FCC RADIO TEST REPORT

Applicant	:	ViewSonic Corporation
Address	:	10 Pointe Dr. Suite 200. Brea. CA 92821. USA
Equipment	:	RF Module
Model No.	:	VS18201
Trade Name	:	ViewSonic
FCC ID	:	GSS-VS18201

I HEREBY CERTIFY THAT :

The sample was received on May. 09, 2020 and the testing was completed on May. 26, 2020 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 / Supervisor

Laboratory Accreditation:

Cerpass Technology Corporation Test Laboratory

CONTENTS

History of this test report

Report No.	Issue Date	Description
TEFE2005014	Jun. 08, 2020	Original

1. Summary of Test Procedure and Test Results

1.1. Applicable Standards

ANSI C63.10:2013

FCC Rules and Regulations Part 15 Subpart E §15.407

KDB789033

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)	Power Spectral Density	PASS
15.407(g)	Frequency Stability	PASS
2.1091	Radio Frequency Exposure	PASS

*The lab has reduced the uncertainty risk factor from test equipment, environment and staff technicians which according to the standard on contract. Therefore, the test result will only be determined by standard requirement.

2. Test Configuration of Equipment under Test

2.1. Feature of Equipment under Test

Frequency Range	BT / BLE: 2402-2480MHz 802.11b/g/n: 2412-2462MHz 802.11a/n/ac: 5180-5240MHz, 5745-5825MHz
Modulation Type	BT: GFSK, π/4-DQPSK, 8DPSK BLE: GFSK 802.11b: CCK, DQPSK, DBPSK 802.11g/n/a: BPSK, QPSK, 16QAM, 64QAM 802.11ac: BPSK, QPSK, 16QAM, 64QAM, 256QAM
Modulation Technology	DSSS, OFDM, FHSS, DTS
Data Rate	BT: GFSK: 1Mbps, π/4-DQPSK: 2Mbps, 8DPSK: 3Mbps BLE: GFSK: 1Mbps WLAN: 802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS7, HT20/40 802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11ac: MCS0 – MCS9, VHT20/40/80
Antenna Type	PCB Antenna
Antenna Gain	For BT/BLE: 2400-2483.5MHz: ANT B: 2.62dBi For WLAN 2.4G: 2412-2462MHz: ANT A:2.60dBi For WLAN 5G: 5180-5240MHz: ANT B:2.80dBi 5745-5825MHz: ANT B:2.11dBi

Note:

1. WLAN and BT can simultaneously transmission.
2. For more details, please refer to the User's manual of the EUT.

2.2. Carrier Frequency of Channels

Band: 5150MHz-5250MHz

802.11a, 802.11n HT20, 802.11ac VHT20

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

802.11n HT40, 802.11ac VHT40

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

802.11ac VHT80

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

Band: 5725MHz -5850MHz

802.11a, 802.11n HT20, 802.11ac VHT20

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

802.11n HT40, 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 C63.10.
b. The complete test system included remote workstation and EUT for RF test. The remote workstation included Notebook.
c. An executive program, " MP Tool ver.0.0003.06.30180928" under Windows OS system 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 2" 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 2" 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)
caused "Test Mode 1~4" generated the worst case, they were reported as the final data.	

2.4. Description of Test System

RF Conducted				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	DELL	Latitude E5470	N/A	Adapter / 1.8m / NS
USB Cable	BENEVO	BUSB3100AMF	1m / NS	N/A
Adapter	APD	WB-18D12R	1.8m / NS	N/A
Radiated Emissions				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	DELL	Latitude E5470	N/A	Adapter / 1.8m / NS
USB Cable	BENEVO	BUSB3100AMF	1m / NS	N/A
Adapter	APD	WB-18D12R	1.8m / NS	N/A
AC Power Line Conducted Emission				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	DELL	Latitude E5470	N/A	Adapter / 1.8m / NS
USB Cable	BENEVO	BUSB3100AMF	1m / NS	N/A
Adapter	APD	WB-18D12R	1.8m / NS	N/A

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	
	FCC	TW1439, TW1079
	IC	4934E-1, 4934E-2
	VCCI	T-2205 for Telecommunication test C-4663 for Conducted emission test 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.	

Test Item	Test Site	Finish Date	Environmental Conditions	Tested By
RF Conducted	RFCON01-NK	2020/05/26	24℃ / 61%	Vic Yeh
Radiated Emissions	3M02-NK	2020/05/19	22℃ / 42%	Vic Yeh
AC Power Line Conducted Emission	CON01-NK	2020/05/22	28℃ / 51%	Leon Huang

2.6. Measurement Uncertainty

Measurement Item	Uncertainty
AC Power Line Conduction(150K~30MHz)	±1.60dB
Radiated Spurious Emission(9KHz~30MHz)	±3.404dB
Radiated Spurious Emission(30MHz~1GHz)	±5.686dB
Radiated Spurious Emission(1GHz~40GHz)	±6.597dB
6dB Bandwidth	±4.404%
26dB Bandwidth	±4.422%
Occupied Bandwidth	±4.400%
Peak Output Power(Conducted Power Meter)	±1.02dB
Power Spectral Density	±1.954dB
Duty Cycle	±3.47%
Frequency Stability	±209.668Hz

3. Test Equipment and Ancillaries Used for Tests

Test Item	Radiated Emissions				
Test Site	Semi Anechoic Room(3M02-NK)				
Instrument	**Manufacturer**	**Model No**	**Serial No**	**Calibration Date**	**Valid Date**
Bilog Antenna	Schwarzbeck	VULB9168	275	2019/09/24	2020/09/23
Active Loop Antenna	EMCO	6507	40855	2019/05/24	2020/05/23
Horn Antenna	EMCO	3115	31589	2020/03/26	2021/03/25
Horn Anrenna	EMCO	3116	31974	2019/09/17	2020/09/16
EMI Receiver	ROHDE & SCHWARZ	ESCI	100821	2019/09/16	2020/09/15
Spectrum Analyzer	ROHDE & SCHWARZ	FSV 40-N	102151	2019/08/02	2020/08/01
Preamplifier	EM Electronics corp.	EM330	60660	2020/03/16	2021/03/15
Preamplifier	EMC INSTRUMENTS	EMC051845SE	980333	2019/09/20	2020/09/19
Preamplifier	Agilent	8449B	3008A01954	2020/03/16	2021/03/15
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2019/11/07	2020/11/06
Bluetooth Tester	ROHDE & SCHWARZ	CBT	101133	2020/04/07	2021/04/06
Cable-3in1(30M-1G)	HARBOUR INDUSTRIES	LL142	CCE1316	2019/09/20	2020/09/19
Cable-0.5m(1G-18G)	HUBER SUHNER	SUCOFLEX 100	805443/4	2019/05/20	2020/05/19
Cable-3m(1G-18G)	HUBER SUHNER	SUCOFLEX 100	805796/4	2019/05/20	2020/05/19
Cable-8m(1G-18G)	HUBER SUHNER	SUCOFLEX 100	805795/4	2019/05/20	2020/05/19
Cable-0.5m(30M-40G)	HUBER SUHNER	SUCOFLEX 102	28420/2	2020/04/01	2021/03/31
Cable-3m(30M-40G)	HUBER SUHNER	SUCOFLEX 102	MY2608/2	2020/04/01	2021/03/31
Cable-0.5m(1G-40G)	Rapidtek	40GHZ 50CM	38MS-38MS50 314	2020/04/09	2021/04/08
E3	AUDIX	v8.2014-8-6	RK-000529	NA	NA

Test Item	RF Conducted				
Test Site	RFCON01-NK				
Instrument	**Manufacturer**	**Model No**	**Serial No**	**Calibration Date**	**Valid Date**
Spectrum Analyzer	ROHDE & SCHWARZ	FSP 40	100219	2019/07/22	2020/07/21
Spectrum Analyzer	ROHDE & SCHWARZ	FSV 40-N	102151	2019/08/02	2020/08/01
Bluetooth Tester	ROHDE & SCHWARZ	CBT	101133	2020/04/07	2021/04/06
CAX Signal Analyzer	KEYSIGHT	N9000B	MY57100339	2019/11/25	2020/11/24
Attenuator	KEYSIGHT	8491B	MY39250703	2020/04/17	2021/04/16
TEMP & HUMI CHAMBER	T-MACHINE	TMJ-9712	T-12-040111	2019/08/28	2020/08/27
Power Meter	Anritsu	ML2495A	1224005	2020/04/17	2021/04/16
Power Sensor	Anritsu	MA2411B	1207295	2020/04/17	2021/04/16

Test Item	AC Power Line Conducted Emission				
Test Site	CON01-NK				
Instrument	**Manufacturer**	**Model No**	**Serial No**	**Calibration Date**	**Valid Date**
EMI Receiver	ROHDE & SCHWARZ	ESCI	100821	2019/09/16	2020/09/15
Line Impedance Stabilization Network	Schwarzbeck	NSLK 8127	8127-516	2019/09/19	2020/09/18
Pulse Limiter	ROHDE & SCHWARZ	ESH3-Z2	101933	2019/09/11	2020/09/10
Cable-6m(9k~300M)	NA	EMC5D-BM-BM-6	130605	2019/09/11	2020/09/10
E3	AUDIX	v8.2014-8-6	RK-000531	NA	NA

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	PCB Antenna
Antenna Gain	2412MHz-2462MHz: 2.60 dBi 5180MHz-5240MHz: 2.80dBi 5745MHz-5825MHz: 2.11dBi

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.

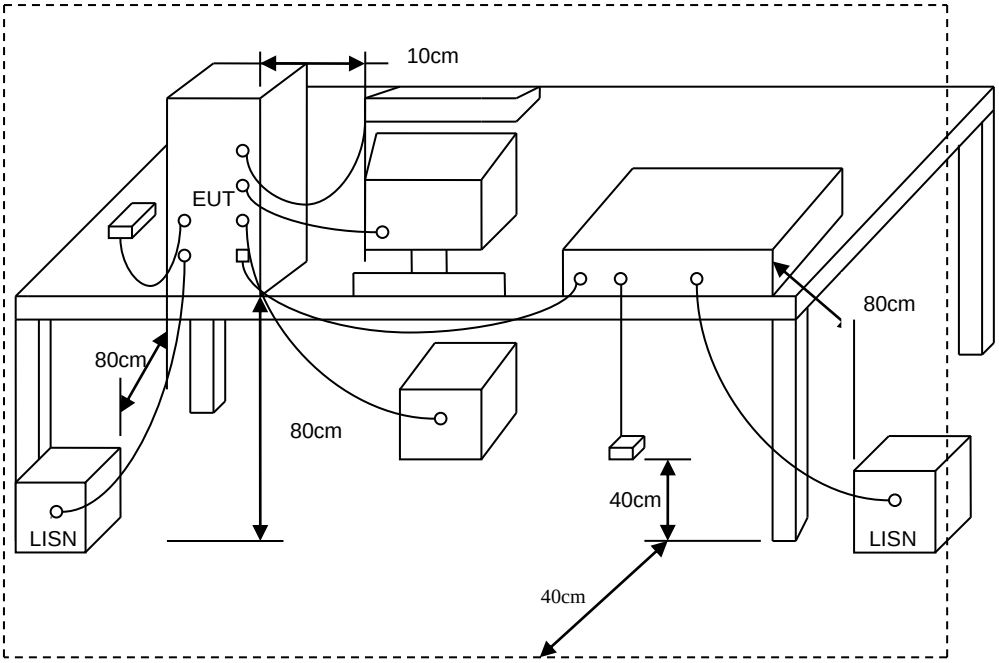
Frequency (MHz)	Quasi Peak (dBμV)	Average (dBμV)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

*Decreases with the logarithm of the frequency.

5.2. Test Procedures

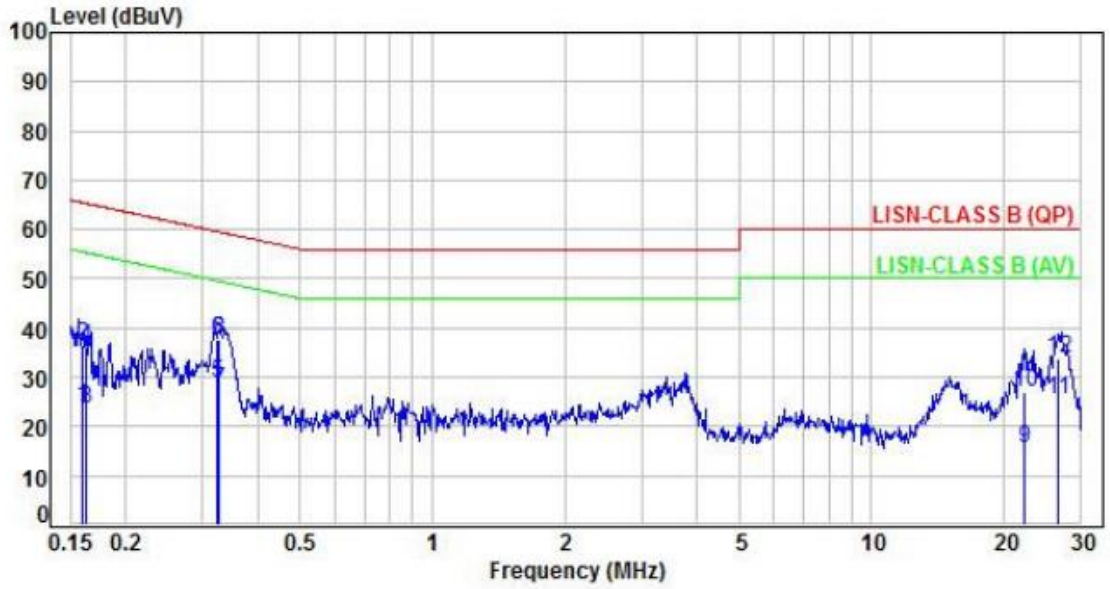
a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
c. All the support units are connecting to the other LISN.
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

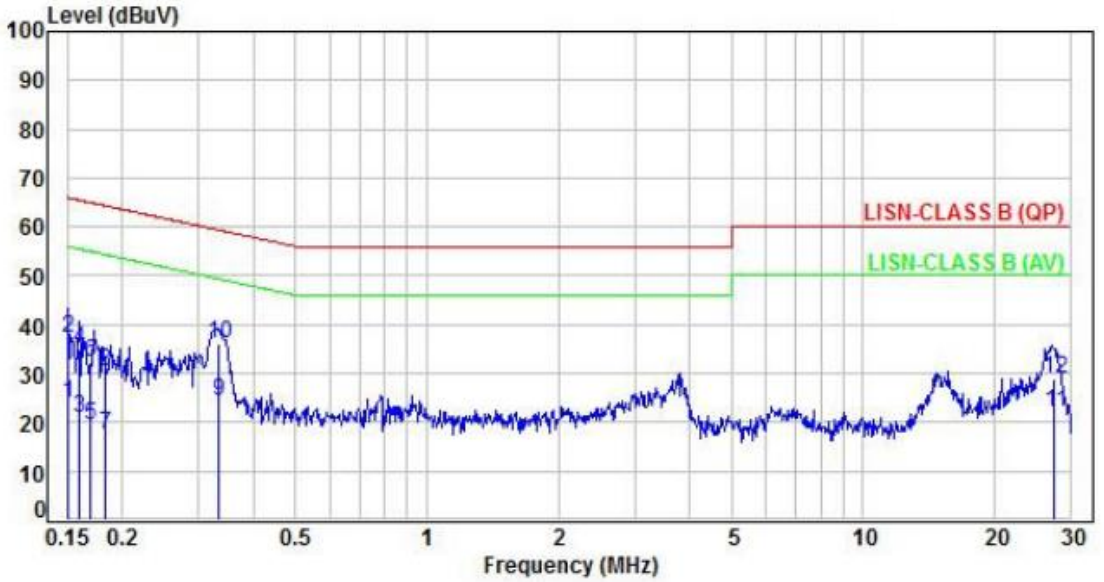
Power :	AC 120V / 60Hz	Pol/Phase :	LINE
Test Mode :	Mode 2	:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.16	9.92	14.10	24.02	55.52	-31.50	Average	P
2	0.16	9.92	26.77	36.69	65.52	-28.83	QP	P
3	0.16	9.92	13.55	23.47	55.36	-31.89	Average	P
4	0.16	9.92	26.12	36.04	65.36	-29.32	QP	P
5	0.32	9.94	18.86	28.80	49.61	-20.81	Average	P
6	0.32	9.94	27.76	37.70	59.61	-21.91	QP	P
7	0.33	9.94	17.40	27.34	49.52	-22.18	Average	P
8	0.33	9.94	27.87	37.81	59.52	-21.71	QP	P
9	22.24	10.67	4.85	15.52	50.00	-34.48	Average	P
10	22.24	10.67	16.26	26.93	60.00	-33.07	QP	P
11	26.59	10.83	14.64	25.47	50.00	-24.53	Average	P
12	26.59	10.83	22.97	33.80	60.00	-26.20	QP	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

Power	:	AC 120V / 60Hz	Pol/Phase	:	NEUTRAL
Test Mode	:	Mode 2		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	9.95	13.88	23.83	55.99	-32.16	Average	P
2	0.15	9.95	27.24	37.19	65.99	-28.80	QP	P
3	0.16	9.95	10.98	20.93	55.49	-34.56	Average	P
4	0.16	9.95	24.94	34.89	65.49	-30.60	QP	P
5	0.17	9.95	9.28	19.23	54.99	-35.76	Average	P
6	0.17	9.95	22.38	32.33	64.99	-32.66	QP	P
7	0.18	9.95	7.37	17.32	54.35	-37.03	Average	P
8	0.18	9.95	20.33	30.28	64.35	-34.07	QP	P
9	0.33	9.96	14.41	24.37	49.38	-25.01	Average	P
10	0.33	9.96	26.16	36.12	59.38	-23.26	QP	P
11	27.46	10.87	11.11	21.98	50.00	-28.02	Average	P
12	27.46	10.87	17.91	28.78	60.00	-31.22	QP	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

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.

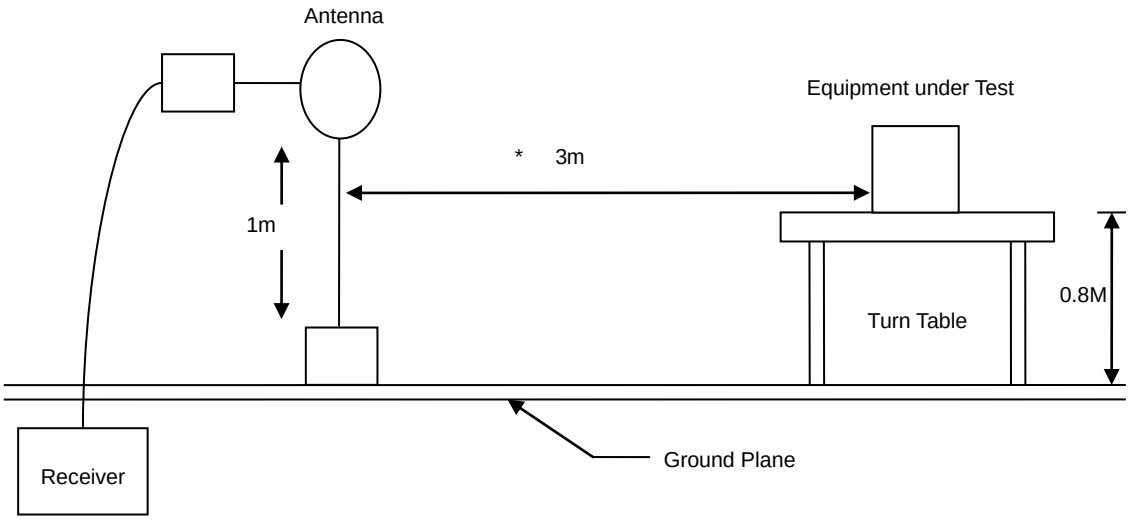
(8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

6.2. Test Procedures

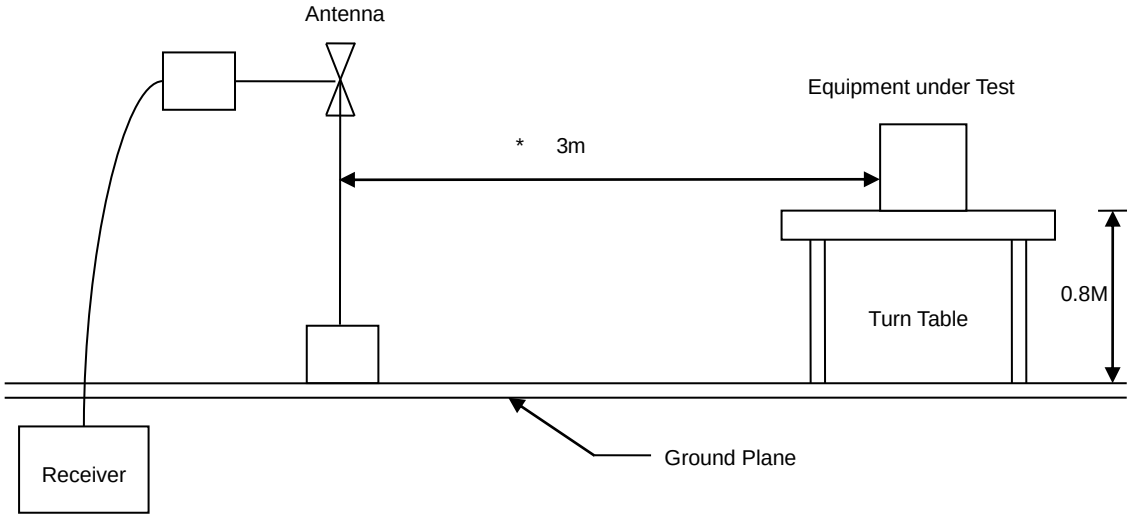
a. The EUT was placed on a rotatable table top 0.8 meter above ground.
b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
c. The table was rotated 360 degrees to determine the position of the highest radiation.
d. The antenna 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

