps Vertical (30-1000MHz)



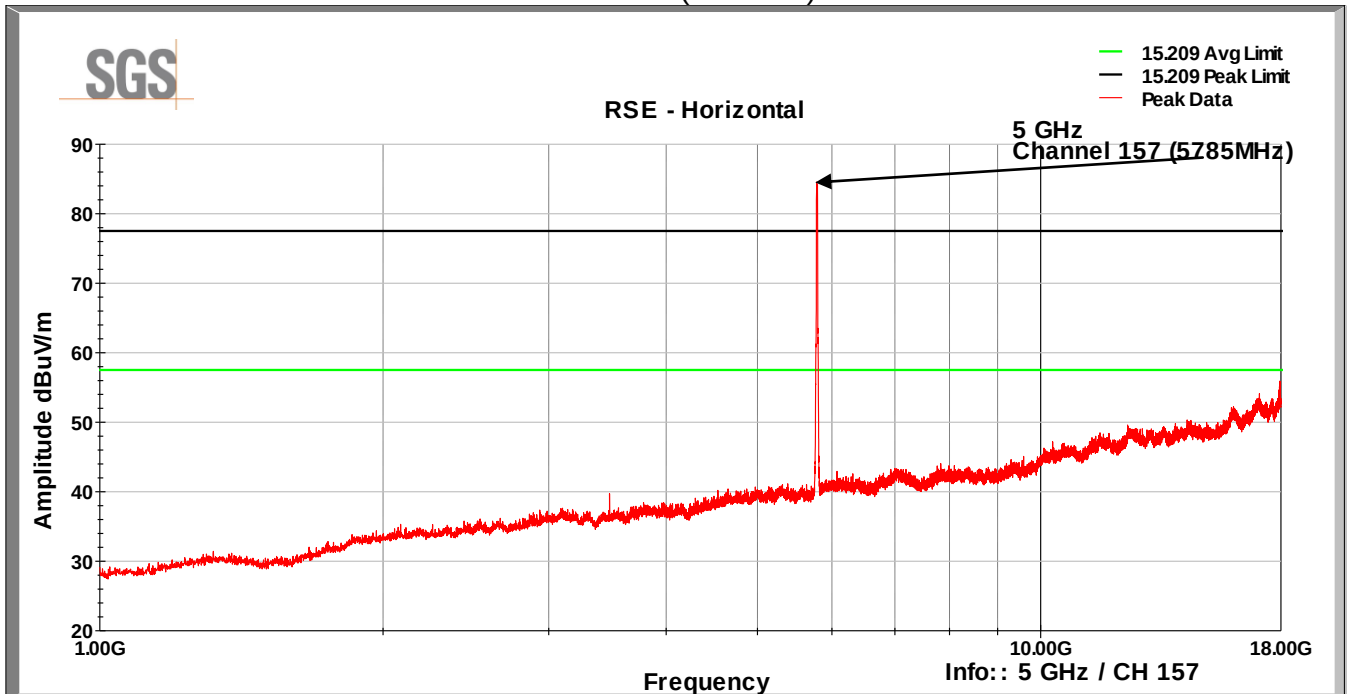
5 GHz CH 157, 6Mbps Horizontal (30-1000MHz)



