FCC RADIO TEST REPORT

Applicant	:	Ubiquiti Networks, Inc.
Address	:	685 Third Avenue, 27th Floor New York, New York 10017 USA
Equipment	:	AMPLIFI INSTANT
Model No.	:	AFi-INS-P
Trade Name	:	AMPLIFI
FCC ID.	:	SWX-AFIP

I HEREBY CERTIFY THAT :

The sample was received on Aug. 08, 2017 and the testing was carried out on Jul. 20, 2018 at Cerpass Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of Cerpass Technology Corp., the test report shall not be reproduced except in full.

Approved by:

Mark Liao / Assistant Manager

Tested by:

Spree Yei / Engineer

Laboratory Accreditation:

Cerpass Technology Corporation Test Laboratory

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History of this test report

Report No.	Issue Date	Description
TEFE1808106	Aug. 06, 2018	Original

1. Summary of Test Procedure and Test Results

1.1. Applicable Standards

ANSI C63.4:2014

ANSI C63.10:2013

FCC Rules and Regulations Part 15 Subpart E §15.407

First R&O 14-30

KDB662911

KDB789033

KDB644545

FCC Rule	Description of Test	Result
15.203	Antenna Requirement	Pass
15.207(a)	AC Power Line Conducted Emission	Pass
15.407(b) 15.209	Radiated Spurious Emission	Pass
15.407(a)	26 dB Occupied Bandwidth	Pass
15.407	6 dB Bandwidth	Pass
15.407 (a) & (a)(3)	Average Power	Pass
15.407(a)	Output and PSD	Pass
15.407(g)	Frequency Stability	Pass
15.407(c)	Automatically Discontinue Transmission	Pass

2. Test Configuration of Equipment under Test

2.1. Feature of Equipment under Test

Modulation Type	DSSS, OFDM
Frequency Range	802.11b/g/n/ac: 2412-2462MHz 802.11a/an/ac: 5150-5250MHz, 5725-5850MHz
Data Rate	WLAN: 802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS15, HT20/40 802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11ac: MCS0 – MCS9, VHT 20/40/80
Antenna Type	Internal Antenna
Antenna Gain	2.4G: ANT A/B: 3.0dBi 5G: ANT A/B: 4.0dBi

2.2. Carrier Frequency of Channels

Band 1: 5150MHz-5250MHz

802.11a, 802.11an HT 20, 802.11ac VHT20

Channel	Frequency(MHz)	Channel	Frequency(MHz)
***36**	**5180**	***44**	**5220**
40	5200	***48**	**5240**

802.11an HT 40, 802.11ac VHT40

Channel	Frequency(MHz)	Channel	Frequency(MHz)
***38**	**5190**	***46**	**5230**

802.11ac VHT80

Channel	Frequency(MHz)
***42**	**5210**

Band 4: 5725MHz -5850MHz

802.11a, 802.11an HT20, 802.11ac VHT20

Channel	Frequency(MHz)	Channel	Frequency(MHz)
***149**	**5745**	161	5805
153	5765	***165**	**5825**
***157**	**5785**		

802.11an HT 40, 802.11ac VHT40

Channel	Frequency(MHz)	Channel	Frequency(MHz)
***151**	**5755**	***159**	**5795**

802.11ac VHT80

Channel	Frequency(MHz)
***155**	**5775**

Note: Channels remarked * are selected to perform test.

2.3. Test Mode and Test Software

a. During testing, the interface cables and equipment positions were varied according to ANSI C63.4.
b. The complete test system included remote workstation and EUT for RF test. The remote workstation included Notebook.
c. An executive program,"RTL819x 3.0-2014.0930" under WIN 7 was executed to transmit and receive data via WLAN.
d. The following test modes were performed for the test:

Conducted Emissions from the AC mains power ports	
Test Mode	Operating Description
1	802.11a (6Mbps)
2	802.11ac VHT20 (6.5Mbps)
3	802.11ac VHT40 (13.5Mbps)
4	802.11ac VHT80 (29.3Mbps)
caused "Test Mode 1" generated the worst case, it was reported as the final data.	
Radiation Emissions (30MHz ~ 1GHz)	
Test Mode	Operating Description
1	802.11a (6Mbps)
2	802.11ac VHT20 (6.5Mbps)
3	802.11ac VHT40 (13.5Mbps)
4	802.11ac VHT80 (29.3Mbps)
caused "Test Mode 1" generated the worst case, it was reported as the final data.	
Radiation Emissions (1GHz ~ 40GHz)	
Test Mode	Operating Description
1	802.11a (6Mbps)
2	802.11ac VHT20 (6.5Mbps)
3	802.11ac VHT40 (13.5Mbps)
4	802.11ac VHT80 (29.3Mbps)

2.4. Description of Test System

<For conduction & radiation test (below 1GHz) Test>

Device	Manufacturer	Model No.	Description
Remote workstation			
Notebook	DELL	LatitudeE5450/5450	Power Cable, Unshielding, 1.8m

Use Cable:

Cable	Quantity	Description
Network	1	Unshielding, 15m

<For radiation test (above 1GHz) & Others Test>

Device	Manufacturer	Model No.	Description
Remote workstation			
Notebook	DELL	INSPIRON 510m	Power Cable, Unshielding, 1.8m

Use Cable:

Cable	Quantity	Description
Network	1	Unshielding, 15m

2.5. General Information of Test

Test Site	**Cerpass Technology Corporation Test Laboratory** Address: No.10, Ln. 2, Lianfu St., Luzhu Dist., Taoyuan City 33848, Taiwan (R.O.C.) Tel:+886-3-3226-888 Fax:+886-3-3226-881 Address: No.68-1, Shihbachongsi, Shihding Township, New Taipei City 223, Taiwan, R.O.C. Tel: +886-2-2663-8582	
	FCC	TW1079, TW1061, TW1439
	IC	4934E-1, 4934E-2
	VCCI	T-2205 for Telecommunication Test C-4663 for Conducted emission test R-4399, R-4218 for Radiated emission test G-10812, G-10813 for radiated disturbance above 1GHz
Frequency Range Investigated:	Conducted: from 150kHz to 30 MHz Radiation: from 30 MHz to 40,000MHz	
Test Distance:	The test distance of radiated emission from antenna to EUT is 3 M.	

2.6. Measurement Uncertainty

Measurement Item	Uncertainty
Radiated Spurious Emission(9KHz~30MHz)	±5.007dB
Radiated Spurious Emission(30MHz~1GHz)	±5.157dB
Radiated Spurious Emission(1GHz~18GHz)	±6.383dB
Radiated Spurious Emission(18GHz~40GHz)	±6.648dB
Conducted Spurious Emission	±1.253dB
6dB Bandwidth	±6.89%
Power Spectral Density	±0.630dB
26 dB Occupied Bandwidth	±6.10%
Frequency Stability	±375KHz
Channel Frequencies Separation	±6.10%
20dB Bandwidth	±6.12%
Dwell Time	±1.34%
Peak Output Power(Conducted Power Meter)	±0.86dB
Temperature	±1.2oC
Humidity	±2.7%
Channel Move Time	±4.53%
Channel Closing Transmission Time	±6.61%
Threshold	±0.631dB
Non occupancy period	±1.17%

3. Test Equipment and Ancillaries Used for Tests

<For radiation test (above 1GHz) & Others Test>

Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
EMI Receiver	R&S	ESCI3	100443	2017/03/07	2018/03/06
LISN	Schwarzbeck	NSLK 8127	8127-740	2016/08/30	2017/08/29
LISN	Schwarzbeck	NSLK 8127	8127-516	2016/09/06	2017/09/05
Pulse Limiter	R&S	ESH3-Z2	101934	2017/02/14	2018/02/13
Bilog Antenna	Schwarzbeck	VULB9168	369	2017/03/15	2018/03/14
Active Loop Antenna	EMCO	6507	40855	2017/05/15	2018/05/14
Horn Antenna	EMCO	3115	31601	2016/09/05	2017/09/04
Horn Anrenna	EMCO	3116	31970	2017/03/29	2018/03/28
EXA Signal Analyzer	KEYSIGHT	N9010A	MY54200207	2017/03/17	2018/03/16
Preamplifier	EM	EM330	60660	2017/02/25	2018/02/24
Preamplifier	EMC INSTRUMENTS	EMC051845SE	980333	2016/09/13	2017/09/12
Preamplifier	Agilent	8449B	3008A01954	2017/02/09	2018/02/08
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2016/11/04	2017/11/03
MXG MW Analog Signal Generator	KEYSIGHT	N5183A	MY50142931	2017/03/17	2018/03/16
Spectrum Analyzer	R&S	FSP40	100219	2016/09/01	2017/08/31
BLUETOOTH TESTER	R&S	CBT	101133	2017/03/10	2018/03/09
Attenuator	KEYSIGHT	8491B	MY39250703	2017/03/07	2018/03/06
Rotary Attenuator	Agilent	8495B	MY42146680	2017/03/13	2018/03/12
Temp & Humi chamber	T-MACHINE	TMJ-9712	T-12-040111	2016/09/05	2017/09/04
Series Power Meter	Anritsu	ML2495A	1224005	2017/03/01	2018/02/28
Power Sensor	Anritsu	MA2411B	1207295	2017/03/01	2018/02/28
Cable	HUBER SUHNER	SUCOFLEX 102	28422/2	2017/02/25	2018/02/24
Cable	HUBER SUHNER	SUCOFLEX 102	28418/2	2017/02/25	2018/02/24
Software	Farad	Ez-EMC	ver.ct3a1	N/A	N/A
Software	AUDIX	E3	V8.2014-8-6	N/A	N/A
Software	Keysight	N7607B Signal Studio	v2.0.0.1	N/A	N/A
Software	Keysight	Inservice MonitorUtility	N/A	N/A	N/A

<For conduction & radiation test (below 1GHz) Test>

Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
EMI Receiver	R&S	ESCI3	100821	2017/09/08	2018/09/07
LISN	Schwarzbeck	NSLK 8127	8127-568	2018/02/26	2019/02/25
Pulse Limiter	R&S	ESH3-Z2	101934	2018/02/22	2019/02/21
Bilog Antenna	Schwarzbeck	VULB9168	275	2017/08/31	2018/08/30
Active Loop Antenna	EMCO	6507	40855	2018/05/22	2019/05/21
Horn Antenna	EMCO	3115	31601	2017/09/11	2018/09/10
Horn Antenna	EMCO	3116	31970	2018/03/23	2019/03/22
Preamplifier	EM	EM330	60658	2017/09/08	2018/09/07
Preamplifier	EMC INSTRUMENTS	EMC051845SE	980333	2017/09/20	2018/09/19
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2017/11/10	2018/11/09
MXG MW Analog Signal Generator	KEYSIGHT	N5183A	MY50142931	2018/04/10	2019/04/09
Spectrum Analyzer	R&S	FSP40	100219	2018/07/03	2019/07/02
BLUETOOTH TESTER	R&S	CBT	101133	2018/04/02	2019/04/01
Attenuator	KEYSIGHT	8491B	MY39250705	2017/09/04	2018/09/03
Rotary Attenuator	Agilent	8495B	MY42146680	2018/03/29	2019/03/28
Temp & Humi chamber	T-MACHINE	TMJ-9712	T-12-040111	2017/09/04	2018/09/03
Series Power Meter	Anritsu	ML2495A	1224005	2018/03/23	2019/03/22
Power Sensor	Anritsu	MA2411B	1207295	2018/03/23	2019/03/22
Software	Farad	Ez-EMC	ver.ct3a1	N/A	N/A
Software	AUDIX	E3	V8.2014-8-6	N/A	N/A
Software	Keysight	N7607B Signal Studio	V3.0.0.0	N/A	N/A
Software	Keysight	Inservice MonitorUtility	N/A	N/A	N/A

4. Antenna Requirements

4.1. Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.407 (a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

4.2. Antenna Construction and Directional Gain

Antenna Type	Internal Antenna
Antenna Gain	2.4G: ANT A/B: 3.0dBi, 5G: ANT A/B: 4.0dBi

2412-2462MHz
For Power directional gain= G_{ant}= 3.0 dBi
For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / NANT]$
= 6.01 (dBi)
5150MHz-5250MHz
For Power directional gain= G_{ant}= 4.00 dBi
For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / NANT]$
= 7.01 (dBi)
5725MHz -5850MHz
For Power directional gain= G_{ant}= 4.00 dBi
For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / NANT]$
= 7.01 (dBi)

5. Test of AC Power Line Conducted Emission

5.1. Test Limit

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz, according to the methods defined in ANSI C63.4-2014. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

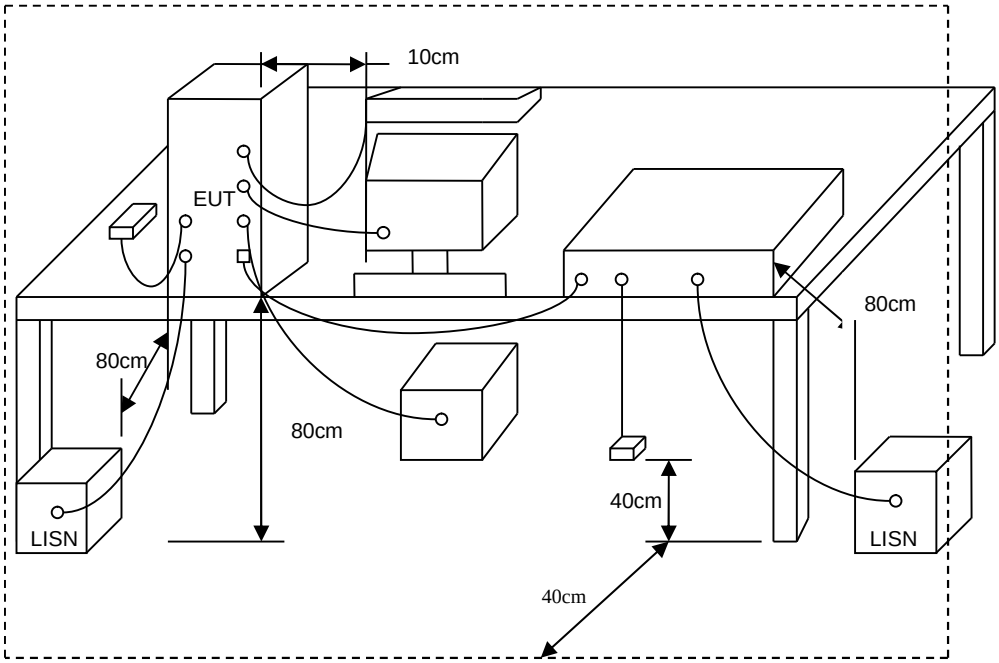
Frequency (MHz)	Quasi Peak (dBμV)	Average (dBμV)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

*Decreases with the logarithm of the frequency.

5.2. Test Procedures

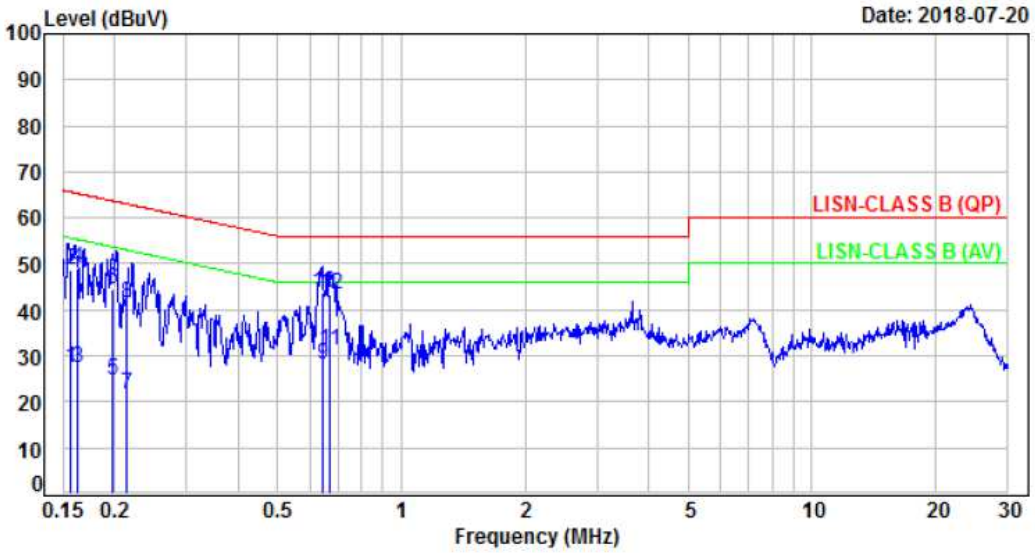
a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
c. All the support units are connecting to the other LISN.
d. The LISN provides 50 ohm coupling impedance for the measuring instrument.
e. The FCC states that a 50 ohm, 50 micro-Henry LISN should be used.
f. Both sides of AC line were checked for maximum conducted interference.
g. The frequency range from 150 kHz to 30 MHz was searched.
h. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

5.3. Typical Test Setup



5.4. Test Result and Data

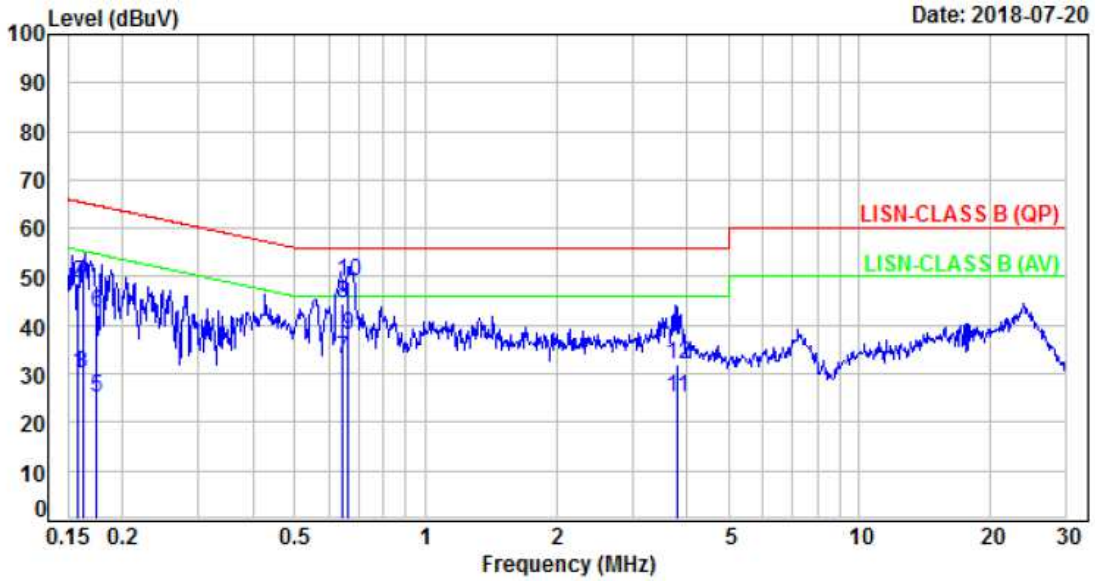
Power	:	AC 120V	Pol/Phase	:	LINE
Test Mode	:	Mode 1, Band 1	Temperature	:	20 °C
Test date	:	Jul. 20, 2018	Humidity	:	40 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.16	9.94	17.25	27.19	55.66	-28.47	Average	P
2	0.16	9.94	38.88	48.82	65.66	-16.84	QP	P
3	0.16	9.94	17.52	27.46	55.36	-27.90	Average	P
4	0.16	9.94	39.01	48.95	65.36	-16.41	QP	P
5	0.20	9.94	14.89	24.83	53.67	-28.84	Average	P
6	0.20	9.94	34.61	44.55	63.67	-19.12	QP	P
7	0.21	9.94	11.85	21.79	53.02	-31.23	Average	P
8	0.21	9.94	31.69	41.63	63.02	-21.39	QP	P
9	0.64	9.97	18.01	27.98	46.00	-18.02	Average	P
10	0.64	9.97	33.77	43.74	56.00	-12.26	QP	P
11	0.67	9.97	21.19	31.16	46.00	-14.84	Average	P
12	0.67	9.97	33.46	43.43	56.00	-12.57	QP	P

Note: Level = Reading + Factor
Margin = Level – Limit
Factor = (LISN, ISN, PLC or current probe) Factor + Cable Loss+ Attenuator

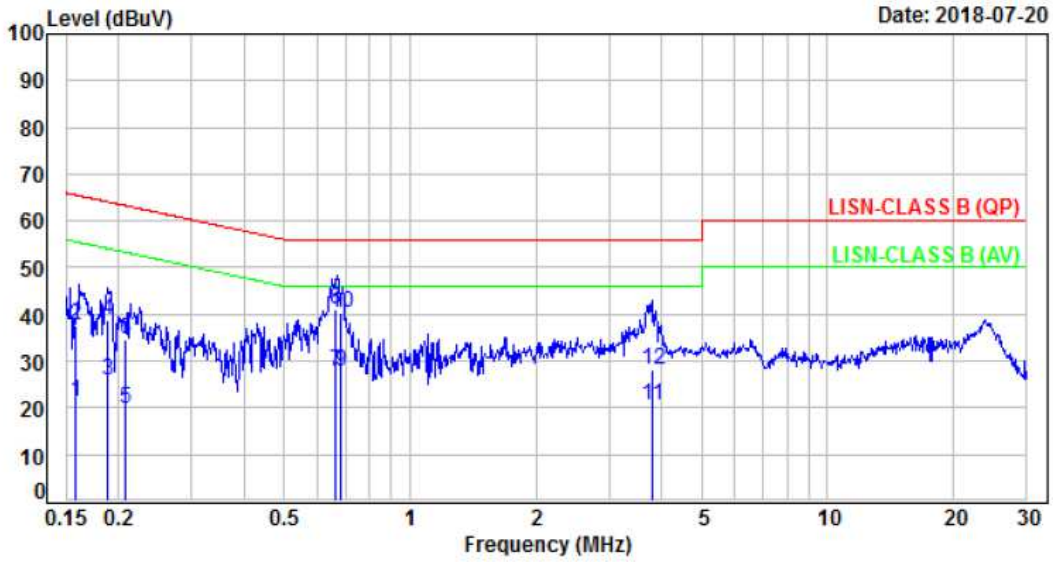
Power	:	AC 120V	Pol/Phase	:	NEUTRAL
Test Mode	:	Mode 1, Band 1	Temperature	:	20 °C
Test date	:	Jul. 20, 2018	Humidity	:	40 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.16	9.94	19.94	29.88	55.57	-25.69	Average	P
2	0.16	9.94	38.87	48.81	65.57	-16.76	QP	P
3	0.16	9.94	20.19	30.13	55.37	-25.24	Average	P
4	0.16	9.94	39.14	49.08	65.37	-16.29	QP	P
5	0.17	9.94	15.34	25.28	54.73	-29.45	Average	P
6	0.17	9.94	32.82	42.76	64.73	-21.97	QP	P
7	0.64	9.97	23.11	33.08	46.00	-12.92	Average	P
8	0.64	9.97	34.68	44.65	56.00	-11.35	QP	P
9	0.67	9.97	27.98	37.95	46.00	-8.05	Average	P
10	0.67	9.97	39.11	49.08	56.00	-6.92	QP	P
11	3.81	10.12	14.89	25.01	46.00	-20.99	Average	P
12	3.81	10.12	21.79	31.91	56.00	-24.09	QP	P

Note: Level = Reading + Factor
Margin = Level – Limit
Factor = (LISN, ISN, PLC or current probe) Factor + Cable Loss+ Attenuator

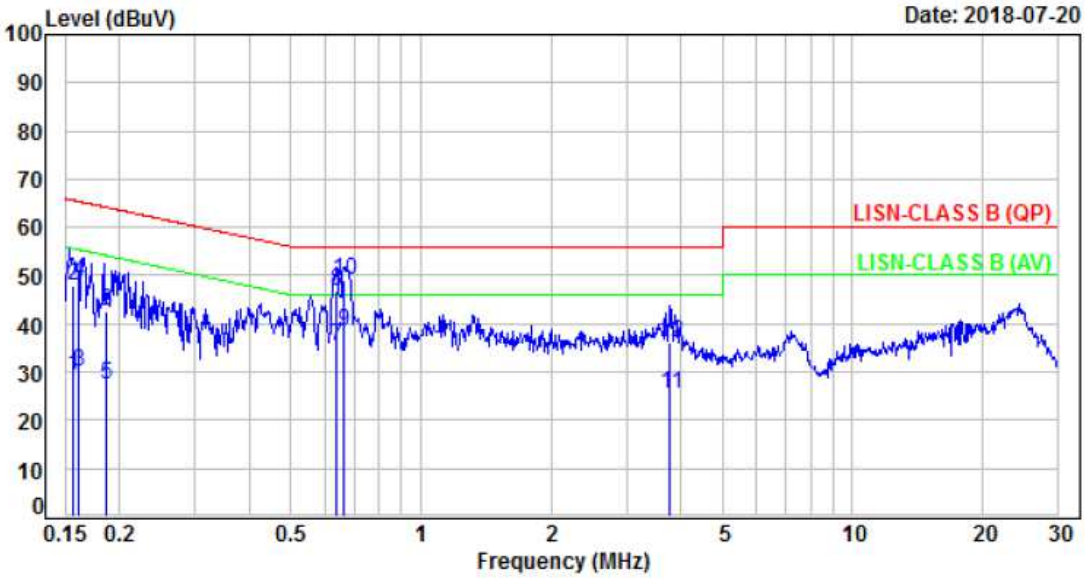
Power	:	AC 120V	Pol/Phase	:	LINE
Test Mode	:	Mode 1, Band 4	Temperature	:	20 °C
Test date	:	Jul. 20, 2018	Humidity	:	40 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.16	9.94	11.18	21.12	55.61	-34.49	Average	P
2	0.16	9.94	27.80	37.74	65.61	-27.87	QP	P
3	0.19	9.94	16.05	25.99	54.10	-28.11	Average	P
4	0.19	9.94	28.88	38.82	64.10	-25.28	QP	P
5	0.21	9.94	9.83	19.77	53.28	-33.51	Average	P
6	0.21	9.94	24.58	34.52	63.28	-28.76	QP	P
7	0.66	9.97	17.97	27.94	46.00	-18.06	Average	P
8	0.66	9.97	30.96	40.93	56.00	-15.07	QP	P
9	0.68	9.97	17.63	27.60	46.00	-18.40	Average	P
10	0.68	9.97	30.35	40.32	56.00	-15.68	QP	P
11	3.81	10.12	10.57	20.69	46.00	-25.31	Average	P
12	3.81	10.12	18.20	28.32	56.00	-27.68	QP	P

Note: Level = Reading + Factor
Margin = Level – Limit
Factor = (LISN, ISN, PLC or current probe) Factor + Cable Loss+ Attenuator

Power	:	AC 120V	Pol/Phase	:	NEUTRAL
Test Mode	:	Mode 1, Band 4	Temperature	:	20 °C
Test date	:	Jul. 20, 2018	Humidity	:	40 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.16	9.94	19.30	29.24	55.67	-26.43	Average	P
2	0.16	9.94	38.02	47.96	65.67	-17.71	QP	P
3	0.16	9.94	20.05	29.99	55.40	-25.41	Average	P
4	0.16	9.94	38.61	48.55	65.40	-16.85	QP	P
5	0.19	9.94	17.55	27.49	54.19	-26.70	Average	P
6	0.19	9.94	32.48	42.42	64.19	-21.77	QP	P
7	0.64	9.97	25.50	35.47	46.00	-10.53	Average	P
8	0.64	9.97	36.83	46.80	56.00	-9.20	QP	P
9	0.67	9.97	28.31	38.28	46.00	-7.72	Average	P
10	0.67	9.97	39.17	49.14	56.00	-6.86	QP	P
11	3.78	10.12	15.23	25.35	46.00	-20.65	Average	P
12	3.78	10.12	25.91	36.03	56.00	-19.97	QP	P

Note: Level = Reading + Factor
Margin = Level – Limit
Factor = (LISN, ISN, PLC or current probe) Factor + Cable Loss+ Attenuator

6. Test of Spurious Emission (Radiated)

6.1. Test Limit

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) 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.

(2) For transmitters operating in the 5.25-5.35 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.

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band:
All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27dBm/MHz at the band edge.

(5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

(6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.

(7) The provisions of §15.205 apply to intentional radiators operating under this section.

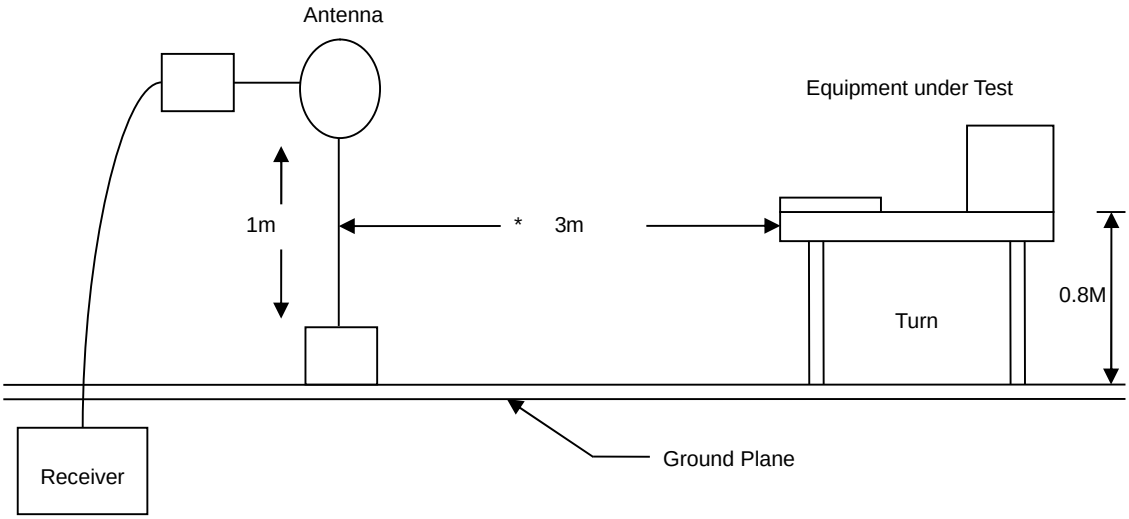
(8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

6.2. Test Procedures

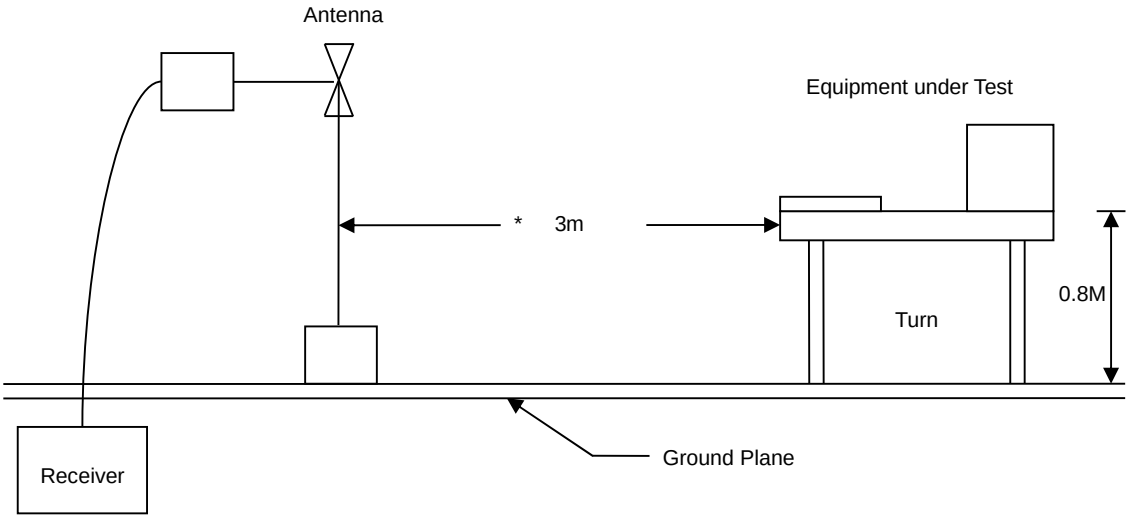
a. The EUT was placed on a rotatable table top 0.8 meter above ground.
b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
c. The table was rotated 360 degrees to determine the position of the highest radiation.
d. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
f. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.
h. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
i. “Cone of radiation” has been considered to be 3dB bandwidth of the measurement antenna.

