



TEST REPORT

APPLICANT : LEEDARSON LIGHTING CO., LTD.

PRODUCT NAME : LED LAMP

MODEL NAME : BR-SMADRAaa008Ry-TZM0650W25-**,
A20BR3065T20MXX (Where "y" may be "A"
to "Z", which designates for different
enclosure pattern design; "***" may be "00"
to "99", which designates for different beam
angle, different package of style, color of
eyelet contact; "XX" may be "00" to "99",
which designates for different beam angle,
color of eyelet contact, package of style .)

BRAND NAME : N/A

FCC ID : 2AB2QA20BR3065T20M1

STANDARD(S) : 47 CFR Part 15 Subpart C

RECEIPT DATE : 2021-01-20

TEST DATE : 2021-01-24 to 2021-02-22

ISSUE DATE : 2021-02-22

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Elvis Wang

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Change History		
Version	Date	Reason for change
1.0	2021-02-22	First edition



1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	LEEDARSON LIGHTING CO., LTD.
Applicant Address:	Xingtai Industrial Zone, Economic Development Zone, Changtai County, Zhangzhou city, Fujian Province, P.R.China
Manufacturer1:	LEEDARSON LIGHTING CO., LTD.
Manufacturer1 Address:	Xingtai Industrial Zone, Economic Development Zone, Changtai County, Zhangzhou city, Fujian Province, P.R.China
Manufacturer2:	L&E Manufacturing Co., Ltd.
Manufacturer2 Address:	45/27 Moo3, Talingchan-Suphanburi Rd, Namai, Ladlumkaeo, Pathumthani Province, 12140 Thailand

1.2. Equipment Under Test (EUT) Description

Product Name:	LED LAMP
Serial No:	(N/A, marked #1 by test site)
Hardware Version:	N/A
Software Version:	N/A
Modulation Type:	FMCW
Operating Frequency Range:	5750-5850 MHz
Antenna Type:	Integral antenna
Antenna Gain:	-0.3

Note 1: Test Frequency Range 5750-5850 MHz.

Note 2: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

Note 3: BR-SMADRAaa008Ry-TZM0650W25-**, A20BR3065T20MXX are all the same except for model name.

Note 4: Here we choose A20BR3065T20MXX to be tested and the others to share the test data.



1.3. The channel number and frequency of EUT

Channel	Frequency (MHz)
1	5750
2	5830
3	5850

1.4. Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 15 Subpart C for the EUT FCC ID Certification:

No	Identity	Document Title
1	47 CFR Part 15 (10-1-15 Edition)	Radio Frequency Devices

Test detailed items/section required by FCC rules and results are as below:

No.	Section	Description	Test Date	Test Engineer	Result	Method determination /Remark
1	15.203	Antenna Requirement	N/A	N/A	PASS	No deviation
2	15.215	Bandwidth	Feb 2, 2021	Qingzhou Zhuo	PASS	No deviation
3	15.207	Conducted Emission	Jan 28, 2021	Qingzhou Zhuo	PASS	No deviation
4	15.249	Field strength	Jan 30, 2021	Qingzhou Zhuo	PASS	No deviation
5	15.209, 15.249	Radiated Emission and field strength of harmonics	Jan 28, 2021	Qingzhou Zhuo	PASS	No deviation

Note 1: Additions to, deviation, or exclusions from the method should be judged in the "method determination" column of add, deviate or exclude from the specific method should be explained in the "Remark" of the above table.

1.5. Environmental Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15 - 35
Relative Humidity (%):	30 - 60
Atmospheric Pressure (kPa):	86 - 106



2. 47 CFR Part 15C Requirements

2.1. Antenna requirement

2.1.1. Applicable Standard

According to FCC 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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

2.1.2. Result: Compliant

The EUT has a permanently and irreplaceable attached antenna. Please refer to the EUT internal photos.

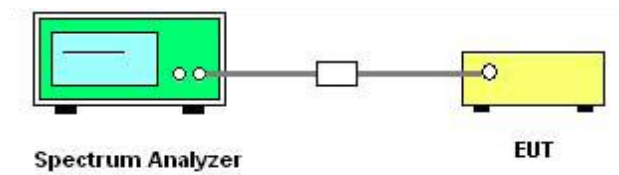
2.2. Bandwidth

2.2.1. Requirement

Refer to FCC 15.215

2.2.2. Test Description

A. Test Set:



The EUT is coupled to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 10 kHz. In order to make an accurate measurement, set the span greater than RBW.

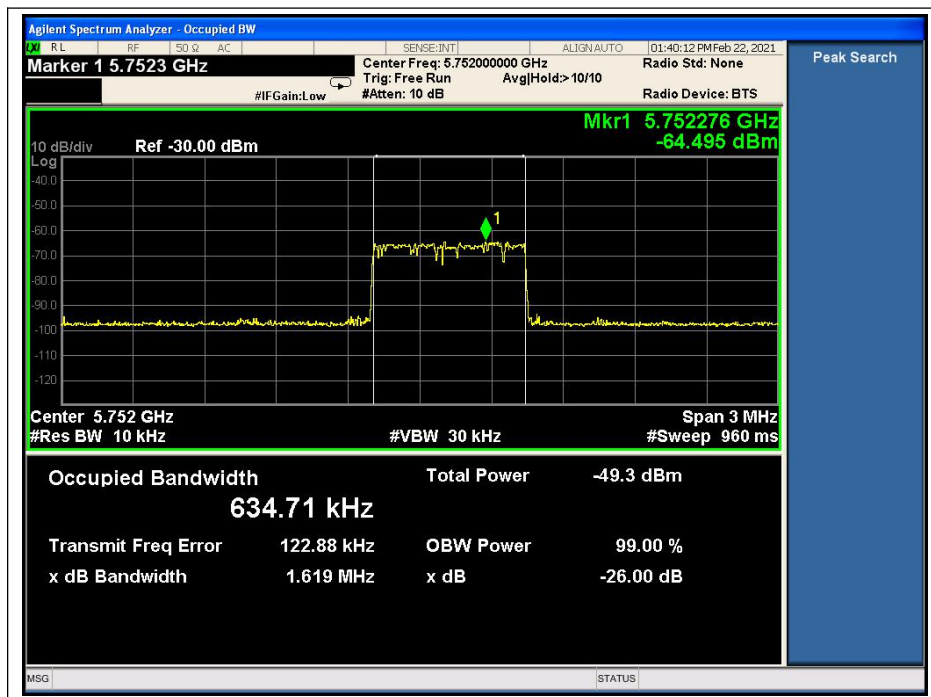
B. Equipments List:

Please reference ANNEX A(1.5).

2.2.3. Test Result

A. Test Verdict:

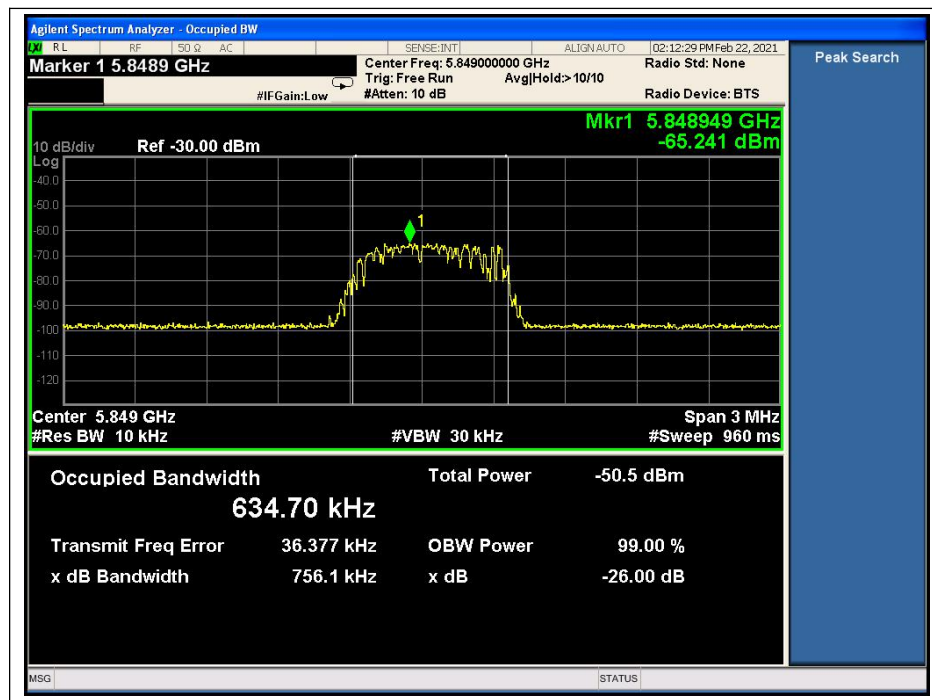
Channel	Frequency (MHz)	20 dB Bandwidth (MHz)	Result
1	5750	0.635	PASS
2	5830	0.631	PASS
3	5850	0.635	PASS

**B. Test Plots:**

(Channel 1, 5750MHz)



(Channel 2, 5830MHz)



(Channel 3, 5850MHz)

2.3. Conducted Emission

2.3.1. Requirement

According to FCC section 15.207, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150kHz to 30MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 Ω line impedance stabilization network (LISN).

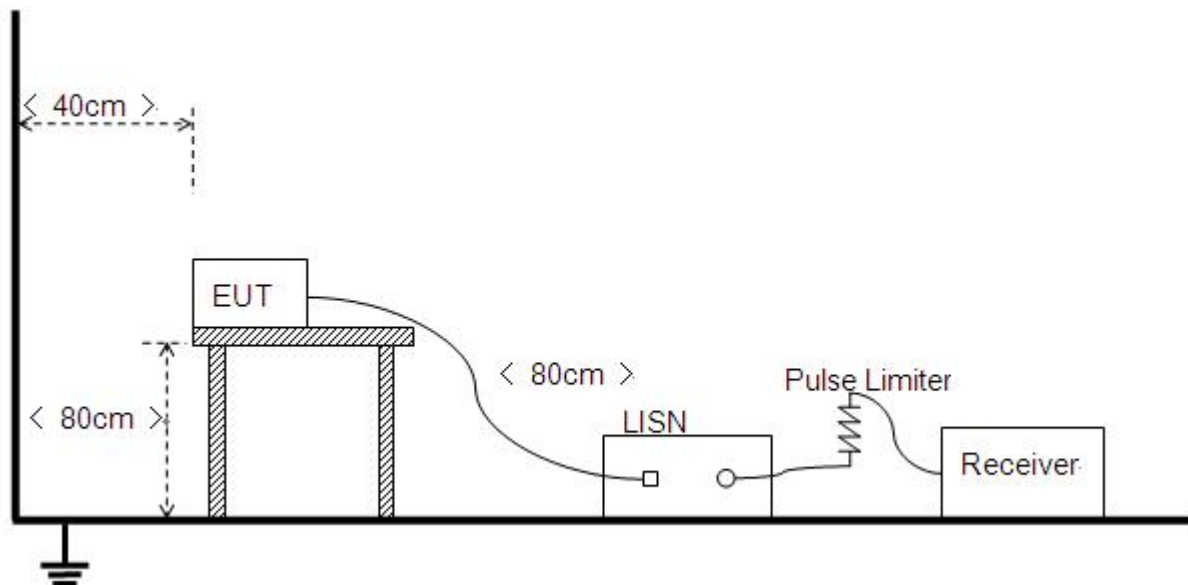
Frequency (MHz)	range	Conducted Limit (dB μ V)	
		Quai-peak	Average
0.15 - 0.50		66 to 56	56 to 46
0.50 - 5		56	46
5 - 30		60	50

NOTE:

- (a) The lower limit shall apply at the band edges.
- (b) The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50MHz.

2.3.2. Test Description

A. Test Setup:

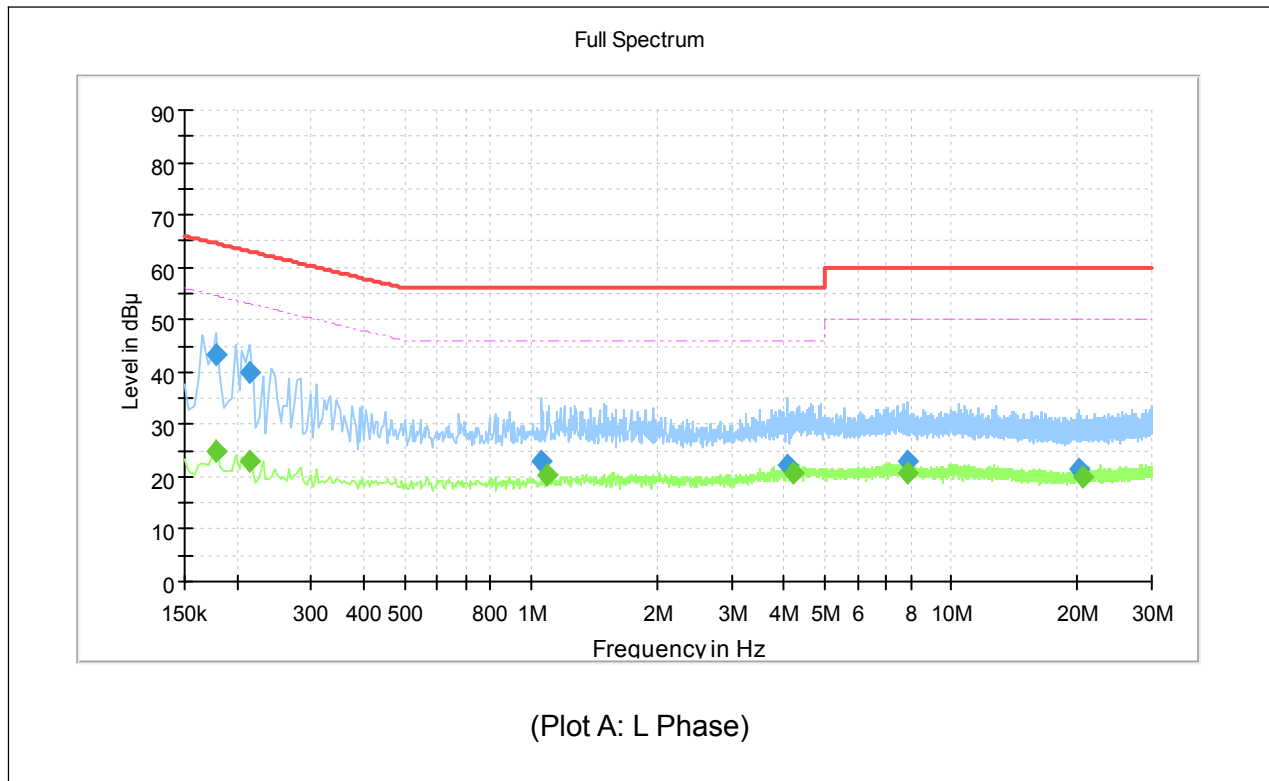


The Table-top EUT was placed upon a non-metallic table 0.8m above the horizontal metal reference ground plane. EUT was connected to LISN and LISN was connected to reference Ground Plane. EUT was 80cm from LISN. The set-up and test methods were according to ANSI C63.10: 2013.

B. Equipments List:

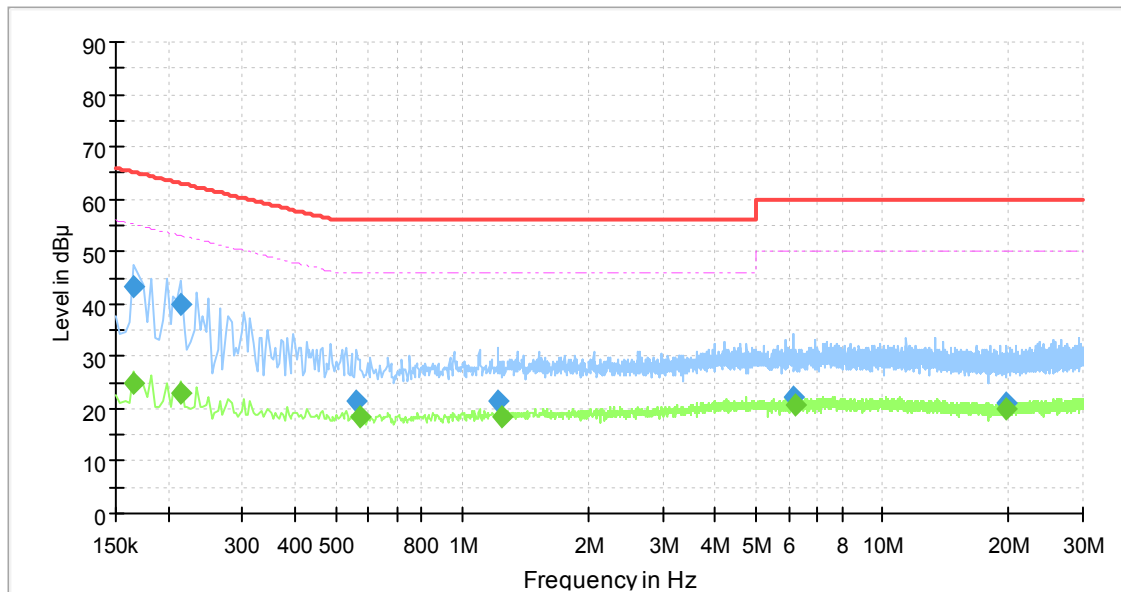
Please reference ANNEX A(1.5).

2.3.3. Test Result



Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)	Verdict
0.178000	---	24.91	54.58	29.67	L1	10.2	PASS
0.178000	43.14	---	64.58	21.44	L1	10.2	PASS
0.214000	---	22.86	53.05	30.19	L1	10.2	PASS
0.214000	39.92	---	63.05	23.13	L1	10.2	PASS
1.062000	22.85	---	56.00	33.15	L1	10.3	PASS
1.098000	---	20.20	46.00	25.80	L1	10.3	PASS
4.090000	22.26	---	56.00	33.74	L1	10.4	PASS
4.210000	---	20.88	46.00	25.12	L1	10.4	PASS
7.854000	22.90	---	60.00	37.10	L1	10.5	PASS
7.854000	---	20.79	50.00	29.21	L1	10.5	PASS
20.162000	21.52	---	60.00	38.48	L1	10.8	PASS
20.466000	---	20.06	50.00	29.94	L1	10.7	PASS

Full Spectrum



(Plot B: N Phase)

Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)	Verdict
0.166000	---	24.83	55.16	30.33	N	10.2	PASS
0.166000	43.26	---	65.16	21.90	N	10.2	PASS
0.214000	---	22.86	53.05	30.19	N	10.2	PASS
0.214000	39.93	---	63.05	23.12	N	10.2	PASS
0.562000	21.61	---	56.00	34.39	N	10.2	PASS
0.570000	---	18.46	46.00	27.54	N	10.2	PASS
1.218000	21.33	---	56.00	34.67	N	10.3	PASS
1.242000	---	18.62	46.00	27.38	N	10.3	PASS
6.146000	22.15	---	60.00	37.85	N	10.4	PASS
6.182000	---	20.58	50.00	29.42	N	10.4	PASS
19.646000	21.12	---	60.00	38.88	N	10.8	PASS
19.674000	---	19.81	50.00	30.19	N	10.8	PASS

2.4. Field strength of fundamental

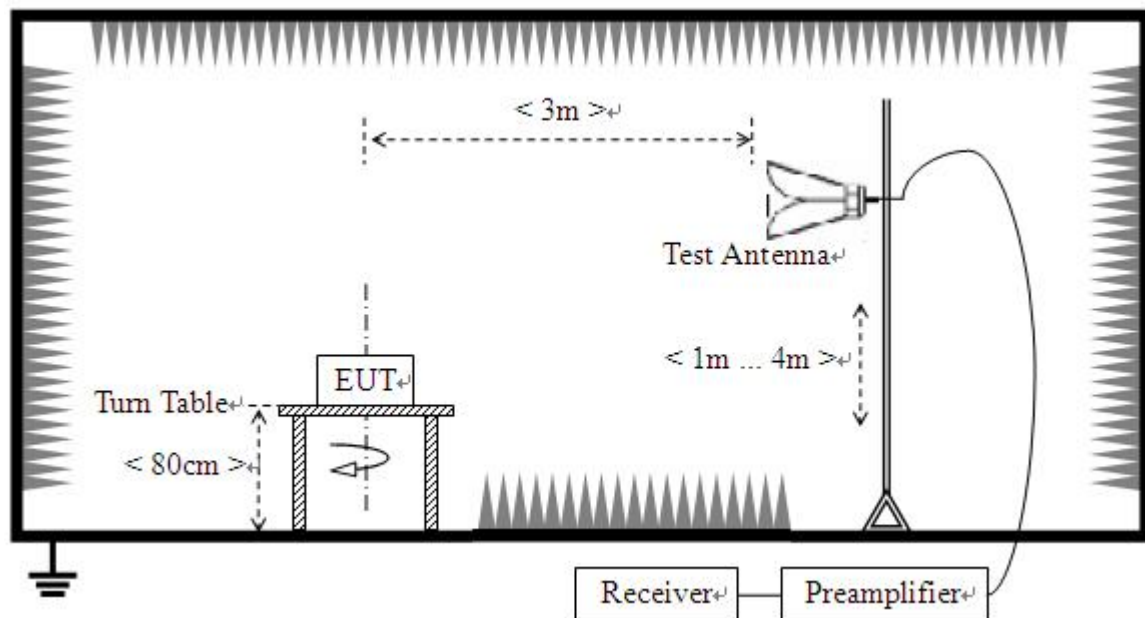
2.4.1. Requirement

According to FCC section 15.249(a), except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

2.4.2. Test Description

A. Test Setup:



The EUT is located in a 3m Semi-Anechoic Chamber; the antenna factors, cable loss and so on of the site as factors are calculated to correct the reading.