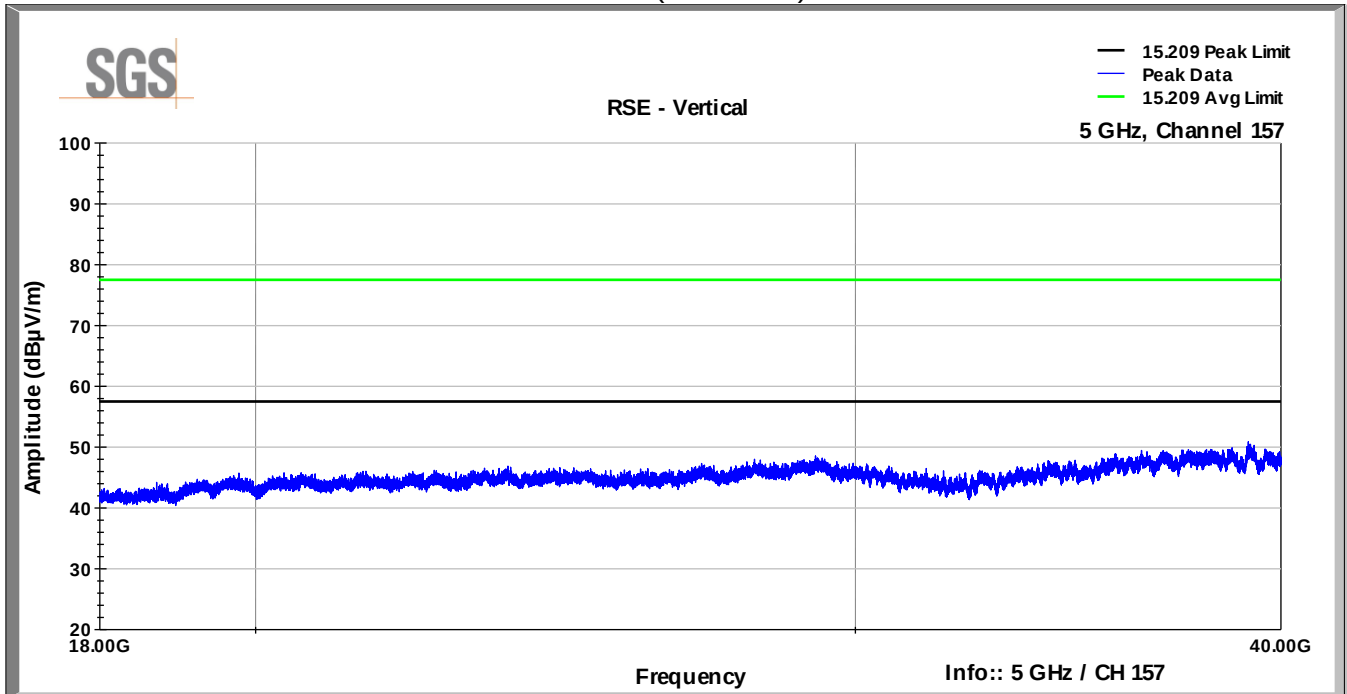
5 GHz CH 157, 6Mbps
Vertical (1-18GHz)



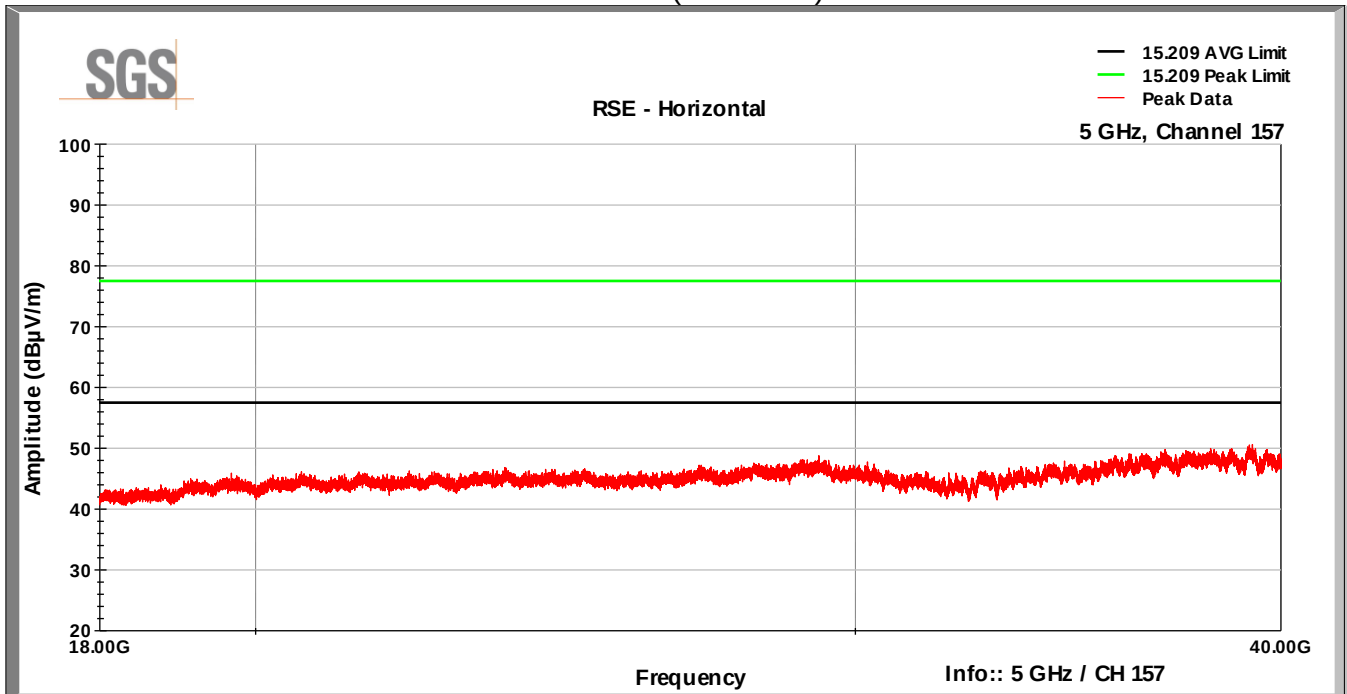
5 GHz CH 157, 6Mbps
Horizontal (1-18GHz)