6.3. Typical Test Setup

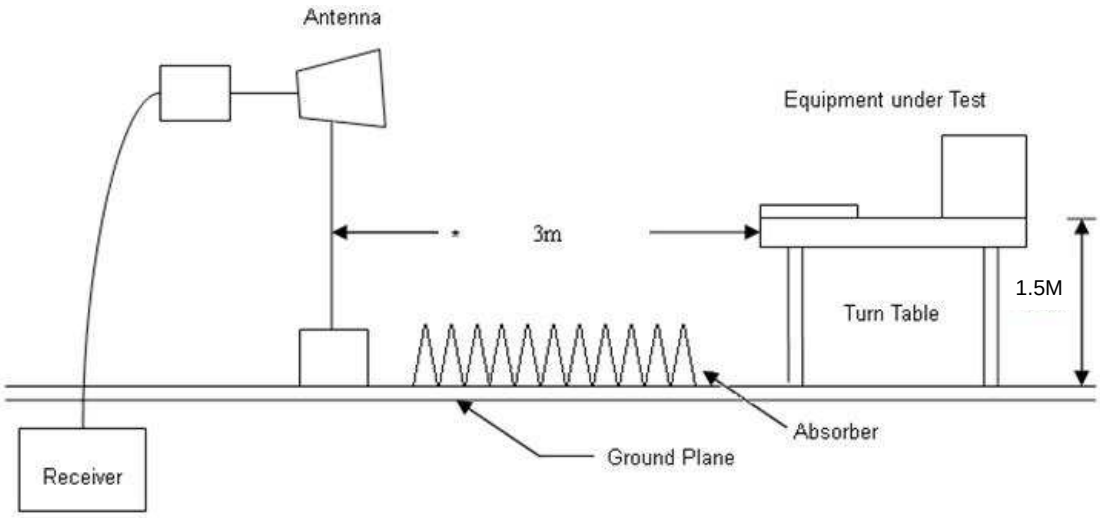
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup

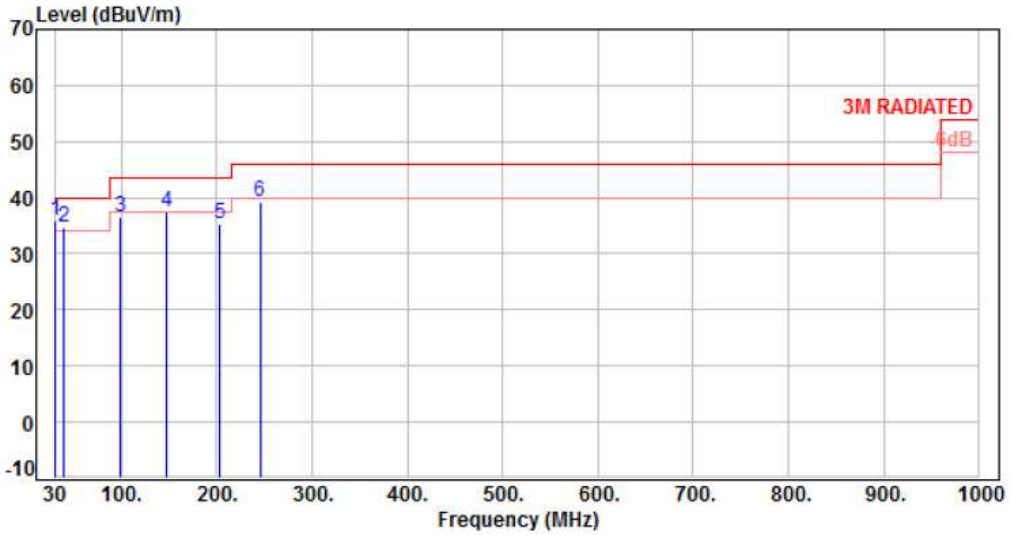


6.4. Test Result and Data (9kHz ~ 30MHz)

The 9kHz - 30MHz spurious emission is under limit 20dB more.

6.5. Test Result and Data (30MHz ~ 1GHz)

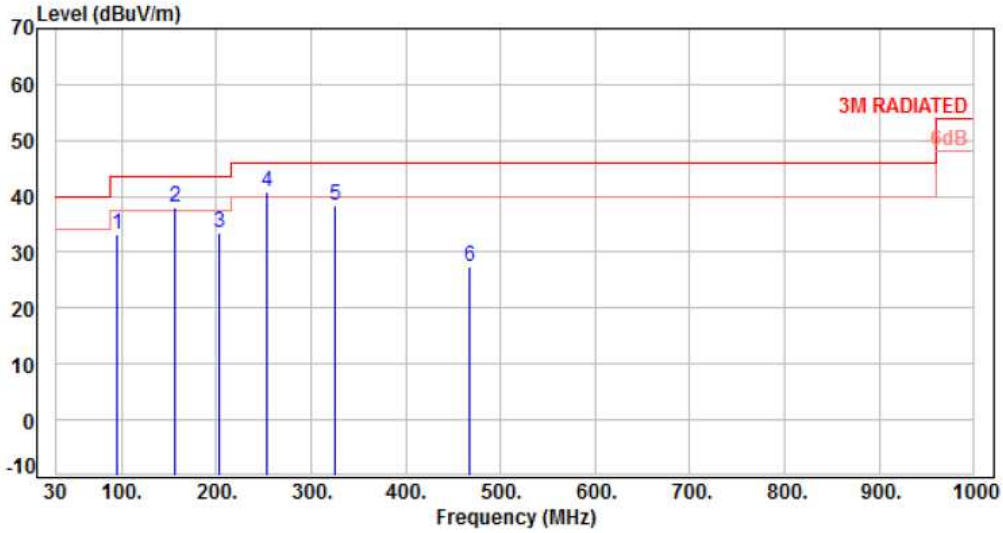
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 1	Temperature	:	23 °C
Test Date	:	Jul. 27, 2018	Humidity	:	62 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	30.97	-11.64	47.64	36.00	40.00	-4.00	Peak	400	0	P
2	39.70	-11.14	45.99	34.85	40.00	-5.15	Peak	400	0	P
3	97.90	-16.09	52.56	36.47	43.50	-7.03	Peak	400	0	P
4	147.37	-11.14	48.70	37.56	43.50	-5.94	Peak	400	0	P
5	202.66	-13.01	48.39	35.38	43.50	-8.12	Peak	400	0	P
6	245.34	-11.70	51.05	39.35	46.00	-6.65	Peak	400	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

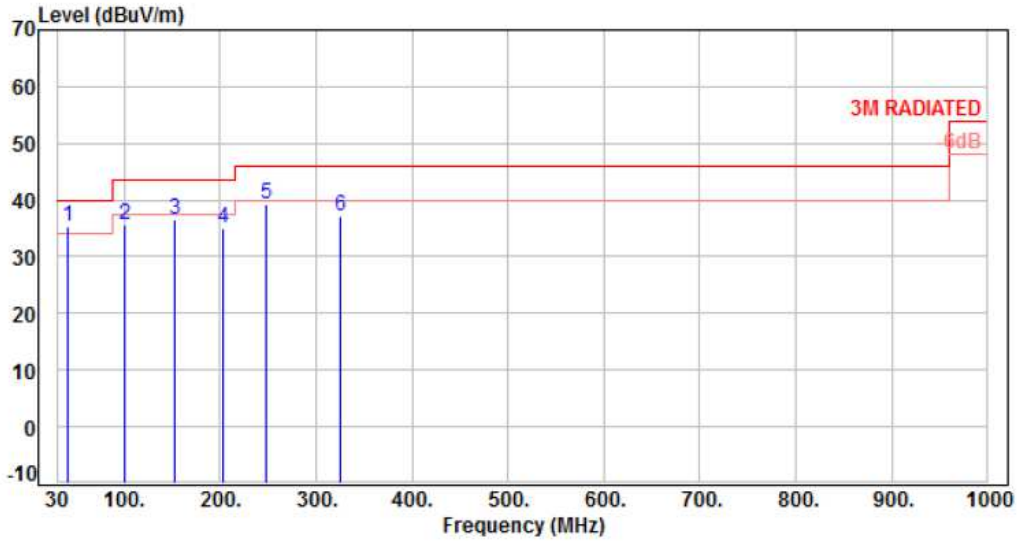
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 1	Temperature	:	23 °C
Test Date	:	Jul. 27, 2018	Humidity	:	62 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	95.96	-16.23	49.35	33.12	43.50	-10.38	Peak	100	0	P
2	156.10	-10.93	48.99	38.06	43.50	-5.44	Peak	100	0	P
3	202.66	-13.01	46.49	33.48	43.50	-10.02	Peak	100	0	P
4	253.10	-11.57	52.35	40.78	46.00	-5.22	Peak	100	0	P
5	324.88	-9.22	47.60	38.38	46.00	-7.62	Peak	100	0	P
6	467.47	-5.52	32.84	27.32	46.00	-18.68	Peak	100	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

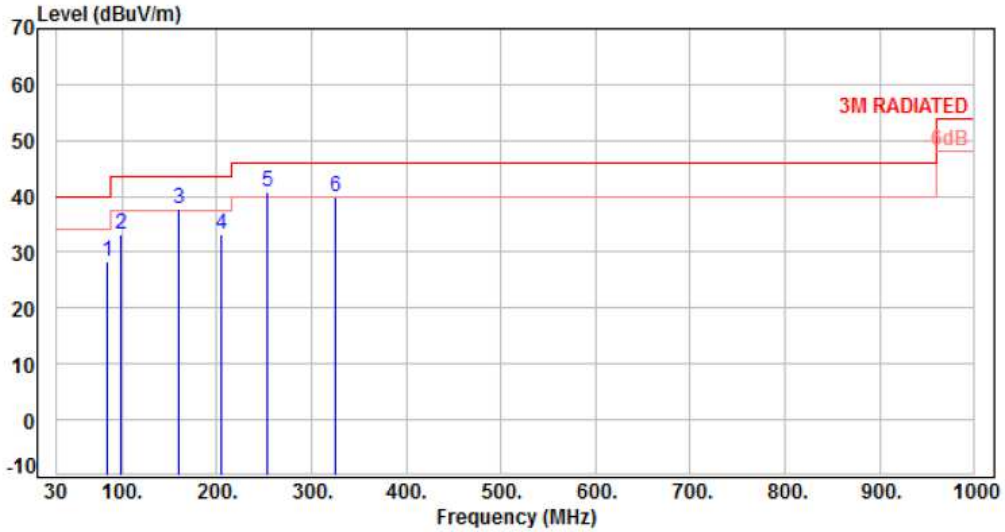
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 4	Temperature	:	23 °C
Test Date	:	Jul. 27, 2018	Humidity	:	62 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	40.67	-11.07	46.30	35.23	40.00	-4.77	Peak	400	0	P
2	99.84	-15.93	51.70	35.77	43.50	-7.73	Peak	400	0	P
3	152.22	-11.02	47.64	36.62	43.50	-6.88	Peak	400	0	P
4	203.63	-13.00	47.91	34.91	43.50	-8.59	Peak	400	0	P
5	248.25	-11.67	51.01	39.34	46.00	-6.66	Peak	400	0	P
6	324.88	-9.22	46.36	37.14	46.00	-8.86	Peak	400	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 4	Temperature	:	23 °C
Test Date	:	Jul. 27, 2018	Humidity	:	62 %

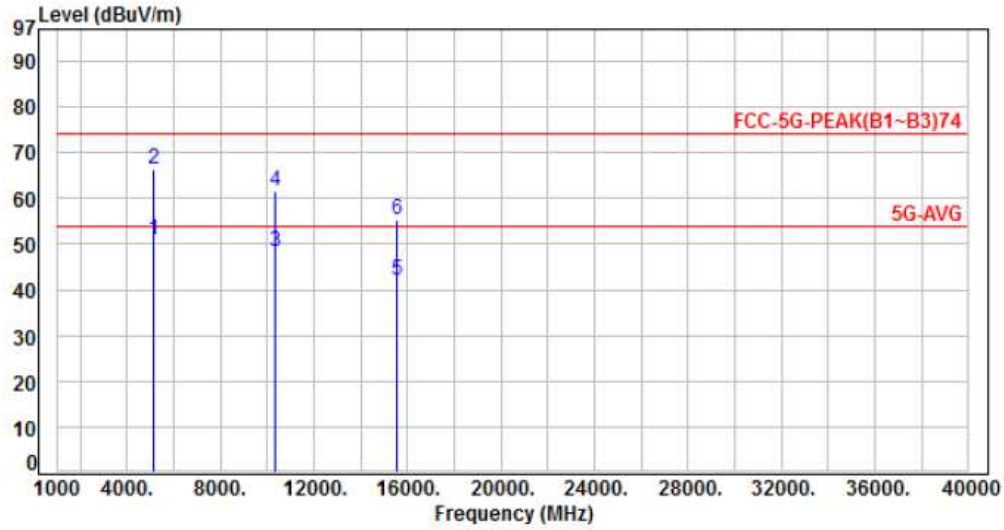


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	84.32	-15.85	44.31	28.46	40.00	-11.54	Peak	100	0	P
2	97.90	-16.09	49.24	33.15	43.50	-10.35	Peak	100	0	P
3	159.98	-10.84	48.47	37.63	43.50	-5.87	Peak	100	0	P
4	205.57	-12.97	46.08	33.11	43.50	-10.39	Peak	100	0	P
5	253.10	-11.57	52.42	40.85	46.00	-5.15	Peak	100	0	P
6	324.88	-9.22	49.18	39.96	46.00	-6.04	Peak	100	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

6.6. Test Result and Data (1GHz ~ 40GHz)

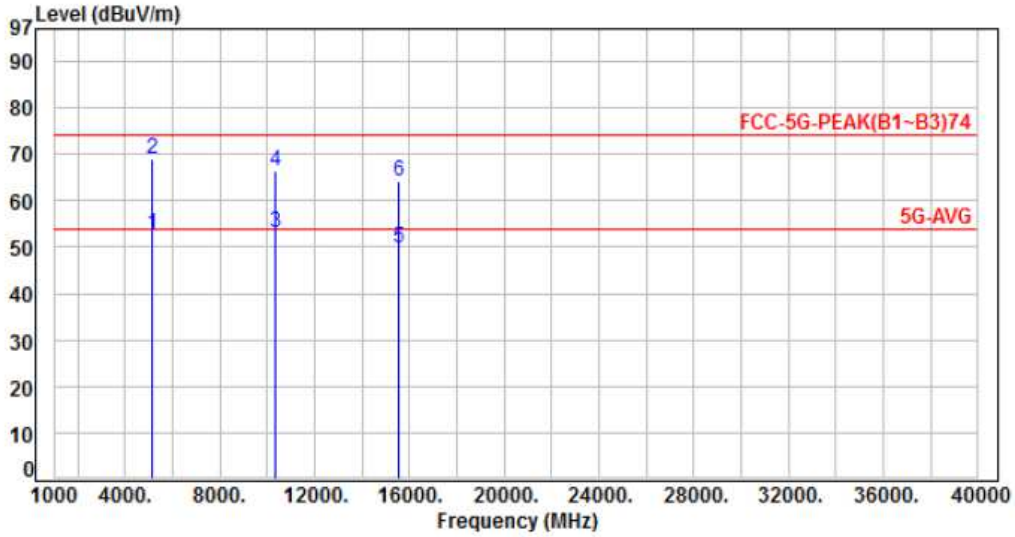
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 1, CH36	Temperature	:	24 °C
Test Date	:	Aug. 08, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-12.71	63.47	50.76	54.00	-3.24	Average	113	352	P
2	5150.00	-12.71	78.97	66.26	74.00	-7.74	Peak	113	352	P
3	10360.00	-7.44	55.90	48.46	54.00	-5.54	Average	189	331	P
4	10360.00	-7.44	68.96	61.52	74.00	-12.48	Peak	189	331	P
5	15540.00	-3.78	45.68	41.90	54.00	-12.10	Average	321	332	P
6	15540.00	-3.78	58.93	55.15	74.00	-18.85	Peak	321	332	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

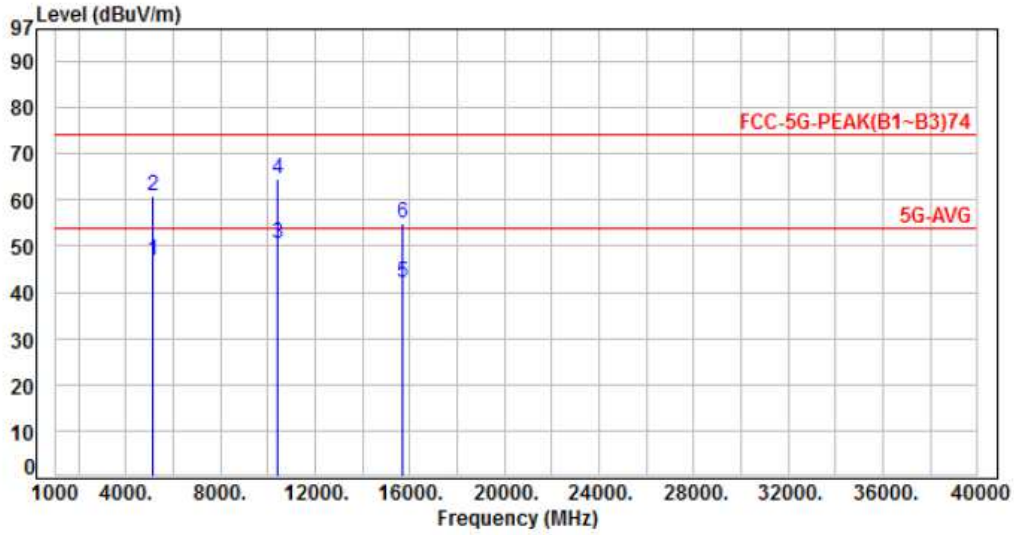
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 1, CH36	Temperature	:	24 °C
Test Date	:	Aug. 08, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-12.71	65.50	52.79	54.00	-1.21	Average	198	272	P
2	5150.00	-12.71	81.75	69.04	74.00	-4.96	Peak	198	272	P
3	10360.00	-7.44	60.40	52.96	54.00	-1.04	Average	201	346	P
4	10360.00	-7.44	73.70	66.26	74.00	-7.74	Peak	201	346	P
5	15540.00	-3.78	53.41	49.63	54.00	-4.37	Average	290	55	P
6	15540.00	-3.78	67.89	64.11	74.00	-9.89	Peak	290	55	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

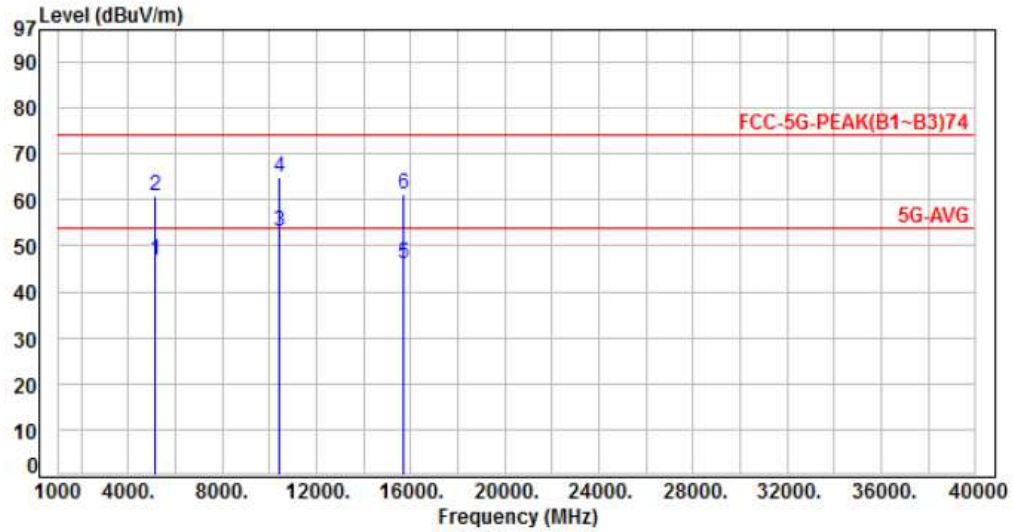
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 1, CH44	Temperature	:	24 °C
Test Date	:	Aug. 08, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-12.71	59.47	46.76	54.00	-7.24	Average	112	347	P
2	5150.00	-12.71	73.61	60.90	74.00	-13.10	Peak	112	347	P
3	10440.00	-7.43	57.94	50.51	54.00	-3.49	Average	172	345	P
4	10440.00	-7.43	71.82	64.39	74.00	-9.61	Peak	172	345	P
5	15660.00	-3.80	45.86	42.06	54.00	-11.94	Average	313	329	P
6	15660.00	-3.80	58.92	55.12	74.00	-18.88	Peak	313	329	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

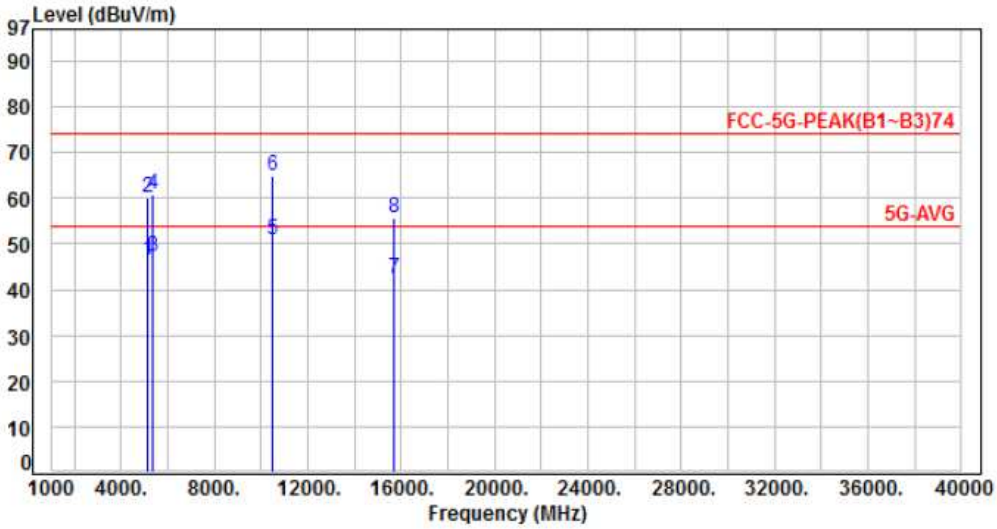
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 1, CH44	Temperature	:	24 °C
Test Date	:	Aug. 08, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-12.71	59.45	46.74	54.00	-7.26	Average	184	263	P
2	5150.00	-12.71	73.62	60.91	74.00	-13.09	Peak	184	263	P
3	10440.00	-7.43	60.57	53.14	54.00	-0.86	Average	197	357	P
4	10440.00	-7.43	72.45	65.02	74.00	-8.98	Peak	197	357	P
5	15660.00	-3.80	49.80	46.00	54.00	-8.00	Average	296	47	P
6	15660.00	-3.80	64.96	61.16	74.00	-12.84	Peak	296	47	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

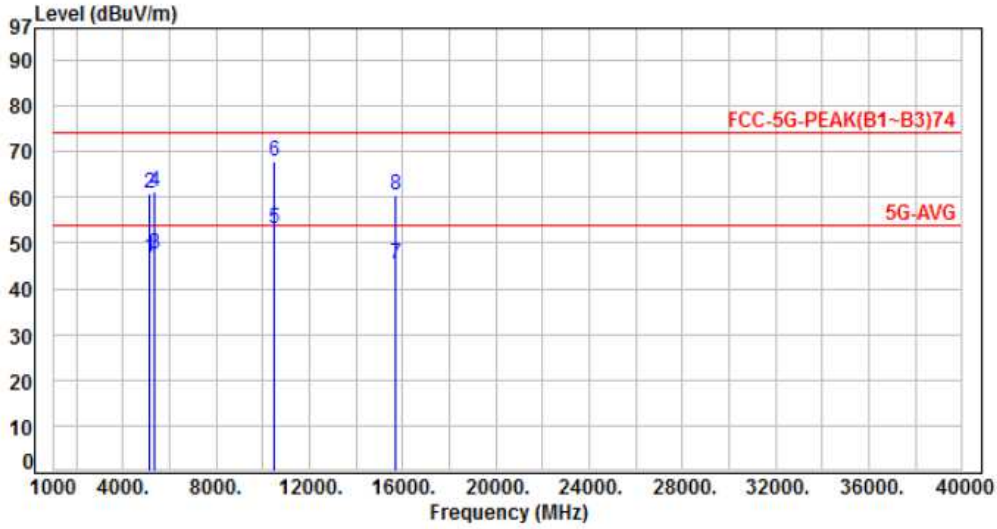
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 1, CH48	Temperature	:	24 °C
Test Date	:	Aug. 08, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-12.71	59.28	46.57	54.00	-7.43	Average	114	345	P
2	5150.00	-12.71	72.94	60.23	74.00	-13.77	Peak	114	345	P
3	5350.00	-12.32	59.67	47.35	54.00	-6.65	Average	114	345	P
4	5350.00	-12.32	73.24	60.92	74.00	-13.08	Peak	114	345	P
5	10480.00	-7.42	58.16	50.74	54.00	-3.26	Average	169	351	P
6	10480.00	-7.42	72.48	65.06	74.00	-8.94	Peak	169	351	P
7	15720.00	-3.81	46.11	42.30	54.00	-11.70	Average	326	341	P
8	15720.00	-3.81	59.35	55.54	74.00	-18.46	Peak	326	341	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

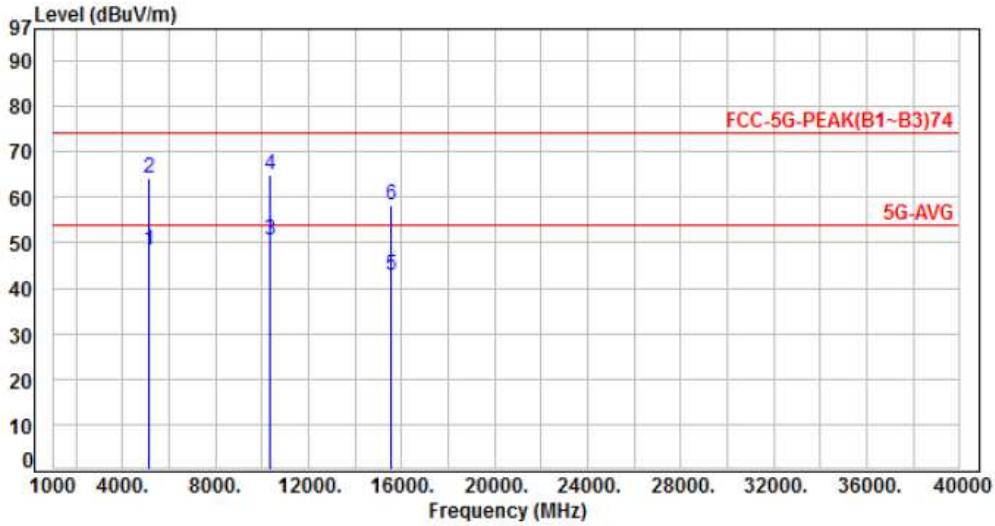
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 1, CH48	Temperature	:	24 °C
Test Date	:	Aug. 08, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-12.71	59.69	46.98	54.00	-7.02	Average	175	268	P
2	5150.00	-12.71	73.47	60.76	74.00	-13.24	Peak	175	268	P
3	5350.00	-12.32	59.94	47.62	54.00	-6.38	Average	175	268	P
4	5350.00	-12.32	73.60	61.28	74.00	-12.72	Peak	175	268	P
5	10480.00	-7.42	60.61	53.19	54.00	-0.81	Average	192	346	P
6	10480.00	-7.42	75.29	67.87	74.00	-6.13	Peak	192	346	P
7	15720.00	-3.81	49.33	45.52	54.00	-8.48	Average	329	54	P
8	15720.00	-3.81	64.42	60.61	74.00	-13.39	Peak	329	54	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

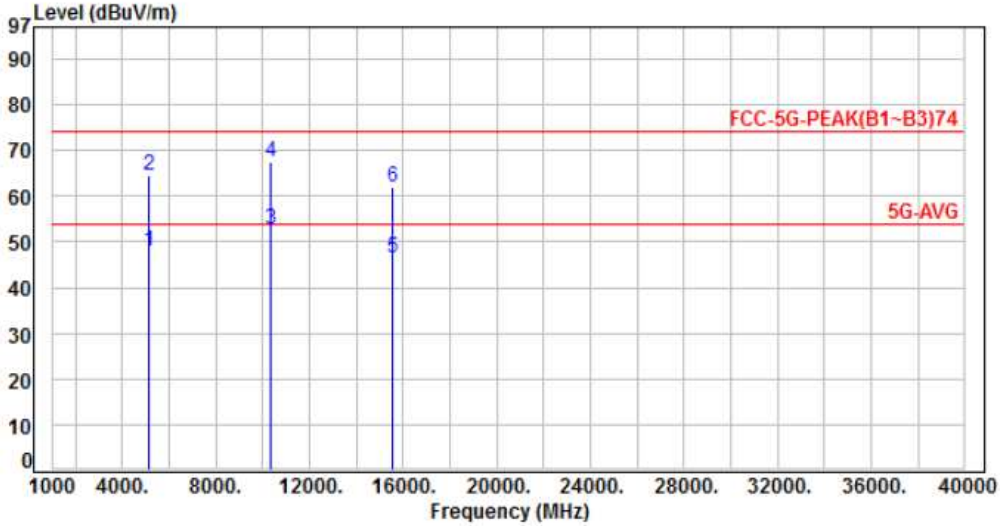
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 1, CH36	Temperature	:	24 °C
Test Date	:	Aug. 08, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-12.71	60.87	48.16	54.00	-5.84	Average	110	353	P
2	5150.00	-12.71	76.89	64.18	74.00	-9.82	Peak	110	353	P
3	10360.00	-7.44	58.11	50.67	54.00	-3.33	Average	203	323	P
4	10360.00	-7.44	72.18	64.74	74.00	-9.26	Peak	203	323	P
5	15540.00	-3.78	46.69	42.91	54.00	-11.09	Average	343	331	P
6	15540.00	-3.78	61.99	58.21	74.00	-15.79	Peak	343	331	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