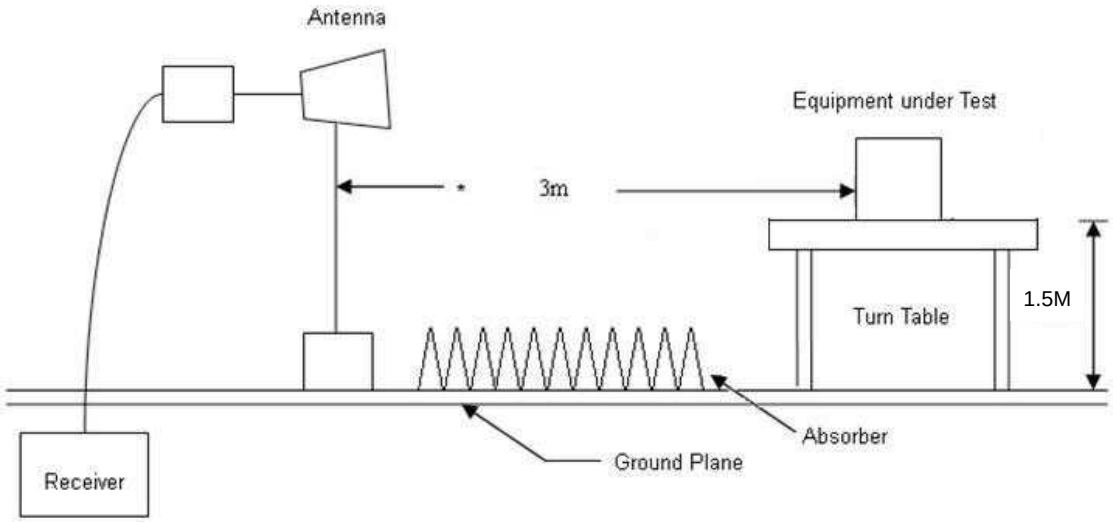
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup

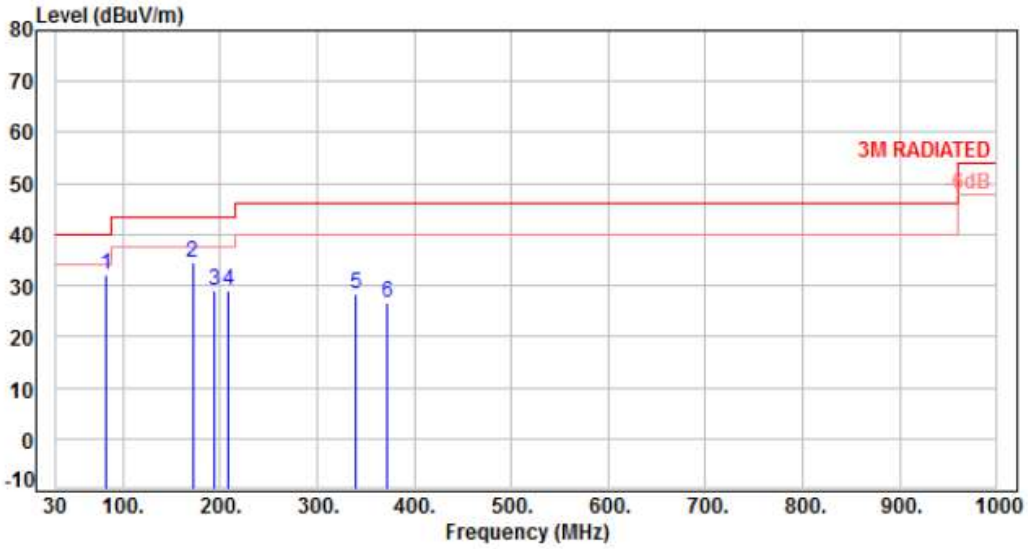


6.4. Test Result and Data (9kHz ~ 30MHz)

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

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

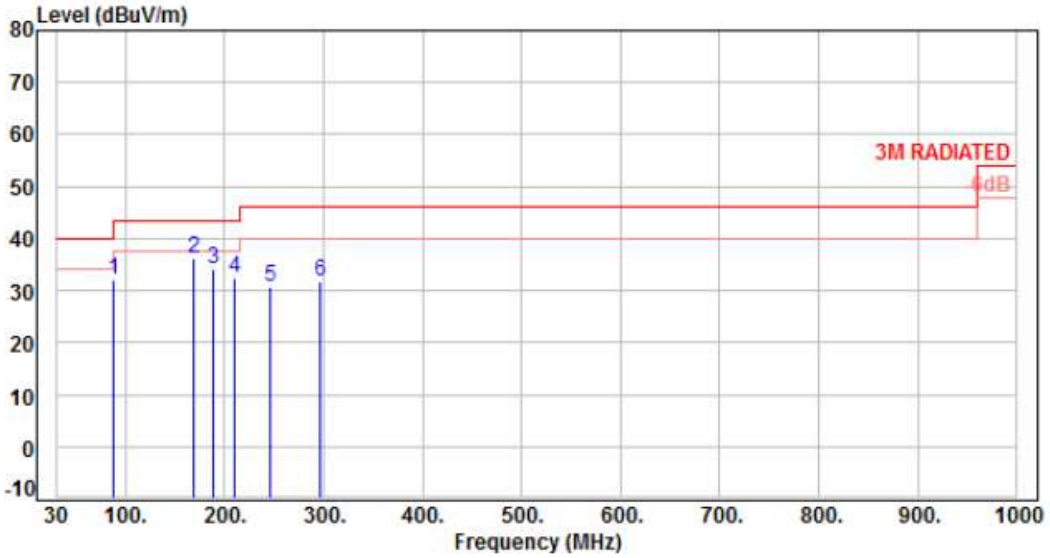
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	82.36	-14.30	46.54	32.24	40.00	-7.76	Peak	100	0	P
2	171.58	-10.00	44.43	34.43	43.50	-9.07	Peak	100	0	P
3	194.85	-12.01	40.90	28.89	43.50	-14.61	Peak	100	0	P
4	208.52	-11.88	41.03	29.15	43.50	-14.35	Peak	100	0	P
5	340.35	-7.54	35.99	28.45	46.00	-17.55	Peak	100	0	P
6	371.52	-6.68	33.19	26.51	46.00	-19.49	Peak	100	0	P

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

Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2		:	

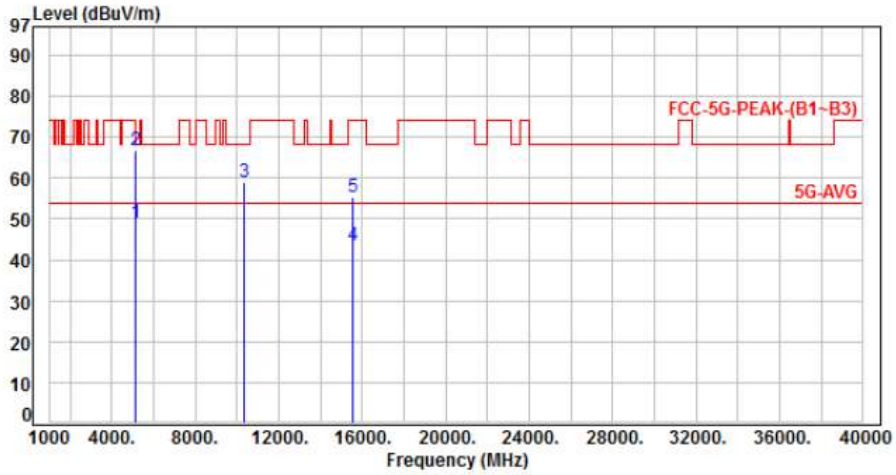


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	88.36	-15.26	47.44	32.18	43.50	-11.32	Peak	100	0	P
2	168.66	-9.72	46.07	36.35	43.50	-7.15	Peak	100	0	P
3	189.11	-11.76	46.07	34.31	43.50	-9.19	Peak	100	0	P
4	210.57	-11.84	44.30	32.46	43.50	-11.04	Peak	100	0	P
5	245.41	-10.52	41.27	30.75	46.00	-15.25	Peak	100	0	P
6	295.71	-8.71	40.48	31.77	46.00	-14.23	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)

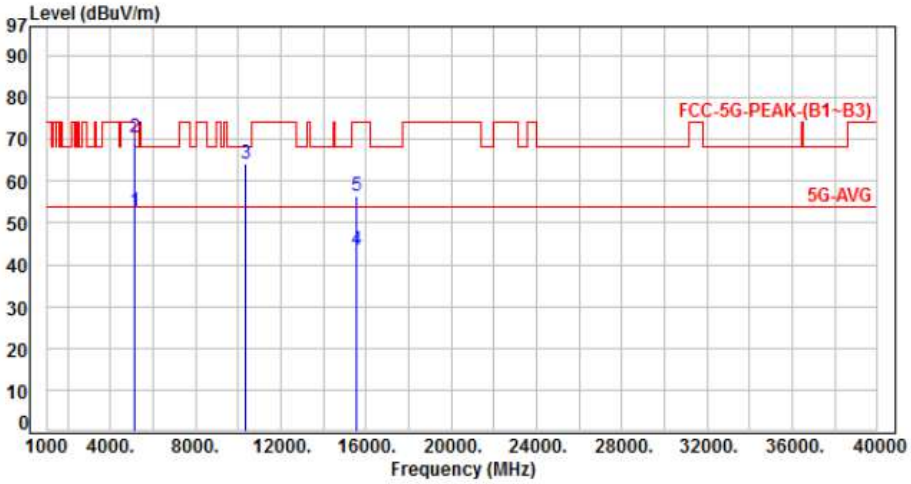
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 1, CH36		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	4.67	44.51	49.18	54.00	-4.82	Average	362	46	P
2	5150.00	4.67	62.23	66.90	74.00	-7.10	Peak	362	46	P
3	10360.00	11.66	47.34	59.00	68.20	-9.20	Peak	178	5	P
4	15540.00	14.17	29.28	43.45	54.00	-10.55	Average	100	0	P
5	15540.00	14.17	41.20	55.37	74.00	-18.63	Peak	100	0	P

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

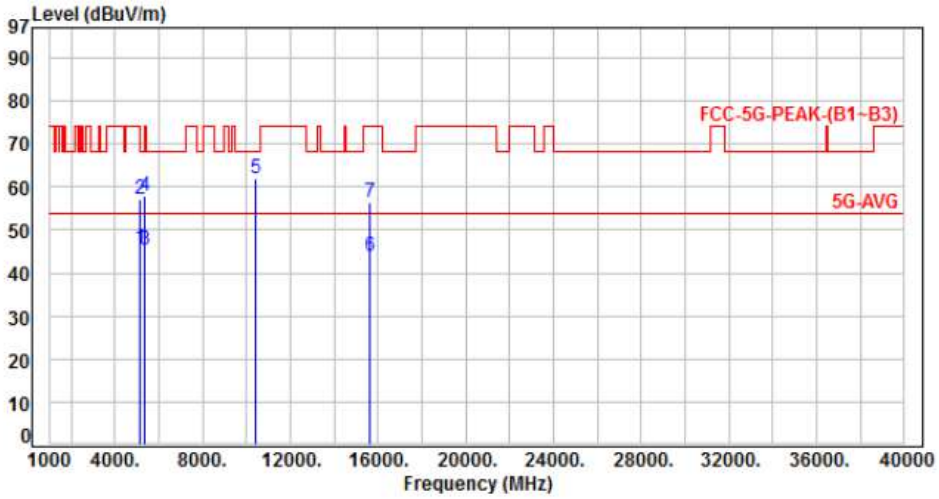
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 1, CH36		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	4.67	48.11	52.78	54.00	-1.22	Average	362	36	P
2	5150.00	4.67	65.86	70.53	74.00	-3.47	Peak	362	36	P
3	10360.00	11.66	52.67	64.33	68.20	-3.87	Peak	100	348	P
4	15540.00	14.17	29.52	43.69	54.00	-10.31	Average	100	4	P
5	15540.00	14.17	42.23	56.40	74.00	-17.60	Peak	100	4	P

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

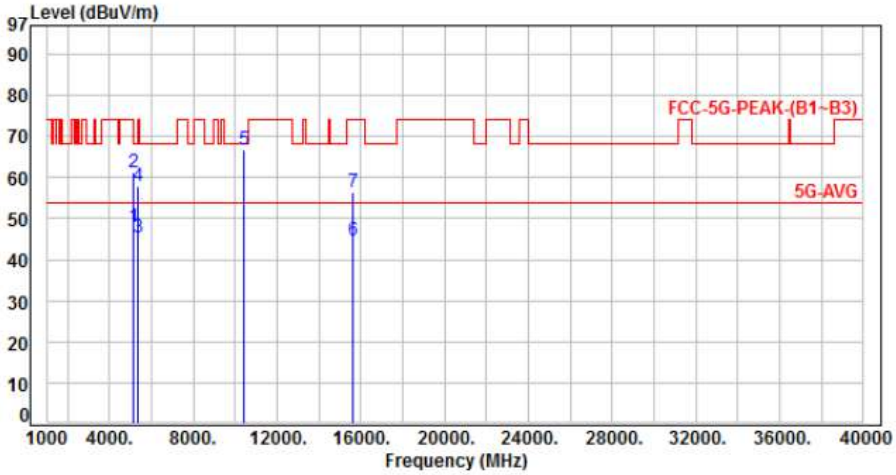
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 1, CH40		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	4.67	41.05	45.72	54.00	-8.28	Average	361	44	P
2	5150.00	4.67	52.51	57.18	74.00	-16.82	Peak	361	44	P
3	5350.00	5.04	40.15	45.19	54.00	-8.81	Average	361	44	P
4	5350.00	5.04	52.88	57.92	74.00	-16.08	Peak	361	44	P
5	10400.00	11.72	50.25	61.97	68.20	-6.23	Peak	175	5	P
6	15600.00	13.95	29.95	43.90	54.00	-10.10	Average	100	0	P
7	15600.00	13.95	42.33	56.28	74.00	-17.72	Peak	100	0	P

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

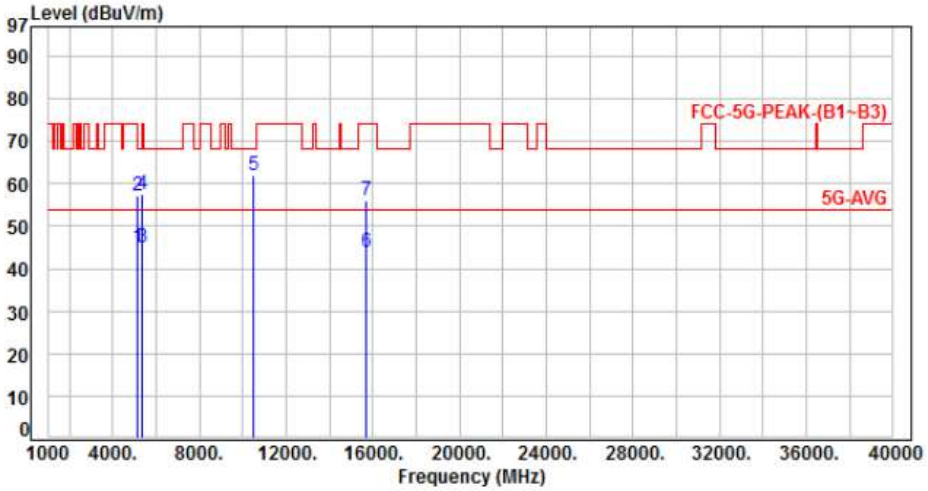
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 1, CH40		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	4.67	43.22	47.89	54.00	-6.11	Average	359	38	P
2	5150.00	4.67	56.67	61.34	74.00	-12.66	Peak	359	38	P
3	5350.00	5.04	40.41	45.45	54.00	-8.55	Average	359	38	P
4	5350.00	5.04	52.99	58.03	74.00	-15.97	Peak	359	38	P
5	10400.00	11.72	55.20	66.92	68.20	-1.28	Peak	100	353	P
6	15600.00	13.95	30.50	44.45	54.00	-9.55	Average	100	4	P
7	15600.00	13.95	42.30	56.25	74.00	-17.75	Peak	100	4	P

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

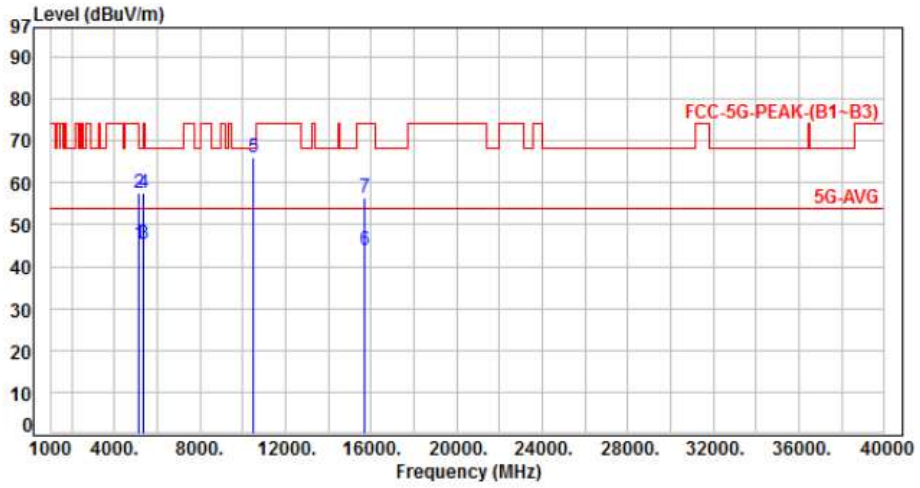
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 1, CH48		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	4.67	40.39	45.06	54.00	-8.94	Average	357	45	P
2	5150.00	4.67	52.52	57.19	74.00	-16.81	Peak	357	45	P
3	5350.00	5.04	40.04	45.08	54.00	-8.92	Average	357	45	P
4	5350.00	5.04	52.45	57.49	74.00	-16.51	Peak	357	45	P
5	10480.00	11.92	50.15	62.07	68.20	-6.13	Peak	180	0	P
6	15720.00	13.63	30.22	43.85	54.00	-10.15	Average	100	0	P
7	15720.00	13.63	42.50	56.13	74.00	-17.87	Peak	100	0	P

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

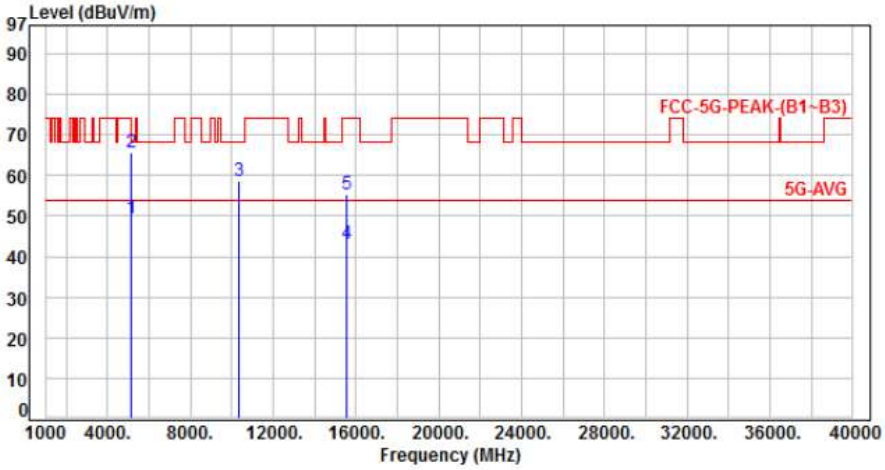
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 1, CH48		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	4.67	40.71	45.38	54.00	-8.62	Average	365	34	P
2	5150.00	4.67	52.70	57.37	74.00	-16.63	Peak	365	34	P
3	5350.00	5.04	40.17	45.21	54.00	-8.79	Average	365	34	P
4	5350.00	5.04	52.50	57.54	74.00	-16.46	Peak	365	34	P
5	10480.00	11.92	54.15	66.07	68.20	-2.13	Peak	134	350	P
6	15720.00	13.63	30.43	44.06	54.00	-9.94	Average	100	3	P
7	15720.00	13.63	42.76	56.39	74.00	-17.61	Peak	100	3	P

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

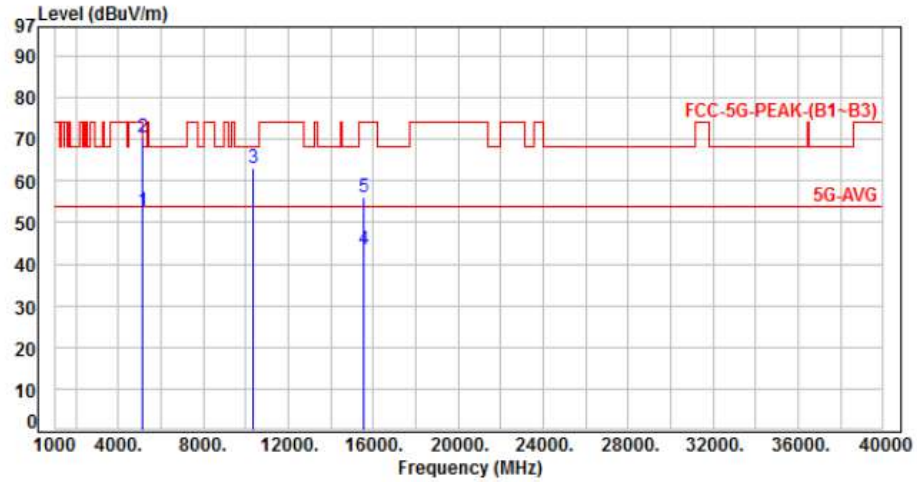
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 1, CH36		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	4.67	44.83	49.50	54.00	-4.50	Average	360	46	P
2	5150.00	4.67	61.11	65.78	74.00	-8.22	Peak	360	46	P
3	10360.00	11.66	47.07	58.73	68.20	-9.47	Peak	176	5	P
4	15540.00	14.17	29.16	43.33	54.00	-10.67	Average	100	5	P
5	15540.00	14.17	41.16	55.33	74.00	-18.67	Peak	100	5	P

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

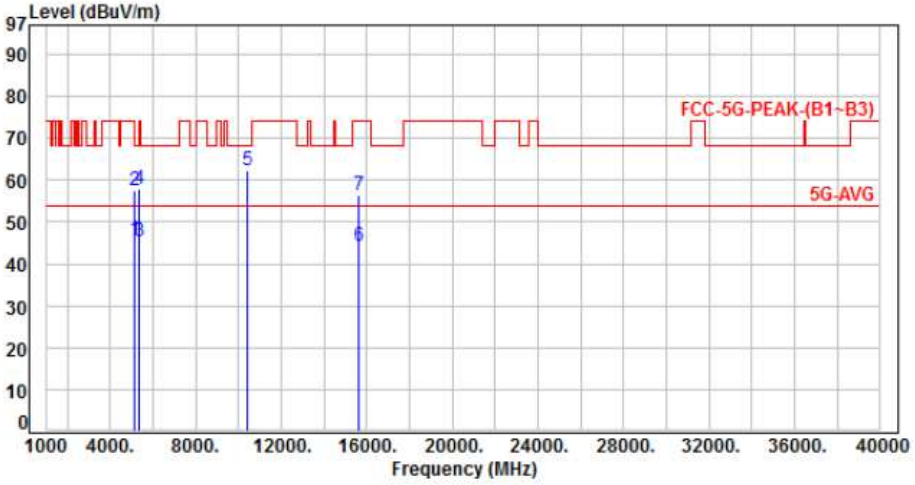
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 1, CH36		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	4.67	48.13	52.80	54.00	-1.20	Average	378	39	P
2	5150.00	4.67	65.67	70.34	74.00	-3.66	Peak	378	39	P
3	10360.00	11.66	51.59	63.25	68.20	-4.95	Peak	100	345	P
4	15540.00	14.17	29.36	43.53	54.00	-10.47	Average	100	349	P
5	15540.00	14.17	41.92	56.09	74.00	-17.91	Peak	100	349	P

