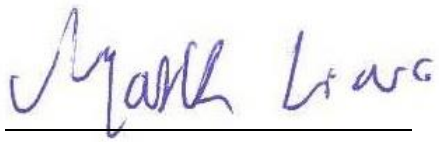
FCC RADIO TEST REPORT

Applicant	:	Ubiquiti Inc.
Address	:	685 Third Avenue, New York, New York 10017 USA
Equipment	:	AMPLIFI ALIEN
Model No.	:	AFi-ALN-P
Trade Name	:	UBIQUITI
FCC ID.	:	SWX-AFAP

I HEREBY CERTIFY THAT :

The sample was received on Oct. 14, 2019 and the testing was completed on Dec. 21, 2019 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

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History of this test report

Report No.	Issue Date	Description
TEFE1910090	Dec. 24, 2019	Original (See Note 1 and Note 2)

Note 1:

This report is prepared for FCC Class II permissive change. its antenna are not any changed. The major change filed under this application is:

Change #1: 2.4G ac/ax function added.(firmware change only)

Change#2: 5G (Band 1 & band 4) Beamforming function added(firmware change only)

Note 2:

The sample provided has been confirmed to be identical to the TEFE1910089 report sample. The only difference are as listed below.

Report number	Model No.	difference
TEFE1910089	AFi-ALN-R	Support BLE Function
TEFE1910090	AFi-ALN-P	Not Support BLE Function

As it doesn't affect the test result, the below listed test categories referred to report number: TEFE1910089

Description of Test Item
Radiated Spurious Emission (Above 1Ghz)
26 dB & Occupied Bandwidth
6 dB Bandwidth
Average Power
Power Spectral Density
Frequency Stability
Radio Frequency Exposure

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 lowered the uncertainty risk of test equipment, environment, and staff technicians according to ISO-IEC17025. Therefore we define test result as compliant when it complies with the standard without further evaluation of test result uncertainty.

* This report is prepared for FCC Class II permissive change. its antenna are not any changed. The major change filed under this application is:

Change #1: 2.4G ac/ax function added.(firmware change only)

Change#2: 5G (Band 1 & band 4) Beamforming function added(firmware change only)

2. Test Configuration of Equipment under Test

2.1. Feature of Equipment under Test

Frequency Range	802.11b/g/n/ac/ax: 2400-2483.5MHz 802.11a/n/ac: 5150-5250MHz 802.11a/n/ac/ax: 5725-5850MHz
Modulation Type	802.11b: CCK, DQPSK, DBPSK 802.11g/n/a: BPSK, QPSK, 16QAM, 64QAM 802.11ac: BPSK, QPSK, 16QAM, 64QAM, 256QAM 802.11ax: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM
Modulation Technology	DSSS, OFDM, OFDMA
Data Rate	WLAN: 2.4GHz: 802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS31, HT20/40 802.11ac: MCS0 – MCS9, VHT20/40 802.11ax: MCS0 – MCS11,HE20/40 5GHz: 802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS31, HT20/40 802.11ac: MCS0 – MCS9, VHT20/40/80 802.11ax: MCS0 – MCS11,HE20/40/80
Antenna Type	Internal Antenna
Antenna Gain	For WLAN: 2400-2483.5MHz: ANT A / B / C / D: 4dBi 5150-5250MHz: ANT A / B / C / D: 3.5dBi 5725-5850MHz: ANT A / B / C / D / E / F / G / H: 3.5dBi
Network cable	Brand: Nienyi Model: 30AW*4P Length/Type: 1.5m / NS
Power Cord	Brand: ASAP Model: UL Power CORD(C7) 2.0m black HF Length/Type: 2.0m / NS

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2. For 5GHz: 802.11ac VHT20, VHT40 and VHT80 support beamforming.
3. For 5GHz: 802.11ax HE20, HE40 and HE80 support beamforming.
4. EUT Firmware Number: v3.2.4 (11-Dec-19)

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, 802.11ax HE20

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

802.11n HT40, 802.11ac VHT40, 802.11ax HE40

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

802.11ac VHT80, 802.11ax HE80

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, ” qcatestcmd” 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	802.11ac VHT20 (6.5Mbps) , Beamforming Mode
2	802.11ac VHT40 (13.5Mbps) , Beamforming Mode
3	802.11ac VHT80 (29.3Mbps) , Beamforming Mode
4	802.11ax HE20 (7.3Mbps) , Beamforming Mode
5	802.11ax HE40 (14.6Mbps) , Beamforming Mode
6	802.11ax HE80 (30.6Mbps) , Beamforming Mode
caused “Test Mode 2,4” generated the worst case, it was reported as the final data.	
Radiation Emissions (30MHz ~ 1GHz)	
Test Mode	Operating Description
1	802.11ac VHT20 (6.5Mbps) , Beamforming Mode
2	802.11ac VHT40 (13.5Mbps) , Beamforming Mode
3	802.11ac VHT80 (29.3Mbps) , Beamforming Mode
4	802.11ax HE20 (7.3Mbps) , Beamforming Mode
5	802.11ax HE40 (14.6Mbps) , Beamforming Mode
6	802.11ax HE80 (30.6Mbps) , Beamforming Mode
caused “Test Mode 2,4” generated the worst case, it was reported as the final data.	
Radiation Emissions (1GHz ~ 40GHz)	
Test Mode	Operating Description
1	802.11ac VHT20 (6.5Mbps) , Beamforming Mode
2	802.11ac VHT40 (13.5Mbps) , Beamforming Mode
3	802.11ac VHT80 (29.3Mbps) , Beamforming Mode
4	802.11ax HE20 (7.3Mbps) , Beamforming Mode
5	802.11ax HE40 (14.6Mbps) , Beamforming Mode
6	802.11ax HE80 (30.6Mbps) , Beamforming Mode
caused “Test Mode 1~6” 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	ASUS	P2430U	N/A	Adapter / 1.8m / NS
Radiated Emissions				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS
AC Power Line Conducted Emission				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS

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	2019/11/09	20℃ / 63%	Nick Guan
Radiated Emissions	3M02-NK	2019/12/21	24℃ / 54%	Leon Huang
AC Power Line Conducted Emission	CON01-NK	2019/12/21	22℃ / 46%	Leon Huang

2.6. Measurement Uncertainty

Measurement Item	Uncertainty
Radiated Spurious Emission(9KHz~30MHz)	±3.405dB
Radiated Spurious Emission(30MHz~1GHz)	±5.326dB
Radiated Spurious Emission(1GHz~40GHz)	±5.011dB
6dB Bandwidth	±4.407%
26dB Bandwidth	±4.459%
Occupied Bandwidth	±4.403%
Peak Output Power(Conducted Power Meter)	±1.31dB
Power Spectral Density	±2.106dB
Duty Cycle	±0.17%
Frequency Stability	±156.543Hz

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
Bilog Antenna	Schwarzbeck	VULB9168	369	2019/03/29	2020/03/28
Active Loop Antenna	EMCO	6507	40855	2019/05/24	2020/05/23
Horn Antenna	EMCO	3115	31589	2019/04/01	2020/03/31
Horn Anrenna	EMCO	3116	31974	2019/09/17	2020/09/16
EMI Receiver	ROHDE & SCHWARZ	ESCI	101423	2019/05/14	2020/05/13
Spectrum Analyzer	ROHDE & SCHWARZ	FSP 40	100047	2019/03/28	2020/03/27
Spectrum Analyzer	ROHDE & SCHWARZ	FSV 40-N	102151	2019/08/02	2020/08/01
Preamplifier	EM Electronics corp.	EM330	60660	2019/03/11	2020/03/10
Preamplifier	EMC INSTRUMENTS	EMC051845SE	980333	2019/09/20	2020/09/19
Preamplifier	Agilent	8449B	3008A01954	2019/03/11	2020/03/10
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2019/11/07	2020/11/06
Bluetooth Tester	ROHDE & SCHWARZ	CBT	101133	2019/04/07	2020/04/06
Cable-3in1(30M-1G)	HARBOUR INDUSTRIES	LL142	CCE1315	2019/04/09	2020/04/08
Cable-3in1(30M-1G)	HARBOUR INDUSTRIES	LL142	CCE1316	2019/09/20	2020/09/19
Cable-0.5m(1G-40G)	HUBER SUHNER	SUCOFLEX 100	805443/4	2019/05/20	2020/05/19
Cable-3m(1G-40G)	HUBER SUHNER	SUCOFLEX 100	805796/4	2019/05/20	2020/05/19
Cable-8m(1G-40G)	HUBER SUHNER	SUCOFLEX 100	805795/4	2019/05/20	2020/05/19
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	100047	2019/03/28	2020/03/27
Spectrum Analyzer	ROHDE & SCHWARZ	FSV 40-N	102151	2019/08/02	2020/08/01
Bluetooth Tester	ROHDE & SCHWARZ	CBT	101133	2019/04/07	2020/04/06
Attenuator	KEYSIGHT	8491B	MY39250703	2019/09/12	2020/09/11
TEMP & HUMI CHAMBER	T-MACHINE	TMJ-9712	T-12-040111	2019/08/28	2020/08/27
Power Meter	Anritsu	ML2495A	1224005	2019/04/11	2020/04/10
Power Sensor	Anritsu	MA2411B	1207295	2019/04/09	2020/04/08

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	100443	2019/03/29	2020/03/28
Line Impedance Stabilization Network	Schwarzbeck	NSLK 8127	8127-568	2019/03/15	2020/03/14
Pulse Limiter	ROHDE & SCHWARZ	ESH3-Z2	101934	2019/03/12	2020/03/11
Cable-6m(9k~300M)	NA	EMC5D-BM-BM-6	130606	2019/03/14	2020/03/13
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	Internal Antenna
Antenna Gain	2.4GHz: ANT A / B / C / D: 4dBi 5150-5250MHz: ANT A / B / C / D: 3.5dBi 5725-5850MHz: ANT A / B / C / D / E / F / G / H: 3.5dBi

(Non-Beamforming)

2412-2462MHz
For Power directional gain= G_{ant}= 4 dBi For PSD directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / N_{ANT}$] = 10.02 (dBi)

(Beamforming)

5150MHz -5250MHz
For Power directional gain= 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / N_{ANT}$] = 9.52 (dBi) For PSD directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / N_{ANT}$]= 9.52 (dBi)
5725MHz -5850MHz
For Power directional gain= 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / N_{ANT}$] = 12.53 (dBi) For PSD directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / N_{ANT}$]= 12.53 (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.

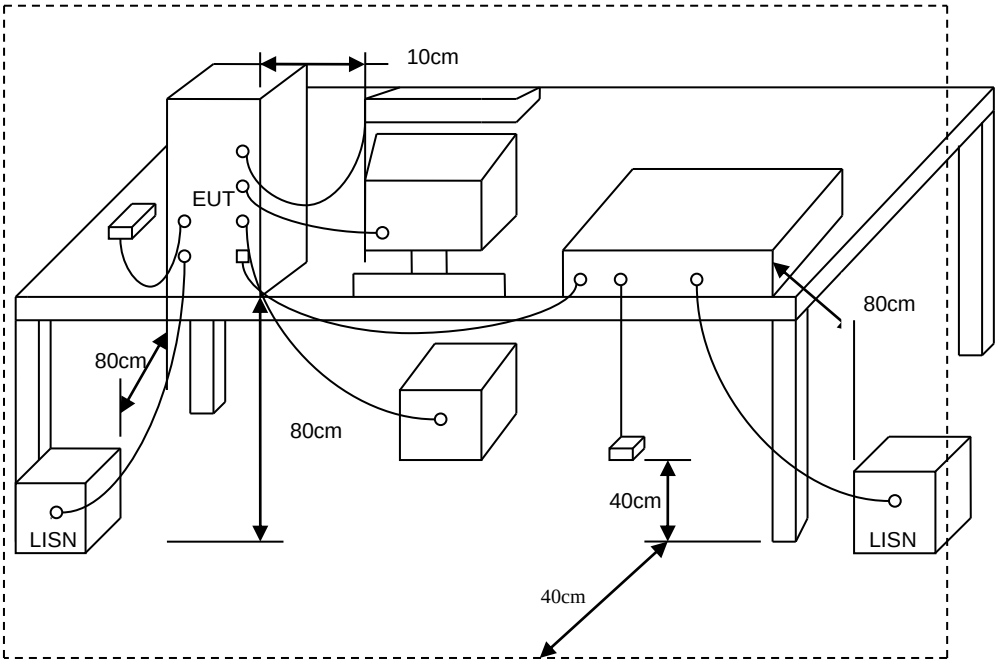
Frequency (MHz)	Quasi Peak (dBμV)	Average (dBμV)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

*Decreases with the logarithm of the frequency.

5.2. Test Procedures

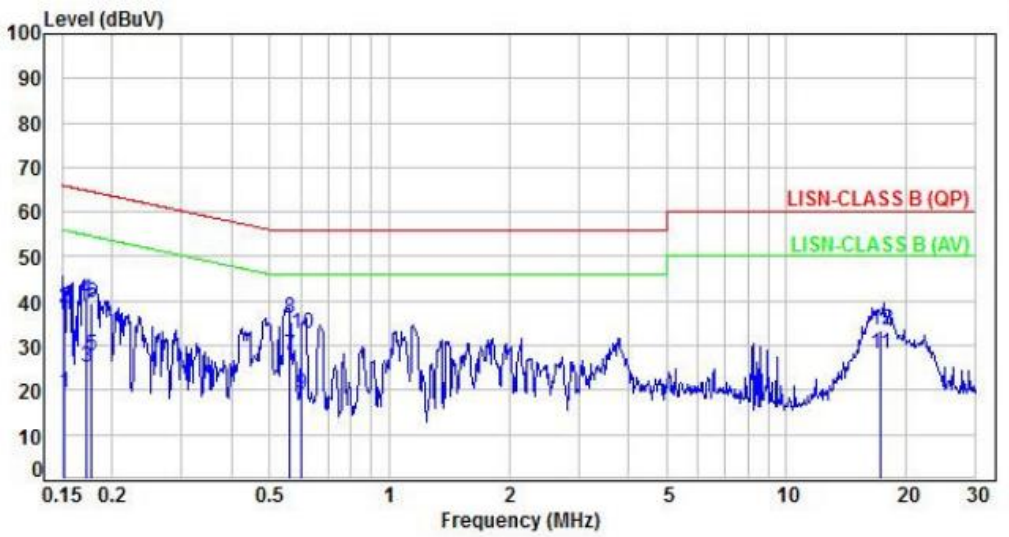
a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
c. All the support units are connecting to the other LISN.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

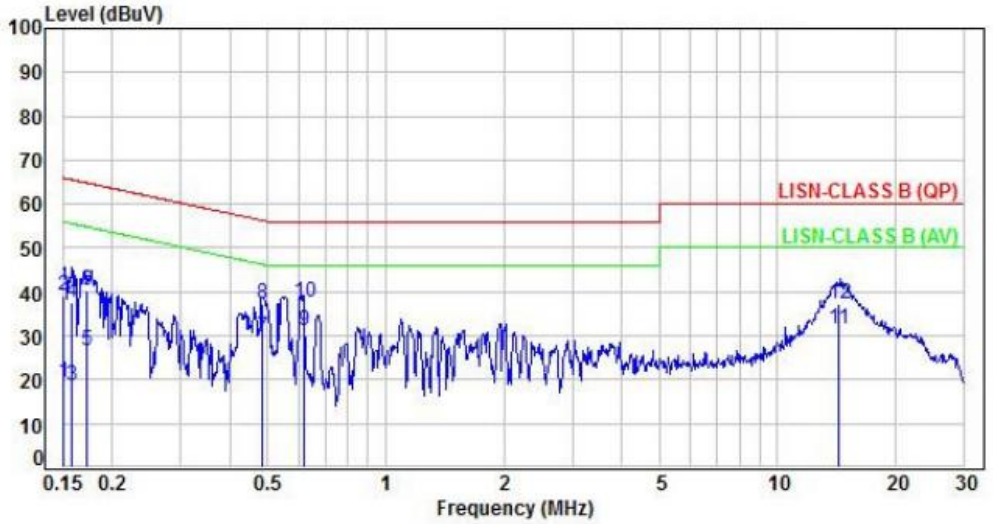
Power	:	AC 120V / 60Hz	Pol/Phase	:	LINE
Test Mode	:	Mode 2, Band1, CH46		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	9.92	9.37	19.29	55.88	-36.59	Average	P
2	0.15	9.92	28.44	38.36	65.88	-27.52	QP	P
3	0.17	9.92	15.24	25.16	54.84	-29.68	Average	P
4	0.17	9.92	30.24	40.16	64.84	-24.68	QP	P
5	0.18	9.92	17.97	27.89	54.58	-26.69	Average	P
6	0.18	9.92	29.61	39.53	64.58	-25.05	QP	P
7	0.56	9.95	17.67	27.62	46.00	-18.38	Average	P
8	0.56	9.95	26.35	36.30	56.00	-19.70	QP	P
9	0.60	9.95	9.06	19.01	46.00	-26.99	Average	P
10	0.60	9.95	22.57	32.52	56.00	-23.48	QP	P
11	17.23	10.52	17.67	28.19	50.00	-21.81	Average	P
12	17.23	10.52	23.06	33.58	60.00	-26.42	QP	P

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

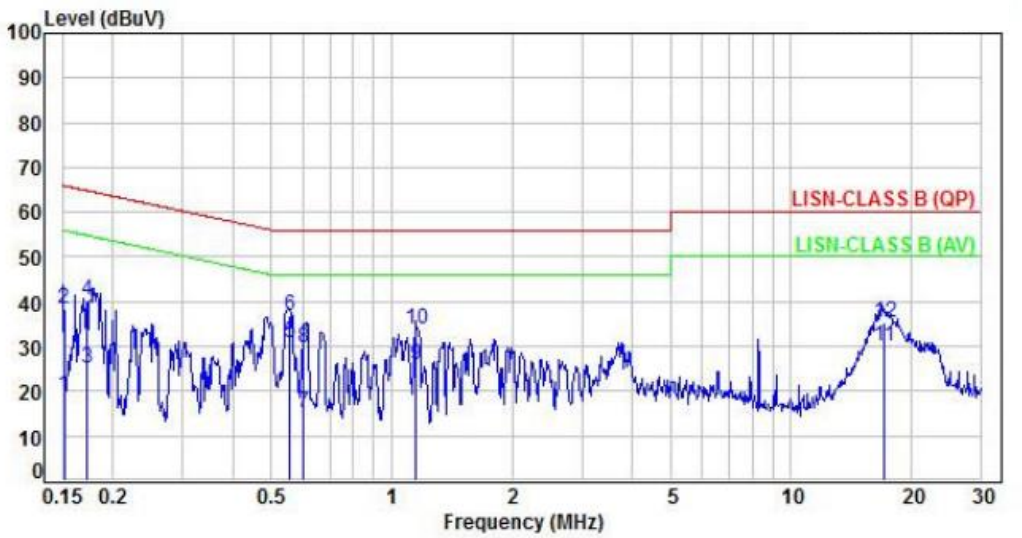
Power	:	AC 120V / 60Hz	Pol/Phase	:	NEUTRAL
Test Mode	:	Mode 2, Band1, CH46		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	9.95	9.47	19.42	56.00	-36.58	Average	P
2	0.15	9.95	29.14	39.09	66.00	-26.91	QP	P
3	0.16	9.95	8.51	18.46	55.55	-37.09	Average	P
4	0.16	9.95	27.51	37.46	65.55	-28.09	QP	P
5	0.17	9.95	16.64	26.59	54.87	-28.28	Average	P
6	0.17	9.95	30.43	40.38	64.87	-24.49	QP	P
7	0.48	9.96	19.52	29.48	46.26	-16.78	Average	P
8	0.48	9.96	27.36	37.32	56.26	-18.94	QP	P
9	0.62	9.96	21.14	31.10	46.00	-14.90	Average	P
10	0.62	9.96	27.55	37.51	56.00	-18.49	QP	P
11	14.28	10.47	21.26	31.73	50.00	-18.27	Average	P
12	14.28	10.47	26.66	37.13	60.00	-22.87	QP	P

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

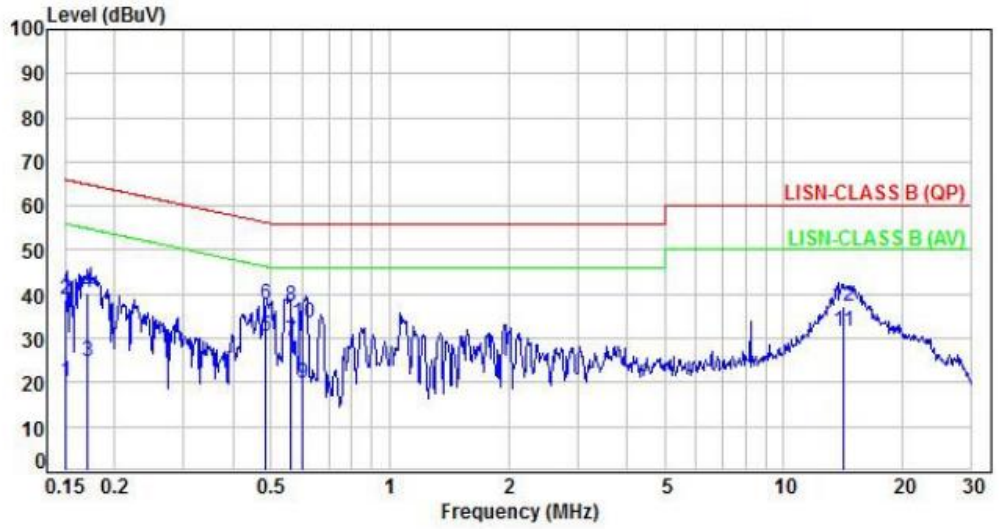
Power	:	AC 120V / 60Hz	Pol/Phase	:	LINE
Test Mode	:	Mode 4, Band4, CH165		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	9.92	9.12	19.04	55.94	-36.90	Average	P
2	0.15	9.92	28.65	38.57	65.94	-27.37	QP	P
3	0.17	9.92	15.32	25.24	54.81	-29.57	Average	P
4	0.17	9.92	30.26	40.18	64.81	-24.63	QP	P
5	0.56	9.95	20.94	30.89	46.00	-15.11	Average	P
6	0.56	9.95	26.92	36.87	56.00	-19.13	QP	P
7	0.60	9.95	5.45	15.40	46.00	-30.60	Average	P
8	0.60	9.95	19.86	29.81	56.00	-26.19	QP	P
9	1.15	9.97	15.94	25.91	46.00	-20.09	Average	P
10	1.15	9.97	23.69	33.66	56.00	-22.34	QP	P
11	17.07	10.52	19.62	30.14	50.00	-19.86	Average	P
12	17.07	10.52	24.80	35.32	60.00	-24.68	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 4, Band4, CH165		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	9.95	10.13	20.08	55.99	-35.91	Average	P
2	0.15	9.95	28.85	38.80	65.99	-27.19	QP	P
3	0.17	9.95	14.67	24.62	54.90	-30.28	Average	P
4	0.17	9.95	30.41	40.36	64.90	-24.54	QP	P
5	0.48	9.96	20.52	30.48	46.26	-15.78	Average	P
6	0.48	9.96	27.50	37.46	56.26	-18.80	QP	P
7	0.56	9.96	19.37	29.33	46.00	-16.67	Average	P
8	0.56	9.96	27.16	37.12	56.00	-18.88	QP	P
9	0.60	9.96	10.00	19.96	46.00	-26.04	Average	P
10	0.60	9.96	23.42	33.38	56.00	-22.62	QP	P
11	14.12	10.46	21.15	31.61	50.00	-18.39	Average	P
12	14.12	10.46	26.65	37.11	60.00	-22.89	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.

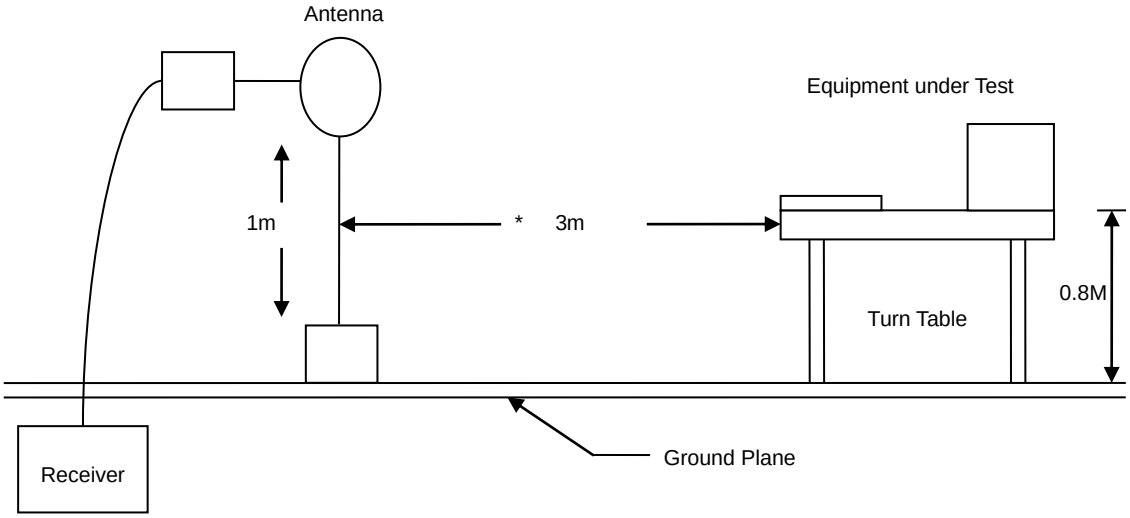
(8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

6.2. Test Procedures

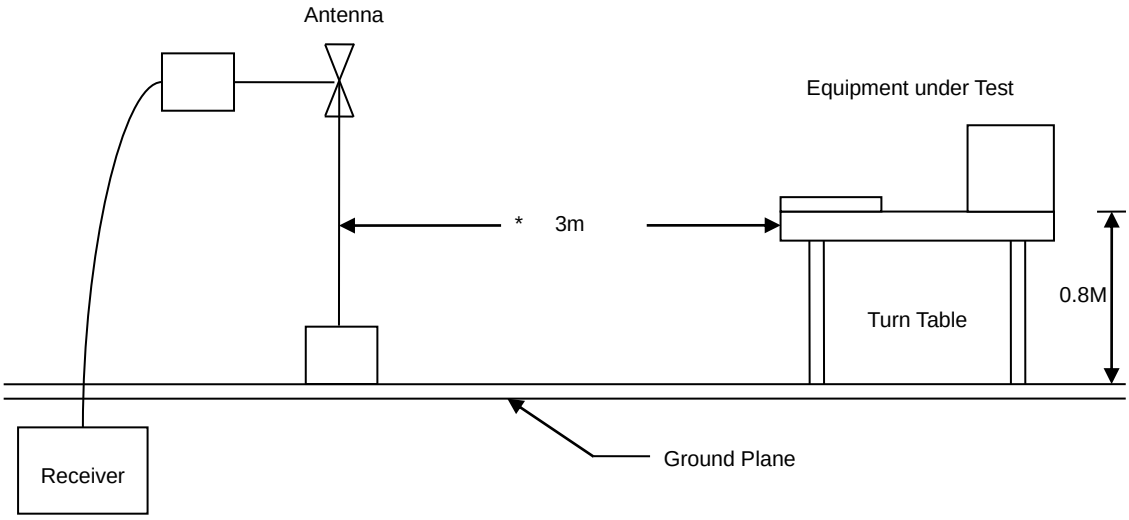
a. The EUT was placed on a rotatable table top 0.8 meter above ground.
b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
c. The table was rotated 360 degrees to determine the position of the highest radiation.
d. The antenna 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. 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.
h. “Cone of radiation” has been considered to be 3dB bandwidth of the measurement antenna.

