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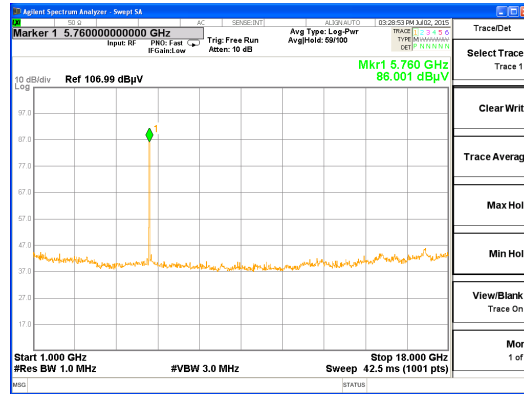
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(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, 449-100, Korea

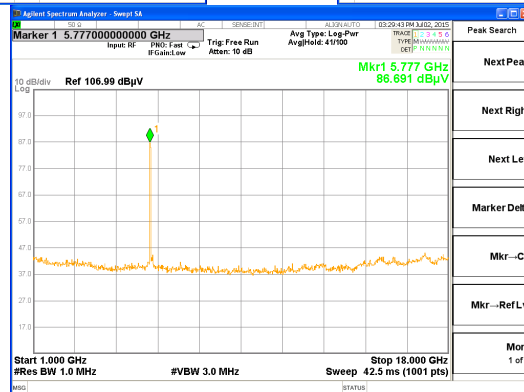
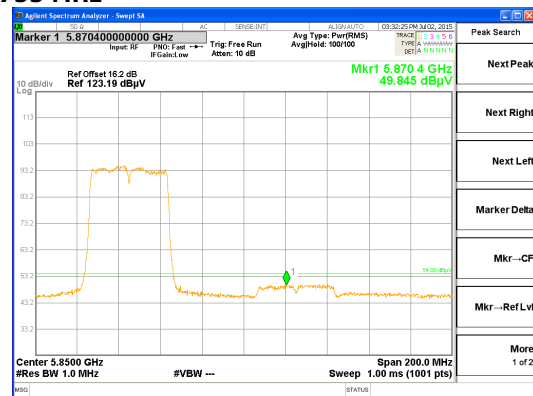
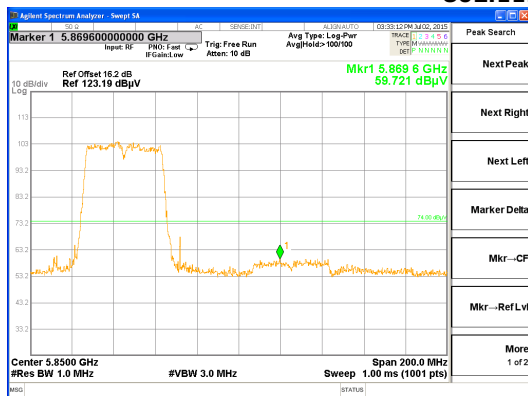
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802.11n_HT40_5755 MHz



802.11n_HT40_5795 MHz



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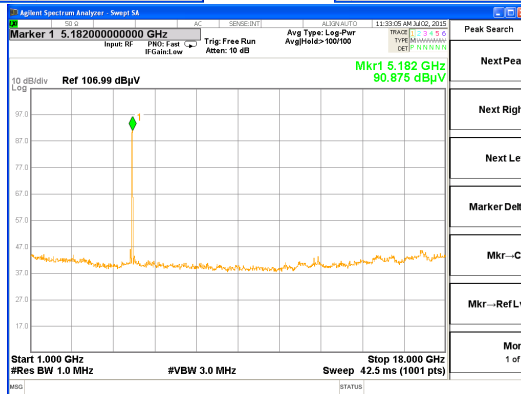
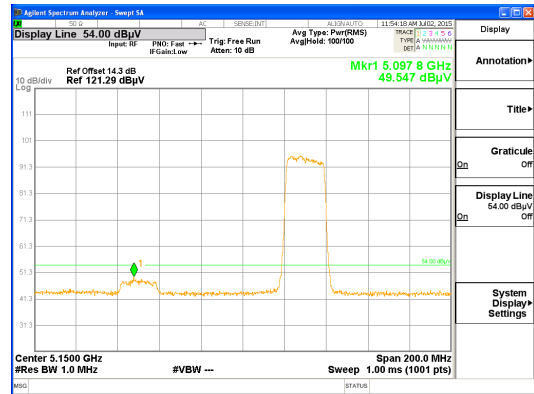
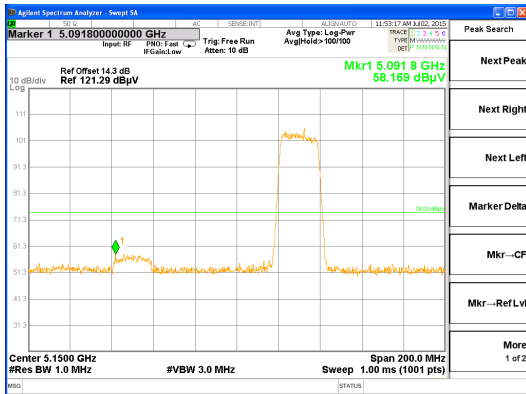
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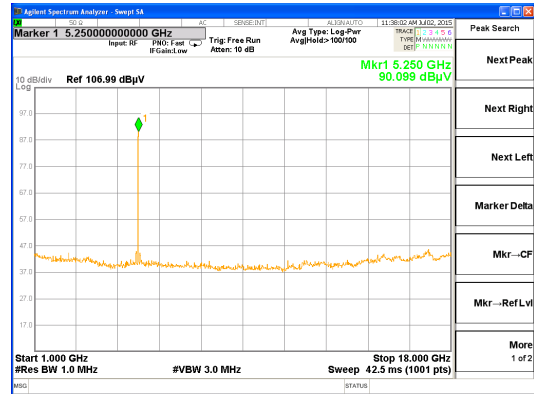
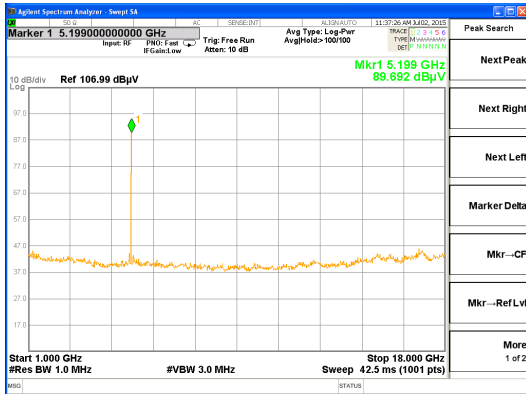
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Patch ANT : A1 + A2 + A3 (802.11ac_VHT20)