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

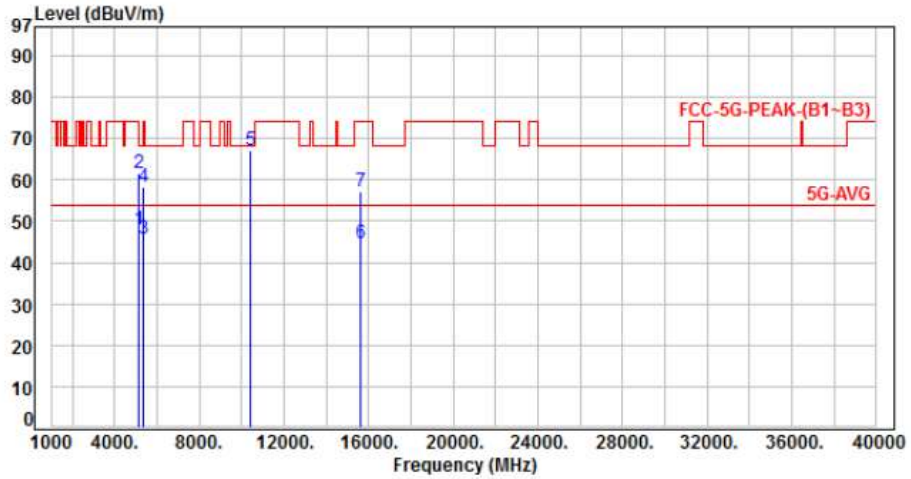
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 1, CH40		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	4.67	41.17	45.84	54.00	-8.16	Average	360	42	P
2	5150.00	4.67	52.73	57.40	74.00	-16.60	Peak	360	42	P
3	5350.00	5.04	40.22	45.26	54.00	-8.74	Average	360	42	P
4	5350.00	5.04	52.96	58.00	74.00	-16.00	Peak	360	42	P
5	10400.00	11.72	50.47	62.19	68.20	-6.01	Peak	175	4	P
6	15600.00	13.95	30.28	44.23	54.00	-9.77	Average	100	0	P
7	15600.00	13.95	42.41	56.36	74.00	-17.64	Peak	100	0	P

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

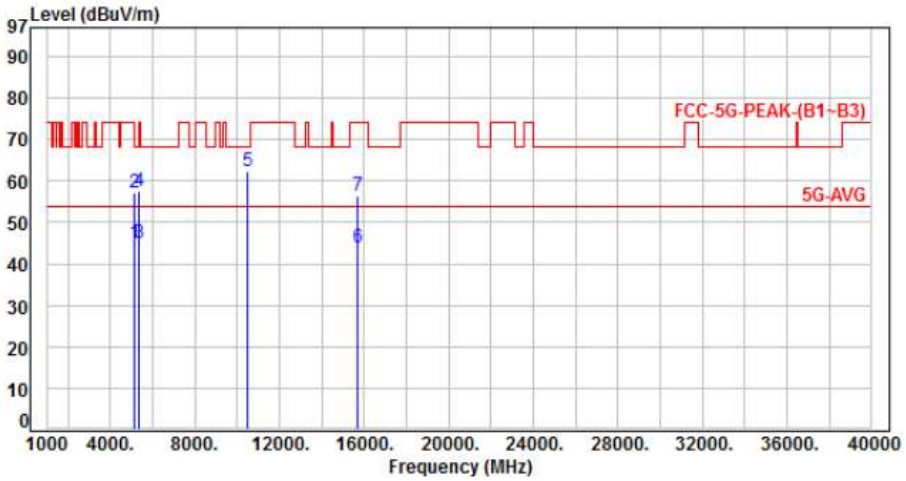
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 1, CH40		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	4.67	43.42	48.09	54.00	-5.91	Average	358	36	P
2	5150.00	4.67	56.83	61.50	74.00	-12.50	Peak	358	36	P
3	5350.00	5.04	40.52	45.56	54.00	-8.44	Average	358	36	P
4	5350.00	5.04	53.23	58.27	74.00	-15.73	Peak	358	36	P
5	10400.00	11.72	55.45	67.17	68.20	-1.03	Peak	100	349	P
6	15600.00	13.95	30.70	44.65	54.00	-9.35	Average	100	3	P
7	15600.00	13.95	43.30	57.25	74.00	-16.75	Peak	100	3	P

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

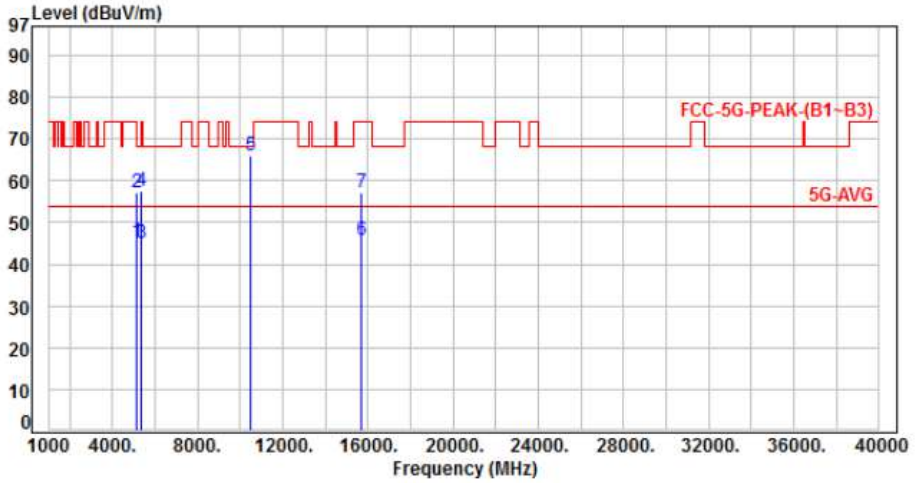
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 1, CH48		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	4.67	40.23	44.90	54.00	-9.10	Average	355	42	P
2	5150.00	4.67	52.52	57.19	74.00	-16.81	Peak	355	42	P
3	5350.00	5.04	40.00	45.04	54.00	-8.96	Average	355	42	P
4	5350.00	5.04	52.31	57.35	74.00	-16.65	Peak	355	42	P
5	10480.00	11.92	50.23	62.15	68.20	-6.05	Peak	178	0	P
6	15720.00	13.63	30.44	44.07	54.00	-9.93	Average	100	2	P
7	15720.00	13.63	42.63	56.26	74.00	-17.74	Peak	100	2	P

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

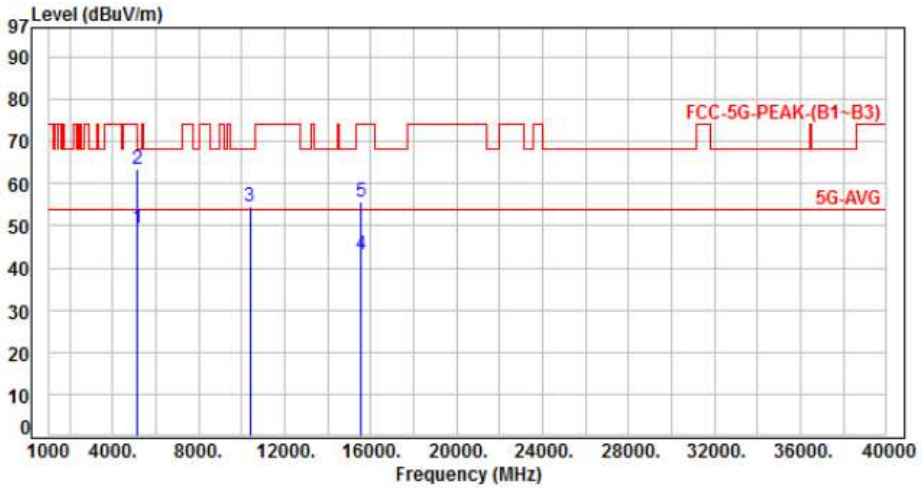
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 1, CH48		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	4.67	40.56	45.23	54.00	-8.77	Average	362	34	P
2	5150.00	4.67	52.58	57.25	74.00	-16.75	Peak	362	34	P
3	5350.00	5.04	40.05	45.09	54.00	-8.91	Average	362	34	P
4	5350.00	5.04	52.43	57.47	74.00	-16.53	Peak	362	34	P
5	10480.00	11.92	54.25	66.17	68.20	-2.03	Peak	133	350	P
6	15720.00	13.63	31.97	45.60	54.00	-8.40	Average	100	4	P
7	15720.00	13.63	43.48	57.11	74.00	-16.89	Peak	100	4	P

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

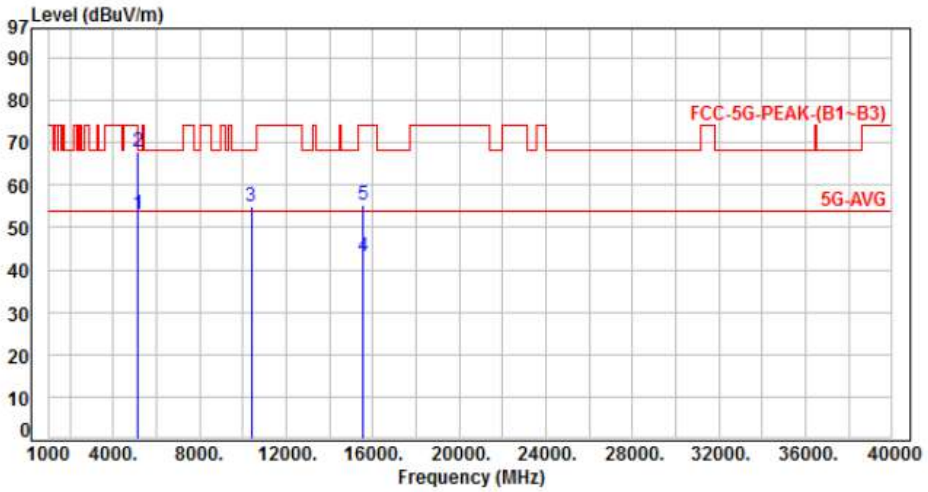
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, Band 1, CH38		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	4.67	44.71	49.38	54.00	-4.62	Average	358	43	P
2	5150.00	4.67	58.67	63.34	74.00	-10.66	Peak	358	43	P
3	10380.00	11.69	42.72	54.41	68.20	-13.79	Peak	100	6	P
4	15570.00	14.06	29.14	43.20	54.00	-10.80	Average	100	11	P
5	15570.00	14.06	41.73	55.79	74.00	-18.21	Peak	100	11	P

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

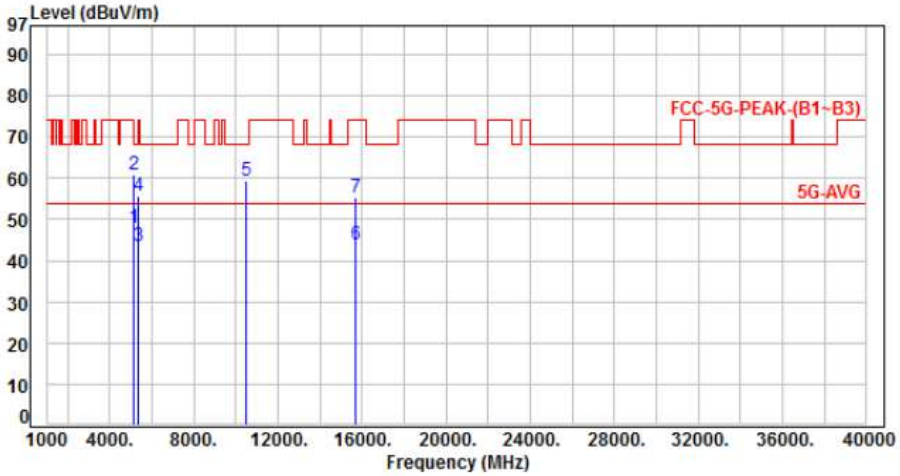
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, Band 1, CH38		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	4.67	48.32	52.99	54.00	-1.01	Average	394	40	P
2	5150.00	4.67	63.20	67.87	74.00	-6.13	Peak	394	40	P
3	10380.00	11.69	43.34	55.03	68.20	-13.17	Peak	100	354	P
4	15570.00	14.06	28.97	43.03	54.00	-10.97	Average	100	352	P
5	15570.00	14.06	41.16	55.22	74.00	-18.78	Peak	100	352	P

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

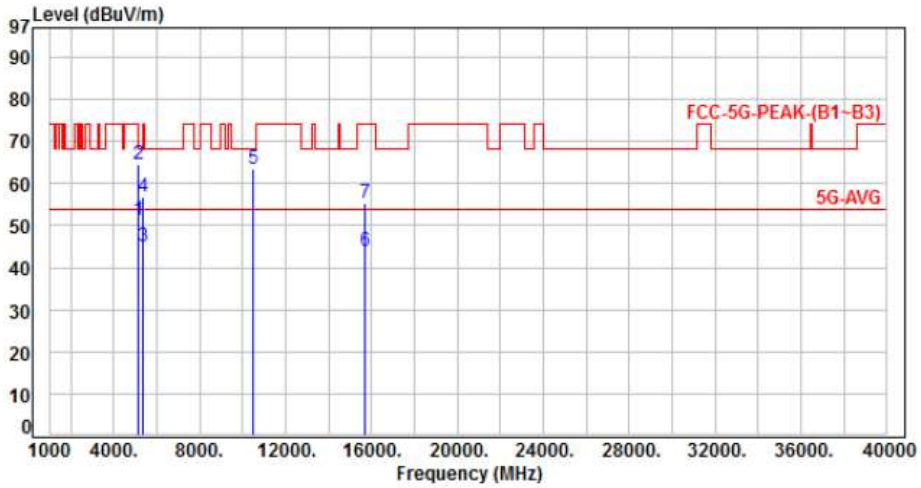
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, Band 1, CH46		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	4.67	43.36	48.03	54.00	-5.97	Average	371	45	P
2	5150.00	4.67	56.28	60.95	74.00	-13.05	Peak	371	45	P
3	5350.00	5.04	38.63	43.67	54.00	-10.33	Average	371	45	P
4	5350.00	5.04	50.71	55.75	74.00	-18.25	Peak	371	45	P
5	10460.00	11.87	47.33	59.20	68.20	-9.00	Peak	171	0	P
6	15690.00	13.71	30.11	43.82	54.00	-10.18	Average	100	0	P
7	15690.00	13.71	41.43	55.14	74.00	-18.86	Peak	100	0	P

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

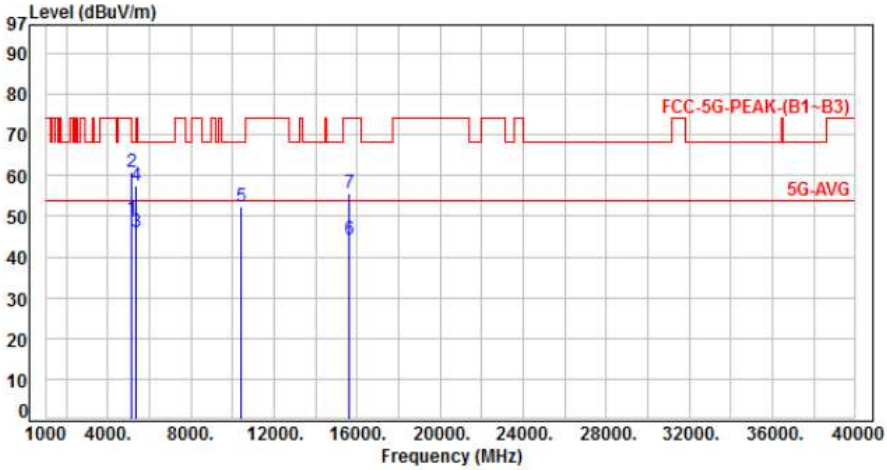
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, Band 1, CH46		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	4.67	46.71	51.38	54.00	-2.62	Average	395	39	P
2	5150.00	4.67	59.86	64.53	74.00	-9.47	Peak	395	39	P
3	5350.00	5.04	40.02	45.06	54.00	-8.94	Average	395	39	P
4	5350.00	5.04	51.74	56.78	74.00	-17.22	Peak	395	39	P
5	10460.00	11.87	51.63	63.50	68.20	-4.70	Peak	100	7	P
6	15690.00	13.71	30.06	43.77	54.00	-10.23	Average	100	313	P
7	15690.00	13.71	41.52	55.23	74.00	-18.77	Peak	100	313	P

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

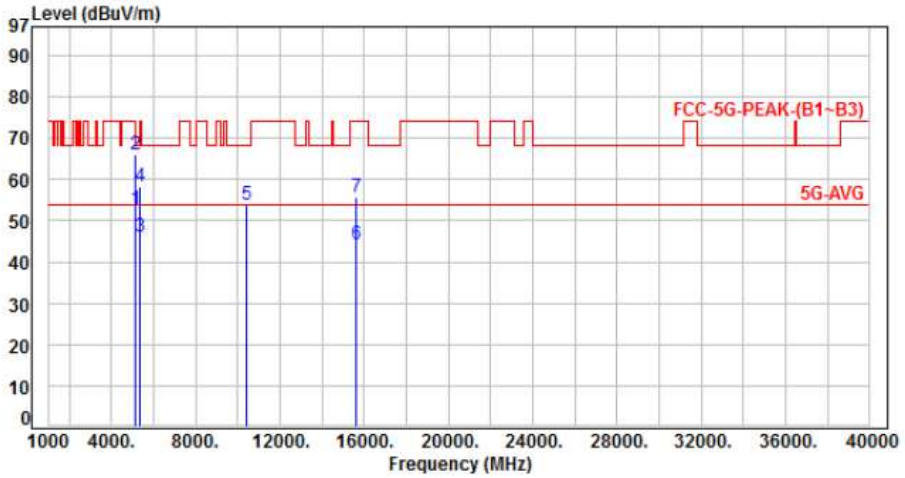
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, Band 1, CH42		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	4.67	44.86	49.53	54.00	-4.47	Average	370	39	P
2	5150.00	4.67	56.10	60.77	74.00	-13.23	Peak	370	39	P
3	5350.00	5.04	41.15	46.19	54.00	-7.81	Average	370	39	P
4	5350.00	5.04	52.51	57.55	74.00	-16.45	Peak	370	39	P
5	10420.00	11.77	40.74	52.51	68.20	-15.69	Peak	171	0	P
6	15630.00	13.87	30.30	44.17	54.00	-9.83	Average	100	6	P
7	15630.00	13.87	41.90	55.77	74.00	-18.23	Peak	100	6	P

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

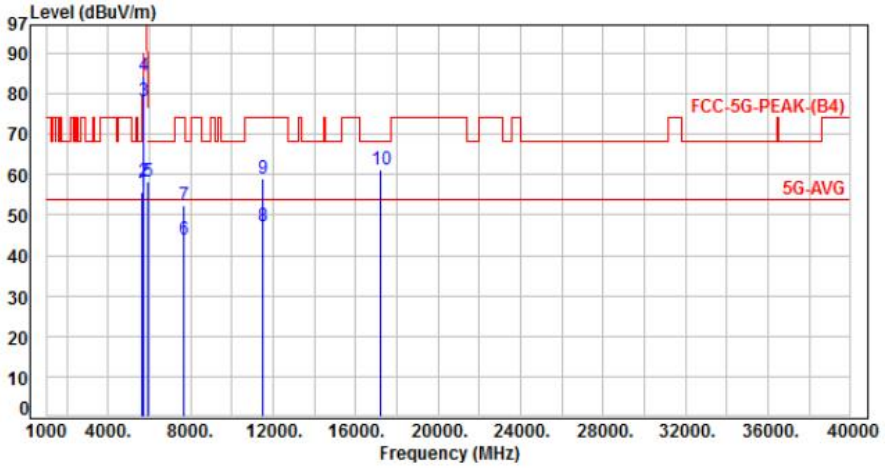
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, Band 1, CH42		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	4.67	48.11	52.78	54.00	-1.22	Average	363	40	P
2	5150.00	4.67	61.29	65.96	74.00	-8.04	Peak	363	40	P
3	5350.00	5.04	41.11	46.15	54.00	-7.85	Average	363	40	P
4	5350.00	5.04	53.14	58.18	74.00	-15.82	Peak	363	40	P
5	10420.00	11.77	42.00	53.77	68.20	-14.43	Peak	100	357	P
6	15630.00	13.87	30.42	44.29	54.00	-9.71	Average	100	321	P
7	15630.00	13.87	41.92	55.79	74.00	-18.21	Peak	100	321	P

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

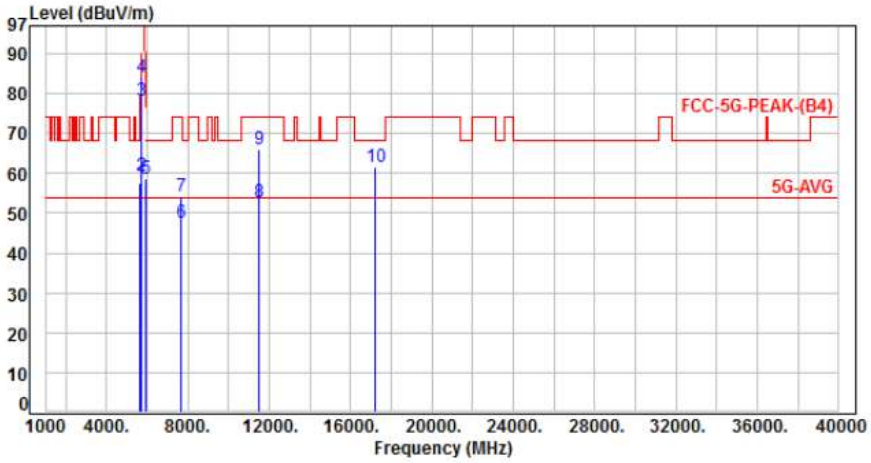
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 4, CH149		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	5.33	50.48	55.81	68.20	-12.39	Peak	387	102	P
2	5700.00	5.36	52.91	58.27	105.20	-46.93	Peak	387	102	P
3	5720.00	5.33	72.87	78.20	110.80	-32.60	Peak	387	102	P
4	5725.00	5.32	78.97	84.29	122.20	-37.91	Peak	387	102	P
5	5925.00	5.68	52.71	58.39	68.20	-9.81	Peak	387	102	P
6	7660.00	9.00	35.06	44.06	54.00	-9.94	Average	100	26	P
7	7660.00	9.00	43.30	52.30	74.00	-21.70	Peak	100	26	P
8	11490.00	13.35	33.86	47.21	54.00	-6.79	Average	175	30	P
9	11490.00	13.35	45.59	58.94	74.00	-15.06	Peak	175	30	P
10	17235.00	18.99	42.37	61.36	68.20	-6.84	Peak	100	345	P