6.3. Typical Test Setup

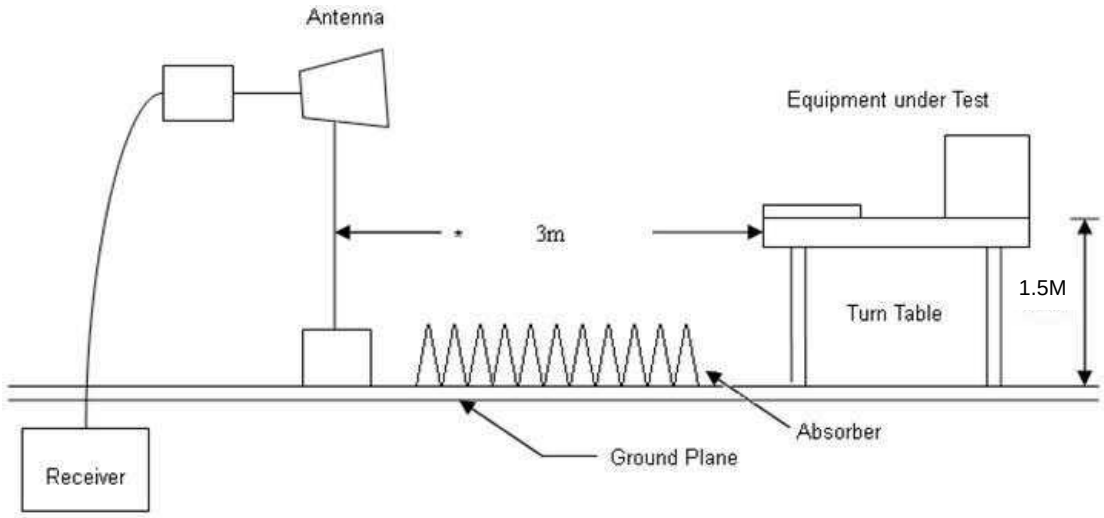
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup

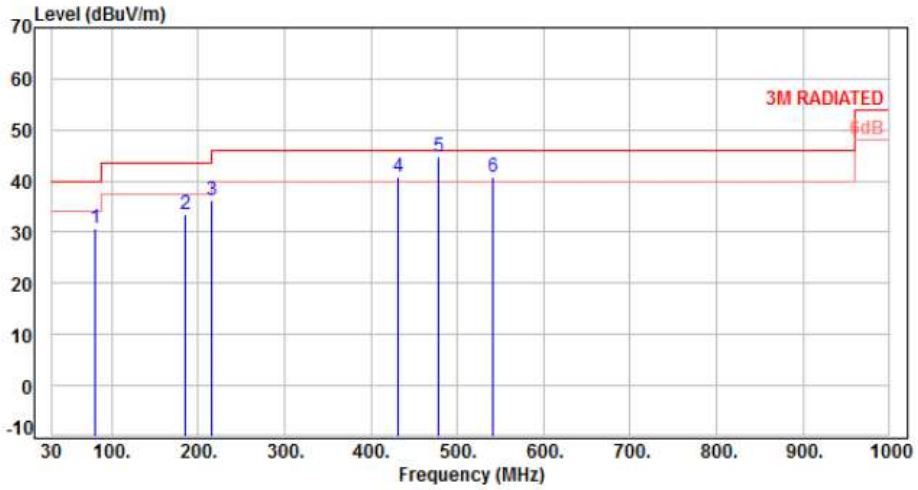


6.4. Test Result and Data (9kHz ~ 30MHz)

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

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

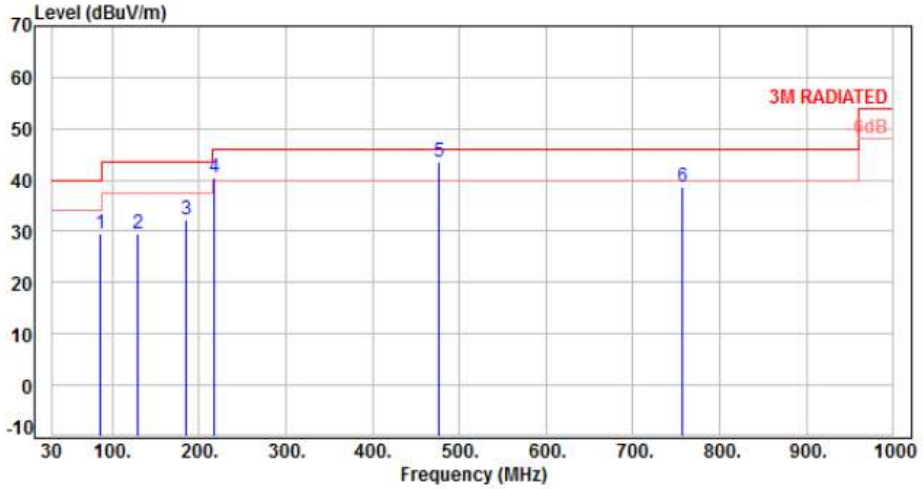
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 1, CH46		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	81.31	-14.50	45.41	30.91	40.00	-9.09	Peak	400	0	P
2	184.55	-11.21	44.80	33.59	43.50	-9.91	Peak	400	0	P
3	215.71	-11.97	48.36	36.39	43.50	-7.11	Peak	400	0	P
4	431.26	-4.85	45.72	40.87	46.00	-5.13	Peak	400	0	P
5	478.26	-3.98	48.59	44.61	46.00	-1.39	Peak	400	0	P
6	540.72	-2.70	43.49	40.79	46.00	-5.21	Peak	400	0	P

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

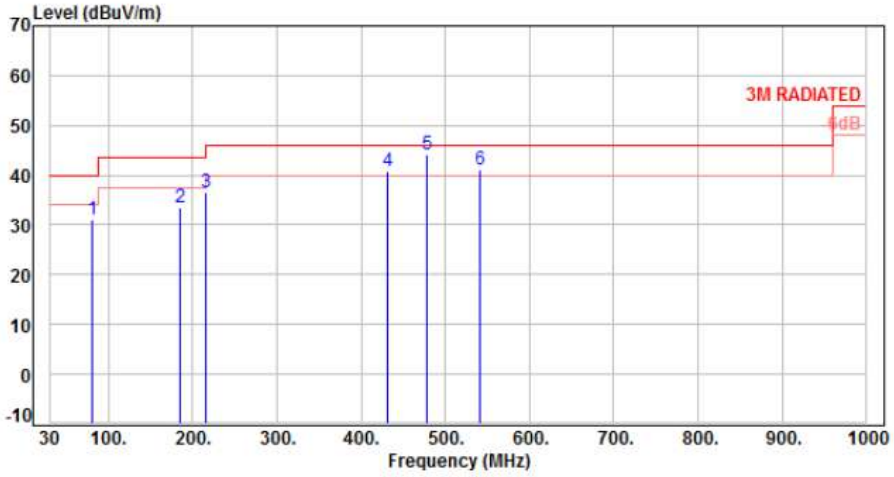
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 1, CH46		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	85.37	-15.11	44.58	29.47	40.00	-10.53	Peak	100	0	P
2	128.64	-11.06	40.56	29.50	43.50	-14.00	Peak	100	0	P
3	184.54	-11.21	43.38	32.17	43.50	-11.33	Peak	100	0	P
4	216.59	-11.97	52.62	40.65	46.00	-5.35	Peak	100	0	P
5	476.30	-3.99	47.58	43.59	46.00	-2.41	Peak	100	0	P
6	756.26	1.33	37.21	38.54	46.00	-7.46	Peak	100	0	P

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

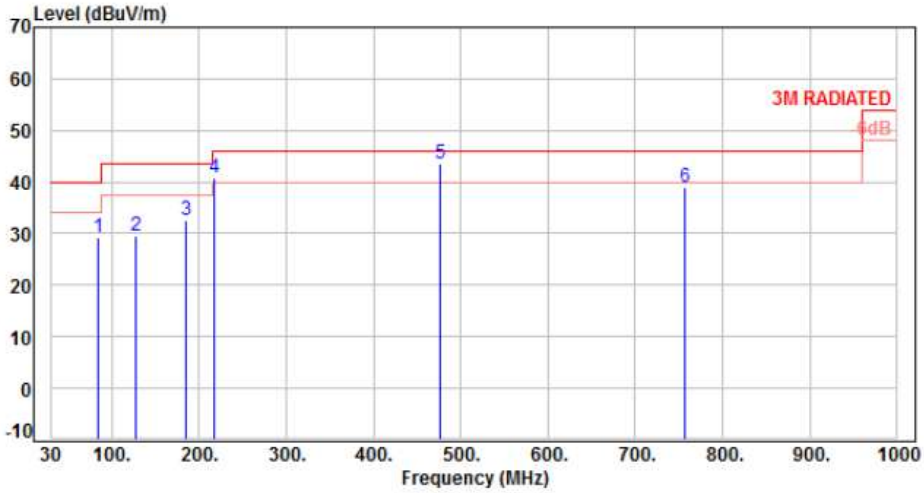
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, Band 4, CH165		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	81.62	-14.56	45.71	31.15	40.00	-8.85	Peak	400	0	P
2	184.23	-11.15	44.56	33.41	43.50	-10.09	Peak	400	0	P
3	215.42	-11.98	48.63	36.65	43.50	-6.85	Peak	400	0	P
4	431.41	-4.85	45.60	40.75	46.00	-5.25	Peak	400	0	P
5	478.19	-3.98	48.24	44.26	46.00	-1.74	Peak	400	0	P
6	540.81	-2.69	43.80	41.11	46.00	-4.89	Peak	400	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 4, Band 4, CH165		:	

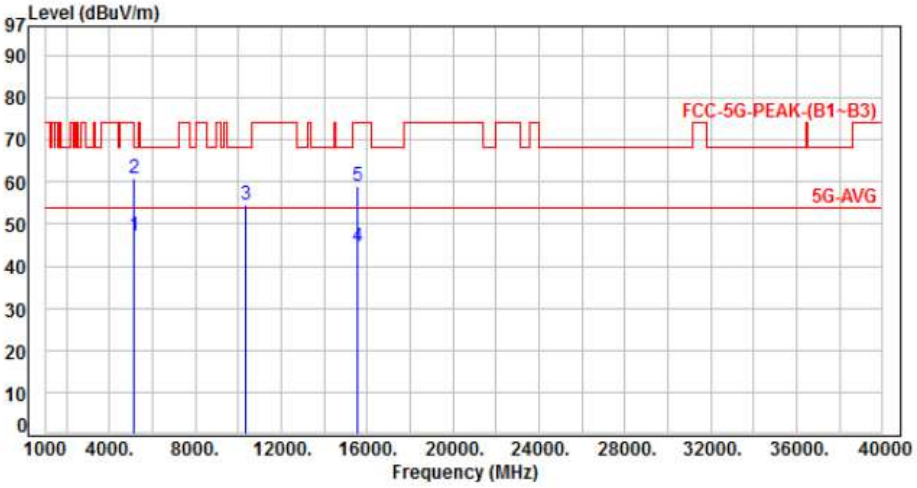


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	85.03	-15.07	44.36	29.29	40.00	-10.71	Peak	100	0	P
2	128.15	-11.11	40.64	29.53	43.50	-13.97	Peak	100	0	P
3	184.29	-11.16	43.62	32.46	43.50	-11.04	Peak	100	0	P
4	216.95	-11.96	52.73	40.77	46.00	-5.23	Peak	100	0	P
5	476.26	-3.99	47.38	43.39	46.00	-2.61	Peak	100	0	P
6	756.22	1.32	37.61	38.93	46.00	-7.07	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)

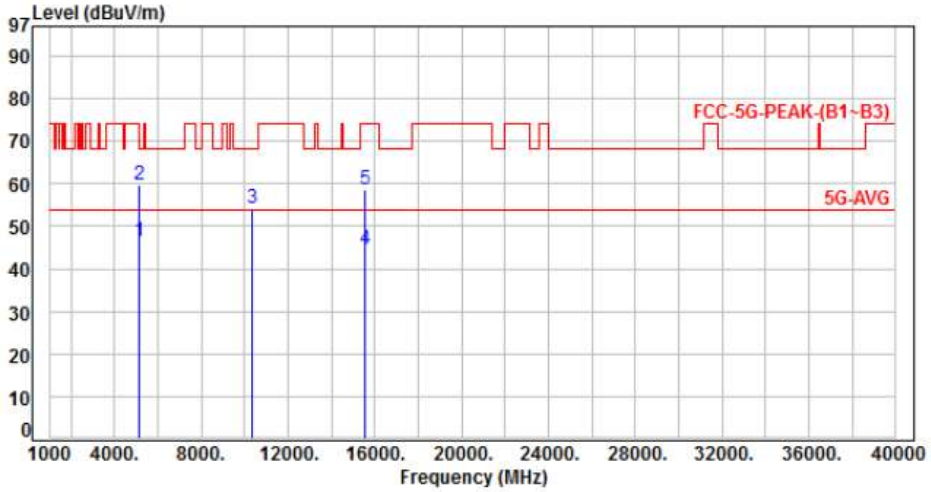
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 1, CH36		:	



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	4.73	42.54	47.27	54.00	-6.73	Average	100	346	P
2	5150.00	4.73	56.11	60.84	74.00	-13.16	Peak	100	346	P
3	10360.00	11.43	43.16	54.59	68.20	-13.61	Peak	100	169	P
4	15540.00	14.27	30.47	44.74	54.00	-9.26	Average	100	109	P
5	15540.00	14.27	44.61	58.88	74.00	-15.12	Peak	100	109	P

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

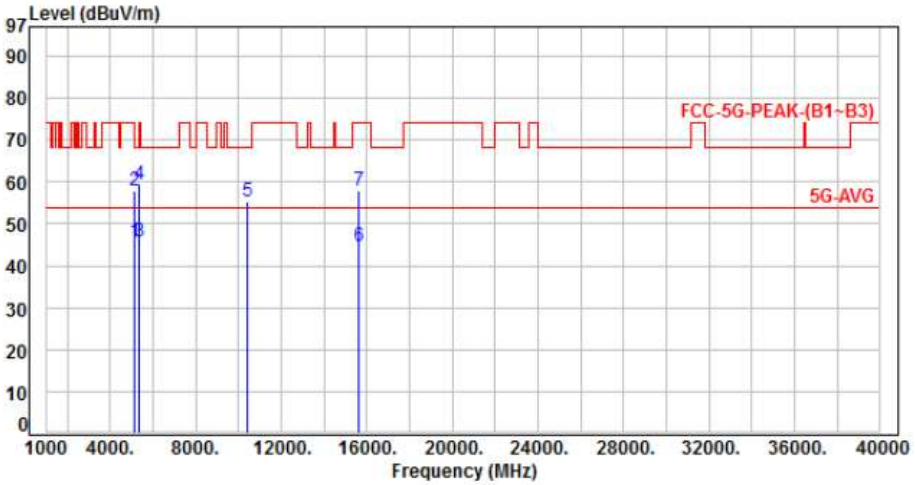
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 1, CH36		:	



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	4.73	41.79	46.52	54.00	-7.48	Average	232	346	P
2	5150.00	4.73	54.98	59.71	74.00	-14.29	Peak	232	346	P
3	10360.00	11.43	42.76	54.19	68.20	-14.01	Peak	100	224	P
4	15540.00	14.27	30.49	44.76	54.00	-9.24	Average	100	259	P
5	15540.00	14.27	44.25	58.52	74.00	-15.48	Peak	100	259	P

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

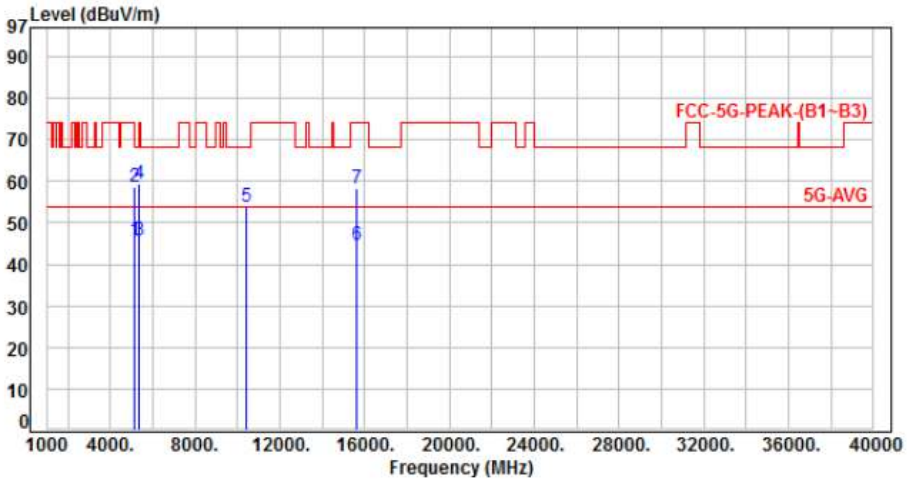
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 1, CH40		:	



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	4.73	41.00	45.73	54.00	-8.27	Average	116	227	P
2	5150.00	4.73	53.34	58.07	74.00	-15.93	Peak	116	227	P
3	5350.00	5.07	40.66	45.73	54.00	-8.27	Average	116	227	P
4	5350.00	5.07	54.14	59.21	74.00	-14.79	Peak	116	227	P
5	10400.00	11.45	43.76	55.21	68.20	-12.99	Peak	100	174	P
6	15600.00	13.88	30.77	44.65	54.00	-9.35	Average	100	168	P
7	15600.00	13.88	44.06	57.94	74.00	-16.06	Peak	100	168	P

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

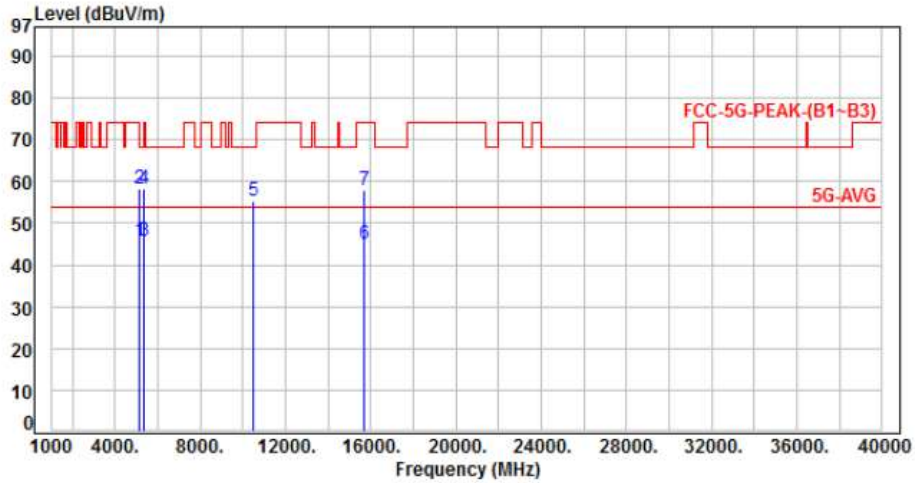
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 1, CH40		:	



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	4.73	41.09	45.82	54.00	-8.18	Average	180	336	P
2	5150.00	4.73	53.96	58.69	74.00	-15.31	Peak	180	336	P
3	5350.00	5.07	40.54	45.61	54.00	-8.39	Average	180	336	P
4	5350.00	5.07	54.24	59.31	74.00	-14.69	Peak	180	336	P
5	10400.00	11.45	42.29	53.74	68.20	-14.46	Peak	100	205	P
6	15600.00	13.88	30.69	44.57	54.00	-9.43	Average	100	289	P
7	15600.00	13.88	44.45	58.33	74.00	-15.67	Peak	100	289	P

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

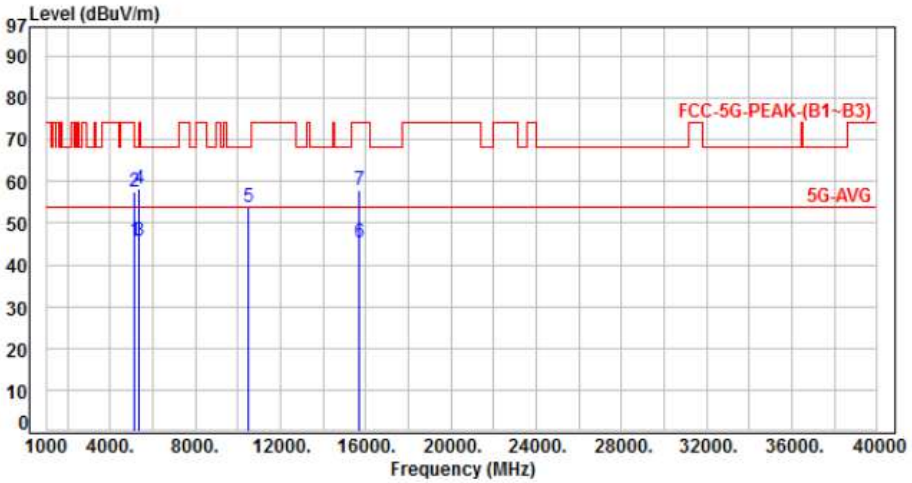
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 1, CH48		:	



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	4.73	41.18	45.91	54.00	-8.09	Average	100	175	P
2	5150.00	4.73	53.67	58.40	74.00	-15.60	Peak	100	175	P
3	5350.00	5.07	40.75	45.82	54.00	-8.18	Average	100	175	P
4	5350.00	5.07	53.26	58.33	74.00	-15.67	Peak	100	175	P
5	10480.00	11.65	43.78	55.43	68.20	-12.77	Peak	100	158	P
6	15720.00	13.60	31.57	45.17	54.00	-8.83	Average	100	141	P
7	15720.00	13.60	44.15	57.75	74.00	-16.25	Peak	100	141	P

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

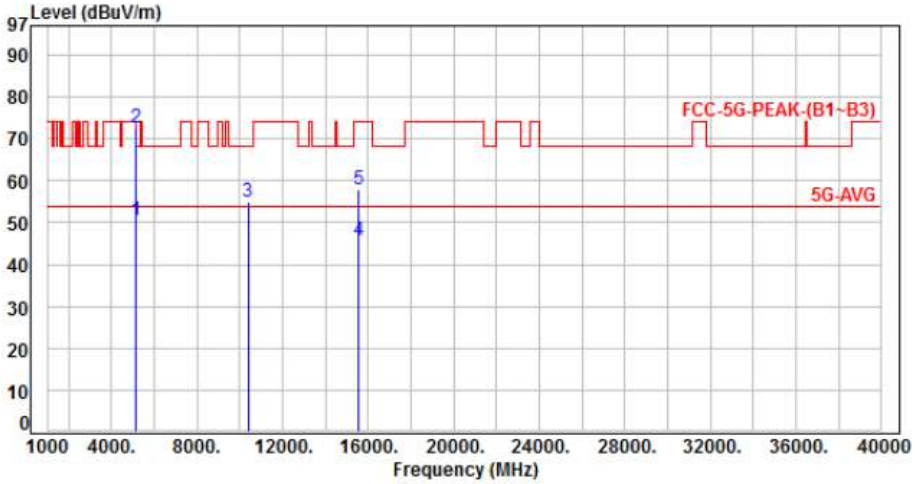
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 1, CH48		:	



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	4.73	41.11	45.84	54.00	-8.16	Average	100	255	P
2	5150.00	4.73	52.81	57.54	74.00	-16.46	Peak	100	255	P
3	5350.00	5.07	40.67	45.74	54.00	-8.26	Average	100	255	P
4	5350.00	5.07	53.09	58.16	74.00	-15.84	Peak	100	255	P
5	10480.00	11.65	42.33	53.98	68.20	-14.22	Peak	100	269	P
6	15720.00	13.60	31.86	45.46	54.00	-8.54	Average	100	233	P
7	15720.00	13.60	44.21	57.81	74.00	-16.19	Peak	100	233	P

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

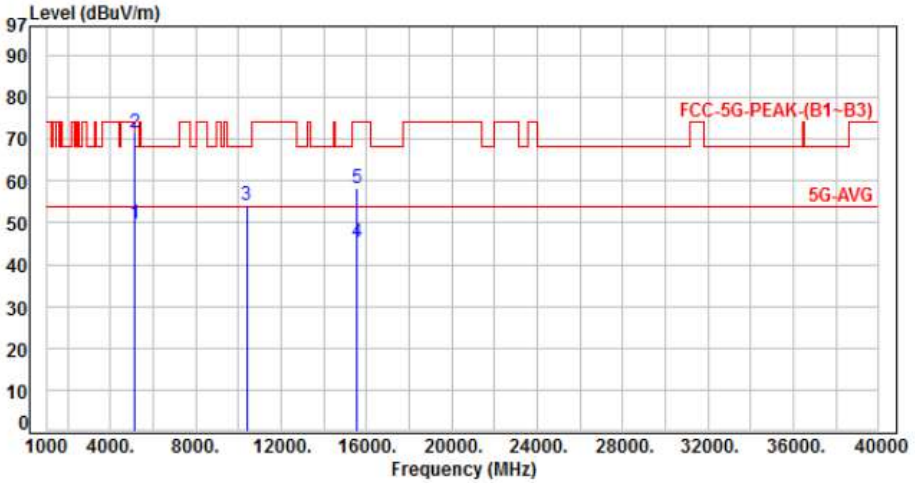
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 1, CH38		:	



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	4.73	45.77	50.50	54.00	-3.50	Average	200	20	P
2	5150.00	4.73	67.82	72.55	74.00	-1.45	Peak	200	20	P
3	10380.00	11.44	43.58	55.02	68.20	-13.18	Peak	100	149	P
4	15570.00	14.07	31.59	45.66	54.00	-8.34	Average	100	117	P
5	15570.00	14.07	43.92	57.99	74.00	-16.01	Peak	100	117	P

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

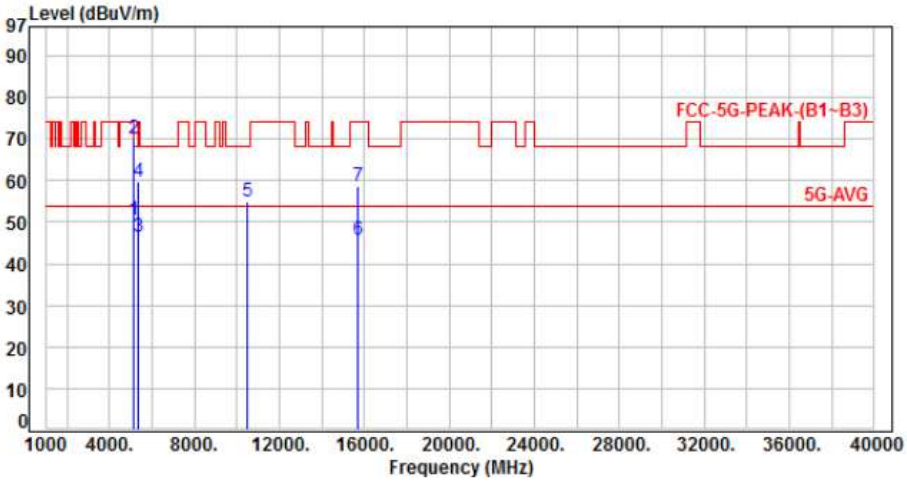
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 1, CH38		:	



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	4.73	44.91	49.64	54.00	-4.36	Average	100	0	P
2	5150.00	4.73	67.00	71.73	74.00	-2.27	Peak	100	0	P
3	10380.00	11.44	42.61	54.05	68.20	-14.15	Peak	100	225	P
4	15570.00	14.07	31.34	45.41	54.00	-8.59	Average	100	257	P
5	15570.00	14.07	44.04	58.11	74.00	-15.89	Peak	100	257	P

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

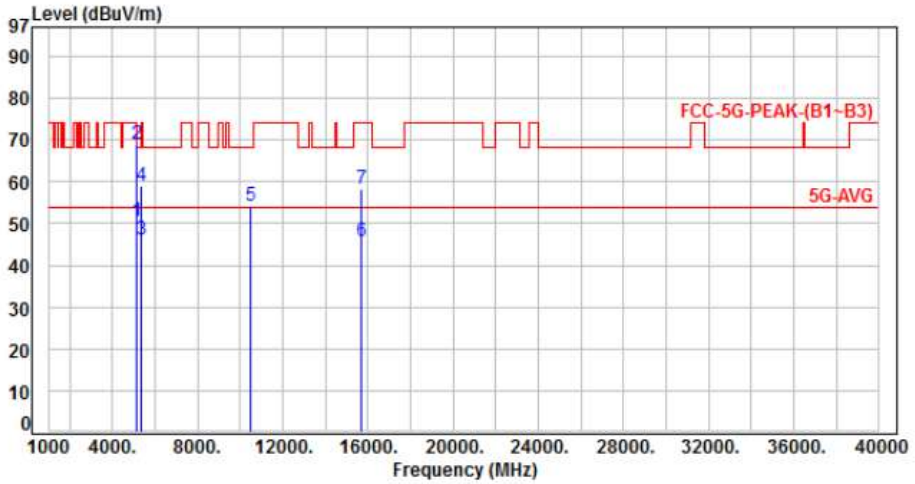
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 1, CH46		:	



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	4.73	45.88	50.61	54.00	-3.39	Average	100	343	P
2	5150.00	4.73	65.23	69.96	74.00	-4.04	Peak	100	343	P
3	5350.00	5.07	41.38	46.45	54.00	-7.55	Average	100	343	P
4	5350.00	5.07	54.72	59.79	74.00	-14.21	Peak	100	343	P
5	10460.00	11.60	43.39	54.99	68.20	-13.21	Peak	100	144	P
6	15690.00	13.64	32.08	45.72	54.00	-8.28	Average	100	189	P
7	15690.00	13.64	45.15	58.79	74.00	-15.21	Peak	100	189	P