For the Test Antenna:

Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength.



B. Equipments List:

Please reference ANNEX B(4).

2.4.3. Test Procedure

The measurement results are obtained as below:

$$E \text{ [dB}\mu\text{V/m]} = U_R + A_T + A_{\text{Factor}} \text{ [dB]}; A_T = L_{\text{Cable loss}} \text{ [dB]} - G_{\text{preamp}} \text{ [dB]}$$

A_T : Total correction Factor except Antenna

U_R : Receiver Reading

G_{preamp} : Preamplifier Gain

A_{Factor} : Antenna Factor at 3m

During the test, the total correction Factor A_T and A_{Factor} were built in test software.

Note: All radiated emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report

For Radiated emission below 30MHz

- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

NOTE:

- The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz

- The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are



set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

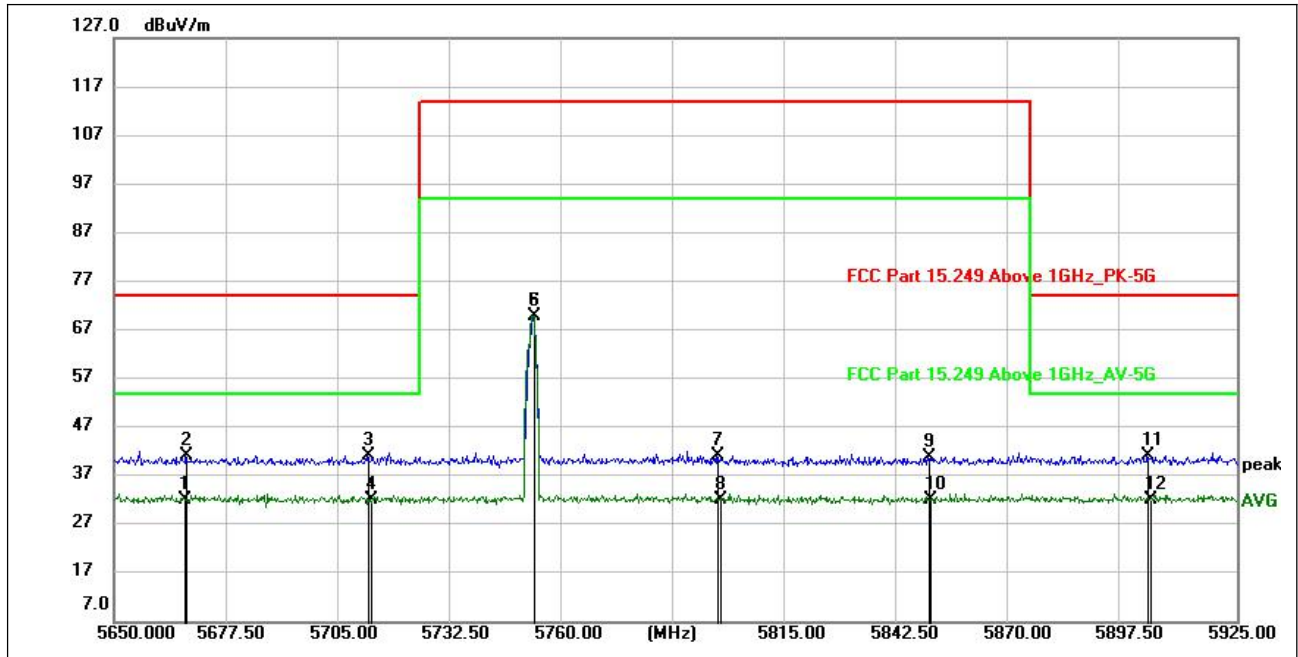
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasipeak detection (QP) at frequency below 1GHz.

2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.

3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.

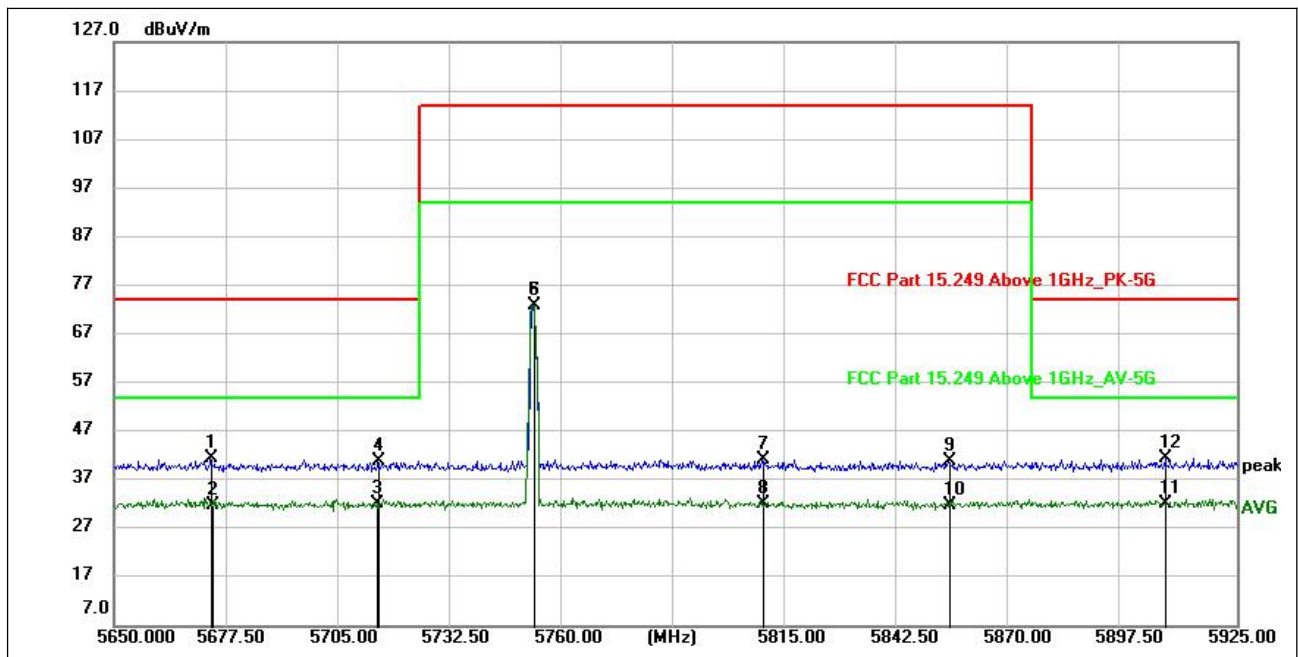
4. All modes of operation were investigated and the worst-case emissions are reported.

2.4.4. Test Result



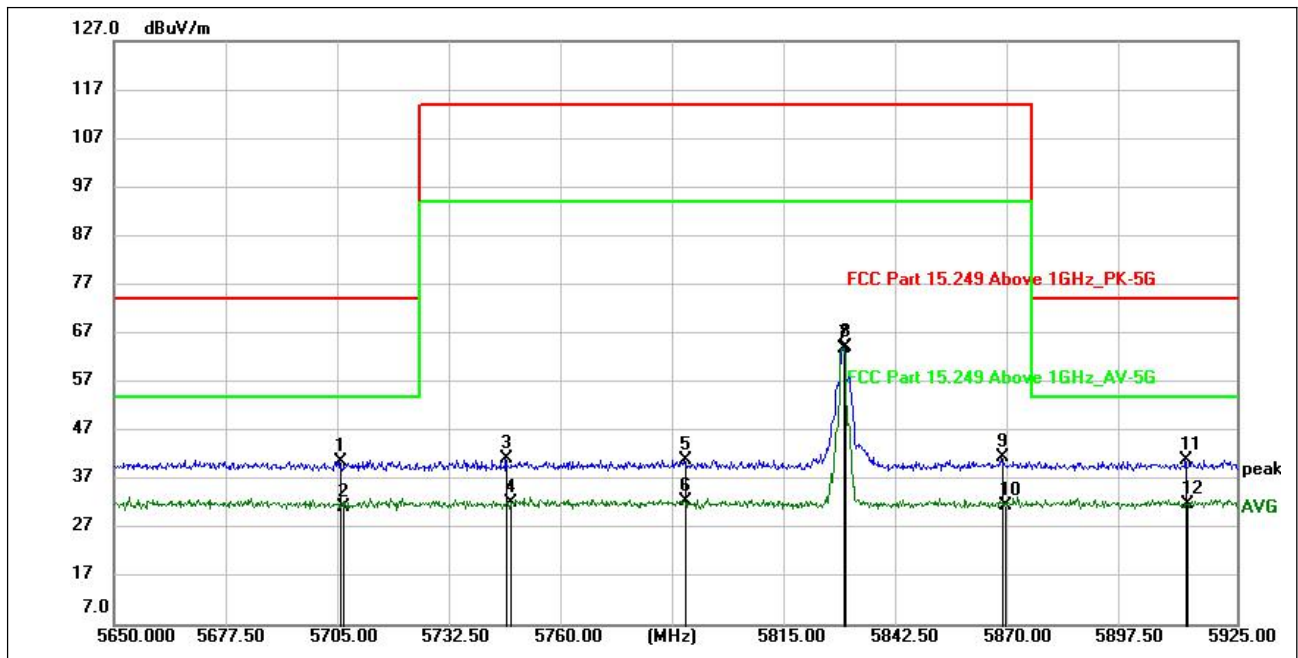
(5750MHz, Antenna Horizontal)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
5667.490	36.14	-3.87	32.27	54.00	-21.73	AVG	H
5667.682	45.10	-3.86	41.24	74.00	-32.76	peak	H
5712.370	44.58	-3.41	41.17	74.00	-32.83	peak	H
5712.714	35.49	-3.41	32.08	54.00	-21.92	AVG	H
5752.877	73.49	-3.48	70.01	114.00	-43.99	AVG	H
5752.877	73.41	-3.48	69.93	94.00	-24.07	peak	H
5797.716	45.22	-3.96	41.26	114.00	-72.74	AVG	H
5798.252	36.19	-3.97	32.22	94.00	-61.78	peak	H
5849.554	44.76	-3.69	41.07	114.00	-72.93	peak	H
5849.705	35.92	-3.69	32.23	94.00	-61.77	AVG	H
5903.275	44.56	-3.25	41.31	74.00	-32.69	peak	H
5903.729	35.54	-3.25	32.29	54.00	-21.71	AVG	H



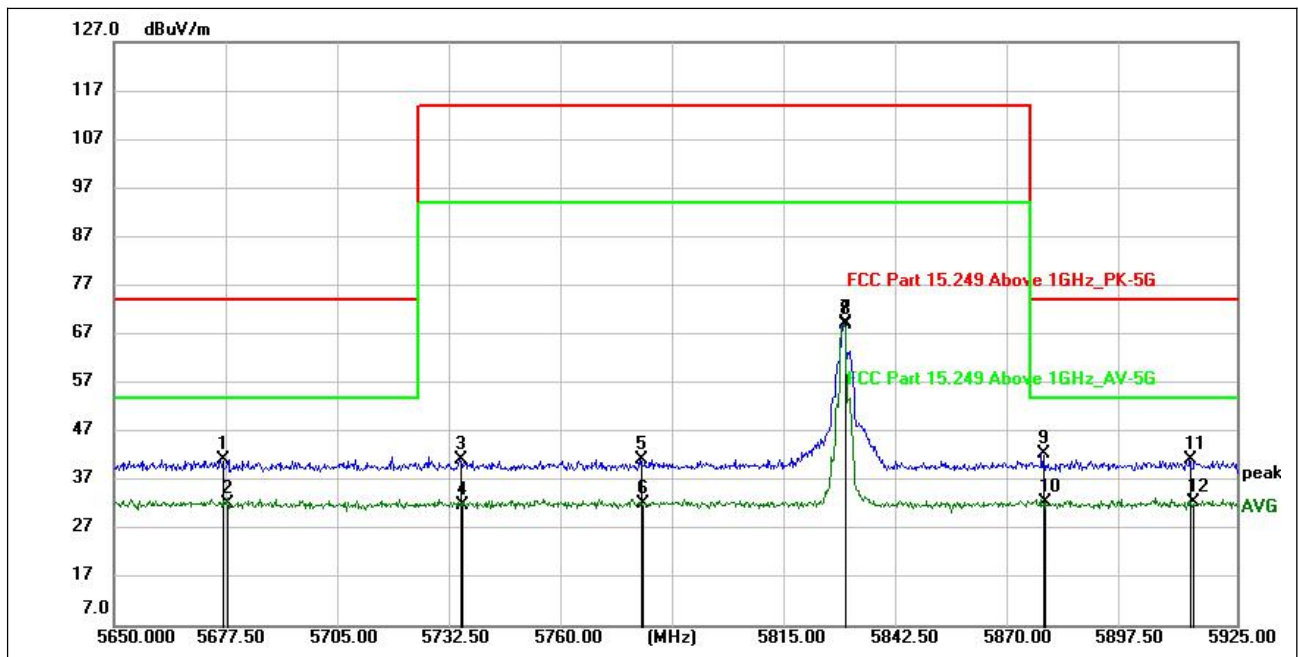
(5750MHz, Antenna Vertical)

Frequency (MHz)	Reading (dBUV)	Factor (dB/m)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Det.	Pol
5673.898	45.45	-3.80	41.65	74.00	-32.35	AVG	V
5674.159	35.53	-3.80	31.73	54.00	-22.27	peak	V
5714.460	35.51	-3.39	32.12	54.00	-21.88	peak	V
5714.845	44.24	-3.39	40.85	74.00	-33.15	AVG	V
5752.891	76.45	-3.48	72.97	114.00	-41.03	AVG	V
5752.891	76.35	-3.48	72.87	94.00	-21.13	peak	V
5809.074	45.36	-4.06	41.30	114.00	-72.70	AVG	V
5809.074	36.12	-4.06	32.06	94.00	-61.94	peak	V
5854.641	44.41	-3.61	40.80	114.00	-73.20	peak	V
5854.875	35.44	-3.60	31.84	94.00	-62.16	AVG	V
5907.386	35.31	-3.25	32.06	54.00	-21.94	peak	V
5907.551	44.82	-3.25	41.57	74.00	-32.43	AVG	V



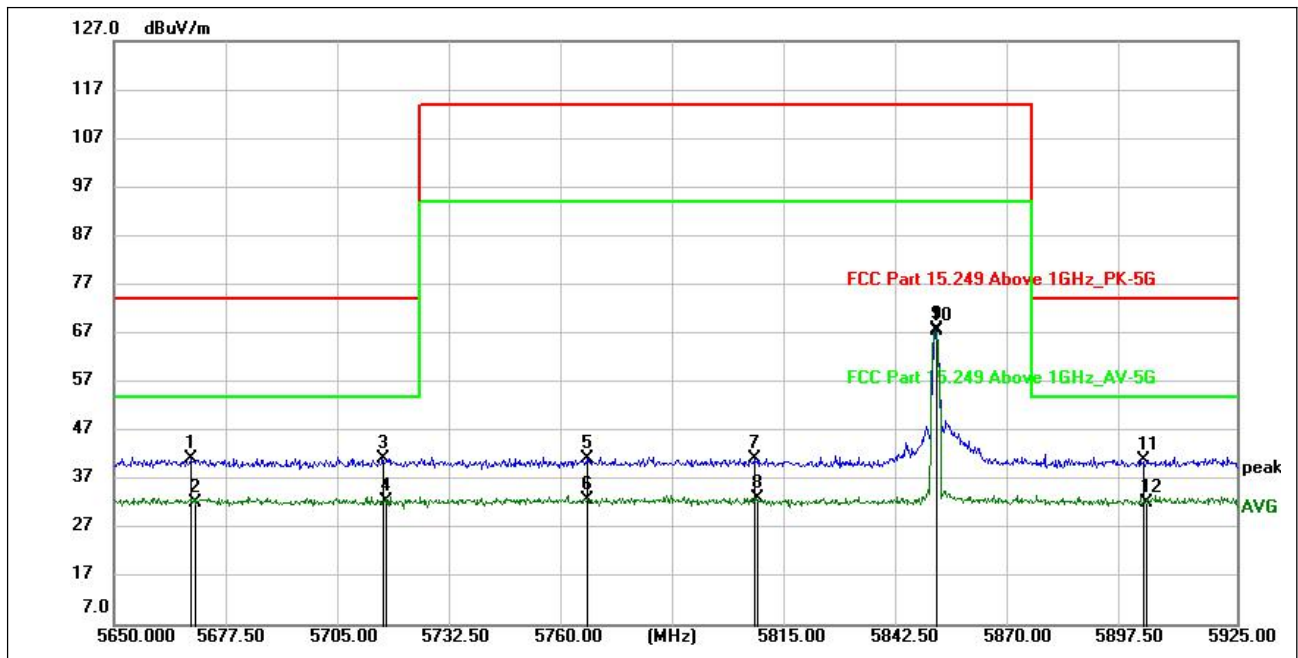
(5830MHz, Antenna Horizontal)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
5705.385	44.20	-3.47	40.73	74.00	-33.27	AVG	H
5705.852	34.74	-3.47	31.27	54.00	-22.73	peak	H
5746.236	44.72	-3.45	41.27	114.00	-72.73	peak	H
5746.882	35.76	-3.45	32.31	94.00	-61.69	AVG	H
5789.948	44.92	-3.87	41.05	114.00	-72.95	AVG	H
5789.948	36.45	-3.87	32.58	94.00	-61.42	peak	H
5828.736	67.88	-4.00	63.88	94.00	-30.12	AVG	H
5828.819	68.14	-4.00	64.14	114.00	-49.86	peak	H
5867.319	44.96	-3.38	41.58	114.00	-72.42	peak	H
5868.267	35.08	-3.36	31.72	94.00	-62.28	AVG	H
5912.542	44.16	-3.24	40.92	74.00	-33.08	peak	H
5912.900	35.14	-3.24	31.90	54.00	-22.10	AVG	H



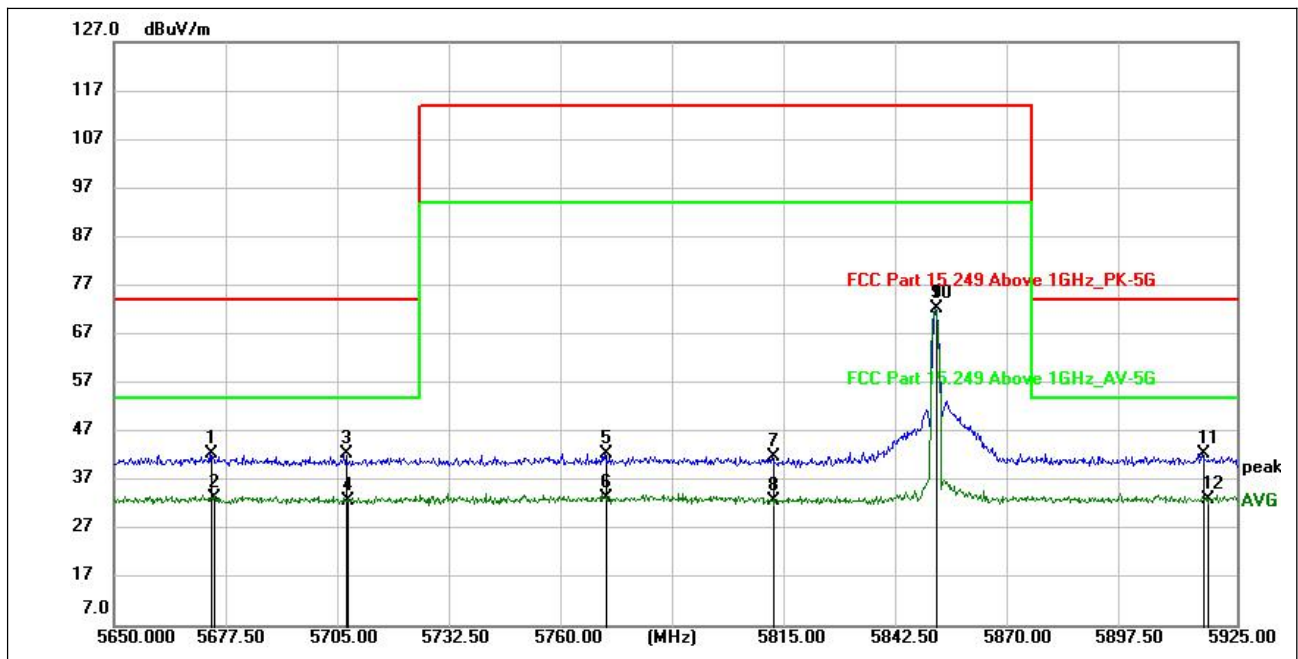
(5830MHz, Antenna Vertical)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
5676.441	44.98	-3.77	41.21	74.00	-32.79	AVG	V
5677.720	35.80	-3.76	32.04	54.00	-21.96	peak	V
5734.879	44.58	-3.36	41.22	114.00	-72.78	peak	V
5735.181	35.23	-3.37	31.86	94.00	-62.14	AVG	V
5779.030	44.97	-3.74	41.23	114.00	-72.77	AVG	V
5779.525	35.87	-3.75	32.12	94.00	-61.88	peak	V
5828.887	73.21	-4.00	69.21	114.00	-44.79	AVG	V
5828.887	73.08	-4.00	69.08	94.00	-24.92	peak	V
5877.439	45.67	-3.32	42.35	74.00	-31.65	peak	V
5878.209	35.68	-3.33	32.35	54.00	-21.65	AVG	V
5913.546	44.32	-3.24	41.08	74.00	-32.92	peak	V
5914.028	35.75	-3.24	32.51	54.00	-21.49	AVG	V