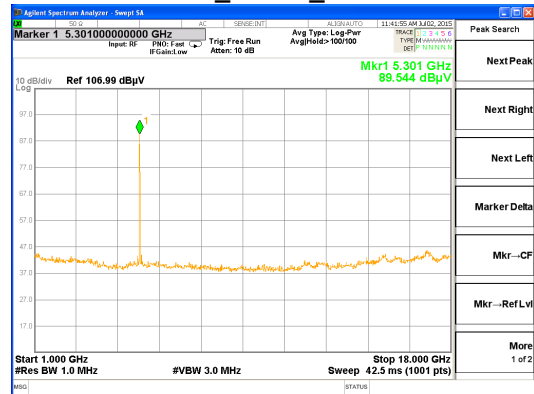
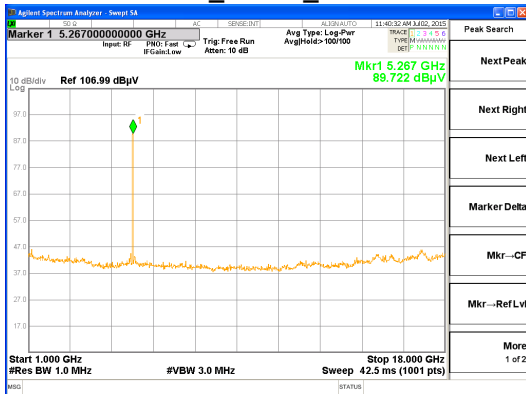


802.11ac_VHT20_5180 MHz



802.11ac_VHT20_5200 MHz

802.11ac_VHT20_5240 MHz



802.11ac_VHT20_5260 MHz

802.11ac_VHT20_5300 MHz



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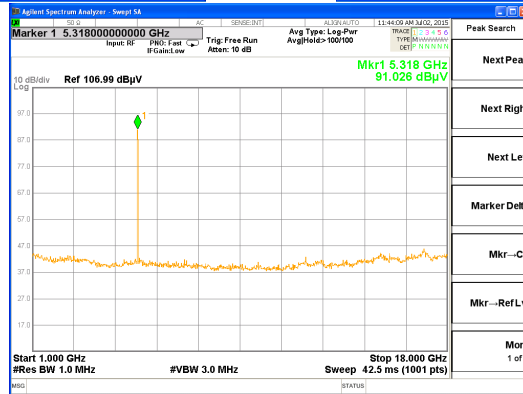
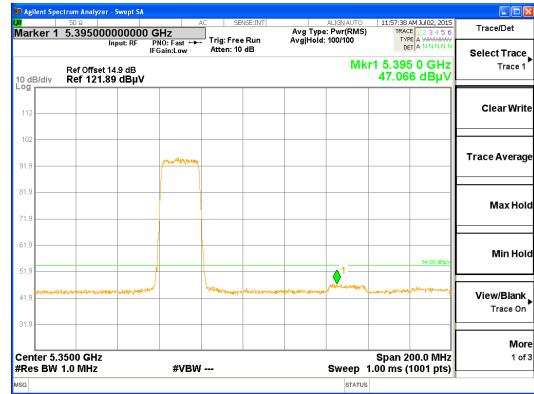
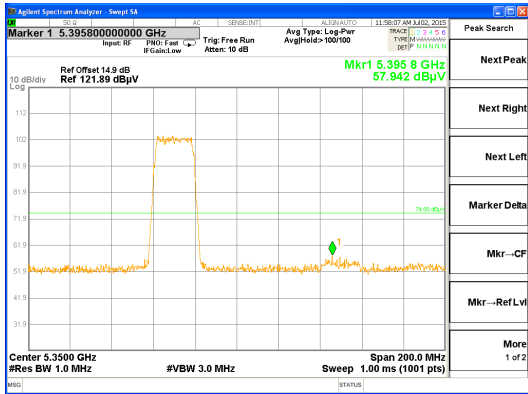
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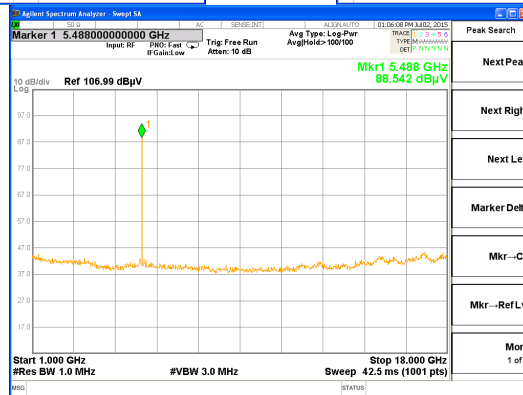
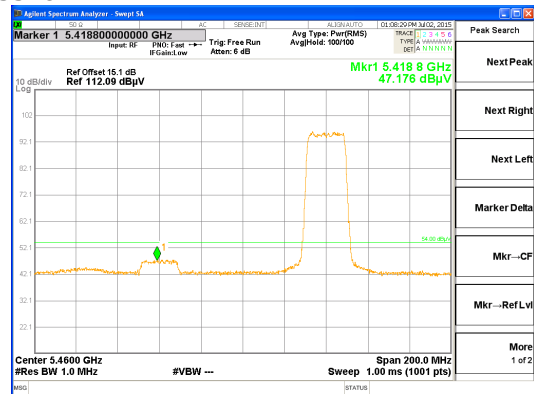
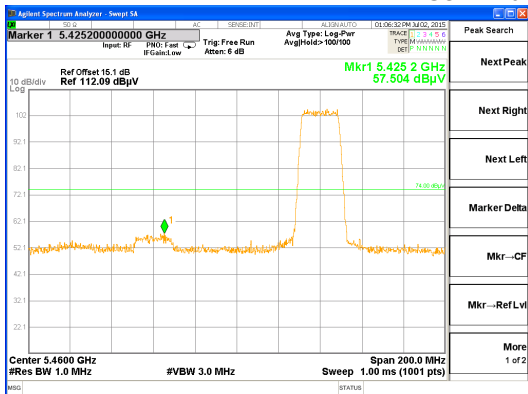
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802.11ac_VHT20_5320 MHz