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

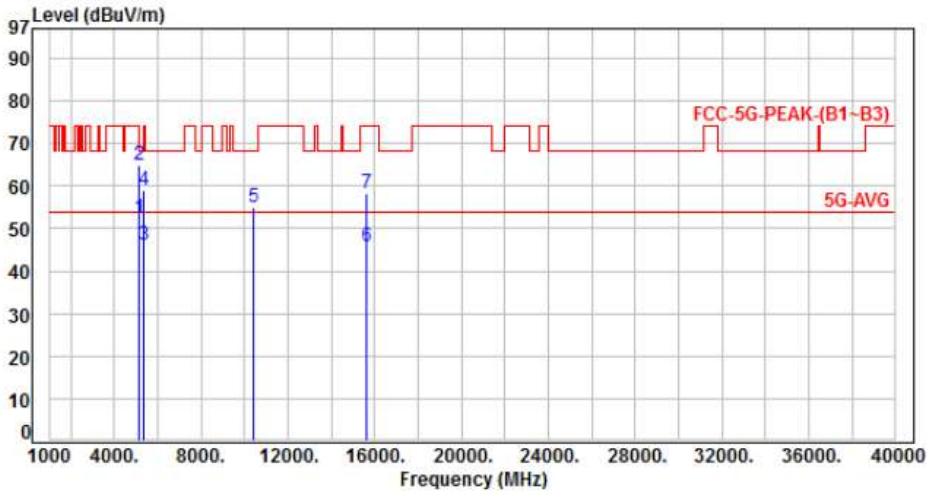
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 1, CH46		:	



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	4.73	45.79	50.52	54.00	-3.48	Average	210	340	P
2	5150.00	4.73	64.19	68.92	74.00	-5.08	Peak	210	340	P
3	5350.00	5.07	40.95	46.02	54.00	-7.98	Average	210	340	P
4	5350.00	5.07	54.04	59.11	74.00	-14.89	Peak	210	340	P
5	10460.00	11.60	42.72	54.32	68.20	-13.88	Peak	100	228	P
6	15690.00	13.64	32.14	45.78	54.00	-8.22	Average	100	255	P
7	15690.00	13.64	44.57	58.21	74.00	-15.79	Peak	100	255	P

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

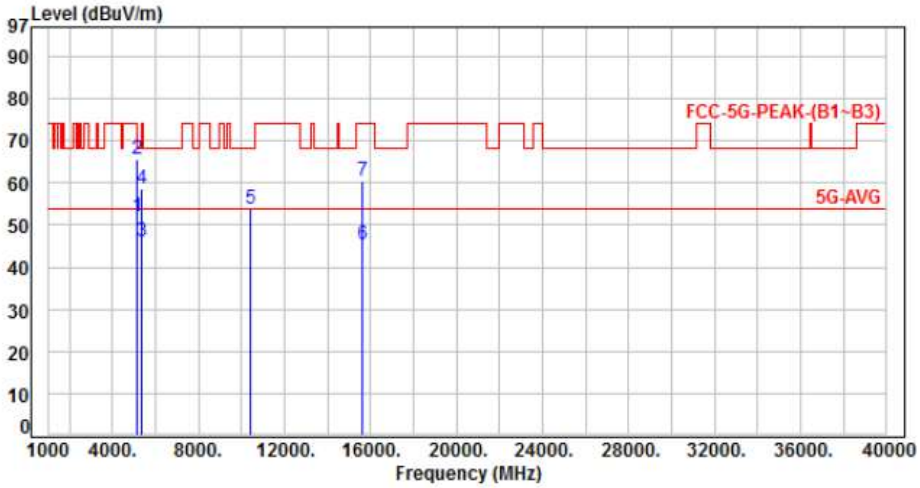
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, Band 1, CH42		:	



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	4.73	47.50	52.23	54.00	-1.77	Average	100	340	P
2	5150.00	4.73	60.30	65.03	74.00	-8.97	Peak	100	340	P
3	5350.00	5.07	40.95	46.02	54.00	-7.98	Average	100	340	P
4	5350.00	5.07	53.90	58.97	74.00	-15.03	Peak	100	340	P
5	10420.00	11.49	43.29	54.78	68.20	-13.42	Peak	100	136	P
6	15630.00	13.80	32.00	45.80	54.00	-8.20	Average	100	275	P
7	15630.00	13.80	44.65	58.45	74.00	-15.55	Peak	100	275	P

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

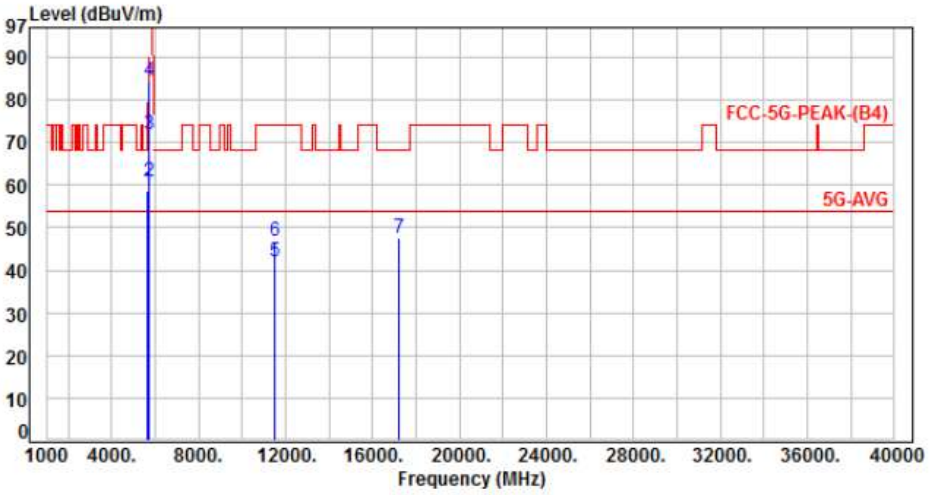
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, Band 1, CH42		:	



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	4.73	47.29	52.02	54.00	-1.98	Average	180	335	P
2	5150.00	4.73	61.06	65.79	74.00	-8.21	Peak	180	335	P
3	5350.00	5.07	41.01	46.08	54.00	-7.92	Average	180	335	P
4	5350.00	5.07	53.69	58.76	74.00	-15.24	Peak	180	335	P
5	10420.00	11.49	42.47	53.96	68.20	-14.24	Peak	100	245	P
6	15630.00	13.80	31.62	45.42	54.00	-8.58	Average	100	197	P
7	15630.00	13.80	46.58	60.38	74.00	-13.62	Peak	100	197	P

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

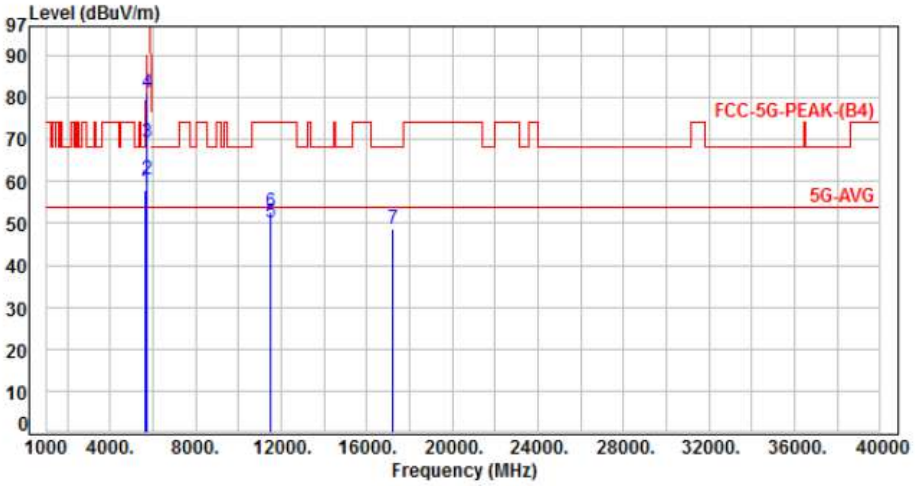
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 4, CH149		:	



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	-11.01	69.62	58.61	68.20	-9.59	Peak	100	270	P
2	5700.00	-11.12	71.92	60.80	105.20	-44.40	Peak	100	270	P
3	5720.00	-11.13	82.92	71.79	110.80	-39.01	Peak	100	270	P
4	5725.00	-11.13	95.46	84.33	122.20	-37.87	Peak	100	270	P
5	11490.00	-4.06	46.06	42.00	54.00	-12.00	Average	100	210	P
6	11490.00	-4.06	50.90	46.84	74.00	-27.16	Peak	100	210	P
7	17235.00	4.76	42.86	47.62	68.20	-20.58	Peak	100	113	P

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

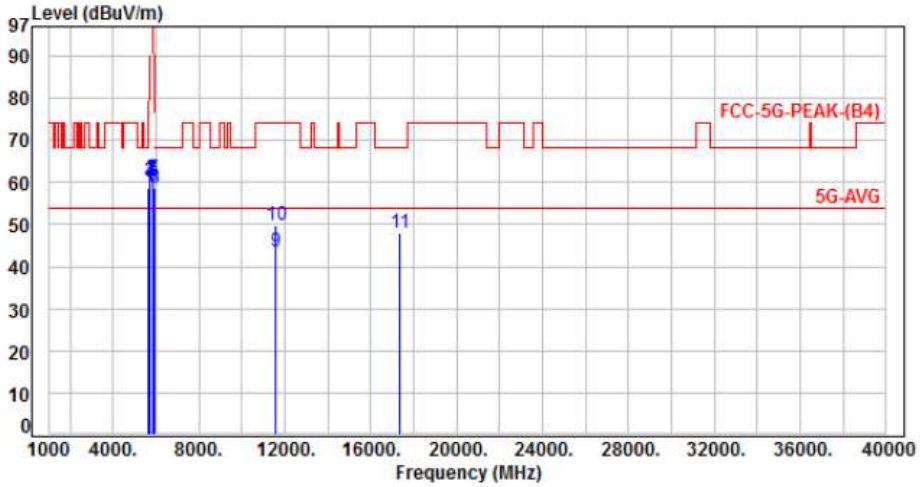
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 4, CH149		:	



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	-11.01	68.90	57.89	68.20	-10.31	Peak	100	100	P
2	5700.00	-11.12	71.58	60.46	105.20	-44.74	Peak	100	100	P
3	5725.00	-11.13	80.31	69.18	122.20	-53.02	Peak	100	100	P
4	5725.00	-11.13	92.13	81.00	122.20	-41.20	Peak	100	100	P
5	11490.00	-4.06	54.31	50.25	54.00	-3.75	Average	100	205	P
6	11490.00	-4.06	56.74	52.68	74.00	-21.32	Peak	100	205	P
7	17235.00	4.76	43.89	48.65	68.20	-19.55	Peak	100	311	P

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

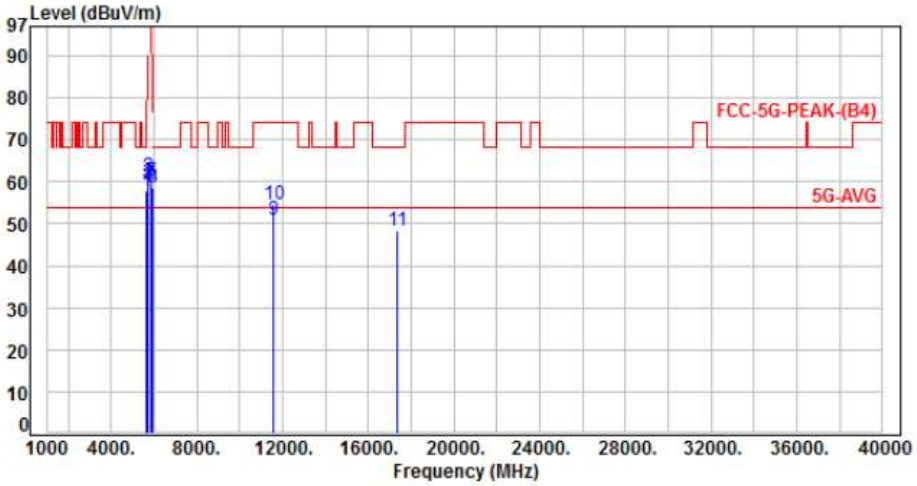
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 4, CH157		:	



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	-11.01	69.74	58.73	68.20	-9.47	Peak	100	150	P
2	5700.00	-11.12	71.45	60.33	105.20	-44.87	Peak	100	150	P
3	5720.00	-11.13	71.37	60.24	110.80	-50.56	Peak	100	150	P
4	5725.00	-11.13	71.10	59.97	122.20	-62.23	Peak	100	150	P
5	5850.00	-11.05	70.58	59.53	122.20	-62.67	Peak	100	150	P
6	5855.00	-11.03	71.34	60.31	110.80	-50.49	Peak	100	150	P
7	5875.00	-10.96	71.84	60.88	105.20	-44.32	Peak	100	150	P
8	5925.00	-10.87	69.47	58.60	68.20	-9.60	Peak	100	150	P
9	11570.00	-3.75	47.17	43.42	54.00	-10.58	Average	100	210	P
10	11570.00	-3.75	53.45	49.70	74.00	-24.30	Peak	100	210	P
11	17355.00	5.45	42.53	47.98	68.20	-20.22	Peak	100	137	P

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

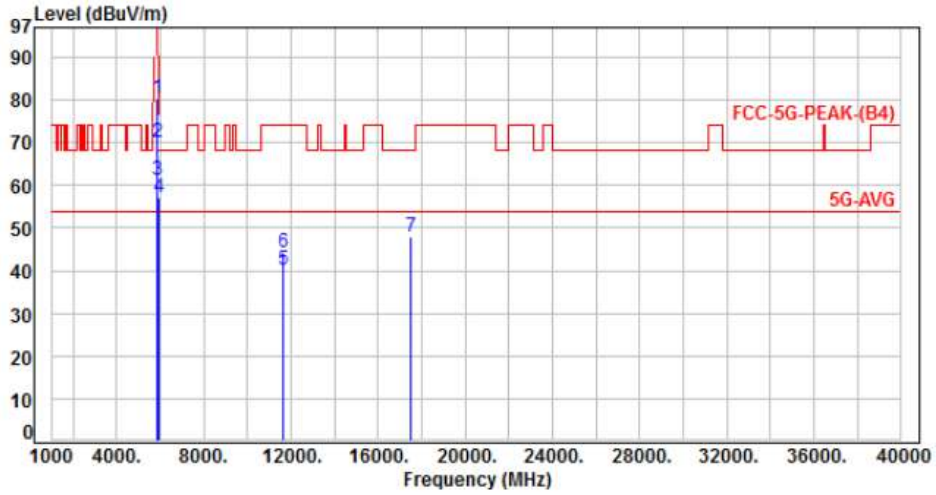
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 4, CH157		:	



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	-11.01	68.90	57.89	68.20	-10.31	Peak	100	298	P
2	5700.00	-11.12	72.37	61.25	105.20	-43.95	Peak	100	298	P
3	5720.00	-11.13	70.88	59.75	110.80	-51.05	Peak	100	298	P
4	5725.00	-11.13	69.85	58.72	122.20	-63.48	Peak	100	298	P
5	5850.00	-11.05	70.31	59.26	122.20	-62.94	Peak	100	298	P
6	5855.00	-11.03	71.17	60.14	110.80	-50.66	Peak	100	298	P
7	5875.00	-10.96	71.06	60.10	105.20	-45.10	Peak	100	298	P
8	5925.00	-10.87	69.60	58.73	68.20	-9.47	Peak	100	298	P
9	11570.00	-3.75	54.74	50.99	54.00	-3.01	Average	180	162	P
10	11570.00	-3.75	58.31	54.56	74.00	-19.44	Peak	180	162	P
11	17355.00	5.45	42.80	48.25	68.20	-19.95	Peak	100	306	P

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

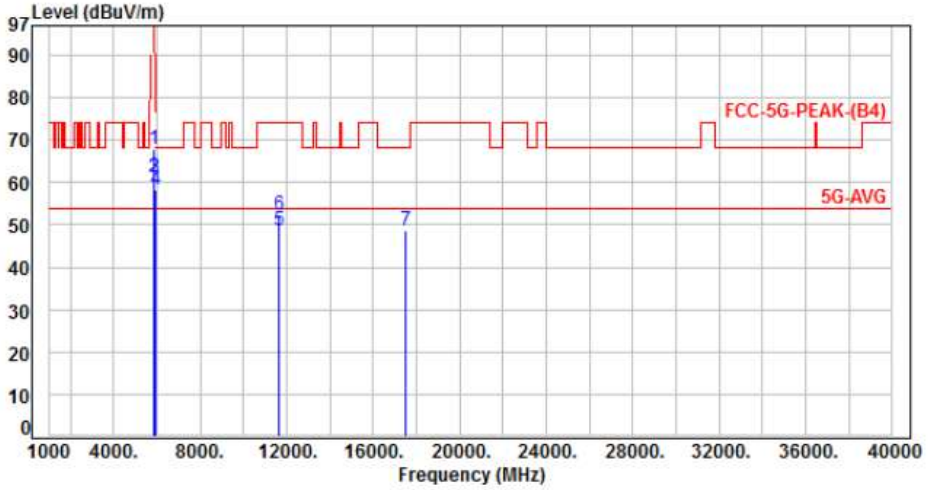
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 4, CH165		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-11.05	91.29	80.24	122.20	-41.96	Peak	100	275	P
2	5855.00	-11.03	81.09	70.06	110.80	-40.74	Peak	100	275	P
3	5875.00	-10.96	72.27	61.31	105.20	-43.89	Peak	100	275	P
4	5925.00	-10.87	68.09	57.22	68.20	-10.98	Peak	100	275	P
5	11650.00	-3.57	43.83	40.26	54.00	-13.74	Average	178	210	P
6	11650.00	-3.57	47.86	44.29	74.00	-29.71	Peak	178	210	P
7	17475.00	6.36	41.65	48.01	68.20	-20.19	Peak	100	163	P

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

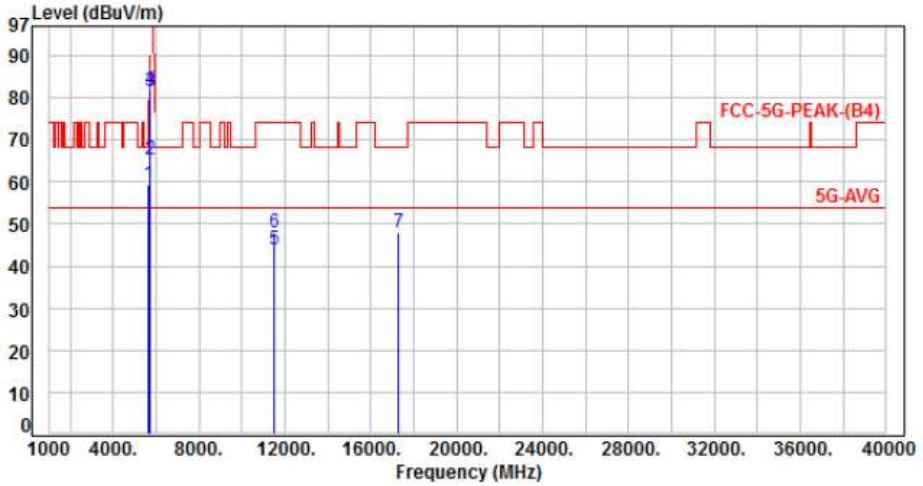
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 4, CH165		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-11.05	78.98	67.93	122.20	-54.27	Peak	100	250	P
2	5855.00	-11.03	72.13	61.10	110.80	-49.70	Peak	100	250	P
3	5875.00	-10.96	72.13	61.17	105.20	-44.03	Peak	100	250	P
4	5925.00	-10.87	69.25	58.38	68.20	-9.82	Peak	100	250	P
5	11650.00	-3.57	52.30	48.73	54.00	-5.27	Average	223	155	P
6	11650.00	-3.57	55.92	52.35	74.00	-21.65	Peak	223	155	P
7	17475.00	6.36	42.23	48.59	68.20	-19.61	Peak	110	285	P

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

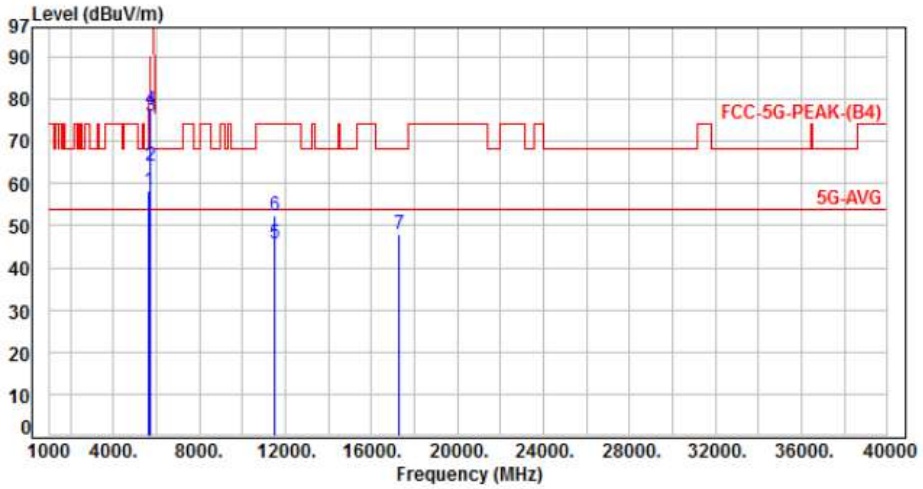
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 4, CH151		:	



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	-11.01	70.37	59.36	68.20	-8.84	Peak	100	235	P
2	5700.00	-11.12	76.54	65.42	105.20	-39.78	Peak	100	235	P
3	5720.00	-11.13	92.69	81.56	110.80	-29.24	Peak	100	235	P
4	5725.00	-11.13	93.02	81.89	122.20	-40.31	Peak	100	235	P
5	11510.00	-4.01	47.99	43.98	54.00	-10.02	Average	100	210	P
6	11510.00	-4.01	51.98	47.97	74.00	-26.03	Peak	100	210	P
7	17265.00	4.91	43.22	48.13	68.20	-20.07	Peak	100	169	P

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

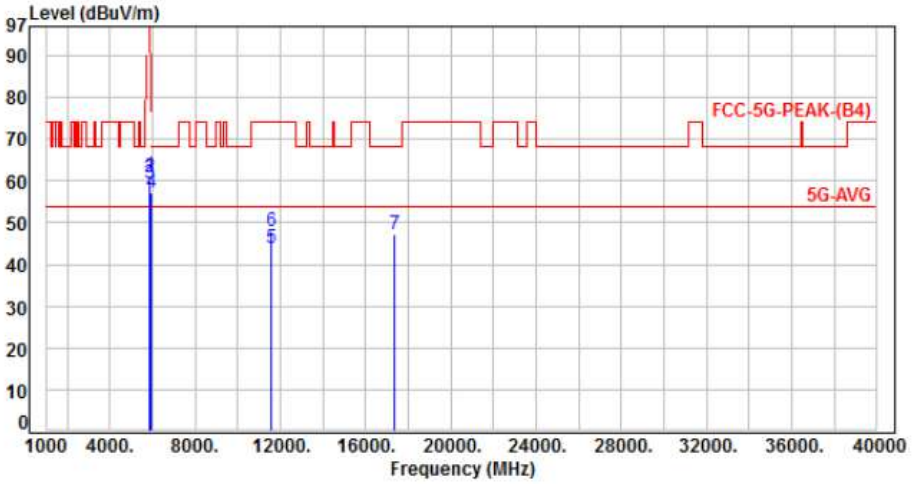
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 4, CH151		:	



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	-11.01	69.33	58.32	68.20	-9.88	Peak	100	60	P
2	5700.00	-11.12	75.31	64.19	105.20	-41.01	Peak	100	60	P
3	5720.00	-11.13	87.21	76.08	110.80	-34.72	Peak	100	60	P
4	5725.00	-11.13	88.56	77.43	122.20	-44.77	Peak	100	60	P
5	11510.00	-4.01	49.88	45.87	54.00	-8.13	Average	100	199	P
6	11510.00	-4.01	56.44	52.43	74.00	-21.57	Peak	100	199	P
7	17265.00	4.91	43.01	47.92	68.20	-20.28	Peak	100	244	P

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

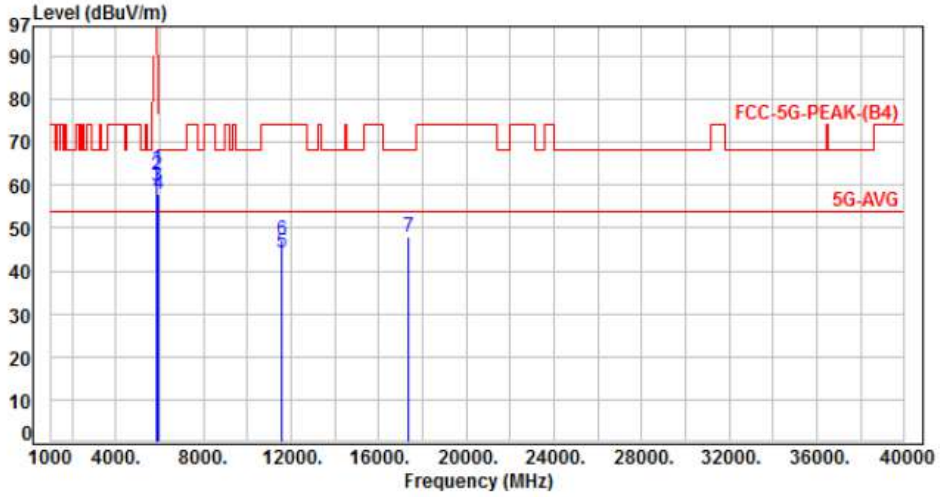
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 4, CH159		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-11.05	72.38	61.33	122.20	-60.87	Peak	100	185	P
2	5855.00	-11.03	71.86	60.83	110.80	-49.97	Peak	100	185	P
3	5875.00	-10.96	70.40	59.44	105.20	-45.76	Peak	100	185	P
4	5925.00	-10.87	68.19	57.32	68.20	-10.88	Peak	100	185	P
5	11590.00	-3.67	47.41	43.74	54.00	-10.26	Average	112	185	P
6	11590.00	-3.67	51.53	47.86	74.00	-26.14	Peak	112	185	P
7	17385.00	5.66	41.60	47.26	68.20	-20.94	Peak	100	138	P

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

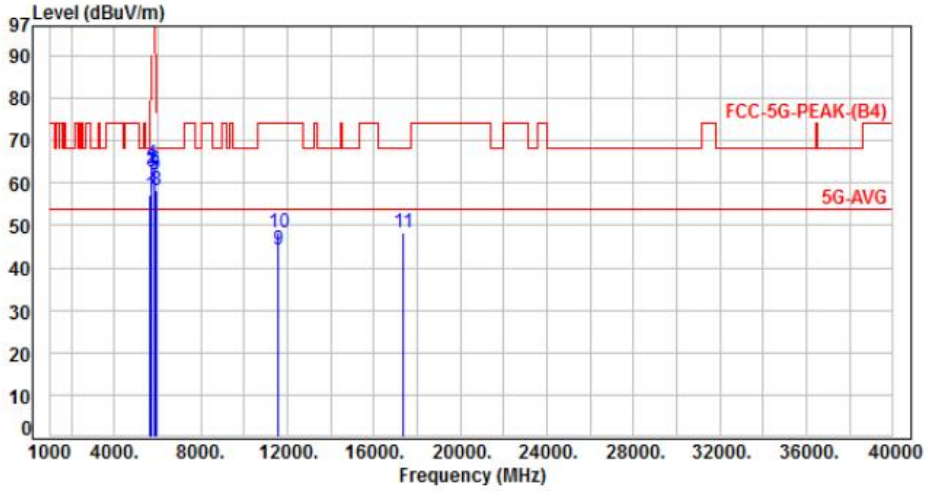
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 4, CH159		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-11.05	74.85	63.80	122.20	-58.40	Peak	100	350	P
2	5855.00	-11.03	73.31	62.28	110.80	-48.52	Peak	100	350	P
3	5875.00	-10.96	70.81	59.85	105.20	-45.35	Peak	100	350	P
4	5925.00	-10.87	68.62	57.75	68.20	-10.45	Peak	100	350	P
5	11590.00	-3.67	47.91	44.24	54.00	-9.76	Average	100	155	P
6	11590.00	-3.67	50.92	47.25	74.00	-26.75	Peak	100	155	P
7	17385.00	5.66	42.36	48.02	68.20	-20.18	Peak	100	263	P

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

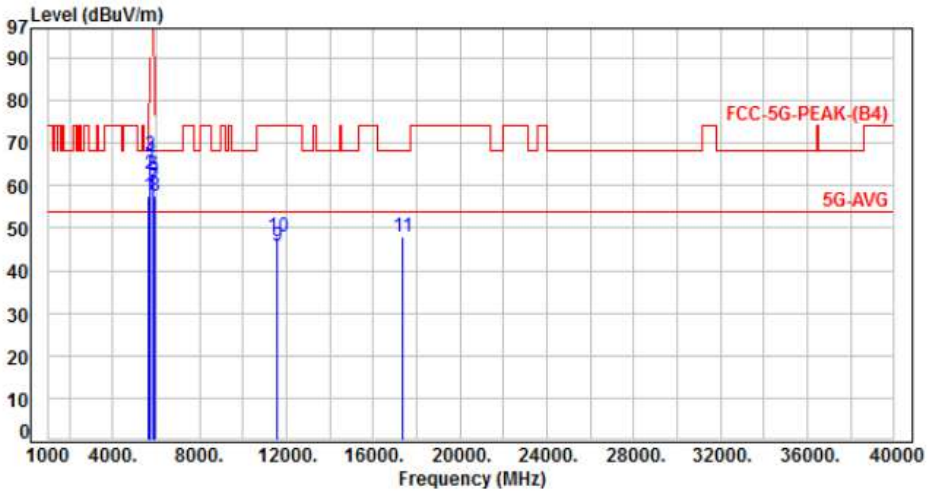
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, Band 4, CH155		:	