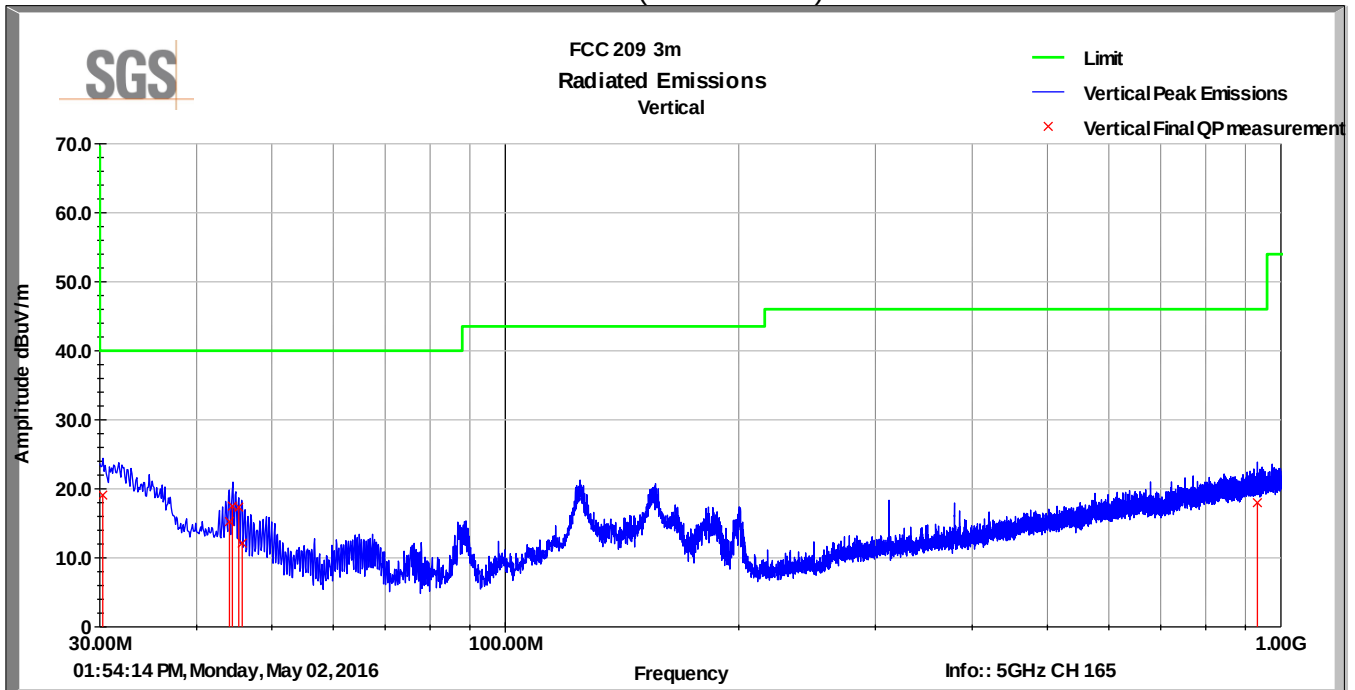
5 GHz CH 157, 6Mbps
Vertical (18-40GHz)