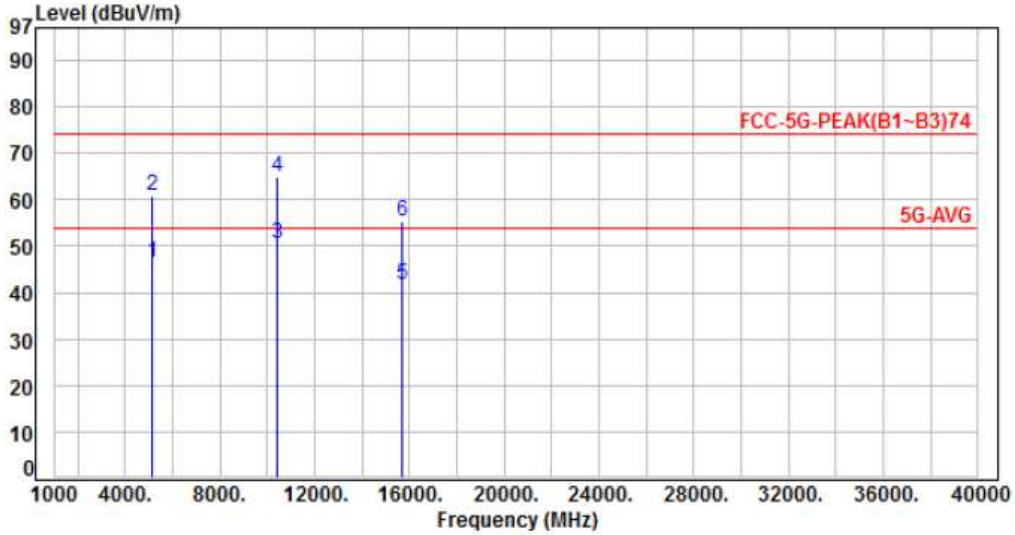
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 1, CH36	Temperature	:	24 °C
Test Date	:	Aug. 08, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-12.71	60.81	48.10	54.00	-5.90	Average	167	272	P
2	5150.00	-12.71	77.11	64.40	74.00	-9.60	Peak	167	272	P
3	10360.00	-7.44	60.27	52.83	54.00	-1.17	Average	194	350	P
4	10360.00	-7.44	74.96	67.52	74.00	-6.48	Peak	194	350	P
5	15540.00	-3.78	50.39	46.61	54.00	-7.39	Average	337	40	P
6	15540.00	-3.78	65.63	61.85	74.00	-12.15	Peak	337	40	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

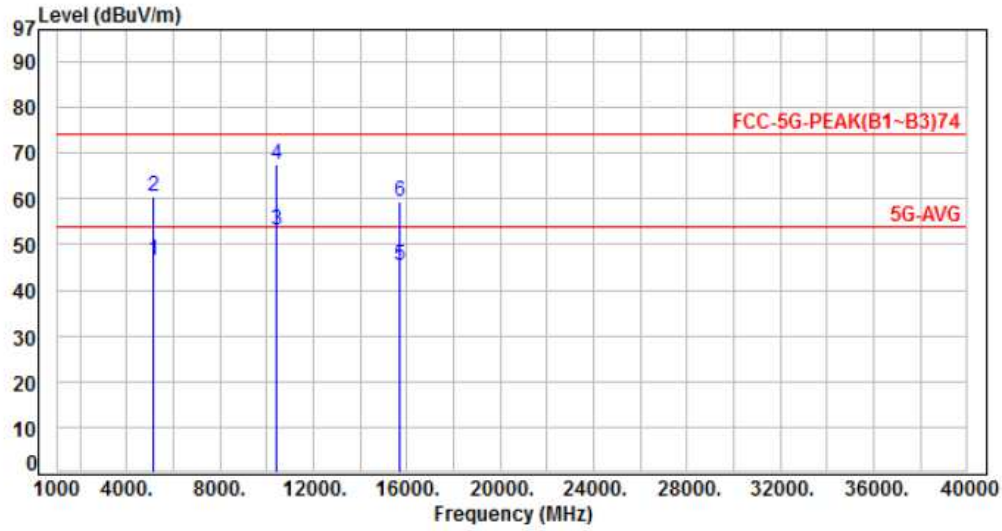
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 1, CH44	Temperature	:	24 °C
Test Date	:	Aug. 08, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-12.71	59.29	46.58	54.00	-7.42	Average	115	348	P
2	5150.00	-12.71	73.72	61.01	74.00	-12.99	Peak	115	348	P
3	10440.00	-7.43	58.13	50.70	54.00	-3.30	Average	175	339	P
4	10440.00	-7.43	72.25	64.82	74.00	-9.18	Peak	175	339	P
5	15660.00	-3.80	45.62	41.82	54.00	-12.18	Average	315	331	P
6	15660.00	-3.80	59.26	55.46	74.00	-18.54	Peak	315	331	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

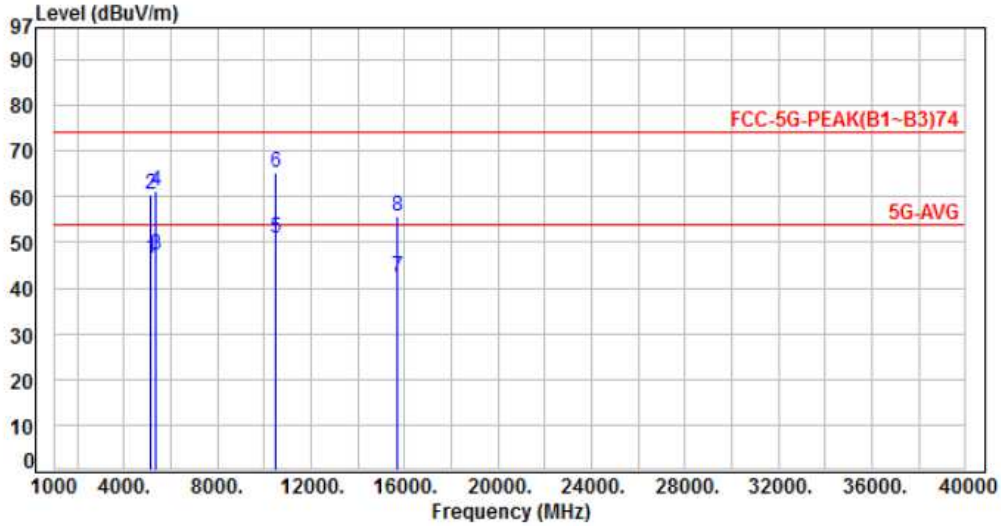
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 1, CH44	Temperature	:	24 °C
Test Date	:	Aug. 08, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-12.71	59.24	46.53	54.00	-7.47	Average	181	258	P
2	5150.00	-12.71	73.20	60.49	74.00	-13.51	Peak	181	258	P
3	10440.00	-7.43	60.55	53.12	54.00	-0.88	Average	196	349	P
4	10440.00	-7.43	75.06	67.63	74.00	-6.37	Peak	196	349	P
5	15660.00	-3.80	49.35	45.55	54.00	-8.45	Average	302	48	P
6	15660.00	-3.80	63.32	59.52	74.00	-14.48	Peak	302	48	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

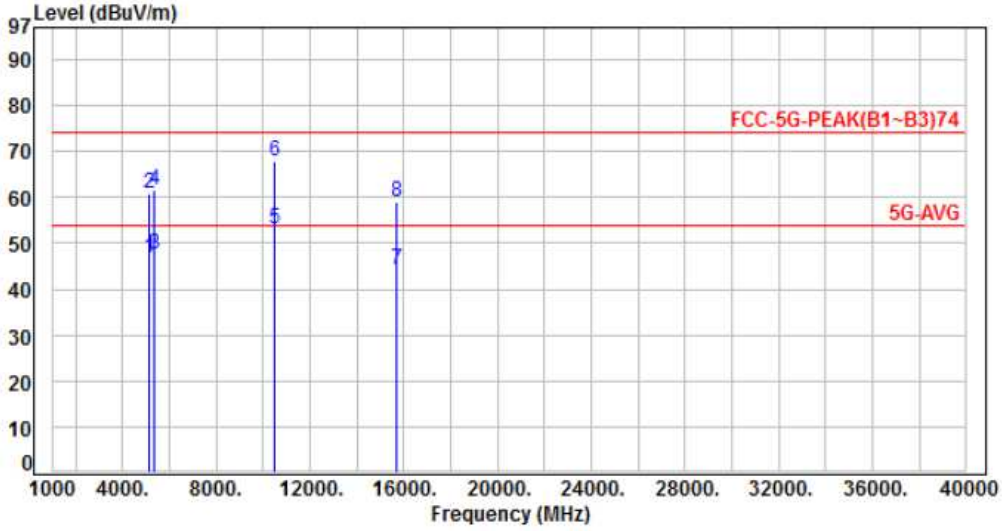
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 1, CH48	Temperature	:	24 °C
Test Date	:	Aug. 08, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-12.71	59.35	46.64	54.00	-7.36	Average	115	347	P
2	5150.00	-12.71	73.13	60.42	74.00	-13.58	Peak	115	347	P
3	5350.00	-12.32	59.63	47.31	54.00	-6.69	Average	115	347	P
4	5350.00	-12.32	73.56	61.24	74.00	-12.76	Peak	115	347	P
5	10480.00	-7.42	58.38	50.96	54.00	-3.04	Average	172	349	P
6	10480.00	-7.42	72.85	65.43	74.00	-8.57	Peak	172	349	P
7	15720.00	-3.81	46.39	42.58	54.00	-11.42	Average	328	337	P
8	15720.00	-3.81	59.58	55.77	74.00	-18.23	Peak	328	337	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

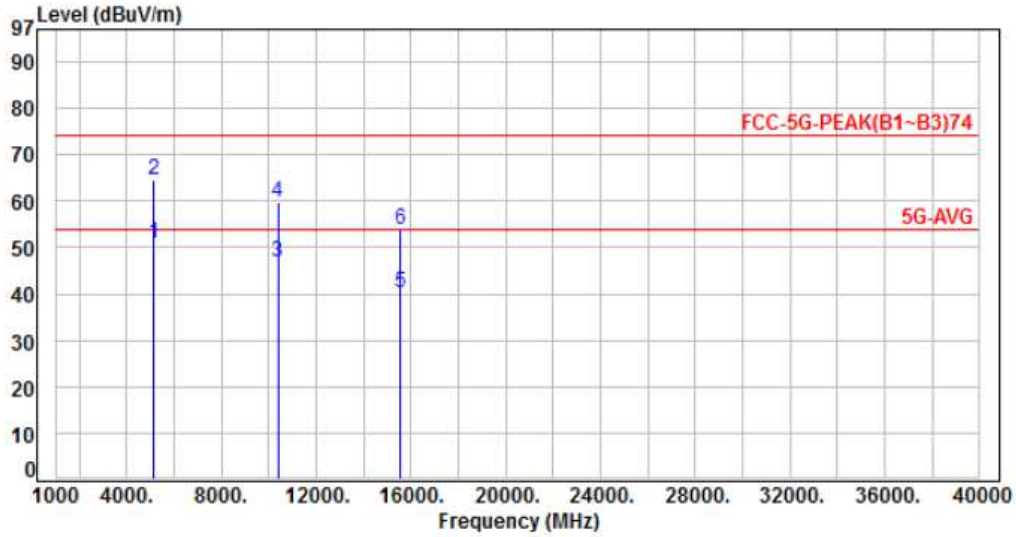
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 1, CH48	Temperature	:	24 °C
Test Date	:	Aug. 08, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-12.71	59.45	46.74	54.00	-7.26	Average	172	271	P
2	5150.00	-12.71	73.67	60.96	74.00	-13.04	Peak	172	271	P
3	5350.00	-12.32	59.77	47.45	54.00	-6.55	Average	172	271	P
4	5350.00	-12.32	73.83	61.51	74.00	-12.49	Peak	172	271	P
5	10480.00	-7.42	60.39	52.97	54.00	-1.03	Average	201	358	P
6	10480.00	-7.42	75.29	67.87	74.00	-6.13	Peak	201	358	P
7	15720.00	-3.81	47.92	44.11	54.00	-9.89	Average	318	52	P
8	15720.00	-3.81	62.73	58.92	74.00	-15.08	Peak	318	52	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

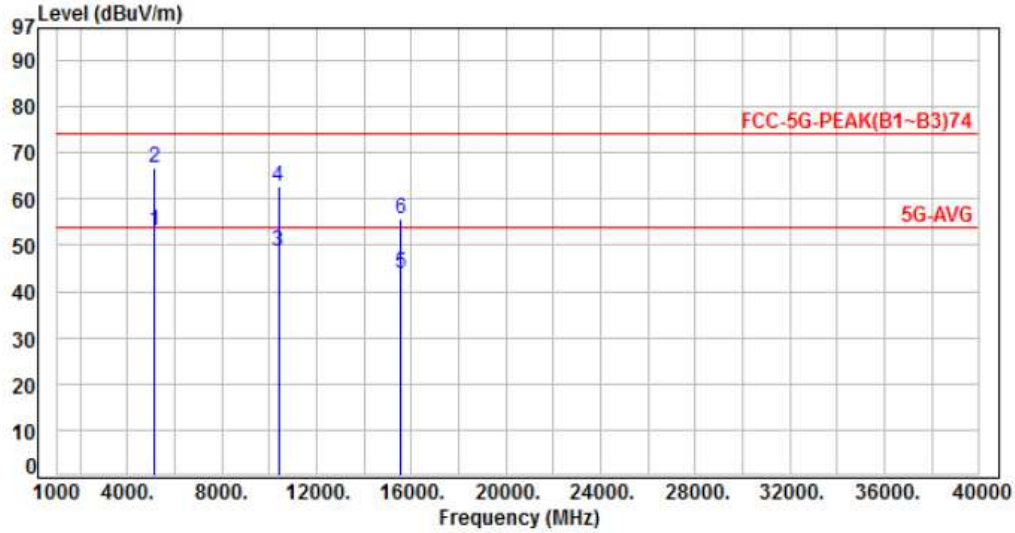
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, Band 1, CH38	Temperature	:	22 °C
Test Date	:	Aug. 08, 2017	Humidity	:	65 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-12.71	63.65	50.94	54.00	-3.06	Average	113	330	P
2	5150.00	-12.71	77.28	64.57	74.00	-9.43	Peak	113	330	P
3	10380.00	-7.43	54.21	46.78	54.00	-7.22	Average	214	329	P
4	10380.00	-7.43	67.22	59.79	74.00	-14.21	Peak	214	329	P
5	15570.00	-3.78	43.84	40.06	54.00	-13.94	Average	347	330	P
6	15570.00	-3.78	57.68	53.90	74.00	-20.10	Peak	347	330	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

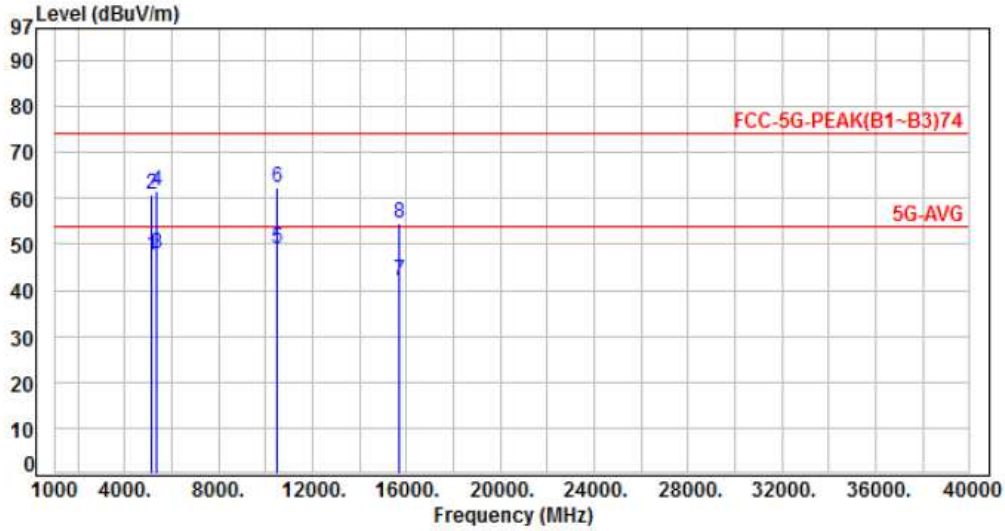
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, Band 1, CH38	Temperature	:	22 °C
Test Date	:	Aug. 08, 2017	Humidity	:	65 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-12.71	65.77	53.06	54.00	-0.94	Average	199	268	P
2	5150.00	-12.71	79.39	66.68	74.00	-7.32	Peak	199	268	P
3	10380.00	-7.43	55.94	48.51	54.00	-5.49	Average	180	344	P
4	10380.00	-7.43	69.95	62.52	74.00	-11.48	Peak	180	344	P
5	15570.00	-3.78	47.54	43.76	54.00	-10.24	Average	299	54	P
6	15570.00	-3.78	59.31	55.53	74.00	-18.47	Peak	299	54	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

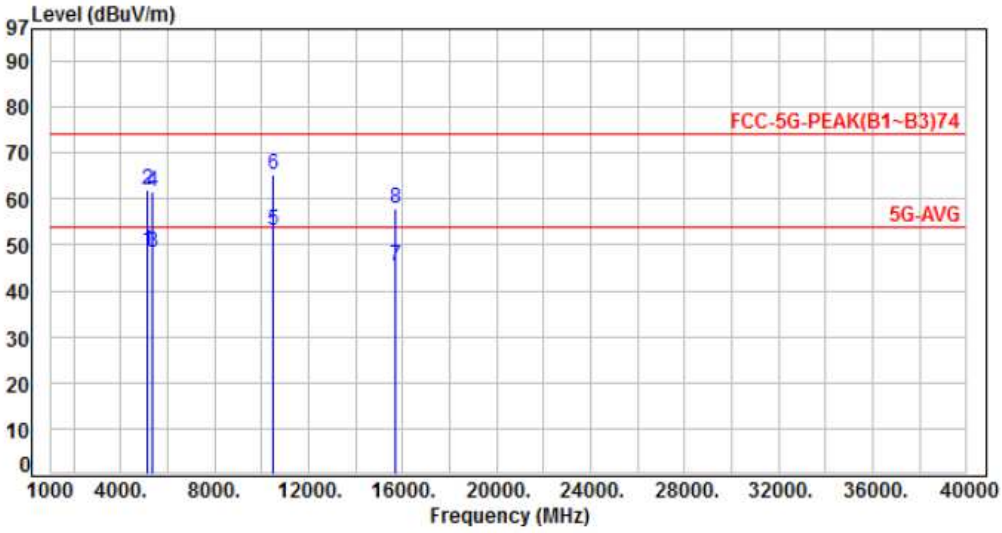
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, Band 1, CH46	Temperature	:	24 °C
Test Date	:	Aug. 08, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-12.71	60.22	47.51	54.00	-6.49	Average	112	329	P
2	5150.00	-12.71	73.47	60.76	74.00	-13.24	Peak	112	329	P
3	5350.00	-12.32	60.15	47.83	54.00	-6.17	Average	112	329	P
4	5350.00	-12.32	73.76	61.44	74.00	-12.56	Peak	112	329	P
5	10460.00	-7.42	56.57	49.15	54.00	-4.85	Average	190	325	P
6	10460.00	-7.42	69.70	62.28	74.00	-11.72	Peak	190	325	P
7	15690.00	-3.81	45.91	42.10	54.00	-11.90	Average	338	334	P
8	15690.00	-3.81	58.30	54.49	74.00	-19.51	Peak	338	334	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

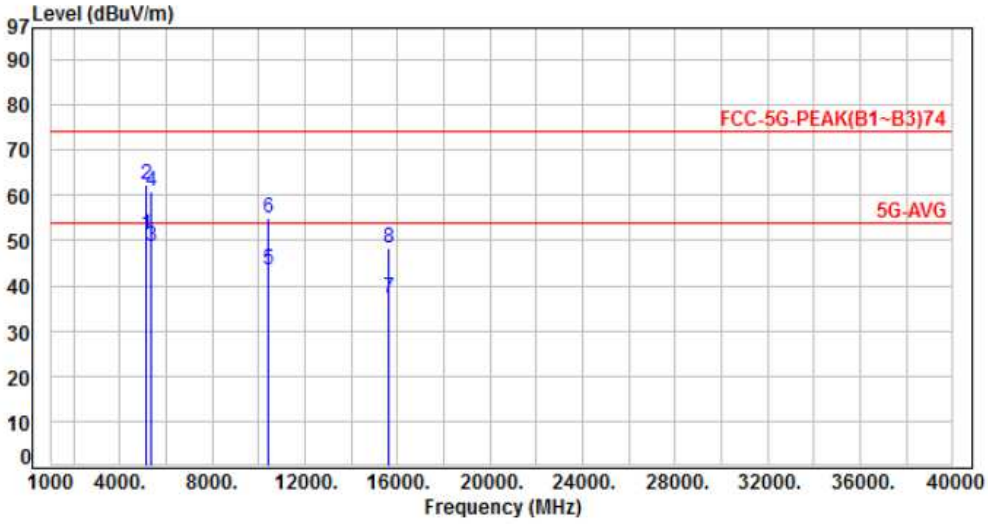
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, Band 1, CH46	Temperature	:	24 °C
Test Date	:	Aug. 08, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-12.71	61.31	48.60	54.00	-5.40	Average	206	271	P
2	5150.00	-12.71	74.63	61.92	74.00	-12.08	Peak	206	271	P
3	5350.00	-12.32	60.49	48.17	54.00	-5.83	Average	206	271	P
4	5350.00	-12.32	74.08	61.76	74.00	-12.24	Peak	206	271	P
5	10460.00	-7.42	60.44	53.02	54.00	-0.98	Average	212	340	P
6	10460.00	-7.42	72.80	65.38	74.00	-8.62	Peak	212	340	P
7	15690.00	-3.81	49.23	45.42	54.00	-8.58	Average	362	40	P
8	15690.00	-3.81	61.54	57.73	74.00	-16.27	Peak	362	40	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

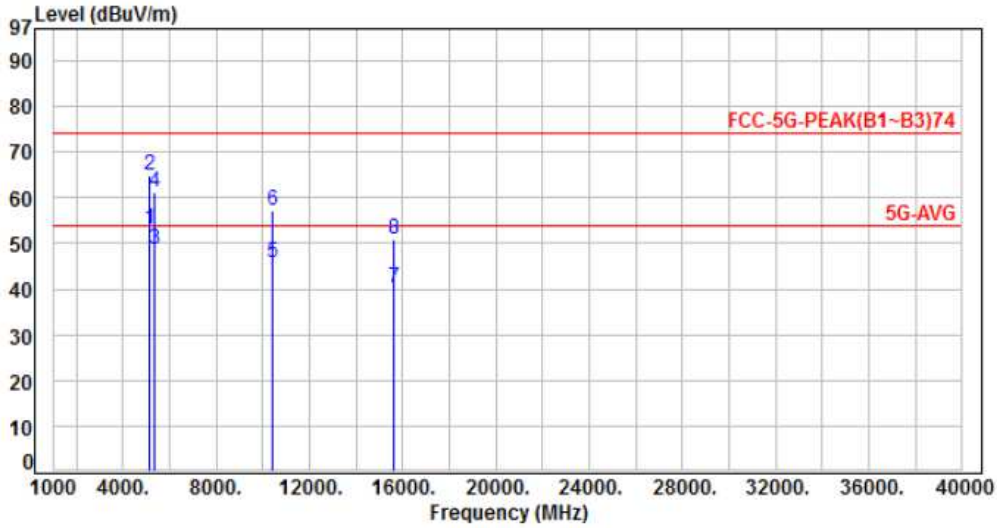
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, Band 1, CH42	Temperature	:	24 °C
Test Date	:	Aug. 08, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-12.71	63.83	51.12	54.00	-2.88	Average	100	332	P
2	5150.00	-12.71	75.19	62.48	74.00	-11.52	Peak	100	332	P
3	5350.00	-12.32	61.15	48.83	54.00	-5.17	Average	100	332	P
4	5350.00	-12.32	73.17	60.85	74.00	-13.15	Peak	100	332	P
5	10420.00	-7.44	50.95	43.51	54.00	-10.49	Average	190	328	P
6	10420.00	-7.44	62.22	54.78	74.00	-19.22	Peak	190	328	P
7	15630.00	-3.80	41.15	37.35	54.00	-16.65	Average	321	334	P
8	15630.00	-3.80	52.20	48.40	74.00	-25.60	Peak	321	334	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

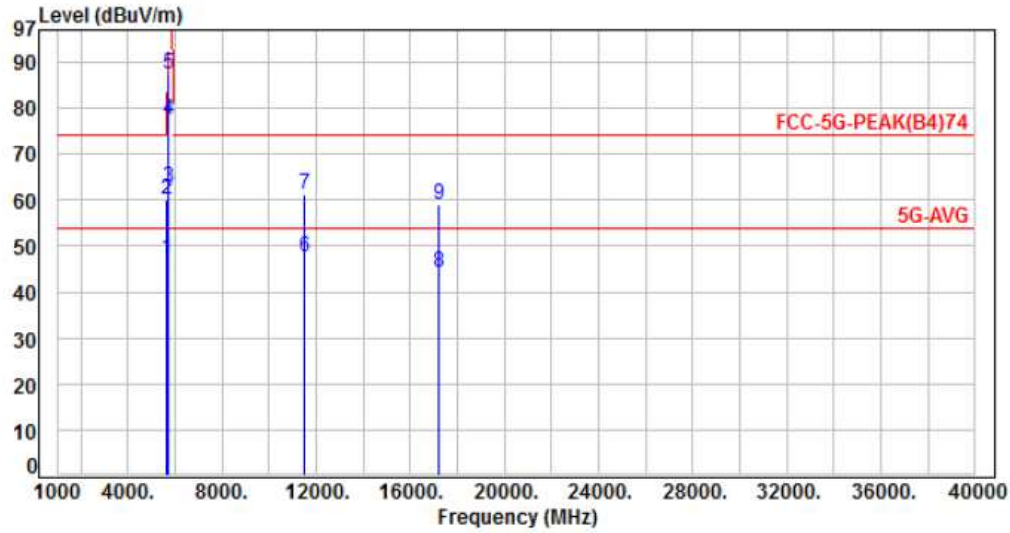
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, Band 1, CH42	Temperature	:	24 °C
Test Date	:	Aug. 08, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-12.71	65.76	53.05	54.00	-0.95	Average	200	266	P
2	5150.00	-12.71	77.79	65.08	74.00	-8.92	Peak	200	266	P
3	5350.00	-12.32	60.88	48.56	54.00	-5.44	Average	200	266	P
4	5350.00	-12.32	73.70	61.38	74.00	-12.62	Peak	200	266	P
5	10420.00	-7.44	53.23	45.79	54.00	-8.21	Average	191	348	P
6	10420.00	-7.44	64.53	57.09	74.00	-16.91	Peak	191	348	P
7	15630.00	-3.80	44.18	40.38	54.00	-13.62	Average	288	53	P
8	15630.00	-3.80	54.85	51.05	74.00	-22.95	Peak	288	53	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

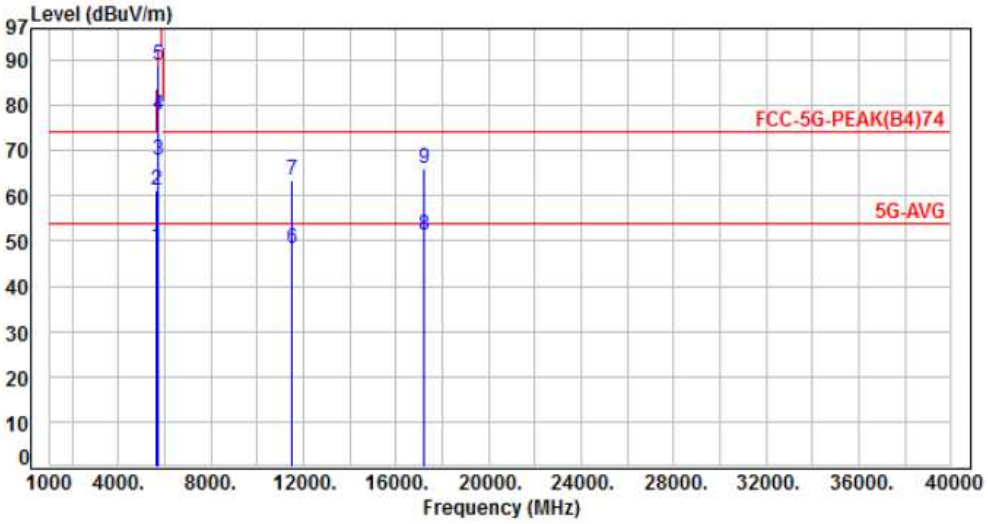
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 4, CH149	Temperature	:	24 °C
Test Date	:	Aug. 09, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-12.09	59.42	47.33	54.00	-6.67	Average	128	359	P
2	5650.00	-12.09	72.08	59.99	74.00	-14.01	Peak	128	359	P
3	5700.00	-12.11	74.89	62.78	105.20	-42.42	Peak	128	359	P
4	5720.00	-12.12	89.58	77.46	110.80	-33.34	Peak	128	359	P
5	5725.00	-12.12	99.53	87.41	122.20	-34.79	Peak	128	359	P
6	11490.00	-6.25	53.78	47.53	54.00	-6.47	Average	183	348	P
7	11490.00	-6.25	67.33	61.08	74.00	-12.92	Peak	183	348	P
8	17235.00	1.48	42.78	44.26	54.00	-9.74	Average	226	25	P
9	17235.00	1.48	57.62	59.10	74.00	-14.90	Peak	226	25	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

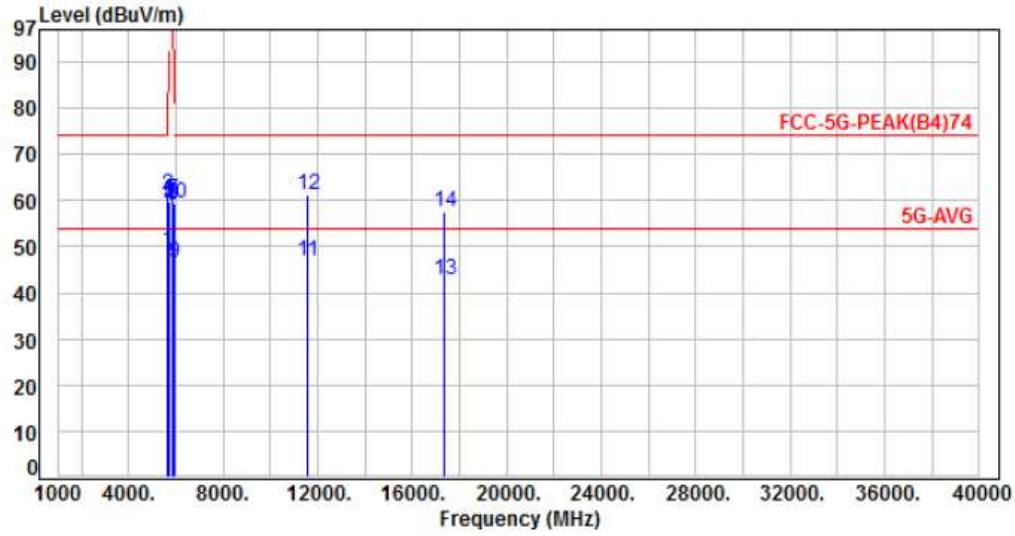
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 4, CH149	Temperature	:	24 °C
Test Date	:	Aug. 09, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-12.09	60.84	48.75	54.00	-5.25	Average	217	49	P
2	5650.00	-12.09	73.23	61.14	74.00	-12.86	Peak	217	49	P
3	5700.00	-12.11	80.13	68.02	105.20	-37.18	Peak	217	49	P
4	5720.00	-12.12	90.05	77.93	110.80	-32.87	Peak	217	49	P
5	5725.00	-12.12	100.91	88.79	122.20	-33.41	Peak	217	49	P
6	11490.00	-6.25	54.70	48.45	54.00	-5.55	Average	201	300	P
7	11490.00	-6.25	69.55	63.30	74.00	-10.70	Peak	201	300	P
8	17235.00	1.48	49.76	51.24	54.00	-2.76	Average	272	22	P
9	17235.00	1.48	64.63	66.11	74.00	-7.89	Peak	272	22	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