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	-11.01	68.23	57.22	68.20	-10.98	Peak	100	135	P
2	5700.00	-11.12	74.49	63.37	105.20	-41.83	Peak	100	135	P
3	5720.00	-11.13	73.87	62.74	110.80	-48.06	Peak	100	135	P
4	5725.00	-11.13	75.73	64.60	122.20	-57.60	Peak	100	135	P
5	5850.00	-11.05	73.13	62.08	122.20	-60.12	Peak	100	135	P
6	5855.00	-11.03	73.95	62.92	110.80	-47.88	Peak	100	135	P
7	5875.00	-10.96	71.34	60.38	105.20	-44.82	Peak	100	135	P
8	5925.00	-10.87	68.97	58.10	68.20	-10.10	Peak	100	135	P
9	11550.00	-3.84	47.96	44.12	54.00	-9.88	Average	175	210	P
10	11550.00	-3.84	52.07	48.23	74.00	-25.77	Peak	175	210	P
11	17325.00	5.25	42.92	48.17	68.20	-20.03	Peak	100	163	P

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

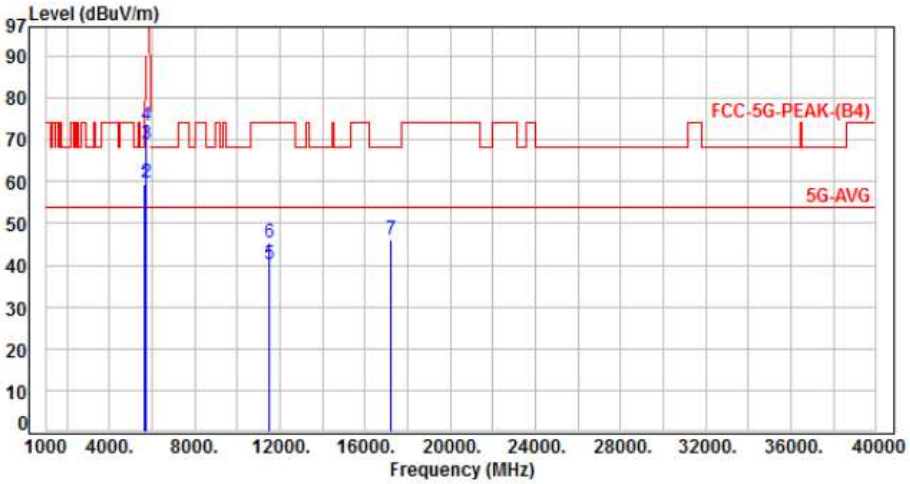
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, Band 4, CH155		:	



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	-11.01	68.53	57.52	68.20	-10.68	Peak	100	245	P
2	5700.00	-11.12	73.78	62.66	105.20	-42.54	Peak	100	245	P
3	5720.00	-11.13	78.08	66.95	110.80	-43.85	Peak	100	245	P
4	5725.00	-11.13	77.01	65.88	122.20	-56.32	Peak	100	245	P
5	5850.00	-11.05	71.84	60.79	122.20	-61.41	Peak	100	245	P
6	5855.00	-11.03	73.28	62.25	110.80	-48.55	Peak	100	245	P
7	5875.00	-10.96	70.86	59.90	105.20	-45.30	Peak	100	245	P
8	5925.00	-10.87	68.31	57.44	68.20	-10.76	Peak	100	245	P
9	11550.00	-3.84	49.75	45.91	54.00	-8.09	Average	205	167	P
10	11550.00	-3.84	51.90	48.06	74.00	-25.94	Peak	205	167	P
11	17325.00	5.25	42.72	47.97	68.20	-20.23	Peak	100	261	P

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

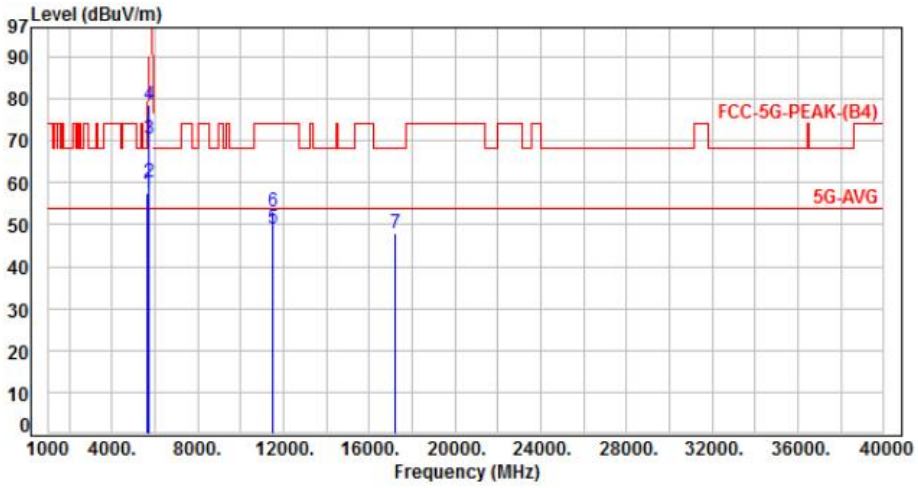
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, Band 4, CH149		:	



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	-11.38	70.77	59.39	68.20	-8.81	Peak	100	195	P
2	5700.00	-11.48	71.28	59.80	105.20	-45.40	Peak	100	195	P
3	5720.00	-11.48	80.52	69.04	110.80	-41.76	Peak	100	195	P
4	5725.00	-11.48	84.98	73.50	122.20	-48.70	Peak	100	195	P
5	11490.00	-4.36	44.60	40.24	54.00	-13.76	Average	100	210	P
6	11490.00	-4.36	49.75	45.39	74.00	-28.61	Peak	100	210	P
7	17235.00	4.27	41.99	46.26	68.20	-21.94	Peak	100	111	P

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

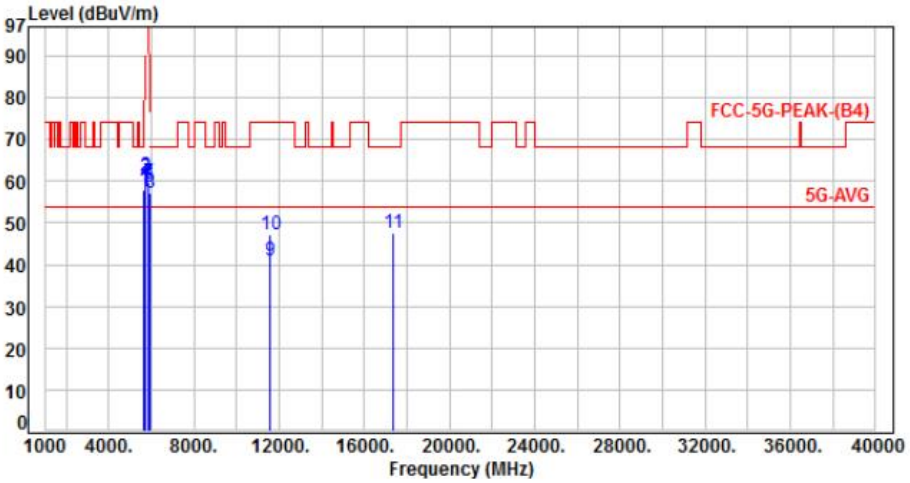
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, Band 4, CH149		:	



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	-11.38	69.06	57.68	68.20	-10.52	Peak	100	283	P
2	5700.00	-11.48	71.75	60.27	105.20	-44.93	Peak	100	283	P
3	5720.00	-11.48	81.96	70.48	110.80	-40.32	Peak	100	283	P
4	5725.00	-11.48	89.90	78.42	122.20	-43.78	Peak	100	283	P
5	11490.00	-4.36	53.26	48.90	54.00	-5.10	Average	100	205	P
6	11490.00	-4.36	57.40	53.04	74.00	-20.96	Peak	100	205	P
7	17235.00	4.27	43.53	47.80	68.20	-20.40	Peak	100	270	P

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

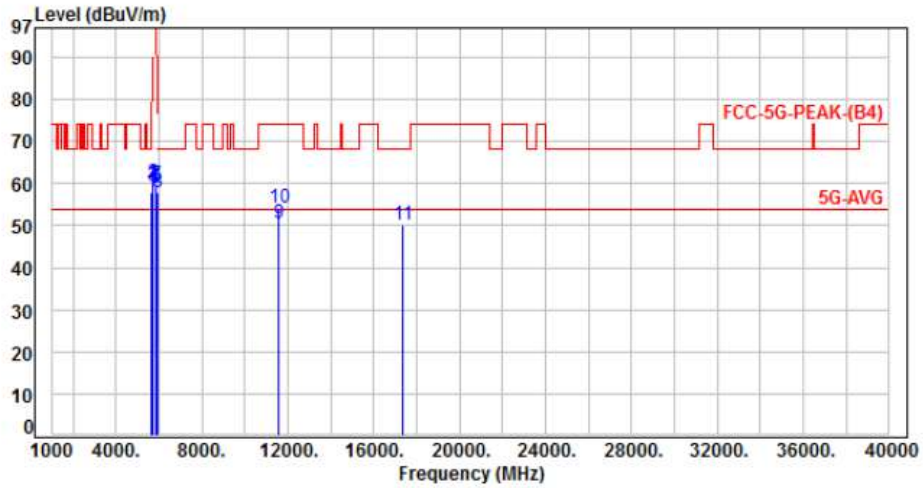
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, Band 4, CH157		:	



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	-11.01	68.74	57.73	68.20	-10.47	Peak	100	120	P
2	5700.00	-11.12	72.20	61.08	105.20	-44.12	Peak	100	120	P
3	5720.00	-11.13	71.96	60.83	110.80	-49.97	Peak	100	120	P
4	5725.00	-11.13	70.83	59.70	122.20	-62.50	Peak	100	120	P
5	5850.00	-11.05	69.71	58.66	122.20	-63.54	Peak	100	120	P
6	5855.00	-11.03	70.47	59.44	110.80	-51.36	Peak	100	120	P
7	5875.00	-10.96	70.59	59.63	105.20	-45.57	Peak	100	120	P
8	5925.00	-10.87	67.94	57.07	68.20	-11.13	Peak	100	120	P
9	11570.00	-3.75	44.69	40.94	54.00	-13.06	Average	100	210	P
10	11570.00	-3.75	51.08	47.33	74.00	-26.67	Peak	100	210	P
11	17355.00	5.45	42.22	47.67	68.20	-20.53	Peak	100	165	P

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

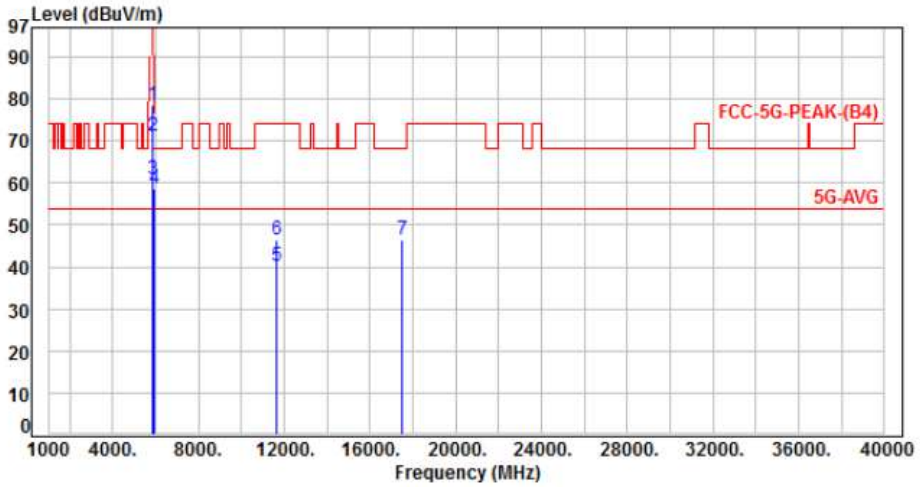
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, Band 4, CH157		:	



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	-11.01	69.02	58.01	68.20	-10.19	Peak	100	276	P
2	5700.00	-11.12	71.16	60.04	105.20	-45.16	Peak	100	276	P
3	5720.00	-11.13	70.69	59.56	110.80	-51.24	Peak	100	276	P
4	5725.00	-11.13	70.58	59.45	122.20	-62.75	Peak	100	276	P
5	5850.00	-11.05	70.23	59.18	122.20	-63.02	Peak	100	276	P
6	5855.00	-11.03	70.86	59.83	110.80	-50.97	Peak	100	276	P
7	5875.00	-10.96	70.77	59.81	105.20	-45.39	Peak	100	276	P
8	5925.00	-10.87	68.69	57.82	68.20	-10.38	Peak	100	276	P
9	11570.00	-3.75	54.31	50.56	54.00	-3.44	Average	180	162	P
10	11570.00	-3.75	57.84	54.09	74.00	-19.91	Peak	180	162	P
11	17355.00	5.45	44.53	49.98	68.20	-18.22	Peak	100	288	P

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

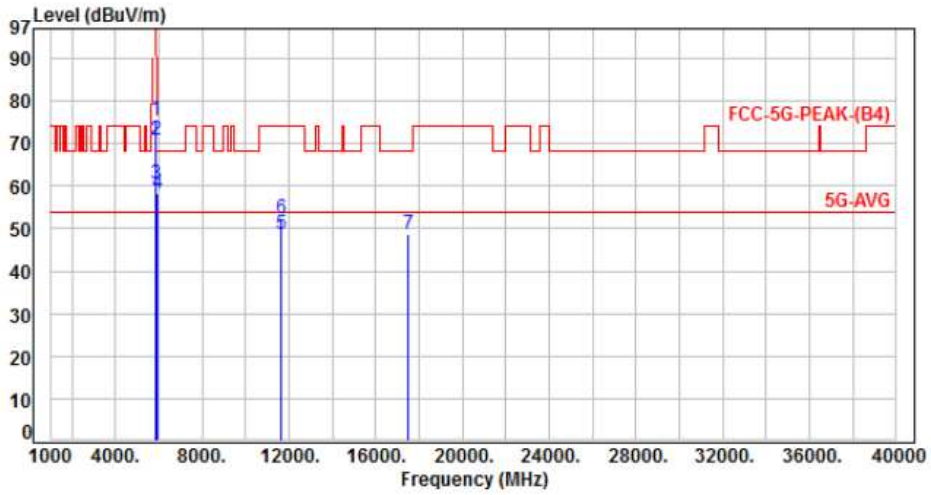
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, Band 4, CH165		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-11.05	89.59	78.54	122.20	-43.66	Peak	100	25	P
2	5855.00	-11.03	82.06	71.03	110.80	-39.77	Peak	100	25	P
3	5875.00	-10.96	71.90	60.94	105.20	-44.26	Peak	100	25	P
4	5925.00	-10.87	69.33	58.46	68.20	-9.74	Peak	100	25	P
5	11650.00	-3.57	43.90	40.33	54.00	-13.67	Average	180	210	P
6	11650.00	-3.57	50.19	46.62	74.00	-27.38	Peak	180	210	P
7	17475.00	6.36	40.26	46.62	68.20	-21.58	Peak	100	156	P

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

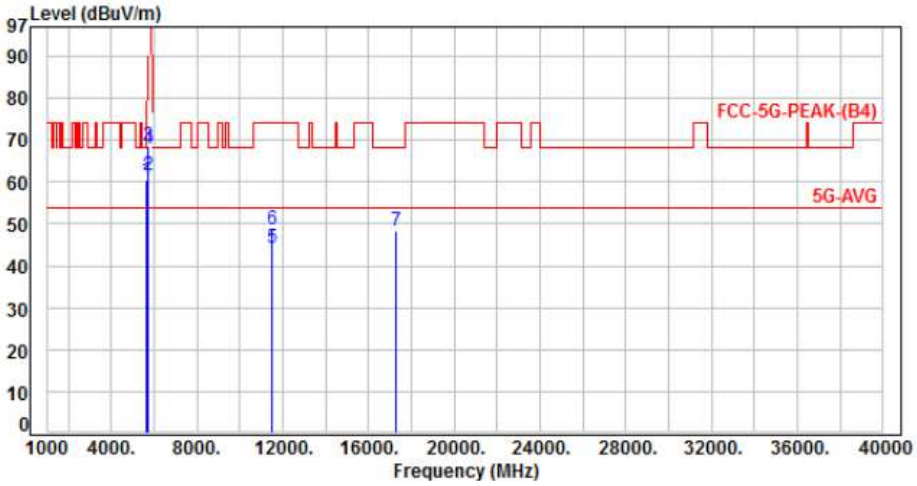
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, Band 4, CH165		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-11.05	86.68	75.63	122.20	-46.57	Peak	100	180	P
2	5855.00	-11.03	81.96	70.93	110.80	-39.87	Peak	100	180	P
3	5875.00	-10.96	71.27	60.31	105.20	-44.89	Peak	100	180	P
4	5925.00	-10.87	69.26	58.39	68.20	-9.81	Peak	100	180	P
5	11650.00	-3.57	52.13	48.56	54.00	-5.44	Average	188	162	P
6	11650.00	-3.57	56.02	52.45	74.00	-21.55	Peak	188	162	P
7	17475.00	6.36	42.48	48.84	68.20	-19.36	Peak	100	321	P

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

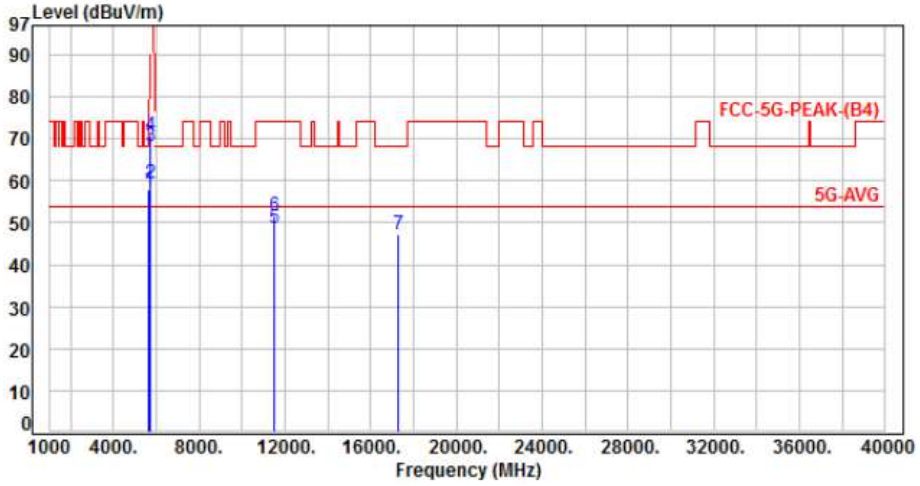
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 5, Band 4, CH151		:	



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	-11.01	71.35	60.34	68.20	-7.86	Peak	100	155	P
2	5700.00	-11.12	72.81	61.69	105.20	-43.51	Peak	100	155	P
3	5720.00	-11.13	79.62	68.49	110.80	-42.31	Peak	100	155	P
4	5725.00	-11.13	78.81	67.68	122.20	-54.52	Peak	100	155	P
5	11510.00	-4.01	48.36	44.35	54.00	-9.65	Average	100	210	P
6	11510.00	-4.01	52.54	48.53	74.00	-25.47	Peak	100	210	P
7	17265.00	4.91	43.23	48.14	68.20	-20.06	Peak	100	170	P

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

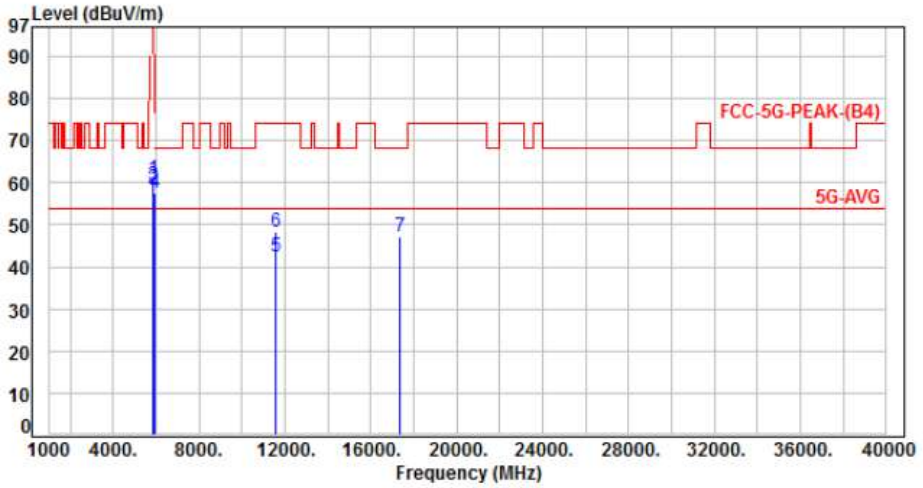
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 5, Band 4, CH151		:	



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	-11.01	68.83	57.82	68.20	-10.38	Peak	100	257	P
2	5700.00	-11.12	70.40	59.28	105.20	-45.92	Peak	100	257	P
3	5720.00	-11.13	79.19	68.06	110.80	-42.74	Peak	100	257	P
4	5725.00	-11.13	81.87	70.74	122.20	-51.46	Peak	100	257	P
5	11510.00	-4.01	52.67	48.66	54.00	-5.34	Average	100	197	P
6	11510.00	-4.01	55.55	51.54	74.00	-22.46	Peak	100	197	P
7	17265.00	4.91	42.38	47.29	68.20	-20.91	Peak	100	253	P

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

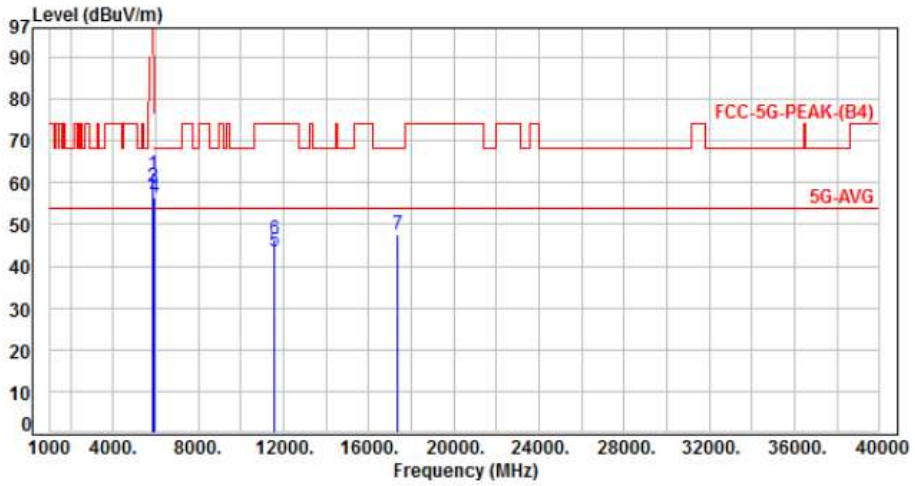
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 5, Band 4, CH159		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-11.05	71.87	60.82	122.20	-61.38	Peak	100	193	P
2	5855.00	-11.03	69.55	58.52	110.80	-52.28	Peak	100	193	P
3	5875.00	-10.96	70.36	59.40	105.20	-45.80	Peak	100	193	P
4	5925.00	-10.87	68.32	57.45	68.20	-10.75	Peak	100	193	P
5	11590.00	-3.67	46.04	42.37	54.00	-11.63	Average	114	185	P
6	11590.00	-3.67	52.01	48.34	74.00	-25.66	Peak	114	185	P
7	17385.00	5.66	41.43	47.09	68.20	-21.11	Peak	100	179	P

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

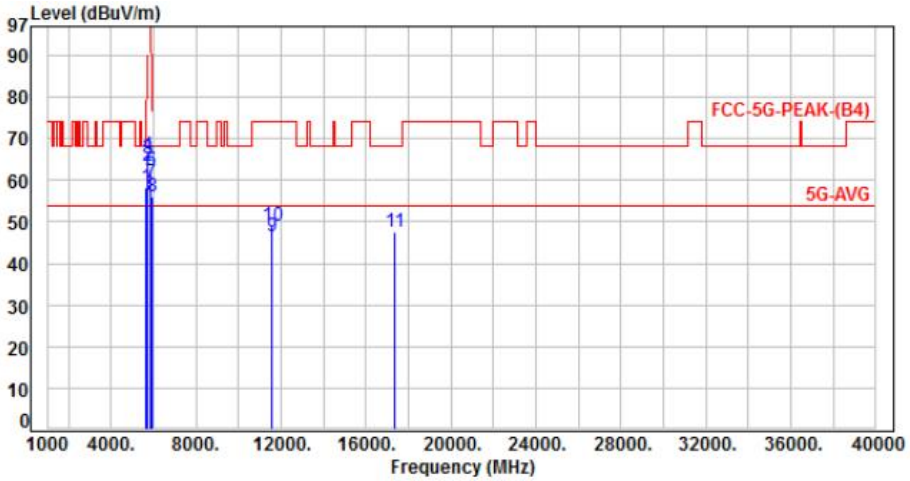
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 5, Band 4, CH159		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5850.00	-11.05	72.96	61.91	122.20	-60.29	Peak	100	213	P
2	5855.00	-11.03	70.00	58.97	110.80	-51.83	Peak	100	213	P
3	5875.00	-10.96	70.15	59.19	105.20	-46.01	Peak	100	213	P
4	5925.00	-10.87	67.47	56.60	68.20	-11.60	Peak	100	213	P
5	11590.00	-3.67	47.08	43.41	54.00	-10.59	Average	100	155	P
6	11590.00	-3.67	50.24	46.57	74.00	-27.43	Peak	100	155	P
7	17385.00	5.66	42.08	47.74	68.20	-20.46	Peak	100	265	P

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

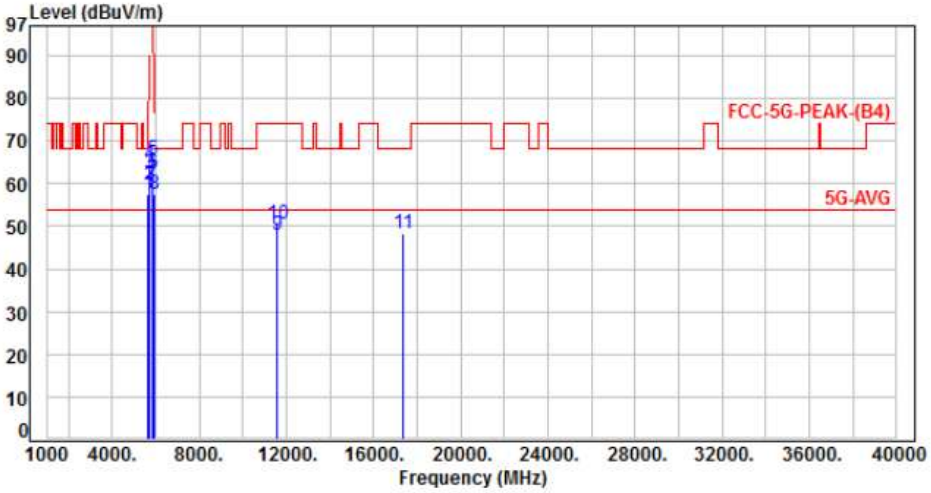
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 6, Band 4, CH155		:	



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	-11.01	69.29	58.28	68.20	-9.92	Peak	100	164	P
2	5700.00	-11.12	74.38	63.26	105.20	-41.94	Peak	100	164	P
3	5720.00	-11.13	76.24	65.11	110.80	-45.69	Peak	100	164	P
4	5725.00	-11.13	76.98	65.85	122.20	-56.35	Peak	100	164	P
5	5850.00	-11.05	73.26	62.21	122.20	-59.99	Peak	100	164	P
6	5855.00	-11.03	73.35	62.32	110.80	-48.48	Peak	100	164	P
7	5875.00	-10.96	70.22	59.26	105.20	-45.94	Peak	100	164	P
8	5925.00	-10.87	67.02	56.15	68.20	-12.05	Peak	100	164	P
9	11550.00	-3.84	50.34	46.50	54.00	-7.50	Average	172	210	P
10	11550.00	-3.84	52.98	49.14	74.00	-24.86	Peak	172	210	P
11	17325.00	5.25	42.24	47.49	68.20	-20.71	Peak	100	131	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 6, 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	-11.01	68.47	57.46	68.20	-10.74	Peak	100	222	P
2	5700.00	-11.12	71.04	59.92	105.20	-45.28	Peak	100	222	P
3	5720.00	-11.13	73.33	62.20	110.80	-48.60	Peak	100	222	P
4	5725.00	-11.13	75.55	64.42	122.20	-57.78	Peak	100	222	P
5	5850.00	-11.05	76.75	65.70	122.20	-56.50	Peak	100	222	P
6	5855.00	-11.03	73.25	62.22	110.80	-48.58	Peak	100	222	P
7	5875.00	-10.96	71.90	60.94	105.20	-44.26	Peak	100	222	P
8	5925.00	-10.87	68.55	57.68	68.20	-10.52	Peak	100	222	P
9	11550.00	-3.84	51.88	48.04	54.00	-5.96	Average	194	167	P
10	11550.00	-3.84	54.42	50.58	74.00	-23.42	Peak	194	167	P
11	17325.00	5.25	43.09	48.34	68.20	-19.86	Peak	100	235	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