802.11ac_VHT20_5500 MHz



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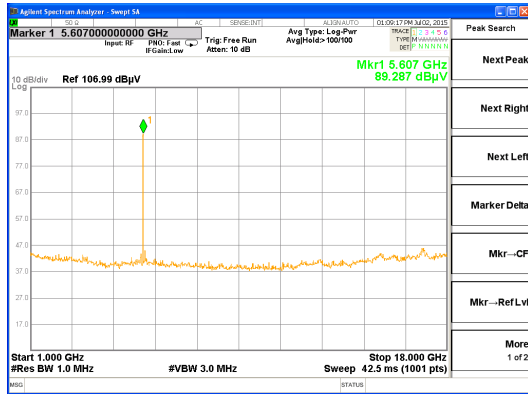
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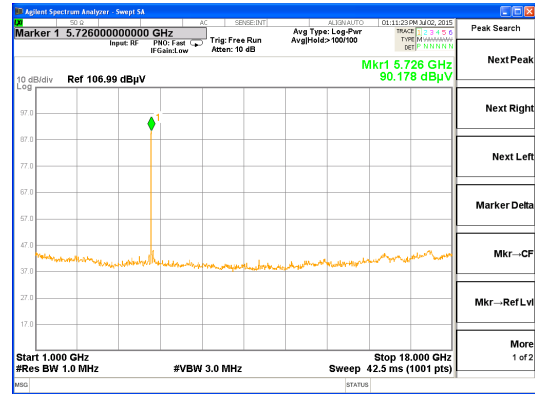
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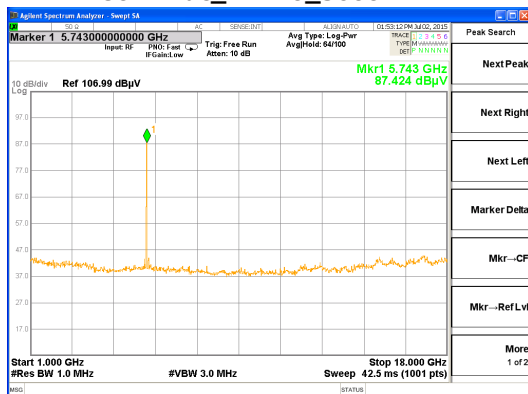
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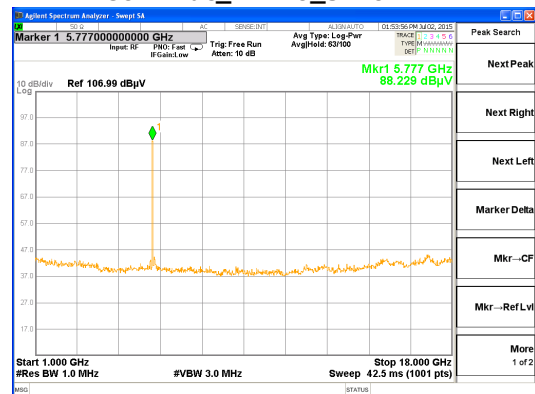
802.11ac_VHT20_5600 MHz



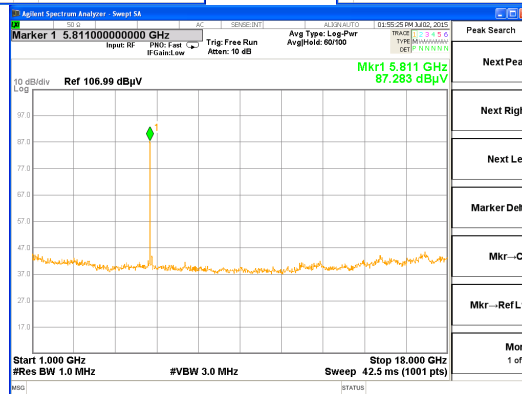
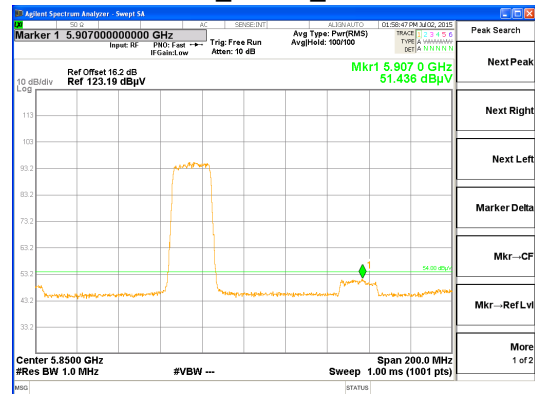
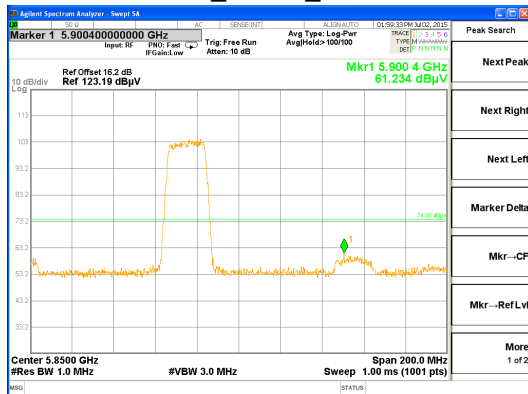
802.11ac_VHT20_5720 MHz



802.11ac_VHT20_5745 MHz



802.11ac_VHT20_5785 MHz



802.11ac_VHT20_5825 MHz

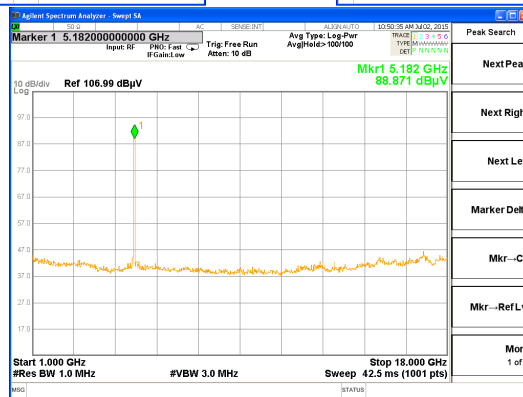
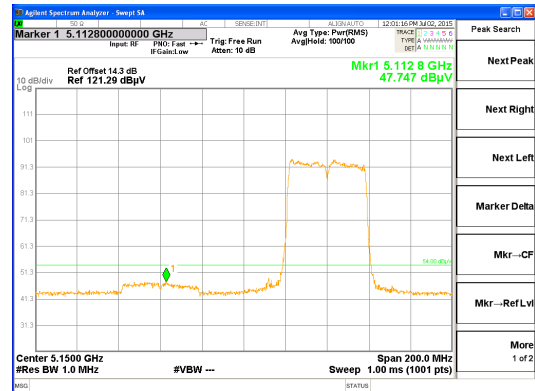
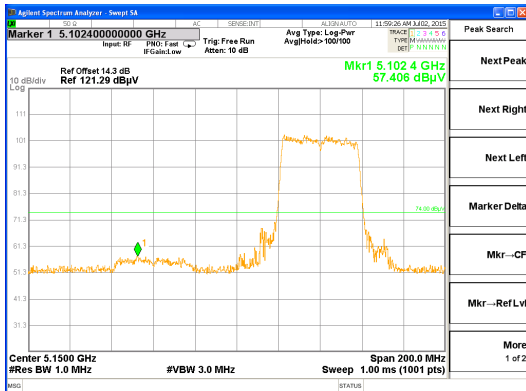