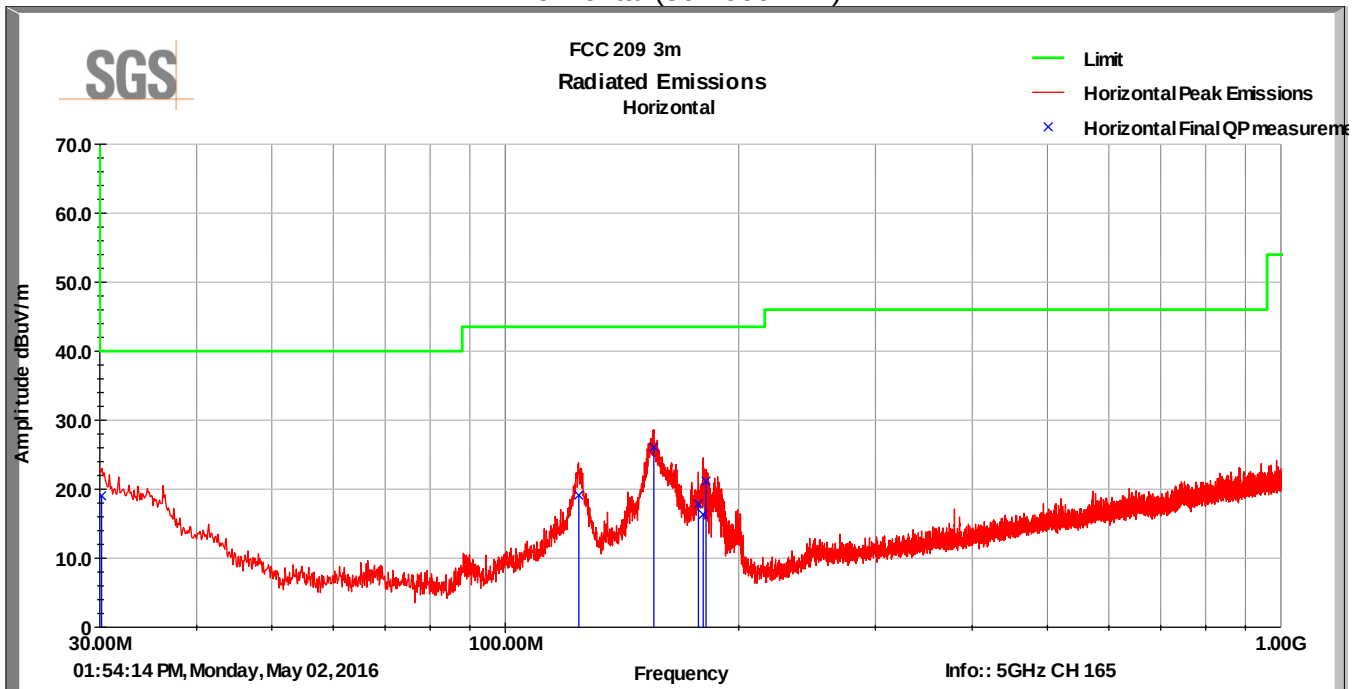
5 GHz CH 157, 6Mbps
Horizontal (18-40GHz)