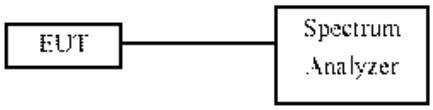
7.1. Test Limit

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

(Beamforming Mode)

Modulation Type (5G B1)	On Time (ms)	Period Time (ms)	Duty Cycle (%)
802.11ac VHT20	1.77	1.86	95.14%
802.11ac VHT40	1.70	1.86	91.63%
802.11ac VHT80	1.96	2.11	92.63%

(Beamforming Mode)

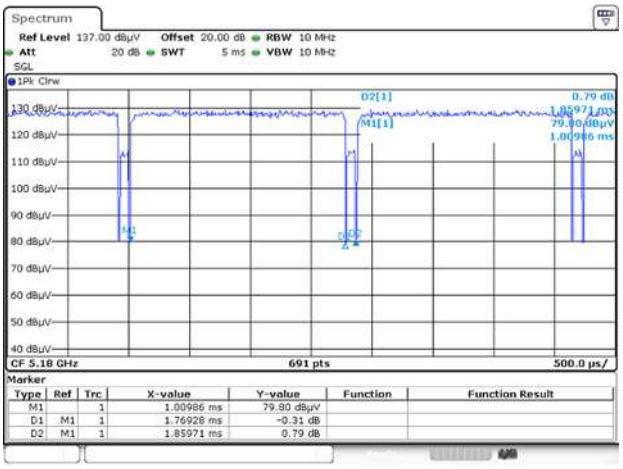
Modulation Type (5G B4)	On Time (ms)	Period Time (ms)	Duty Cycle (%)
802.11ac VHT20	1.78	1.85	95.79%
802.11ac VHT40	1.71	1.80	95.16%
802.11ac VHT80	1.78	1.89	94.14%
802.11ax HE20	1.78	1.90	93.70%
802.11ax HE40	2.00	2.11	94.56%
802.11ax HE80	1.70	1.81	93.74%

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

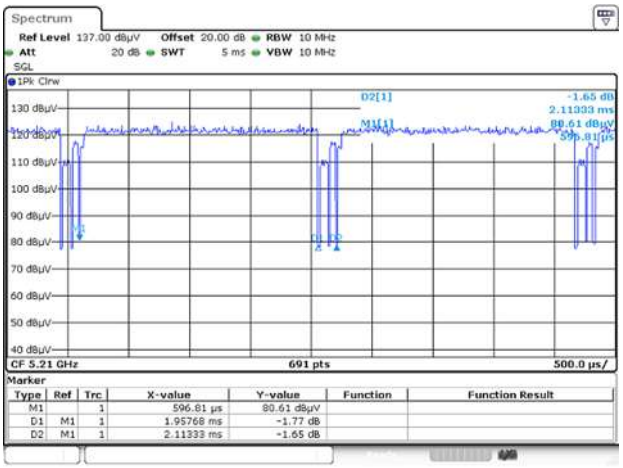
Band 1:

Modulation Type: 802.11ac VHT20 (6.5Mbps)



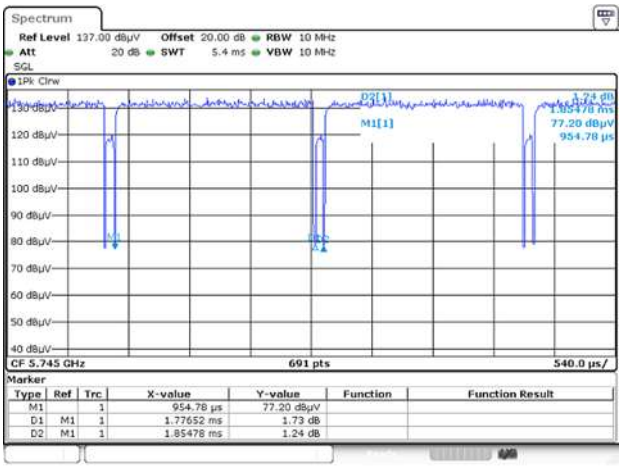
Modulation Type: 802.11ac VHT40 (13.5Mbps)

Modulation Type: 802.11ac VHT80 (29.3Mbps)

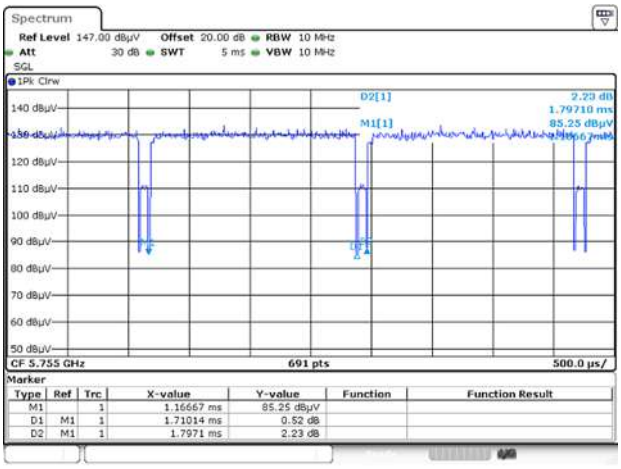


Band 4:

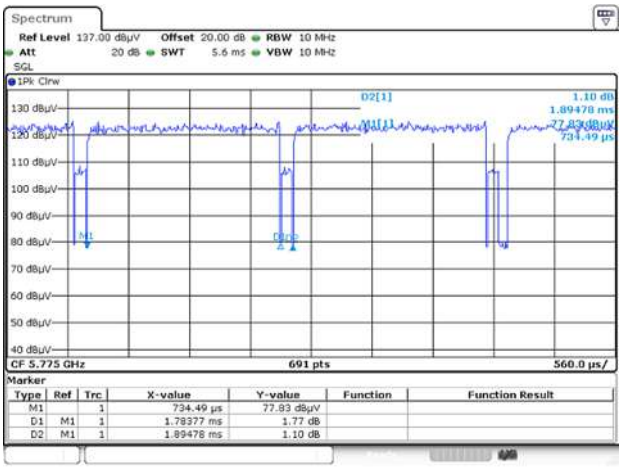
Modulation Type: 802.11ac VHT20 (6.5Mbps)



Modulation Type: 802.11ac VHT40 (13.5Mbps)

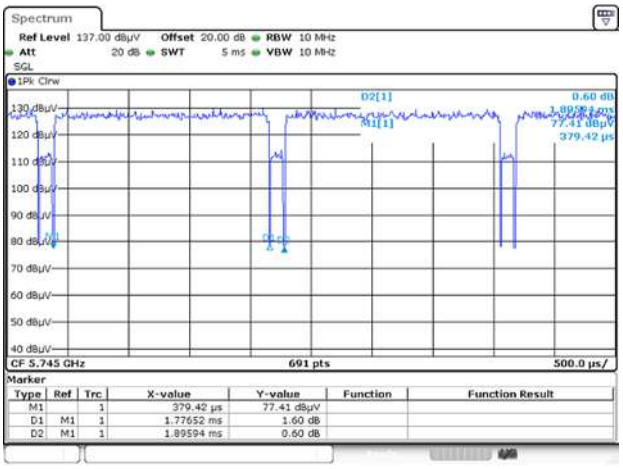


Modulation Type: 802.11ac VHT80 (29.3Mbps)

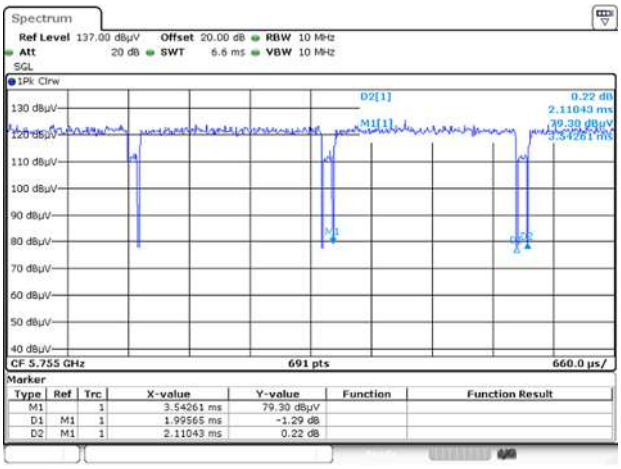


Band 4:

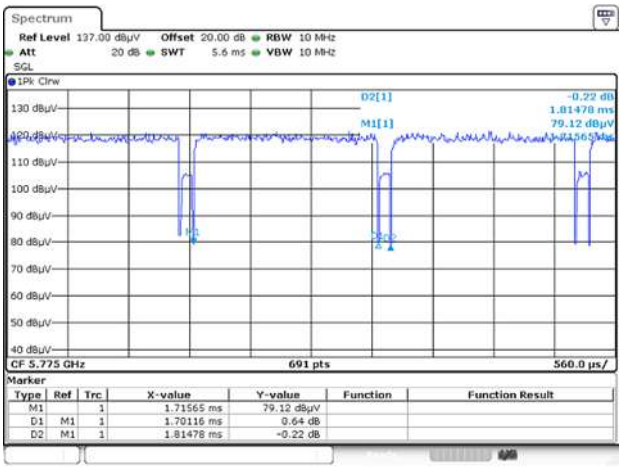
Modulation Type: 802.11ax HE20 (7.3Mbps)



Modulation Type: 802.11ax HE40 (14.6Mbps)



Modulation Type: 802.11ax HE80 (30.6Mbps)



8. 6dB Bandwidth & 99% Occupied Bandwidth

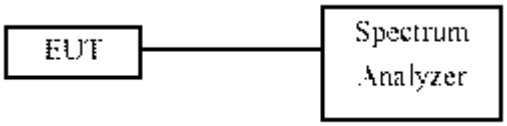
8.1. Test Limit

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

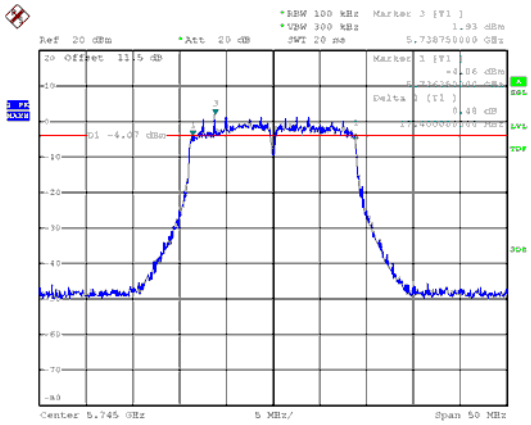
Modulation Type	Channel	Frequency (MHz)	6dB Bandwidth(MHz)								Minimum Limit (MHz)
			ANT A	ANT B	ANT C	ANT D	ANT E	ANT F	ANT G	ANT H	
11ac VHT20	149	5745	17.40	17.55	16.25	17.55	17.55	17.55	17.55	17.05	0.50
11ac VHT20	157	5785	15.50	15.50	16.30	17.15	17.55	17.55	17.60	16.90	0.50
11ac VHT20	165	5825	17.00	17.40	17.10	17.55	17.30	17.55	17.55	16.85	0.50
11ac VHT40	151	5755	36.10	35.30	35.60	36.00	36.50	35.80	35.70	35.70	0.50
11ac VHT40	159	5795	35.90	35.30	35.80	36.40	36.00	36.00	35.70	36.20	0.50
11ac VHT80	155	5775	75.84	75.04	75.68	75.36	72.64	73.76	70.08	71.36	0.50
11ax HE20	149	5745	18.95	16.75	17.90	17.35	18.90	18.85	19.00	18.75	0.50
11ax HE20	157	5785	18.85	18.35	18.75	18.95	18.80	19.00	18.90	19.05	0.50
11ax HE20	165	5825	18.90	16.25	16.30	16.25	18.95	18.80	18.70	19.00	0.50
11ax HE40	151	5755	36.40	36.90	36.20	37.90	37.80	37.90	36.50	37.60	0.50
11ax HE40	159	5795	35.00	36.10	36.50	37.90	38.00	37.00	37.80	37.50	0.50
11ax HE80	155	5775	72.96	74.08	75.36	69.92	**77.28**	64.96	**77.28**	76.16	0.50

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

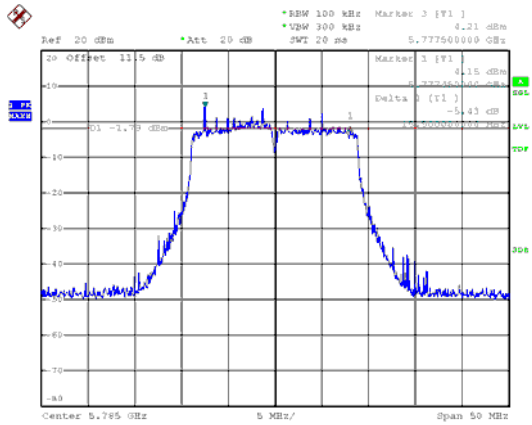
In the 5.8G Band

Modulation Type	Channel	Frequency (MHz)	99% Bandwidth(MHz)							
			ANT A	ANT B	ANT C	ANT D	ANT E	ANT F	ANT G	ANT H
11ac VHT20	149	5745	17.65	17.70	17.60	17.65	17.70	17.65	17.70	17.65
11ac VHT20	157	5785	17.65	17.55	17.70	17.70	17.70	17.70	17.70	17.60
11ac VHT20	165	5825	17.65	17.60	17.75	17.75	17.65	17.70	17.65	17.60
11ac VHT40	151	5755	36.40	36.10	36.40	36.40	36.40	36.40	36.40	36.40
11ac VHT40	159	5795	36.40	36.30	36.40	36.40	36.40	36.40	36.40	36.50
11ac VHT80	155	5775	75.52	75.04	75.36	75.52	75.36	75.36	75.52	75.36
11ax HE20	149	5745	19.00	19.00	18.95	18.90	19.00	18.95	18.95	18.95
11ax HE20	157	5785	18.90	18.85	18.95	19.00	18.90	19.00	19.00	19.05
11ax HE20	165	5825	19.00	18.90	18.95	19.00	19.00	19.00	18.95	19.00
11ax HE40	151	5755	37.90	37.70	38.10	38.00	38.00	38.00	38.00	38.00
11ax HE40	159	5795	38.00	37.90	38.00	37.90	37.90	37.80	38.00	38.00
11ax HE80	155	5775	77.12	77.12	77.12	**77.28**	76.96	76.96	77.12	77.12

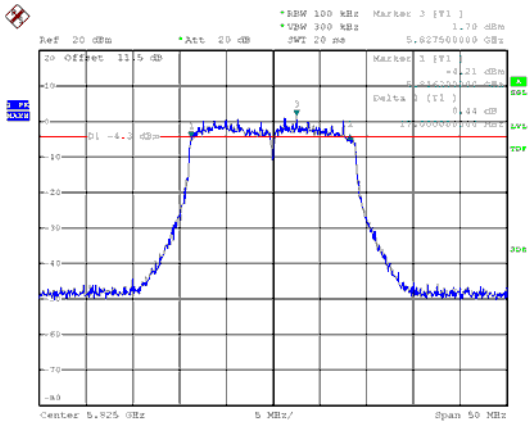
6dB Bandwidth
ANT A
Modulation Type: 802.11ac, VHT20 (6.5Mbps)
CH149



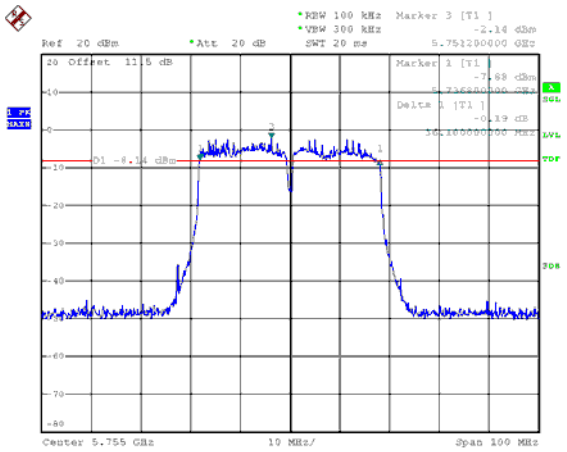
CH157



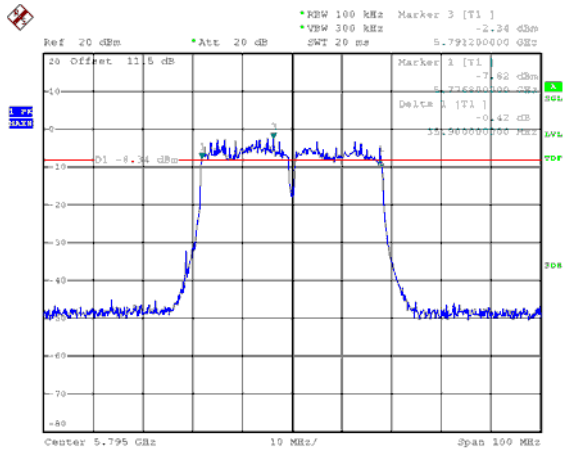
CH165



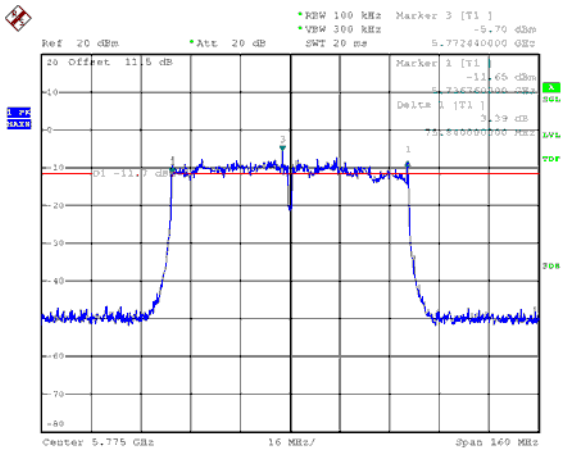
ANT A
Modulation Type: 802.11ac, VHT40 (13.5Mbps)
CH151



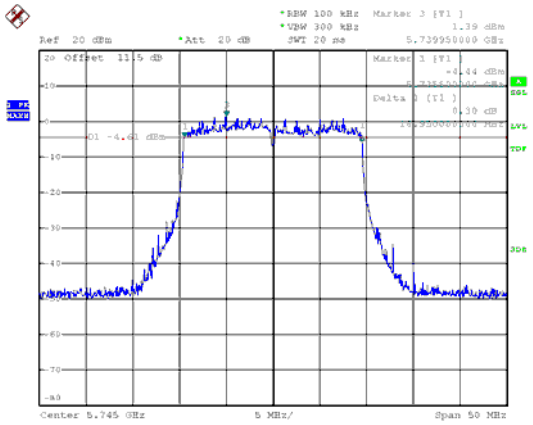
CH159



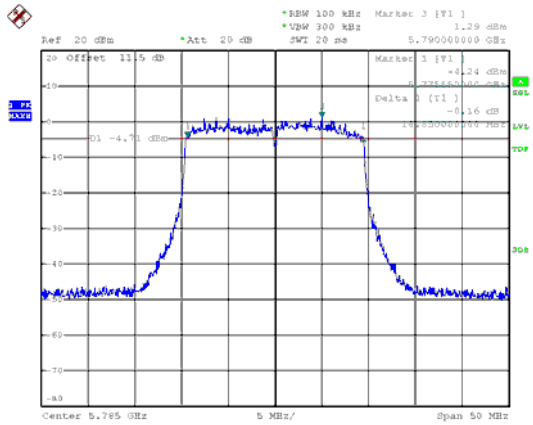
ANT A
Modulation Type: 802.11ac, VHT80 (29.3Mbps)
CH155



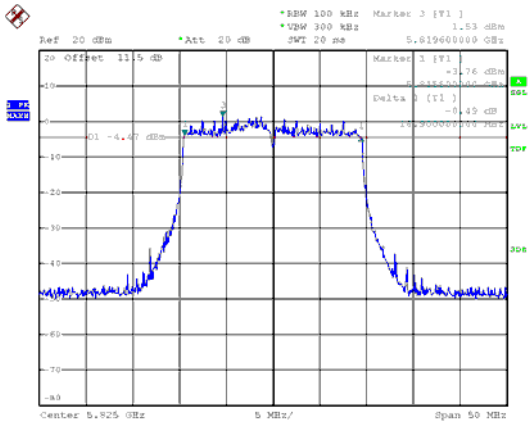
ANT A
Modulation Type: 802.11ax HE20 (7.3Mbps)
CH149



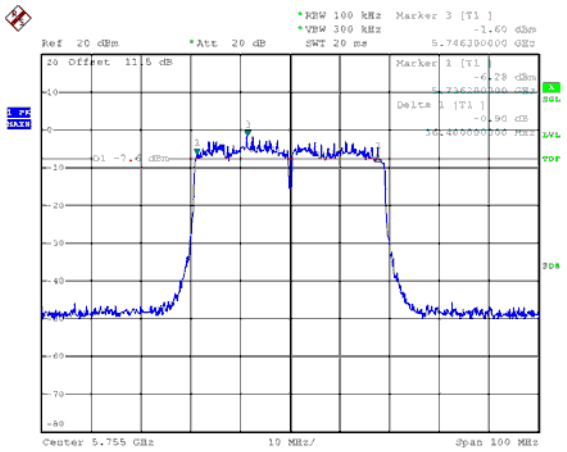
CH157



CH165



ANT A
Modulation Type: 802.11ax HE40 (14.6Mbps)
CH151



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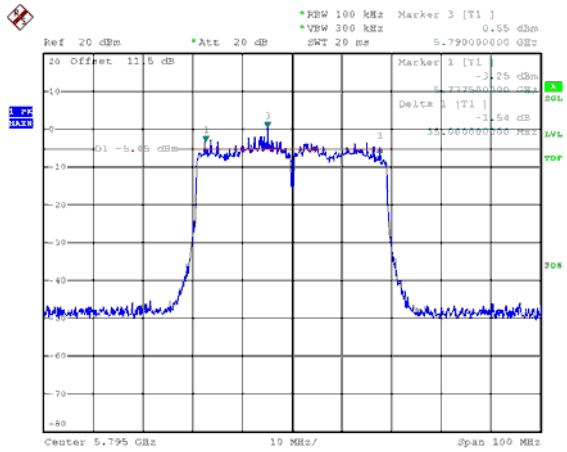
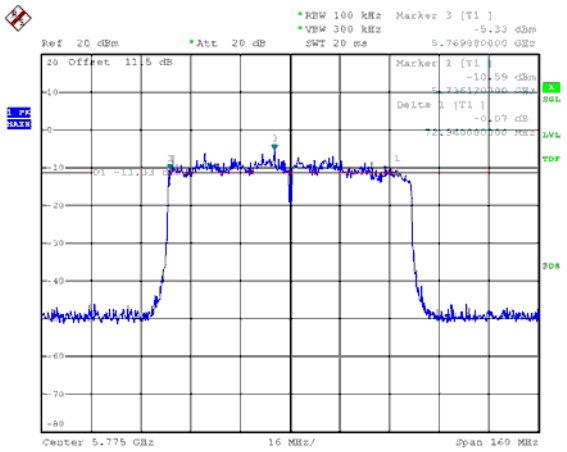
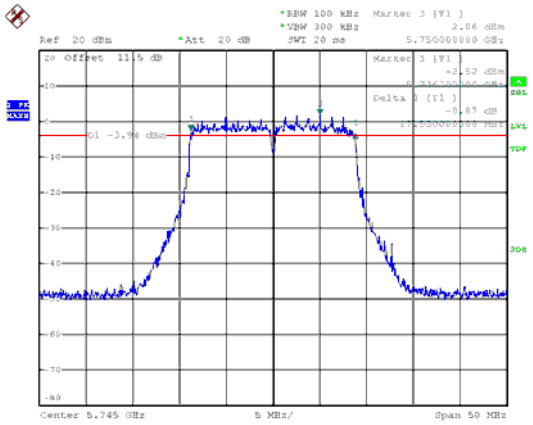


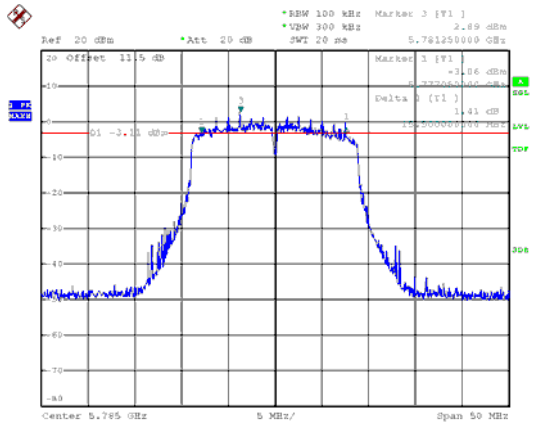
ANT A
Modulation Type: 802.11ax HE80 (30.6Mbps)
CH155



ANT B
Modulation Type: 802.11ac, VHT20 (6.5Mbps)
CH149



CH157



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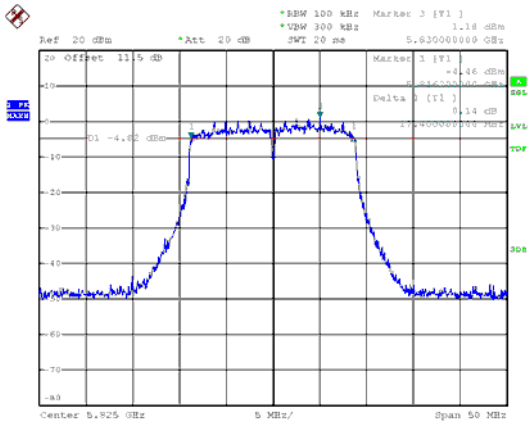
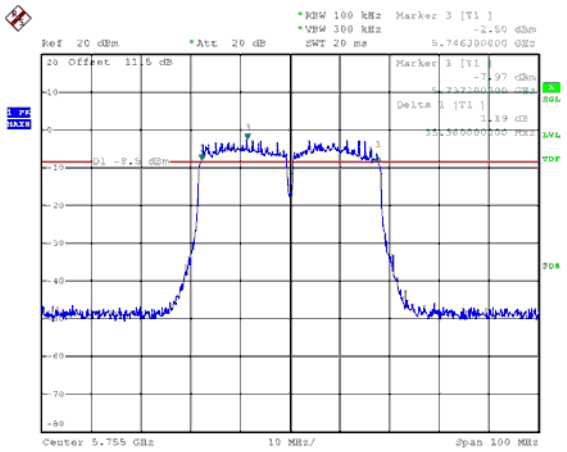


ANT B
Modulation Type: 802.11ac, VHT40 (13.5Mbps)
CH151



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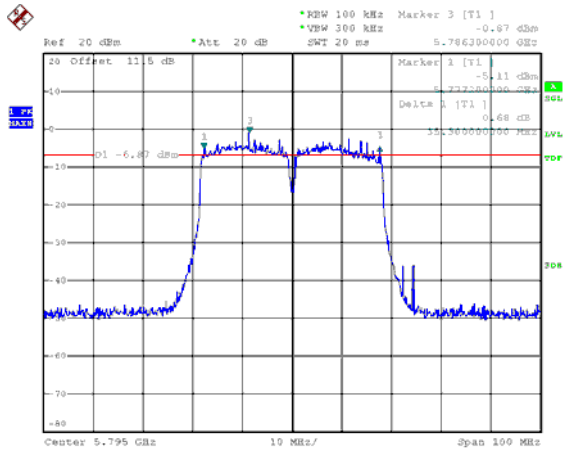
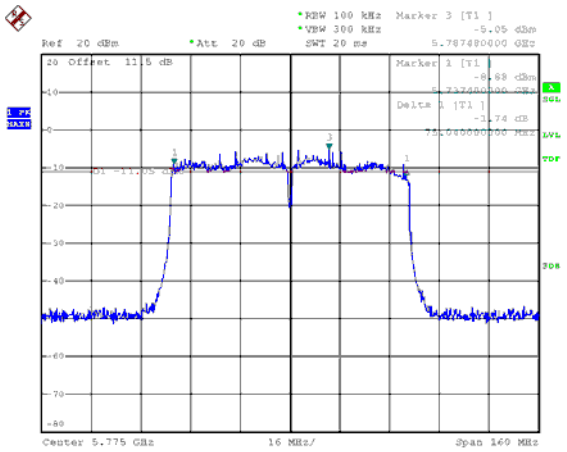
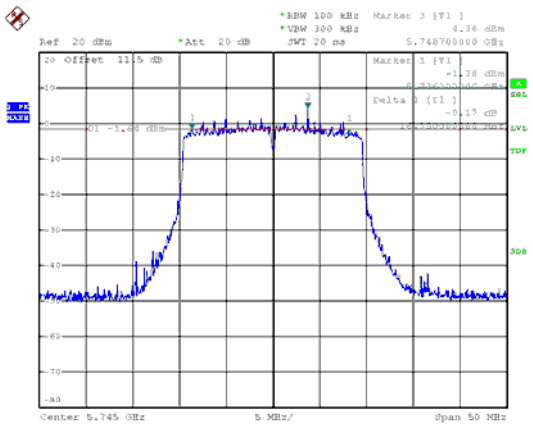