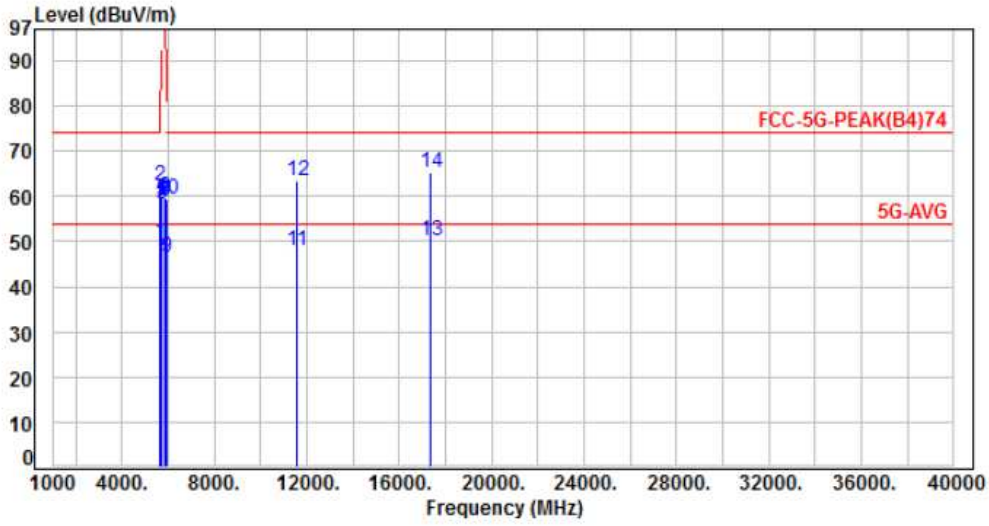
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 4, CH157	Temperature	:	24 °C
Test Date	:	Aug. 09, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-12.09	60.97	48.88	54.00	-5.12	Average	161	337	P
2	5650.00	-12.09	73.32	61.23	74.00	-12.77	Peak	161	337	P
3	5700.00	-12.11	71.89	59.78	105.20	-45.42	Peak	161	337	P
4	5720.00	-12.12	70.83	58.71	110.80	-52.09	Peak	161	337	P
5	5725.00	-12.12	71.37	59.25	122.20	-62.95	Peak	161	337	P
6	5850.00	-12.16	71.50	59.34	122.20	-62.86	Peak	161	337	P
7	5855.00	-12.16	72.27	60.11	110.80	-50.69	Peak	161	337	P
8	5875.00	-12.17	71.08	58.91	105.20	-46.29	Peak	161	337	P
9	5925.00	-12.18	58.79	46.61	54.00	-7.39	Average	161	337	P
10	5925.00	-12.18	71.73	59.55	74.00	-14.45	Peak	161	337	P
11	11570.00	-6.23	53.21	46.98	54.00	-7.02	Average	187	346	P
12	11570.00	-6.23	67.29	61.06	74.00	-12.94	Peak	187	346	P
13	17355.00	2.11	40.56	42.67	54.00	-11.33	Average	227	26	P
14	17355.00	2.11	55.44	57.55	74.00	-16.45	Peak	227	26	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

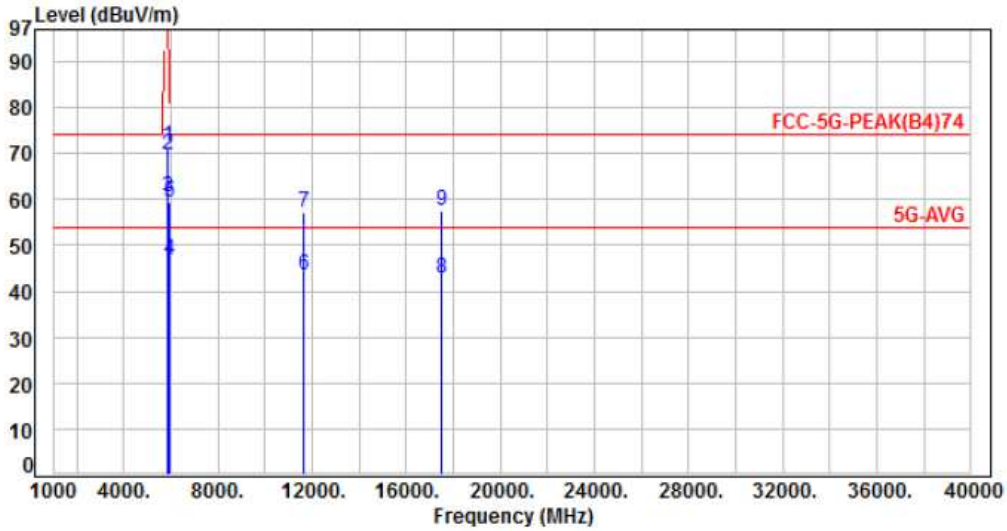
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 4, CH157	Temperature	:	24 °C
Test Date	:	Aug. 09, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-12.09	61.92	49.83	54.00	-4.17	Average	237	49	P
2	5650.00	-12.09	74.27	62.18	74.00	-11.82	Peak	237	49	P
3	5700.00	-12.11	70.50	58.39	105.20	-46.81	Peak	237	49	P
4	5720.00	-12.12	71.88	59.76	110.80	-51.04	Peak	237	49	P
5	5725.00	-12.12	71.23	59.11	122.20	-63.09	Peak	237	49	P
6	5850.00	-12.16	72.02	59.86	122.20	-62.34	Peak	237	49	P
7	5855.00	-12.16	71.31	59.15	110.80	-51.65	Peak	237	49	P
8	5875.00	-12.17	71.09	58.92	105.20	-46.28	Peak	237	49	P
9	5925.00	-12.18	58.62	46.44	54.00	-7.56	Average	237	49	P
10	5925.00	-12.18	71.66	59.48	74.00	-14.52	Peak	237	49	P
11	11570.00	-6.23	54.18	47.95	54.00	-6.05	Average	182	312	P
12	11570.00	-6.23	69.57	63.34	74.00	-10.66	Peak	182	312	P
13	17355.00	2.11	48.18	50.29	54.00	-3.71	Average	273	20	P
14	17355.00	2.11	63.31	65.42	74.00	-8.58	Peak	273	20	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

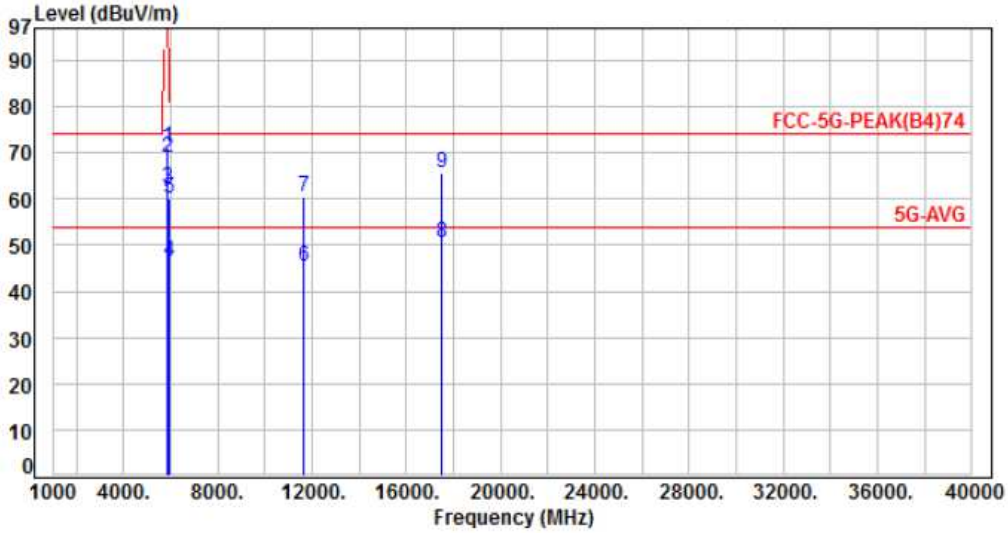
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 4, CH165	Temperature	:	24 °C
Test Date	:	Aug. 09, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-12.16	83.79	71.63	122.20	-50.57	Peak	158	342	P
2	5855.00	-12.16	81.85	69.69	110.80	-41.11	Peak	158	342	P
3	5875.00	-12.17	72.74	60.57	105.20	-44.63	Peak	158	342	P
4	5925.00	-12.18	58.88	46.70	54.00	-7.30	Average	161	337	P
5	5925.00	-12.18	71.73	59.55	74.00	-14.45	Peak	158	342	P
6	11650.00	-6.21	49.84	43.63	54.00	-10.37	Average	203	353	P
7	11650.00	-6.21	63.52	57.31	74.00	-16.69	Peak	203	353	P
8	17475.00	2.74	39.87	42.61	54.00	-11.39	Average	227	25	P
9	17475.00	2.74	54.94	57.68	74.00	-16.32	Peak	227	25	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

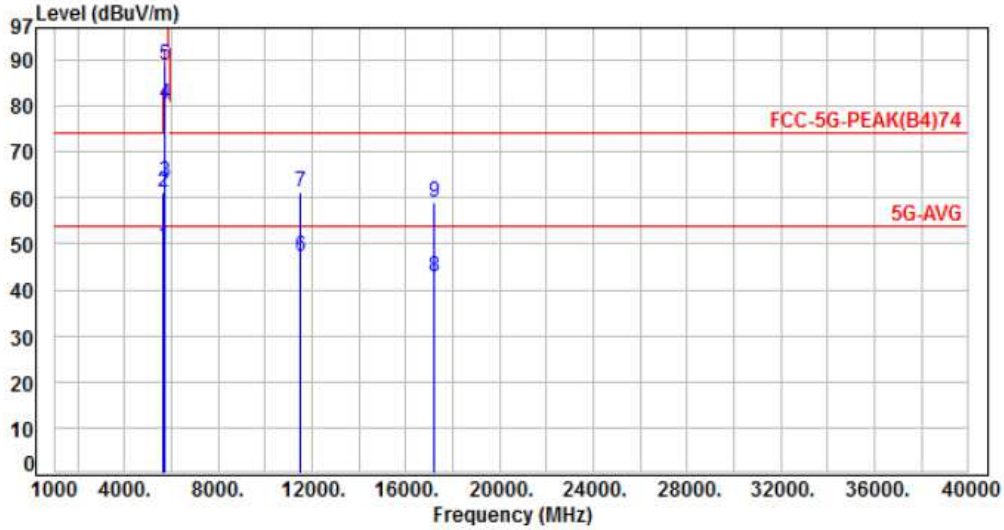
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 4, CH165	Temperature	:	24 °C
Test Date	:	Aug. 09, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-12.16	83.36	71.20	122.20	-51.00	Peak	221	59	P
2	5855.00	-12.16	81.10	68.94	110.80	-41.86	Peak	221	59	P
3	5875.00	-12.17	74.39	62.22	105.20	-42.98	Peak	221	59	P
4	5925.00	-12.18	58.80	46.62	54.00	-7.38	Average	221	59	P
5	5925.00	-12.18	72.37	60.19	74.00	-13.81	Peak	221	59	P
6	11650.00	-6.21	51.74	45.53	54.00	-8.47	Average	191	308	P
7	11650.00	-6.21	66.75	60.54	74.00	-13.46	Peak	191	308	P
8	17475.00	2.74	47.74	50.48	54.00	-3.52	Average	271	41	P
9	17475.00	2.74	62.80	65.54	74.00	-8.46	Peak	271	41	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

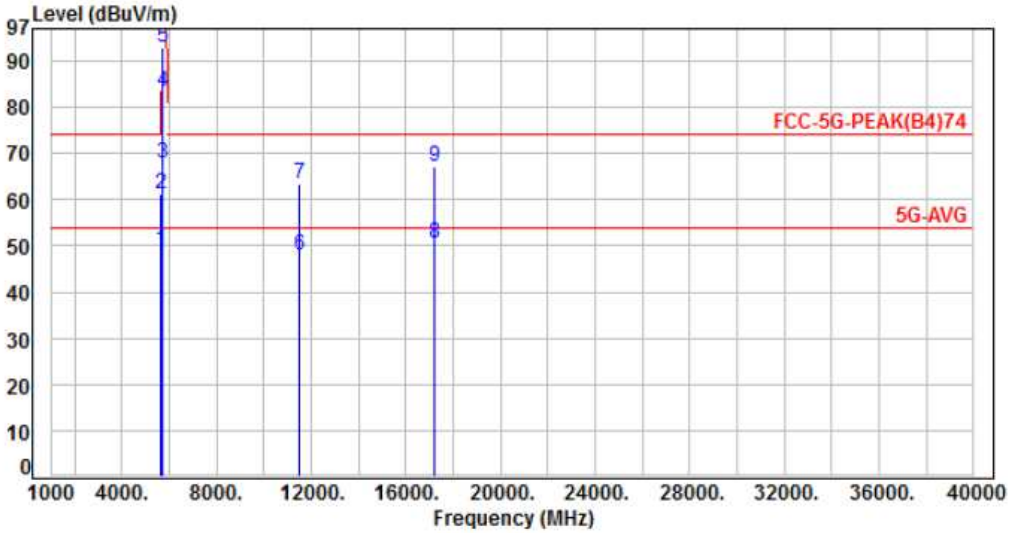
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 4, CH149	Temperature	:	24 °C
Test Date	:	Aug. 09, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-12.09	61.37	49.28	54.00	-4.72	Average	125	359	P
2	5650.00	-12.09	73.25	61.16	74.00	-12.84	Peak	125	359	P
3	5700.00	-12.11	75.49	63.38	105.20	-41.82	Peak	125	359	P
4	5720.00	-12.12	92.61	80.49	110.80	-30.31	Peak	125	359	P
5	5725.00	-12.12	100.91	88.79	122.20	-33.41	Peak	125	359	P
6	11490.00	-6.25	53.42	47.17	54.00	-6.83	Average	180	346	P
7	11490.00	-6.25	67.37	61.12	74.00	-12.88	Peak	180	346	P
8	17235.00	1.48	41.46	42.94	54.00	-11.06	Average	224	29	P
9	17235.00	1.48	57.45	58.93	74.00	-15.07	Peak	224	29	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

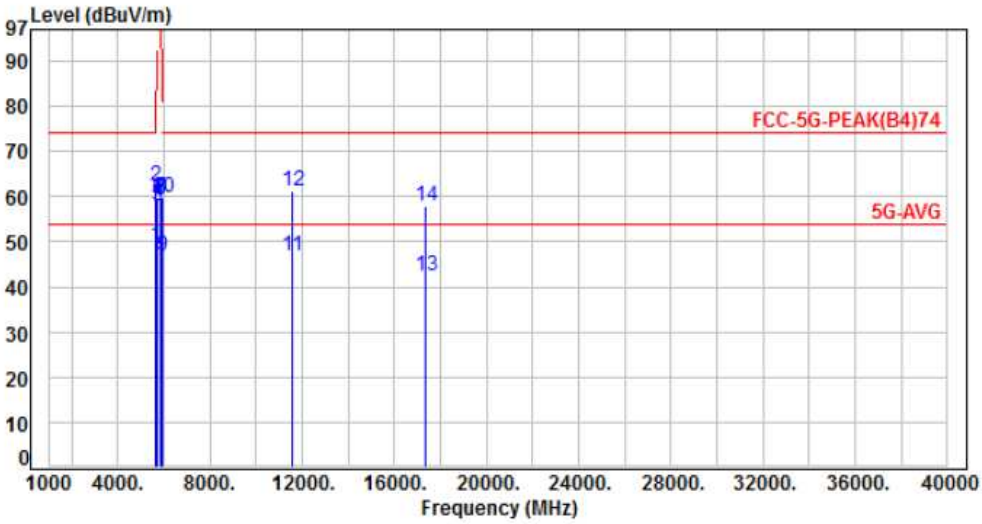
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 4, CH149	Temperature	:	24 °C
Test Date	:	Aug. 09, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-12.09	61.20	49.11	54.00	-4.89	Average	216	49	P
2	5650.00	-12.09	73.41	61.32	74.00	-12.68	Peak	216	49	P
3	5700.00	-12.11	79.82	67.71	105.20	-37.49	Peak	216	49	P
4	5720.00	-12.12	95.31	83.19	110.80	-27.61	Peak	216	49	P
5	5725.00	-12.12	104.91	92.79	122.20	-29.41	Peak	216	49	P
6	11490.00	-6.25	54.14	47.89	54.00	-6.11	Average	189	310	P
7	11490.00	-6.25	69.86	63.61	74.00	-10.39	Peak	189	310	P
8	17235.00	1.48	49.22	50.70	54.00	-3.30	Average	272	21	P
9	17235.00	1.48	65.57	67.05	74.00	-6.95	Peak	272	21	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

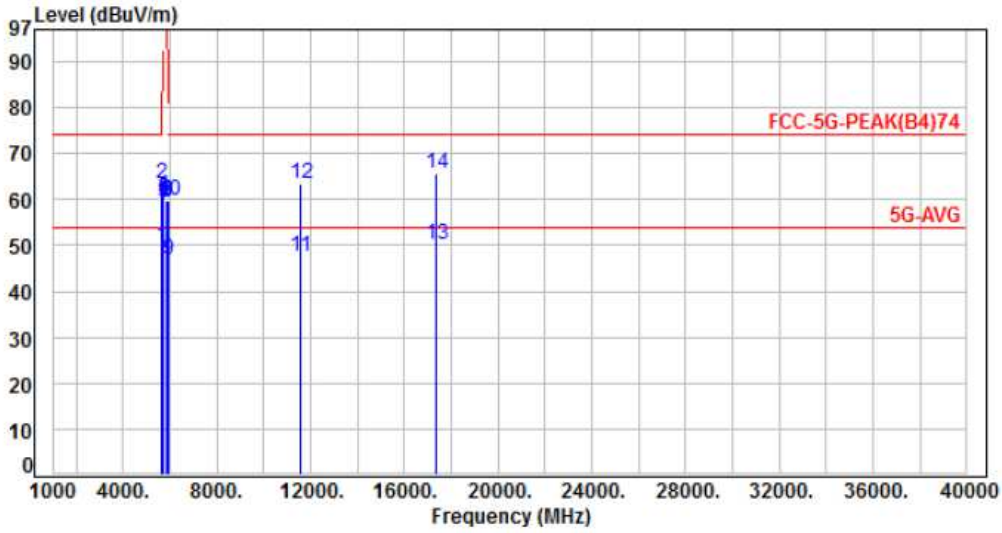
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 4, CH157	Temperature	:	24 °C
Test Date	:	Aug. 09, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-12.09	61.13	49.04	54.00	-4.96	Average	125	357	P
2	5650.00	-12.09	74.24	62.15	74.00	-11.85	Peak	125	357	P
3	5700.00	-12.11	70.09	57.98	105.20	-47.22	Peak	125	357	P
4	5720.00	-12.12	71.30	59.18	110.80	-51.62	Peak	125	357	P
5	5725.00	-12.12	71.42	59.30	122.20	-62.90	Peak	125	357	P
6	5850.00	-12.16	71.56	59.40	122.20	-62.80	Peak	125	357	P
7	5855.00	-12.16	71.80	59.64	110.80	-51.16	Peak	125	357	P
8	5875.00	-12.17	71.41	59.24	105.20	-45.96	Peak	125	357	P
9	5925.00	-12.18	58.99	46.81	54.00	-7.19	Average	125	357	P
10	5925.00	-12.18	72.01	59.83	74.00	-14.17	Peak	125	357	P
11	11570.00	-6.23	53.03	46.80	54.00	-7.20	Average	192	341	P
12	11570.00	-6.23	67.61	61.38	74.00	-12.62	Peak	192	341	P
13	17355.00	2.11	40.25	42.36	54.00	-11.64	Average	224	23	P
14	17355.00	2.11	55.73	57.84	74.00	-16.16	Peak	224	23	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

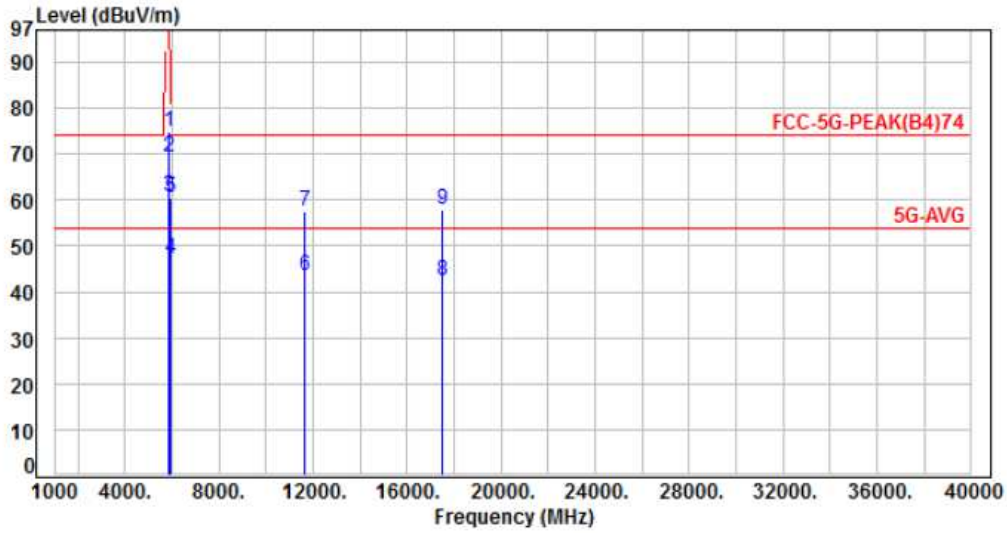
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 4, CH157	Temperature	:	24 °C
Test Date	:	Aug. 09, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-12.09	61.91	49.82	54.00	-4.18	Average	217	54	P
2	5650.00	-12.09	75.44	63.35	74.00	-10.65	Peak	217	54	P
3	5700.00	-12.11	72.27	60.16	105.20	-45.04	Peak	217	54	P
4	5720.00	-12.12	73.06	60.94	110.80	-49.86	Peak	217	54	P
5	5725.00	-12.12	71.60	59.48	122.20	-62.72	Peak	217	54	P
6	5850.00	-12.16	71.96	59.80	122.20	-62.40	Peak	217	54	P
7	5855.00	-12.16	71.46	59.30	110.80	-51.50	Peak	217	54	P
8	5875.00	-12.17	71.56	59.39	105.20	-45.81	Peak	217	54	P
9	5925.00	-12.18	59.18	47.00	54.00	-7.00	Average	217	54	P
10	5925.00	-12.18	71.77	59.59	74.00	-14.41	Peak	217	54	P
11	11570.00	-6.23	53.92	47.69	54.00	-6.31	Average	178	316	P
12	11570.00	-6.23	69.75	63.52	74.00	-10.48	Peak	178	316	P
13	17355.00	2.11	48.02	50.13	54.00	-3.87	Average	271	24	P
14	17355.00	2.11	63.66	65.77	74.00	-8.23	Peak	271	24	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

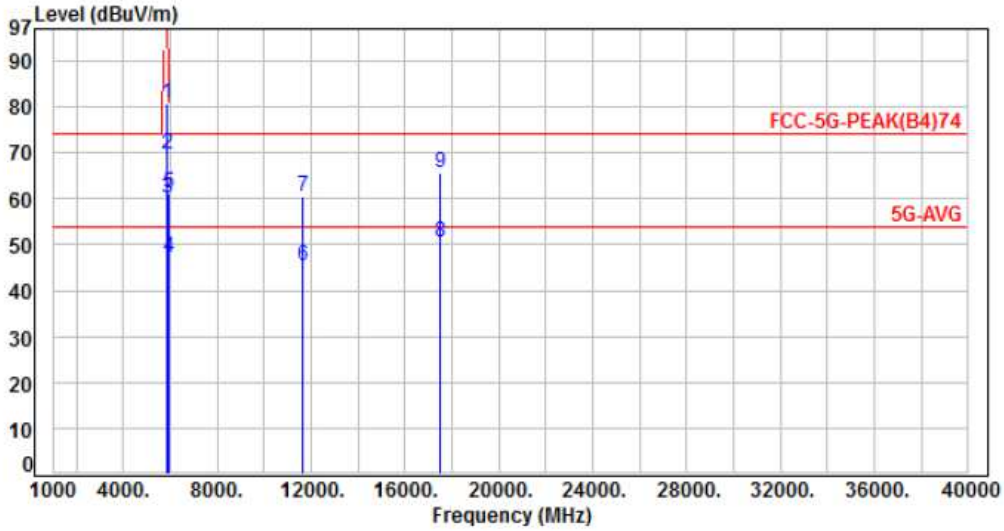
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 4, CH165	Temperature	:	24 °C
Test Date	:	Aug. 09, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-12.16	87.16	75.00	122.20	-47.20	Peak	131	360	P
2	5855.00	-12.16	81.34	69.18	110.80	-41.62	Peak	131	360	P
3	5875.00	-12.17	73.13	60.96	105.20	-44.24	Peak	131	360	P
4	5925.00	-12.18	59.52	47.34	54.00	-6.66	Average	131	360	P
5	5925.00	-12.18	72.70	60.52	74.00	-13.48	Peak	131	360	P
6	11650.00	-6.21	49.62	43.41	54.00	-10.59	Average	201	356	P
7	11650.00	-6.21	63.79	57.58	74.00	-16.42	Peak	201	356	P
8	17475.00	2.74	39.74	42.48	54.00	-11.52	Average	225	24	P
9	17475.00	2.74	55.26	58.00	74.00	-16.00	Peak	225	24	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

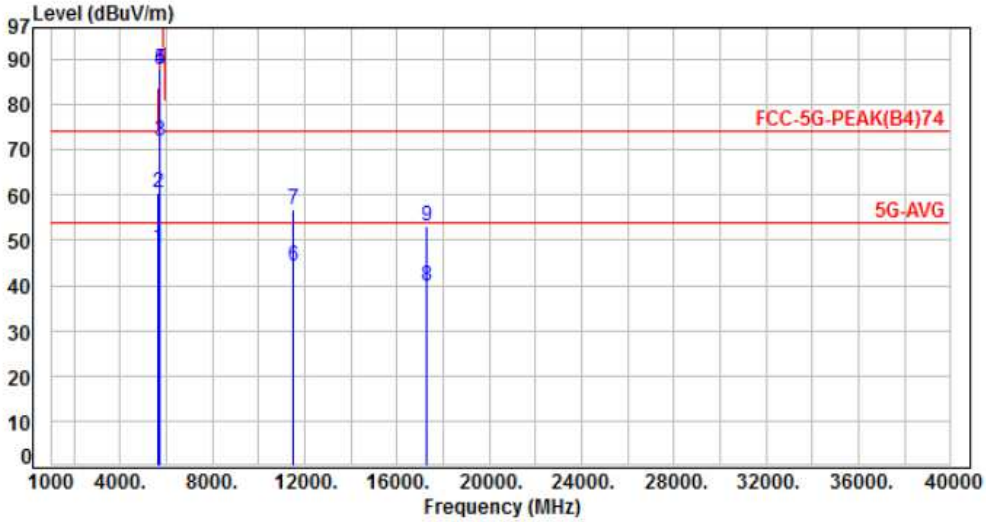
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 4, CH165	Temperature	:	24 °C
Test Date	:	Aug. 09, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-12.16	92.87	80.71	122.20	-41.49	Peak	127	48	P
2	5855.00	-12.16	81.78	69.62	110.80	-41.18	Peak	127	48	P
3	5875.00	-12.17	72.20	60.03	105.20	-45.17	Peak	127	48	P
4	5925.00	-12.18	59.21	47.03	54.00	-6.97	Average	127	48	P
5	5925.00	-12.18	73.39	61.21	74.00	-12.79	Peak	127	48	P
6	11650.00	-6.21	51.47	45.26	54.00	-8.74	Average	187	311	P
7	11650.00	-6.21	66.85	60.64	74.00	-13.36	Peak	187	311	P
8	17475.00	2.74	47.62	50.36	54.00	-3.64	Average	274	38	P
9	17475.00	2.74	62.95	65.69	74.00	-8.31	Peak	274	38	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

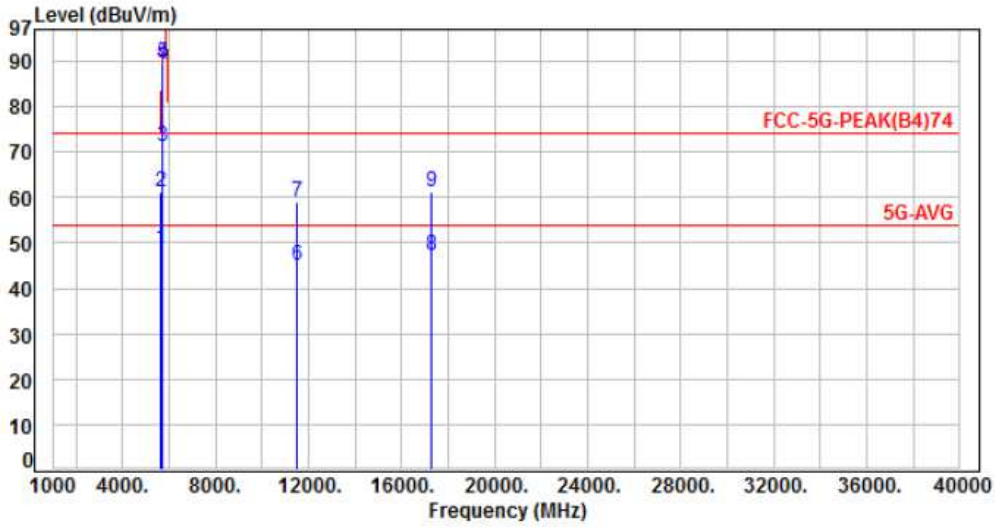
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, Band 4, CH151	Temperature	:	24 °C
Test Date	:	Aug. 09, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-12.09	60.24	48.15	54.00	-5.85	Average	210	360	P
2	5650.00	-12.09	72.71	60.62	74.00	-13.38	Peak	210	360	P
3	5700.00	-12.11	84.10	71.99	105.20	-33.21	Peak	210	360	P
4	5720.00	-12.12	100.03	87.91	110.80	-22.89	Peak	210	360	P
5	5725.00	-12.12	99.79	87.67	122.20	-34.53	Peak	210	360	P
6	11510.00	-6.26	50.64	44.38	54.00	-9.62	Average	187	350	P
7	11510.00	-6.26	63.10	56.84	74.00	-17.16	Peak	187	350	P
8	17265.00	1.65	38.20	39.85	54.00	-14.15	Average	248	31	P
9	17265.00	1.65	51.61	53.26	74.00	-20.74	Peak	248	31	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