(5850MHz, Antenna Horizontal)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
5668.755	45.19	-3.85	41.34	74.00	-32.66	AVG	H
5669.594	35.97	-3.84	32.13	54.00	-21.87	peak	H
5715.972	44.52	-3.38	41.14	74.00	-32.86	peak	H
5716.715	35.90	-3.37	32.53	54.00	-21.47	AVG	H
5765.775	44.79	-3.59	41.20	114.00	-72.80	AVG	H
5765.775	36.36	-3.59	32.77	94.00	-61.23	peak	H
5806.901	45.31	-4.04	41.27	114.00	-72.73	AVG	H
5807.314	37.15	-4.04	33.11	94.00	-60.89	peak	H
5851.438	71.29	-3.66	67.63	114.00	-46.37	peak	H
5851.438	71.14	-3.66	67.48	94.00	-26.52	AVG	H
5901.927	44.26	-3.25	41.01	74.00	-32.99	peak	H
5902.766	35.43	-3.25	32.18	54.00	-21.82	AVG	H



(5850MHz, Antenna Vertical)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
5673.691	46.37	-3.80	42.57	74.00	-31.43	AVG	V
5674.269	37.16	-3.79	33.37	54.00	-20.63	peak	V
5706.677	46.02	-3.46	42.56	74.00	-31.44	peak	V
5707.007	36.34	-3.46	32.88	54.00	-21.12	AVG	V
5770.381	46.19	-3.64	42.55	114.00	-71.45	AVG	V
5770.381	36.92	-3.64	33.28	94.00	-60.72	peak	V
5811.370	46.01	-4.08	41.93	114.00	-72.07	AVG	V
5811.370	36.79	-4.08	32.71	94.00	-61.29	peak	V
5851.424	75.92	-3.66	72.26	114.00	-41.74	peak	V
5851.424	75.84	-3.66	72.18	94.00	-21.82	AVG	V
5916.695	45.59	-3.24	42.35	74.00	-31.65	peak	V
5917.767	36.36	-3.24	33.12	54.00	-20.88	AVG	V

2.5. Radiated Emission and field strength of harmonics

2.5.1. Requirement

According to section 15.249(a), the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

According to section 15.249(d), Emission Radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in Section 15.209:

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)	Field Strength Limitation at 3m Measurement Distance	
			(uV/m)	(dBuV/m)
0.009 - 0.490	2400/F(kHz)	300	10000* 2400/F(KHz)	20log 2400/F(KHz) + 80
0.490 - 1.705	24000/F(kHz)	30	100* 2400/F(KHz)	20log 2400/F(KHz) + 40
1.705 - 30.0	30	30	100*30	20log 30 + 40
30 - 88	100	3	100	20log 100
88 - 216	150	3	150	20log 150
216 - 960	200	3	200	20log 200
Above 960	500	3	500	20log 500

According to section 15.249(e), for frequencies above 1000MHz, the above field strength limits are based on average limits. The peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20dB under any condition of modulation.

Note:

- 1) The tighter limit shall apply at the boundary between two frequency range.
- 2) Limitation expressed in dBuV/m is calculated by 20log Emission Level(uV/m).
- 3) If measurement is made at 3m distance, then F.S Limitation at 3m distance is adjusted by using the formula of $Ld1 = Ld2 * (d2/d1)^2$.

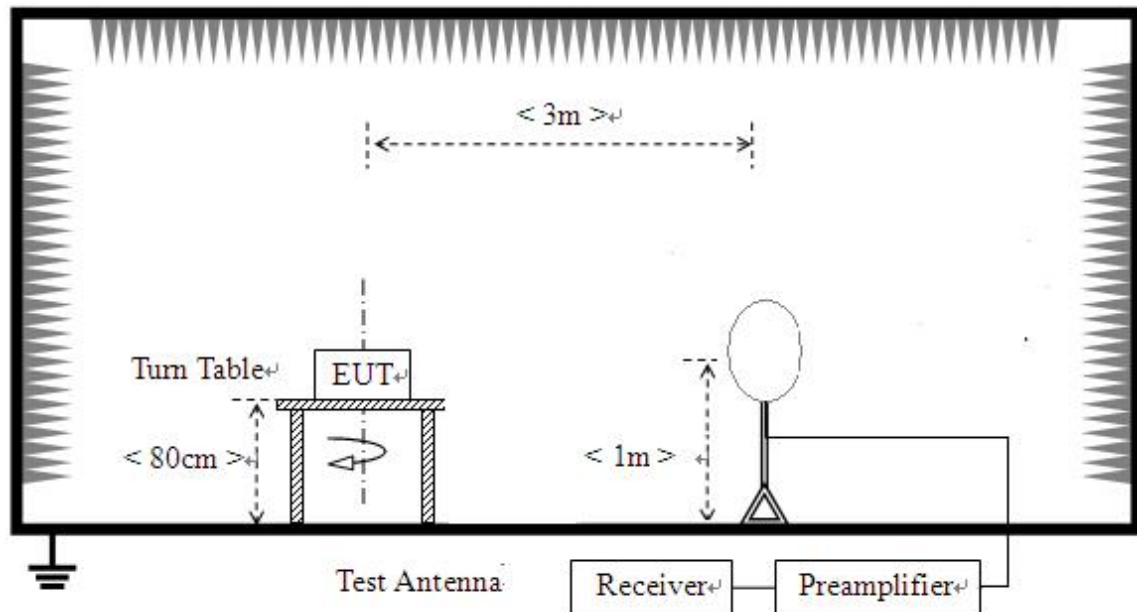
Example: F.S Limit at 30m distance is 30uV/m, then F.S Limitation at 3m distance is adjusted as

$$Ld1 = L1 = 30uV/m * (10)^2 = 100 * 30uV/m$$

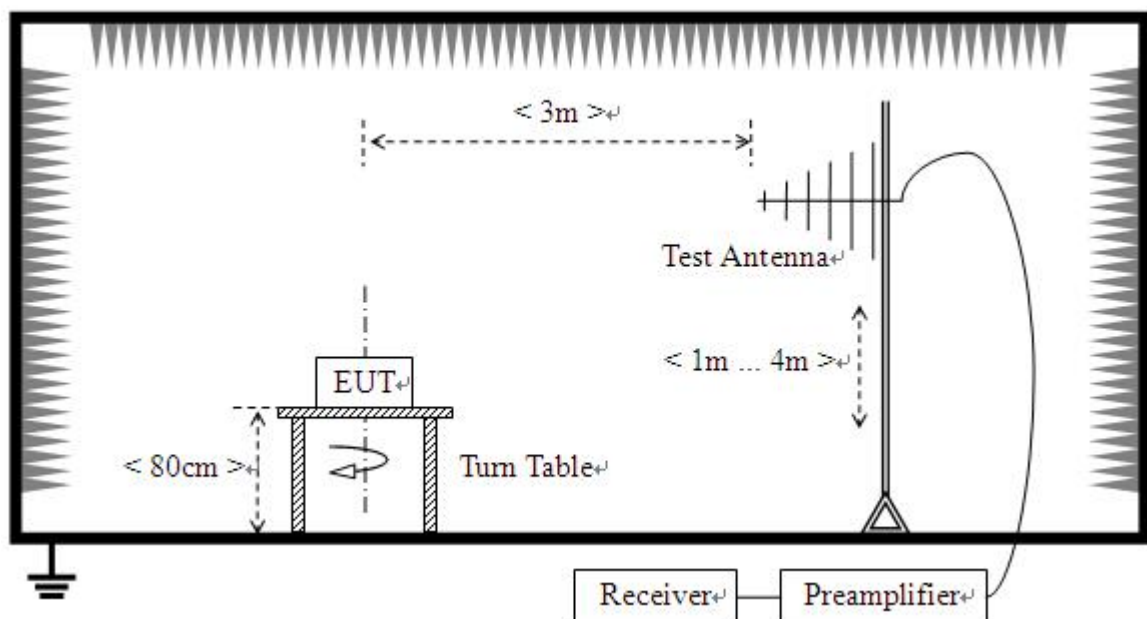
2.5.2. Test Description

A. Test Setup:

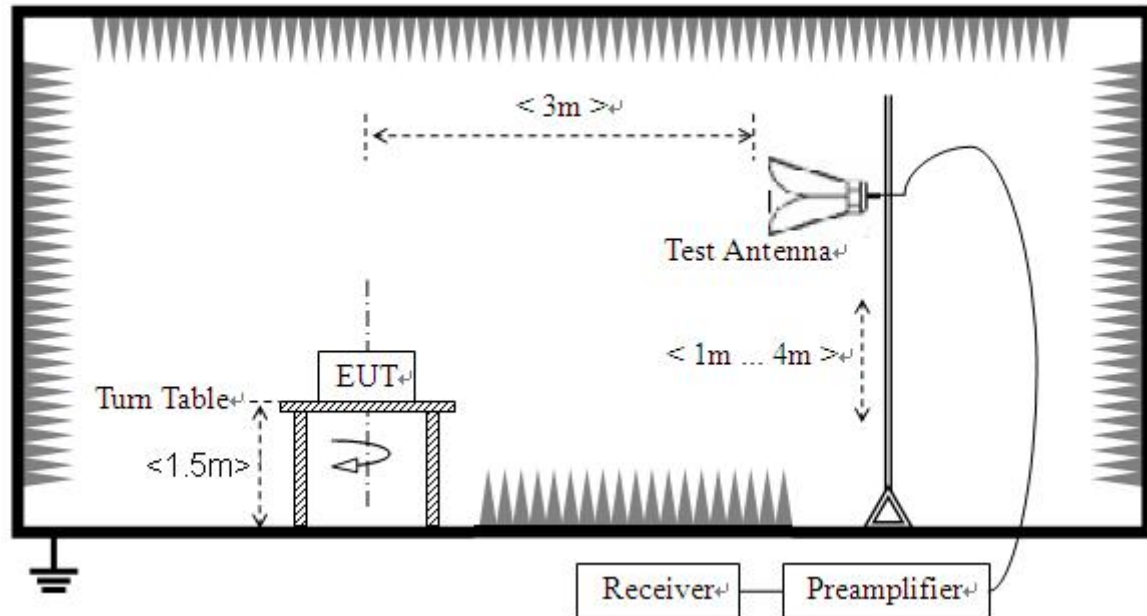
- 1) For radiated emissions from 9kHz to 30MHz



- 2) For radiated emissions from 30MHz to 1GHz



3) For radiated emissions above 1GHz



The RF absorbing material used on the reference ground plane and on the turntable have a maximum height (thickness) of 30 cm (12 in) and have a minimum-rated attenuation of 20 dB at all frequencies from 1 GHz to 18 GHz. Test site have a minimum area of the ground plane covered with RF absorbing material as specified in Figure 6 of ANSI C63.4: 2014.

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4dB according to the standards: ANSI C63.10:2013. For radiated emissions below or equal to 1GHz, The EUT was set-up on insulator 80cm above the Ground Plane, For radiated emissions above 1GHz, The EUT was set-up on insulator 150cm above the Ground Plane. The set-up and test methods were according to ANSI C63.10:2013.

The EUT is located in a 3m Semi-Anechoic Chamber; the antenna factors, cable loss and so on of the site as factors are calculated to correct the reading.

For the Test Antenna:

- In the frequency range of 9 kHz to 30MHz, magnetic field is measured with Loop Test Antenna. The Test Antenna is positioned with its plane vertical at 1m distance from the EUT. The center of the Loop Test Antenna is 1m above the ground. During the measurement the Loop Test Antenna rotates about its vertical axis for maximum response at each azimuth about the EUT.
- In the frequency range above 30MHz, Bi-Log Test Antenna (30MHz to 1GHz) and Horn Test Antenna (above 1GHz) are used. Place the test antenna at 3m away from area of the EUT, while keeping the test antenna aimed at the source of emissions at each frequency of significant



emissions, with polarization oriented for maximum response. The test antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final test antenna elevation shall be that which maximizes the emissions. The test antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane. The emission levels at both horizontal and vertical polarizations should be tested.

B. Equipments List:

Please reference ANNEX B(4).

2.5.3. Test Result

According to ANSI C63.10, because of peak detection will yield amplitudes equal to or greater than amplitudes measured with the quasi-peak (or average) detector, the measurement data from a spectrum analyzer peak detector will represent the worst-case results, if the peak measured value complies with the quasi-peak limit, it is unnecessary to perform an quasi-peak measurement.

The measurement results are obtained as below:

$$E \text{ [dB}\mu\text{V/m]} = U_R + A_T + A_{\text{Factor}} \text{ [dB]}; A_T = L_{\text{Cable loss}} \text{ [dB]} - G_{\text{preamp}} \text{ [dB]}$$

A_T : Total correction Factor except Antenna

U_R : Receiver Reading

G_{preamp} : Preamplifier Gain

A_{Factor} : Antenna Factor at 3m

During the test, the total correction Factor A_T and A_{Factor} were built in test software.

Note: All radiated emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

The low frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

For Radiated emission below 30MHz

- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.



e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

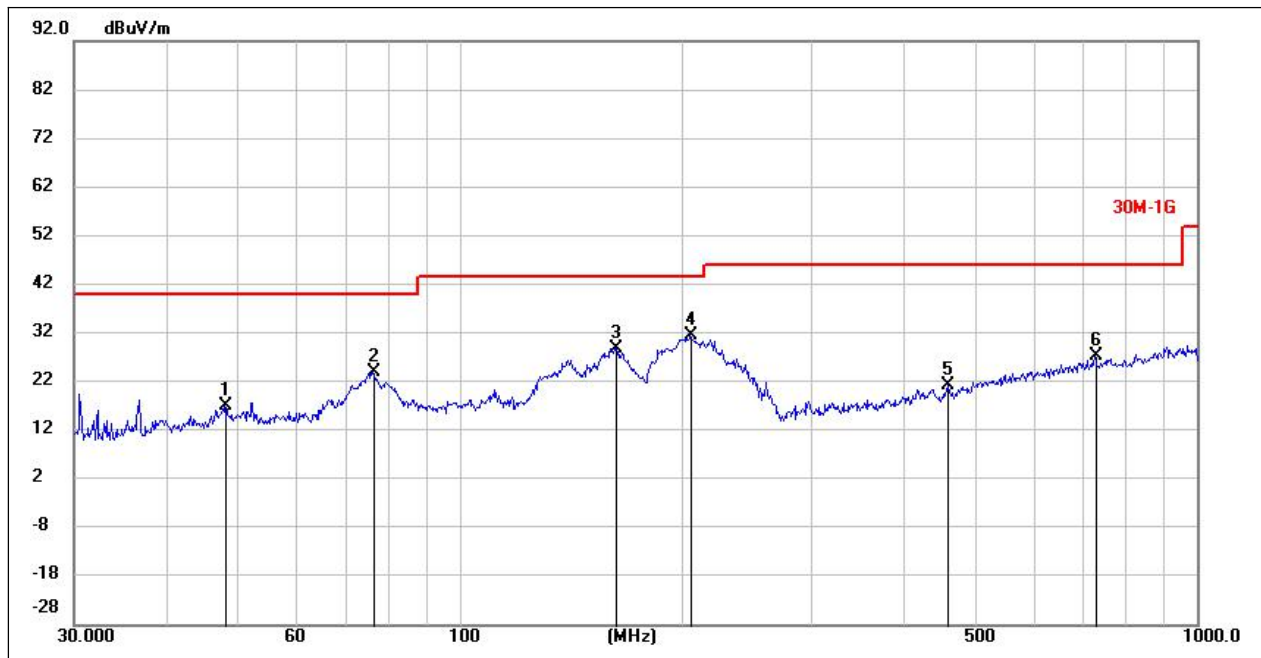
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasipeak detection (QP) at frequency below 1GHz.

2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.

3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle $\geq$ 98%) for Average detection (AV) at frequency above 1GHz.

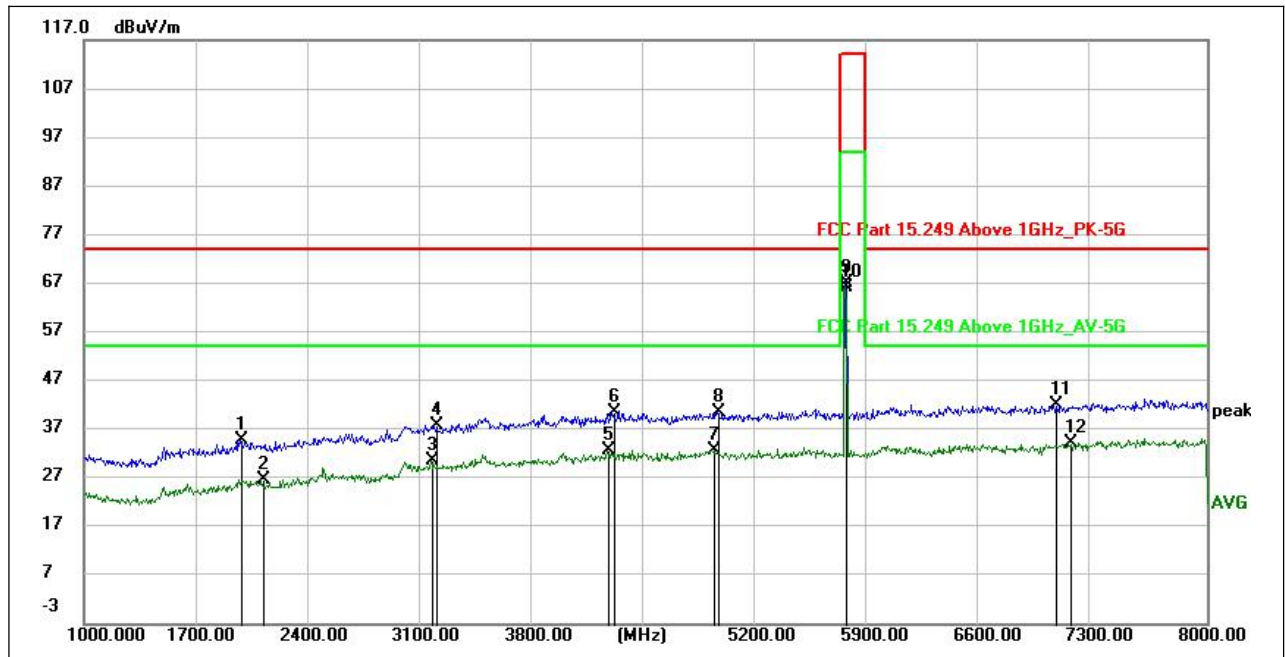
4. All modes of operation were investigated and the worst-case emissions are reported.