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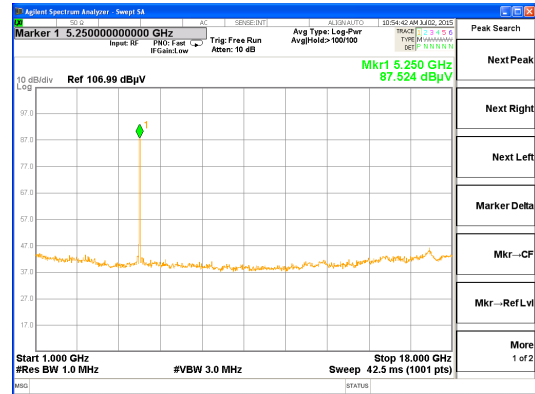
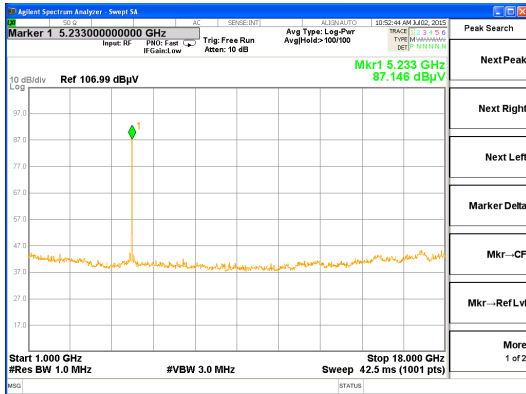
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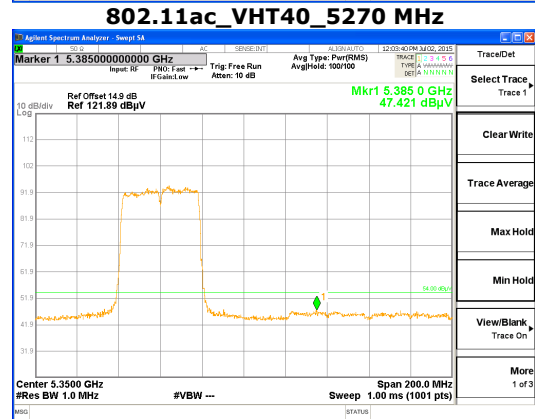
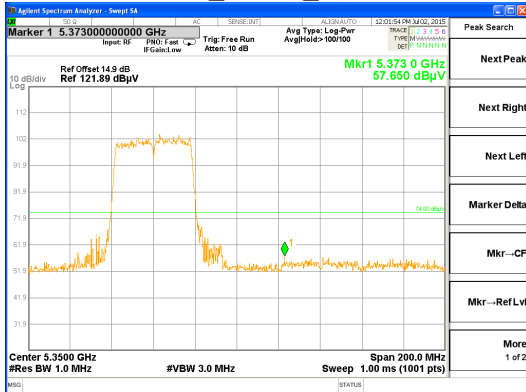
Patch ANT : A1 + A2 + A3 (802.11ac_VHT40)



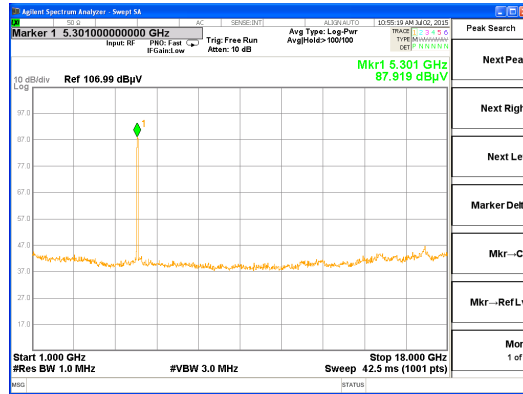
802.11ac_VHT40_5190 MHz



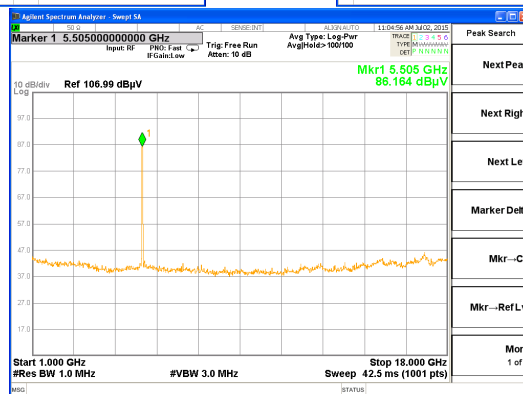
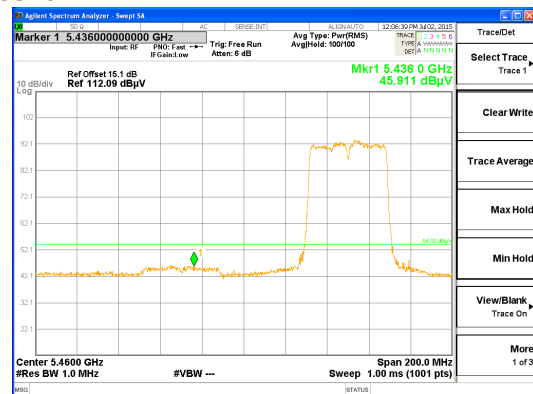
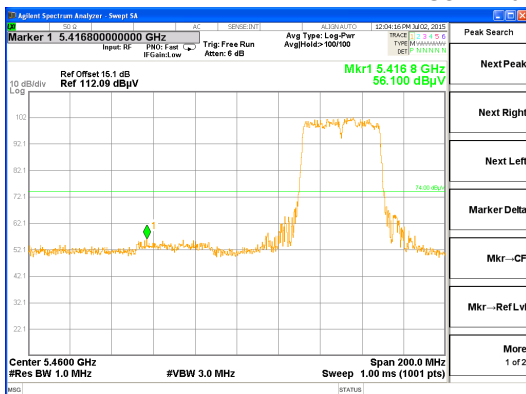
802.11ac_VHT40_5230 MHz