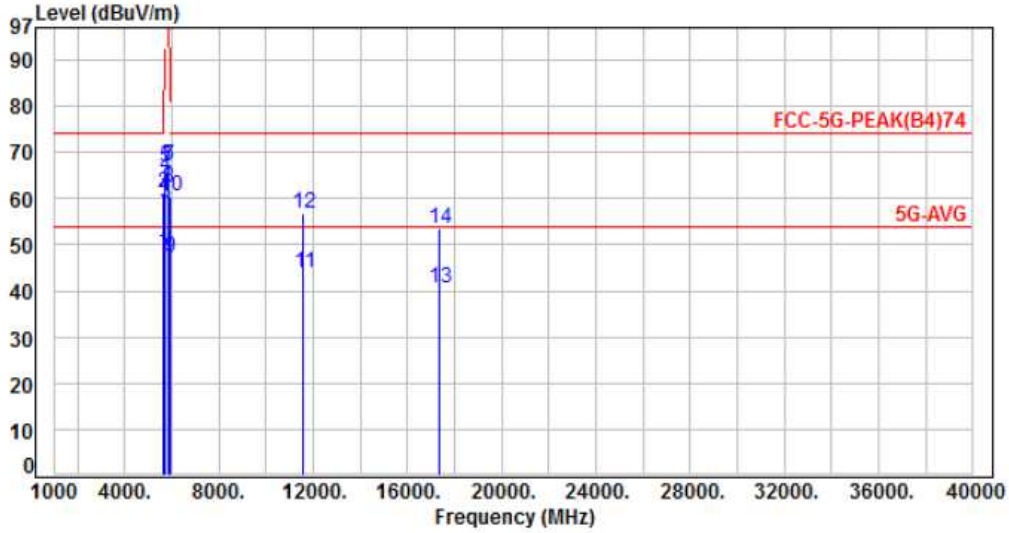
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, Band 4, CH151	Temperature	:	24 °C
Test Date	:	Aug. 09, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-12.09	60.75	48.66	54.00	-5.34	Average	121	58	P
2	5650.00	-12.09	73.16	61.07	74.00	-12.93	Peak	121	58	P
3	5700.00	-12.11	83.42	71.31	105.20	-33.89	Peak	121	58	P
4	5720.00	-12.12	101.56	89.44	110.80	-21.36	Peak	121	58	P
5	5725.00	-12.12	101.74	89.62	122.20	-32.58	Peak	121	58	P
6	11510.00	-6.26	51.43	45.17	54.00	-8.83	Average	182	311	P
7	11510.00	-6.26	65.35	59.09	74.00	-14.91	Peak	182	311	P
8	17265.00	1.65	45.64	47.29	54.00	-6.71	Average	285	21	P
9	17265.00	1.65	59.44	61.09	74.00	-12.91	Peak	285	21	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

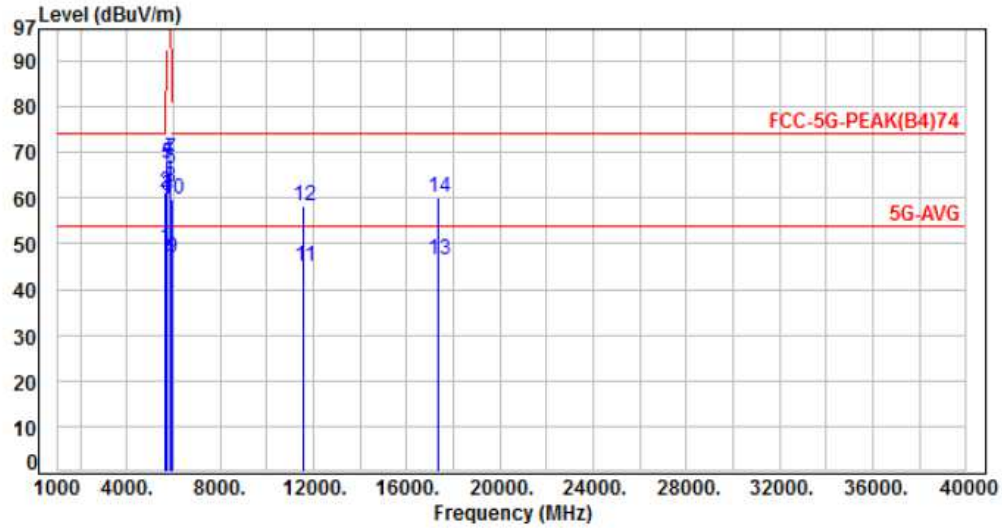
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, Band 4, CH159	Temperature	:	24 °C
Test Date	:	Aug. 09, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-12.09	60.32	48.23	54.00	-5.77	Average	191	338	P
2	5650.00	-12.09	73.18	61.09	74.00	-12.91	Peak	191	338	P
3	5700.00	-12.11	71.16	59.05	105.20	-46.15	Peak	191	338	P
4	5720.00	-12.12	77.15	65.03	110.80	-45.77	Peak	191	338	P
5	5725.00	-12.12	78.80	66.68	122.20	-55.52	Peak	191	338	P
6	5850.00	-12.16	79.34	67.18	122.20	-55.02	Peak	191	338	P
7	5855.00	-12.16	79.33	67.17	110.80	-43.63	Peak	191	338	P
8	5875.00	-12.17	74.36	62.19	105.20	-43.01	Peak	191	338	P
9	5925.00	-12.18	59.29	47.11	54.00	-6.89	Average	191	338	P
10	5925.00	-12.18	72.54	60.36	74.00	-13.64	Peak	191	338	P
11	11590.00	-6.23	50.26	44.03	54.00	-9.97	Average	159	355	P
12	11590.00	-6.23	62.86	56.63	74.00	-17.37	Peak	159	355	P
13	17385.00	2.26	38.37	40.63	54.00	-13.37	Average	222	24	P
14	17385.00	2.26	51.33	53.59	74.00	-20.41	Peak	222	24	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

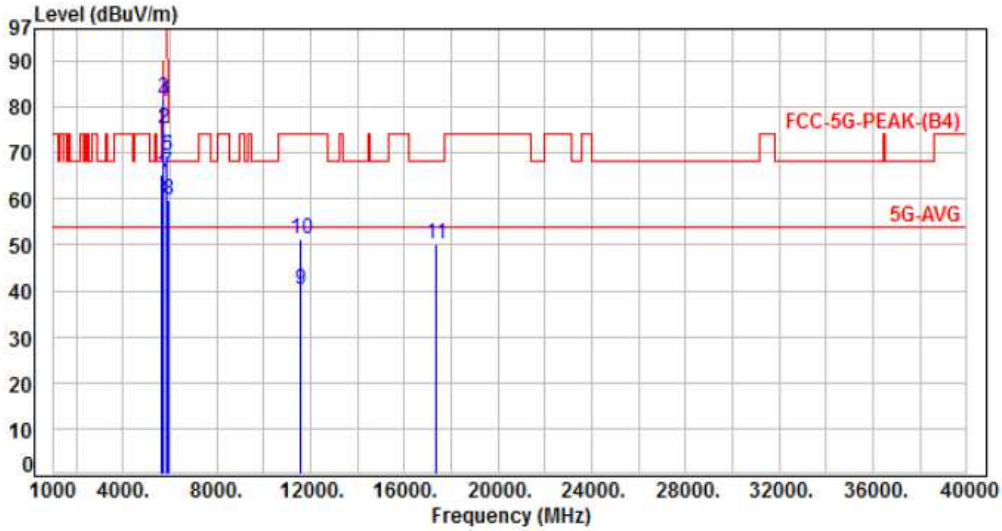
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, Band 4, CH159	Temperature	:	24 °C
Test Date	:	Aug. 09, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-12.09	61.11	49.02	54.00	-4.98	Average	136	46	P
2	5650.00	-12.09	73.23	61.14	74.00	-12.86	Peak	136	46	P
3	5700.00	-12.11	72.56	60.45	105.20	-44.75	Peak	136	46	P
4	5720.00	-12.12	80.38	68.26	110.80	-42.54	Peak	136	46	P
5	5725.00	-12.12	79.45	67.33	122.20	-54.87	Peak	136	46	P
6	5850.00	-12.16	78.72	66.56	122.20	-55.64	Peak	136	46	P
7	5855.00	-12.16	80.92	68.76	110.80	-42.04	Peak	136	46	P
8	5875.00	-12.17	74.67	62.50	105.20	-42.70	Peak	136	46	P
9	5925.00	-12.18	59.16	46.98	54.00	-7.02	Average	136	46	P
10	5925.00	-12.18	71.95	59.77	74.00	-14.23	Peak	136	46	P
11	11590.00	-6.23	51.27	45.04	54.00	-8.96	Average	186	310	P
12	11590.00	-6.23	64.44	58.21	74.00	-15.79	Peak	186	310	P
13	17385.00	2.26	44.20	46.46	54.00	-7.54	Average	290	24	P
14	17385.00	2.26	57.79	60.05	74.00	-13.95	Peak	290	24	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

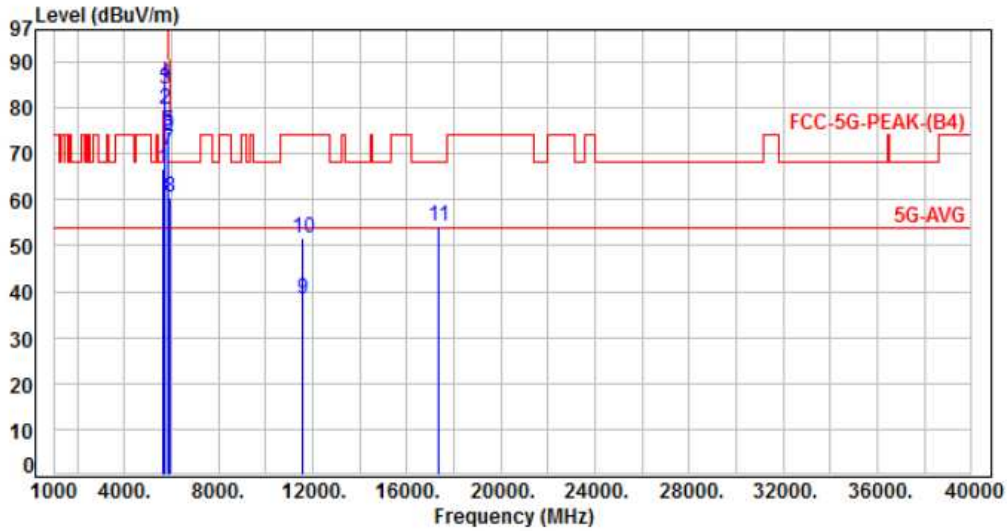
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, Band 4, CH155	Temperature	:	24 °C
Test Date	:	Aug. 09, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-12.09	77.55	65.46	68.20	-2.74	Peak	147	357	P
2	5700.00	-12.11	87.23	75.12	105.20	-30.08	Peak	147	357	P
3	5720.00	-12.12	93.97	81.85	110.80	-28.95	Peak	147	357	P
4	5725.00	-12.12	93.25	81.13	122.20	-41.07	Peak	147	357	P
5	5850.00	-12.16	81.33	69.17	122.20	-53.03	Peak	147	357	P
6	5855.00	-12.16	81.32	69.16	110.80	-41.64	Peak	147	357	P
7	5875.00	-12.17	77.95	65.78	105.20	-39.42	Peak	147	357	P
8	5925.00	-12.18	72.03	59.85	68.20	-8.35	Peak	147	357	P
9	11550.00	-6.24	46.43	40.19	54.00	-13.81	Average	160	353	P
10	11550.00	-6.24	57.59	51.35	74.00	-22.65	Peak	160	353	P
11	17325.00	1.96	48.38	50.34	68.20	-17.86	Peak	222	26	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, Band 4, CH155	Temperature	:	24 °C
Test Date	:	Aug. 09, 2017	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	-12.09	78.68	66.59	68.20	-1.61	Peak	234	52	P
2	5700.00	-12.11	91.73	79.62	105.20	-25.58	Peak	234	52	P
3	5720.00	-12.12	96.33	84.21	110.80	-26.59	Peak	234	52	P
4	5725.00	-12.12	97.26	85.14	122.20	-37.06	Peak	234	52	P
5	5850.00	-12.16	87.02	74.86	122.20	-47.34	Peak	234	52	P
6	5855.00	-12.16	86.38	74.22	110.80	-36.58	Peak	234	52	P
7	5875.00	-12.17	82.88	70.71	105.20	-34.49	Peak	234	52	P
8	5925.00	-12.18	72.79	60.61	68.20	-7.59	Peak	234	52	P
9	11550.00	-6.24	44.58	38.34	54.00	-15.66	Average	194	333	P
10	11550.00	-6.24	57.83	51.59	74.00	-22.41	Peak	194	333	P
11	17325.00	1.96	52.28	54.24	68.20	-13.96	Peak	275	27	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

6.7. Restricted Bands of Operation

Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.09000 – 0.11000	16.42000 – 16.42300	399.9 – 410.0	4.500 – 5.150
0.49500 – 0.505**	16.69475 – 16.69525	608.0 – 614.0	5.350 – 5.460
2.17350 – 2.19050	16.80425 – 16.80475	960.0 – 1240.0	7.250 – 7.750
4.12500 – 4.12800	25.50000 – 25.67000	1300.0 – 1427.0	8.025 – 8.500
4.17725 – 4.17775	37.50000 – 38.25000	1435.0 – 1626.5	9.000 – 9.200
4.20725 – 4.20775	73.00000 – 74.60000	1645.5 – 1646.5	9.300 – 9.500
6.21500 – 6.21800	74.80000 – 75.20000	1660.0 – 1710.0	10.600 – 12.700
6.26775 – 6.26825	108.00000 – 121.94000	1718.8 – 1722.2	13.250 – 13.400
6.31175 – 6.31225	123.00000 – 138.00000	2200.0 – 2300.0	14.470 – 14.500
8.29100 – 8.29400	149.90000 – 150.05000	2310.0 – 2390.0	15.350 – 16.200
8.36200 – 8.36600	156.52475 – 156.52525	2483.5 – 2500.0	17.700 – 21.400
8.37625 – 8.38675	156.70000 – 156.90000	2655.0 – 2900.0	22.010 – 23.120
8.41425 – 8.41475	162.01250 – 167.17000	3260.0 – 3267.0	23.600 – 24.000
12.29000 – 12.29300	167.72000 – 173.20000	3332.0 – 3339.0	31.200 – 31.800
12.51975 – 12.52025	240.00000 – 285.00000	3345.8 – 3358.0	36.430 – 36.500
12.57675 – 12.57725	322.00000 – 335.40000	3600.0 – 4400.0	Above 38.6
13.36000 – 13.41000			

**: Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

7. On Time, Duty Cycle and Measurement methods

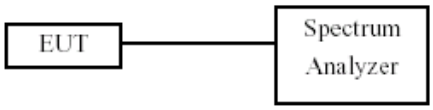
7.1. Test Limit

None; for reporting purposes only.

7.2. Test Procedure

KDB 789033 Zero-Span Spectrum Analyzer Method.

7.3. Test Setup Layout



7.4. Test Result and Data

Temperature: 24°C Humidity: 68%

Test Date: Aug. 16, 2017

Modulation Type	On Time (msec)	Period Time (msec)	Duty Cycle (%)	1/T Minimum VBW(Hz)	Duty Cycle correction Factor (dB)
802.11a	1.37	1.42	96.07%	730.99	0.17
802.11ac VHT20	1.30	1.36	95.58%	771.60	0.20
802.11ac VHT40	0.64	0.71	90.96%	1552.80	0.41
802.11ac VHT80	0.32	0.38	84.82%	3086.42	0.72

7.5. Measurement Methods

26 dB and 6dB Emission BW	KDB 789033 D02 v01, Section C
99% Occupied BW	KDB 789033 D02 v01, Section D
Conducted Output Power	KDB 789033 D02 v01, Section E.2.d and E.3.b (Method PM-G)
Power Spectral Density	KDB 789033 D02 v01, Section F
Unwanted emissions in restricted bands	KDB 789033 D02 v01, Sections G and H
Unwanted emissions in non-restricted bands	KDB 789033 D02 v01, Sections G and H

8. 6dB Bandwidth & 99% Bandwidth

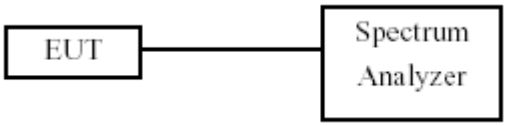
8.1. Test Limit

FCC §15.407
The minimum 6 dB bandwidth shall be at least 500 kHz.

8.2. Test Procedure

Reference to 789033 D02 General UNII Test Procedures New Rules v01: The transmitter output is connected to a spectrum analyzer with the RBW set to100KHz, the VBW >= 3 x RBW, peak detector and max hold.

8.3. Test Setup Layout



8.4. Test Result and Data (6dB Bandwidth)

Temperature: 24°C Humidity: 68%

Test Date: Aug. 16, 2017

In the 5.8G Band

Modulation Type	Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)
			ANT A	ANT B	
802.11a	149	5745	16.40	16.50	0.50
	157	5785	16.50	16.50	0.50
	165	5825	16.40	16.40	0.50
802.11ac VHT20	149	5745	17.60	17.60	0.50
	157	5785	17.70	17.60	0.50
	165	5825	17.50	17.70	0.50
802.11ac VHT40	155	5755	36.40	36.40	0.50
	159	5795	36.20	36.40	0.50
802.11ac VHT80	155	5775	76.16	76.16	0.50

8.5. Test Result and Data (99% Bandwidth)

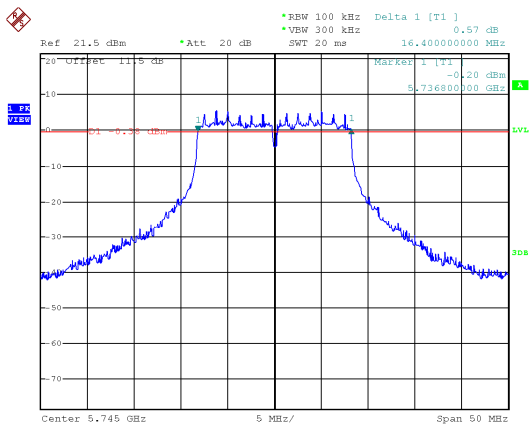
Temperature: 24°C Humidity: 68%

Test Date: Aug. 16, 2017

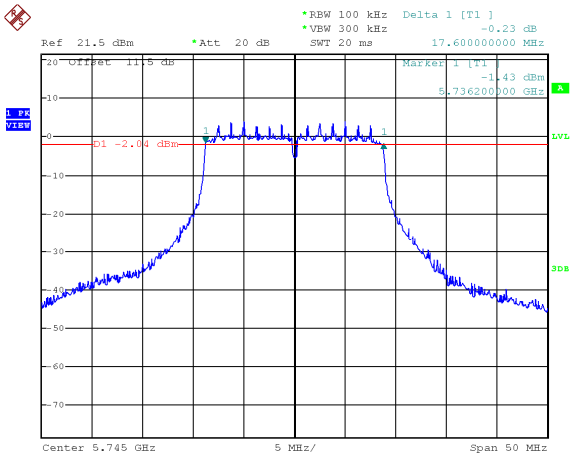
In the 5.8G Band

Modulation Type	Channel	Frequency (MHz)	99% Bandwidth (MHz)	
			ANT A	ANT B
802.11a	149	5745	16.80	17.20
	157	5785	16.90	17.10
	165	5825	16.90	17.00
802.11ac VHT20	149	5745	18.10	18.20
	157	5785	17.90	18.20
	165	5825	17.90	18.20
802.11ac VHT40	155	5755	36.80	37.60
	159	5795	37.00	37.40
802.11ac VHT80	155	5775	75.84	76.16

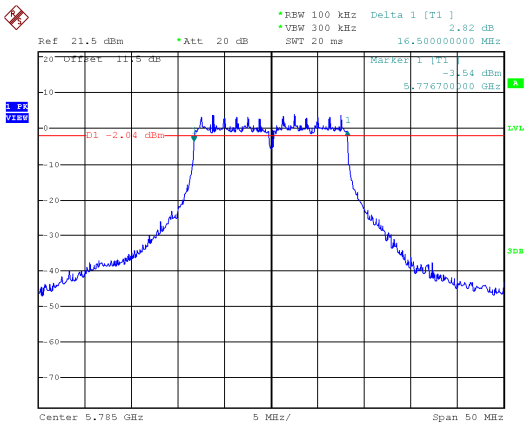
6dB Bandwidth
ANT A
Modulation Standard: 802.11a (6Mbps)
CH149



Modulation Standard: 802.11ac, VHT20 (6.5Mbps)
CH149



CH157



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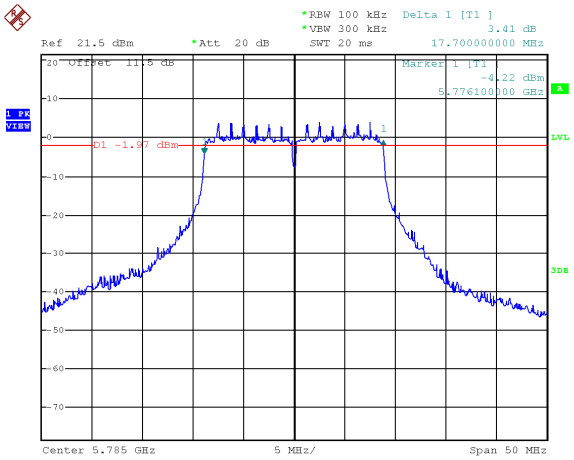
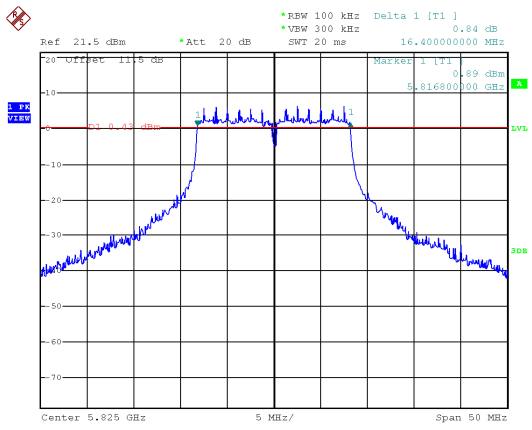


CH165



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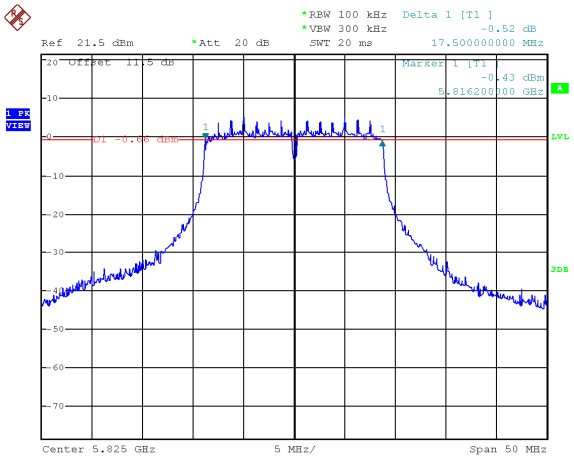
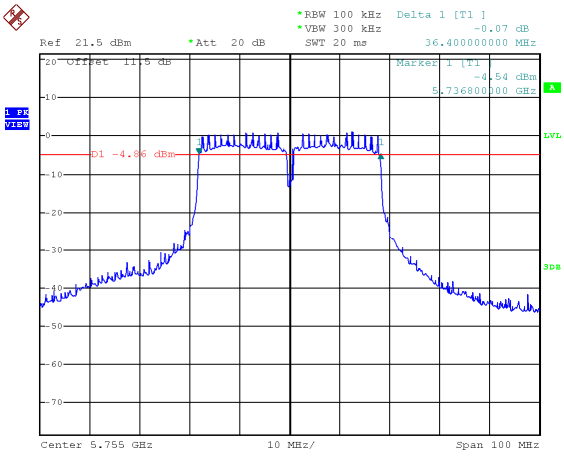


ANT A

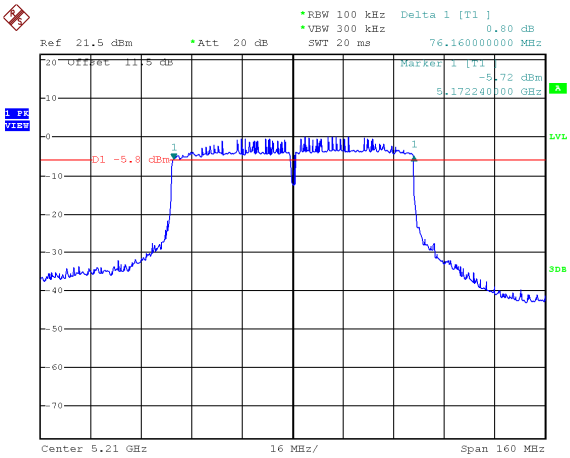
Modulation Standard: 802.11ac, VHT40 (13.5Mbps)

CH151

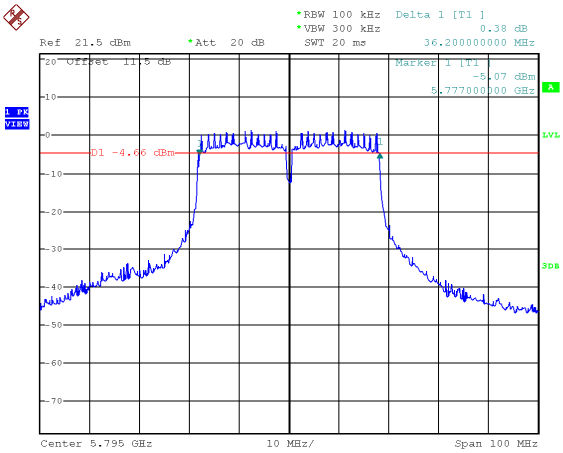


Modulation Standard: 802.11ac, VHT80 (29.3Mbps)

CH155



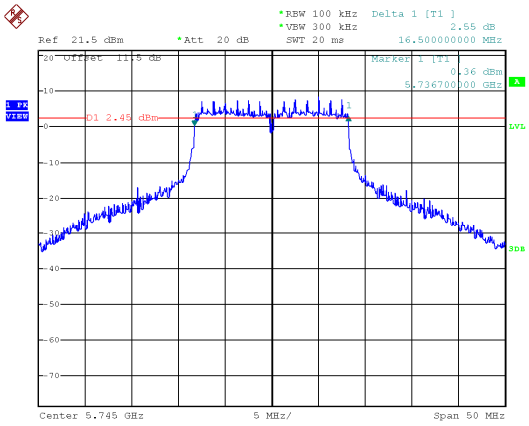
CH159



ANT B

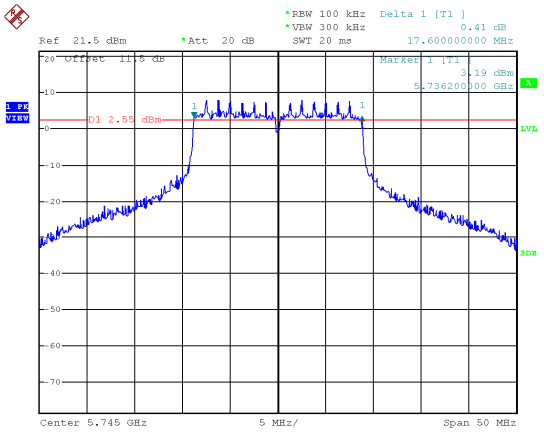
Modulation Standard: 802.11a (6Mbps)

CH149



Modulation Standard: 802.11ac, VHT20 (6.5Mbps)

CH149



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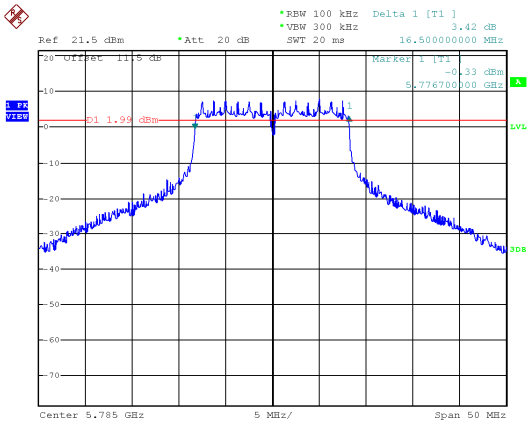

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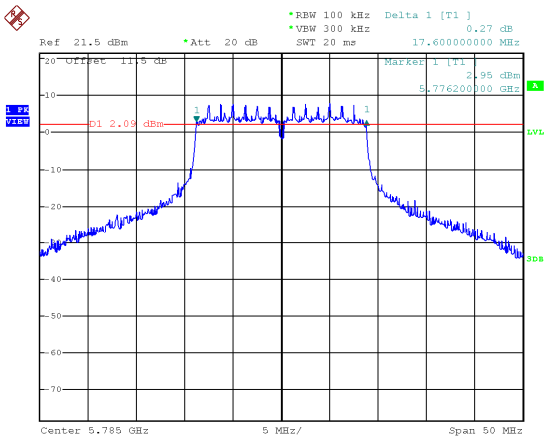

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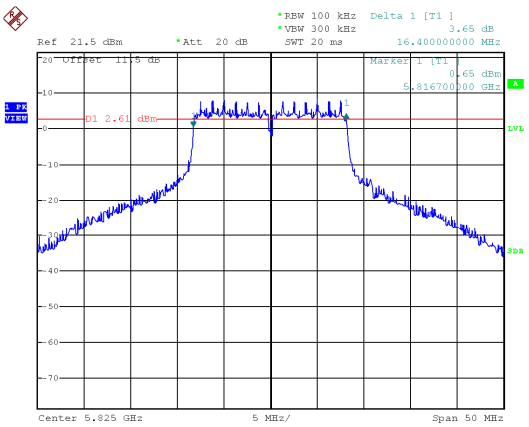

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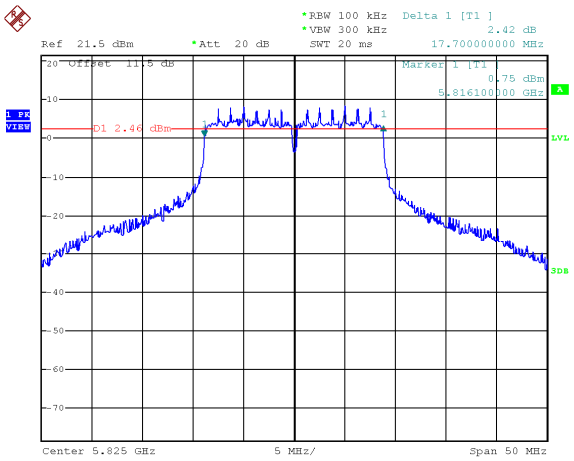
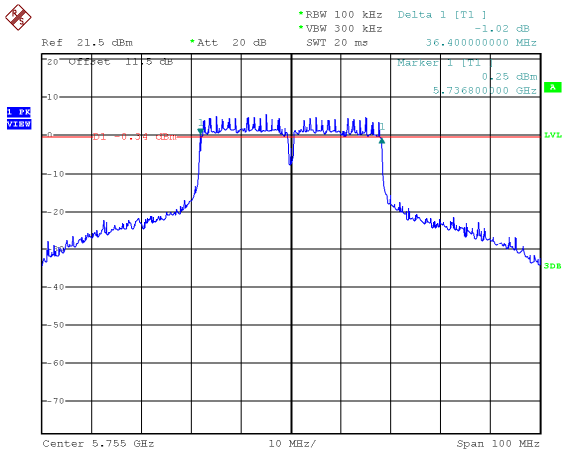