2.5.4. Test Result



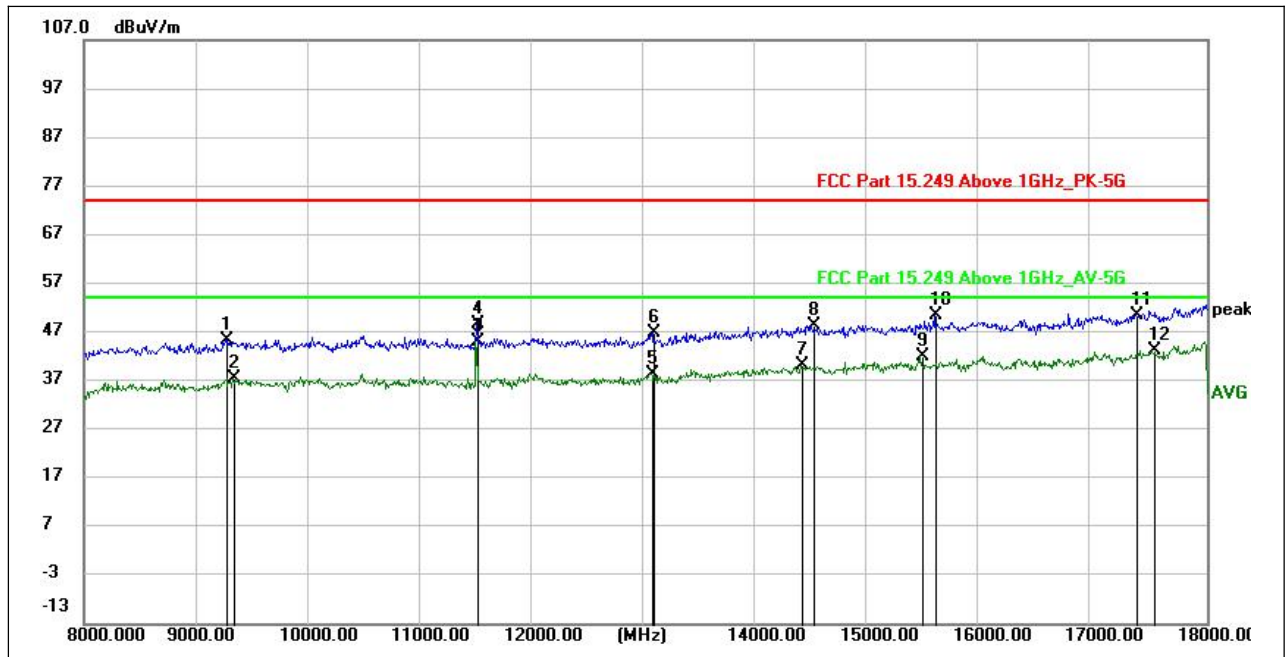
(5750MHz, Antenna Horizontal, 30MHz to 1GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
48.0782	1.61	15.51	17.12	40.00	-22.88	peak	H
76.3111	14.51	9.60	24.11	40.00	-15.89	peak	H
163.1246	17.48	11.48	28.96	43.50	-14.54	peak	H
206.2529	18.06	13.48	31.54	43.50	-11.96	peak	H
459.5171	0.21	21.10	21.31	46.00	-24.69	peak	H
727.3151	2.14	25.22	27.36	46.00	-18.64	peak	H



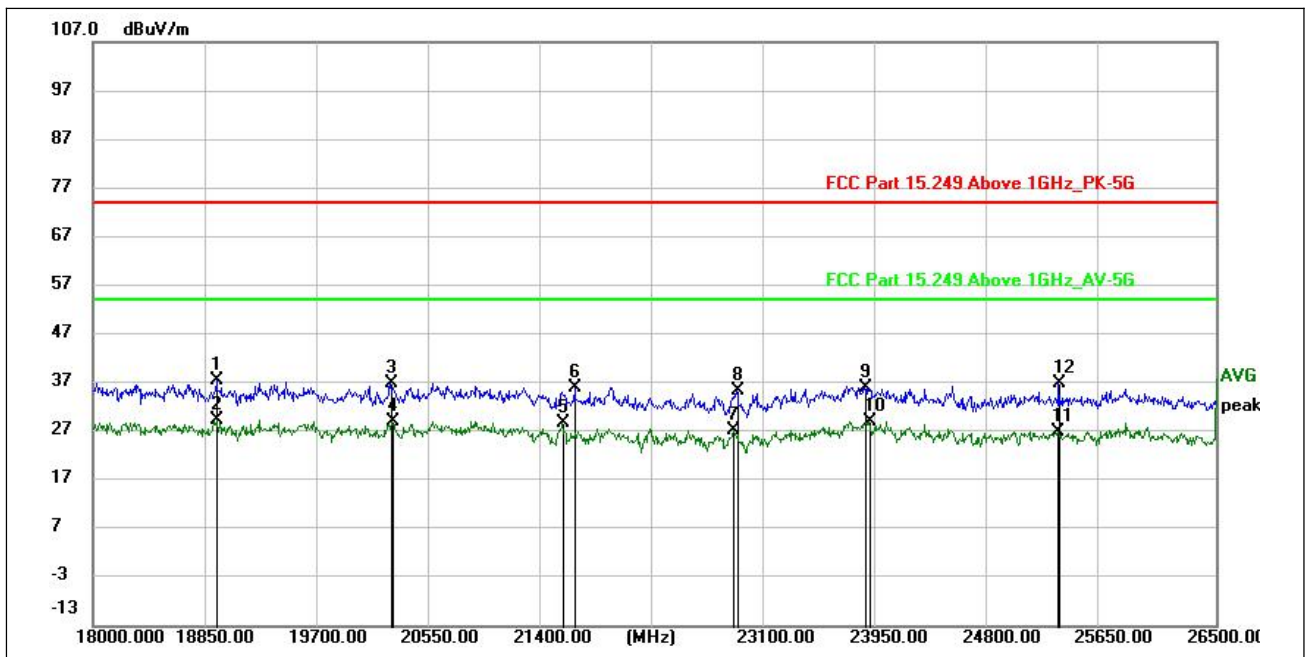
(5750MHz, Antenna Horizontal, 1GHz to 8GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
1980.000	47.86	-12.98	34.88	74.00	-39.12	peak	H
2115.450	39.66	-13.05	26.61	54.00	-27.39	AVG	H
3173.850	38.56	-7.96	30.60	54.00	-23.40	AVG	H
3193.800	46.03	-8.13	37.90	74.00	-36.10	peak	H
4266.550	37.78	-5.13	32.65	54.00	-21.35	AVG	H
4298.050	45.06	-4.60	40.46	74.00	-33.54	peak	H
4932.950	36.28	-3.55	32.73	54.00	-21.27	AVG	H
4956.750	43.98	-3.47	40.51	74.00	-33.49	peak	H
5752.650	70.48	-3.48	67.00	114.00	-47.00	peak	H
5752.650	69.81	-3.48	66.33	94.00	-27.67	AVG	H
7057.100	44.08	-1.94	42.14	74.00	-31.86	peak	H
7149.500	35.98	-1.75	34.23	54.00	-19.77	AVG	H



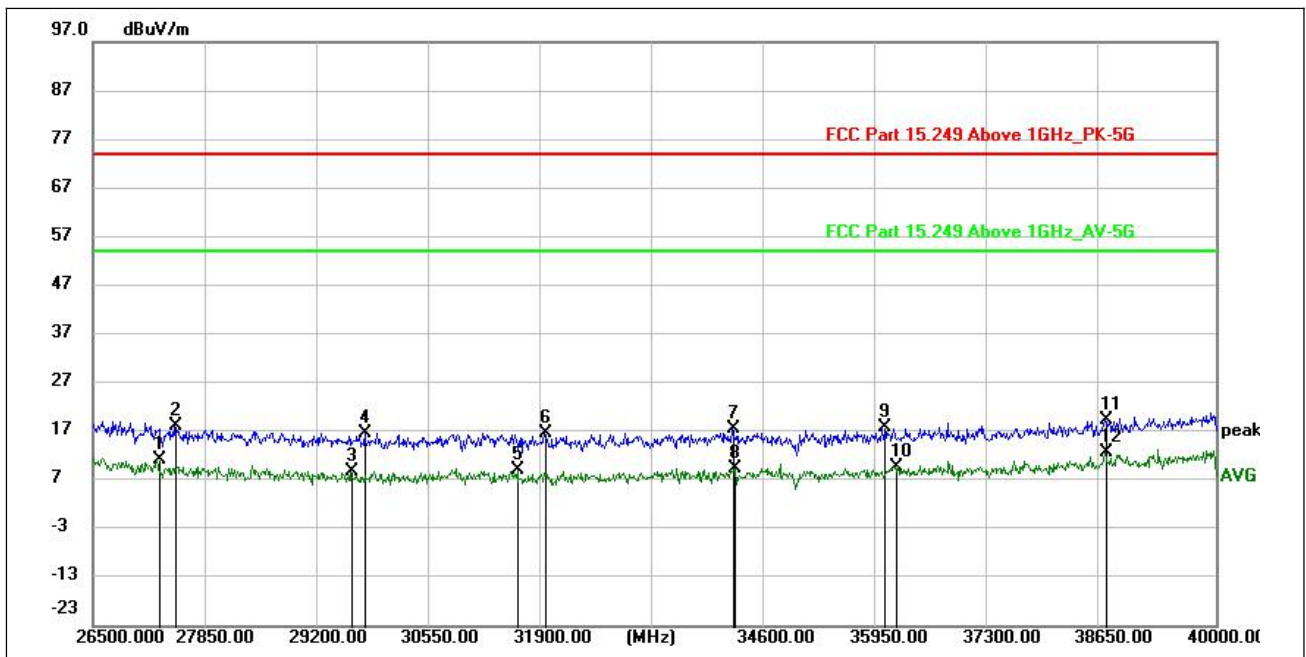
(5750MHz, Antenna Horizontal, 8GHz to 18GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
9265.500	42.84	2.43	45.27	74.00	-28.73	peak	H
9331.500	35.96	1.66	37.62	54.00	-16.38	AVG	H
11505.500	41.66	3.49	45.15	54.00	-8.85	AVG	H
11506.000	45.19	3.49	48.68	74.00	-25.32	peak	H
13061.500	31.87	6.65	38.52	54.00	-15.48	AVG	H
13075.500	40.52	6.39	46.91	74.00	-27.09	peak	H
14392.500	30.84	9.39	40.23	54.00	-13.77	AVG	H
14493.000	40.65	7.75	48.40	74.00	-25.60	peak	H
15462.000	30.96	10.99	41.95	54.00	-12.05	AVG	H
15580.500	39.89	10.55	50.44	74.00	-23.56	peak	H
17371.500	37.27	13.32	50.59	74.00	-23.41	peak	H
17524.000	29.38	13.90	43.28	54.00	-10.72	AVG	H



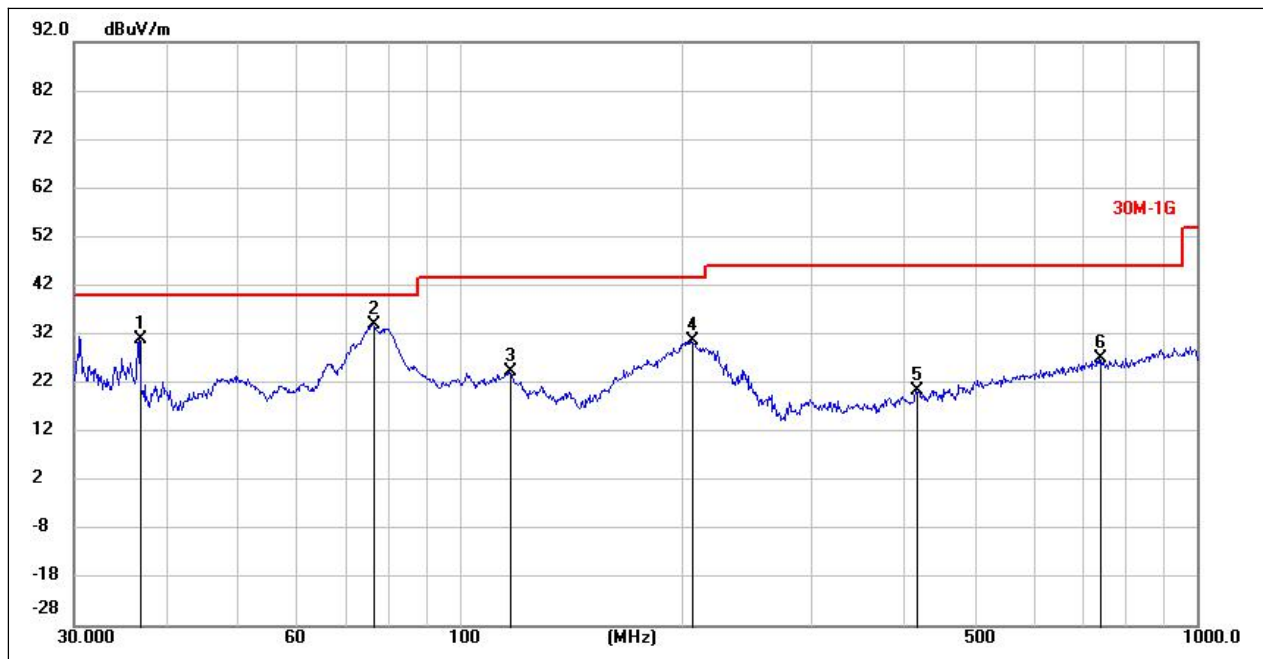
(5750MHz, Antenna Horizontal, 18GHz to 26.5GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
18935.000	37.48	0.00	37.48	74.00	-36.52	peak	H
18935.000	29.45	0.00	29.45	54.00	-24.55	AVG	H
20261.000	36.78	0.00	36.78	74.00	-37.22	peak	H
20268.650	29.04	0.00	29.04	54.00	-24.96	AVG	H
21559.375	28.74	0.00	28.74	54.00	-25.26	AVG	H
21651.175	36.04	0.00	36.04	74.00	-37.96	peak	H
22850.950	27.20	0.00	27.20	54.00	-26.80	AVG	H
22879.000	35.39	0.00	35.39	74.00	-38.61	peak	H
23845.450	36.10	0.00	36.10	74.00	-37.90	peak	H
23873.925	29.20	0.00	29.20	54.00	-24.80	AVG	H
25310.000	27.08	0.00	27.08	54.00	-26.92	AVG	H
25310.850	36.92	0.00	36.92	74.00	-37.08	peak	H



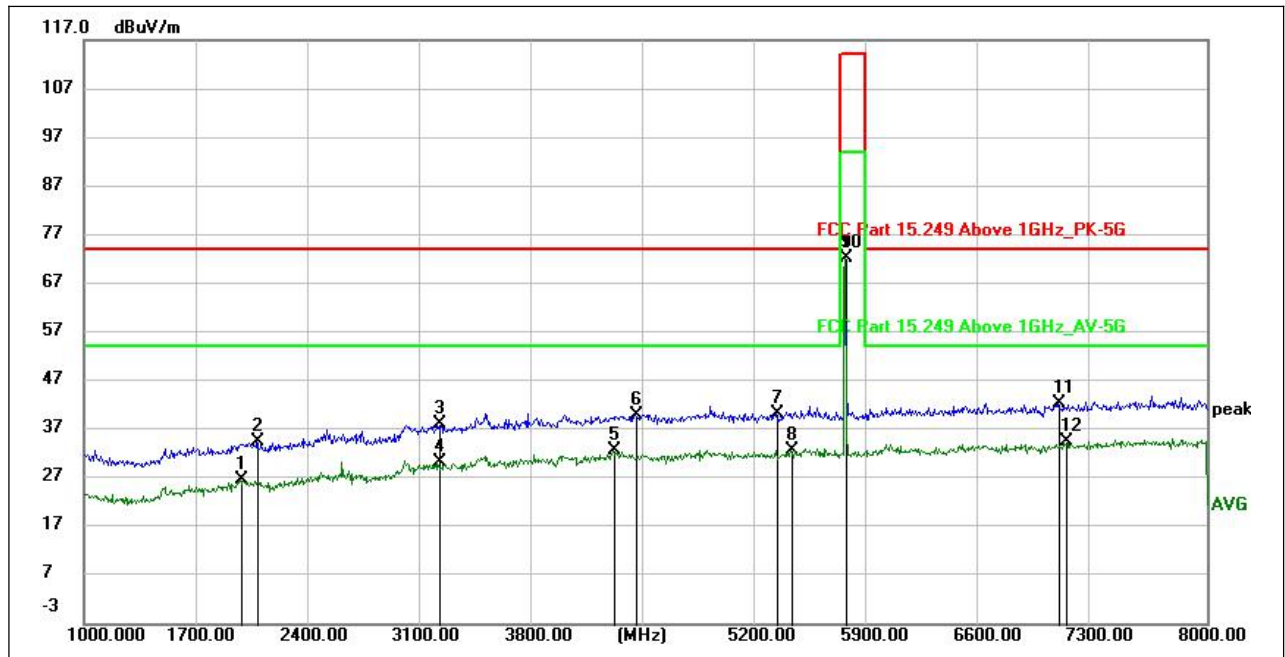
(5750MHz, Antenna Horizontal, 26.5GHz to 40GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
27291.775	11.22	0.00	11.22	54.00	-42.78	AVG	H
27494.275	18.01	0.00	18.01	74.00	-55.99	peak	H
29605.675	8.81	0.00	8.81	54.00	-45.19	AVG	H
29780.500	16.71	0.00	16.71	74.00	-57.29	peak	H
31609.750	9.22	0.00	9.22	54.00	-44.78	AVG	H
31932.400	16.73	0.00	16.73	74.00	-57.27	peak	H
34188.250	17.49	0.00	17.49	74.00	-56.51	peak	H
34210.525	9.45	0.00	9.45	54.00	-44.55	AVG	H
36010.075	17.72	0.00	17.72	74.00	-56.28	peak	H
36155.875	9.69	0.00	9.69	54.00	-44.31	AVG	H
38683.750	19.33	0.00	19.33	74.00	-54.67	peak	H
38683.750	12.61	0.00	12.61	54.00	-41.39	AVG	H



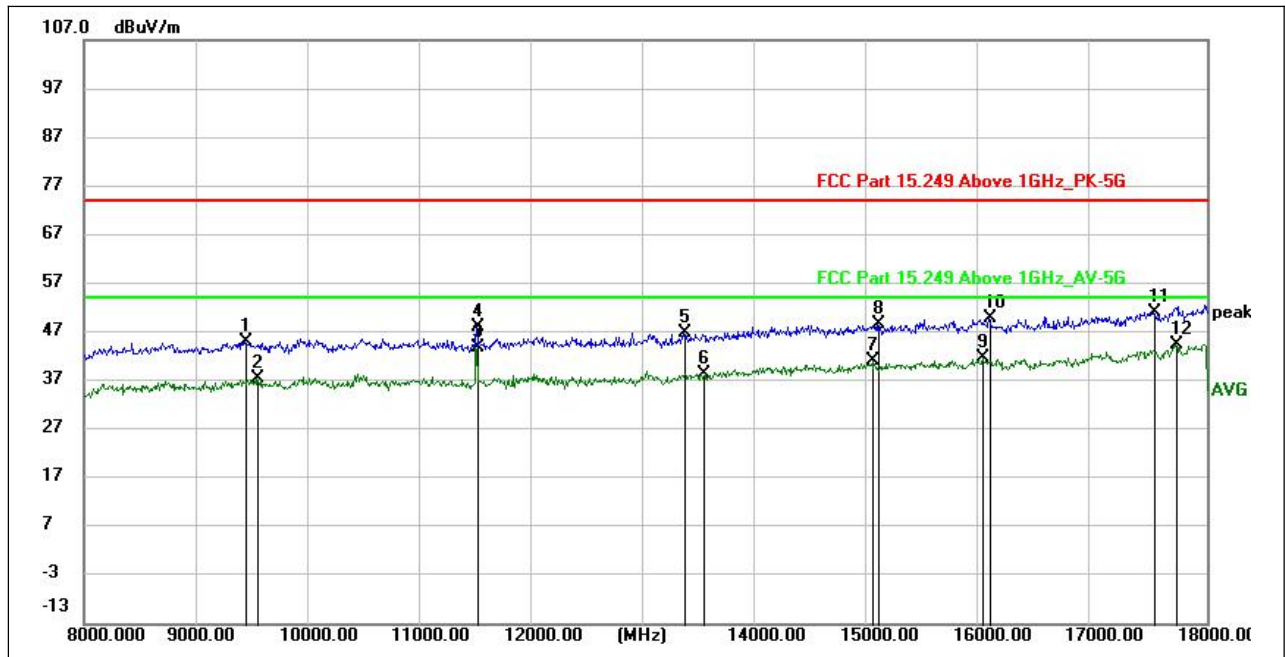
(5750MHz, Antenna Vertical, 30MHz to 1GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
36.8242	17.47	13.50	30.97	40.00	-9.03	peak	H
76.3780	24.30	9.60	33.90	40.00	-6.10	peak	H
116.9905	11.27	13.12	24.39	43.50	-19.11	peak	H
206.7235	17.07	13.48	30.55	43.50	-12.95	peak	H
417.5678	0.43	19.91	20.34	46.00	-25.66	peak	H
738.3648	1.13	25.76	26.89	46.00	-19.11	peak	H