ANT B
Modulation Type: 802.11ac, VHT80 (29.3Mbps)
CH155



ANT B
Modulation Type: 802.11ax HE20 (7.3Mbps)
CH149



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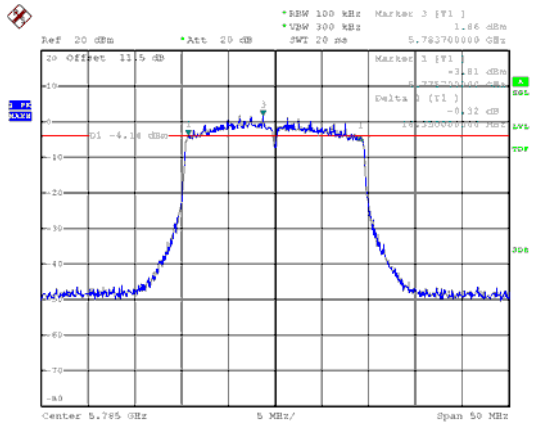
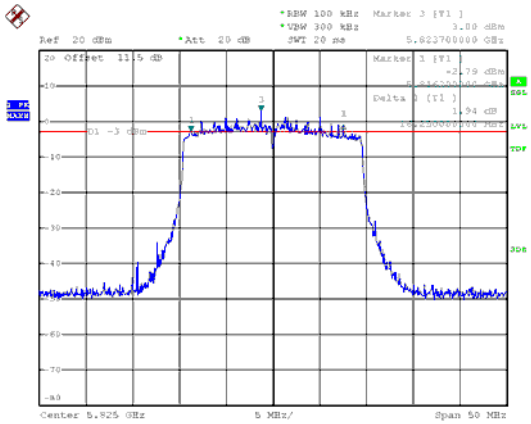
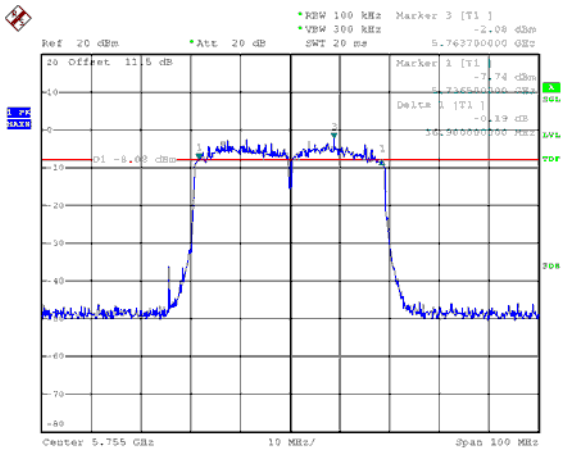


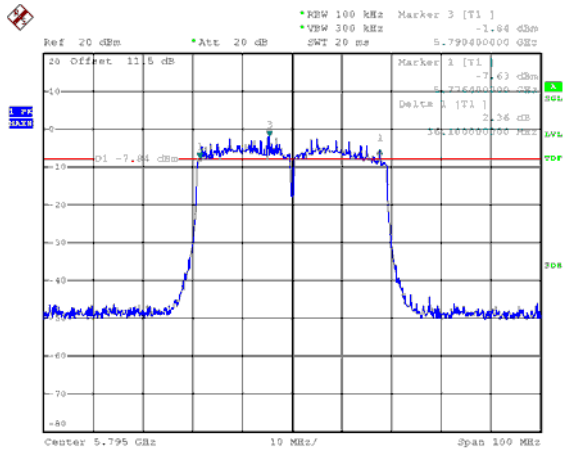
CH165



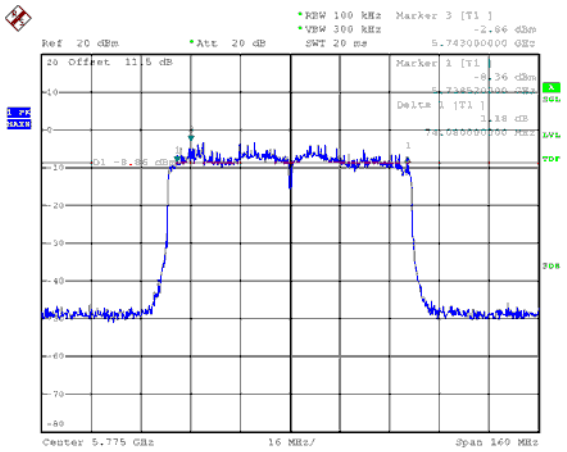
ANT B
Modulation Type: 802.11ax HE40 (14.6Mbps)
CH151



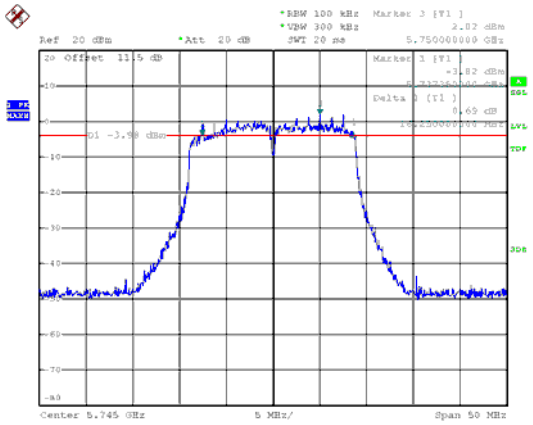
CH159



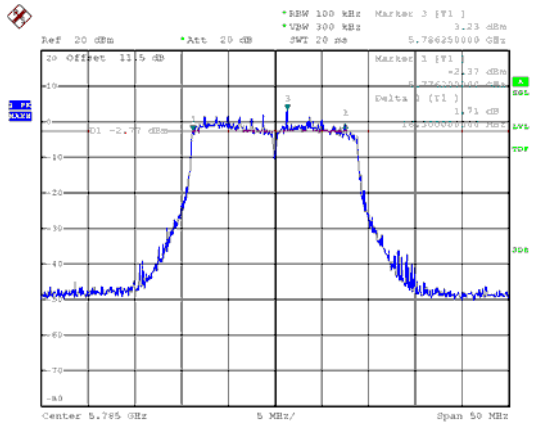
ANT B
Modulation Type: 802.11ax HE80 (30.6Mbps)
CH155



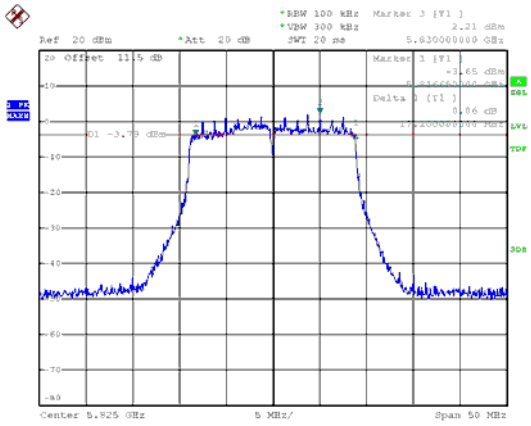
ANT C
Modulation Type: 802.11ac, VHT20 (6.5Mbps)
CH149



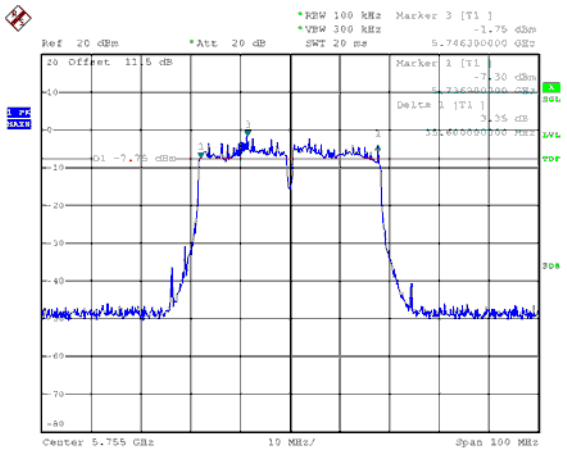
CH157



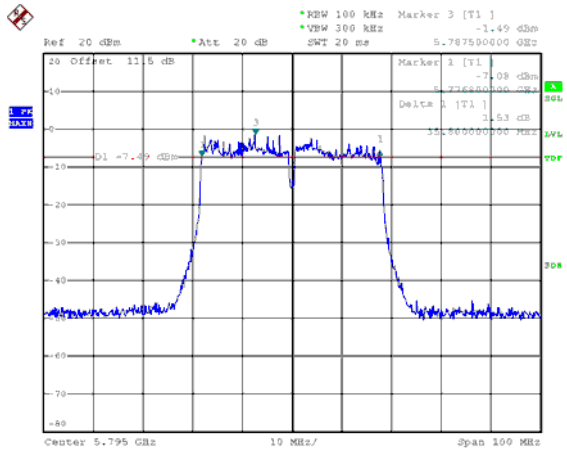
CH165



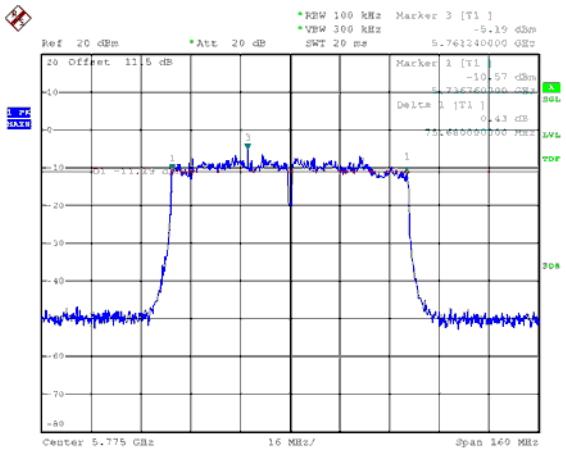
ANT C
Modulation Type: 802.11ac, VHT40 (13.5Mbps)
CH151



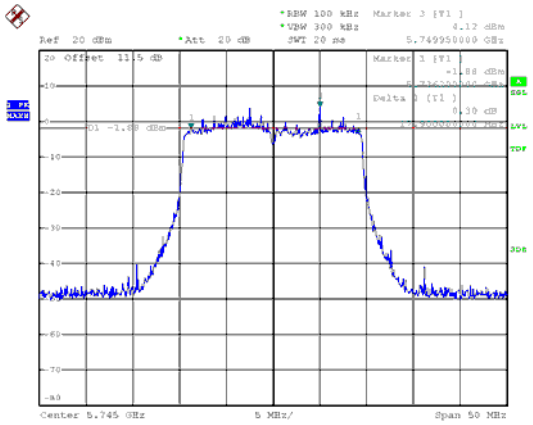
CH159



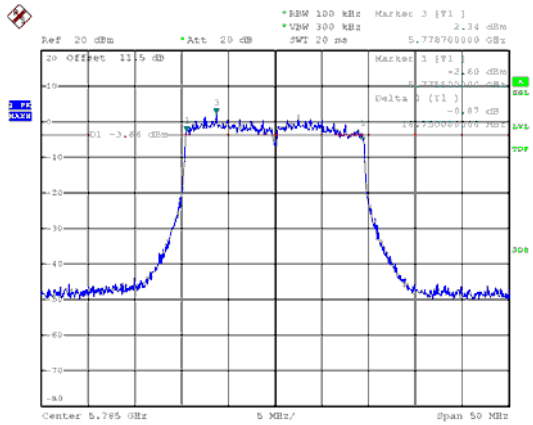
ANT C
Modulation Type: 802.11ac, VHT80 (29.3Mbps)
CH155



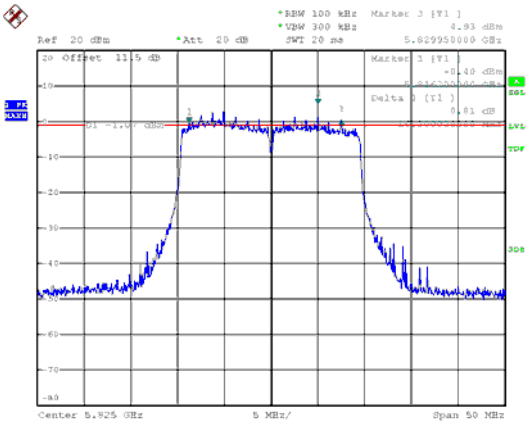
ANT C
Modulation Type: 802.11ax HE20 (7.3Mbps)
CH149



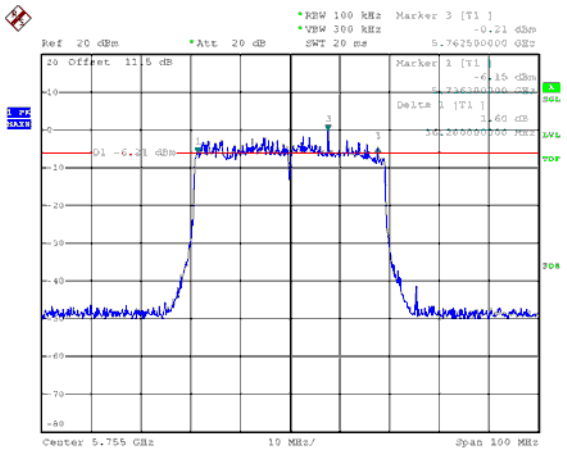
CH157



CH165



ANT C
Modulation Type: 802.11ax HE40 (14.6Mbps)
CH151



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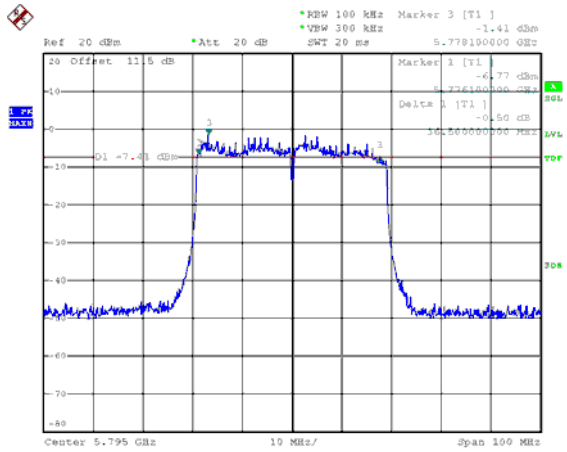
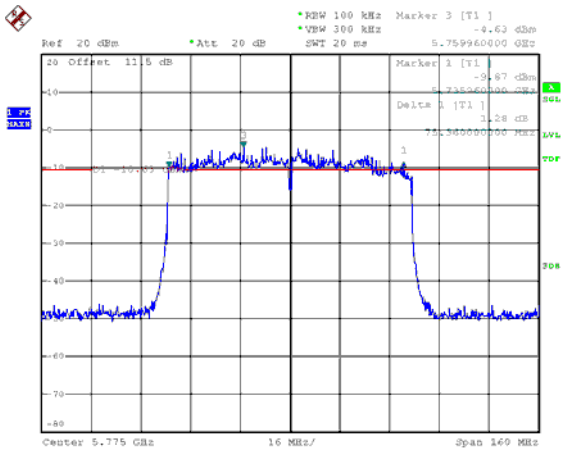
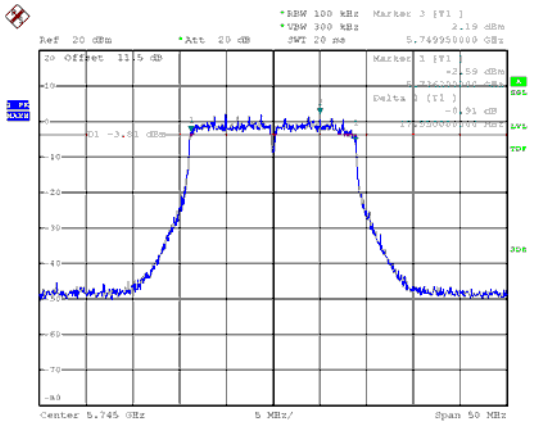


ANT C
Modulation Type: 802.11ax HE80 (30.6Mbps)
CH155



ANT D
Modulation Type: 802.11ac, VHT20 (6.5Mbps)
CH149



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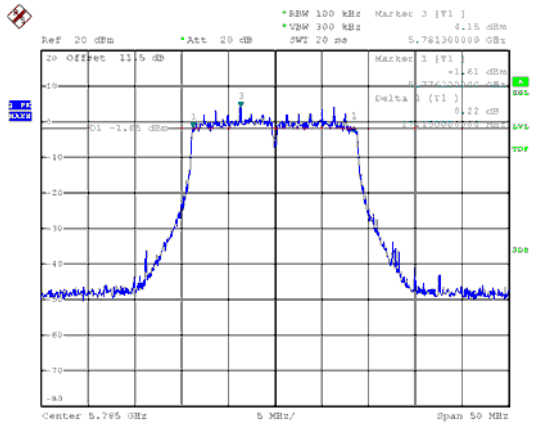

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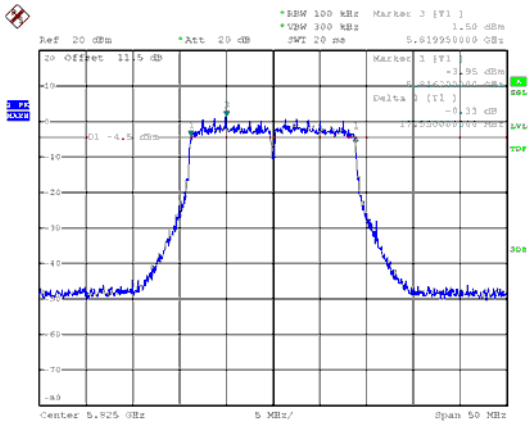
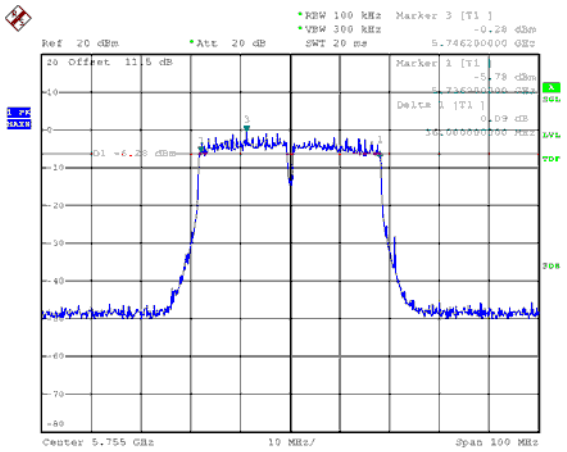


ANT D
Modulation Type: 802.11ac, VHT40 (13.5Mbps)
CH151



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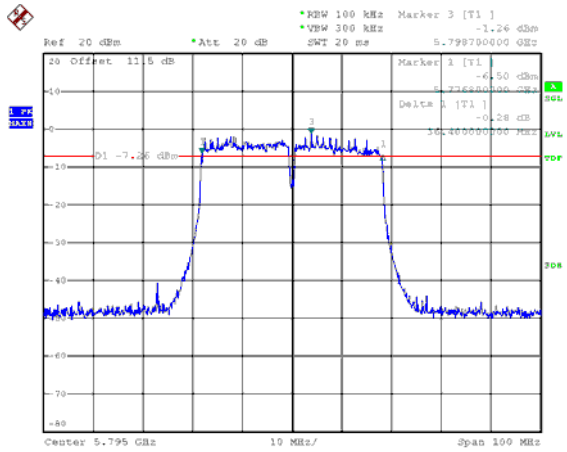
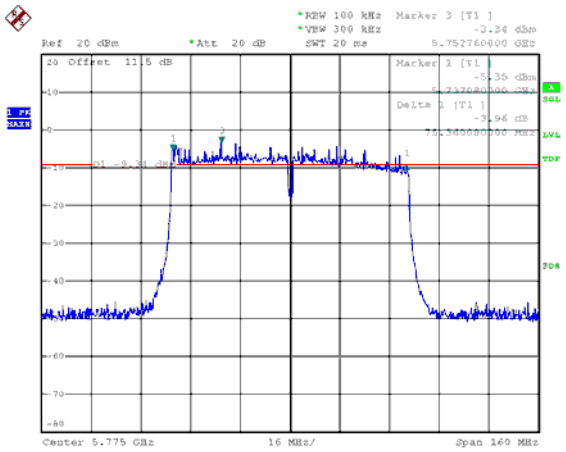
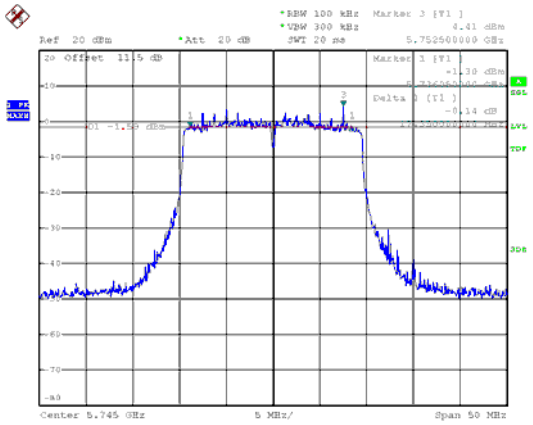


ANT D
Modulation Type: 802.11ac, VHT80 (29.3Mbps)
CH155



ANT D
Modulation Type: 802.11ax HE20 (7.3Mbps)
CH149



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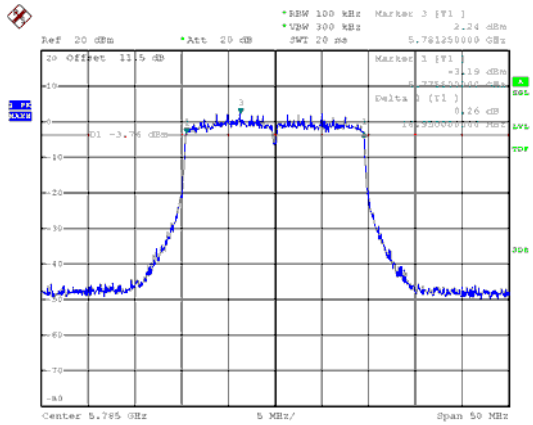

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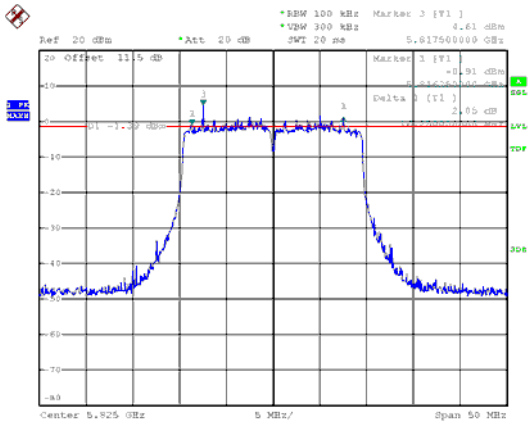
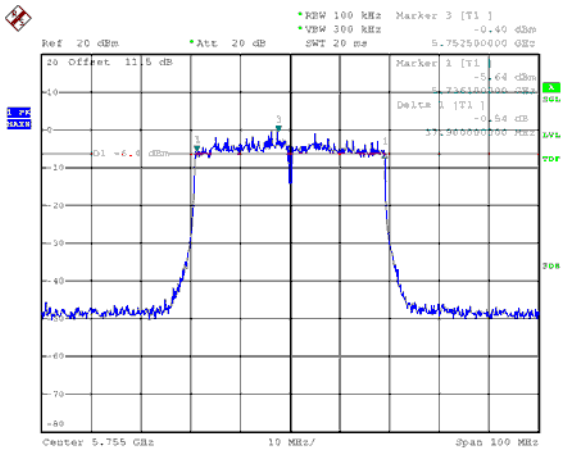


ANT D
Modulation Type: 802.11ax HE40 (14.6Mbps)
CH151



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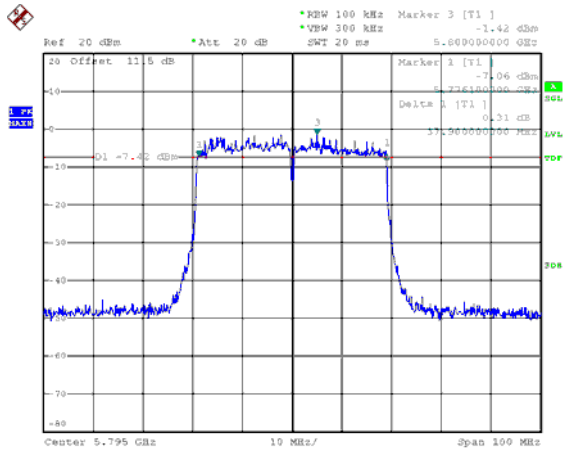
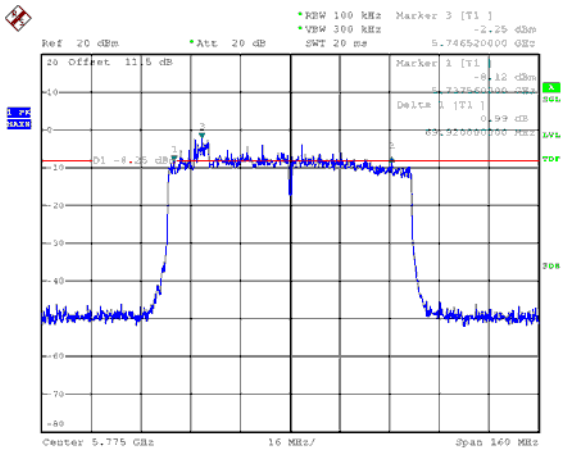
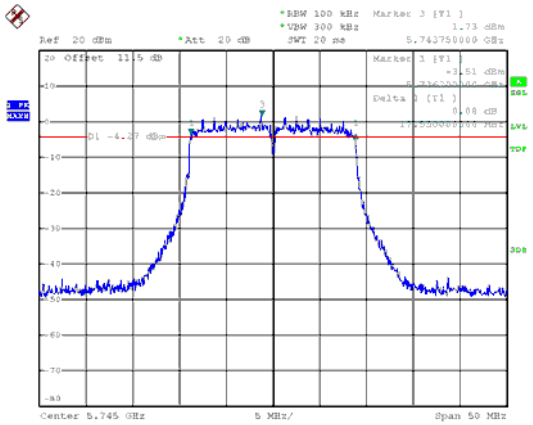


ANT D
Modulation Type: 802.11ax HE80 (30.6Mbps)
CH155



ANT E
Modulation Type: 802.11ac, VHT20 (6.5Mbps)
CH149



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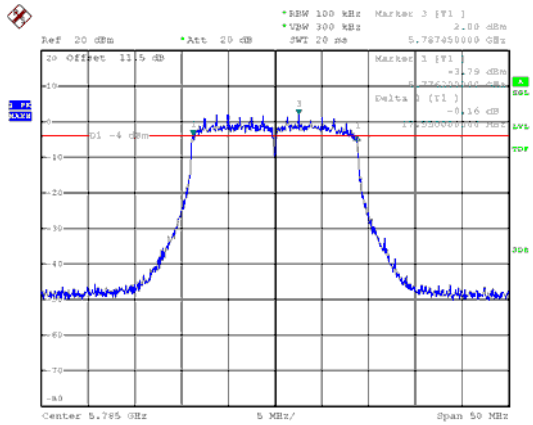

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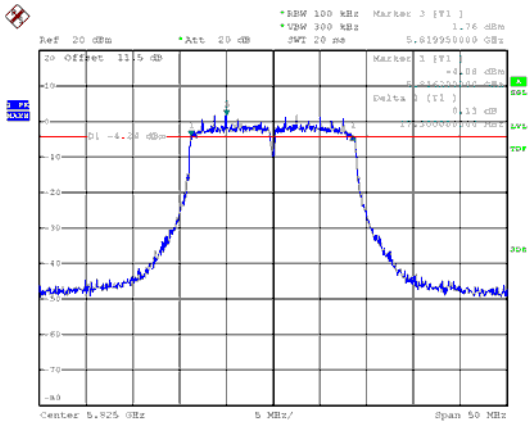
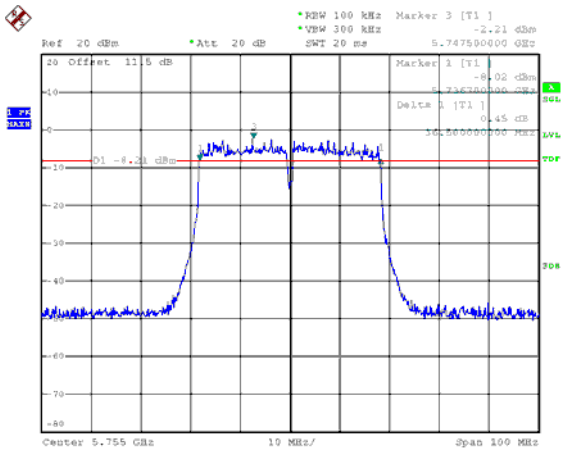