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

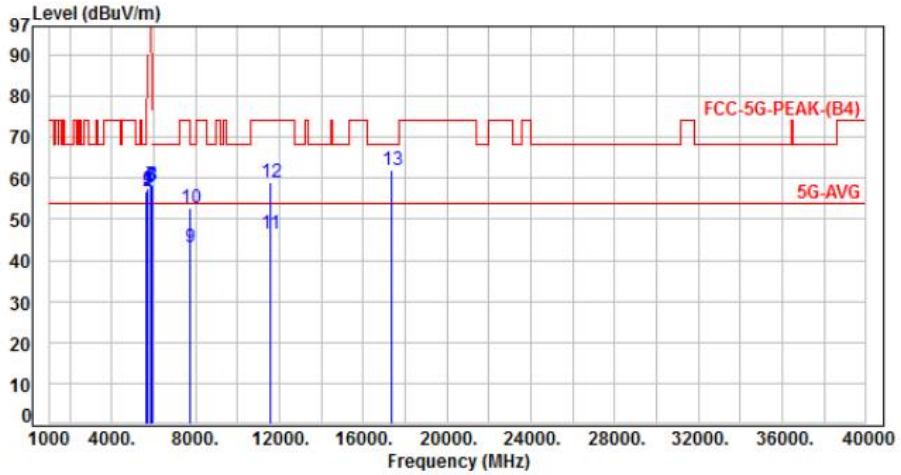
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 4, CH149		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	5.33	52.16	57.49	68.20	-10.71	Peak	396	30	P
2	5700.00	5.36	54.16	59.52	105.20	-45.68	Peak	396	30	P
3	5720.00	5.33	72.99	78.32	110.80	-32.48	Peak	396	30	P
4	5725.00	5.32	78.77	84.09	122.20	-38.11	Peak	396	30	P
5	5925.00	5.68	52.98	58.66	68.20	-9.54	Peak	396	30	P
6	7660.00	9.00	38.40	47.40	54.00	-6.60	Average	184	356	P
7	7660.00	9.00	45.11	54.11	74.00	-19.89	Peak	184	356	P
8	11490.00	13.35	39.49	52.84	54.00	-1.16	Average	125	2	P
9	11490.00	13.35	52.84	66.19	74.00	-7.81	Peak	125	2	P
10	17235.00	18.99	42.66	61.65	68.20	-6.55	Peak	100	53	P

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

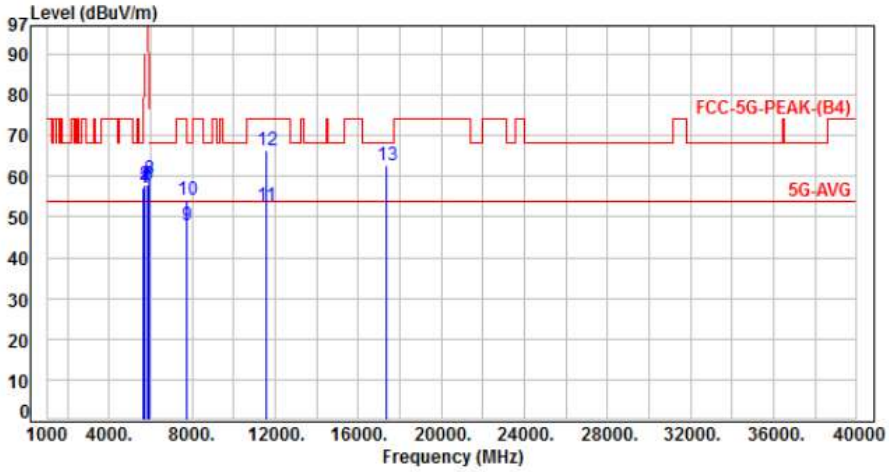
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 4, CH157		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	5.33	51.58	56.91	68.20	-11.29	Peak	386	106	P
2	5700.00	5.36	51.54	56.90	105.20	-48.30	Peak	386	106	P
3	5720.00	5.33	51.90	57.23	110.80	-53.57	Peak	386	106	P
4	5725.00	5.32	52.21	57.53	122.20	-64.67	Peak	386	106	P
5	5850.00	5.35	52.58	57.93	122.20	-64.27	Peak	386	106	P
6	5855.00	5.38	52.63	58.01	110.80	-52.79	Peak	386	106	P
7	5875.00	5.51	52.71	58.22	105.20	-46.98	Peak	386	106	P
8	5925.00	5.68	52.51	58.19	68.20	-10.01	Peak	386	106	P
9	7713.00	8.94	34.20	43.14	54.00	-10.86	Average	100	12	P
10	7713.00	8.94	43.70	52.64	74.00	-21.36	Peak	100	12	P
11	11570.00	13.64	33.00	46.64	54.00	-7.36	Average	175	36	P
12	11570.00	13.64	45.28	58.92	74.00	-15.08	Peak	175	36	P
13	17355.00	19.67	42.46	62.13	68.20	-6.07	Peak	100	342	P

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

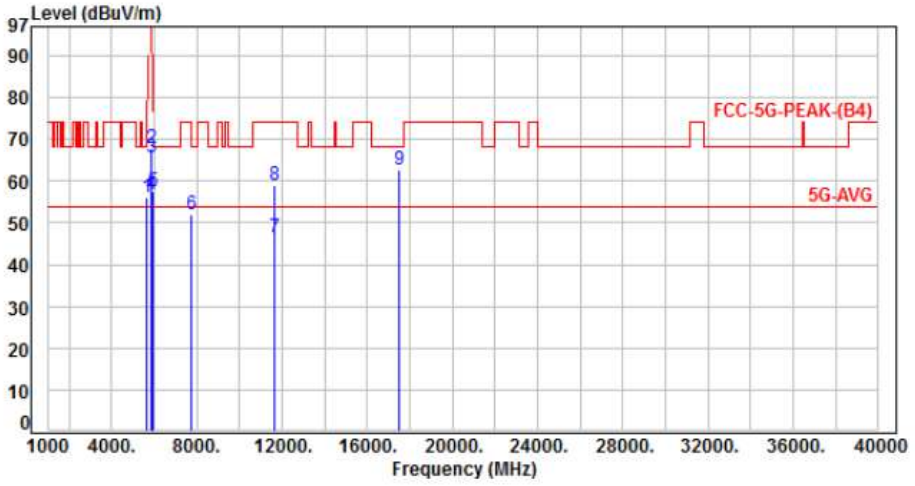
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 4, CH157		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	5.33	51.98	57.31	68.20	-10.89	Peak	392	31	P
2	5700.00	5.36	52.38	57.74	105.20	-47.46	Peak	392	31	P
3	5720.00	5.33	52.52	57.85	110.80	-52.95	Peak	392	31	P
4	5725.00	5.32	51.96	57.28	122.20	-64.92	Peak	392	31	P
5	5850.00	5.35	52.40	57.75	122.20	-64.45	Peak	392	31	P
6	5855.00	5.38	52.63	58.01	110.80	-52.79	Peak	392	31	P
7	5875.00	5.51	52.24	57.75	105.20	-47.45	Peak	392	31	P
8	5925.00	5.68	53.62	59.30	68.20	-8.90	Peak	392	31	P
9	7713.00	8.94	39.06	48.00	54.00	-6.00	Average	180	353	P
10	7713.00	8.94	45.31	54.25	74.00	-19.75	Peak	180	353	P
11	11570.00	13.64	39.00	52.64	54.00	-1.36	Average	113	13	P
12	11570.00	13.64	52.80	66.44	74.00	-7.56	Peak	113	13	P
13	17355.00	19.67	42.89	62.56	68.20	-5.64	Peak	100	55	P

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

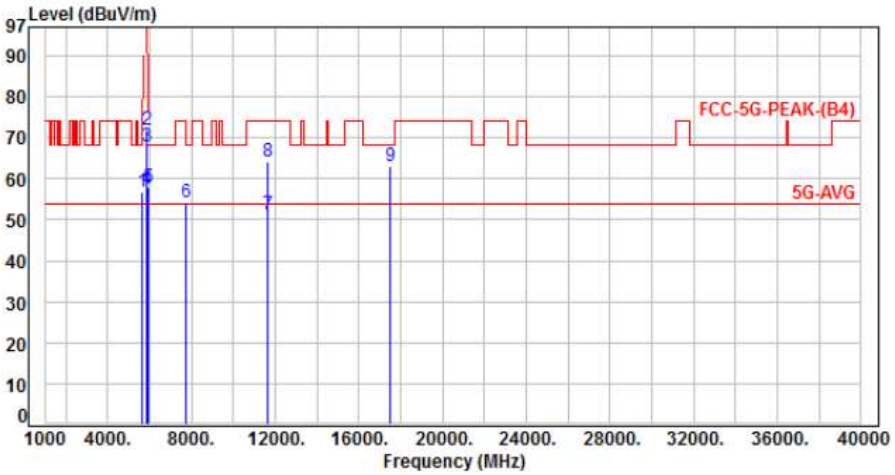
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 4, CH165		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	5.33	50.70	56.03	68.20	-12.17	Peak	396	85	P
2	5850.00	5.35	62.38	67.73	122.20	-54.47	Peak	396	85	P
3	5855.00	5.38	60.20	65.58	110.80	-45.22	Peak	396	85	P
4	5875.00	5.51	51.31	56.82	105.20	-48.38	Peak	396	85	P
5	5925.00	5.68	51.82	57.50	68.20	-10.70	Peak	396	85	P
6	7766.00	8.99	42.91	51.90	68.20	-16.30	Peak	100	15	P
7	11650.00	13.79	32.50	46.29	54.00	-7.71	Average	195	28	P
8	11650.00	13.79	45.17	58.96	74.00	-15.04	Peak	195	28	P
9	17475.00	20.41	42.32	62.73	68.20	-5.47	Peak	100	340	P

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

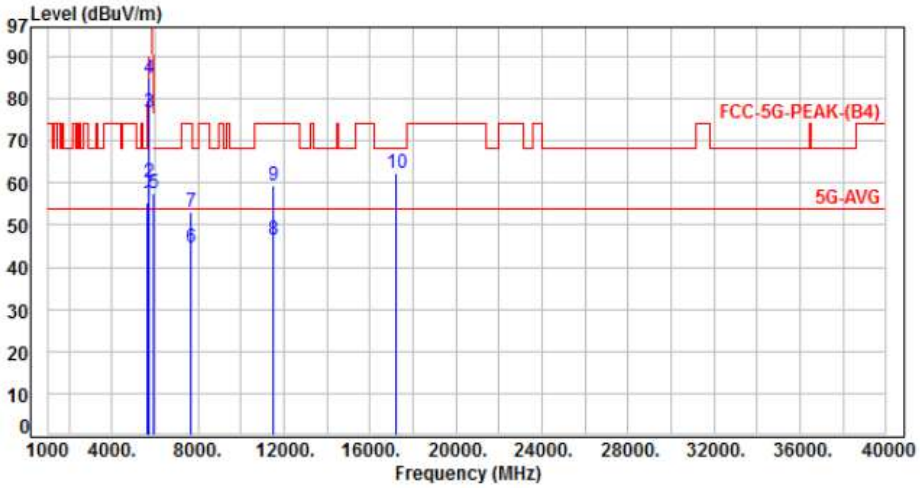
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 4, CH165		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	5.33	51.42	56.75	68.20	-11.45	Peak	388	30	P
2	5850.00	5.35	66.42	71.77	122.20	-50.43	Peak	388	30	P
3	5855.00	5.38	62.47	67.85	110.80	-42.95	Peak	388	30	P
4	5875.00	5.51	52.20	57.71	105.20	-47.49	Peak	388	30	P
5	5925.00	5.68	52.31	57.99	68.20	-10.21	Peak	388	30	P
6	7766.00	8.99	45.22	54.21	68.20	-13.99	Peak	183	354	P
7	11650.00	13.79	37.30	51.09	54.00	-2.91	Average	132	12	P
8	11650.00	13.79	50.40	64.19	74.00	-9.81	Peak	132	12	P
9	17475.00	20.41	42.77	63.18	68.20	-5.02	Peak	100	58	P

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

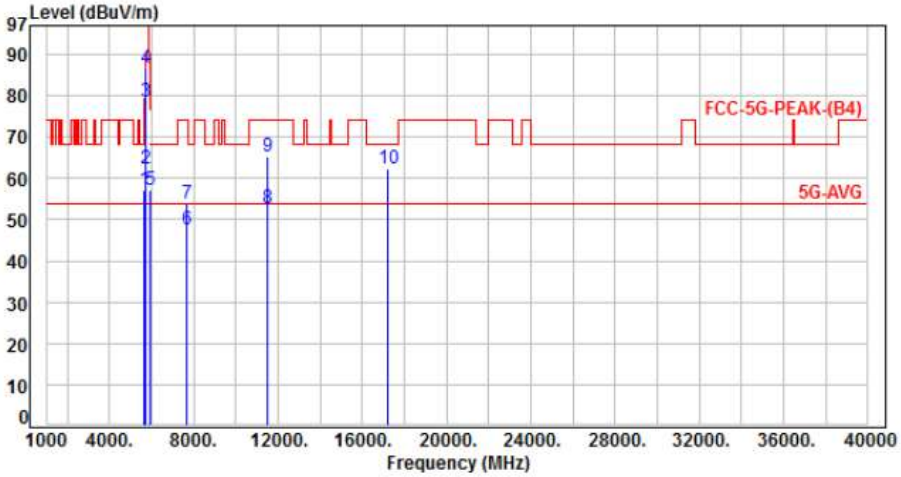
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 4, CH149		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	5.33	49.90	55.23	68.20	-12.97	Peak	387	101	P
2	5700.00	5.36	54.83	60.19	105.20	-45.01	Peak	387	101	P
3	5720.00	5.33	71.36	76.69	110.80	-34.11	Peak	387	101	P
4	5725.00	5.32	79.63	84.95	122.20	-37.25	Peak	387	101	P
5	5925.00	5.68	51.75	57.43	68.20	-10.77	Peak	387	101	P
6	7660.00	9.00	35.75	44.75	54.00	-9.25	Average	105	26	P
7	7660.00	9.00	44.03	53.03	74.00	-20.97	Peak	105	26	P
8	11490.00	13.35	33.25	46.60	54.00	-7.40	Average	100	335	P
9	11490.00	13.35	46.14	59.49	74.00	-14.51	Peak	100	335	P
10	17235.00	18.99	43.23	62.22	68.20	-5.98	Peak	100	351	P

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

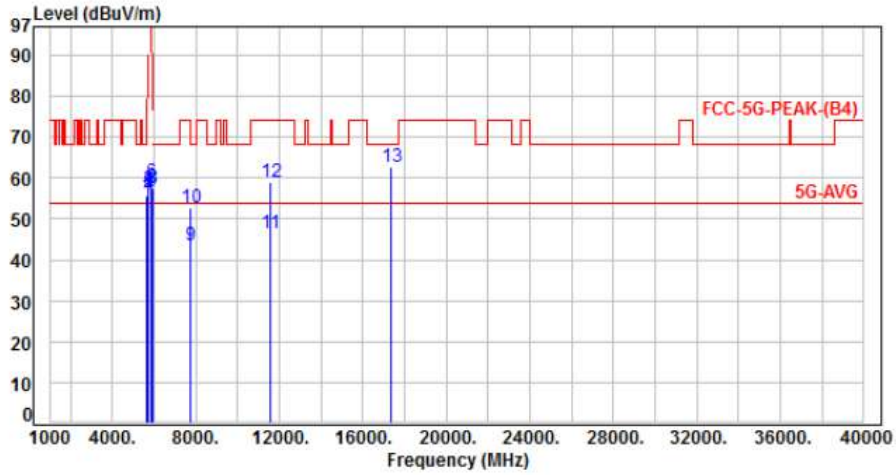
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 4, CH149		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	5.33	51.77	57.10	68.20	-11.10	Peak	398	30	P
2	5700.00	5.36	56.81	62.17	105.20	-43.03	Peak	398	30	P
3	5720.00	5.33	73.28	78.61	110.80	-32.19	Peak	398	30	P
4	5725.00	5.32	81.30	86.62	122.20	-35.58	Peak	398	30	P
5	5925.00	5.68	51.48	57.16	68.20	-11.04	Peak	398	30	P
6	7660.00	9.00	38.52	47.52	54.00	-6.48	Average	182	354	P
7	7660.00	9.00	44.78	53.78	74.00	-20.22	Peak	182	354	P
8	11490.00	13.35	39.39	52.74	54.00	-1.26	Average	127	0	P
9	11490.00	13.35	52.11	65.46	74.00	-8.54	Peak	127	0	P
10	17235.00	18.99	43.49	62.48	68.20	-5.72	Peak	100	55	P

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

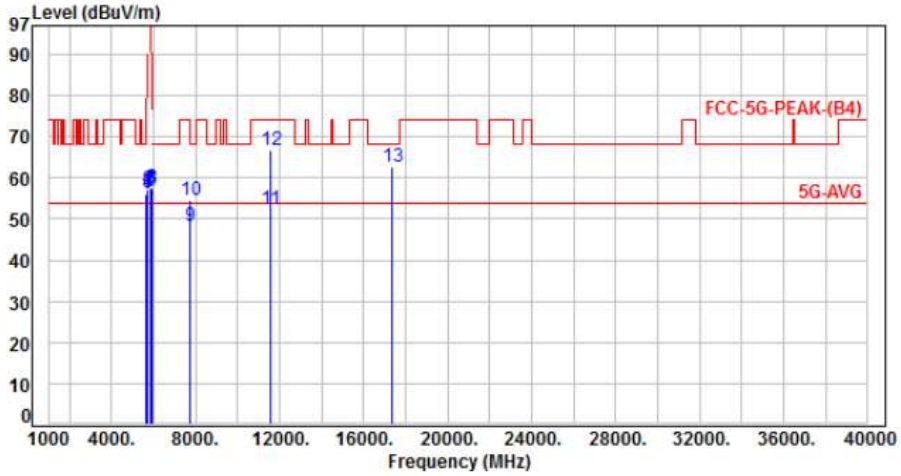
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 4, CH157		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	5.33	50.20	55.53	68.20	-12.67	Peak	399	108	P
2	5700.00	5.36	50.93	56.29	105.20	-48.91	Peak	399	108	P
3	5720.00	5.33	51.83	57.16	110.80	-53.64	Peak	399	108	P
4	5725.00	5.32	52.02	57.34	122.20	-64.86	Peak	399	108	P
5	5850.00	5.35	51.35	56.70	122.20	-65.50	Peak	399	108	P
6	5855.00	5.38	53.62	59.00	110.80	-51.80	Peak	399	108	P
7	5875.00	5.51	51.46	56.97	105.20	-48.23	Peak	399	108	P
8	5925.00	5.68	51.81	57.49	68.20	-10.71	Peak	399	108	P
9	7713.00	8.94	34.57	43.51	54.00	-10.49	Average	100	10	P
10	7713.00	8.94	43.96	52.90	74.00	-21.10	Peak	100	10	P
11	11570.00	13.64	32.87	46.51	54.00	-7.49	Average	173	34	P
12	11570.00	13.64	45.41	59.05	74.00	-14.95	Peak	173	34	P
13	17355.00	19.67	42.88	62.55	68.20	-5.65	Peak	100	346	P

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

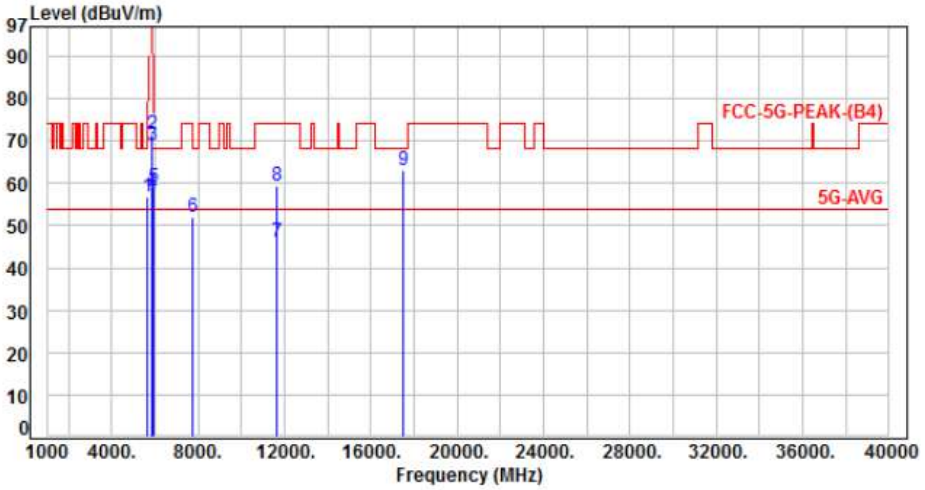
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 4, CH157		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	5.33	50.70	56.03	68.20	-12.17	Peak	376	31	P
2	5700.00	5.36	51.94	57.30	105.20	-47.90	Peak	376	31	P
3	5720.00	5.33	51.16	56.49	110.80	-54.31	Peak	376	31	P
4	5725.00	5.32	51.67	56.99	122.20	-65.21	Peak	376	31	P
5	5850.00	5.35	51.37	56.72	122.20	-65.48	Peak	376	31	P
6	5855.00	5.38	52.13	57.51	110.80	-53.29	Peak	376	31	P
7	5875.00	5.51	51.52	57.03	105.20	-48.17	Peak	376	31	P
8	5925.00	5.68	52.01	57.69	68.20	-10.51	Peak	376	31	P
9	7713.00	8.94	39.35	48.29	54.00	-5.71	Average	179	351	P
10	7713.00	8.94	45.52	54.46	74.00	-19.54	Peak	179	351	P
11	11570.00	13.64	38.87	52.51	54.00	-1.49	Average	112	15	P
12	11570.00	13.64	53.09	66.73	74.00	-7.27	Peak	112	15	P
13	17355.00	19.67	43.13	62.80	68.20	-5.40	Peak	100	53	P