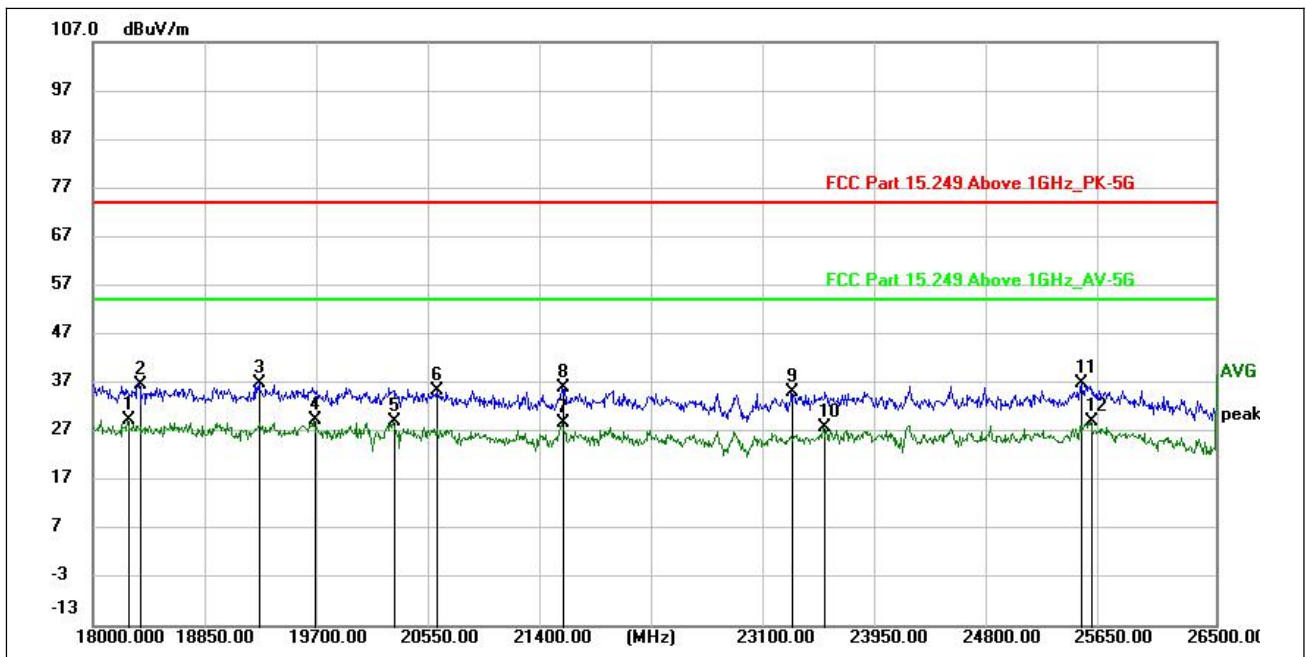
(5750MHz, Antenna Vertical, 1GHz to 8GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
1977.900	39.79	-13.02	26.77	54.00	-27.23	AVG	H
2082.200	47.26	-12.85	34.41	74.00	-39.59	peak	H
3213.400	46.32	-8.27	38.05	74.00	-35.95	peak	H
3213.400	38.58	-8.27	30.31	54.00	-23.69	AVG	H
4306.450	37.19	-4.43	32.76	54.00	-21.24	AVG	H
4442.600	44.90	-5.03	39.87	74.00	-34.13	peak	H
5321.100	44.41	-4.03	40.38	74.00	-33.62	peak	H
5413.500	36.40	-3.68	32.72	54.00	-21.28	AVG	H
5751.250	75.84	-3.47	72.37	114.00	-41.63	peak	H
5751.250	75.56	-3.47	72.09	94.00	-21.91	AVG	H
7074.600	44.27	-1.88	42.39	74.00	-31.61	peak	H
7122.550	36.55	-1.87	34.68	54.00	-19.32	AVG	H



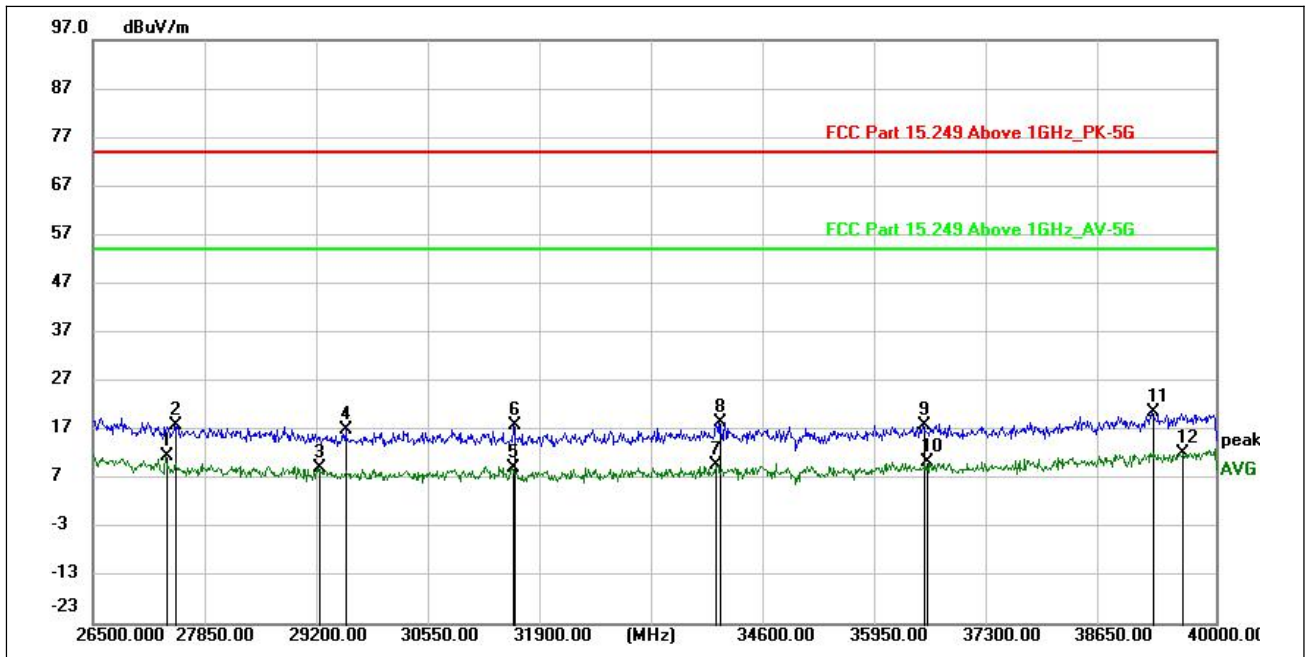
(5750MHz, Antenna Vertical, 8GHz to 18GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
9439.000	42.82	2.13	44.95	74.00	-29.05	peak	H
9549.000	35.04	2.44	37.48	54.00	-16.52	AVG	H
11505.000	39.95	3.87	43.82	54.00	-10.18	AVG	H
11505.500	44.24	3.87	48.11	74.00	-25.89	peak	H
13349.000	40.37	6.42	46.79	74.00	-27.21	peak	H
13511.500	31.91	6.56	38.47	54.00	-15.53	AVG	H
15027.000	30.63	10.63	41.26	54.00	-12.74	AVG	H
15075.000	38.99	9.81	48.80	74.00	-25.20	peak	H
16008.500	30.01	11.70	41.71	54.00	-12.29	AVG	H
16068.500	38.58	11.35	49.93	74.00	-24.07	peak	H
17535.500	36.58	14.36	50.94	74.00	-23.06	peak	H
17728.500	29.50	14.89	44.39	54.00	-9.61	AVG	H



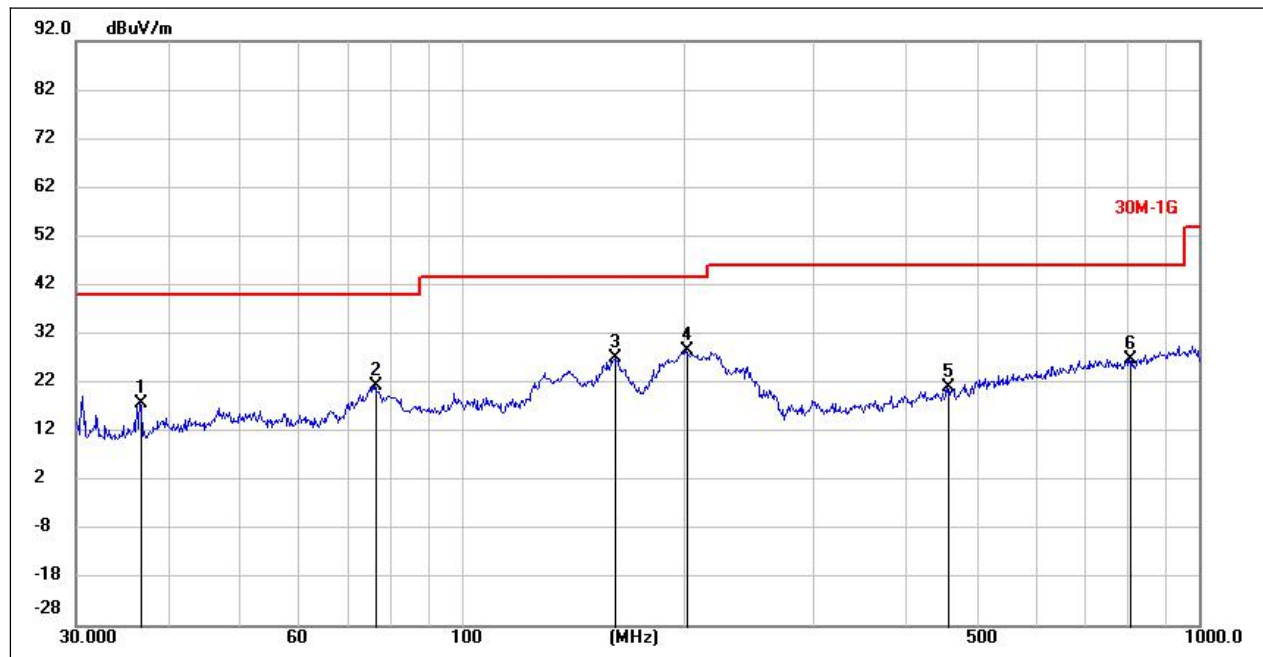
(5750MHz, Antenna Vertical, 18GHz to 26.5GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
18267.750	29.46	0.00	29.46	54.00	-24.54	AVG	H
18354.875	36.70	0.00	36.70	74.00	-37.30	peak	H
19265.225	37.01	0.00	37.01	74.00	-36.99	peak	H
19680.450	29.47	0.00	29.47	54.00	-24.53	AVG	H
20279.275	29.05	0.00	29.05	54.00	-24.95	AVG	H
20606.525	35.39	0.00	35.39	74.00	-38.61	peak	H
21553.425	28.69	0.00	28.69	54.00	-25.31	AVG	H
21558.100	35.85	0.00	35.85	74.00	-38.15	peak	H
23294.225	35.02	0.00	35.02	74.00	-38.98	peak	H
23536.475	27.75	0.00	27.75	54.00	-26.25	AVG	H
25487.225	36.92	0.00	36.92	74.00	-37.08	peak	H
25554.375	29.20	0.00	29.20	54.00	-24.80	AVG	H



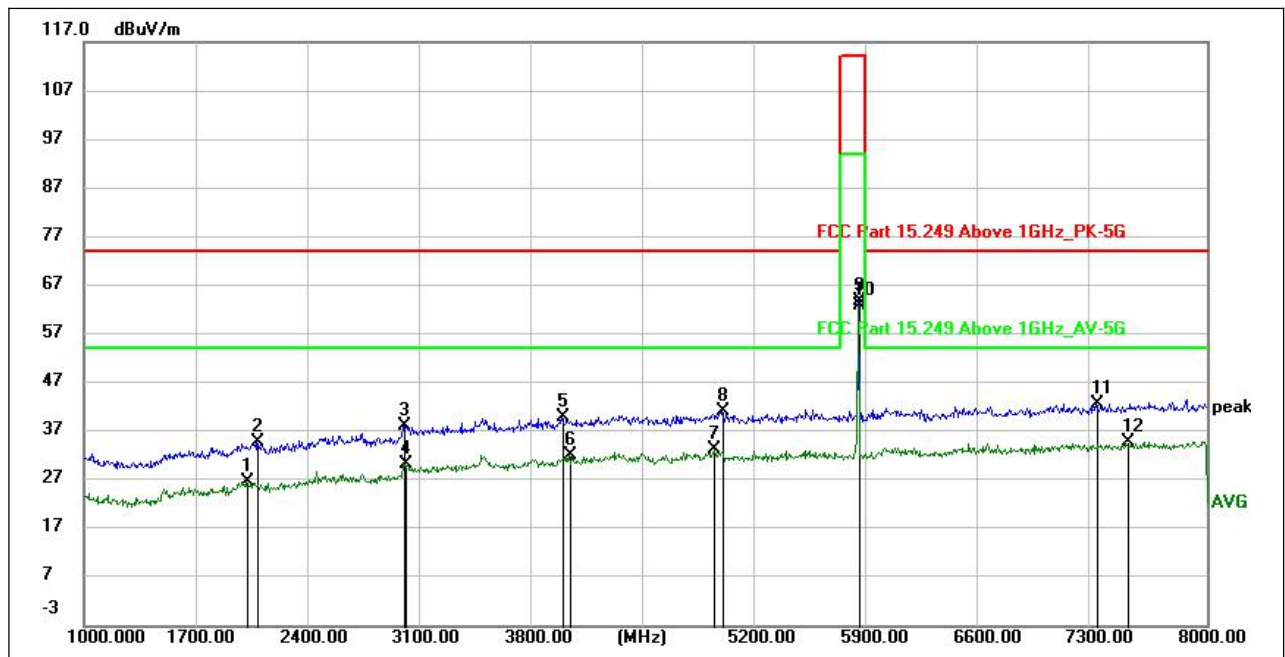
(5750MHz, Antenna Vertical, 26.5GHz to 40GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
27388.300	11.56	0.00	11.56	54.00	-42.44	AVG	H
27497.650	18.00	0.00	18.00	74.00	-56.00	peak	H
29226.325	9.26	0.00	9.26	54.00	-44.74	AVG	H
29545.600	16.82	0.00	16.82	74.00	-57.18	peak	H
31555.750	9.04	0.00	9.04	54.00	-44.96	AVG	H
31572.625	17.84	0.00	17.84	74.00	-56.16	peak	H
33992.500	9.66	0.00	9.66	54.00	-44.34	AVG	H
34037.050	18.46	0.00	18.46	74.00	-55.54	peak	H
36489.325	17.80	0.00	17.80	74.00	-56.20	peak	H
36519.700	10.21	0.00	10.21	54.00	-43.79	AVG	H
39243.325	20.49	0.00	20.49	74.00	-53.51	peak	H
39587.575	12.16	0.00	12.16	54.00	-41.84	AVG	H



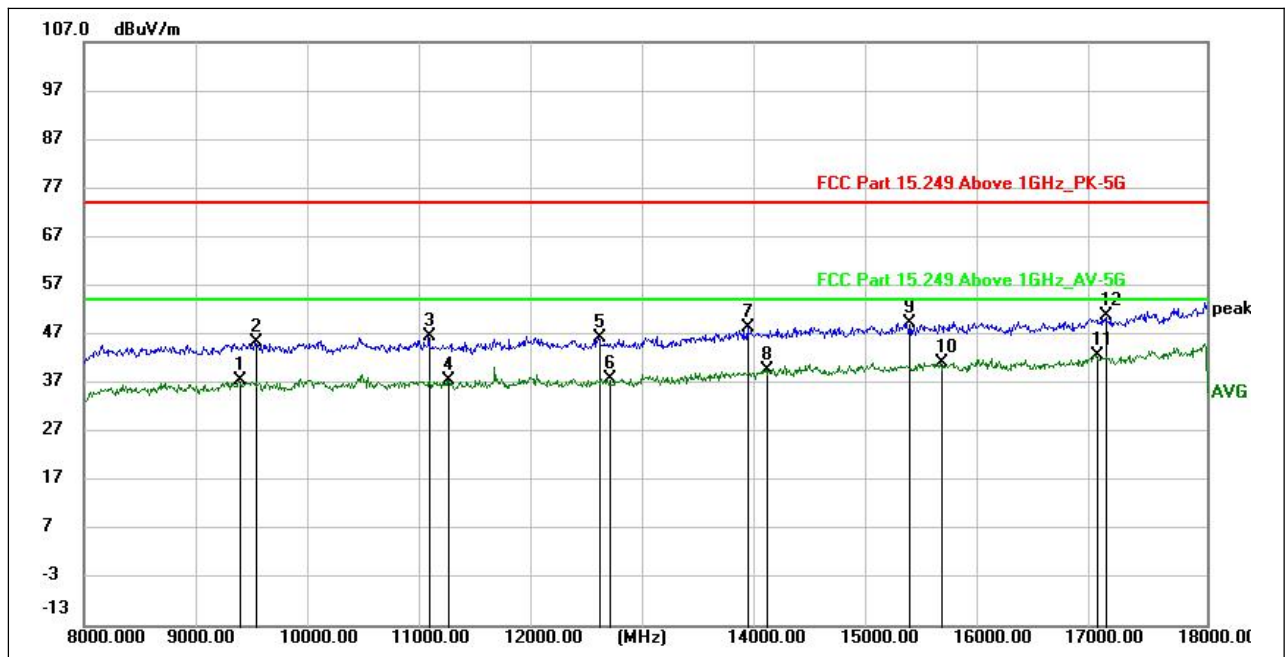
(5830MHz, Antenna Horizontal, 30MHz to 1GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
36.7146	4.30	13.44	17.74	40.00	-22.26	peak	H
76.3780	11.76	9.60	21.36	40.00	-18.64	peak	H
161.5874	15.10	11.93	27.03	43.50	-16.47	peak	H
201.7111	14.65	14.01	28.66	43.50	-14.84	peak	H
457.4271	0.21	20.69	20.90	46.00	-25.10	peak	H
804.8849	0.60	26.15	26.75	46.00	-19.25	peak	H



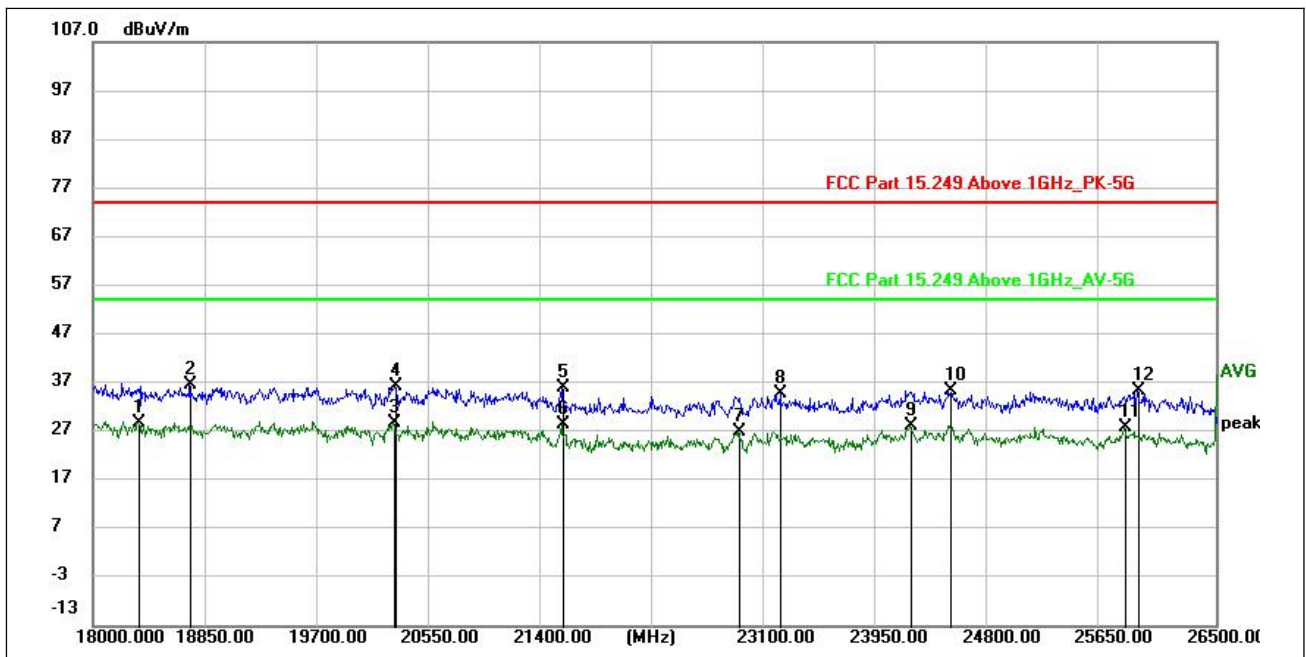
(5830MHz, Antenna Horizontal, 1GHz to 8GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
2016.750	39.51	-12.70	26.81	54.00	-27.19	AVG	H
2082.550	47.84	-12.86	34.98	74.00	-39.02	peak	H
2999.550	47.52	-9.29	38.23	74.00	-35.77	peak	H
3005.150	39.68	-9.22	30.46	54.00	-23.54	AVG	H
3986.900	47.37	-7.51	39.86	74.00	-34.14	peak	H
4026.450	38.42	-6.35	32.07	54.00	-21.93	AVG	H
4932.600	36.88	-3.55	33.33	54.00	-20.67	AVG	H
4978.100	45.29	-4.11	41.18	74.00	-32.82	peak	H
5829.750	67.76	-3.96	63.80	114.00	-50.20	peak	H
5829.750	66.82	-3.96	62.86	94.00	-31.14	AVG	H
7314.350	44.10	-1.31	42.79	74.00	-31.21	peak	H
7505.450	35.89	-0.96	34.93	54.00	-19.07	AVG	H