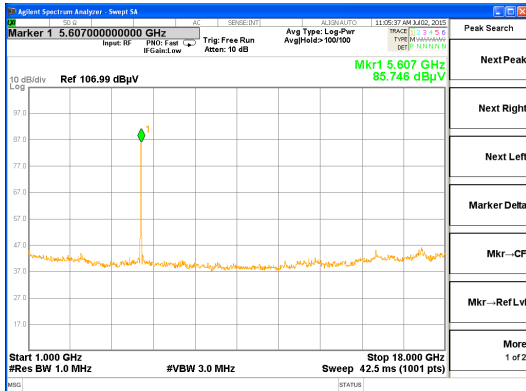
802.11ac_VHT40_5310 MHz



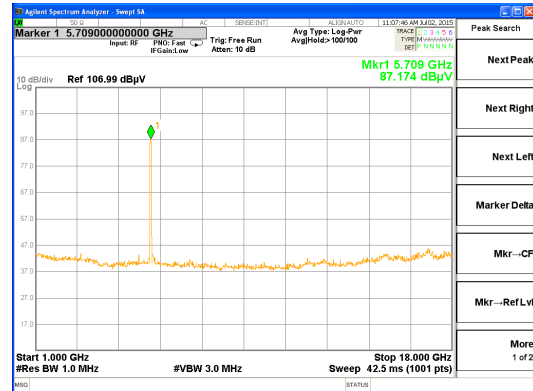
802.11ac_VHT40_5310 MHz



802.11ac_VHT40_5510 MHz



802.11ac_VHT40_5590 MHz



802.11ac_VHT40_5710 MHz



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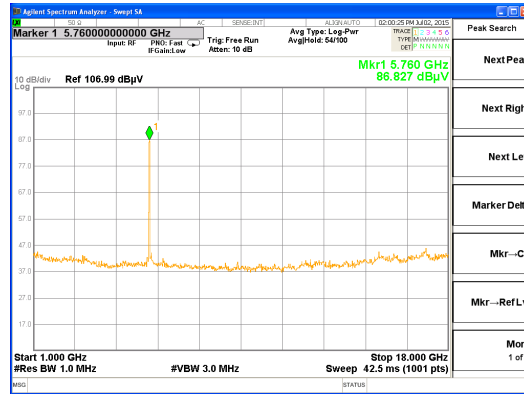
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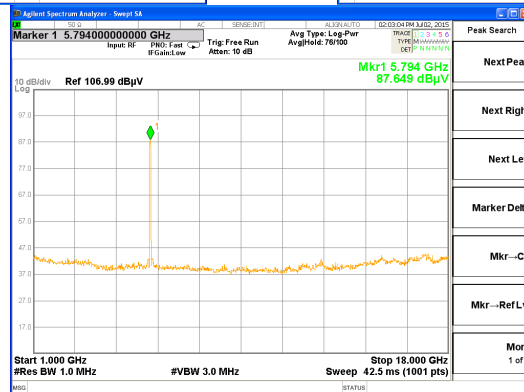
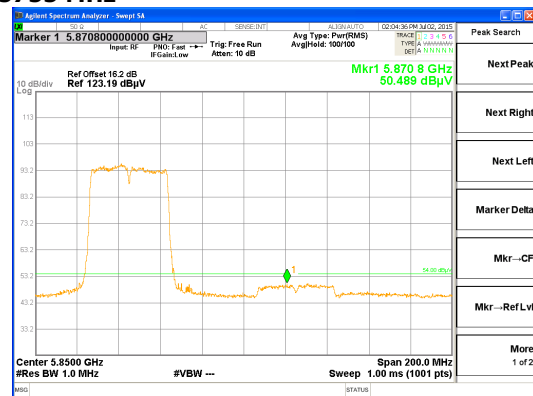
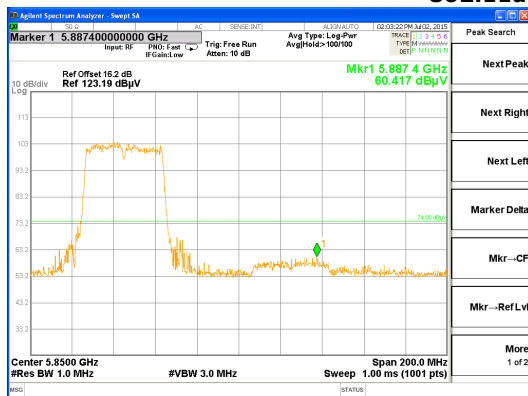
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802.11ac_VHT40_5755 MHz



802.11ac_VHT40_5795 MHz



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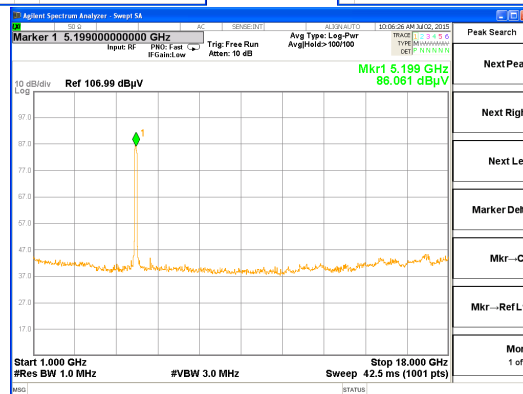
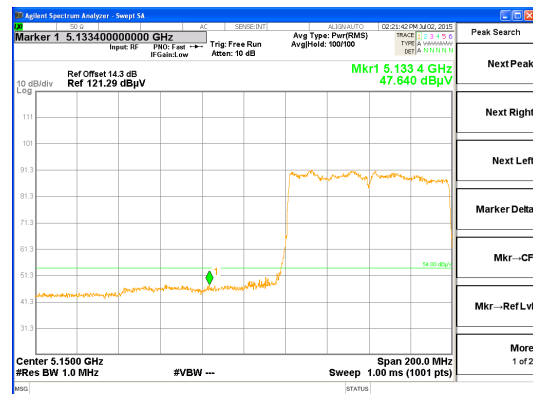
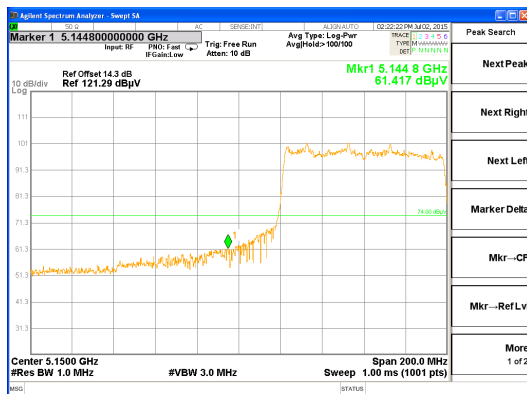
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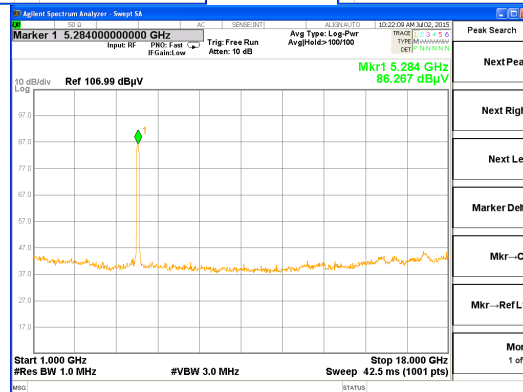
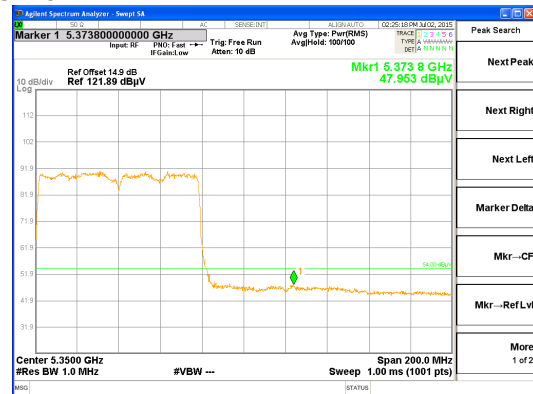
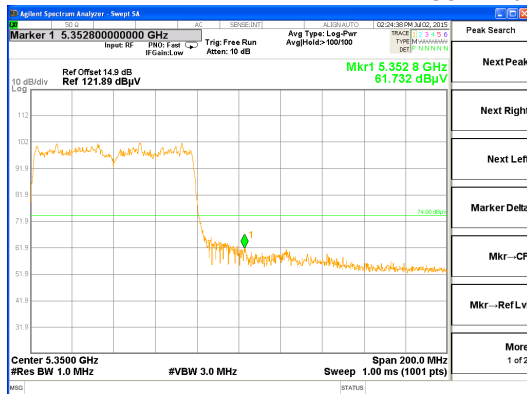
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Patch ANT : A1 + A2 + A3 (802.11ac_VHT80)