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

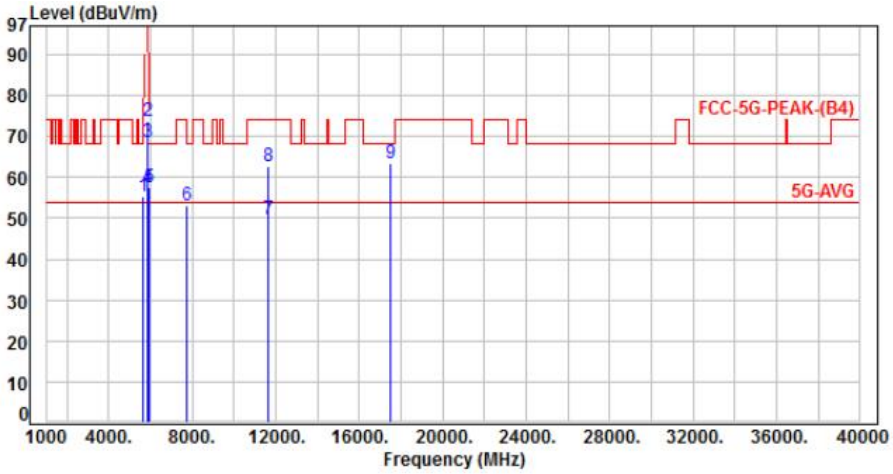
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 4, CH165		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	5.33	51.50	56.83	68.20	-11.37	Peak	398	106	P
2	5850.00	5.35	66.26	71.61	122.20	-50.59	Peak	398	106	P
3	5855.00	5.38	63.76	69.14	110.80	-41.66	Peak	398	106	P
4	5875.00	5.51	51.93	57.44	105.20	-47.76	Peak	398	106	P
5	5925.00	5.68	53.15	58.83	68.20	-9.37	Peak	398	106	P
6	7766.00	8.99	43.11	52.10	68.20	-16.10	Peak	100	11	P
7	11650.00	13.79	32.34	46.13	54.00	-7.87	Average	193	28	P
8	11650.00	13.79	45.46	59.25	74.00	-14.75	Peak	193	28	P
9	17475.00	20.41	42.68	63.09	68.20	-5.11	Peak	100	345	P

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

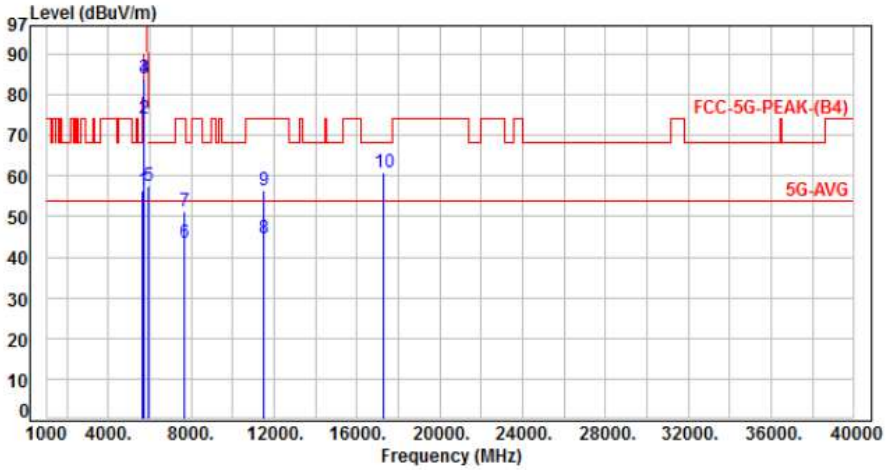
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 4, CH165		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	5.33	50.16	55.49	68.20	-12.71	Peak	389	31	P
2	5850.00	5.35	68.25	73.60	122.20	-48.60	Peak	389	31	P
3	5855.00	5.38	63.20	68.58	110.80	-42.22	Peak	389	31	P
4	5875.00	5.51	52.14	57.65	105.20	-47.55	Peak	389	31	P
5	5925.00	5.68	51.76	57.44	68.20	-10.76	Peak	389	31	P
6	7766.00	8.99	43.95	52.94	68.20	-15.26	Peak	182	353	P
7	11650.00	13.79	35.85	49.64	54.00	-4.36	Average	128	10	P
8	11650.00	13.79	48.89	62.68	74.00	-11.32	Peak	128	10	P
9	17475.00	20.41	42.88	63.29	68.20	-4.91	Peak	100	57	P

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

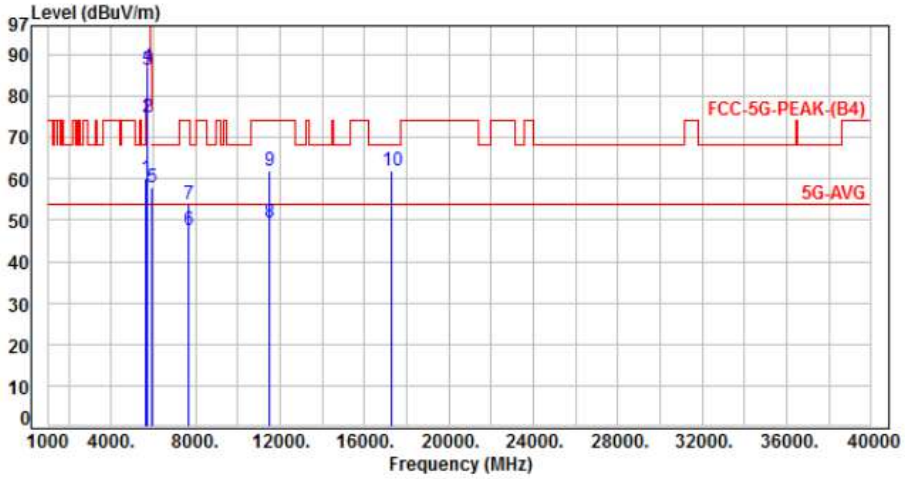
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, Band 4, CH151		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	5.33	51.20	56.53	68.20	-11.67	Peak	390	110	P
2	5700.00	5.36	68.67	74.03	105.20	-31.17	Peak	390	110	P
3	5720.00	5.33	78.85	84.18	110.80	-26.62	Peak	390	110	P
4	5725.00	5.32	78.69	84.01	122.20	-38.19	Peak	390	110	P
5	5925.00	5.68	51.80	57.48	68.20	-10.72	Peak	390	110	P
6	7673.00	8.98	34.39	43.37	54.00	-10.63	Average	100	15	P
7	7673.00	8.98	42.38	51.36	74.00	-22.64	Peak	100	15	P
8	11510.00	13.40	31.13	44.53	54.00	-9.47	Average	187	36	P
9	11510.00	13.40	42.93	56.33	74.00	-17.67	Peak	187	36	P
10	17265.00	19.15	41.72	60.87	68.20	-7.33	Peak	100	342	P

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

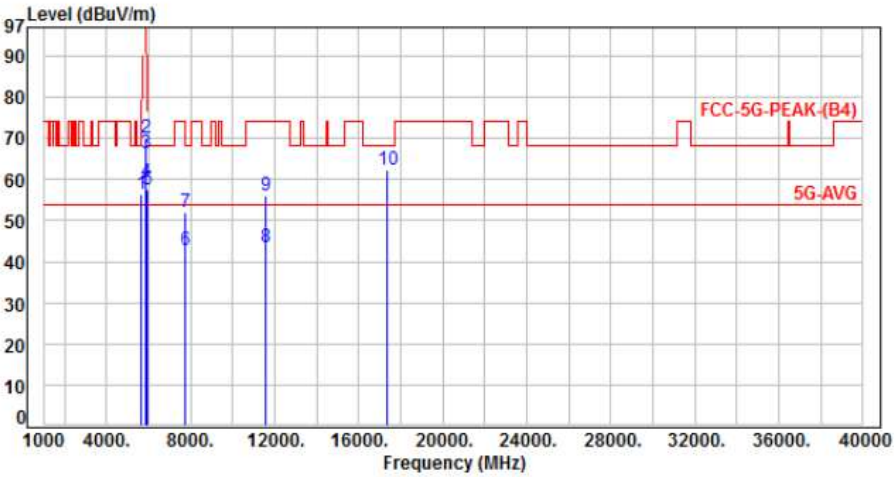
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, Band 4, CH151		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	5.33	54.60	59.93	68.20	-8.27	Peak	377	35	P
2	5700.00	5.36	69.36	74.72	105.20	-30.48	Peak	377	35	P
3	5720.00	5.33	81.01	86.34	110.80	-24.46	Peak	377	35	P
4	5725.00	5.32	81.64	86.96	122.20	-35.24	Peak	377	35	P
5	5925.00	5.68	52.07	57.75	68.20	-10.45	Peak	377	35	P
6	7673.00	8.98	38.52	47.50	54.00	-6.50	Average	158	355	P
7	7673.00	8.98	44.95	53.93	74.00	-20.07	Peak	158	355	P
8	11510.00	13.40	36.19	49.59	54.00	-4.41	Average	122	14	P
9	11510.00	13.40	48.54	61.94	74.00	-12.06	Peak	122	14	P
10	17265.00	19.15	42.99	62.14	68.20	-6.06	Peak	122	59	P

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

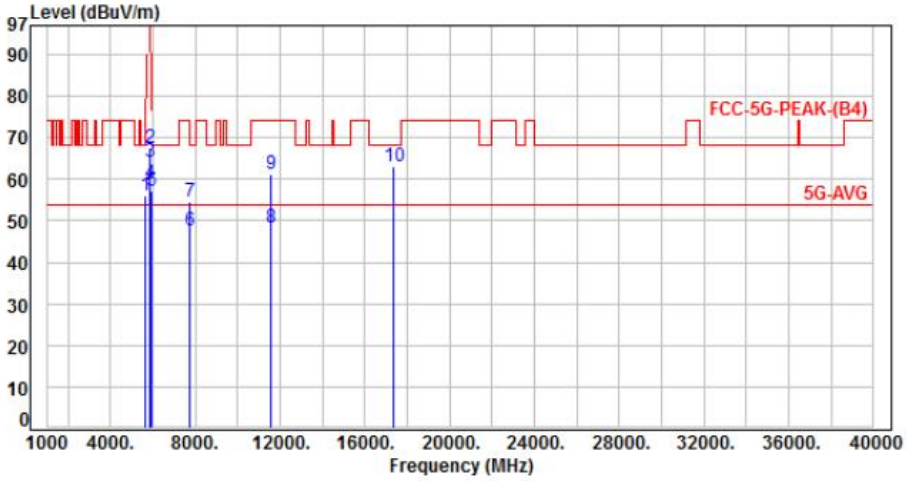
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, Band 4, CH159		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	5.33	51.08	56.41	68.20	-11.79	Peak	395	105	P
2	5850.00	5.35	64.68	70.03	122.20	-52.17	Peak	395	105	P
3	5855.00	5.38	61.15	66.53	110.80	-44.27	Peak	395	105	P
4	5875.00	5.51	53.75	59.26	105.20	-45.94	Peak	395	105	P
5	5925.00	5.68	51.69	57.37	68.20	-10.83	Peak	395	105	P
6	7726.00	8.95	33.94	42.89	54.00	-11.11	Average	100	16	P
7	7726.00	8.95	43.14	52.09	74.00	-21.91	Peak	100	16	P
8	11590.00	13.72	29.84	43.56	54.00	-10.44	Average	194	30	P
9	11590.00	13.72	42.45	56.17	74.00	-17.83	Peak	194	30	P
10	17385.00	19.85	42.59	62.44	68.20	-5.76	Peak	100	336	P

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

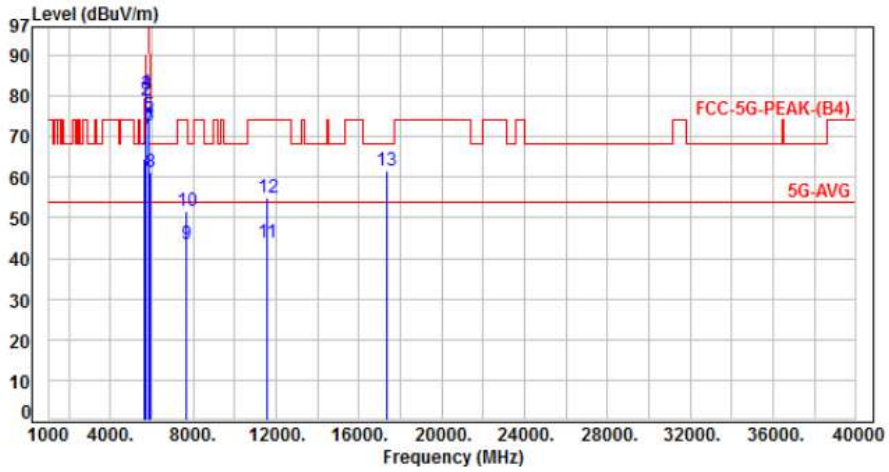
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, Band 4, CH159		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	5.33	50.89	56.22	68.20	-11.98	Peak	353	37	P
2	5850.00	5.35	62.31	67.66	122.20	-54.54	Peak	353	37	P
3	5855.00	5.38	58.82	64.20	110.80	-46.60	Peak	353	37	P
4	5875.00	5.51	53.46	58.97	105.20	-46.23	Peak	353	37	P
5	5925.00	5.68	51.37	57.05	68.20	-11.15	Peak	353	37	P
6	7726.00	8.95	38.71	47.66	54.00	-6.34	Average	180	355	P
7	7726.00	8.95	45.75	54.70	74.00	-19.30	Peak	180	355	P
8	11590.00	13.72	34.58	48.30	54.00	-5.70	Average	130	15	P
9	11590.00	13.72	47.67	61.39	74.00	-12.61	Peak	130	15	P
10	17385.00	19.85	43.26	63.11	68.20	-5.09	Peak	100	63	P

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

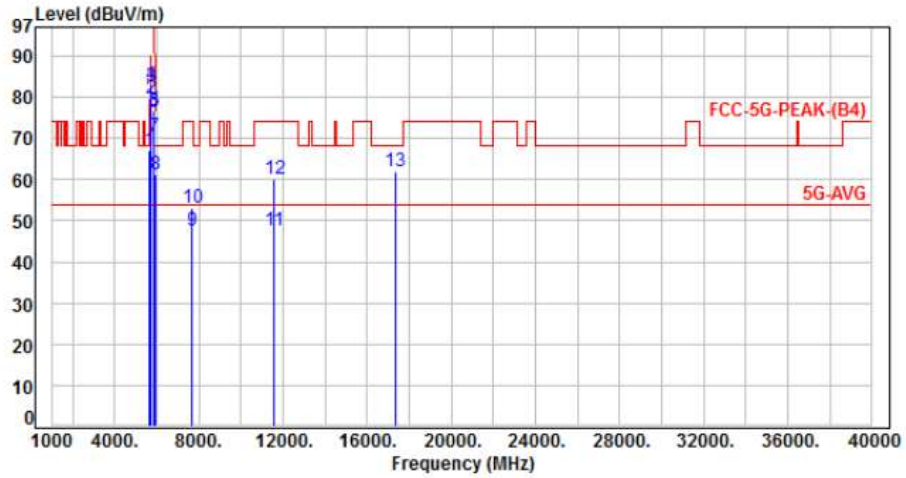
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, Band 4, CH155		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	5.33	59.37	64.70	68.20	-3.50	Peak	400	82	P
2	5700.00	5.36	73.43	78.79	105.20	-26.41	Peak	400	82	P
3	5720.00	5.33	75.00	80.33	110.80	-30.47	Peak	400	82	P
4	5725.00	5.32	75.54	80.86	122.20	-41.34	Peak	400	82	P
5	5850.00	5.35	70.03	75.38	122.20	-46.82	Peak	400	82	P
6	5855.00	5.38	67.15	72.53	110.80	-38.27	Peak	400	82	P
7	5875.00	5.51	66.30	71.81	105.20	-33.39	Peak	400	82	P
8	5925.00	5.68	55.37	61.05	68.20	-7.15	Peak	400	82	P
9	7700.00	8.93	34.56	43.49	54.00	-10.51	Average	100	13	P
10	7700.00	8.93	42.54	51.47	74.00	-22.53	Peak	100	13	P
11	11550.00	13.56	30.22	43.78	54.00	-10.22	Average	182	32	P
12	11550.00	13.56	41.55	55.11	74.00	-18.89	Peak	182	32	P
13	17325.00	19.48	42.29	61.77	68.20	-6.43	Peak	100	346	P

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

Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, Band 4, CH155		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5650.00	5.33	61.80	67.13	68.20	-1.07	Peak	393	35	P
2	5700.00	5.36	74.41	79.77	105.20	-25.43	Peak	393	35	P
3	5720.00	5.33	77.34	82.67	110.80	-28.13	Peak	393	35	P
4	5725.00	5.32	77.64	82.96	122.20	-39.24	Peak	393	35	P
5	5850.00	5.35	71.45	76.80	122.20	-45.40	Peak	393	35	P
6	5855.00	5.38	71.10	76.48	110.80	-34.32	Peak	393	35	P
7	5875.00	5.51	64.80	70.31	105.20	-34.89	Peak	393	35	P
8	5925.00	5.68	55.73	61.41	68.20	-6.79	Peak	393	35	P
9	7700.00	8.93	38.83	47.76	54.00	-6.24	Average	179	359	P
10	7700.00	8.93	44.23	53.16	74.00	-20.84	Peak	179	359	P
11	11550.00	13.56	34.18	47.74	54.00	-6.26	Average	120	10	P
12	11550.00	13.56	46.41	59.97	74.00	-14.03	Peak	120	10	P
13	17325.00	19.48	42.30	61.78	68.20	-6.42	Peak	100	56	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

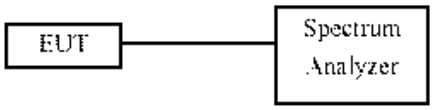
7.1. Test Limit

None; for reporting purposes only.

7.2. Test Procedure

KDB 789033 Zero-Span Spectrum Analyzer Method.

7.3. Test Setup Layout



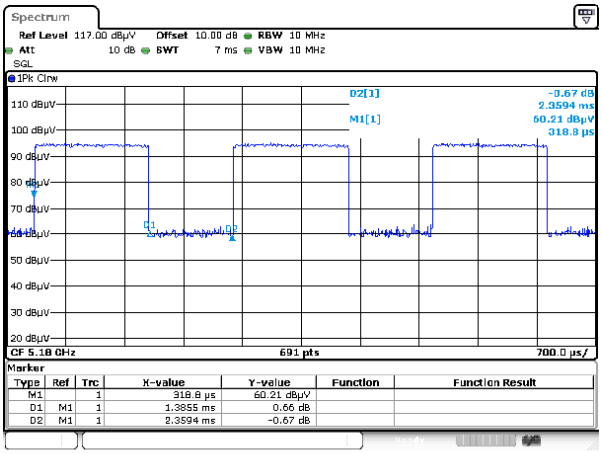
7.4. Test Result and Data

Modulation Type	On Time (ms)	Period Time (ms)	Duty Cycle (%)
802.11a,6M	1.39	2.36	58.72%
802.11ac VHT20	1.29	2.28	56.81%
802.11ac VHT40	0.67	1.66	40.46%
802.11ac VHT80	0.34	1.33	25.33%

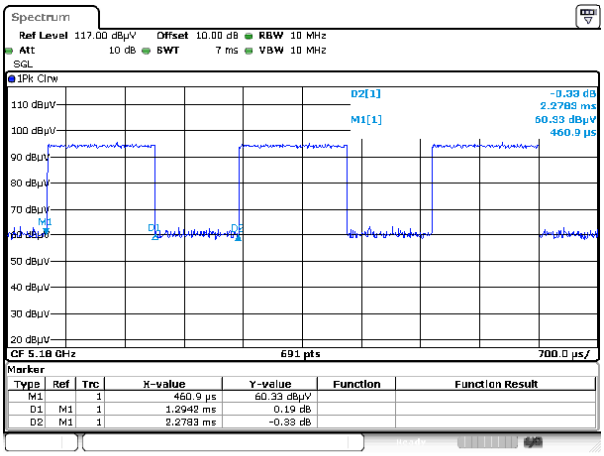
7.5. Measurement Methods

26 dB and 6dB Emission BW	KDB 789033 D02 v02r01, Section C
99% Occupied BW	KDB 789033 D02 v02r01, Section D
Conducted Output Power	KDB 789033 D02 v02r01, Section E.2.d and E.3.b (Method PM-G)
Power Spectral Density	KDB 789033 D02 v02r01, Section F
Unwanted emissions in restricted bands	KDB 789033 D02 v02r01, Sections G and H
Unwanted emissions in non-restricted bands	KDB 789033 D02 v02r01, Sections G and H

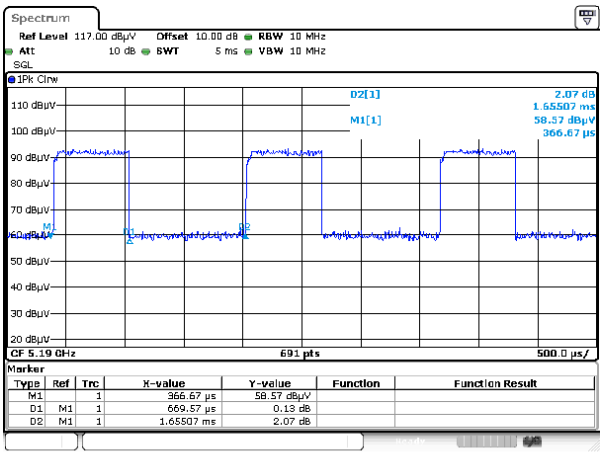
Modulation Type: 802.11a (6Mbps)



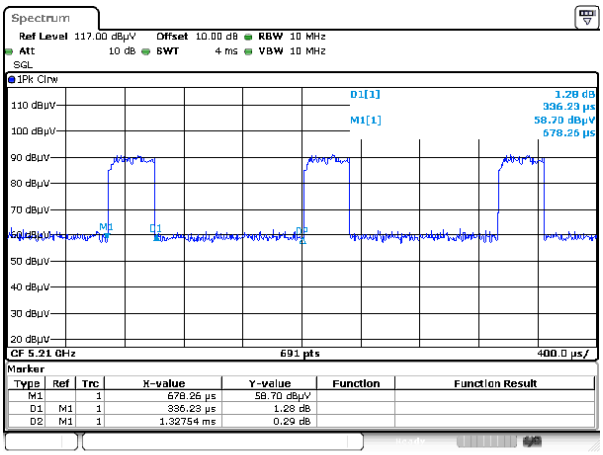
Modulation Type: 802.11ac VHT20 (6.5Mbps)



Modulation Type: 802.11ac VHT40 (13.5Mbps)



Modulation Type: 802.11ac VHT80 (29.3Mbps)



8. 6dB Bandwidth & 99% Occupied Bandwidth

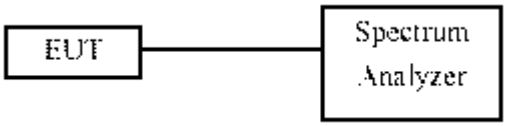
8.1. Test Limit

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)

In the 5.8G Band

Modulation Type	Channel	Frequency (MHz)	6dB Bandwidth(MHz)	Minimum Limit (MHz)
			ANT B	
11a	149	5745	16.21	0.50
11a	157	5785	15.99	0.50
11a	165	5825	16.06	0.50
11ac VHT20	149	5745	16.50	0.50
11ac VHT20	157	5785	16.79	0.50
11ac VHT20	165	5825	16.28	0.50
11ac VHT40	151	5755	35.89	0.50
11ac VHT40	159	5795	35.89	0.50
11ac VHT80	155	5775	75.02	0.50