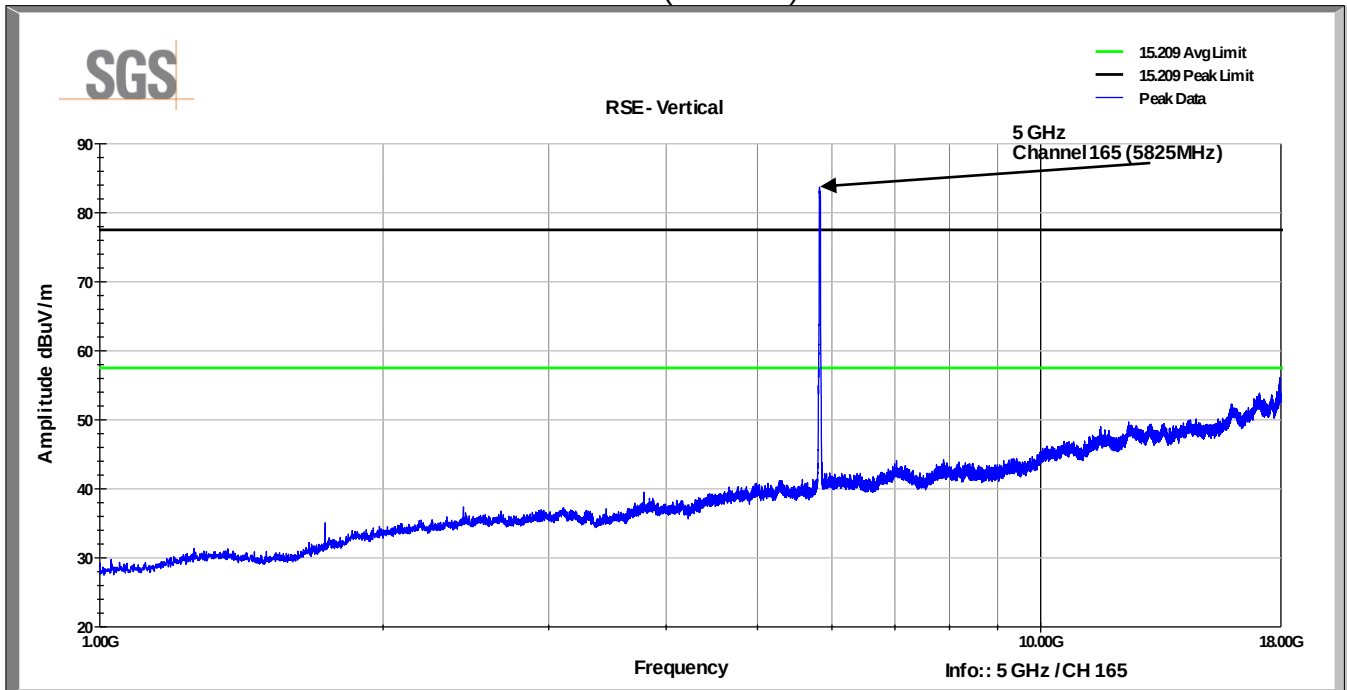
5 GHz CH 165, 6Mbps Vertical (30-1000MHz)