ANT E
Modulation Type: 802.11ac, VHT40 (13.5Mbps)
CH151



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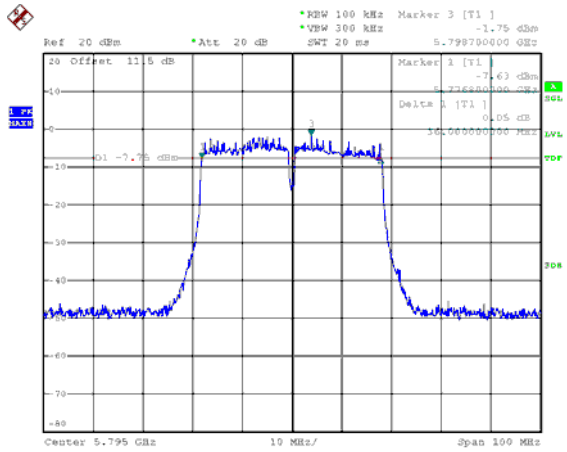
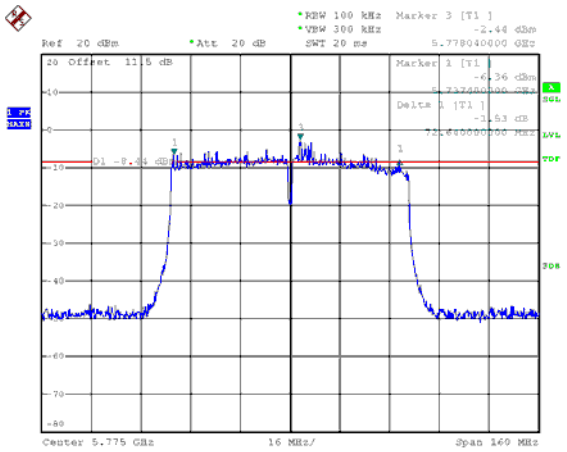
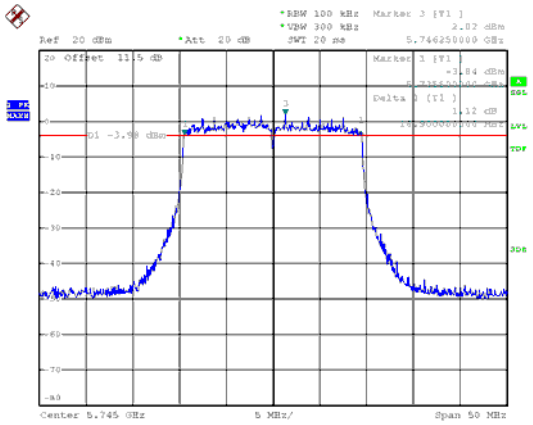


ANT E
Modulation Type: 802.11ac, VHT80 (29.3Mbps)
CH155



ANT E
Modulation Type: 802.11ax HE20 (7.3Mbps)
CH149



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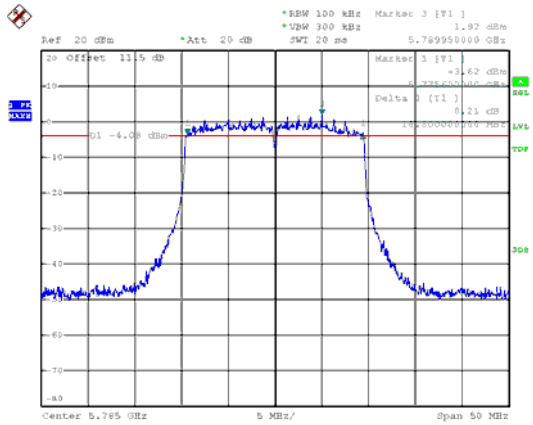

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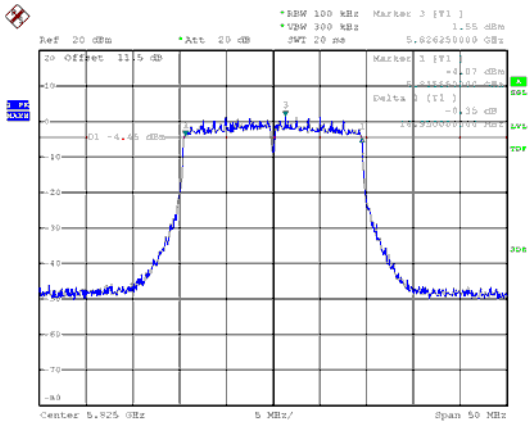
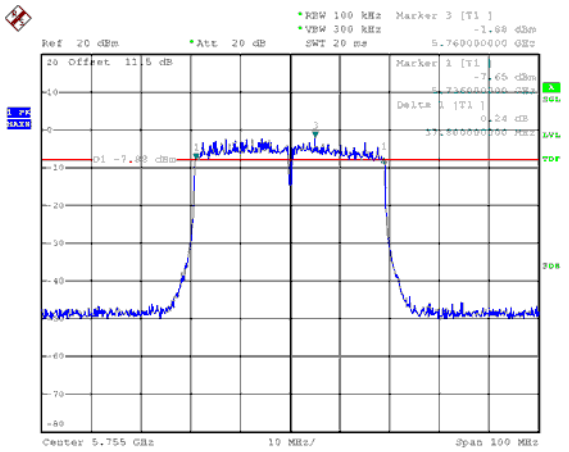


ANT E
Modulation Type: 802.11ax HE40 (14.6Mbps)
CH151



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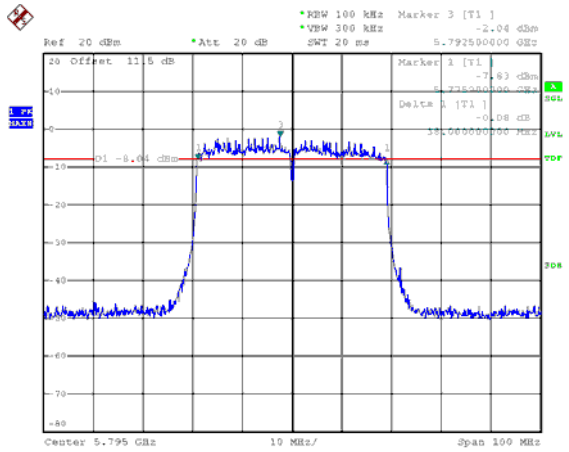
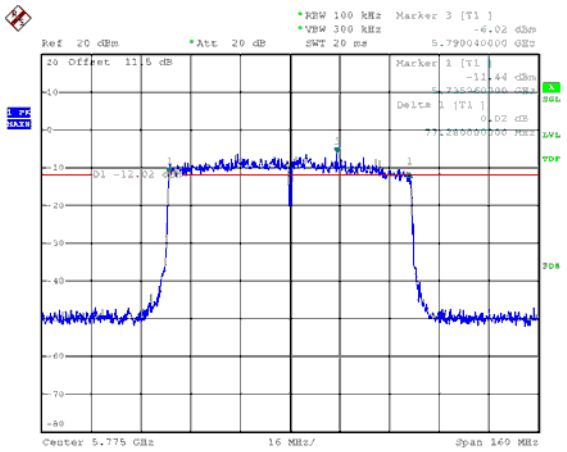
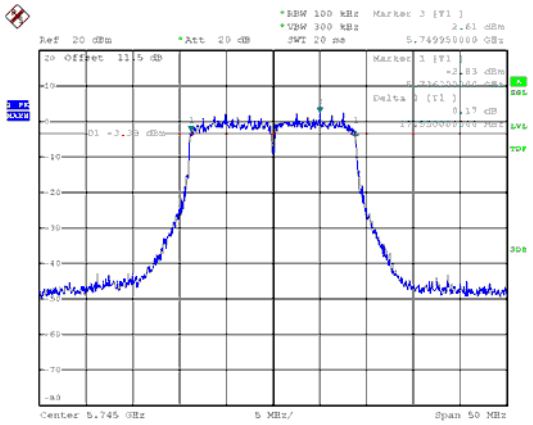


ANT E
Modulation Type: 802.11ax HE80 (30.6Mbps)
CH155



ANT F
Modulation Type: 802.11ac, VHT20 (6.5Mbps)
CH149



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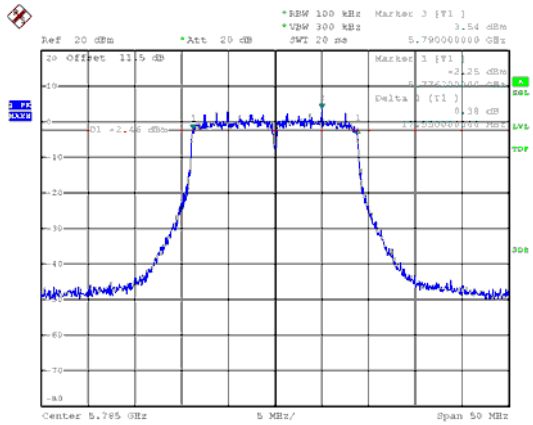

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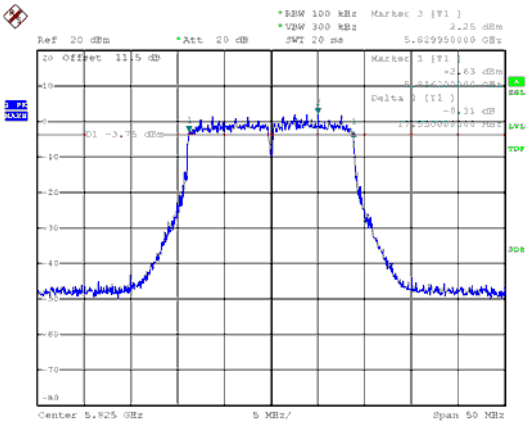
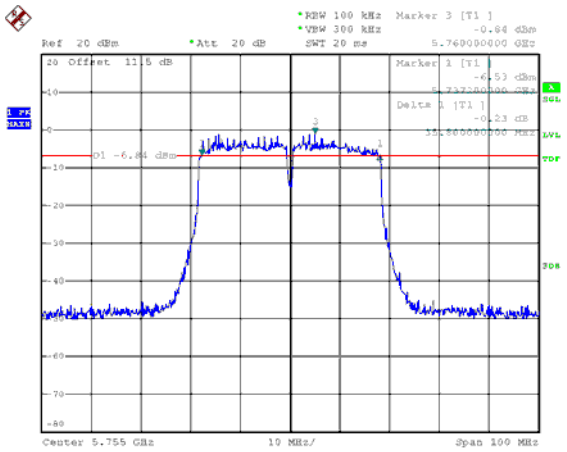


ANT F
Modulation Type: 802.11ac, VHT40 (13.5Mbps)
CH151



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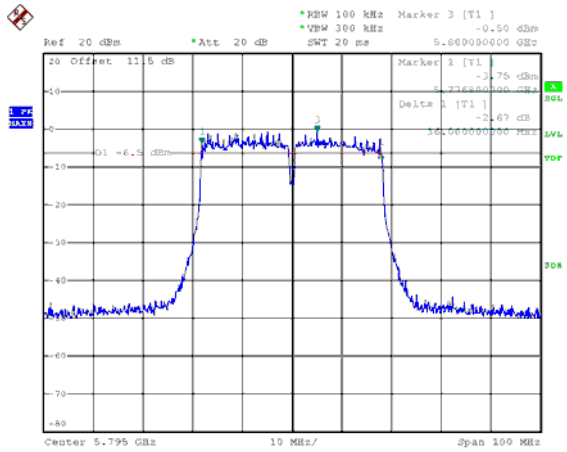
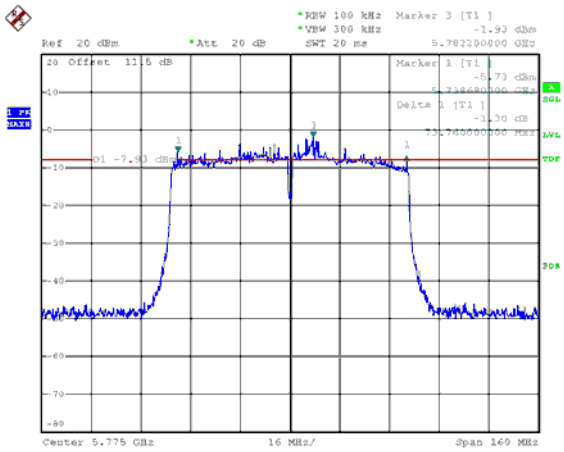
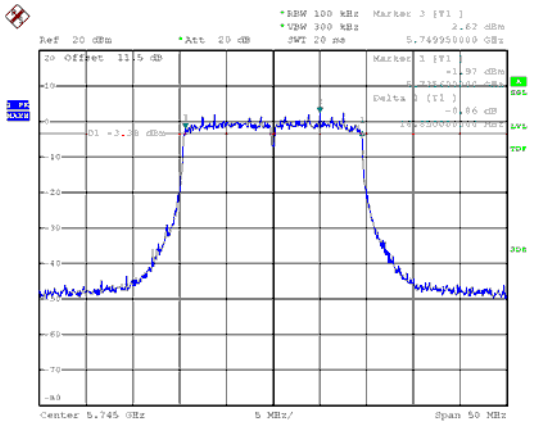


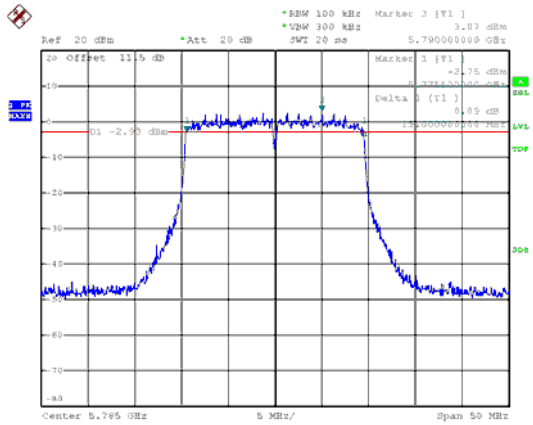
ANT F
Modulation Type: 802.11ac, VHT80 (29.3Mbps)
CH155



ANT F
Modulation Type: 802.11ax HE20 (7.3Mbps)
CH149



CH157



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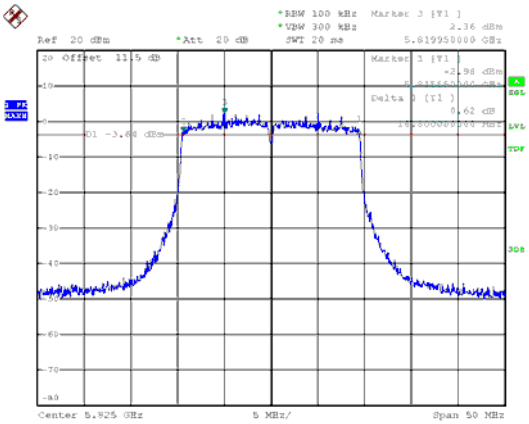
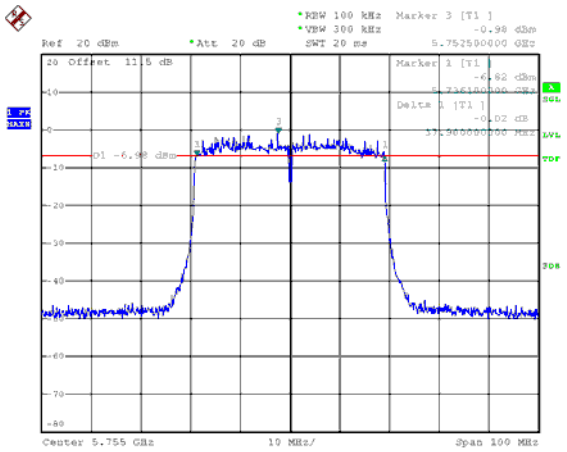


ANT F
Modulation Type: 802.11ax HE40 (14.6Mbps)
CH151



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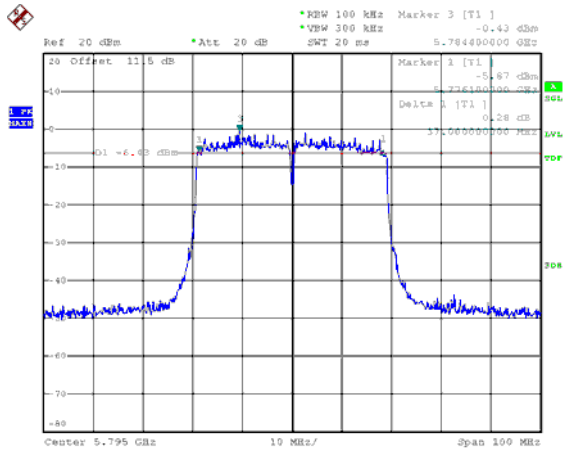
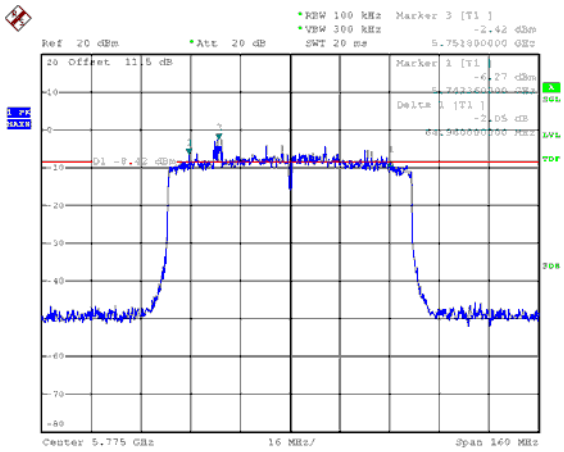
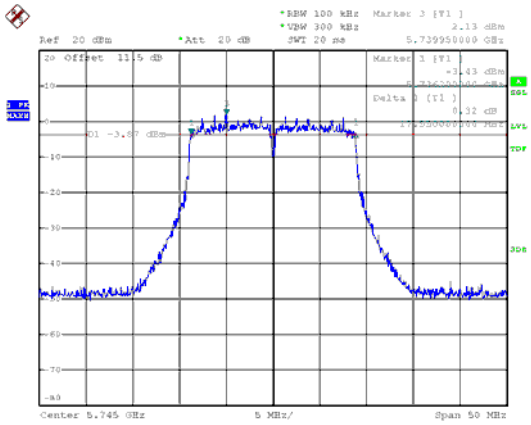


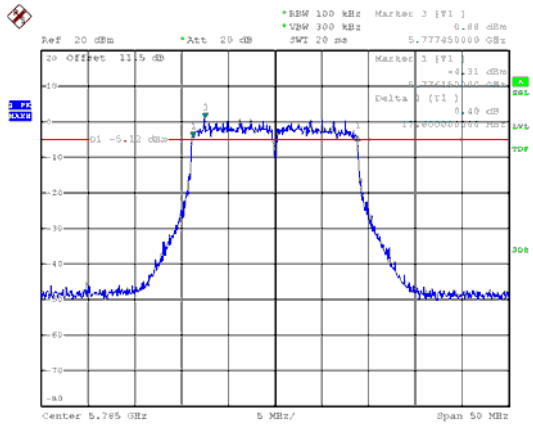
ANT F
Modulation Type: 802.11ax HE80 (30.6Mbps)
CH155



ANT G
Modulation Type: 802.11ac, VHT20 (6.5Mbps)
CH149



CH157



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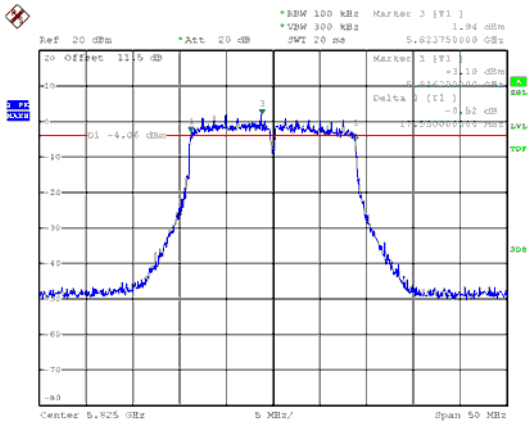
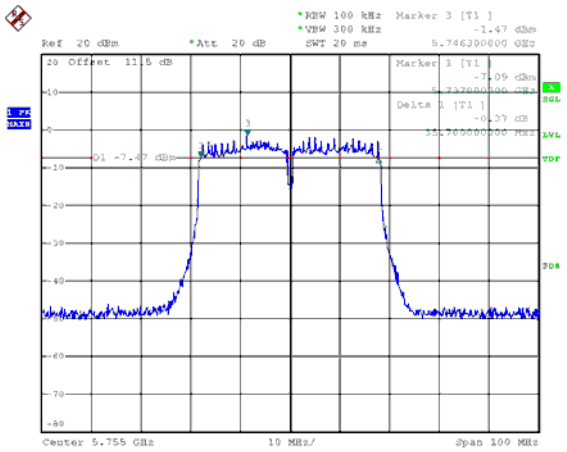


ANT G
Modulation Type: 802.11ac, VHT40 (13.5Mbps)
CH151



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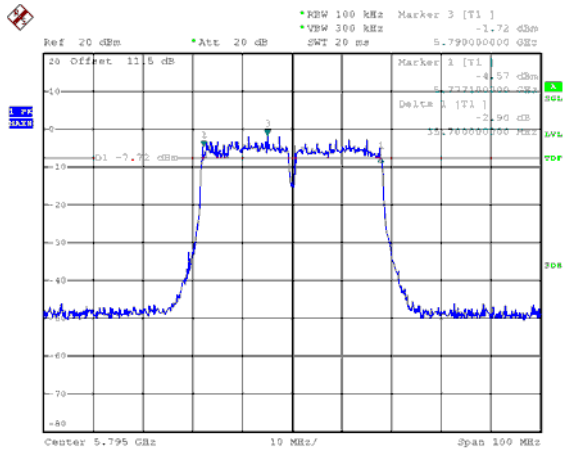
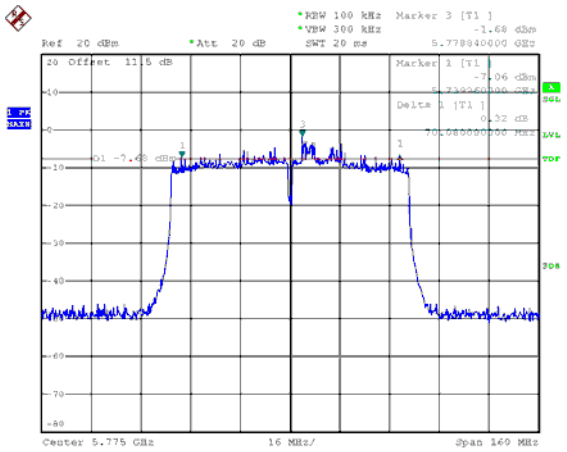
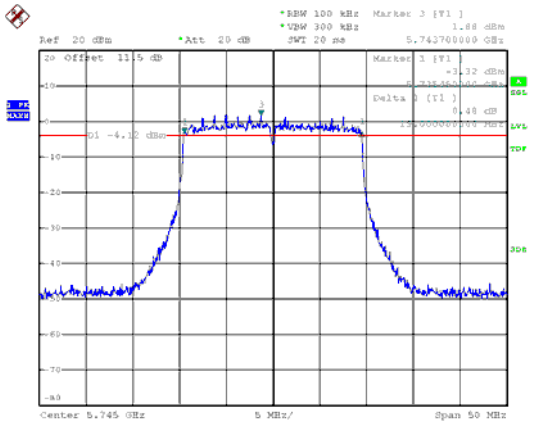


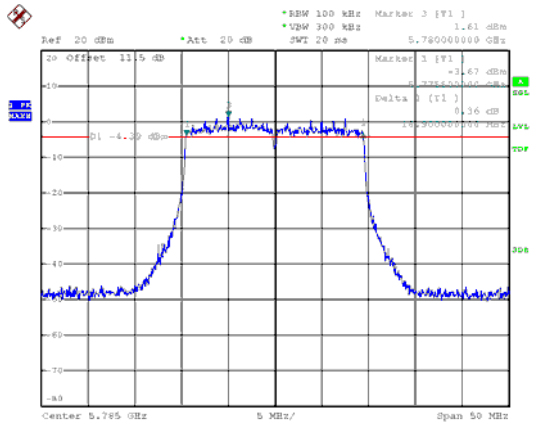
ANT G
Modulation Type: 802.11ac, VHT80 (29.3Mbps)
CH155



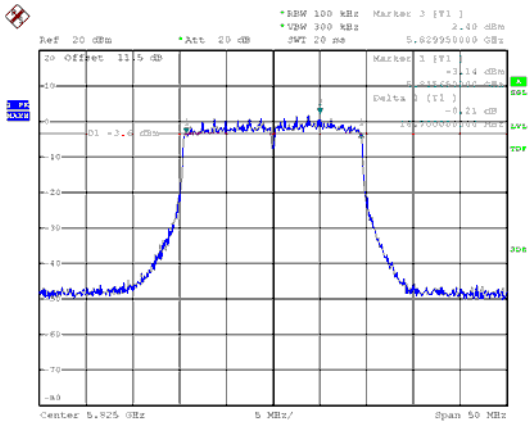
ANT G
Modulation Type: 802.11ax HE20 (7.3Mbps)
CH149



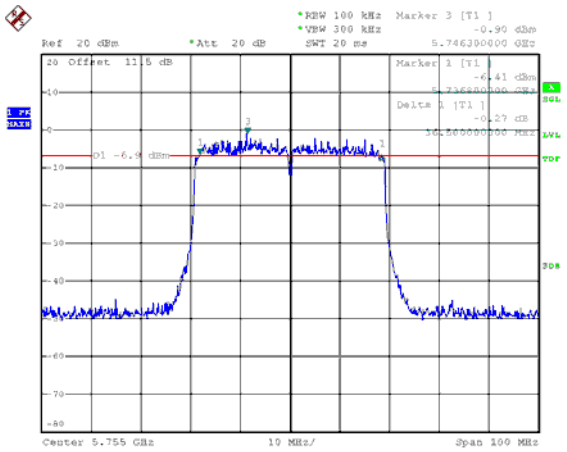
CH157



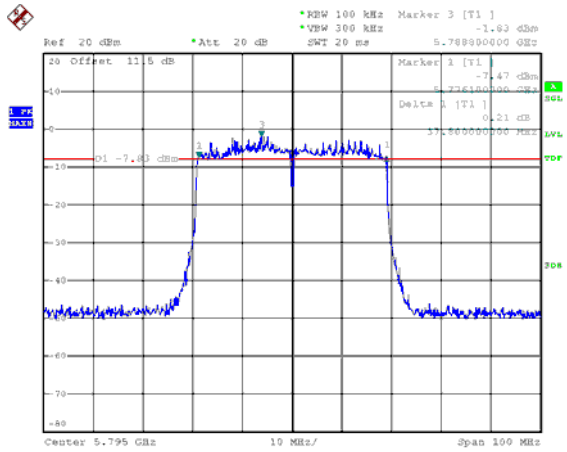
CH165



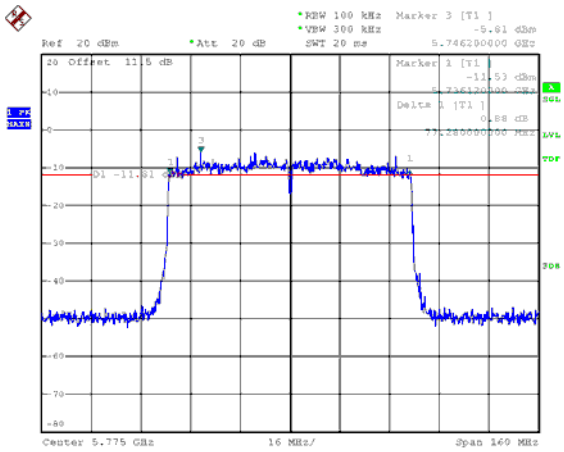
ANT G
Modulation Type: 802.11ax HE40 (14.6Mbps)
CH151



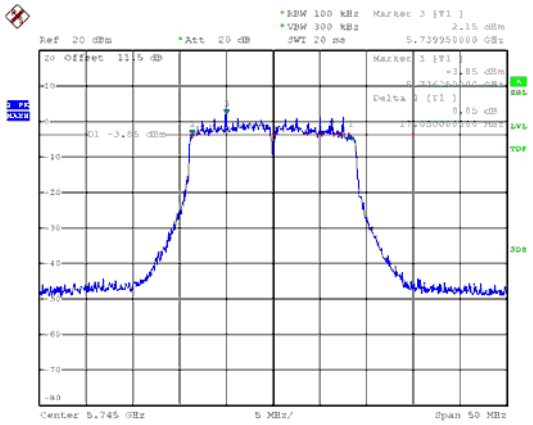
CH159



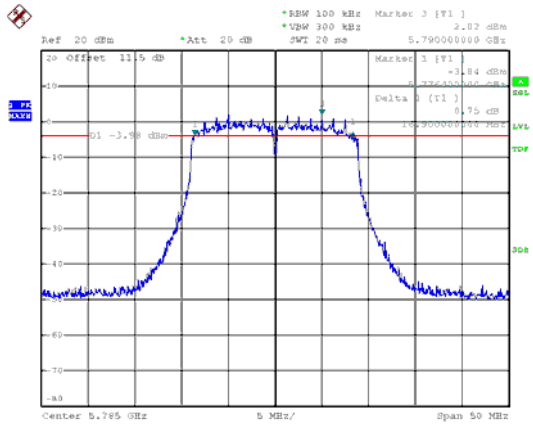
ANT G
Modulation Type: 802.11ax HE80 (30.6Mbps)
CH155