8.5. Test Result and Data (99% Occupied Bandwidth)

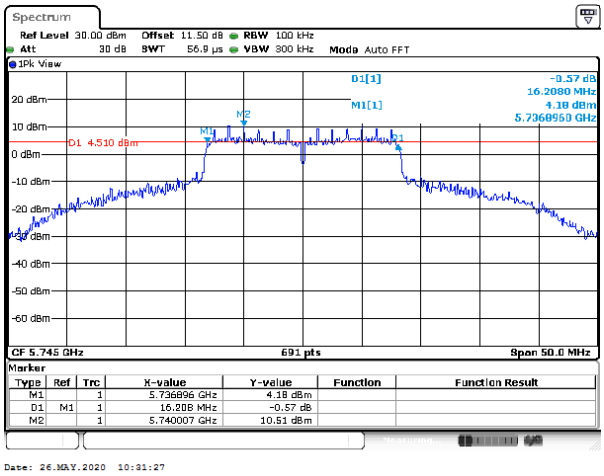
In the 5.8G Band

Modulation Type	Channel	Frequency (MHz)	99% Bandwidth(MHz)
			ANT B
11a	149	5745	25.83
11a	157	5785	24.82
11a	165	5825	24.24
11ac VHT20	149	5745	26.05
11ac VHT20	157	5785	26.27
11ac VHT20	165	5825	26.12
11ac VHT40	151	5755	53.69
11ac VHT40	159	5795	52.53
11ac VHT80	155	5775	95.40

6dB Bandwidth

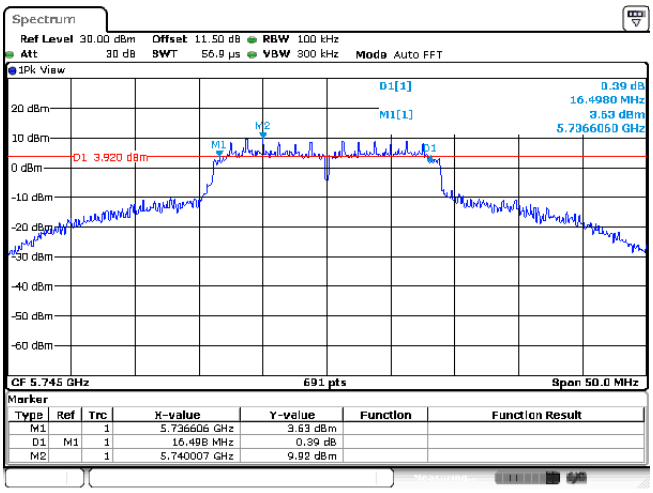
Modulation Type: 802.11a (6Mbps)

CH149

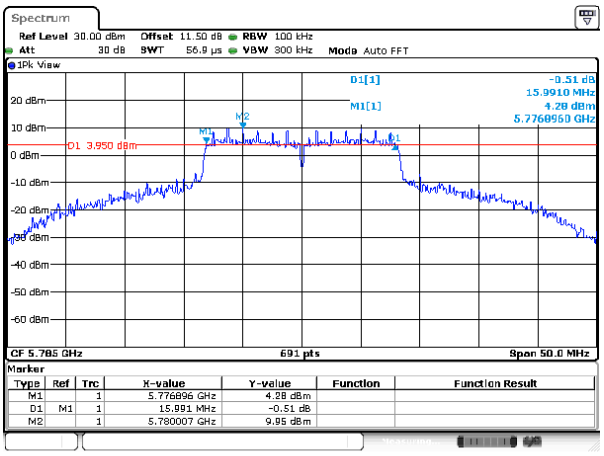


Modulation Type: 802.11ac, VHT20 (6.5Mbps)

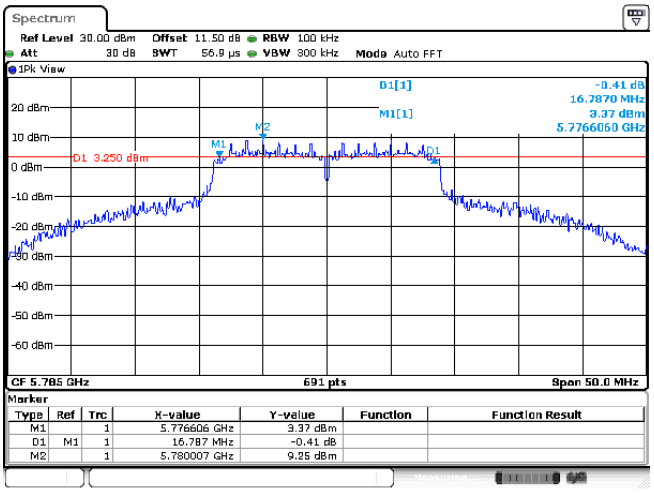
CH149



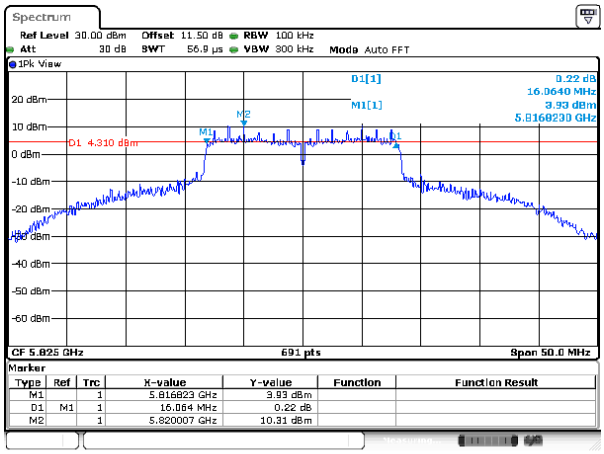
CH157



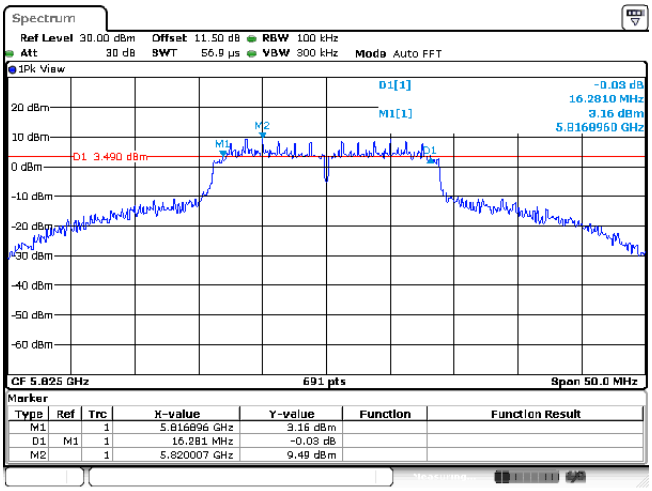
CH157



CH165



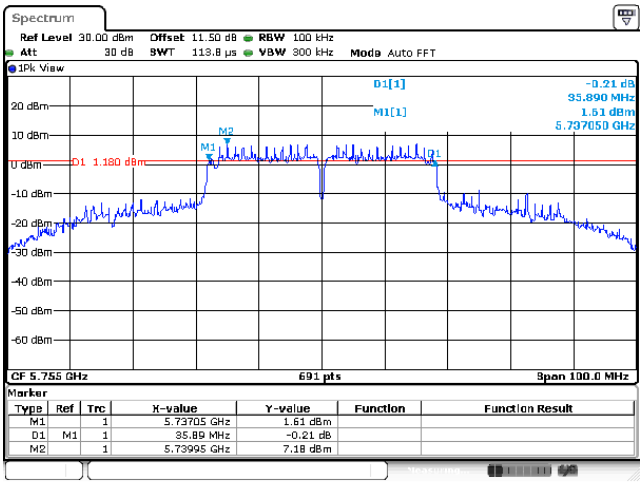
CH165



6dB Bandwidth

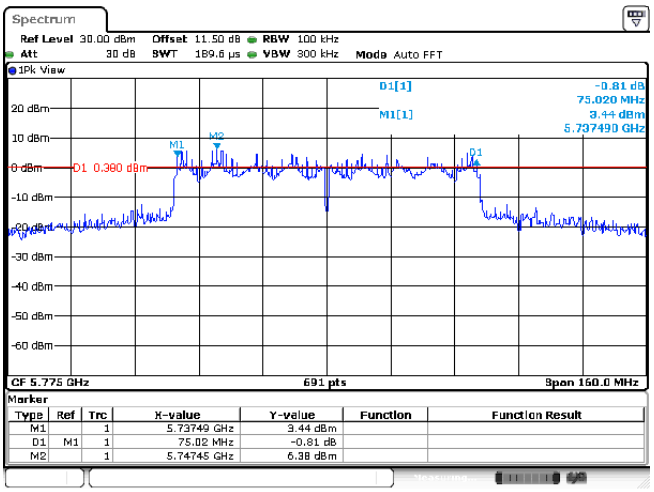
Modulation Type: 802.11ac, VHT40 (13.5Mbps)

CH151

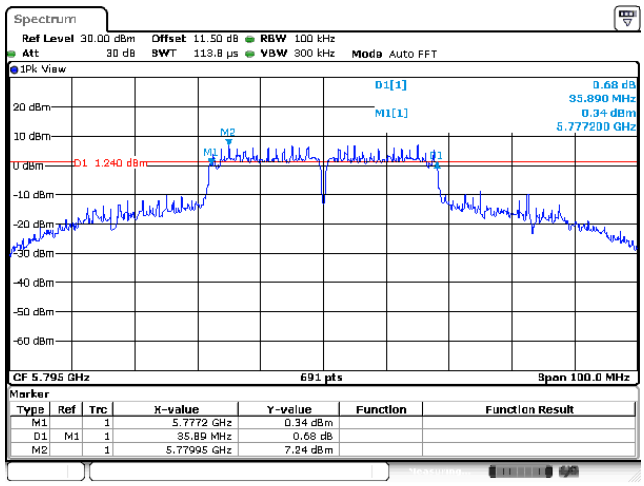


Modulation Type: 802.11ac, VHT80 (29.3Mbps)

CH155



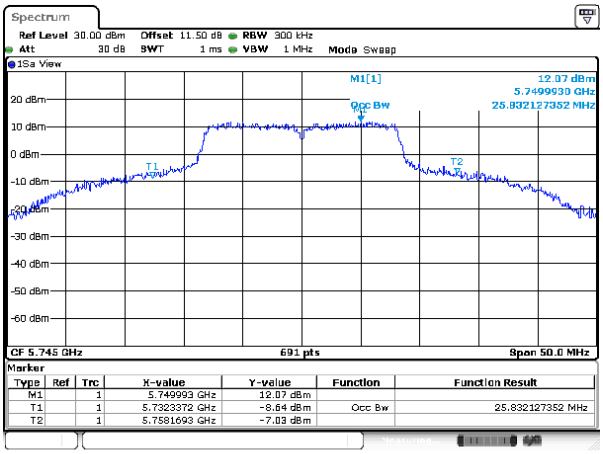
CH159



99% Occupied Bandwidth

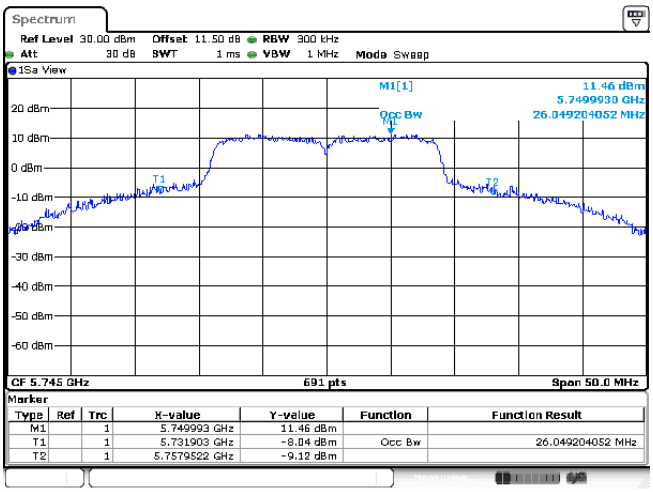
Modulation Type: 802.11a (6Mbps)

CH149

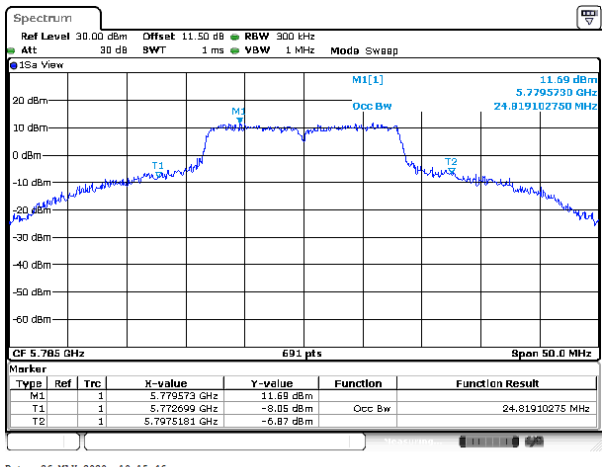


Modulation Type: 802.11ac, VHT20 (6.5Mbps)

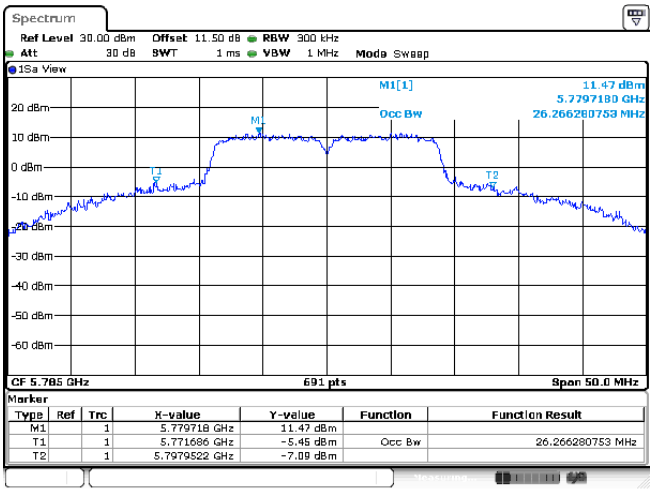
CH149



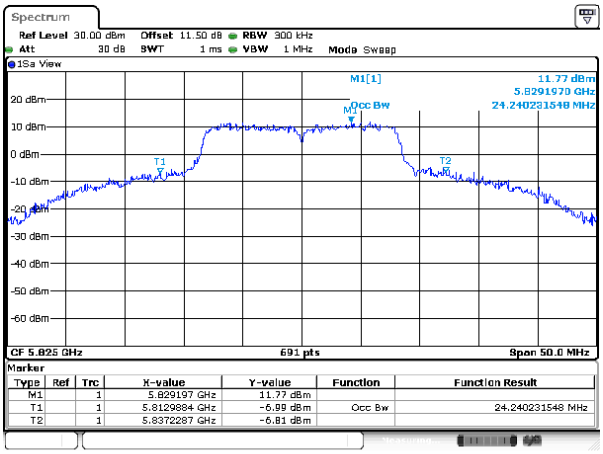
CH157



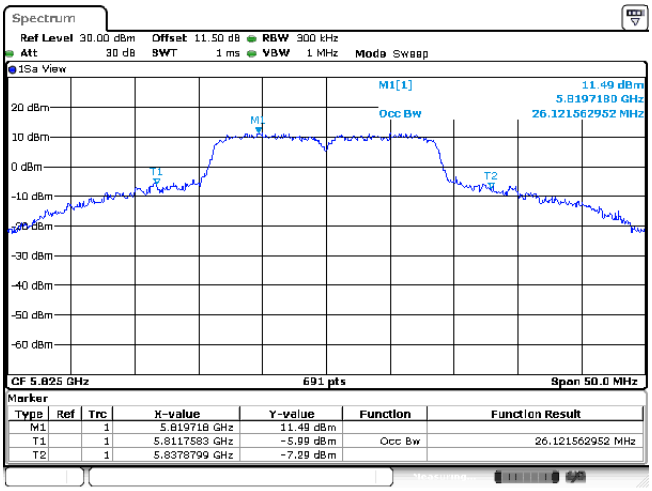
CH157



CH165



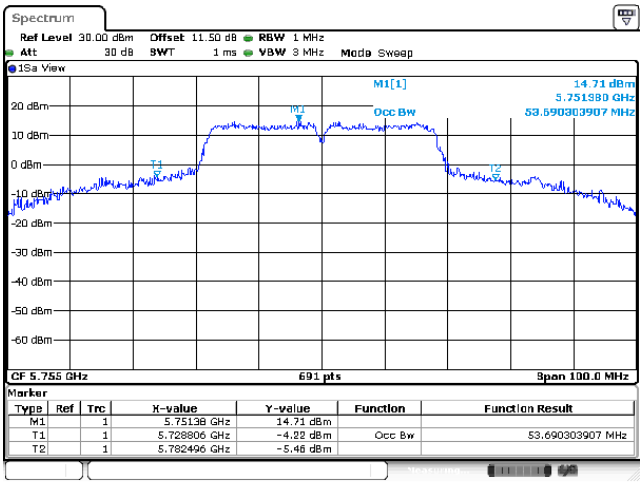
CH165



99% Occupied Bandwidth

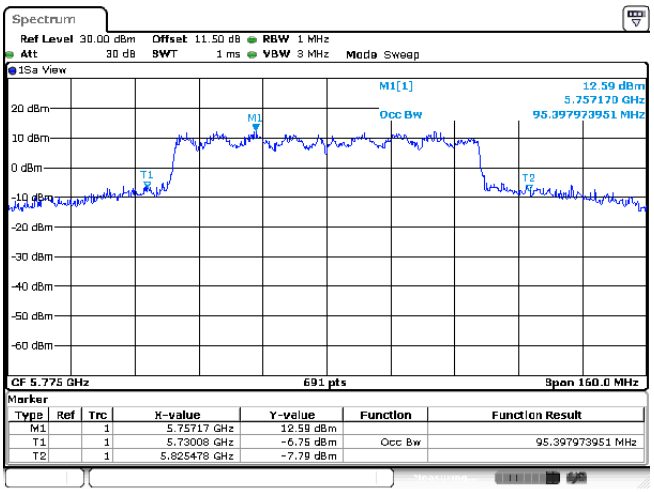
Modulation Type: 802.11ac, VHT40 (13.5Mbps)

CH151

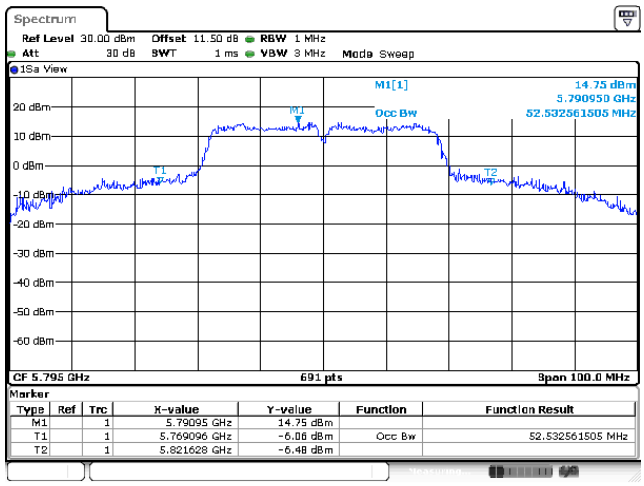


Modulation Type: 802.11ac, VHT80 (29.3Mbps)

CH155



CH159



9. 26dB Bandwidth & 99% Occupied Bandwidth

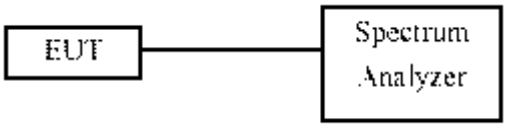
9.1. Test Limit

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)

In the 5.2G Band

Mode	Channel	Frequency (MHz)	26dB Bandwidth(MHz)
			ANT B
11a	36	5180	25.11
11a	40	5200	41.17
11a	48	5240	37.63
11ac VHT20	36	5180	23.37
11ac VHT20	40	5200	43.49
11ac VHT20	48	5240	37.70
11ac VHT40	38	5190	44.28
11ac VHT40	46	5230	78.44
11ac VHT80	42	5210	83.36

9.5. Test Result and Data (99% Occupied Bandwidth)

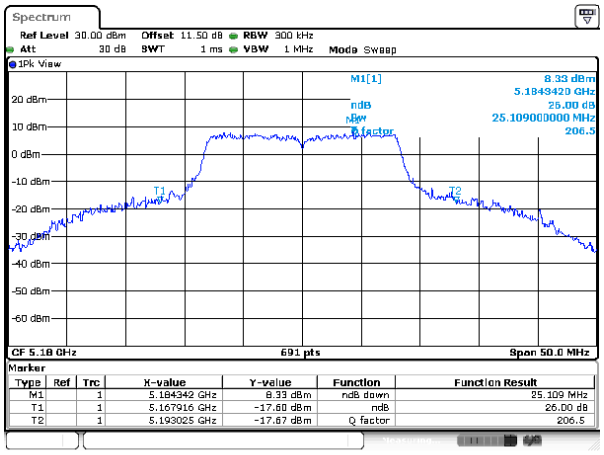
In the 5.2G Band

Modulation Type	Channel	Frequency (MHz)	99% Bandwidth(MHz)
			ANT B
11a	36	5180	17.58
11a	40	5200	23.66
11a	48	5240	18.45
11ac VHT20	36	5180	18.02
11ac VHT20	40	5200	26.41
11ac VHT20	48	5240	19.61
11ac VHT40	38	5190	36.90
11ac VHT40	46	5230	38.35
11ac VHT80	42	5210	75.72

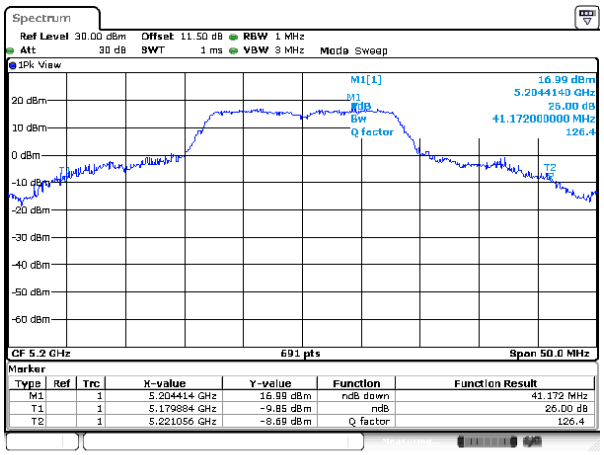
26dB Bandwidth

Modulation Type: 802.11a (6Mbps)