ANT B

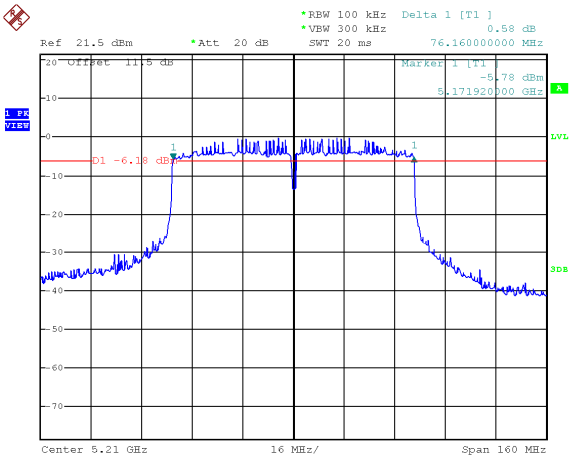
Modulation Standard: 802.11ac, VHT40 (13.5Mbps)

CH151



Modulation Standard: 802.11ac, VHT80 (29.3Mbps)

CH155



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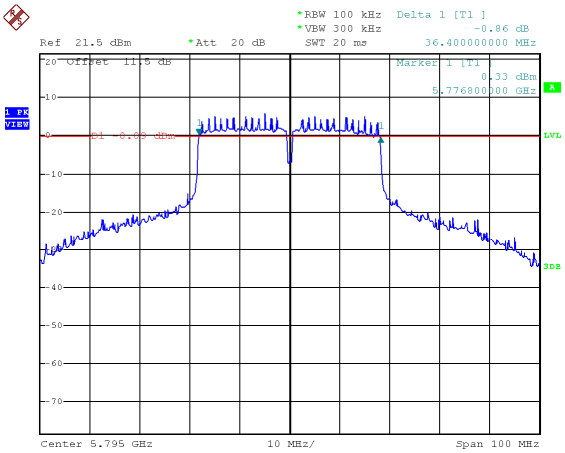
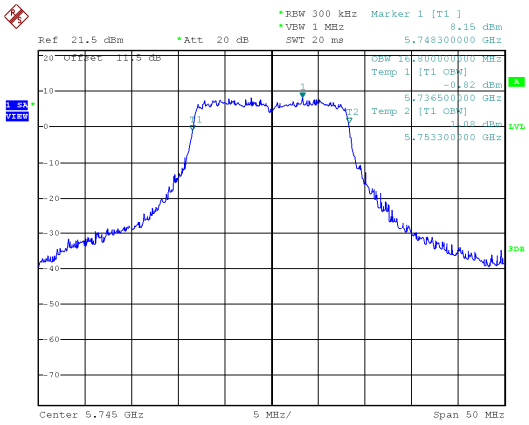
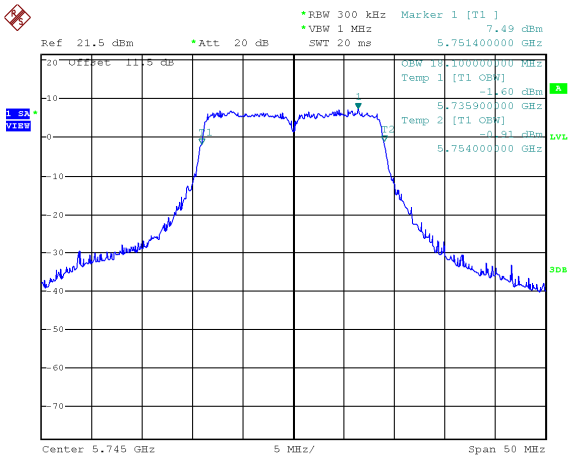


99% Bandwidth
ANT A
Modulation Standard: 802.11a (6Mbps)
CH149



Modulation Standard: 802.11ac, VHT20 (6.5Mbps)
CH149



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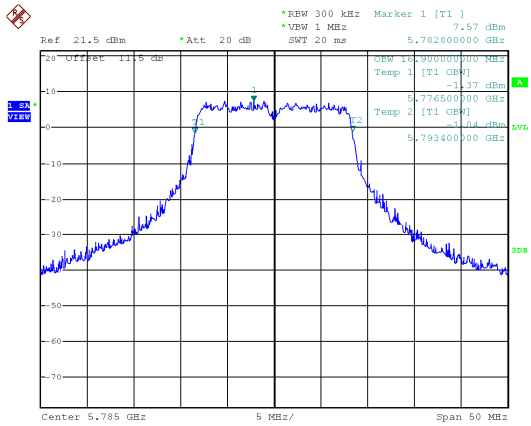

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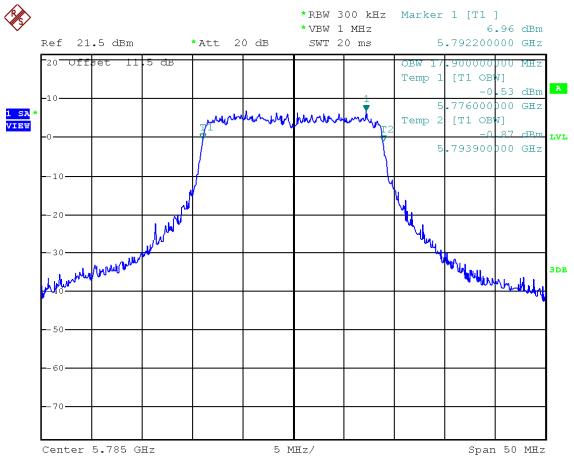

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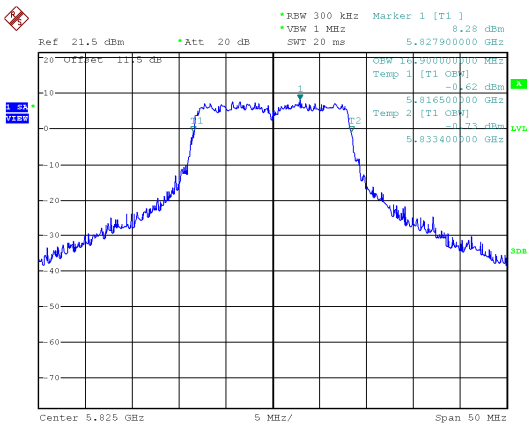

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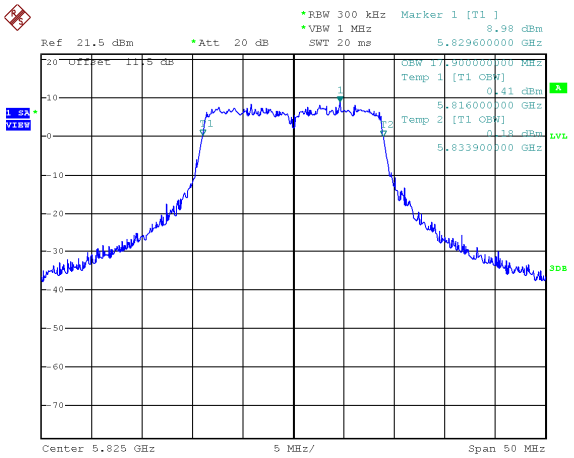
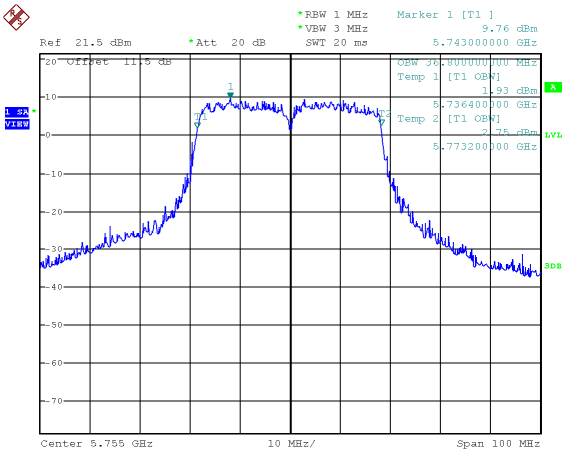


ANT A

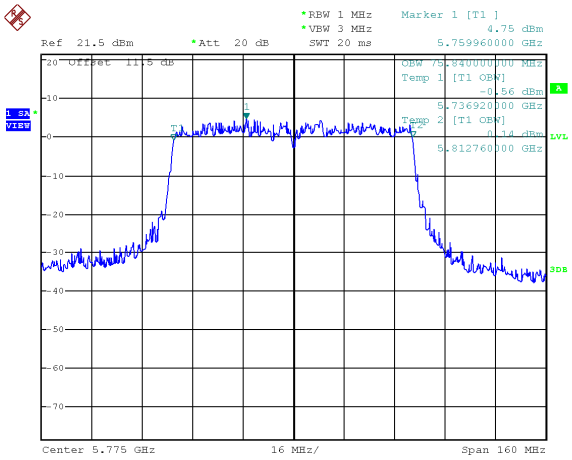
Modulation Standard: 802.11ac, VHT40 (13.5Mbps)

CH151



Modulation Standard: 802.11ac, VHT80 (29.3Mbps)

CH155



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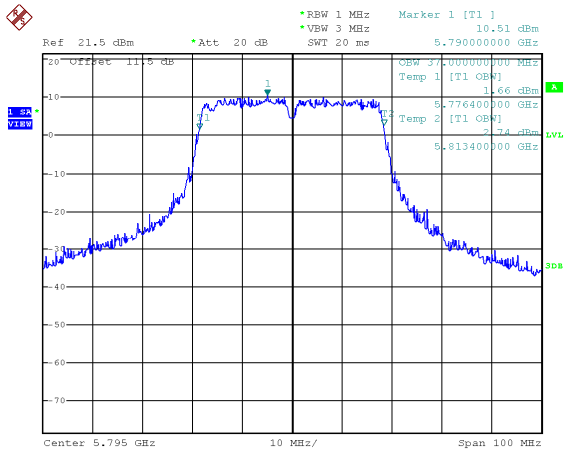
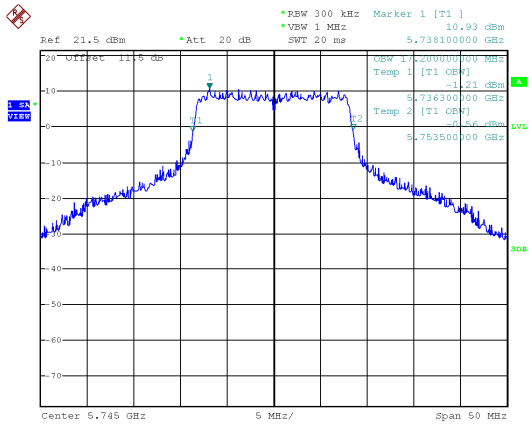


ANT B

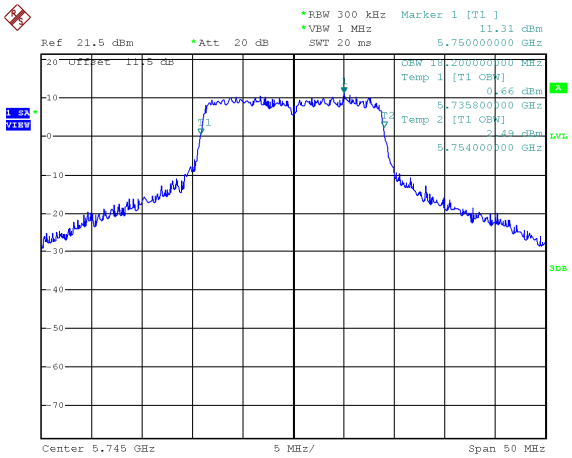
Modulation Standard: 802.11a (6Mbps)

CH149



Modulation Standard: 802.11ac, VHT20 (6.5Mbps)

CH149



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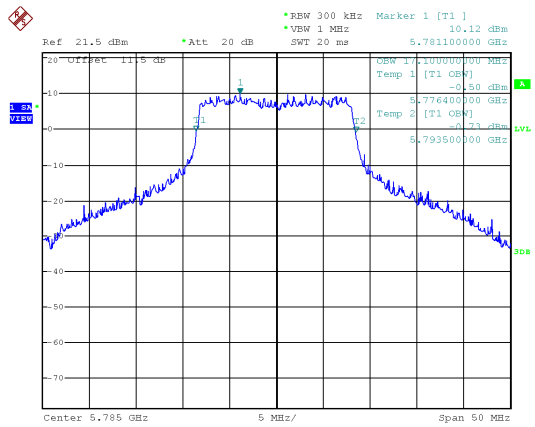

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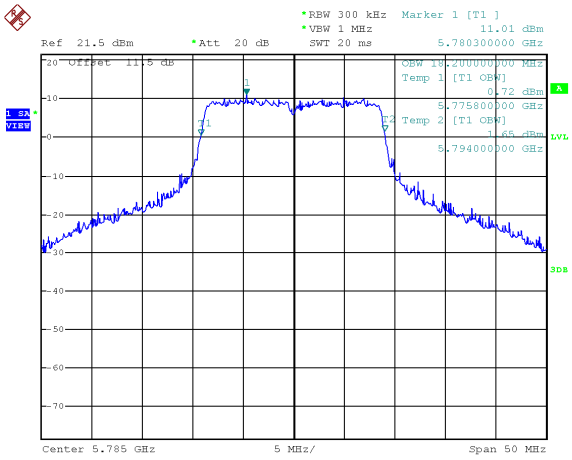

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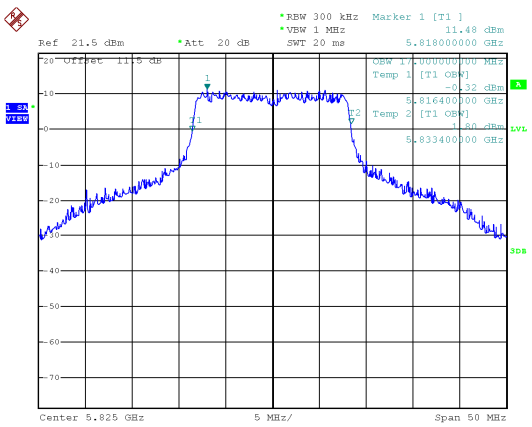
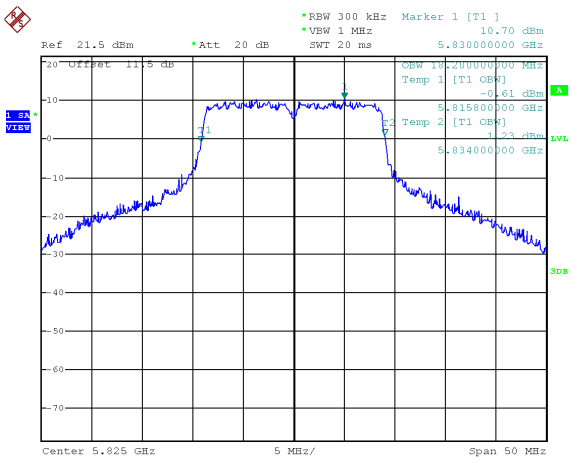


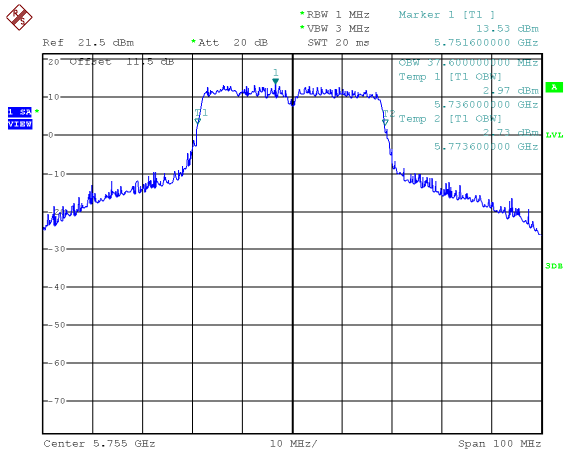
CH165



ANT B

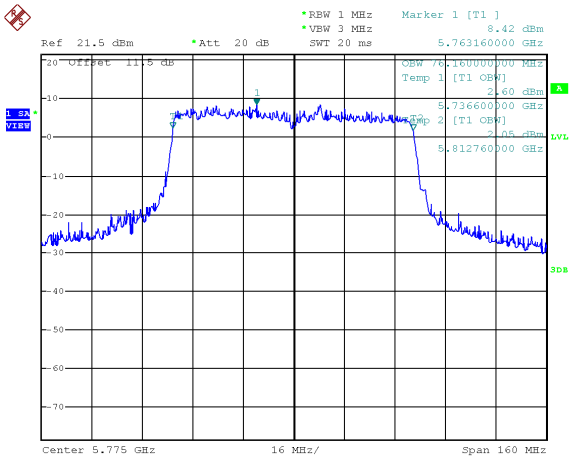
Modulation Standard: 802.11ac, VHT40 (13.5Mbps)

CH151



Modulation Standard: 802.11ac, VHT80 (29.3Mbps)

CH155



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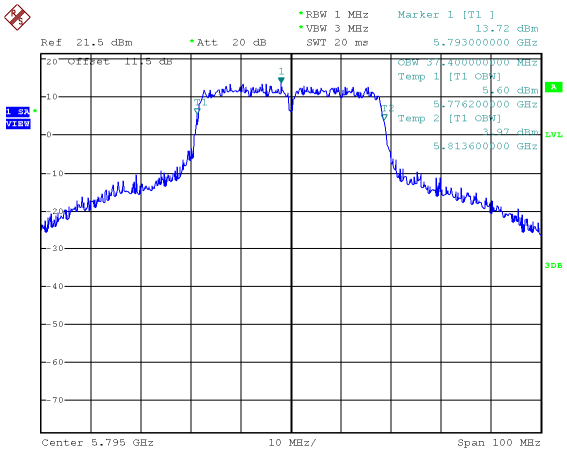


9. 26dB Bandwidth & 99% Bandwidth

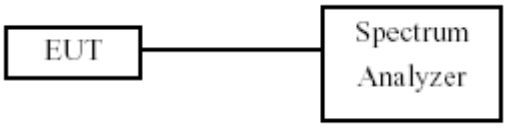
9.1. Test Limit

None; for reporting purposes only.

9.2. Test Procedure

Reference to 789033 D02 General UNII Test Procedures New Rules v01: The transmitter output is connected to a spectrum analyzer with the RBW = approximately 1% of the emission bandwidth, the VBW >= 3 x RBW, peak detector and max hold.

9.3. Test Setup Layout



9.4. Test Result and Data (26dB Bandwidth)

Temperature: 24°C Humidity: 68%

Test Date: Aug. 16, 2017

In the 5.2G Band

Modulation Type	Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
			ANT A	ANT B
802.11a	36	5180	22.20	22.80
	44	5220	23.10	23.30
	48	5240	23.80	24.30
802.11ac VHT20	36	5180	24.60	24.20
	44	5220	24.40	24.00
	48	5240	24.90	23.80
802.11ac VHT40	38	5190	45.40	45.60
	46	5230	46.60	50.00
802.11ac VHT80	42	5210	88.00	88.96

9.5. Test Result and Data (99% Bandwidth)

Temperature: 24°C Humidity: 68%

Test Date: Aug. 16, 2017

In the 5.2G Band

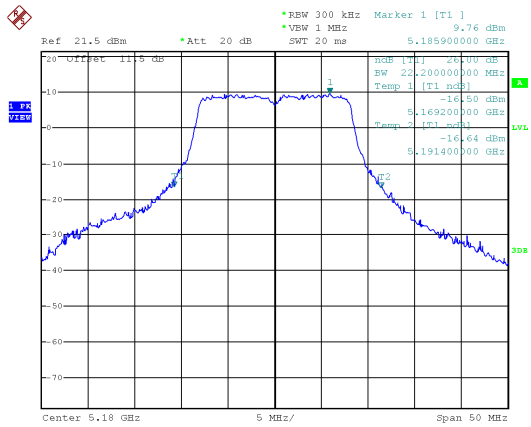
Modulation Type	Channel	Frequency (MHz)	99% Bandwidth (MHz)	
			ANT A	ANT B
802.11a	36	5180	16.80	16.70
	44	5220	16.80	16.70
	48	5240	16.80	16.70
802.11ac VHT20	36	5180	18.00	17.90
	44	5220	17.90	17.90
	48	5240	17.90	17.90
802.11ac VHT40	38	5190	36.80	37.00
	46	5230	36.80	37.00
802.11ac VHT80	42	5210	76.16	76.16

26dB Bandwidth

ANT A

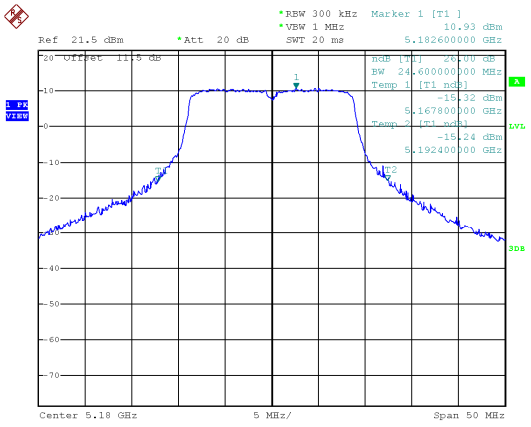
Modulation Standard: 802.11a (6Mbps)

CH36

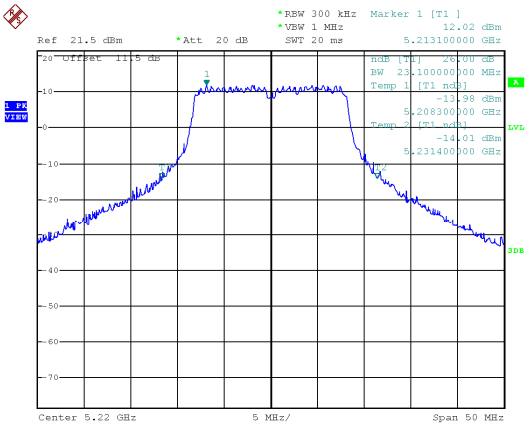


802.11ac VHT20 (6.5Mbps)

CH36



CH44



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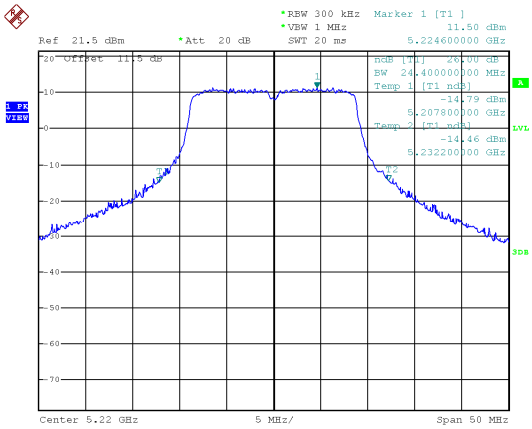
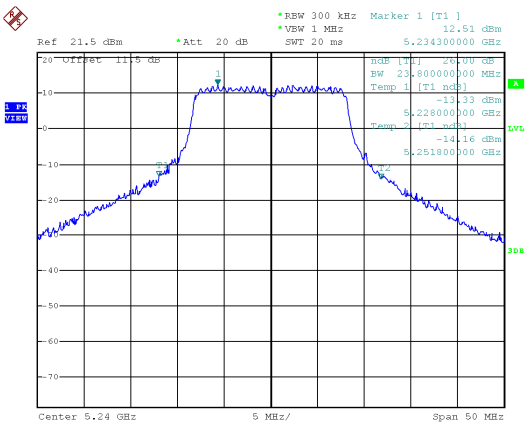


CH48



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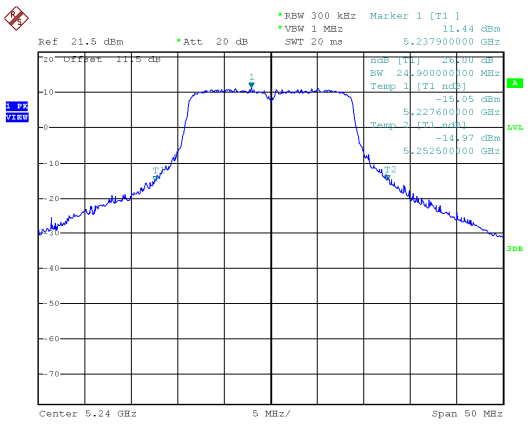
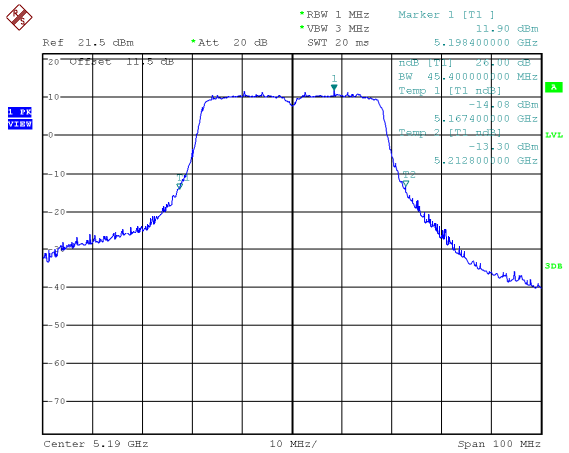


ANT A

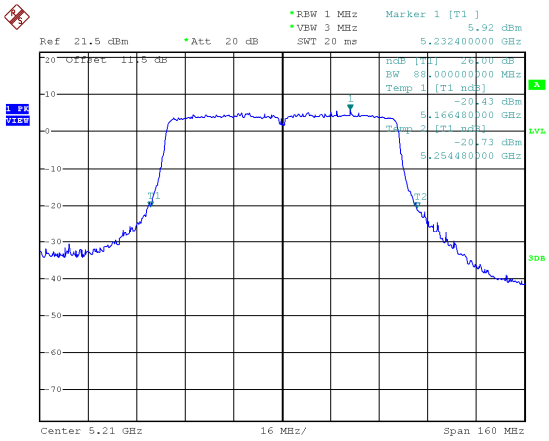
Modulation Standard: 802.11ac VHT40 (13.5Mbps)

CH38

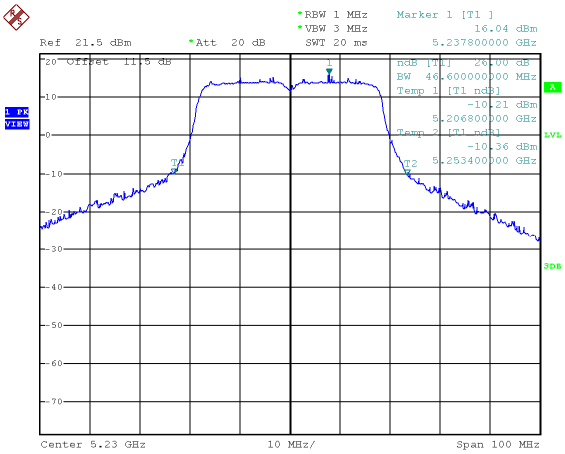


Modulation Standard: 802.11ac VHT80 (29.3Mbps)

CH42



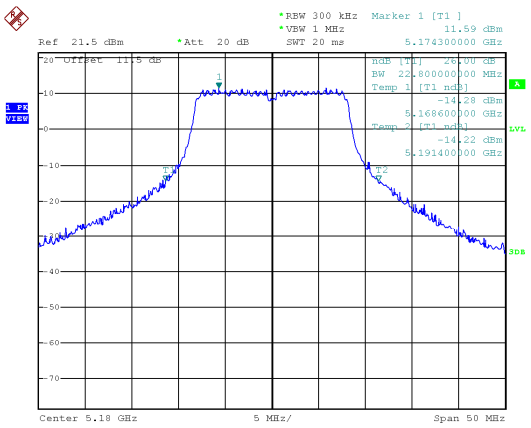
CH46



ANT B

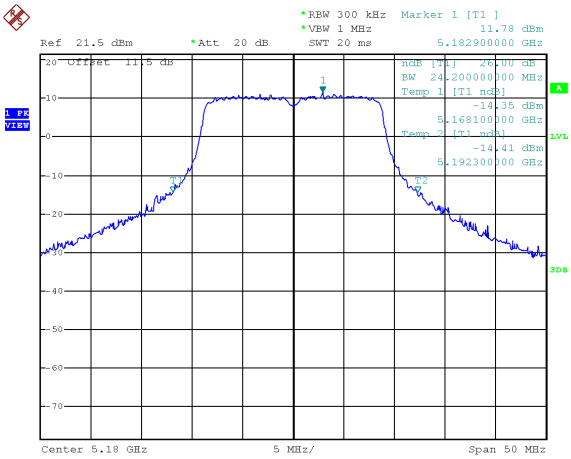
Modulation Standard: 802.11a (6Mbps)

CH36



802.11ac VHT20 (6.5Mbps)

CH36



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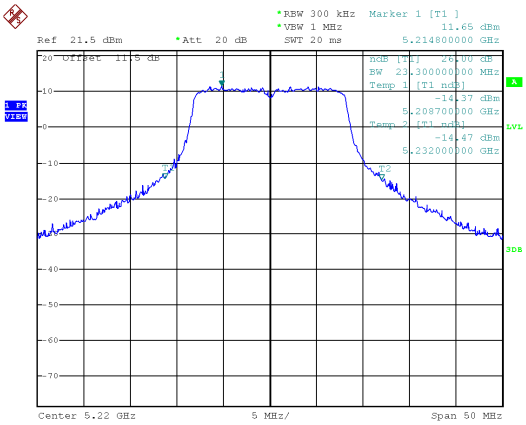

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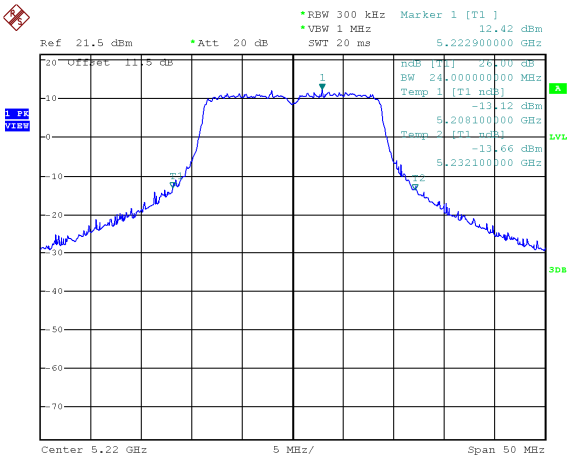
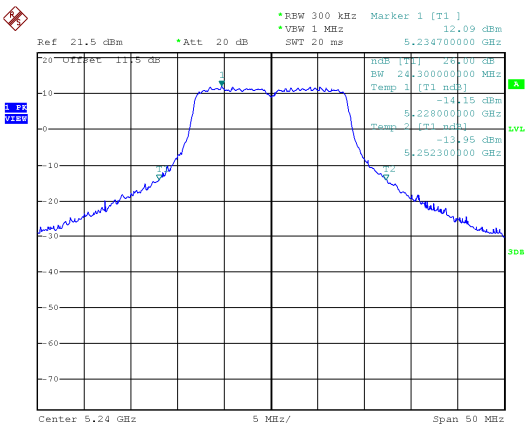