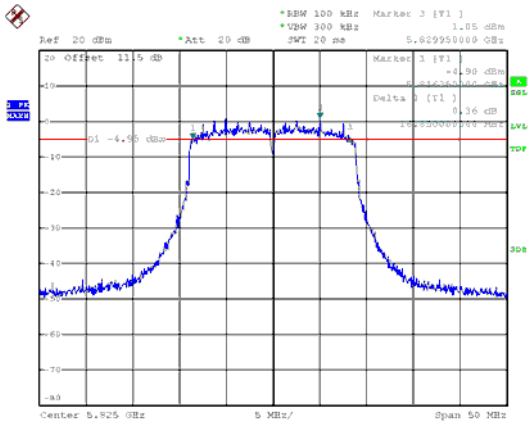
ANT H
Modulation Type: 802.11ac, VHT20 (6.5Mbps)
CH149



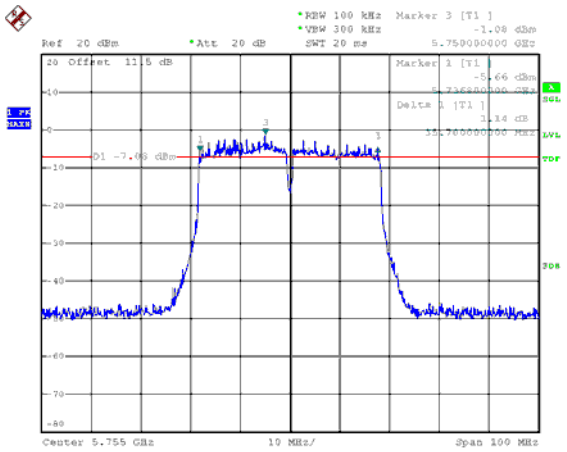
CH157



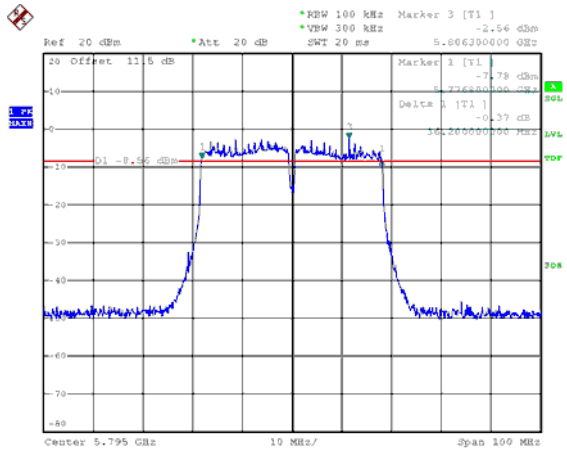
CH165



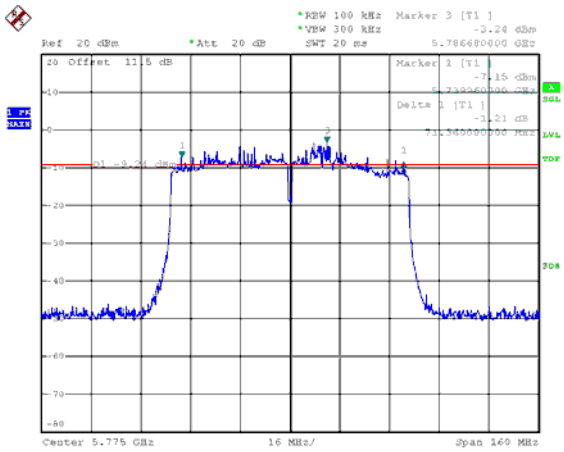
ANT H
Modulation Type: 802.11ac, VHT40 (13.5Mbps)
CH151



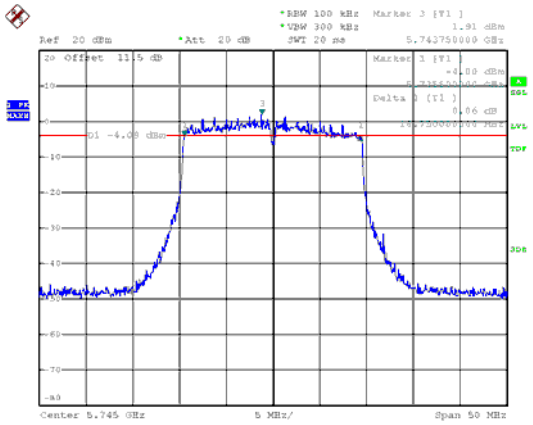
CH159



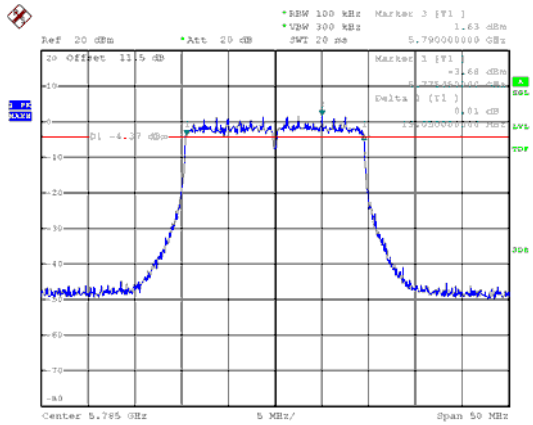
ANT H
Modulation Type: 802.11ac, VHT80 (29.3Mbps)
CH155



ANT H
Modulation Type: 802.11ax HE20 (7.3Mbps)
CH149



CH157



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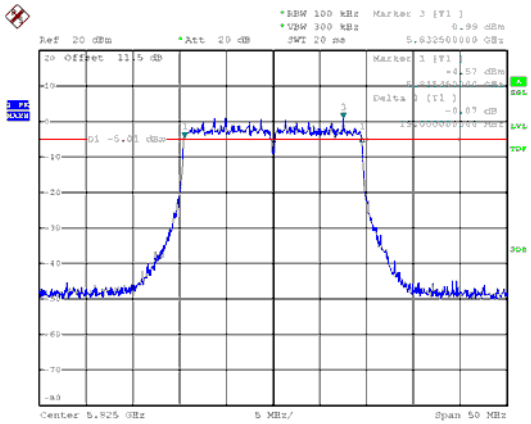

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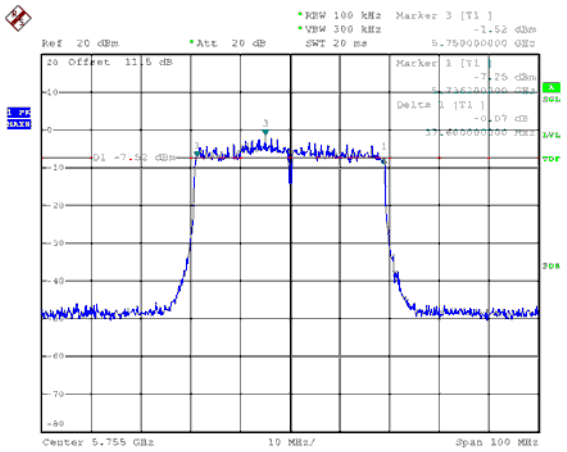
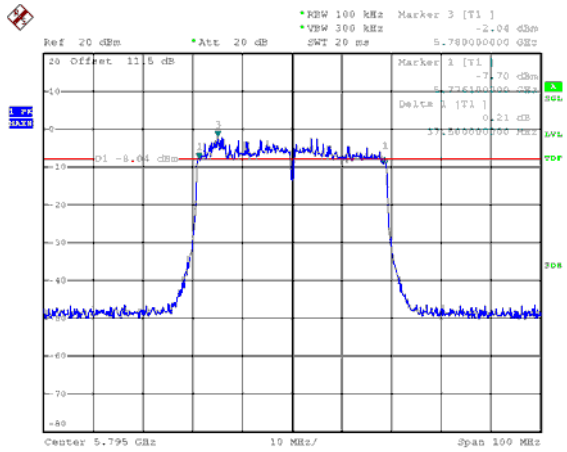
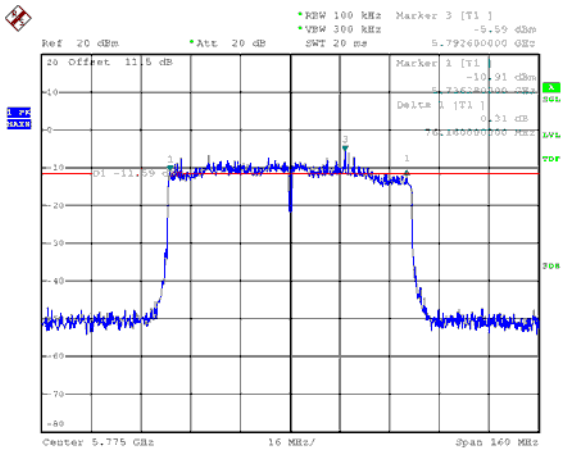
ANT H
Modulation Type: 802.11ax HE40 (14.6Mbps)
CH151



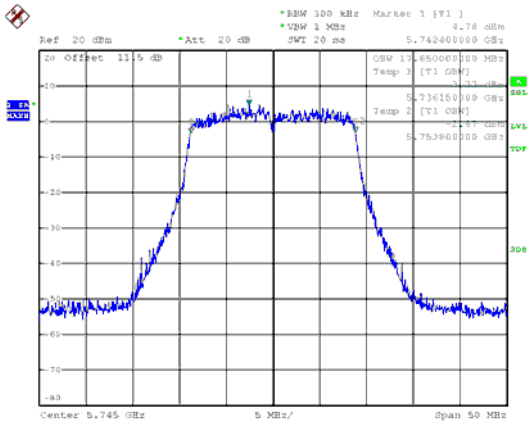
CH159



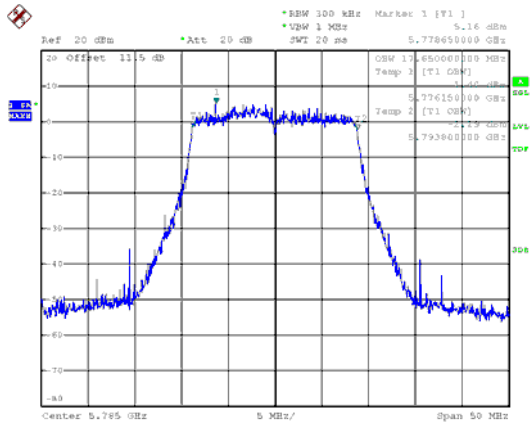
ANT H
Modulation Type: 802.11ax HE80 (30.6Mbps)
CH155



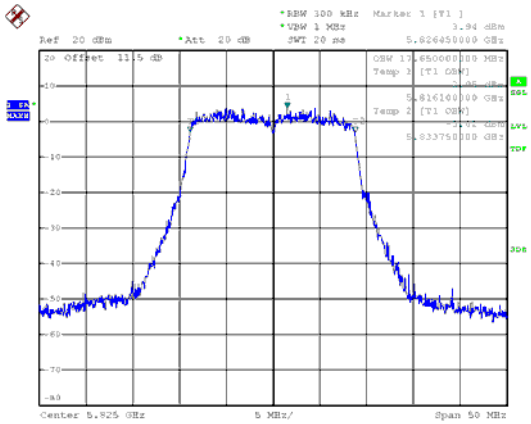
99% Occupied Bandwidth
ANT A
Modulation Type: 802.11ac, VHT20 (6.5Mbps)
CH149



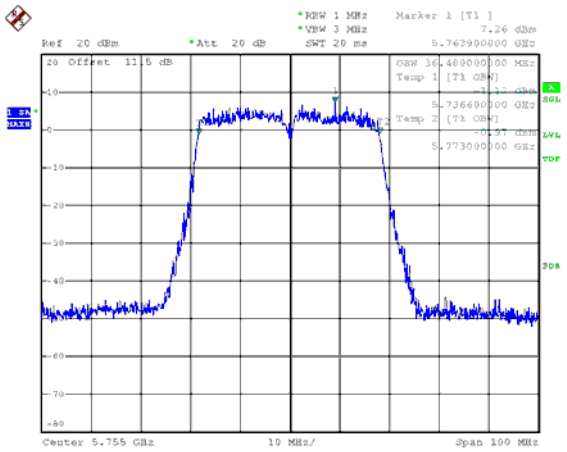
CH157



CH165



ANT A
Modulation Type: 802.11ac, VHT40 (13.5Mbps)
CH151



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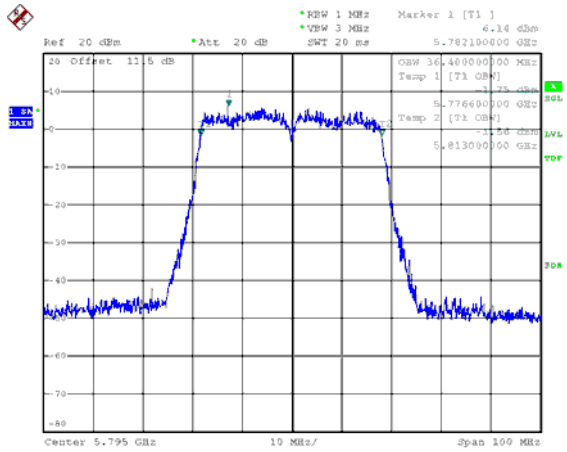
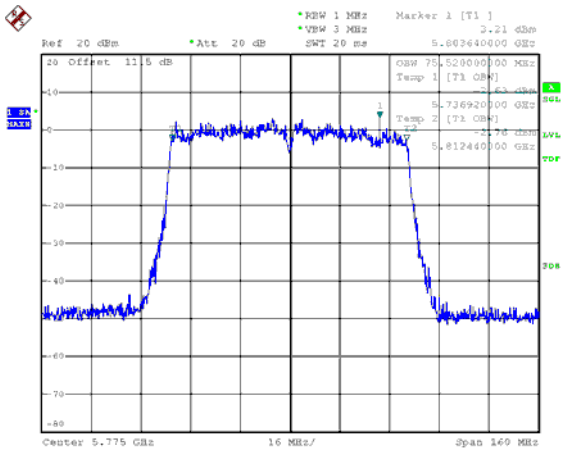
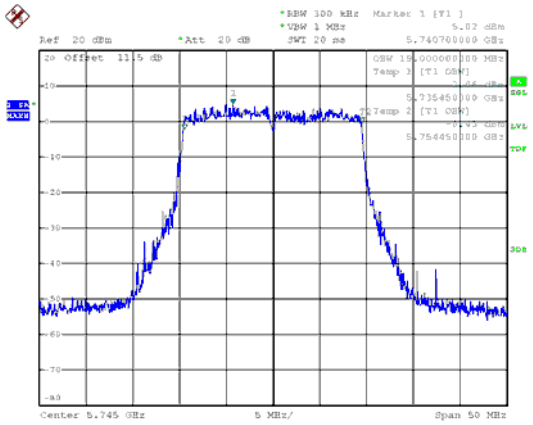


ANT A
Modulation Type: 802.11ac, VHT80 (29.3Mbps)
CH155



ANT A
Modulation Type: 802.11ax HE20 (7.3Mbps)
CH149



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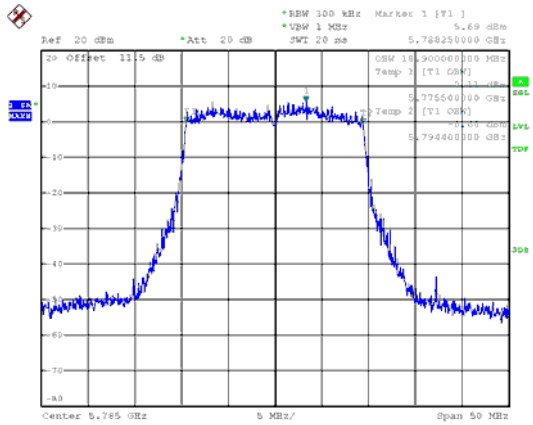

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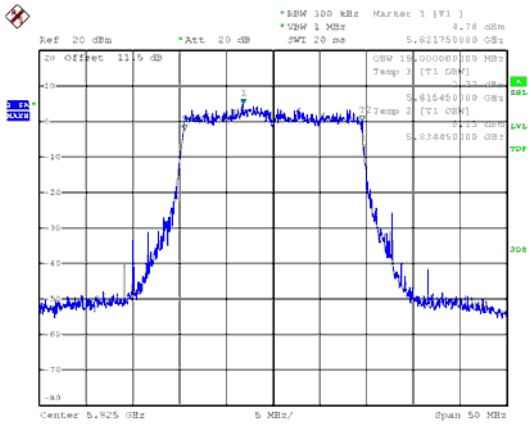
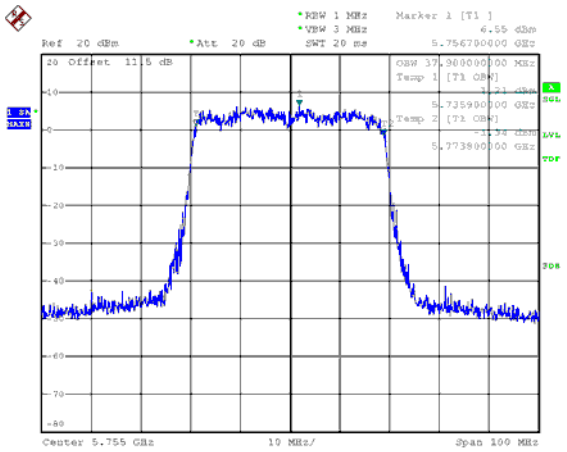


ANT A
Modulation Type: 802.11ax HE40 (14.6Mbps)
CH151



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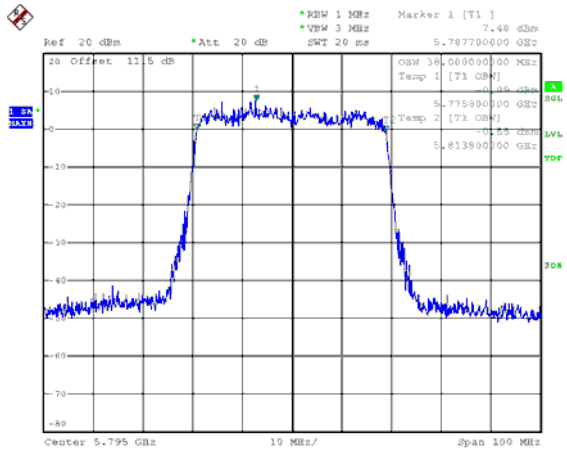
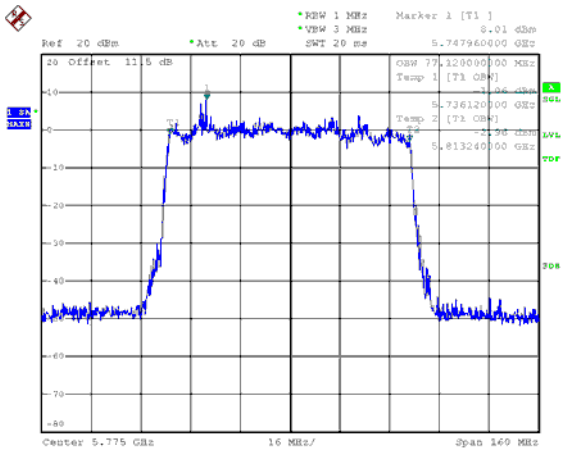
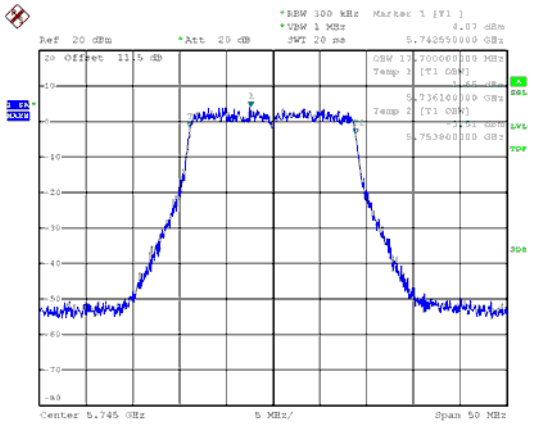


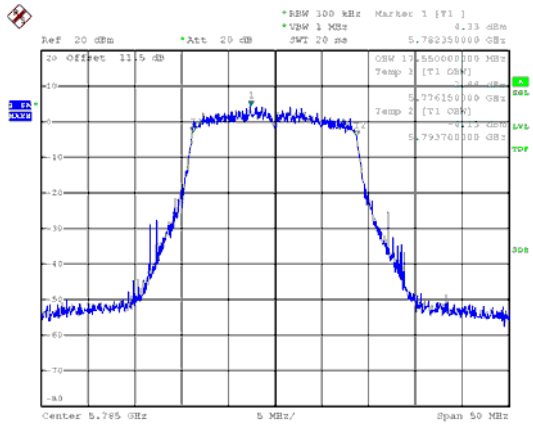
ANT A
Modulation Type: 802.11ax HE80 (30.6Mbps)
CH155



ANT B
Modulation Type: 802.11ac, VHT20 (6.5Mbps)
CH149



CH157



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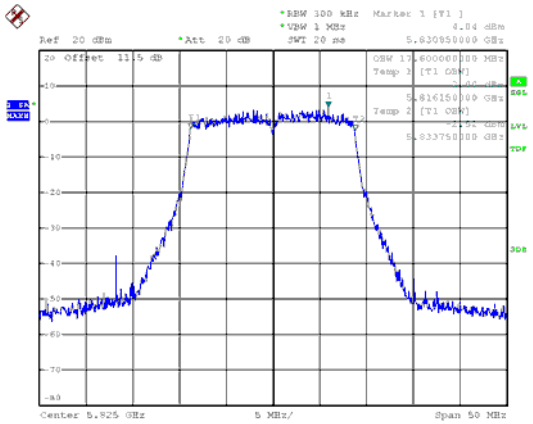
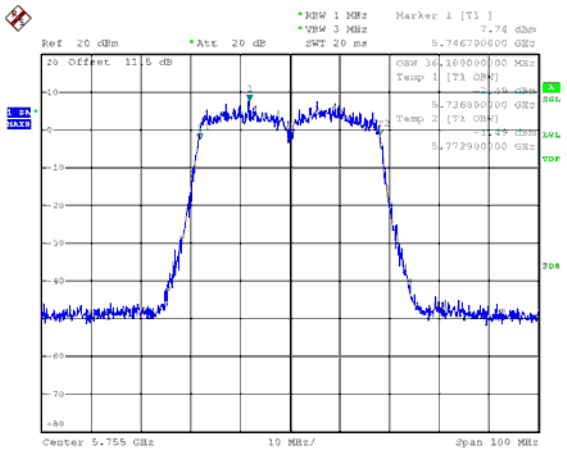
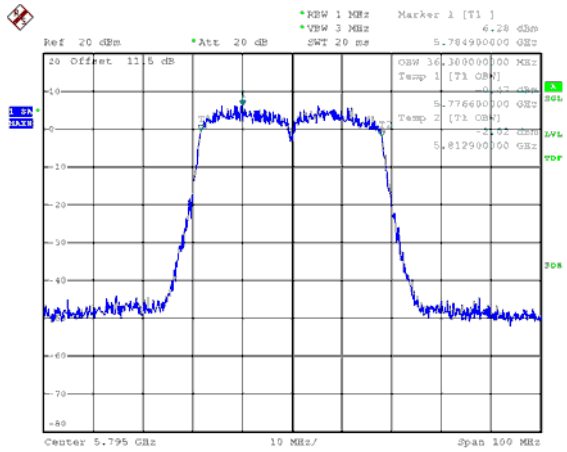


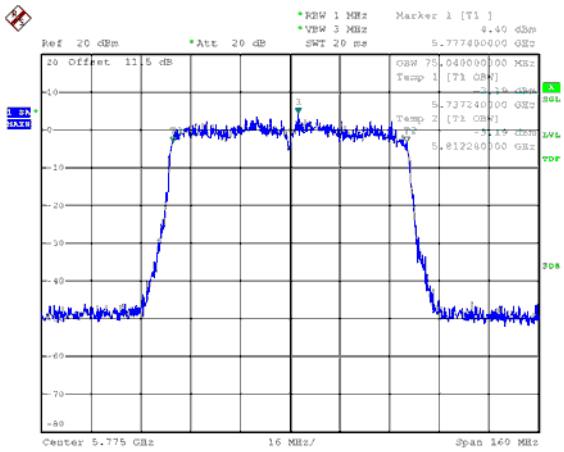
ANT B
Modulation Type: 802.11ac, VHT40 (13.5Mbps)
CH151



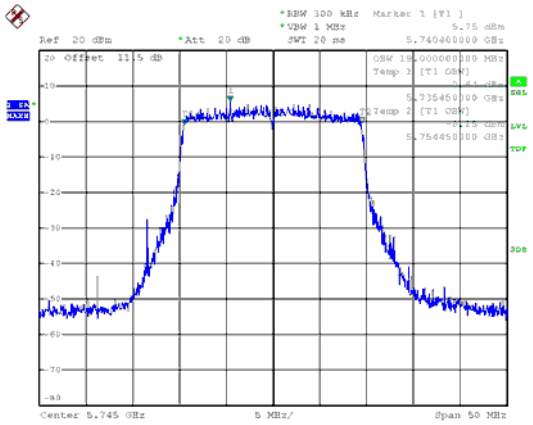
CH159



ANT B
Modulation Type: 802.11ac, VHT80 (29.3Mbps)
CH155



ANT B
Modulation Type: 802.11ax HE20 (7.3Mbps)
CH149



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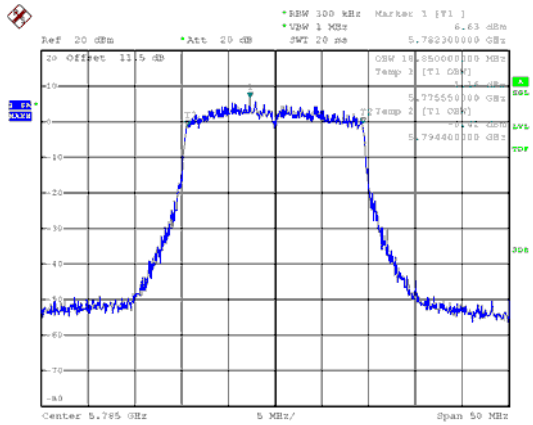

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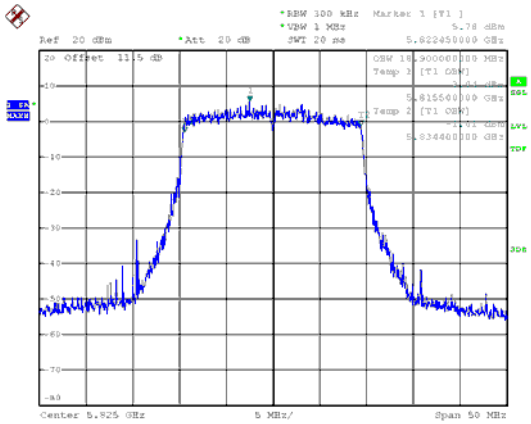
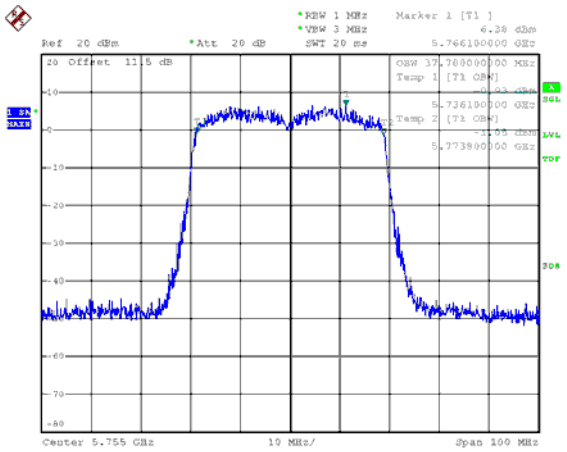


ANT B
Modulation Type: 802.11ax HE40 (14.6Mbps)
CH151



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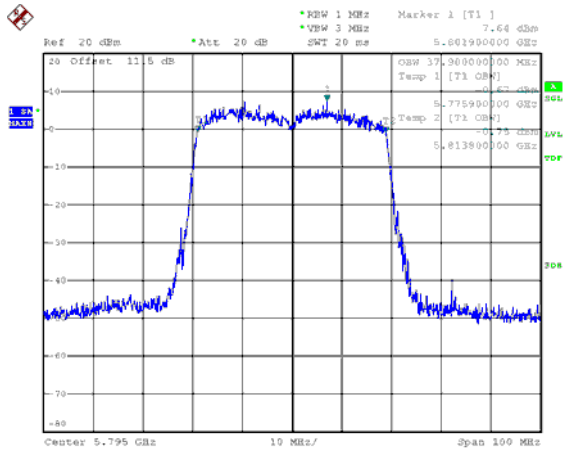

ANT B
Modulation Type: 802.11ax HE80 (30.6Mbps)
CH155