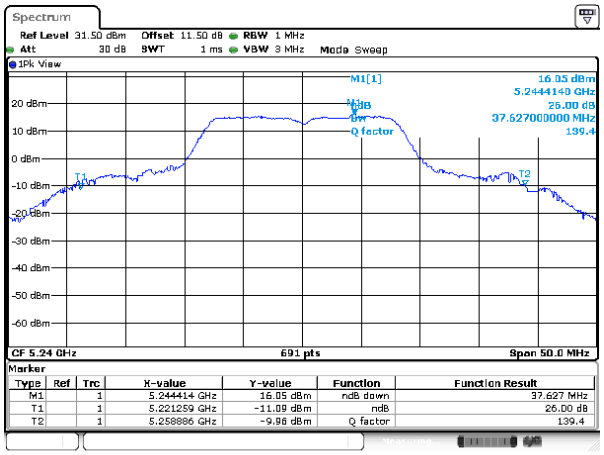
CH36



CH40

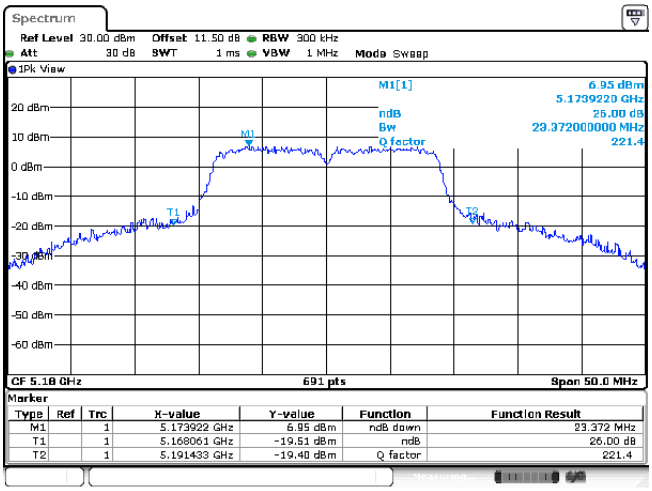


CH48

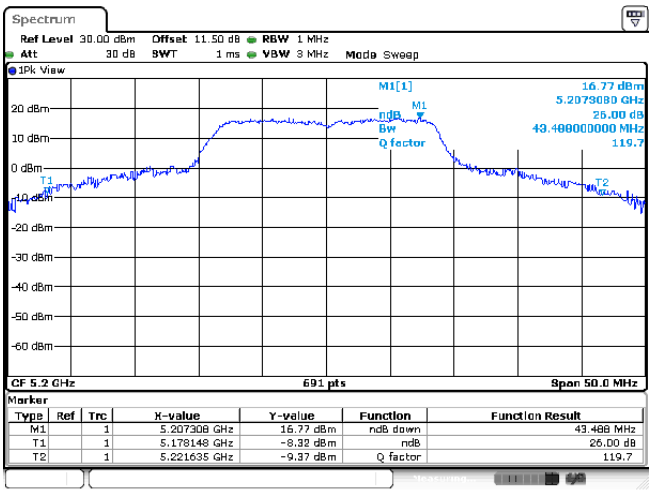


Modulation Type: 802.11ac VHT20 (6.5Mbps)

CH36



CH40



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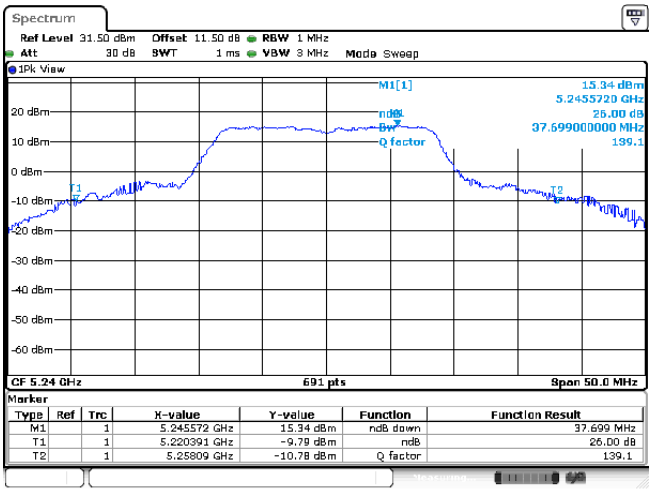
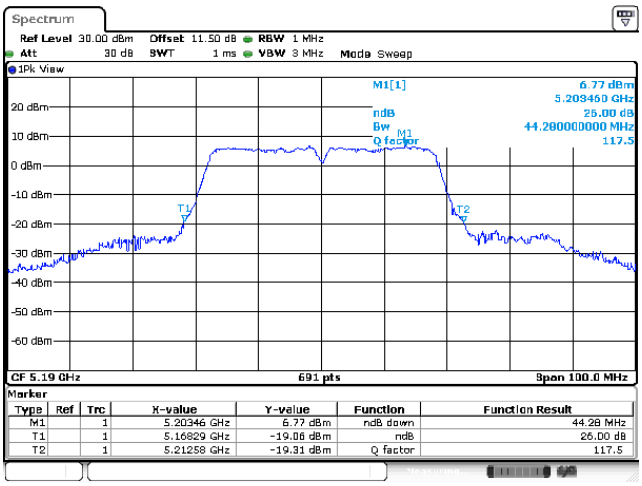


26dB Bandwidth

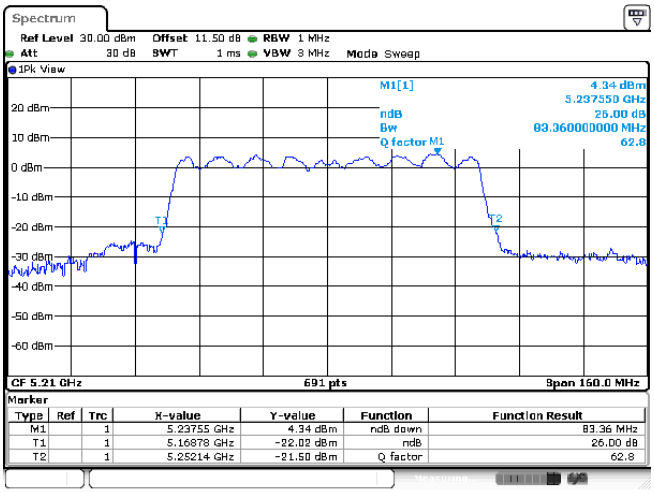
Modulation Type: 802.11ac VHT40 (13.5Mbps)

CH38

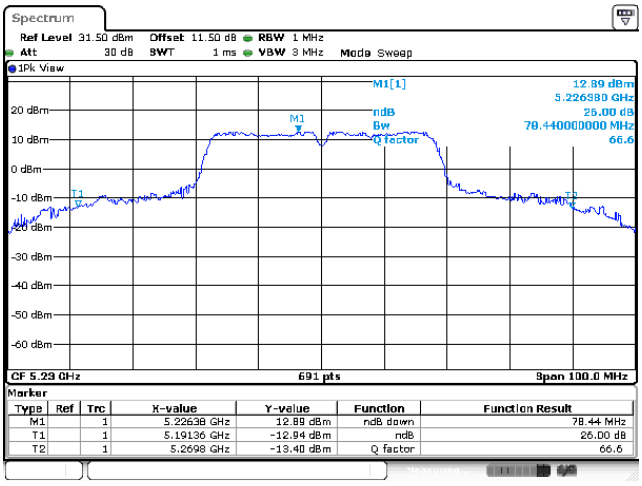


Modulation Type: 802.11ac VHT80 (29.3Mbps)

CH42



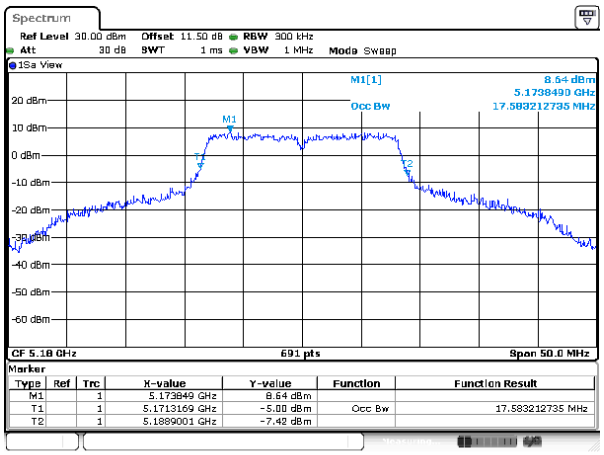
CH46



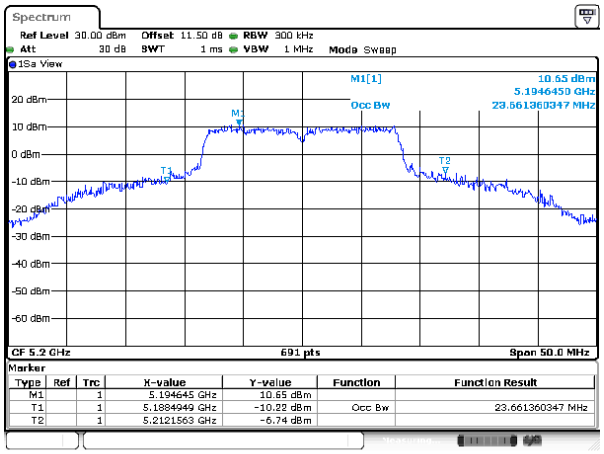
99% Bandwidth

Modulation Type: 802.11a (6Mbps)

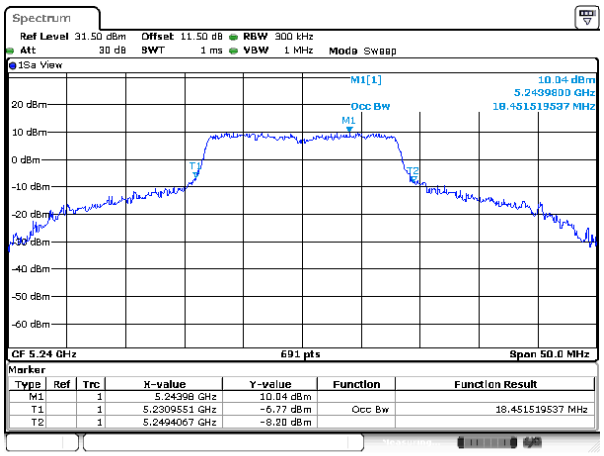
CH36



CH40

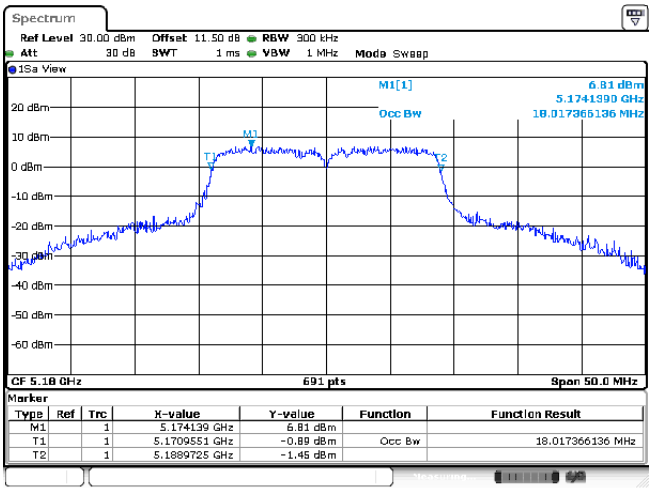


CH48

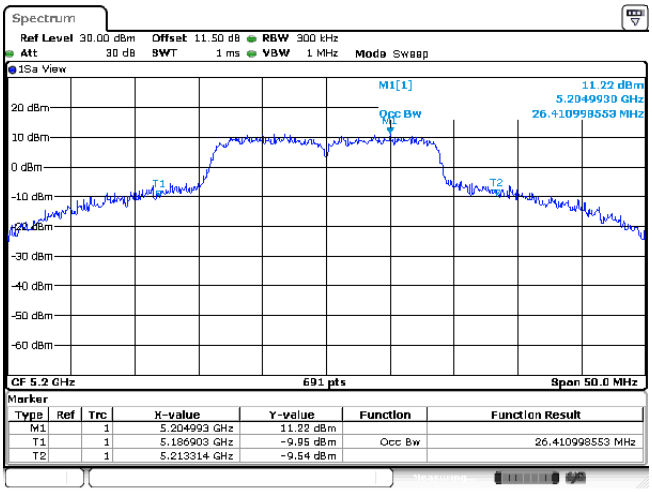


Modulation Type: 802.11ac VHT20 (6.5Mbps)

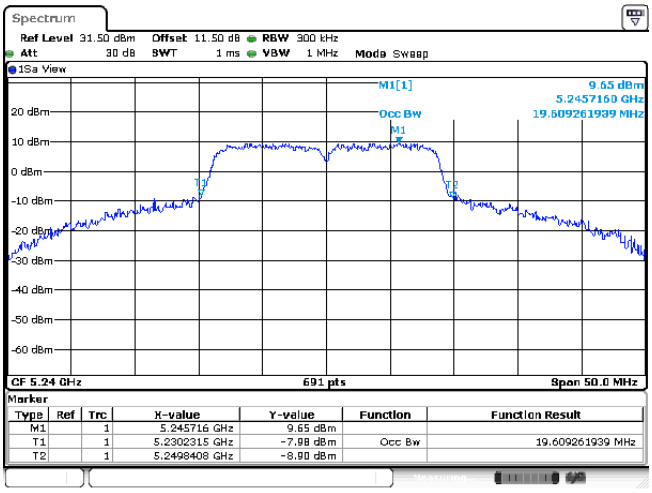
CH36



CH40



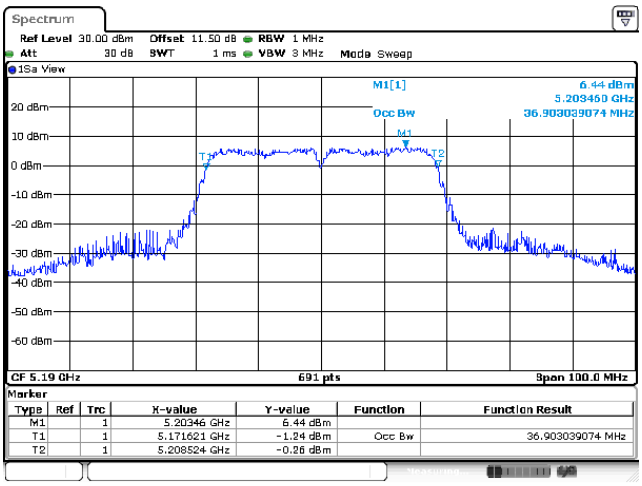
CH48



99% Bandwidth

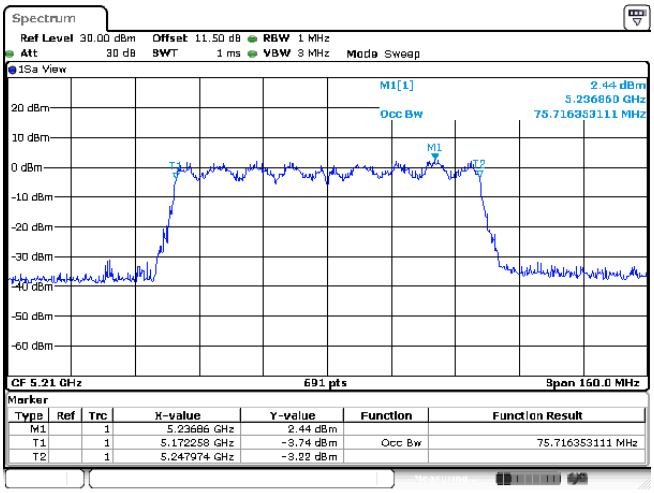
Modulation Type: 802.11ac VHT40 (13.5Mbps)

CH38

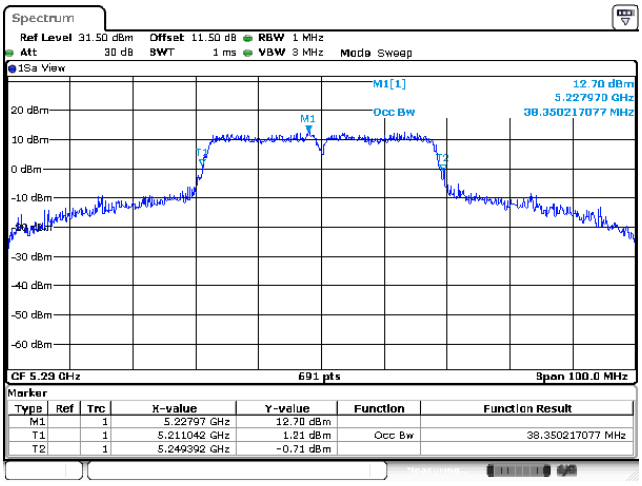


Modulation Type: 802.11ac VHT80 (29.3Mbps)

CH42



CH46



10. Average Power

10.1. Test Limit

Output Power:

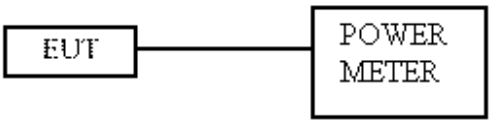
Frequency Band			Limit
☒	5.15~5.25GHz		
	Operating Mode		
	☐	Outdoor access point	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm) provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi 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 11.5 dB (including 10 dB pad and 1.5 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

In the 5.2G Band

Modulation Type	Data Rate	Setting	Channel	Frequency (MHz)	Measured value of each antenna port (dBm)	Total power (dBm)	Total power (mW)	FCC Limit (dBm)
					ANT B			
11a	6 Mbps	49	36	5180	16.62	16.62	45.920	24.00
11a	6 Mbps	57	40	5200	19.42	19.42	87.498	24.00
11a	6 Mbps	53	48	5240	18.58	18.58	72.111	24.00
11n HT20	MCS 0	47	36	5180	15.78	15.78	37.844	24.00
11n HT20	MCS 0	58	40	5200	19.57	19.57	90.573	24.00
11n HT20	MCS 0	54	48	5240	18.81	18.81	76.033	24.00
11n HT40	MCS 0	38	38	5190	12.20	12.20	16.596	24.00
11n HT40	MCS 0	60	46	5230	18.89	18.89	77.446	24.00
11ac VHT20	NSS1-MCS0	47	36	5180	15.82	15.82	38.194	24.00
11ac VHT20	NSS1-MCS0	58	40	5200	19.62	19.62	91.622	24.00
11ac VHT20	NSS1-MCS0	54	48	5240	18.85	18.85	76.736	24.00
11ac VHT40	NSS1-MCS0	38	38	5190	12.23	12.23	16.711	24.00
11ac VHT40	NSS1-MCS0	53	46	5230	18.93	18.93	78.163	24.00
11ac VHT80	NSS1-MCS0	32	42	5210	10.05	10.05	10.116	24.00

In the 5.8G Band

Modulation Type	Data Rate	Setting	Channel	Frequency (MHz)	Measured value of each antenna port (dBm)	Total power (dBm)	Total power (mW)	FCC Limit (dBm)
					ANT B			
11a	6 Mbps	63	149	5745	18.91	18.91	77.804	30.00
11a	6 Mbps	63	157	5785	18.65	18.65	73.282	30.00
11a	6 Mbps	63	165	5825	18.25	18.25	66.834	30.00
11n HT20	MCS 0	63	149	5745	18.89	18.89	77.446	30.00
11n HT20	MCS 0	63	157	5785	18.63	18.63	72.946	30.00
11n HT20	MCS 0	63	165	5825	18.21	18.21	66.222	30.00
11n HT40	MCS 0	63	151	5755	19.31	19.31	85.310	30.00
11n HT40	MCS 0	63	159	5795	19.02	19.02	79.799	30.00
11ac VHT20	NSS1-MCS0	63	149	5745	18.92	18.92	77.983	30.00
11ac VHT20	NSS1-MCS0	63	157	5785	18.67	18.67	73.621	30.00
11ac VHT20	NSS1-MCS0	63	165	5825	18.26	18.26	66.988	30.00
11ac VHT40	NSS1-MCS0	63	151	5755	19.34	19.34	85.901	30.00
11ac VHT40	NSS1-MCS0	63	159	5795	19.06	19.06	80.538	30.00
11ac VHT80	NSS1-MCS0	63	155	5775	19.65	**19.65**	92.257	30.00

11. Power Spectral Density

11.1.Test Limit

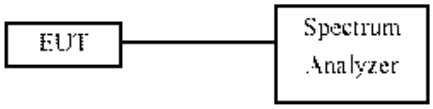
PSD:

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

In the 5.2G Band

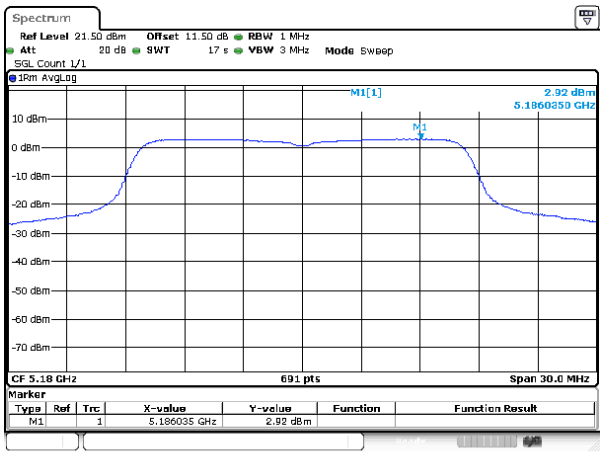
Modulation Type	Channel	Frequency (MHz)	Meas PSD (dBm/MHz)	Sum chain (dBm)	Duty Cycle CF(dB)	Total Corr'd PSD (dBm/MHz)	PSD Limit (dBm/MHz)
			ANT B				
11a	36	5180	2.92	2.92	2.31	5.23	11.00
11a	40	5200	5.50	5.50	2.31	7.81	11.00
11a	48	5240	4.89	4.89	2.31	7.20	11.00
11ac VHT20	36	5180	1.79	1.79	2.46	4.25	11.00
11ac VHT20	40	5200	5.68	5.68	2.46	8.14	11.00
11ac VHT20	48	5240	4.84	4.84	2.46	7.30	11.00
11ac VHT40	38	5190	-5.93	-5.93	3.93	-2.00	11.00
11ac VHT40	46	5230	0.47	0.47	3.93	4.40	11.00
11ac VHT80	42	5210	-12.12	-12.12	5.96	-6.16	11.00