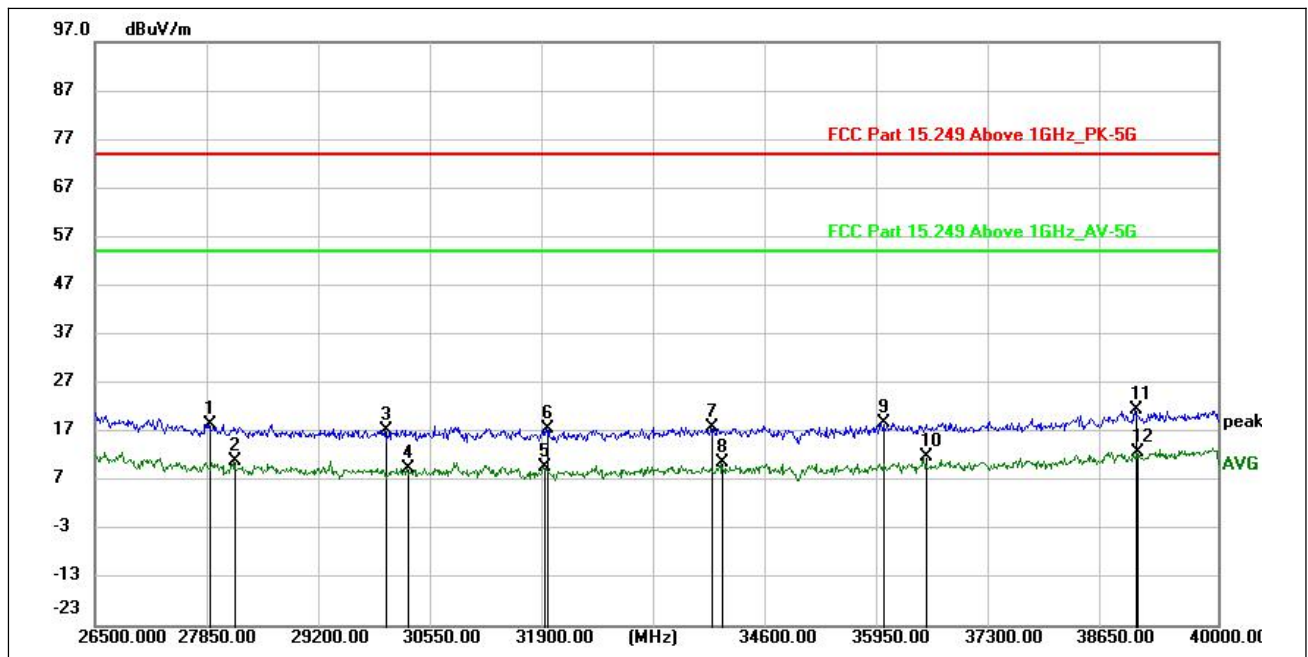
(5830MHz, Antenna Horizontal, 8GHz to 18GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
9383.500	35.58	1.98	37.56	54.00	-16.44	AVG	H
9532.500	43.37	2.00	45.37	74.00	-28.63	peak	H
11075.500	43.26	3.32	46.58	74.00	-27.42	peak	H
11243.500	34.53	3.12	37.65	54.00	-16.35	AVG	H
12588.500	41.68	4.48	46.16	74.00	-27.84	peak	H
12670.500	33.14	4.75	37.89	54.00	-16.11	AVG	H
13916.500	40.67	7.69	48.36	74.00	-25.64	peak	H
14085.500	31.47	8.29	39.76	54.00	-14.24	AVG	H
15342.500	39.49	9.80	49.29	74.00	-24.71	peak	H
15639.500	30.88	10.25	41.13	54.00	-12.87	AVG	H
17019.500	31.33	11.31	42.64	54.00	-11.36	AVG	H
17106.000	38.79	11.83	50.62	74.00	-23.38	peak	H



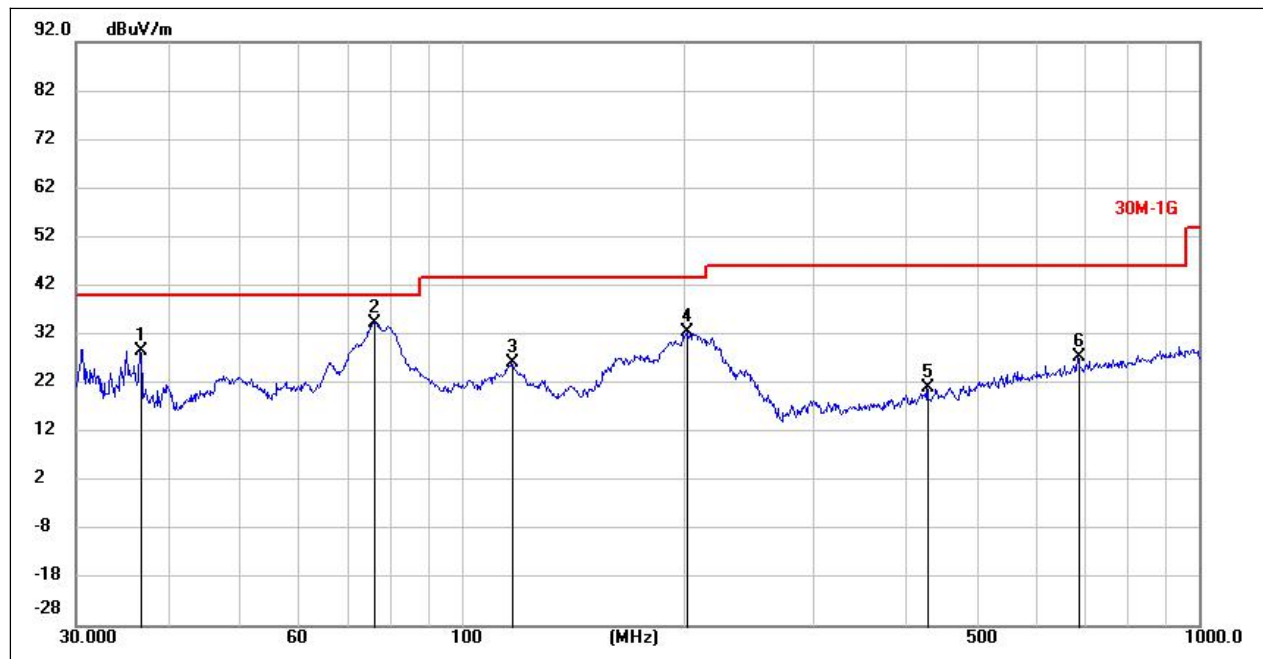
(5830MHz, Antenna Horizontal, 18GHz to 26.5GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
18345.525	28.83	0.00	28.83	54.00	-25.17	AVG	H
18736.525	36.58	0.00	36.58	74.00	-37.42	peak	H
20282.250	28.85	0.00	28.85	54.00	-25.15	AVG	H
20293.725	36.41	0.00	36.41	74.00	-37.59	peak	H
21555.125	35.85	0.00	35.85	74.00	-38.15	peak	H
21555.125	28.59	0.00	28.59	54.00	-25.41	AVG	H
22889.625	26.87	0.00	26.87	54.00	-27.13	AVG	H
23203.700	34.72	0.00	34.72	74.00	-39.28	peak	H
24196.500	28.30	0.00	28.30	54.00	-25.70	AVG	H
24491.875	35.42	0.00	35.42	74.00	-38.58	peak	H
25807.675	27.76	0.00	27.76	54.00	-26.24	AVG	H
25916.050	35.37	0.00	35.37	74.00	-38.63	peak	H



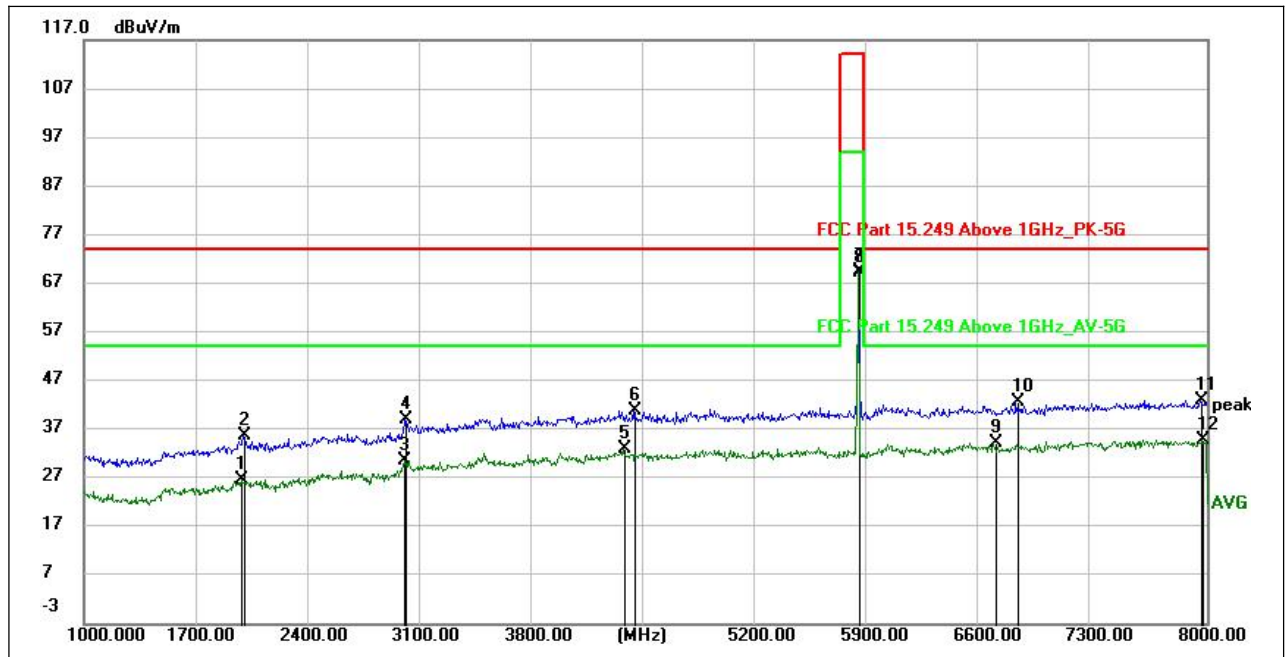
(5830MHz, Antenna Horizontal, 26.5GHz to 40GHz)

Frequency (MHz)	Reading (dBUV)	Factor (dB/m)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Det.	Pol
27866.875	18.56	0.00	18.56	74.00	-55.44	peak	H
28178.050	10.90	0.00	10.90	54.00	-43.10	AVG	H
29999.875	17.36	0.00	17.36	74.00	-56.64	peak	H
30259.075	9.54	0.00	9.54	54.00	-44.46	AVG	H
31901.350	9.69	0.00	9.69	54.00	-44.31	AVG	H
31936.450	17.67	0.00	17.67	74.00	-56.33	peak	H
33916.225	17.80	0.00	17.80	74.00	-56.20	peak	H
34041.775	10.54	0.00	10.54	54.00	-43.46	AVG	H
35970.925	18.85	0.00	18.85	74.00	-55.15	peak	H
36480.550	11.75	0.00	11.75	54.00	-42.25	AVG	H
39003.025	21.54	0.00	21.54	74.00	-52.46	peak	H
39038.800	12.86	0.00	12.86	54.00	-41.14	AVG	H



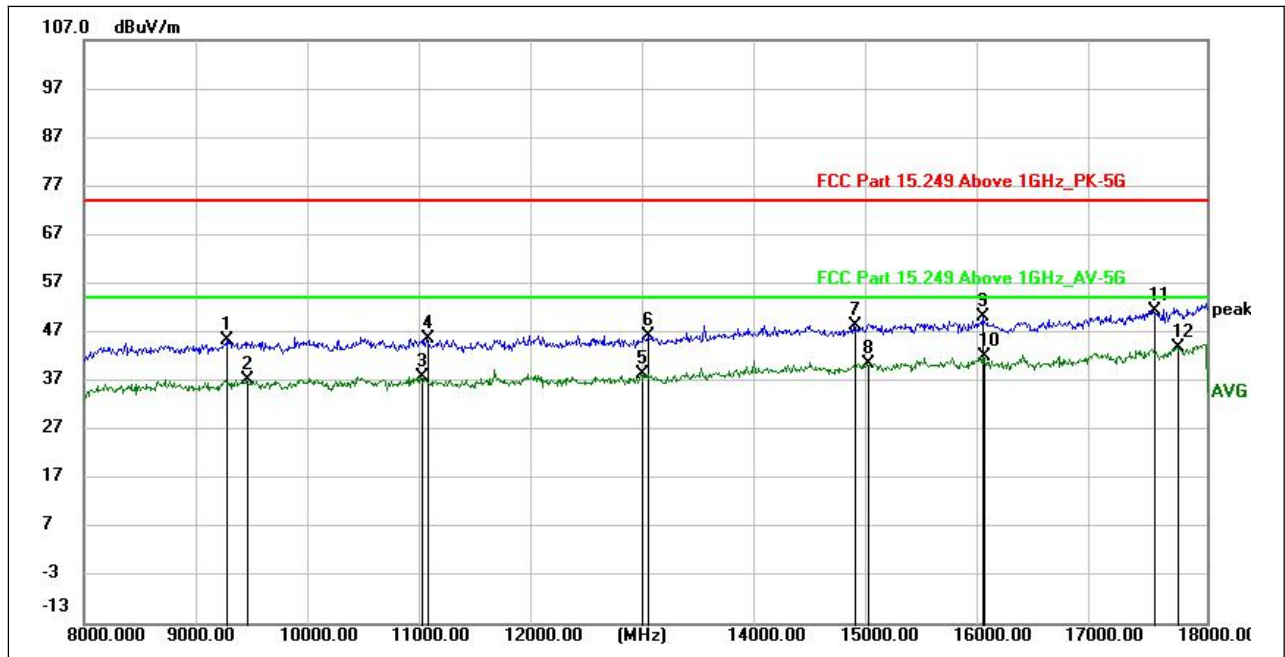
(5830MHz, Antenna Vertical, 30MHz to 1GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
36.7533	14.96	13.46	28.42	40.00	-11.58	peak	H
76.2041	24.60	9.61	34.21	40.00	-5.79	peak	H
116.9905	13.05	13.12	26.17	43.50	-17.33	peak	H
202.3841	18.49	13.92	32.41	43.50	-11.09	peak	H
429.2969	1.92	19.17	21.09	46.00	-24.91	peak	H
685.5863	2.48	24.70	27.18	46.00	-18.82	peak	H



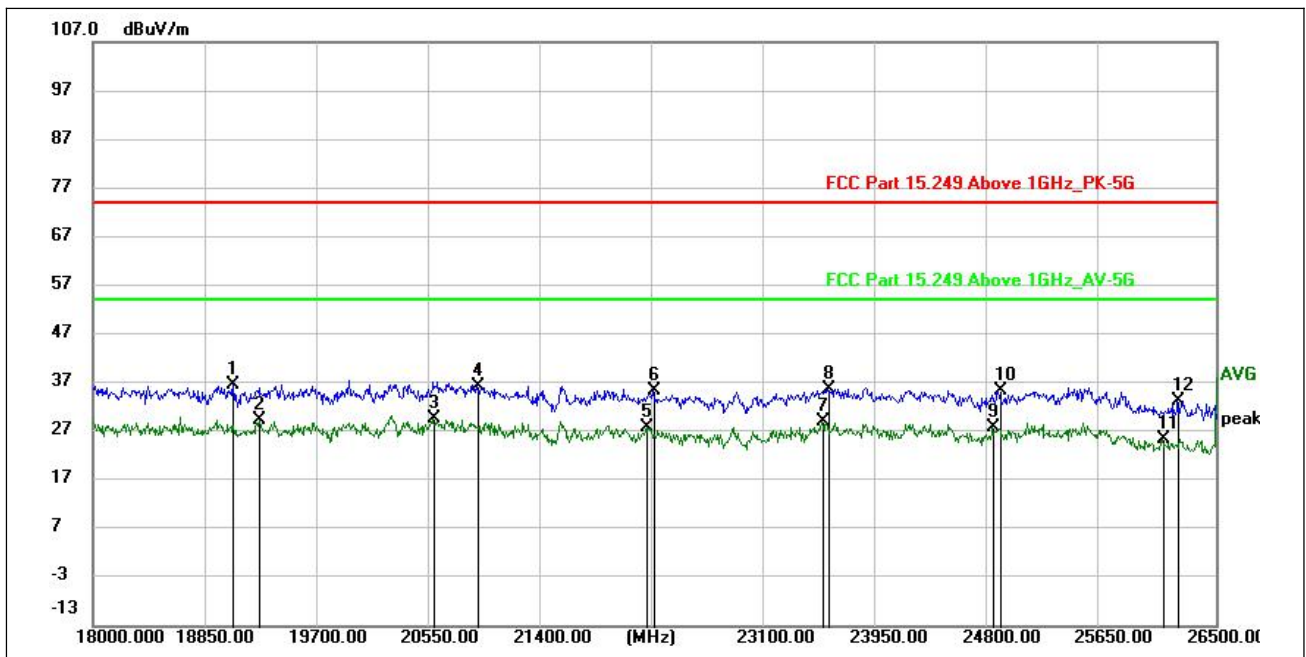
(5830MHz, Antenna Vertical, 1GHz to 8GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
1983.150	39.41	-12.83	26.58	54.00	-27.42	AVG	H
2000.650	47.37	-11.60	35.77	74.00	-38.23	peak	H
2999.900	37.78	-7.02	30.76	54.00	-23.24	AVG	H
3007.250	46.19	-7.22	38.97	74.00	-35.03	peak	H
4370.150	37.28	-4.36	32.92	54.00	-21.08	AVG	H
4434.900	45.96	-5.00	40.96	74.00	-33.04	peak	H
5829.400	73.62	-3.96	69.66	114.00	-44.34	peak	H
5829.400	73.24	-3.96	69.28	94.00	-24.72	AVG	H
6677.350	36.40	-2.08	34.32	54.00	-19.68	AVG	H
6819.450	44.68	-2.13	42.55	74.00	-31.45	peak	H
7968.150	43.48	-0.38	43.10	74.00	-30.90	peak	H
7979.000	35.24	-0.32	34.92	54.00	-19.08	AVG	H



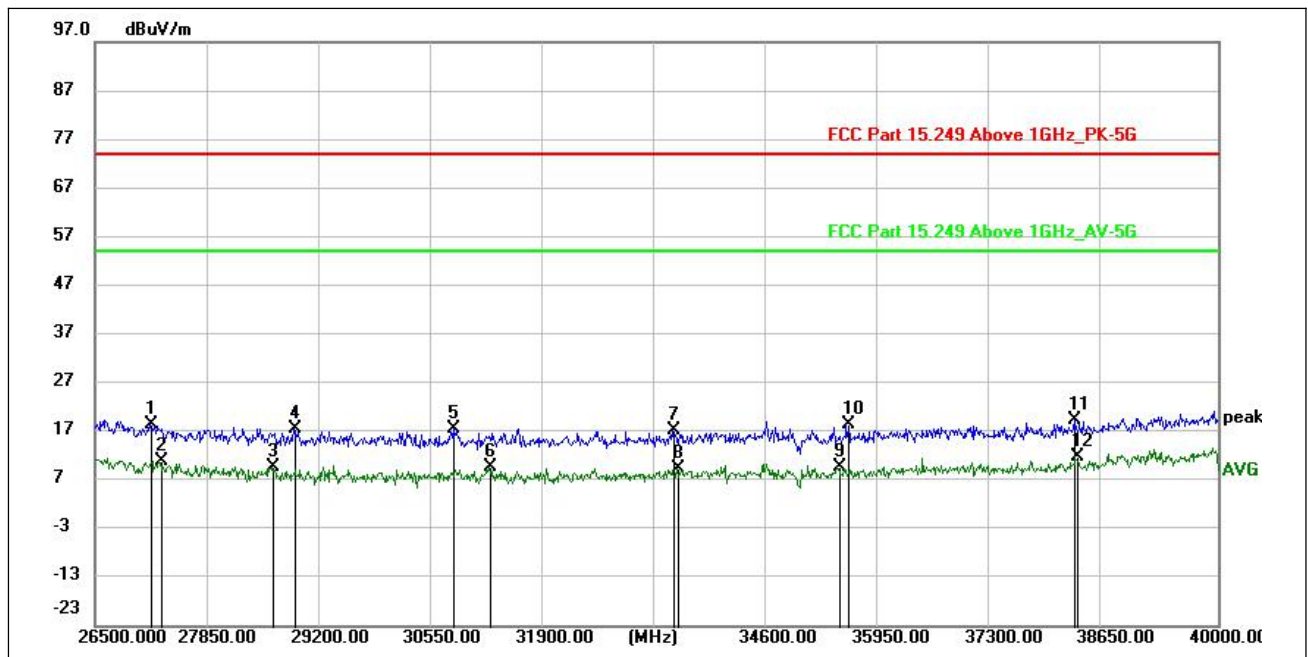
(5830MHz, Antenna Vertical, 8GHz to 18GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
9278.000	43.19	2.24	45.43	74.00	-28.57	peak	H
9453.000	35.16	2.08	37.24	54.00	-16.76	AVG	H
11007.500	34.65	3.26	37.91	54.00	-16.09	AVG	H
11057.500	42.50	3.25	45.75	74.00	-28.25	peak	H
12963.500	33.00	5.38	38.38	54.00	-15.62	AVG	H
13028.000	40.21	6.08	46.29	74.00	-27.71	peak	H
14864.500	39.36	9.07	48.43	74.00	-25.57	peak	H
14989.000	30.40	10.25	40.65	54.00	-13.35	AVG	H
16009.000	38.34	11.70	50.04	74.00	-23.96	peak	H
16017.000	30.36	11.73	42.09	54.00	-11.91	AVG	H
17529.500	36.99	14.51	51.50	74.00	-22.50	peak	H
17746.000	28.48	15.26	43.74	54.00	-10.26	AVG	H