802.11ac_VHT80_5210 MHz



802.11ac_VHT80_5290 MHz



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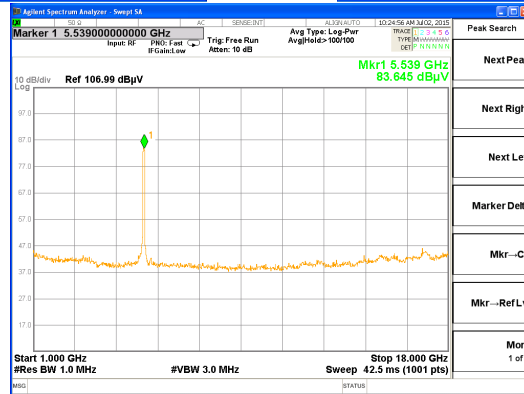
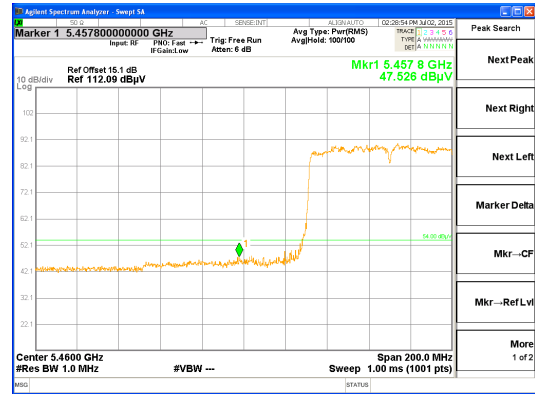
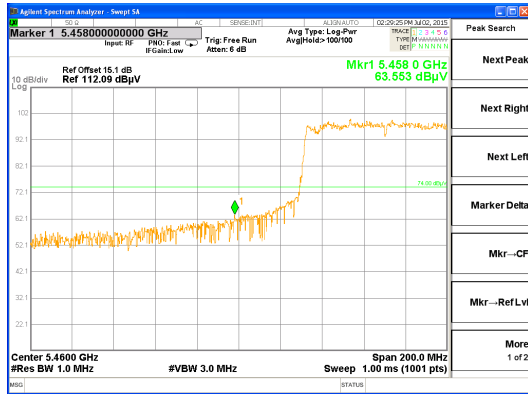
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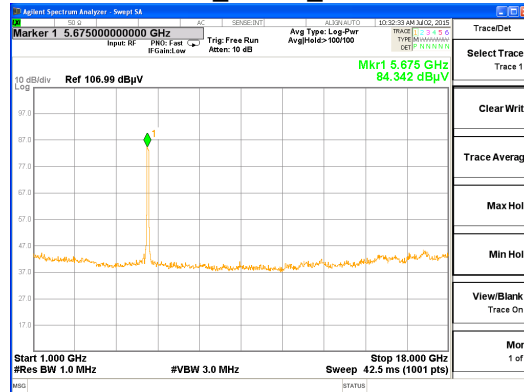
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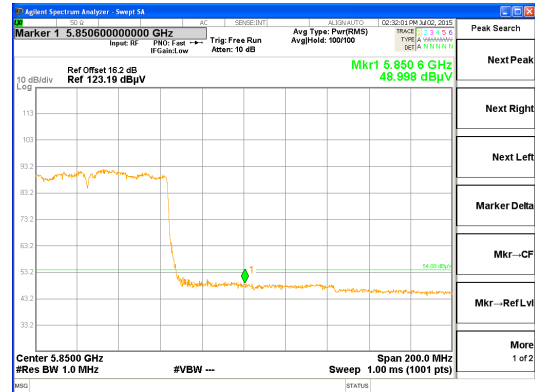
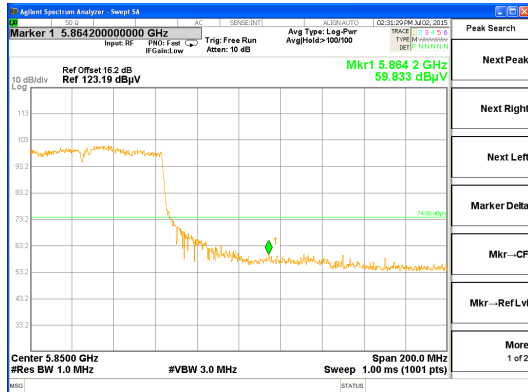
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802.11ac_VHT80_5530 MHz



802.11ac_VHT80_5690 MHz



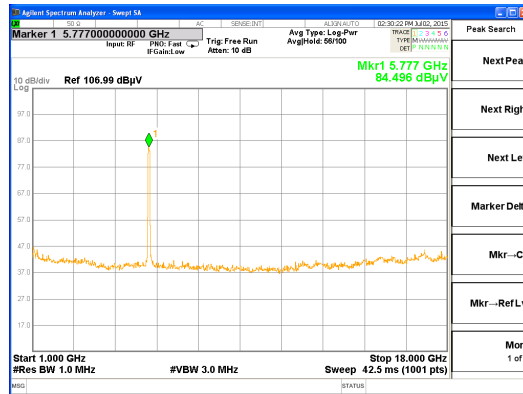
802.11ac_VHT80_5775 MHz



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802.11ac_VHT80_5775 MHz

Test Results (Rx)

1) 9 kHz to 30 MHz

Test mode : Receiver

EUT	WLAN Access Point	Measurement Detail	
Model	WEA463e	Frequency Range	9 kHz – 30 MHz
Mode	Receiver	Detector function	Quasi-Peak

The requirements are:

☒ Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
-	-	-	See note

Note :

The amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB)