In the 5.8G Band

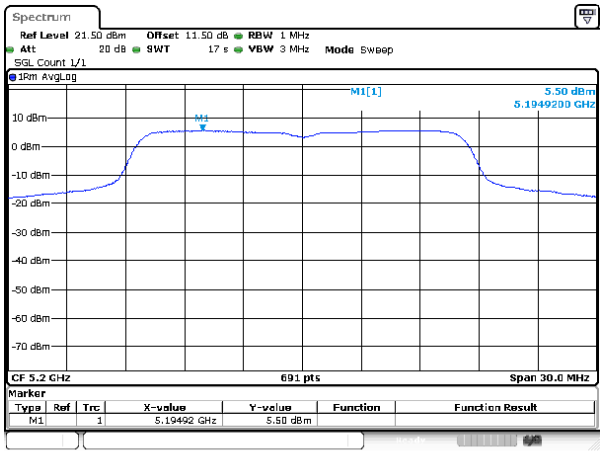
Modulation Type	Channel (MHz)	Frequency (MHz)	Meas PSD (dBm/MHz)	Sum chain (dBm)	Duty Cycle CF(dB)	10log(500KHz/RBW) CF (dB)	Total Corr'd PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)
			ANT B					
11a	149	5745	6.13	6.13	2.31	-3.01	5.43	30.00
11a	157	5785	6.02	6.02	2.31	-3.01	5.32	30.00
11a	165	5825	6.00	6.00	2.31	-3.01	5.30	30.00
11ac VHT20	149	5745	5.62	5.62	2.46	-3.01	5.07	30.00
11ac VHT20	157	5785	5.59	5.59	2.46	-3.01	5.04	30.00
11ac VHT20	165	5825	5.84	5.84	2.46	-3.01	5.29	30.00
11ac VHT40	151	5755	1.66	1.66	3.93	-3.01	2.58	30.00
11ac VHT40	159	5795	1.62	1.62	3.93	-3.01	2.54	30.00
11ac VHT80	155	5775	-1.77	-1.77	5.96	-3.01	1.18	30.00

Modulation Type: 802.11a (6Mbps)

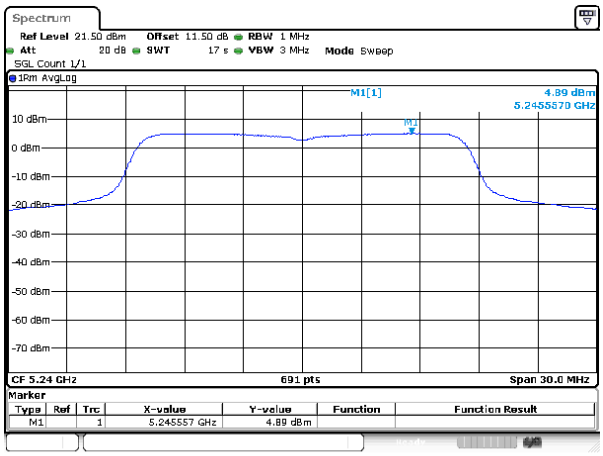
CH36



CH40

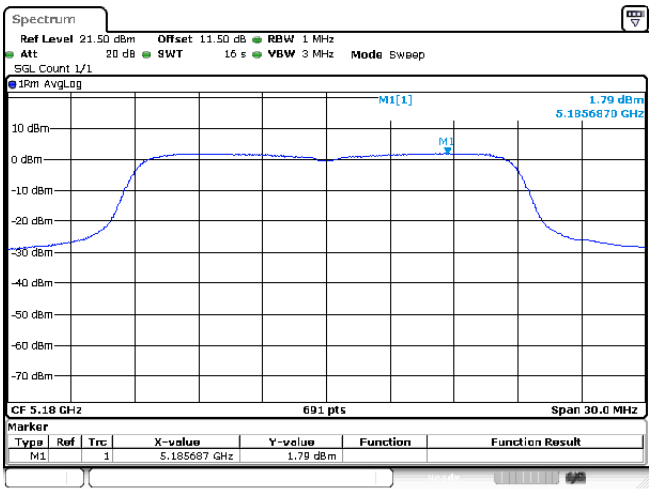


CH48



Modulation Type: 802.11ac VHT20 (6.5Mbps)

CH36



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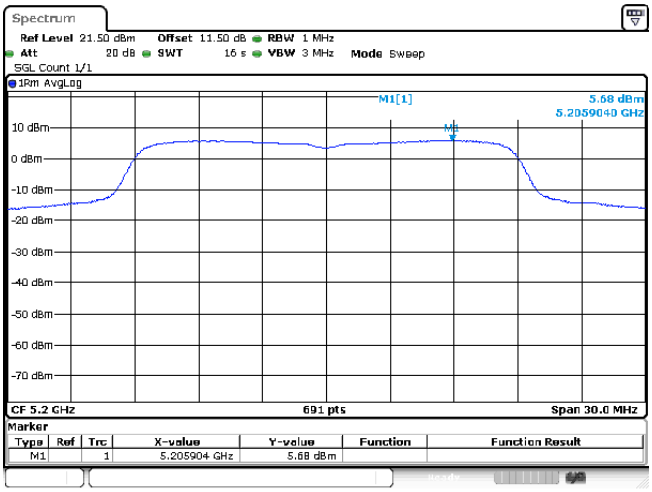
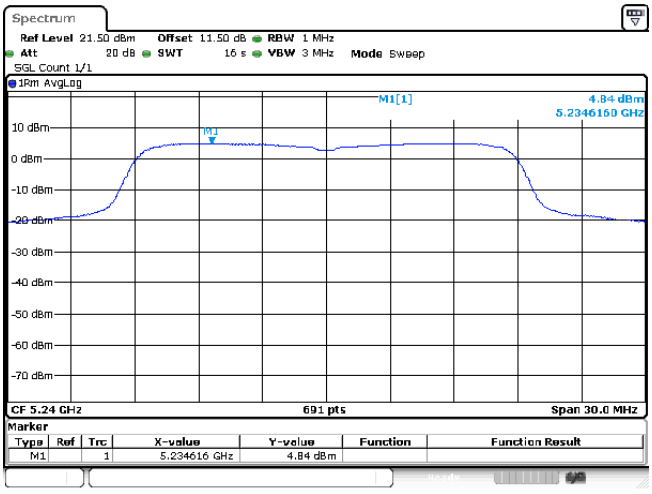
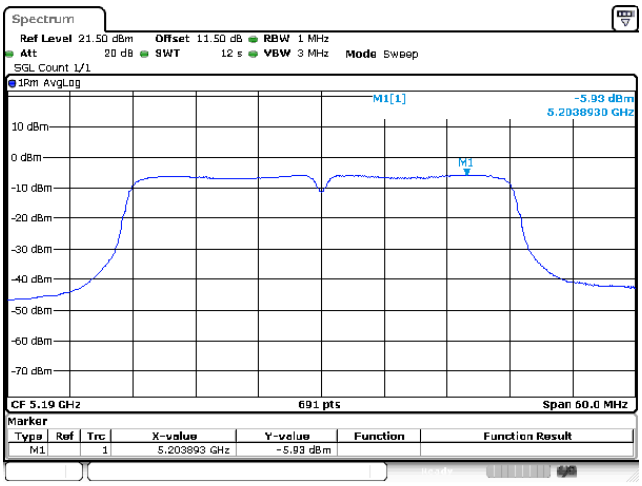


CH48



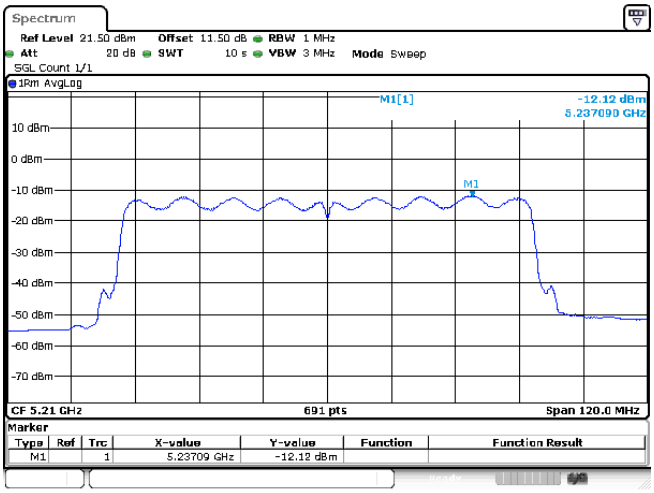
Modulation Type: 802.11ac VHT40 (13.5Mbps)

CH38

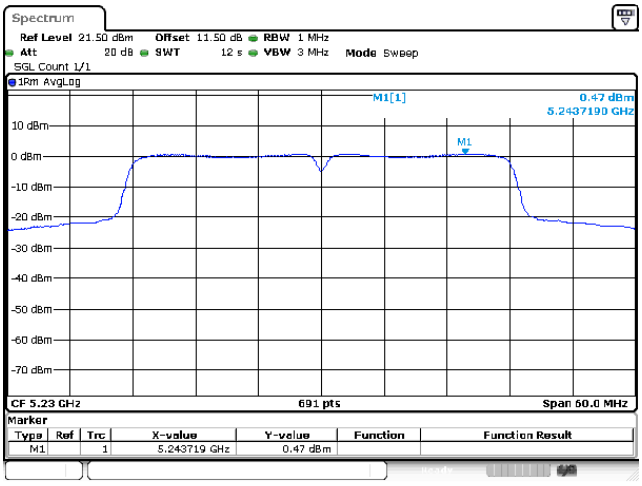


Modulation Type: 802.11ac VHT80 (29.3Mbps)

CH42

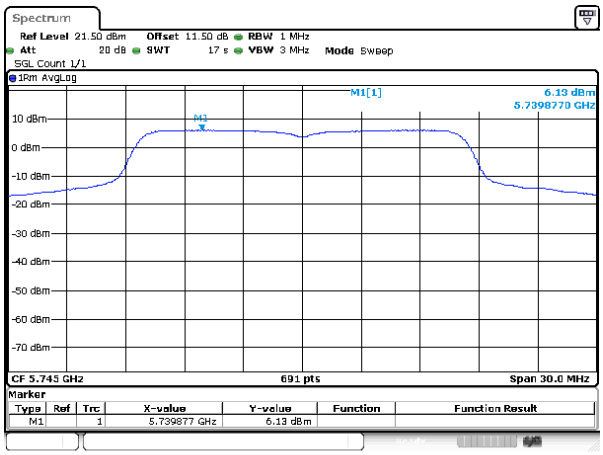


CH46

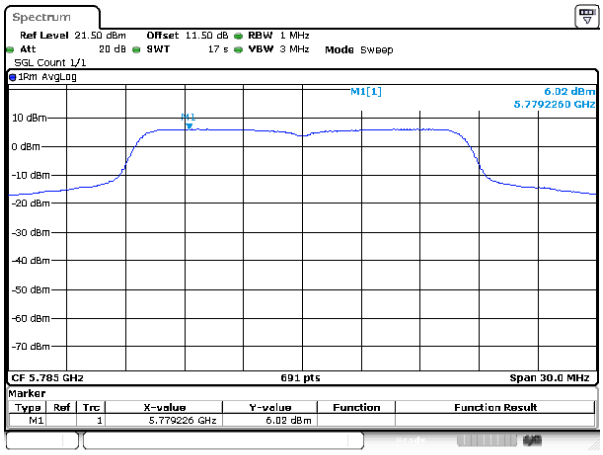


Modulation Type: 802.11a (6Mbps)

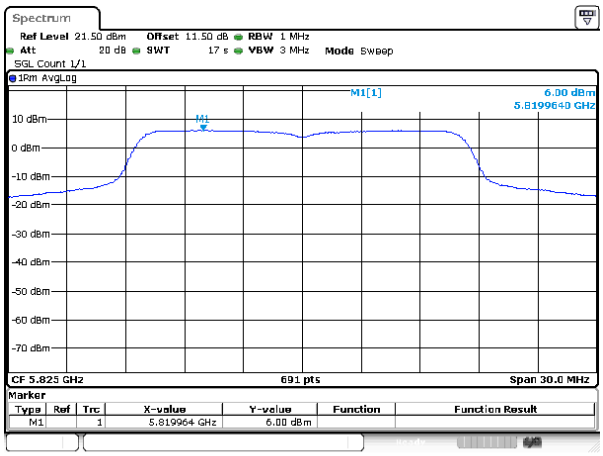
CH149



CH157

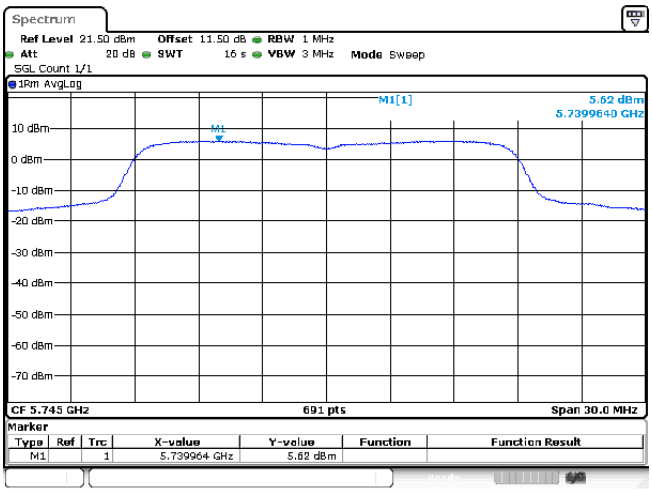


CH165

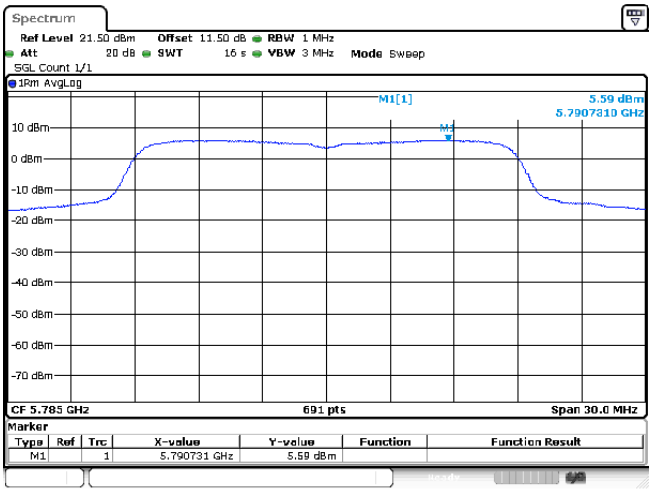


Modulation Type: 802.11ac VHT20 (6.5Mbps)

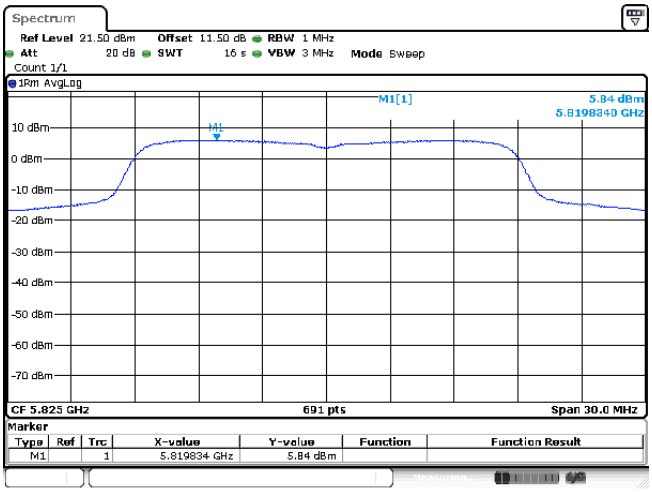
CH149



CH157

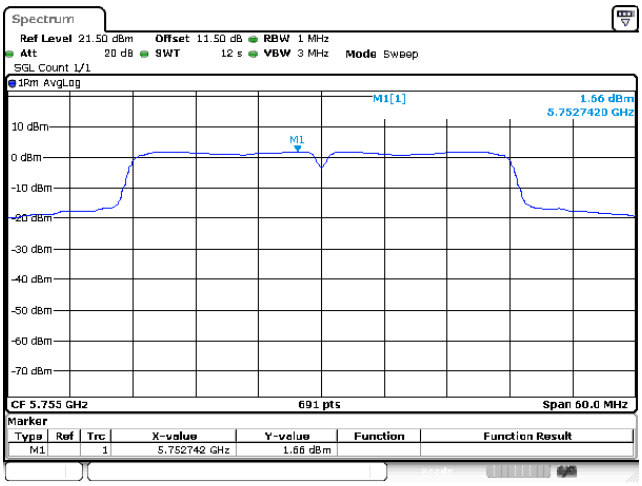


CH165



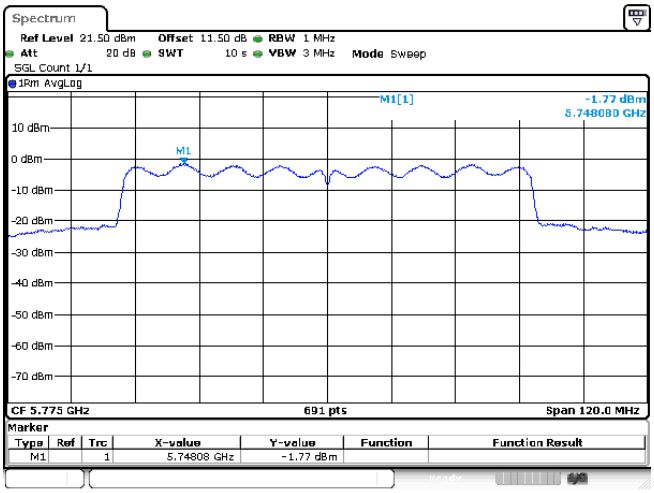
Modulation Type: 802.11ac VHT40 (13.5Mbps)

CH151

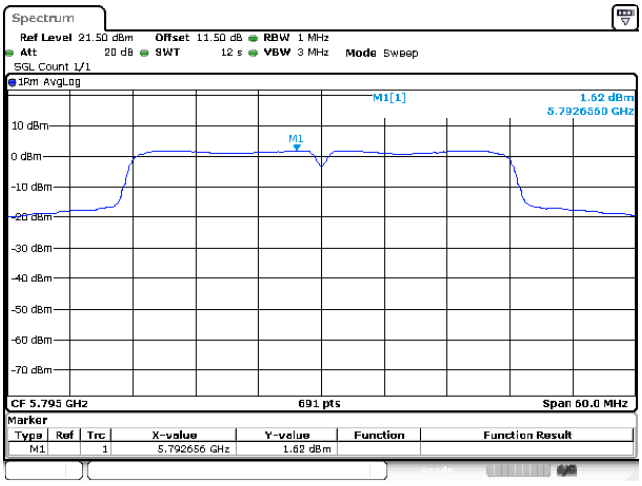


Modulation Type: 802.11ac VHT80 (29.3Mbps)

CH155



CH159

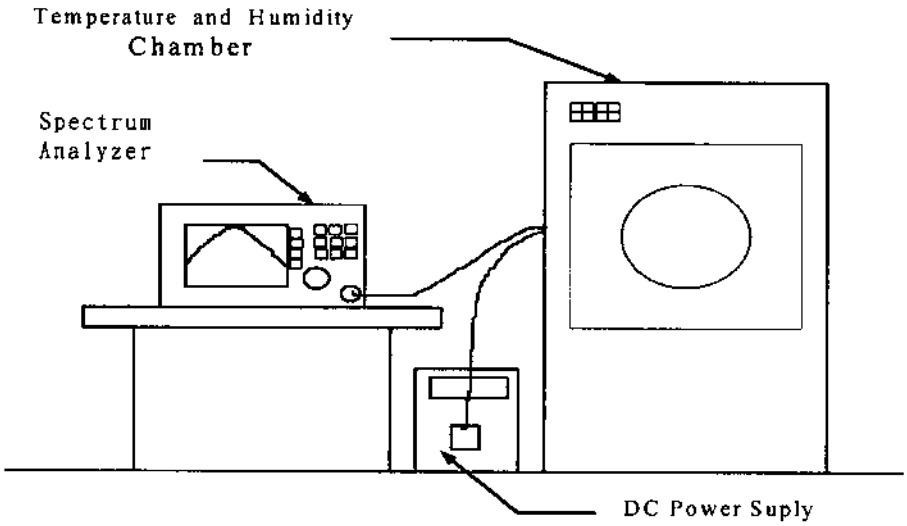


12. Frequency Stability

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 frequencyrecord.

12.2.Test Setup Layout



12.3.Test Result and Data

Operating frequency: 5180 MHz							
Temp (°C)	Power supply (V)	2 minute		5 minute		10 minute	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	102	5180.0510	0.000985	5180.0490	0.000946	5180.0500	0.000965
	120	5180.0510	0.000985	5180.0480	0.000927	5180.0500	0.000965
	138	5180.0520	0.001004	5180.0500	0.000965	5180.0505	0.000975
40	102	5180.0035	0.000068	5180.0030	0.000058	5180.0020	0.000039
	120	5180.0025	0.000048	5180.0027	0.000052	5180.0025	0.000048
	138	5179.9970	-0.000058	5179.9940	-0.000116	5179.9985	-0.000029
30	102	5180.0001	0.000002	5180.0005	0.000010	5180.0003	0.000006
	120	5180.0000	0.000000	5180.0007	0.000014	5180.0005	0.000010
	138	5180.0003	0.000006	5180.0005	0.000010	5180.0004	0.000008
20	102	5180.0002	0.000004	5180.0005	0.000010	5179.9994	-0.000012
	120	5179.9998	-0.000004	5180.0000	0.000000	5180.0001	0.000002
	138	5180.0000	0.000000	5180.0005	0.000010	5180.0005	0.000010
10	102	5179.9940	-0.000116	5179.9960	-0.000077	5179.9980	-0.000039
	120	5179.9940	-0.000116	5179.9960	-0.000077	5179.9980	-0.000039
	138	5179.9950	-0.000097	5179.9970	-0.000058	5179.9990	-0.000019
0	102	5179.9990	-0.000019	5179.9970	-0.000058	5179.9985	-0.000029
	120	5179.9980	-0.000039	5179.9970	-0.000058	5179.9990	-0.000019
	138	5179.9990	-0.000019	5179.9985	-0.000029	5179.9980	-0.000039
-10	102	5180.0040	0.000077	5180.0050	0.000097	5180.0045	0.000087
	120	5180.0050	0.000097	5180.0040	0.000077	5180.0050	0.000097
	138	5180.0040	0.000077	5180.0055	0.000106	5180.0050	0.000097
-20	102	5180.0135	0.000261	5180.0125	0.000241	5180.0120	0.000232
	120	5180.0120	0.000232	5180.0140	0.000270	5180.0130	0.000251
	138	5180.0130	0.000251	5180.0130	0.000251	5180.0135	0.000261
-30	102	5180.0205	0.000396	5180.0195	0.000376	5180.0210	0.000405
	120	5180.0210	0.000405	5180.0190	0.000367	5180.0190	0.000367
	138	5180.0215	0.000415	5180.0190	0.000367	5180.0200	0.000386

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.