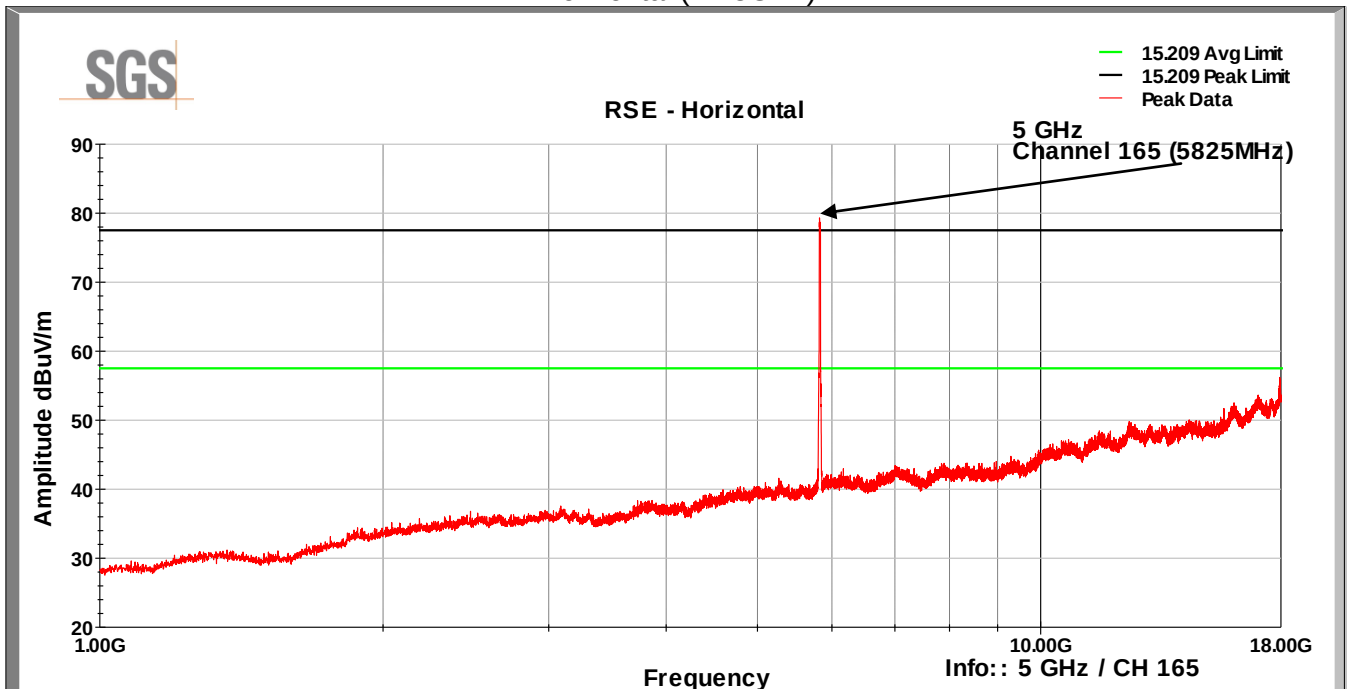
5 GHz CH 165, 6Mbps Horizontal (30-1000MHz)



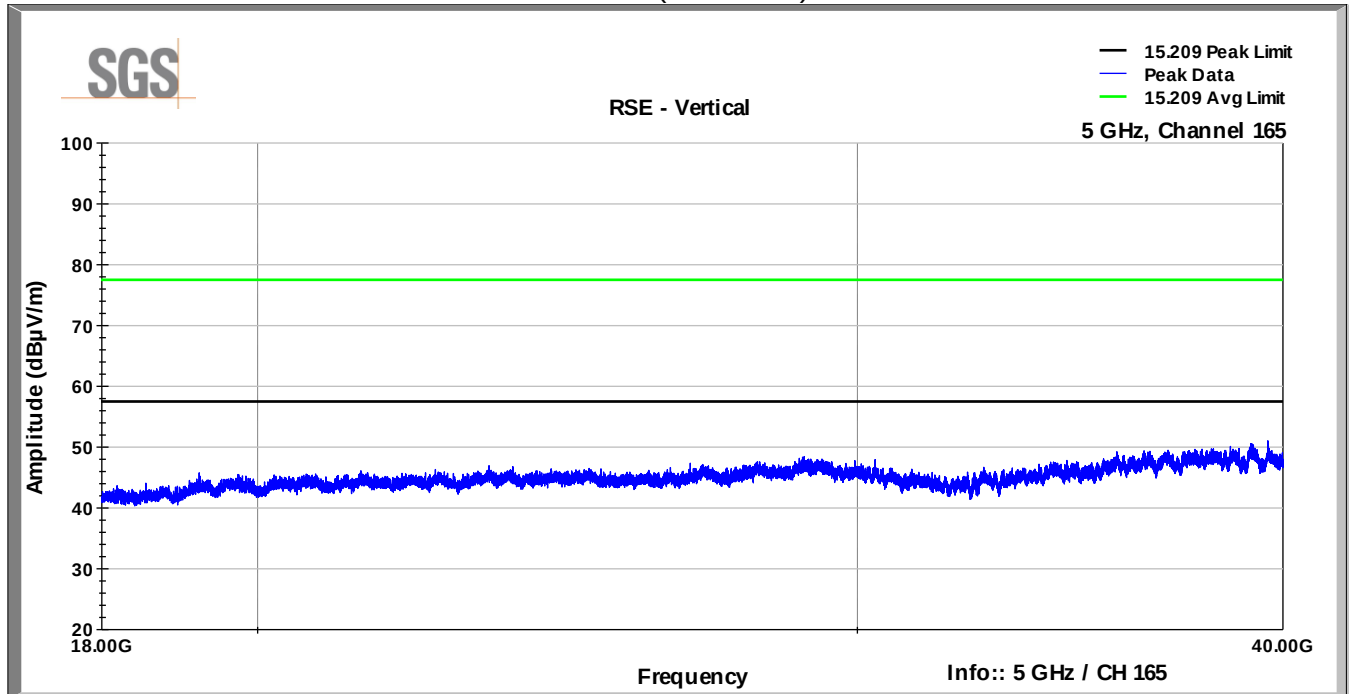
5 GHz CH 165, 6Mbps
Vertical (1-18GHz)