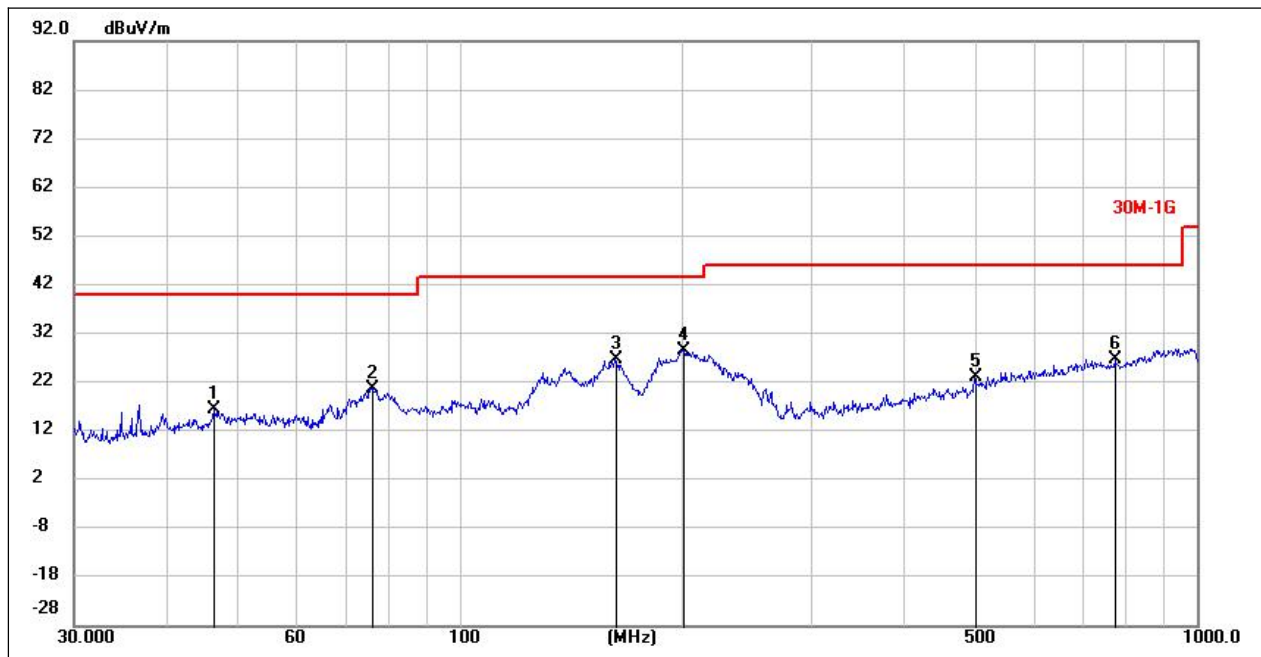
(5830MHz, Antenna Vertical, 18GHz to 26.5GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
19062.500	36.52	0.00	36.52	74.00	-37.48	peak	H
19266.075	29.44	0.00	29.44	54.00	-24.56	AVG	H
20575.925	29.76	0.00	29.76	54.00	-24.24	AVG	H
20912.950	36.31	0.00	36.31	74.00	-37.69	peak	H
22198.575	27.73	0.00	27.73	54.00	-26.27	AVG	H
22248.725	35.39	0.00	35.39	74.00	-38.61	peak	H
23518.625	29.14	0.00	29.14	54.00	-24.86	AVG	H
23565.375	35.82	0.00	35.82	74.00	-38.18	peak	H
24814.025	27.79	0.00	27.79	54.00	-26.21	AVG	H
24860.775	35.28	0.00	35.28	74.00	-38.72	peak	H
26101.350	25.47	0.00	25.47	54.00	-28.53	AVG	H
26214.400	33.21	0.00	33.21	74.00	-40.79	peak	H



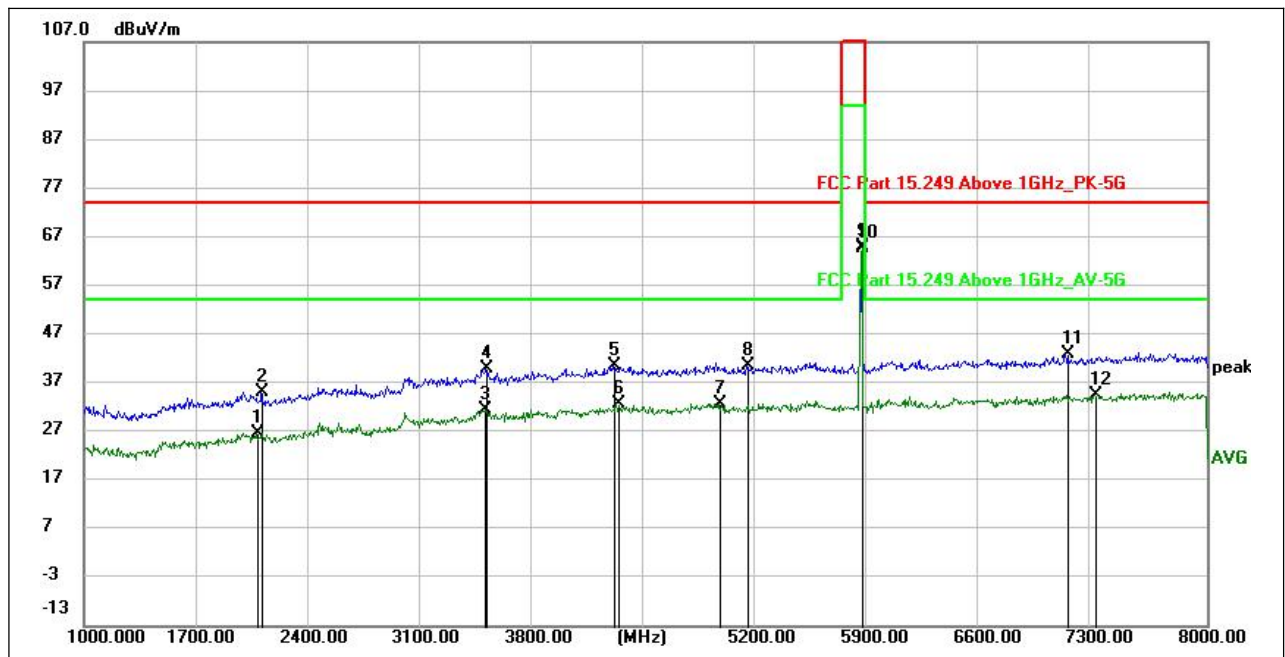
(5830MHz, Antenna Vertical, 26.5GHz to 40GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
27165.550	18.36	0.00	18.36	74.00	-55.64	peak	H
27291.100	11.06	0.00	11.06	54.00	-42.94	AVG	H
28637.050	9.68	0.00	9.68	54.00	-44.32	AVG	H
28909.075	17.58	0.00	17.58	74.00	-56.42	peak	H
30817.300	17.56	0.00	17.56	74.00	-56.44	peak	H
31252.000	9.57	0.00	9.57	54.00	-44.43	AVG	H
33458.575	17.20	0.00	17.20	74.00	-56.80	peak	H
33500.425	9.52	0.00	9.52	54.00	-44.48	AVG	H
35438.350	9.59	0.00	9.59	54.00	-44.41	AVG	H
35551.075	18.45	0.00	18.45	74.00	-55.55	peak	H
38274.025	19.34	0.00	19.34	74.00	-54.66	peak	H
38299.675	11.69	0.00	11.69	54.00	-42.31	AVG	H



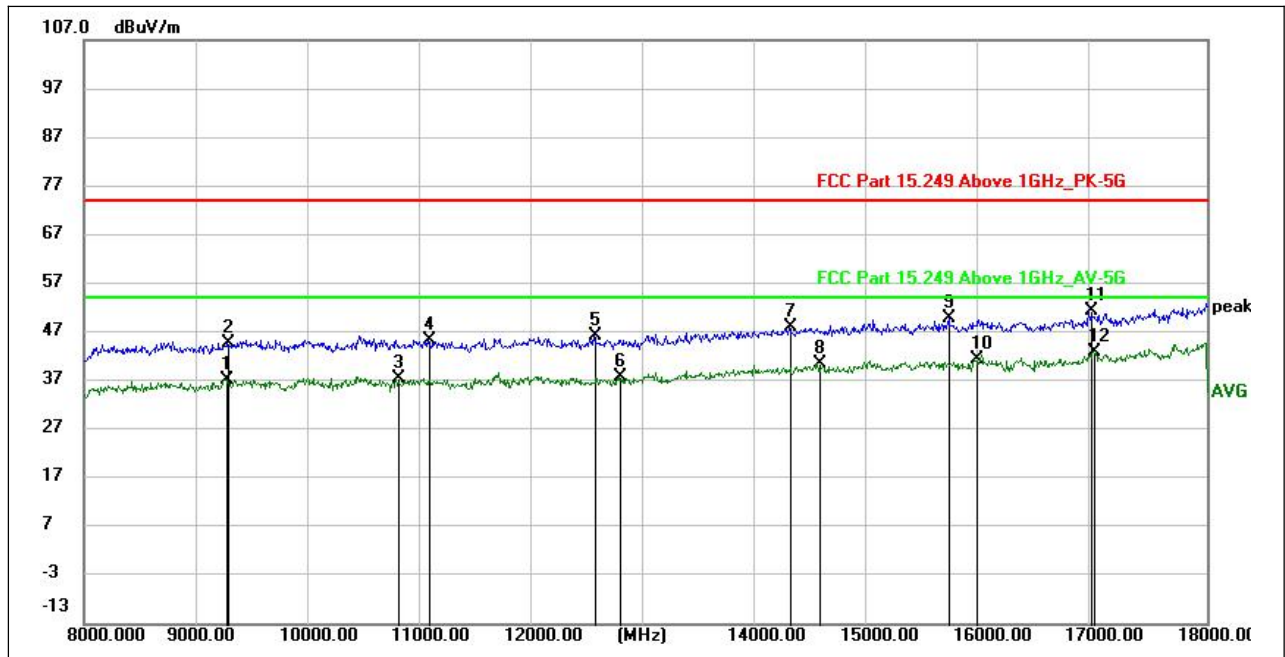
(5850MHz, Antenna Horizontal, 30MHz to 1GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
46.5030	0.88	15.48	16.36	40.00	-23.64	peak	H
76.2442	11.22	9.61	20.83	40.00	-19.17	peak	H
162.7532	15.27	11.59	26.86	43.50	-16.64	peak	H
200.8993	14.53	14.15	28.68	43.50	-14.82	peak	H
500.0380	0.96	22.00	22.96	46.00	-23.04	peak	H
774.7016	0.52	26.08	26.60	46.00	-19.40	peak	H



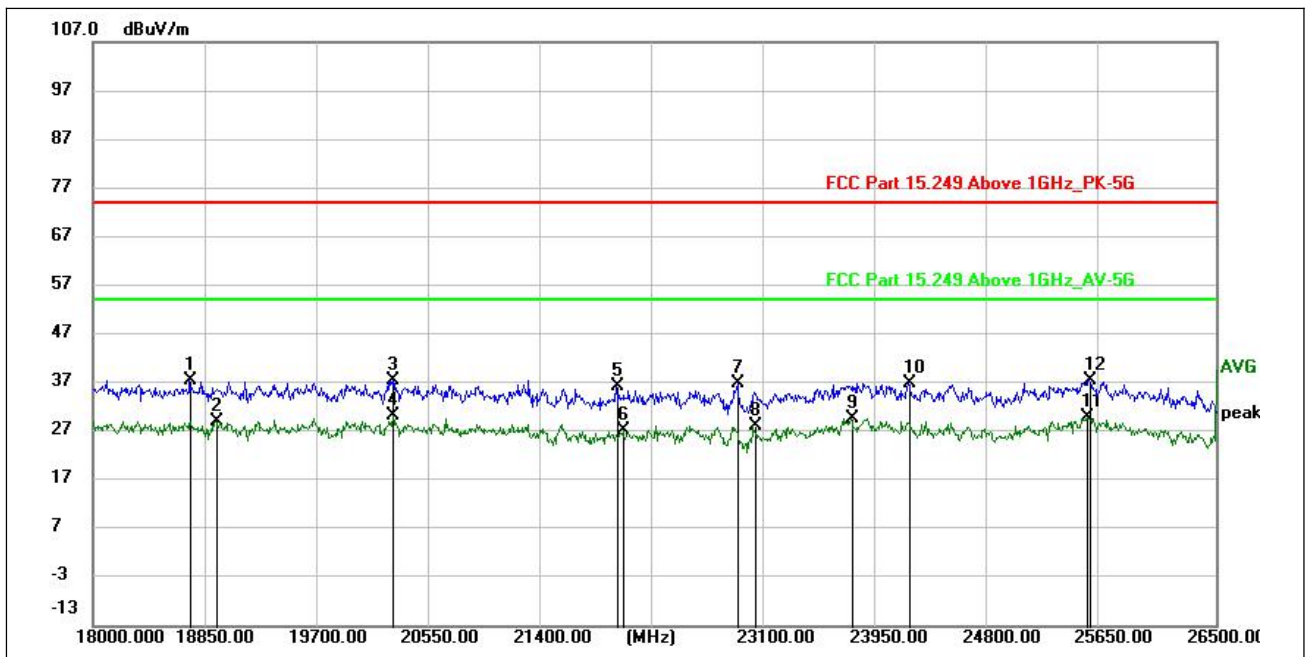
(5850MHz, Antenna Horizontal, 1GHz to 8GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
2079.750	39.48	-12.77	26.71	54.00	-27.29	AVG	H
2111.250	48.04	-12.99	35.05	74.00	-38.95	peak	H
3502.150	39.98	-8.54	31.44	54.00	-22.56	AVG	H
3513.000	48.23	-8.37	39.86	74.00	-34.14	peak	H
4306.100	44.84	-4.44	40.40	74.00	-33.60	peak	H
4325.350	36.99	-4.22	32.77	54.00	-21.23	AVG	H
4963.400	36.43	-3.63	32.80	54.00	-21.20	AVG	H
5138.050	44.58	-3.98	40.60	74.00	-33.40	peak	H
5851.350	68.65	-3.66	64.99	114.00	-49.01	peak	H
5851.350	68.27	-3.66	64.61	94.00	-29.39	AVG	H
7126.050	44.71	-1.89	42.82	74.00	-31.18	peak	H
7307.000	35.83	-1.29	34.54	54.00	-19.46	AVG	H



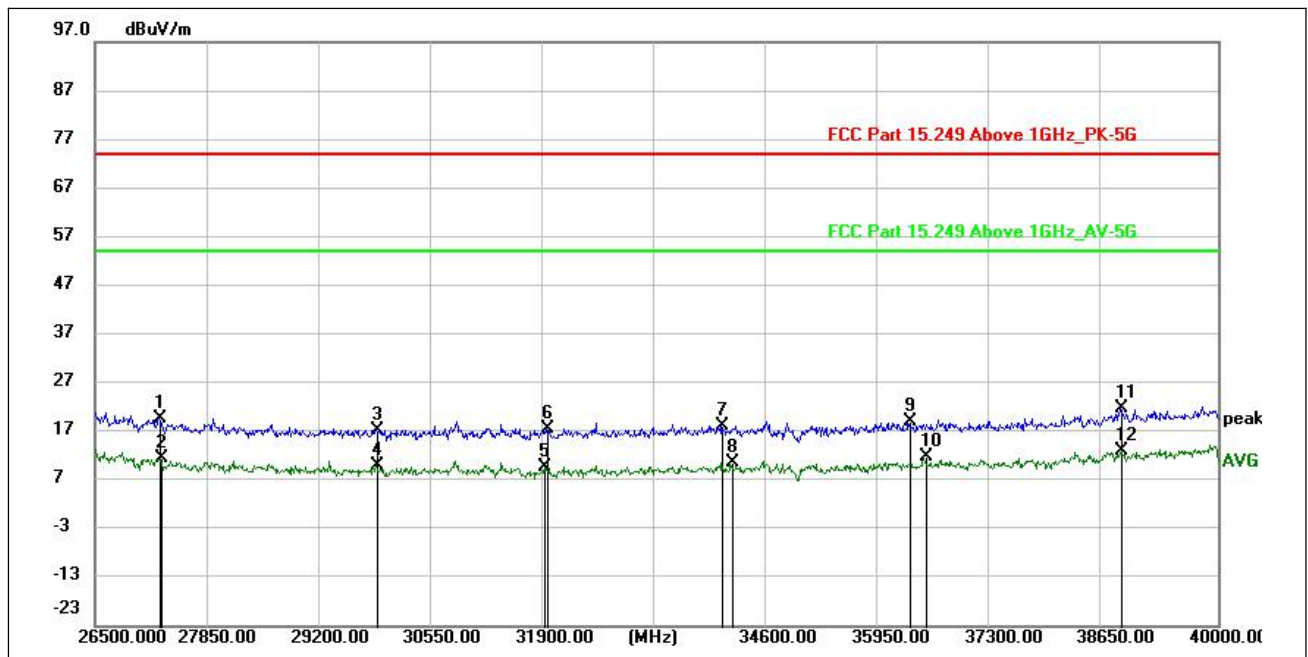
(5850MHz, Antenna Horizontal, 8GHz to 18GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
9270.500	34.94	2.36	37.30	54.00	-16.70	AVG	H
9288.000	42.80	2.08	44.88	74.00	-29.12	peak	H
10794.000	35.10	2.45	37.55	54.00	-16.45	AVG	H
11072.500	42.06	3.34	45.40	74.00	-28.60	peak	H
12552.500	41.60	4.61	46.21	74.00	-27.79	peak	H
12775.500	32.68	5.03	37.71	54.00	-16.29	AVG	H
14287.500	39.83	8.23	48.06	74.00	-25.94	peak	H
14547.000	31.86	8.62	40.48	54.00	-13.52	AVG	H
15709.000	38.81	10.92	49.73	74.00	-24.27	peak	H
15945.500	30.11	11.18	41.29	54.00	-12.71	AVG	H
16961.000	40.08	11.21	51.29	74.00	-22.71	peak	H
16999.500	31.79	11.14	42.93	54.00	-11.07	AVG	H



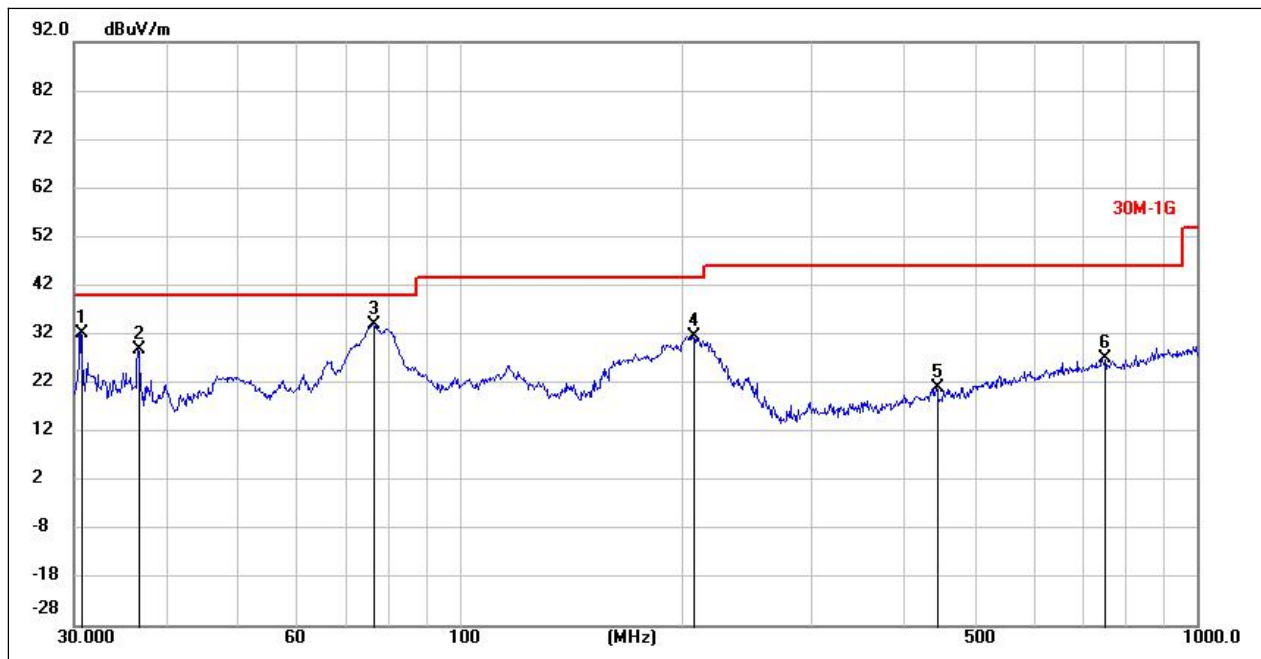
(5850MHz, Antenna Horizontal, 18GHz to 26.5GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
18736.100	37.44	0.00	37.44	74.00	-36.56	peak	H
18938.400	29.08	0.00	29.08	54.00	-24.92	AVG	H
20269.500	37.38	0.00	37.38	74.00	-36.62	peak	H
20269.500	30.14	0.00	30.14	54.00	-23.86	AVG	H
21969.075	36.20	0.00	36.20	74.00	-37.80	peak	H
22018.800	27.32	0.00	27.32	54.00	-26.68	AVG	H
22883.675	36.75	0.00	36.75	74.00	-37.25	peak	H
23010.750	28.20	0.00	28.20	54.00	-25.80	AVG	H
23738.350	29.76	0.00	29.76	54.00	-24.24	AVG	H
24174.400	36.78	0.00	36.78	74.00	-37.22	peak	H
25528.025	29.90	0.00	29.90	54.00	-24.10	AVG	H
25543.325	37.61	0.00	37.61	74.00	-36.39	peak	H