2) 30 MHz to 1 GHz

Test mode : Receiver

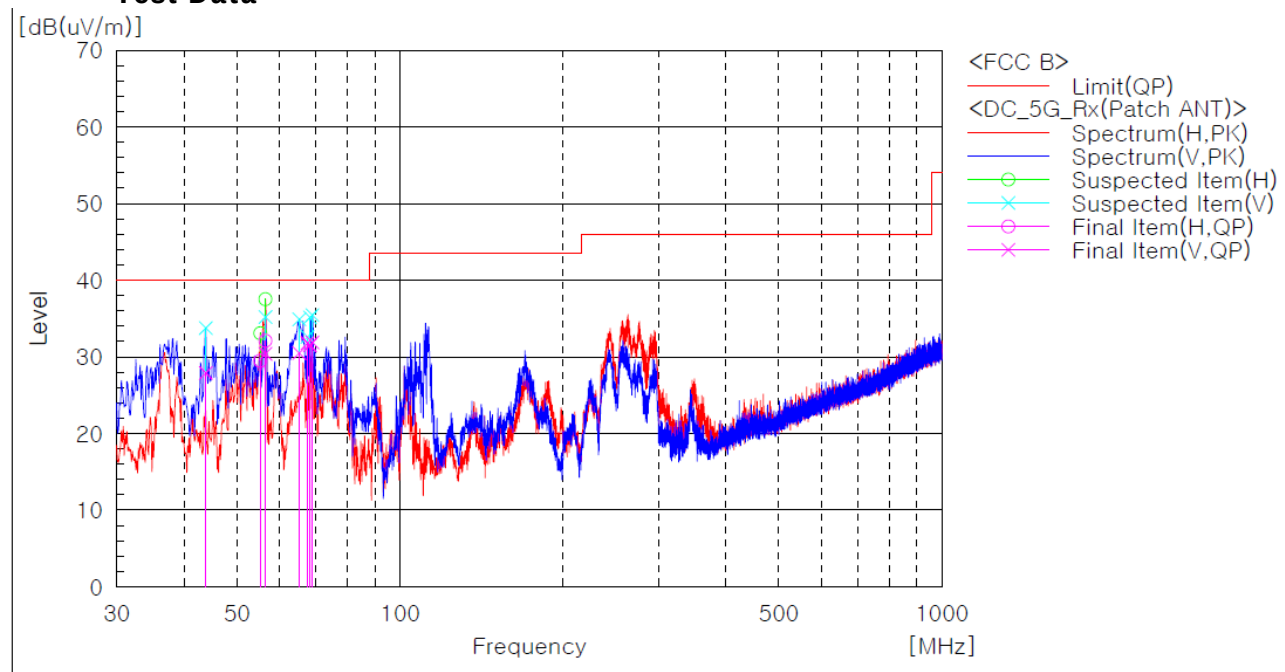
EUT	WLAN Access Point	Measurement Detail	
Model	WEA463e	Frequency Range	Below 1000MHz
Mode	Receiver	Detector function	Quasi-Peak / Peak

The requirements are:

☒ Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
56.433	32.1	7.9	Quasi-Peak

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	43.823	V	40.5	-12.6	27.9	40.0	12.1	100.0	0.0	
2	55.220	H	42.6	-13.1	29.5	40.0	10.5	100.0	309.0	
3	56.433	H	45.3	-13.2	32.1	40.0	7.9	305.0	0.0	
4	56.433	V	43.6	-13.2	30.4	40.0	9.6	100.0	126.0	
5	65.163	V	44.5	-14.0	30.5	40.0	9.5	100.0	51.0	
6	67.466	V	46.0	-14.2	31.8	40.0	8.2	100.0	126.0	
7	68.194	V	45.8	-14.3	31.5	40.0	8.5	100.0	126.0	
8	68.921	V	46.3	-14.4	31.9	40.0	8.1	100.0	163.0	

Remark :

1. The field strength of spurious emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.

3) above 1 GHz

Test mode : Receiver

EUT	WLAN Access Point	Measurement Detail	
Model	WEA463e	Frequency Range	1-40GHz
Mode	Receiver	Detector function	Average / Peak

Remarks

We have tested three mode (X, Y, Z). The worst mode (Z axis) for final test.

The requirements are:

☒ Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
No emissions were detected at a level greater than 20dB below limit.			

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
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No emissions were detected at a level greater than 20dB below limit.

2.1.9 AC Conducted Emissions

Test Location

Shielded Room

Frequency Range of Measurement

150 kHz to 30 MHz

Instrument Settings

IF Band Width: 9 kHz

Test Procedures

The EUT was placed on a non-metallic table 0.8m above the metallic, grounded floor and 0.4m from the reference ground plane wall. The distance to other metallic surfaces was at least 0.8m.

Amplitude measurements were performed with a quasi-peak detector and an average detector.

Limit

- 15.207(a)

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56*	56 to 46*
0.5 ~ 5	56	46
5 ~ 30	60	50

* Decreases with the logarithm of the frequency.

Test Results

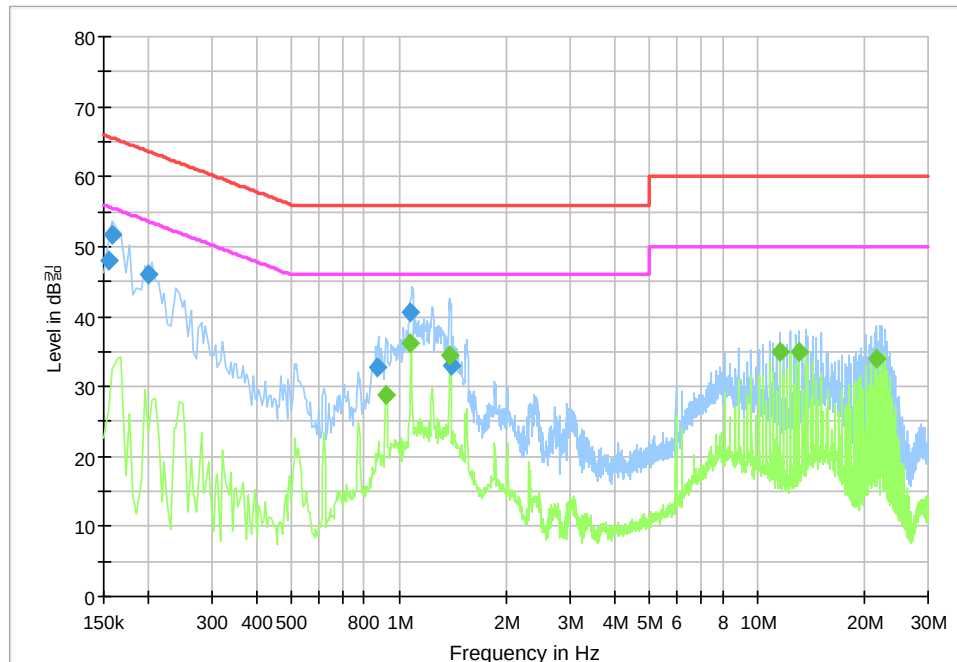
The requirements are:

☒ Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
1.077	36.8	9.2	Average

Test Data

[HOT]
CISPR 22 Class B_L1



Final Result 1

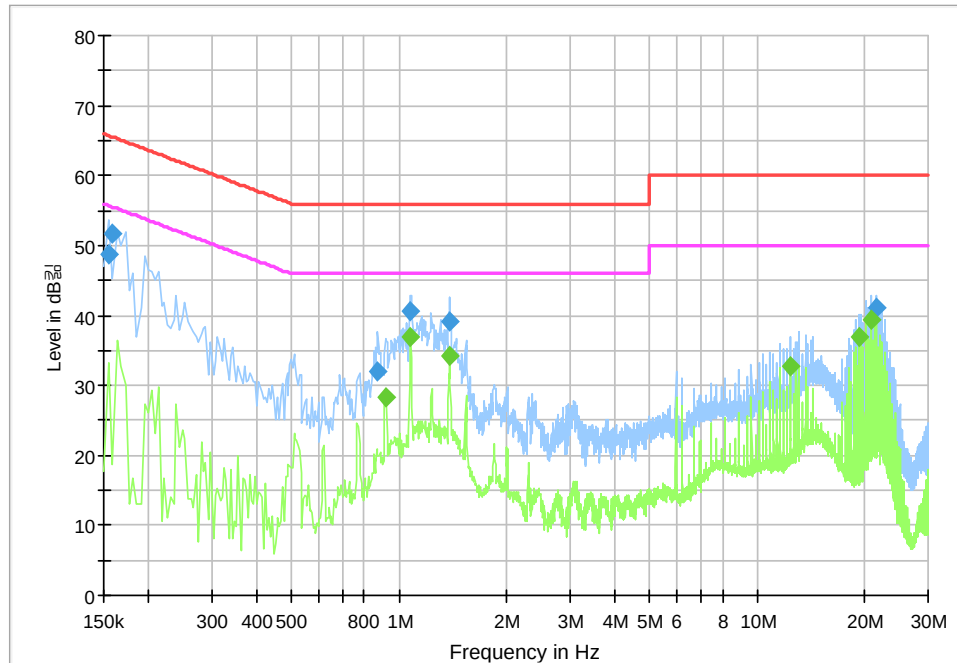
Frequency (MHz)	QuasiPeak (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.154500	48.1	1000.0	9.000	On	L1	9.8	17.7	65.8
0.159000	51.7	1000.0	9.000	On	L1	9.8	13.8	65.5
0.199500	46.1	1000.0	9.000	On	L1	9.9	17.5	63.6
0.874500	32.7	1000.0	9.000	On	L1	9.8	23.3	56.0
1.077000	40.7	1000.0	9.000	On	L1	9.7	15.3	56.0
1.401000	32.9	1000.0	9.000	On	L1	9.7	23.1	56.0

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.924000	28.7	1000.0	9.000	On	L1	9.7	17.3	46.0
1.072500	36.2	1000.0	9.000	On	L1	9.7	9.8	46.0
1.383000	34.5	1000.0	9.000	On	L1	9.7	11.5	46.0
11.629500	34.8	1000.0	9.000	On	L1	9.9	15.2	50.0
13.114500	35.0	1000.0	9.000	On	L1	9.9	15.0	50.0
21.529500	33.9	1000.0	9.000	On	L1	10.1	16.1	50.0

[NEUTRAL]

CISPR 22 Class B_N



Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.154500	48.7	1000.0	9.000	On	N	9.8	17.1	65.8
0.159000	51.7	1000.0	9.000	On	N	9.8	13.9	65.5
0.874500	32.0	1000.0	9.000	On	N	9.8	24.0	56.0
1.077000	40.6	1000.0	9.000	On	N	9.7	15.4	56.0
1.387500	39.0	1000.0	9.000	On	N	9.7	17.0	56.0
21.534000	41.0	1000.0	9.000	On	N	10.0	19.0	60.0

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.924000	28.4	1000.0	9.000	On	N	9.7	17.6	46.0
1.077000	36.8	1000.0	9.000	On	N	9.7	9.2	46.0
1.387500	34.1	1000.0	9.000	On	N	9.7	11.9	46.0
12.376500	32.9	1000.0	9.000	On	N	9.9	17.1	50.0
19.306500	37.0	1000.0	9.000	On	N	10.0	13.0	50.0
20.791500	39.4	1000.0	9.000	On	N	10.0	10.6	50.0

APPENDIX A – Test Equipment Used For Tests

	Name of Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	Signal Analyzer	Agilent	N9020A	MY48011598	2014-11-07	2015-11-07
2	Spectrum Analyzer	Rohde & Schwarz	FSP-30	100994	2014-11-07	2015-11-07
3	EMI Test Receiver	Rohde & Schwarz	ESC17	100814	2014-12-05	2015-12-05
4	EMI Test Receiver	Rohde & Schwarz	ESC17	100816	2014-12-05	2015-12-05
5	Active Loop Antenna	SCHWARZBECK	FMZB 1513	1513-126	2014-05-19	2016-05-19
6	Attenuator	HP	8498A	1801A06913	2014-11-11	2015-11-11
7	EPM Series Power Meter	HP	E4418A	GB38272734	2014-11-17	2015-11-17
8	Power Sensor	HP	8487A	3318A03524	2015-02-06	2016-02-06
9	Audio Analyzer	HP	8903B	2747A03432	2014-11-10	2015-11-10
10	ESG-D Series Signal Generator	Agilent	E4432B	US40054094	2014-11-12	2015-11-12
11	SYNTHESIZED SWEEPER	HP	8341B	2819A01563	2014-11-14	2015-11-14
12	Attenuator	HP	8494A	3308A33351	2014-11-07	2015-11-07
13	Temp&Humi Chamber	Kunpoong	JT-TH-556-1	9QE5-002	2015-01-16	2016-01-16
14	Temp&Humi Chamber	Kunpoong	JT-TH-556-2	9QE5-003	2015-01-16	2016-01-16
15	Temp&Humi Chamber	ESPEC CORP.	SH-241	92000872	2015-05-13	2016-05-13
16	DC POWER SUPPLY	Agilent	E3632A	MY40011638	2014-11-07	2015-11-07
17	Horn Antenna	ETS-Lindgren	3115	00078895	2015-05-07	2017-05-07
18	Horn Antenna	ETS-Lindgren	3116	00062916	2015-04-30	2017-04-30
19	OPT H64 AMPLIFIER	HP	8447F	3113A06814	2015-02-06	2016-02-06
20	PREAMPLIFIER	Agilent	8449B	3008A02307	2014-10-24	2015-10-24
21	Radio Communication Tester	Rohde & Schwarz	CMU200	106765	2015-02-02	2016-02-02
22	LISN	Rohde & Schwarz	ENV216	101235	2015-05-14	2016-05-14
23	LISN	Rohde & Schwarz	ENV216	101236	2015-05-14	2016-05-14
24	LISN	Rohde & Schwarz	ENV216	101151	2014-11-07	2015-11-07
25	DC POWER SUPPLY	Agilent	E3632A	MY40011638	2014-11-07	2015-11-07
26	EMI Test Receiver	Rohde & Schwarz	ESC13	100032	2015-02-02	2016-02-02
27	6dB Attenuator	R&S	DNF	272.4110.50	2014-11-07	2015-11-07
28	AMPLIFIER	Sonoma Instrument Co.	310	291721	2015-02-02	2016-02-02
29	EMI Test Receiver	Rohde & Schwarz	ESU40	100336	2015-05-15	2016-05-15
30	Signal Generator	Rohde & Schwarz	SMBV100A	258008	2015-05-13	2016-05-13
31	Bilog Antenna	Schaffner	CBL6111C	2551	2014-05-08	2016-05-08