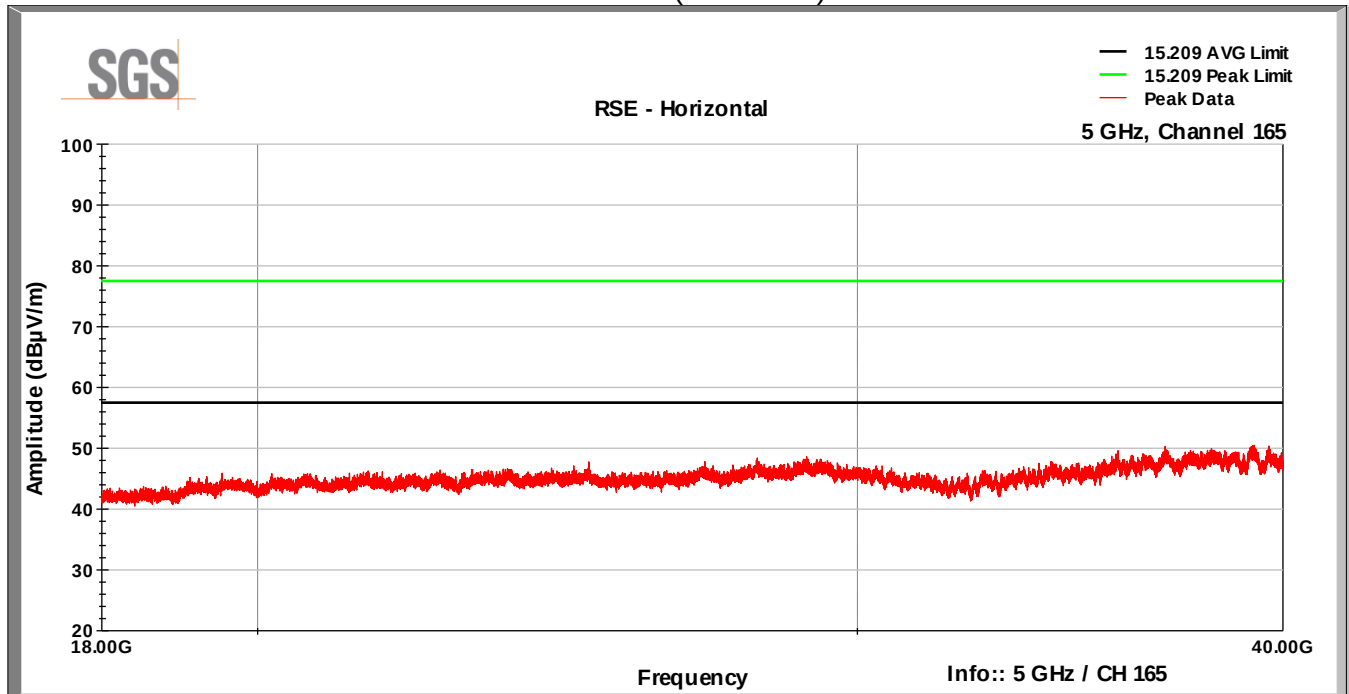
5 GHz CH 165, 6Mbps
Horizontal (1-18GHz)



5 GHz CH 165, 6Mbps
Vertical (18-40GHz)



5 GHz CH 165, 6Mbps
Horizontal (18-40GHz)



8 Revision History

Revision Level	Description of changes	Revision Date
0	Initial release	02 May 2016
	-	
	-	
	-	