CH48



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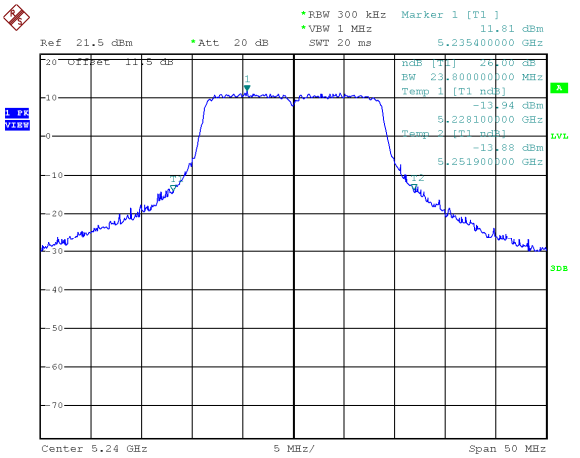
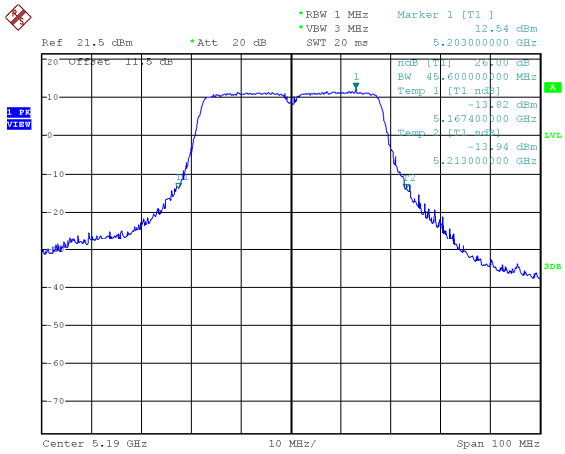


ANT B

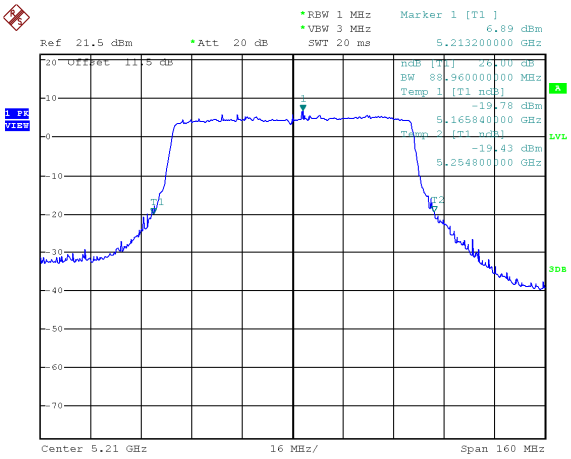
Modulation Standard: 802.11ac VHT40 (13.5Mbps)

CH38

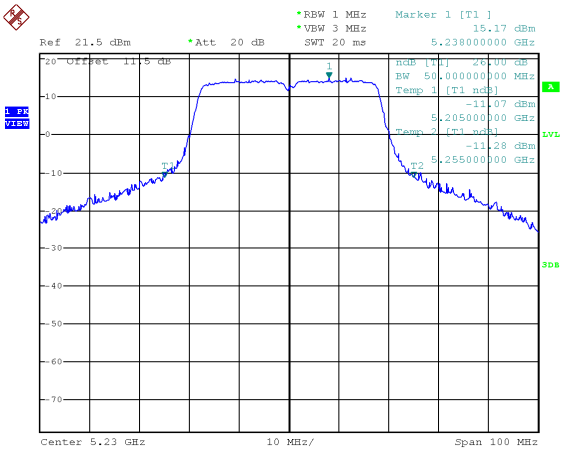


Modulation Standard: 802.11ac VHT80 (29.3Mbps)

CH42

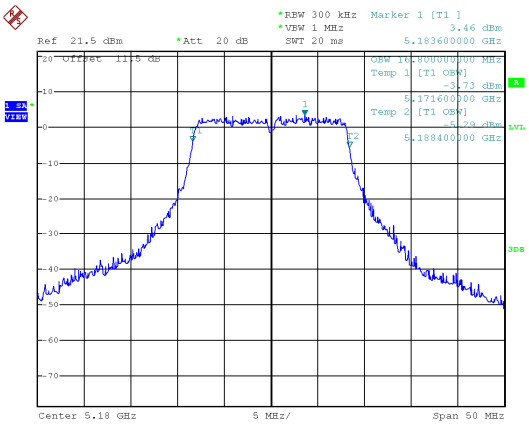


CH46

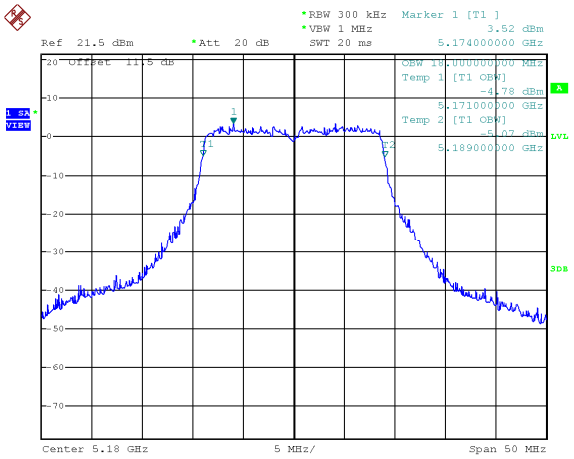


99% Bandwidth
ANT A

Modulation Standard: 802.11a (6Mbps)
CH36



802.11ac VHT20 (6.5Mbps)
CH36



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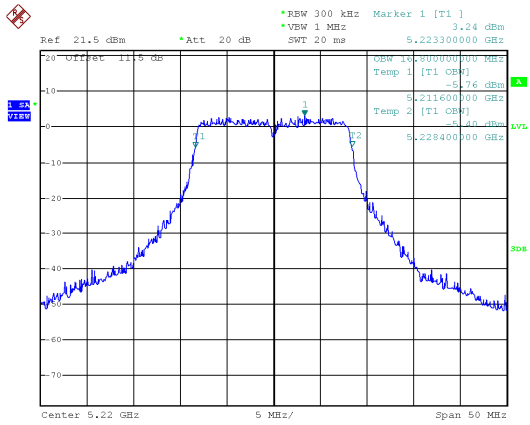

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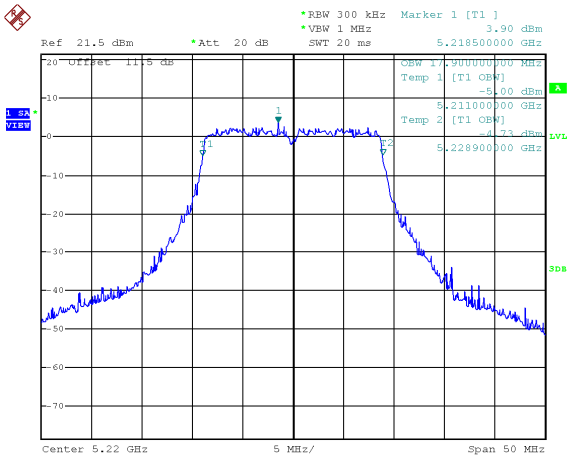

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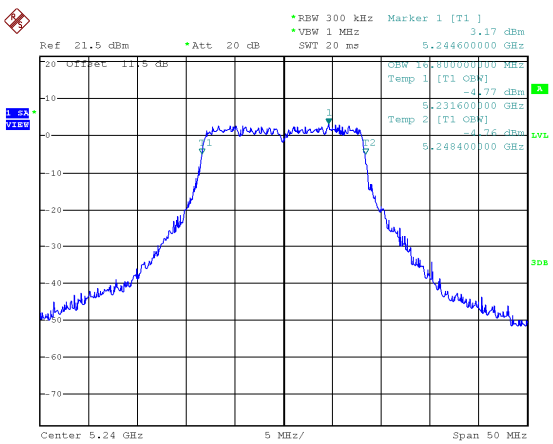

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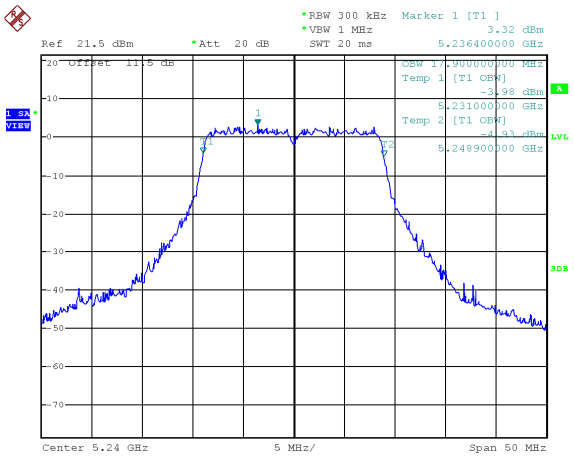
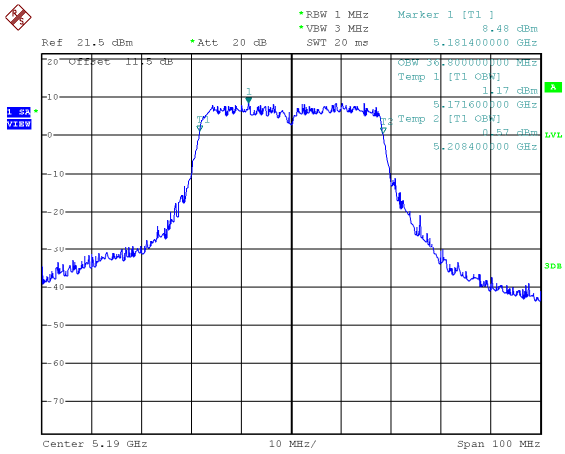


ANT A

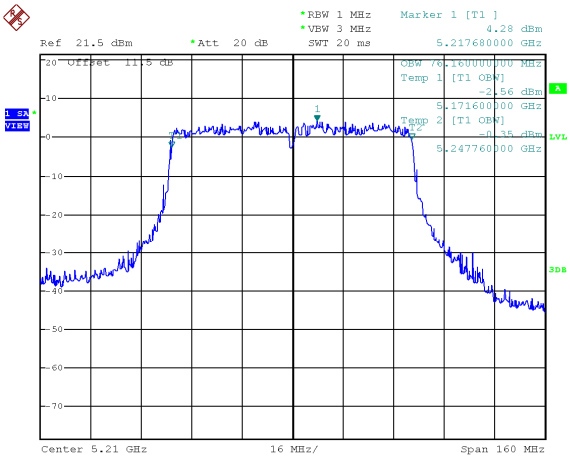
Modulation Standard: 802.11ac VHT40 (13.5Mbps)

CH38

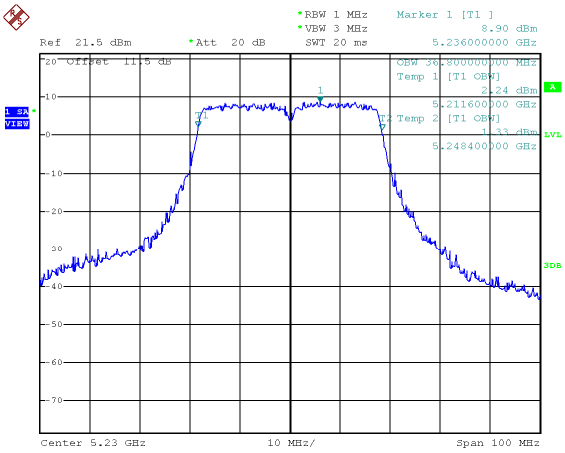


Modulation Standard: 802.11ac VHT80 (29.3Mbps)

CH42



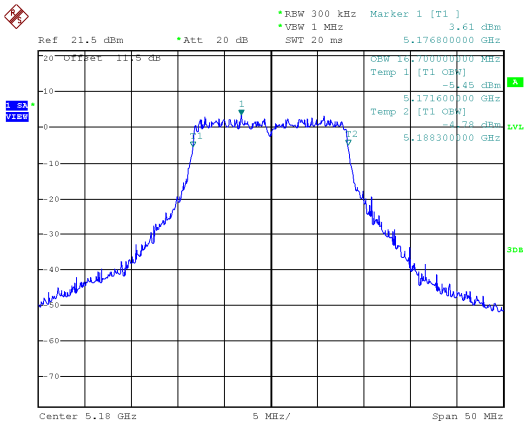
CH46



ANT B

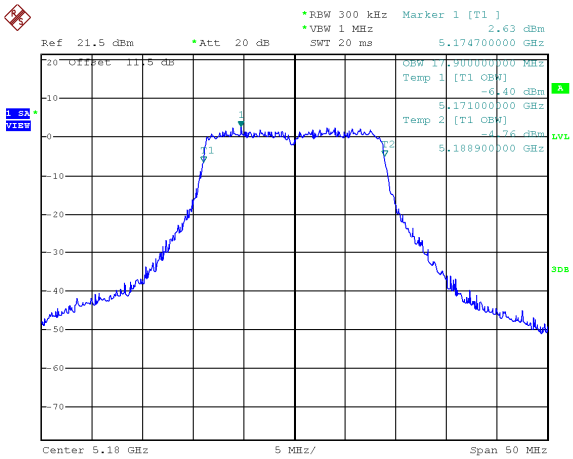
Modulation Standard: 802.11a (6Mbps)

CH36



802.11ac VHT20 (6.5Mbps)

CH36



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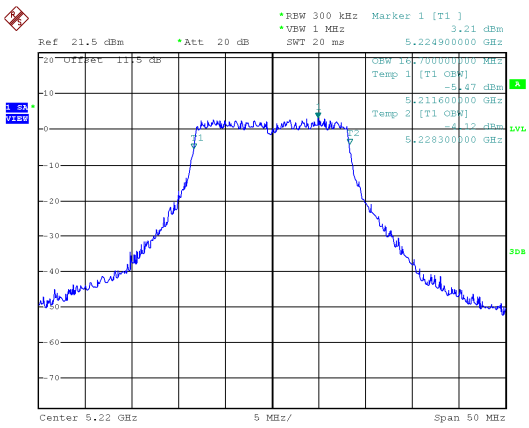

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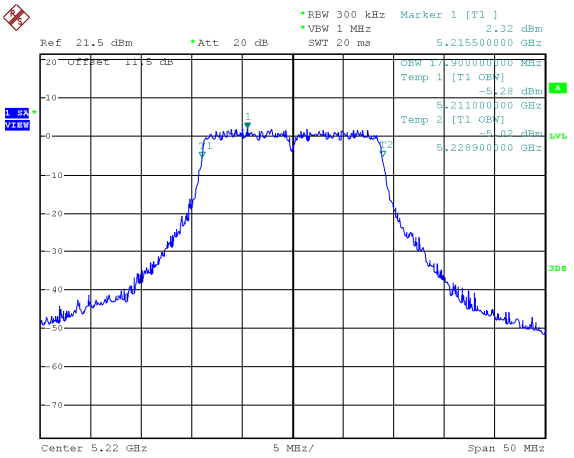

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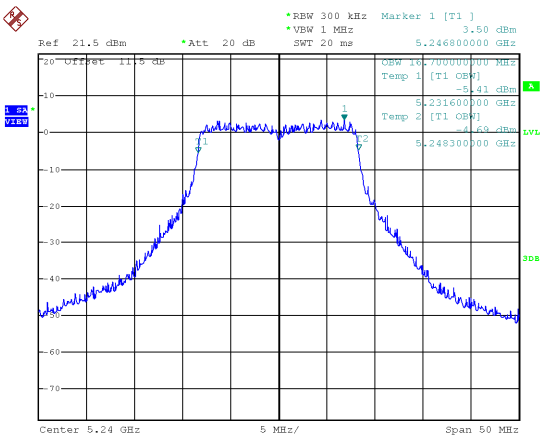

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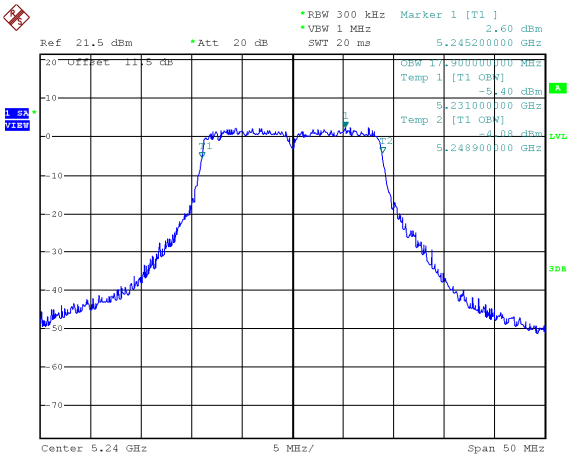
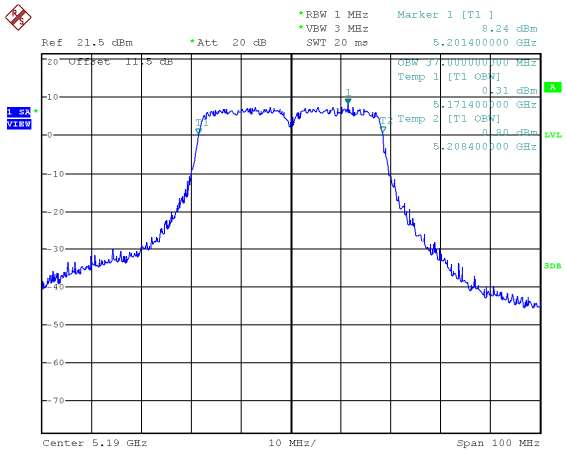


ANT B

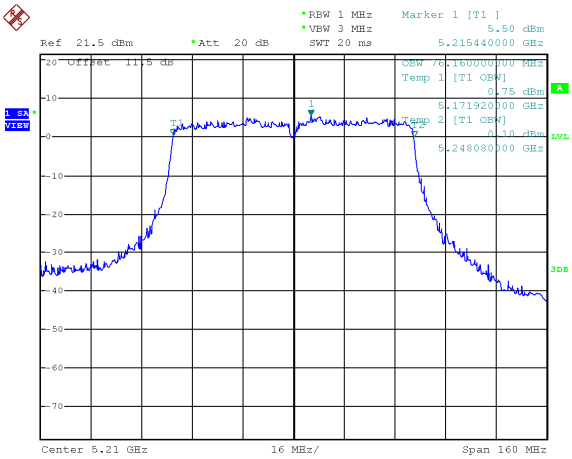
Modulation Standard: 802.11ac VHT40 (13.5Mbps)

CH38

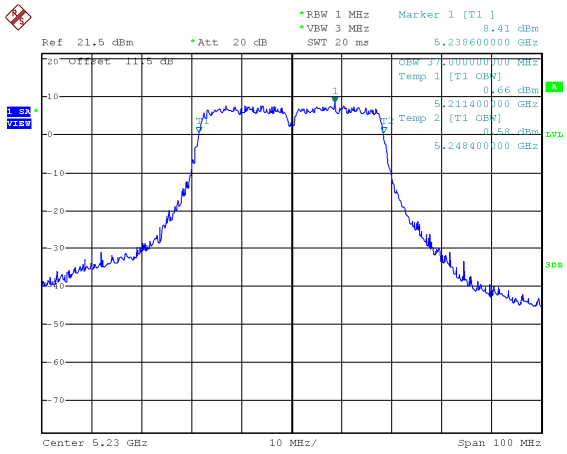


Modulation Standard: 802.11ac VHT80 (29.3Mbps)

CH42



CH46



10. Average Power

10.1. Test Limit

Output Power:

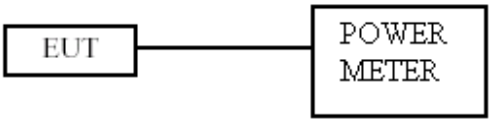
Frequency Band			Limit
☒	5.15~5.25GHz		
	Operating Mode		
	☐	Outdoor access point	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm) provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30degrees as measured from the horizon must not exceed125 mW (21 dBm).
	☒	Indoor access point	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm) provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
	☐	Fixed point-to-point access points	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm). Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi.
	☐	client devices	The maximum conducted output power over the frequency band of operation shall not exceed 250 mW (24dBm) provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Frequency Band		Limit
☐	5.25-5.35 GHz	The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW (24dBm) or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
☐	5.470-5.725 GHz	
☒	5.725~5.85 GHz	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm). If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power.

10.2.Test Procedure

The transmitter output is connected to a power meter.
The cable assembly insertion loss of 11 dB (including 10 dB pad and 1 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

10.3.Test Setup Layout



10.4.Test Result and Data

Temperature: 24°C Humidity: 68%

Test Date: Aug. 16, 2017

In the 5.2G Band

Modulation Type	Channel	Frequency (MHz)	Avg Power Output (dBm)		Total Power (dBm)	Total Power (mW)	Power Limit (dBm)
			ANT A	ANT B			
802.11a	36	5180	19.96	19.25	22.63	183.22	30.00
	44	5220	19.05	18.92	22.00	158.34	30.00
	48	5240	19.73	19.34	22.55	179.87	30.00
802.11an HT20	36	5180	19.81	19.15	22.50	177.94	30.00
	44	5220	19.66	19.21	22.45	175.84	30.00
	48	5240	19.72	19.25	22.50	177.90	30.00
802.11an HT40	38	5190	17.05	16.21	19.66	92.48	30.00
	46	5230	19.91	19.15	22.56	180.17	30.00
802.11ac VHT20	36	5180	19.89	19.23	22.58	181.25	30.00
	44	5220	19.75	19.3	22.54	179.52	30.00
	48	5240	19.75	19.33	22.56	180.11	30.00
802.11ac VHT40	38	5190	17.13	16.36	19.77	94.89	30.00
	46	5230	19.96	19.22	22.62	182.64	30.00
802.11ac VHT80	42	5210	14.13	13.05	16.63	46.07	30.00

In the 5.8G Band

Modulation Type	Channel	Frequency (MHz)	Avg Power Output (dBm)		Total Power (dBm)	Total Power (mW)	Power Limit (dBm)
			ANT A	ANT B			
802.11a	149	5745	19.49	19.5	22.51	178.05	30.00
	157	5785	19.05	19.1	22.09	161.64	30.00
	165	5825	19.5	19.29	22.41	174.04	30.00
802.11an HT20	149	5745	19.39	19.32	22.37	172.40	30.00
	157	5785	19.01	19.02	22.03	159.42	30.00
	165	5825	19.22	19.44	22.34	171.46	30.00
802.11an HT40	151	5755	19.61	19.58	22.61	182.19	30.00
	159	5795	19.51	19.24	22.39	173.28	30.00
802.11ac VHT20	149	5745	19.44	19.45	22.46	176.01	30.00
	157	5785	19.07	19.1	22.10	162.01	30.00
	165	5825	19.3	19.5	22.41	174.24	30.00
802.11ac VHT40	151	5755	19.68	19.65	22.68	185.15	30.00
	159	5795	19.57	19.33	22.46	176.28	30.00
802.11ac VHT80	155	5775	17.55	17.08	20.33	107.94	30.00

11. Maximum Power Spectral Density

11.1. Test Limit

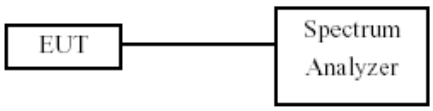
PSD:

Frequency Band			Limit
☒	5.15~5.25GHz		
	Operating Mode		
	☐	Outdoor access point	17 dBm/MHz
	☒	Indoor access point	17 dBm/MHz
	☐	Fixed point-to-point access points	17 dBm/MHz
	☐	Mobile and portable client devices	11 dBm/MHz
☐	5.725~5.85 GHz		11 dBm/MHz
☐	5.470-5.725 GHz		11 dBm/MHz
☒	5.725~5.85 GHz		30 dBm/500kHz

11.2. Test Procedure

Reference to KDB789033 D02 General UNII Test Procedures New Rules v02r01

11.3. Test Setup Layout



11.4. Test Result and Data

Temperature: 24°C Humidity: 68%

Test Date: Aug. 16, 2017

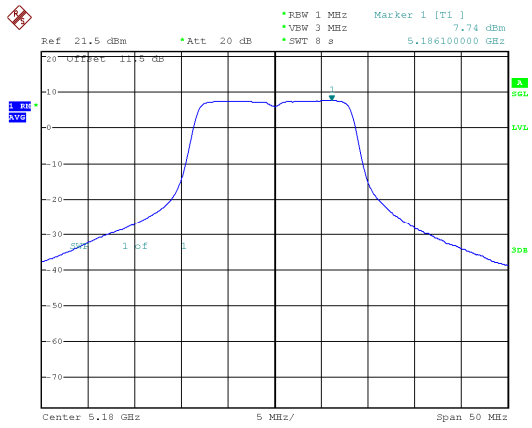
In the 5.2G Band

Modulation Type	CH	Freq. (MHz)	Meas PSD (dBm/MHz)		Sum chain (dBm)	Duty Cycle CF(dB)	Total Corr'd PSD (dBm/MHz)	PSD Limit (dBm/MHz)
			ANT A	ANT B				
802.11a	36	5180	7.74	7.37	10.57	0.17	10.74	15.99
	44	5220	8.33	7.64	11.01	0.17	11.18	15.99
	48	5240	8.15	7.96	11.07	0.17	11.24	15.99
802.11ac VHT20	36	5180	7.70	7.18	10.46	0.20	10.66	15.99
	44	5220	8.00	7.63	10.83	0.20	11.03	15.99
	48	5240	8.04	7.46	10.77	0.20	10.97	15.99
802.11ac VHT40	38	5190	1.64	1.28	4.47	0.41	4.88	15.99
	46	5230	4.90	4.26	7.60	0.41	8.01	15.99
802.11ac VHT80	42	5210	-4.32	-5.35	-1.79	0.72	-1.07	15.99

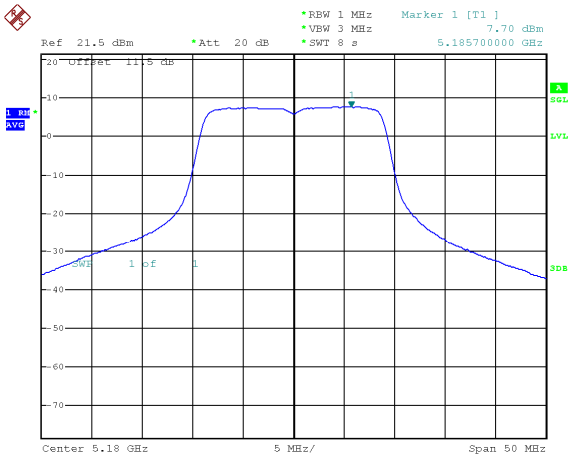
In the 5.8G Band

Modulation Type	CH	Freq. (MHz)	Meas PSD (dBm/MHz)		Sum chain (dBm)	Duty Cycle CF(dB)	10log(500KHz /RBW) CF (dB)	Total Corr'd PSD (dBm/ 500kHz)	PSD Limit (dBm/ 500kHz)
			ANT A	ANT B					
802.11a	149	5745	7.51	6.85	10.20	0.17	-3.01	7.36	28.99
	157	5785	5.45	6.43	8.98	0.17	-3.01	6.14	28.99
	165	5825	8.23	6.37	10.41	0.17	-3.01	7.57	28.99
802.11ac VHT20	149	5745	4.43	7.91	9.52	0.20	-3.01	6.71	28.99
	157	5785	4.49	7.64	9.35	0.20	-3.01	6.54	28.99
	165	5825	5.17	7.49	9.49	0.20	-3.01	6.68	28.99
802.11ac VHT40	155	5755	1.51	4.31	6.14	0.41	-3.01	3.54	28.99
	159	5795	1.15	4.78	6.34	0.41	-3.01	3.74	28.99
802.11ac VHT80	155	5775	-5.08	-1.53	0.06	0.72	-3.01	-2.23	28.99

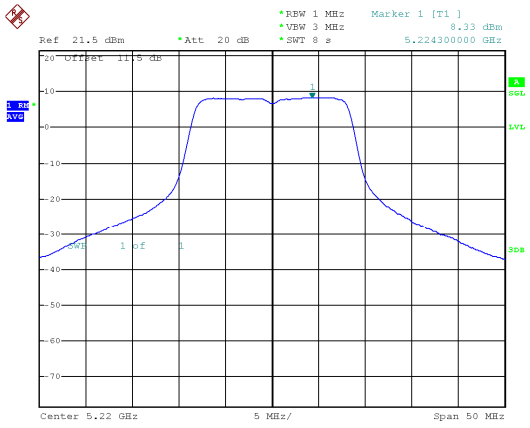
5.2G Band
ANT A
Modulation Standard: 802.11a (6Mbps)
CH36



Modulation Standard: 802.11ac VHT20 (6.5Mbps)
CH36



CH44



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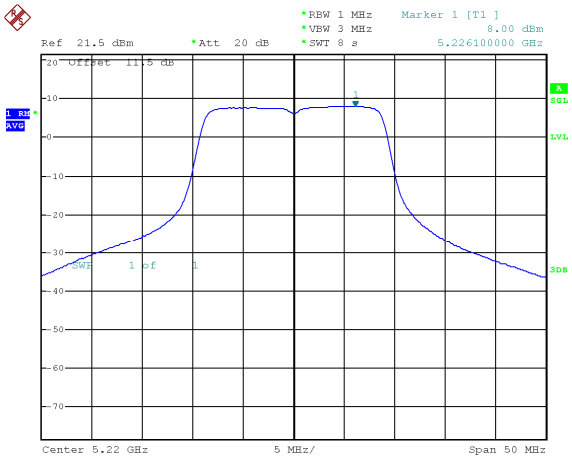
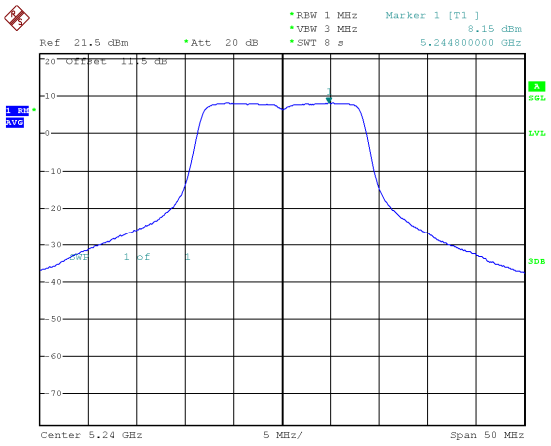
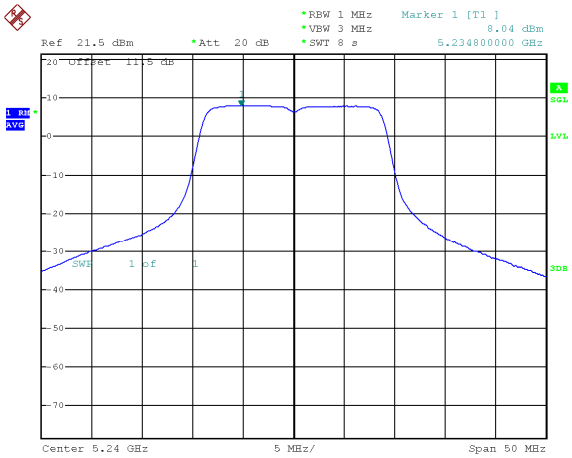


CH48



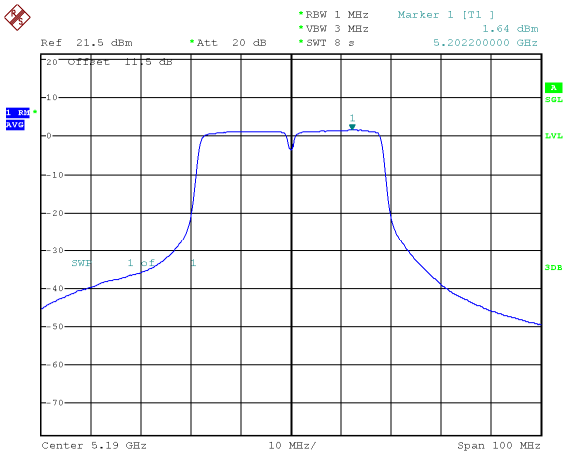
CH48



ANT A

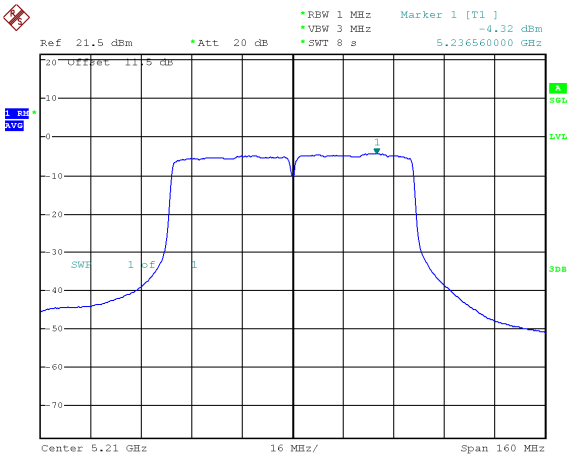
Modulation Standard: 802.11ac VHT40 (13.5Mbps)

CH38

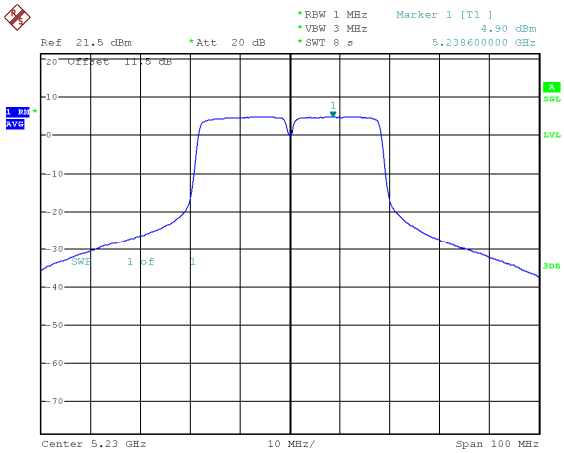


Modulation Standard: 802.11ac VHT80 (29.3Mbps)

CH42



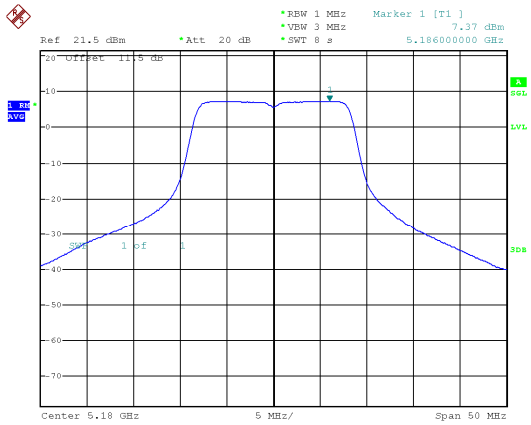
CH46



ANT B

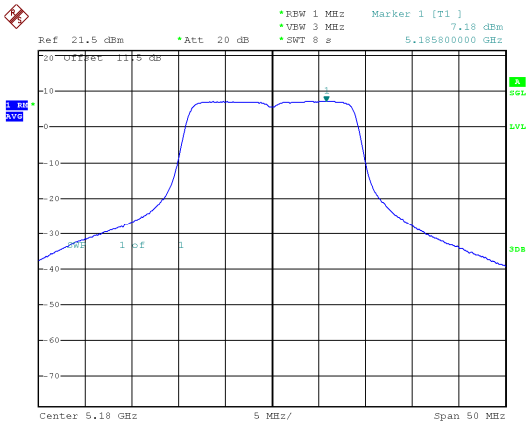
Modulation Standard: 802.11a (6Mbps)

CH36

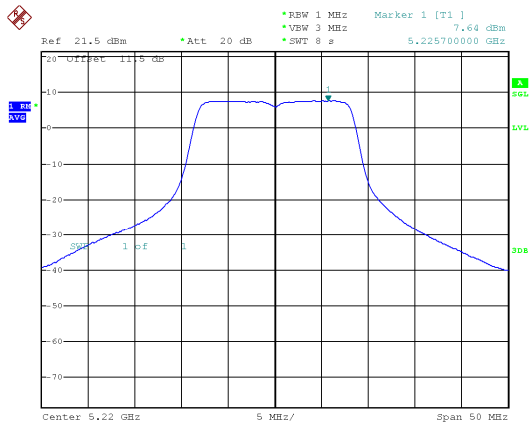


Modulation Standard: 802.11ac VHT20 (6.5Mbps)

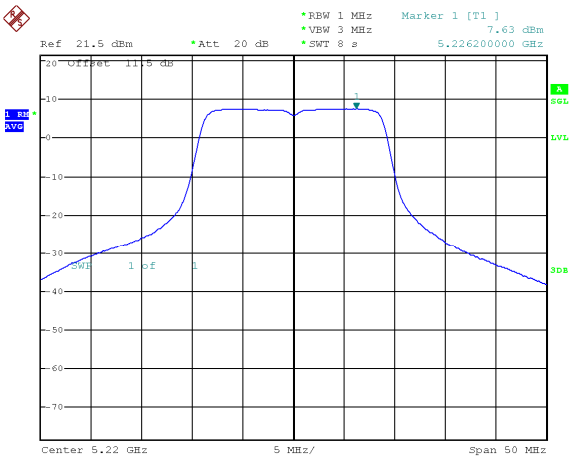
CH36



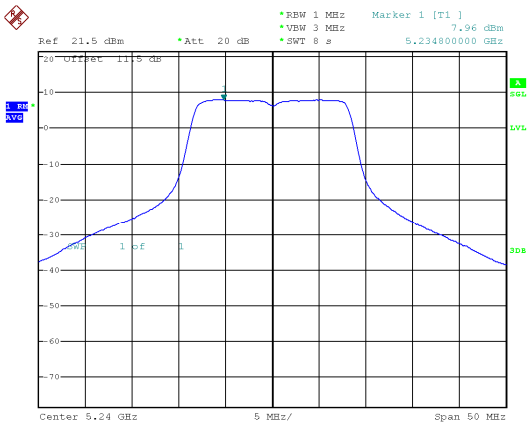
CH44



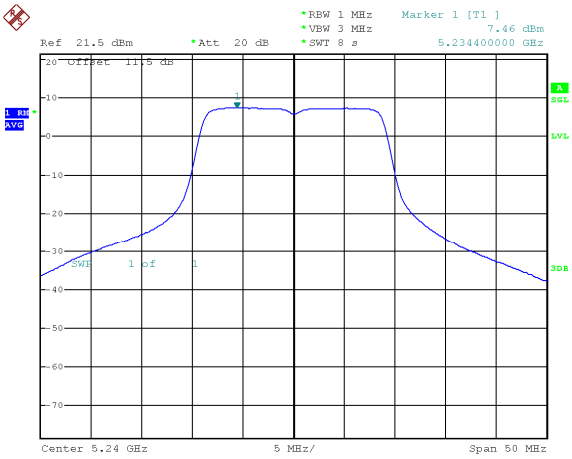
CH44



CH48



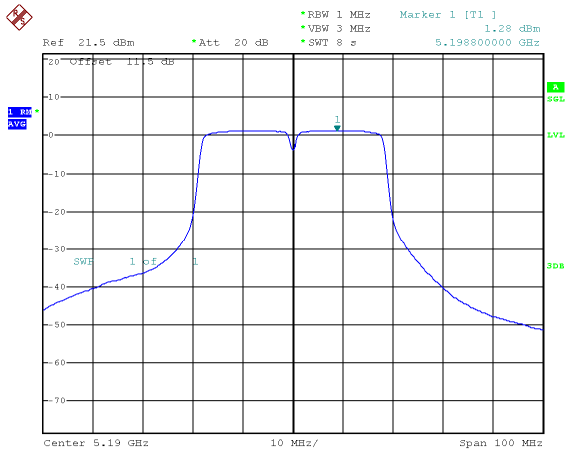
CH48



ANT B

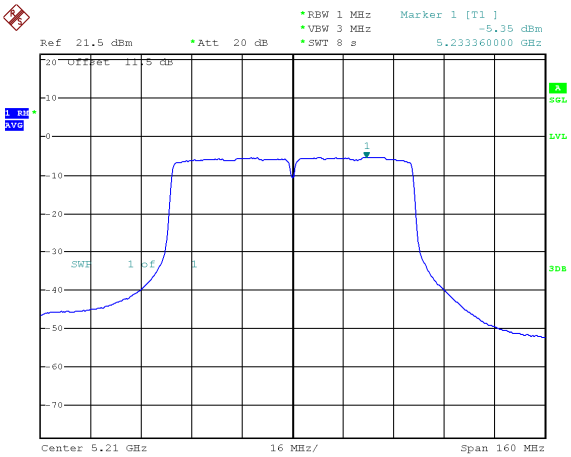
Modulation Standard: 802.11ac VHT40 (13.5Mbps)

CH38

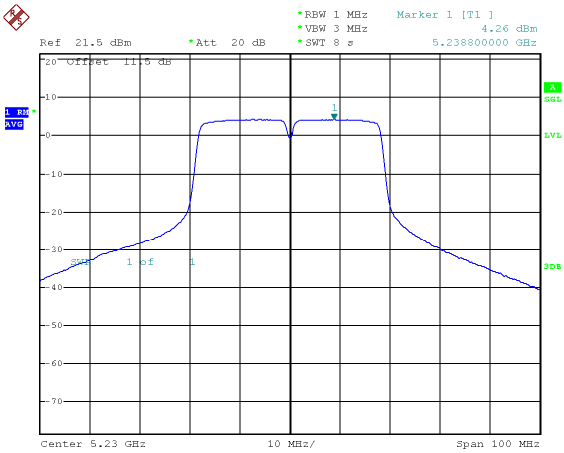


Modulation Standard: 802.11ac VHT80 (29.3Mbps)

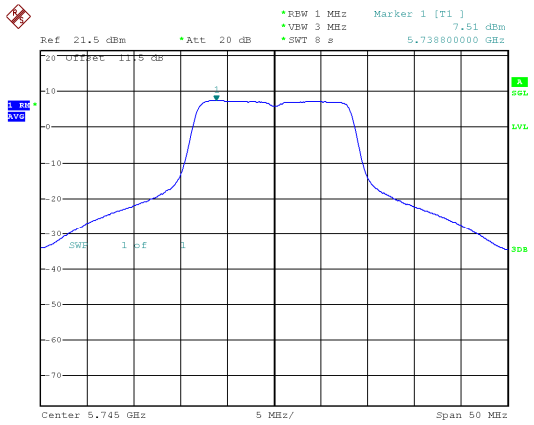
CH42



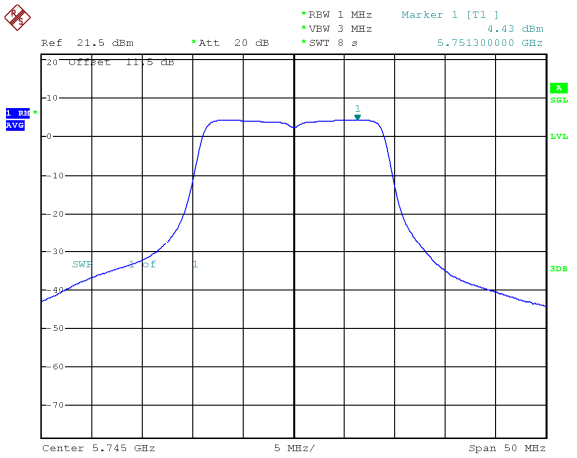
CH46



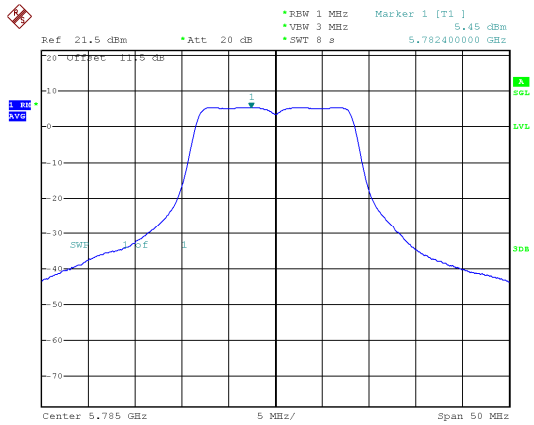
5.8G Band
ANT A
Modulation Standard: 802.11a (6Mbps)
CH149



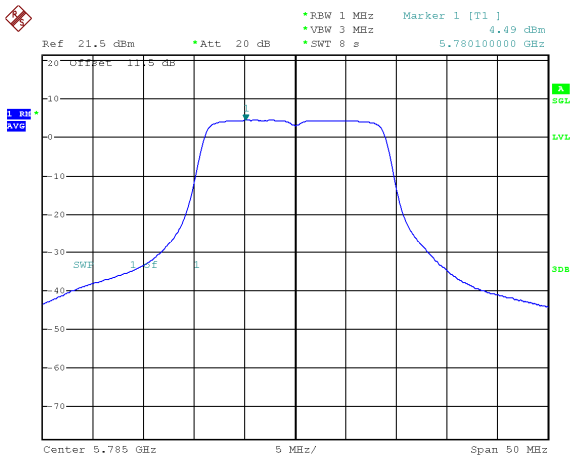
Modulation Standard: 802.11ac, VHT20 (6.5Mbps)
CH149



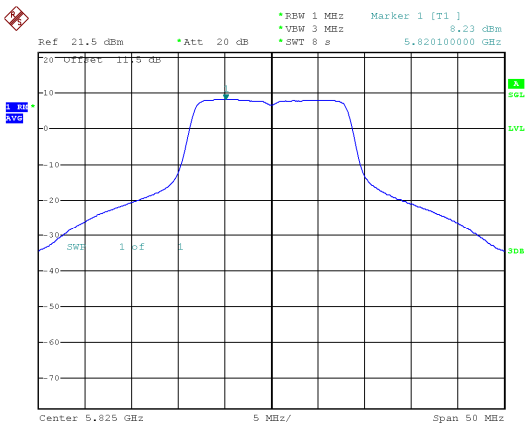
CH157



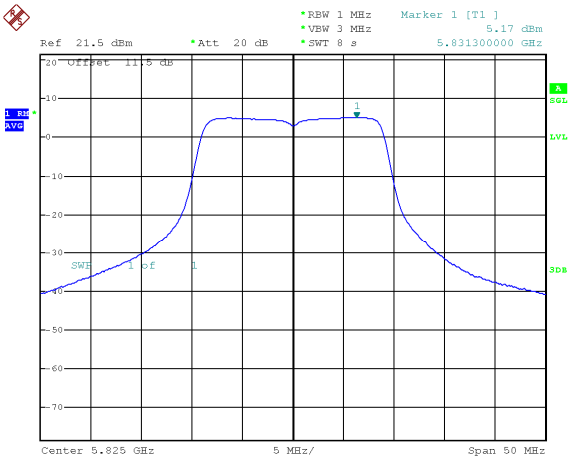
CH157



CH165



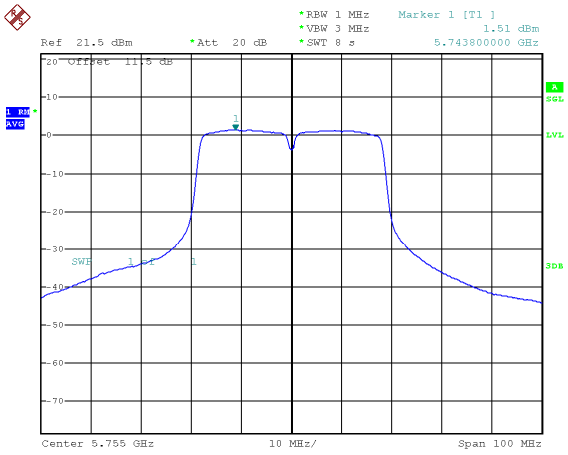
CH165



ANT A

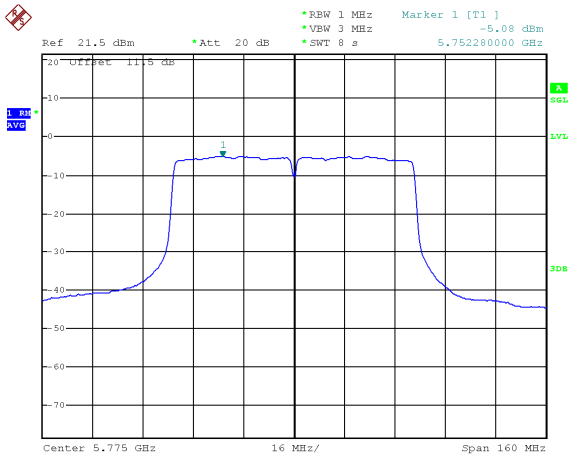
Modulation Standard: 802.11ac, VHT40 (13.5Mbps)

CH151

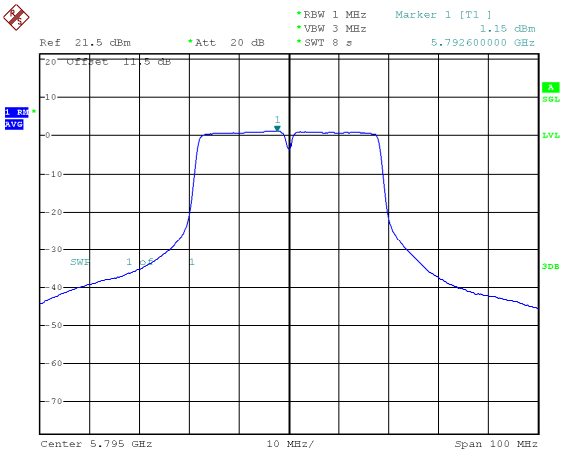


Modulation Standard: 802.11ac, VHT80 (29.3Mbps)

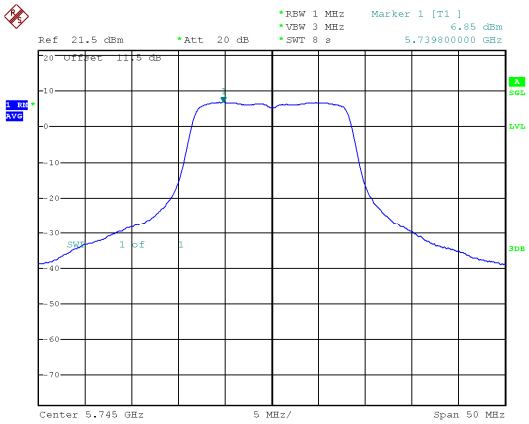
CH155



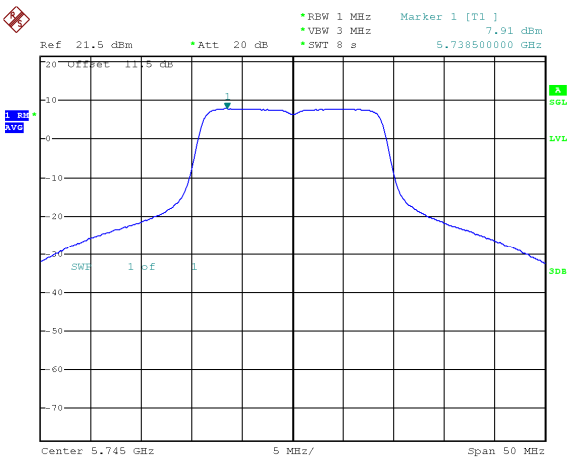
CH159



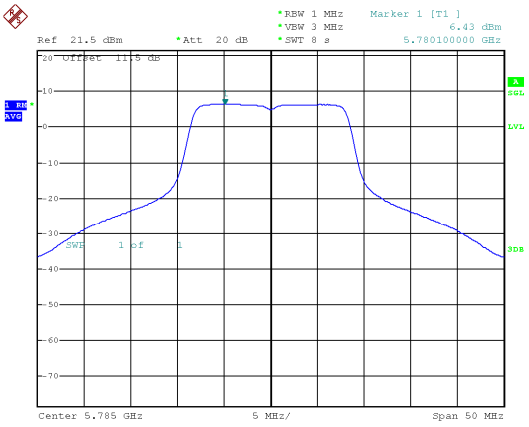
ANT B
Modulation Standard: 802.11a (6Mbps)
CH149



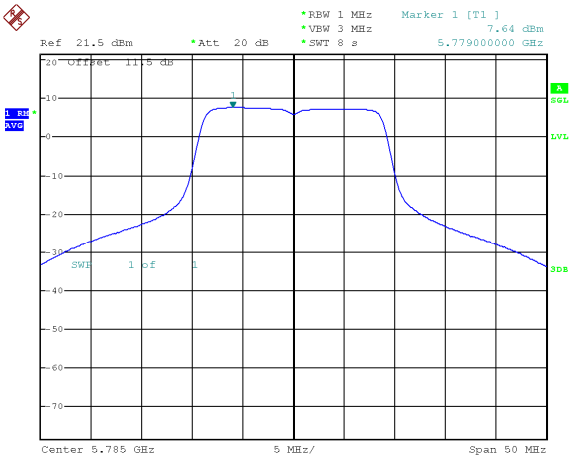
Modulation Standard: 802.11ac, VHT20 (6.5Mbps)
CH149



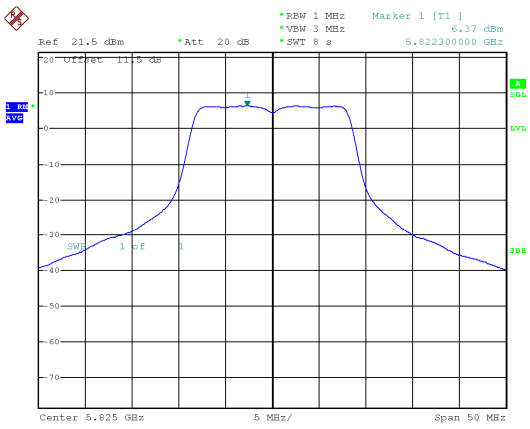
CH157



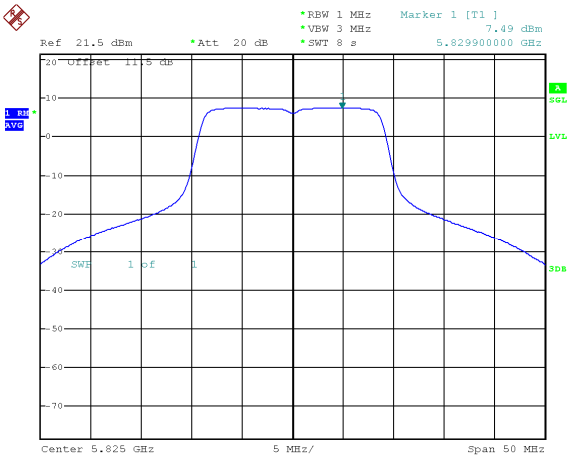
CH157



CH165



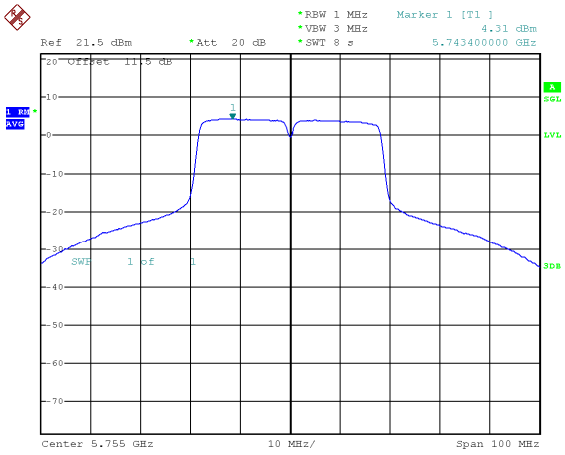
CH165



ANT B

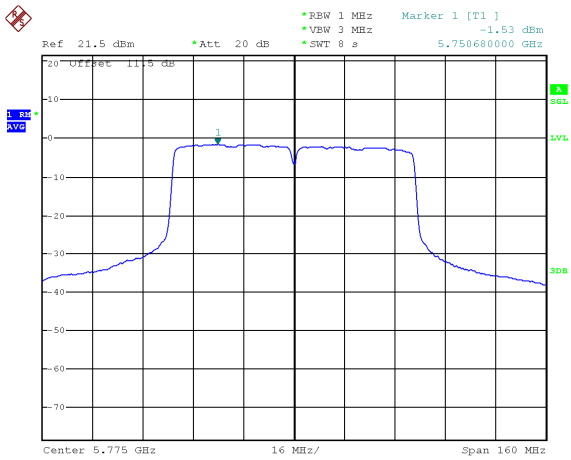
Modulation Standard: 802.11ac, VHT40 (13.5Mbps)

CH151

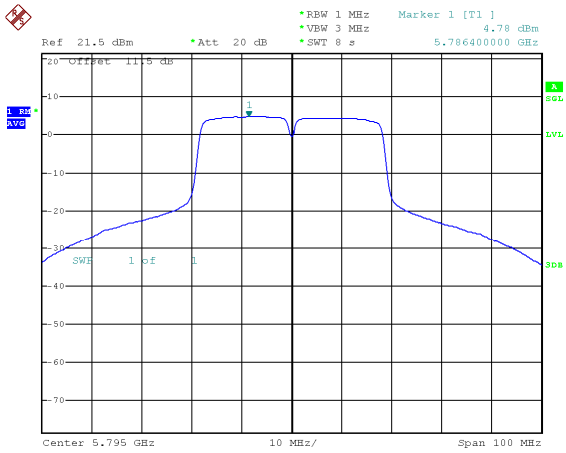


Modulation Standard: 802.11ac, VHT80 (29.3Mbps)

CH155



CH159

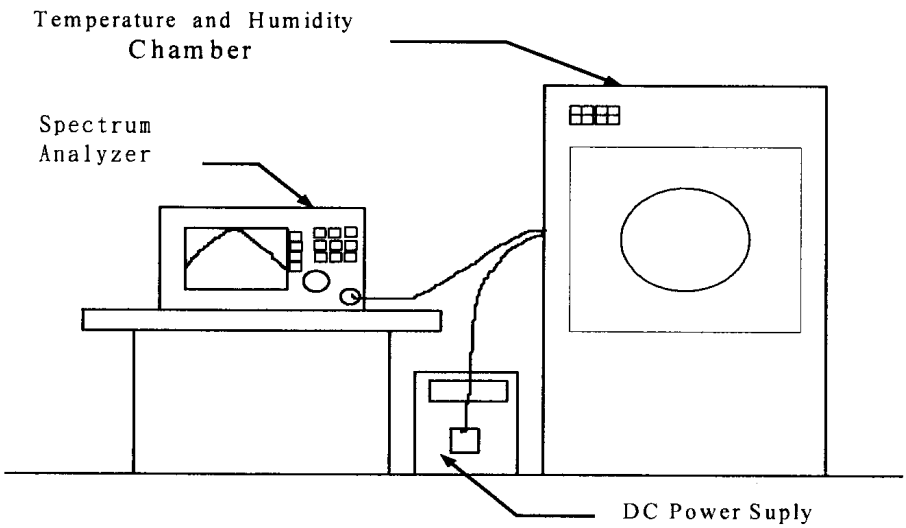


12. Frequency Stability

12.1.Test Procedure

1. The EUT was placed inside the Temperature and Humidity chamber.
2. The transmitter output was connected to spectrum analyzer.
3. Turn the EUT on and couple its output to a spectrum analyzer.
4. Turn the EUT off and set the chamber to the highest temperature specified.
5. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
6. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
7. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

12.2.Test Setup Layout



12.3.Test Result and Data

Temperature: 24°C Humidity: 68%

Test Date: Aug. 16, 2017

Operating frequency: 5755 MHz							
Temp	Power supply	2 minute		5 minute		10 minute	
(℃)	(V)	(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	102	5754.9714	-0.000497	5754.9694	-0.000531	5755.0004	0.000066
	120	5755.0726	0.001262	5755.0963	0.001673	5755.0133	0.002311
	138	5755.0446	0.000776	5754.9878	-0.000212	5754.9090	-0.015804
40	102	5754.9698	-0.000524	5755.0310	0.000539	5755.0694	0.012062
	120	5755.0541	0.000940	5754.9502	-0.000865	5754.9042	-0.016646
	138	5755.0843	0.001465	5755.0129	0.000225	5754.9852	-0.002578
30	102	5754.9089	-0.001584	5755.0954	0.001658	5755.0238	0.004129
	120	5755.0043	0.000075	5755.0131	0.000227	5754.9327	-0.011698
	138	5755.0844	0.001466	5754.9142	-0.001491	5755.0863	0.014987
20	102	5755.0557	0.000968	5755.0958	0.001664	5754.9868	-0.002297
	120	5754.9857	-0.000249	5754.9123	-0.001523	5755.0586	0.010189
	138	5755.0360	0.000625	5754.9093	-0.001577	5755.0597	0.010377
10	102	5755.0435	0.000756	5754.9430	-0.000990	5755.0782	0.013589
	120	5755.0063	0.000110	5755.0287	0.000499	5755.0914	0.015885
	138	5755.0621	0.001079	5755.0435	0.000756	5755.0368	0.006393
0	102	5754.9442	-0.000970	5755.0067	0.000116	5755.0699	0.012142
	120	5755.0959	0.001666	5755.0991	0.001723	5754.9015	-0.017108
	138	5754.9686	-0.000546	5754.9298	-0.001220	5755.0871	0.015128
-10	102	5755.0807	0.001401	5755.0563	0.000978	5754.9602	-0.006923
	120	5755.0760	0.001321	5754.9668	-0.000576	5755.0902	0.015674
	138	5754.9363	-0.001108	5755.0340	0.000590	5754.9437	-0.009778
-20	102	5755.0429	0.000746	5754.9618	-0.000663	5755.0245	0.004264
	120	5755.0862	0.001498	5754.9662	-0.000587	5755.0368	0.006386
	138	5754.9390	-0.001060	5754.9051	-0.001650	5755.0795	0.013817
-30	102	5754.9045	-0.001659	5754.9599	-0.000696	5755.0327	0.005682
	120	5754.9218	-0.001359	5754.9261	-0.001285	5754.9281	-0.012488
	138	5754.9243	-0.001316	5755.0270	0.000469	5755.0139	0.002417

Limit:

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.

13. Automatically Discontinue Transmission

13.1. Limit of Automatically Discontinue Transmission

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

13.2. Test Result of Automatically Discontinue Transmission

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.