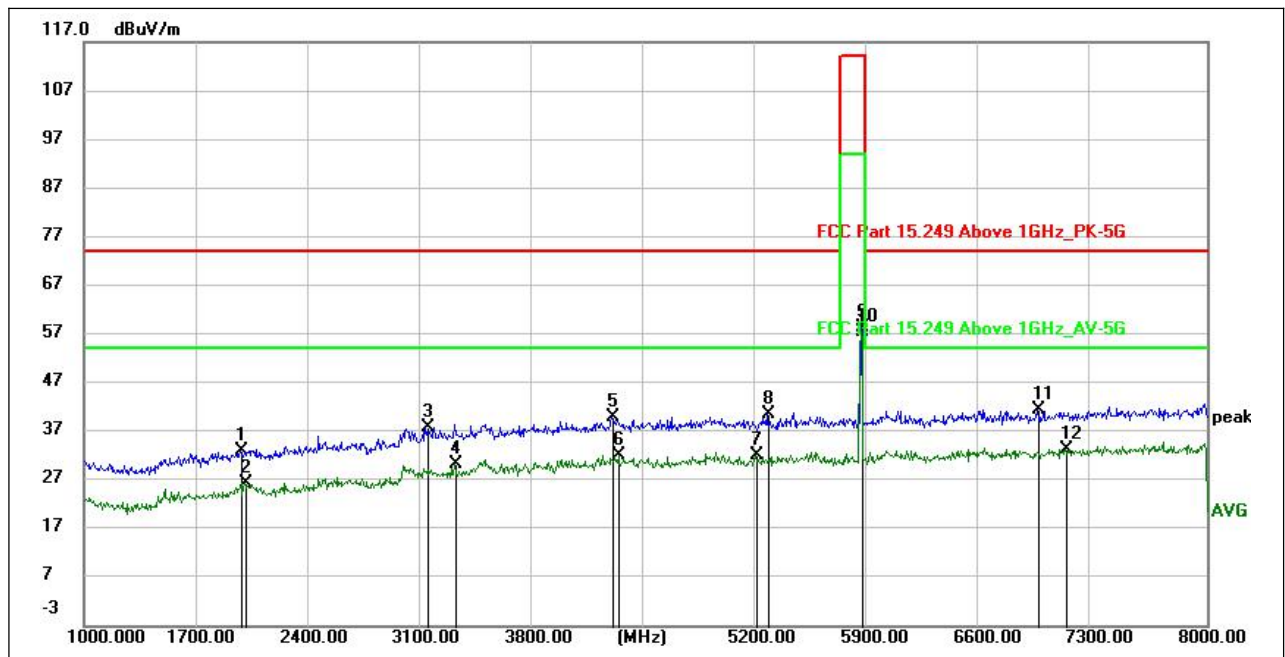
(5850MHz, Antenna Horizontal, 26.5GHz to 40GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
27276.250	19.72	0.00	19.72	74.00	-54.28	peak	H
27291.775	11.49	0.00	11.49	54.00	-42.51	AVG	H
29894.575	17.38	0.00	17.38	74.00	-56.62	peak	H
29894.575	9.96	0.00	9.96	54.00	-44.04	AVG	H
31901.350	9.69	0.00	9.69	54.00	-44.31	AVG	H
31936.450	17.67	0.00	17.67	74.00	-56.33	peak	H
34044.475	18.19	0.00	18.19	74.00	-55.81	peak	H
34163.275	10.66	0.00	10.66	54.00	-43.34	AVG	H
36288.175	18.94	0.00	18.94	74.00	-55.06	peak	H
36480.550	11.75	0.00	11.75	54.00	-42.25	AVG	H
38830.900	21.91	0.00	21.91	74.00	-52.09	peak	H
38847.100	13.01	0.00	13.01	54.00	-40.99	AVG	H



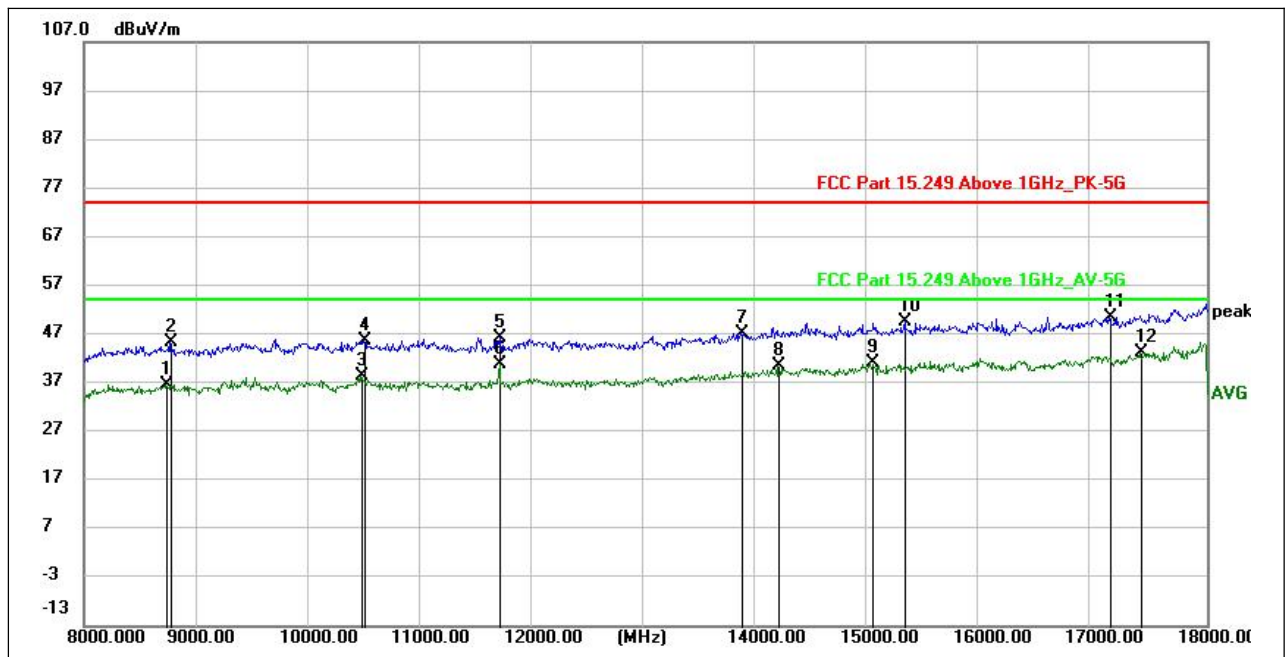
(5850MHz, Antenna Vertical, 30MHz to 1GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
30.6701	19.35	12.70	32.05	40.00	-7.95	peak	H
36.7339	15.30	13.45	28.75	40.00	-11.25	peak	H
76.3914	24.28	9.60	33.88	40.00	-6.12	peak	H
207.3042	18.04	13.48	31.52	43.50	-11.98	peak	H
443.7609	0.89	20.04	20.93	46.00	-25.07	peak	H
747.4826	1.04	25.93	26.97	46.00	-19.03	peak	H



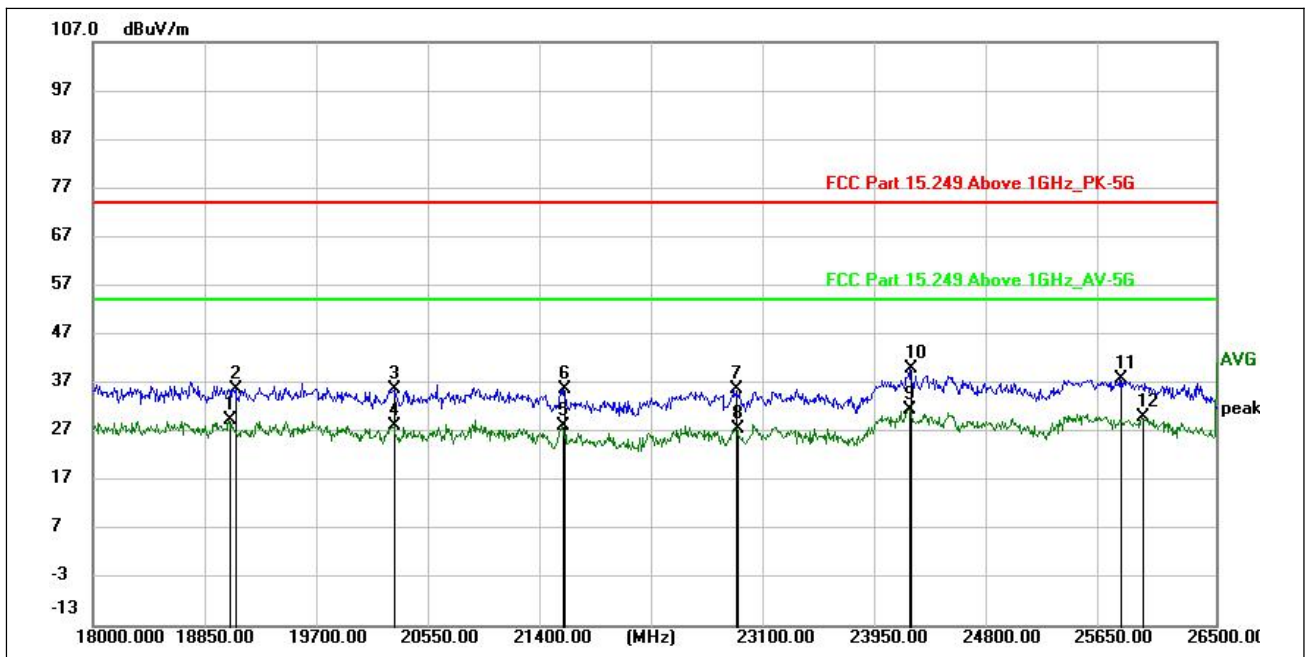
(5850MHz, Antenna Vertical, 1GHz to 8GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
1975.800	46.21	-13.06	33.15	74.00	-40.85	peak	H
2008.000	38.72	-12.38	26.34	54.00	-27.66	AVG	H
3137.450	46.18	-8.21	37.97	74.00	-36.03	peak	H
3311.400	37.98	-7.70	30.28	54.00	-23.72	AVG	H
4295.950	44.49	-4.66	39.83	74.00	-34.17	peak	H
4337.950	36.34	-4.21	32.13	54.00	-21.87	AVG	H
5186.350	36.18	-4.15	32.03	54.00	-21.97	AVG	H
5264.050	44.33	-3.77	40.56	74.00	-33.44	peak	H
5850.650	61.90	-3.68	58.22	114.00	-55.78	peak	H
5850.650	61.12	-3.68	57.44	94.00	-36.56	AVG	H
6947.900	43.27	-1.93	41.34	74.00	-32.66	peak	H
7123.600	35.33	-1.87	33.46	54.00	-20.54	AVG	H



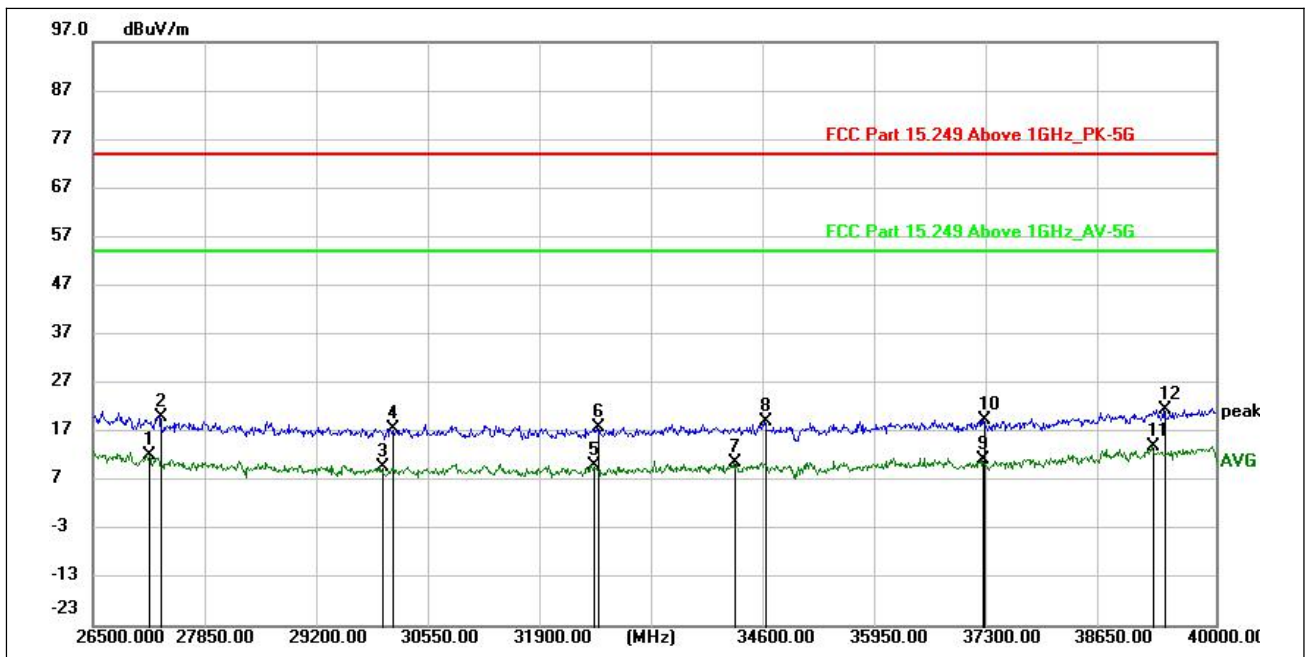
(5850MHz, Antenna Vertical, 8GHz to 18GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
8739.500	35.06	1.42	36.48	54.00	-17.52	AVG	H
8771.500	43.80	1.48	45.28	74.00	-28.72	peak	H
10471.000	35.05	3.30	38.35	54.00	-15.65	AVG	H
10499.000	42.30	3.45	45.75	74.00	-28.25	peak	H
11703.000	42.31	4.01	46.32	74.00	-27.68	peak	H
11703.000	36.66	4.01	40.67	54.00	-13.33	AVG	H
13856.500	39.96	7.21	47.17	74.00	-26.83	peak	H
14180.500	32.37	8.07	40.44	54.00	-13.56	AVG	H
15016.000	30.35	10.72	41.07	54.00	-12.93	AVG	H
15318.000	39.57	9.89	49.46	74.00	-24.54	peak	H
17133.000	37.55	12.84	50.39	74.00	-23.61	peak	H
17416.000	29.61	13.49	43.10	54.00	-10.90	AVG	H



(5850MHz, Antenna Vertical, 18GHz to 26.5GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
19037.000	29.31	0.00	29.31	54.00	-24.69	AVG	H
19078.225	35.73	0.00	35.73	74.00	-38.27	peak	H
20283.950	35.83	0.00	35.83	74.00	-38.17	peak	H
20283.950	28.14	0.00	28.14	54.00	-25.86	AVG	H
21558.100	28.07	0.00	28.07	54.00	-25.93	AVG	H
21565.750	35.70	0.00	35.70	74.00	-38.30	peak	H
22864.125	35.72	0.00	35.72	74.00	-38.28	peak	H
22879.000	27.54	0.00	27.54	54.00	-26.46	AVG	H
24183.750	31.49	0.00	31.49	54.00	-22.51	AVG	H
24188.425	40.02	0.00	40.02	74.00	-33.98	peak	H
25783.025	37.86	0.00	37.86	74.00	-36.14	peak	H
25945.375	29.89	0.00	29.89	54.00	-24.11	AVG	H



(5850MHz, Antenna Vertical, 26.5GHz to 40GHz)

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Pol
27168.925	12.21	0.00	12.21	54.00	-41.79	AVG	H
27310.675	19.94	0.00	19.94	74.00	-54.06	peak	H
29972.200	9.78	0.00	9.78	54.00	-44.22	AVG	H
30091.675	17.70	0.00	17.70	74.00	-56.30	peak	H
32512.225	10.13	0.00	10.13	54.00	-43.87	AVG	H
32570.950	17.86	0.00	17.86	74.00	-56.14	peak	H
34211.200	10.57	0.00	10.57	54.00	-43.43	AVG	H
34575.025	19.17	0.00	19.17	74.00	-54.83	peak	H
37196.725	11.12	0.00	11.12	54.00	-42.88	AVG	H
37217.650	19.28	0.00	19.28	74.00	-54.72	peak	H
39237.250	13.91	0.00	13.91	54.00	-40.09	AVG	H
39381.025	21.51	0.00	21.51	74.00	-52.49	peak	H



Annex A Test Uncertainty

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO.

Uncertainty of Conducted Emission Measurement

Measuring Uncertainty for a Level of Confidence of 95%(U=2Uc(y))	9kHz-150kHz	±3.10 dB
	150kHz-30MHz	±2.61dB

Uncertainty of Radiated Emission Measurement

Measuring Uncertainty for a Level of Confidence of 95%(U=2Uc(y))	30MHz-200MHz	±3.66dB
	200MHz-1000MHz	±3.87dB
	1GHz-6GHz	±4.50dB
	6GHz-18GHz	±5.17dB



Annex B Testing Laboratory Information

1. Identification of the Responsible Testing Laboratory

Laboratory Name:	Kehu-Morlab Test Laboratory
Laboratory Address:	Unit 101, No.1732 Gangzhong Road, Xiamen Area, Pilot Free Trade Zone (Fujian) P.R. China
Telephone:	+86 592 5612050
Facsimile:	+86 592 5612095

2. Identification of the Responsible Testing Location

Name:	Kehu-Morlab Test Laboratory
Address:	Unit 101, No.1732 Gangzhong Road, Xiamen Area, Pilot Free Trade Zone (Fujian) P.R. China

3. Accreditation Certificate

Accredited Testing Laboratory:	The FCC designation number is CN1249. (Kehu-Morlab Test Laboratory)
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4. Test Equipments Utilized

4.1 Conducted Test Equipments

No.	Equipment Name	Serial No.	Model No.	Manufacturer	Cal.Due Date
1	MXA Signal Analyzer	MY57150136	N9030A	Keysight	2021. 03.08
2	RF cable (30MHz-26.5GHz)	RF01	N/A	Morlab	N/A
3	Coaxial cable	RF02	N/A	Morlab	N/A
4	SMA connector	RF03	N/A	Xingbo	N/A
Test Software: MW 2.0.0.0					

4.2 Conducted Emission Test Equipments

No.	Equipment Name	Serial No.	Model No.	Manufacturer	Cal.Due Date
1	EMI Receiver	102174	ESR3	ESR3	2021.03.15
2	LISN	101338	ENV432	ENV432	2021.03.09

4.3 List of Software Used

No.	Model	Version Number	Producer	Test Item
1	EZ EMC	V1.1.4.2	FARAD	RE
2	EMC32	V10.20.01	Rode&Schwarz	CE

**4.5 Radiated Test Equipments**

No.	Equipment Name	Serial No.	Model No.	Manufacturer	Cal.Due Date
1	Anechoic Chamber	N/A	9m*6m*6m	ETS-Lindgren	2022.07.20
2	Receiver	101799	ESR7	R&S	2021.03.15
3	Signal Analyzer	101294	FSV40	R&S	2021.06.04
4	Active Ring Antenna	FMZB 1513 #269	FMZB 1513	Schwarzbeck	2022.01.18
5	Linear Log Periodic Broad Band Antenna	949	VULB 9163	Schwarzbeck	2021.09.24
6	Ultra-Wideband Horn Antenna	102615	HF907	R&S	2022.01.18
7	Ultra-Wideband Horn Antenna	17868	QSH-18-26	R&S	2022.01.11
8	Ultra-Wideband Horn Antenna	17989	QSH-26-40	R&S	2022.01.11
9	RF Switch and Control Platform	N/A	RSC	CDSI	N/A
10	Pre-amplifier (1GHz-18GHz)	8810011	PAP-1G18	CDSI	2021.03.23
11	Pre-amplifier (18GHz-40GHz)	17021-17024	PAP-1840	CDSI	2021.03.23
12	Band stop Filter	EMC19	BJF2400/24 85-60	CDSI	2021.03.23
13	High Pass Filter	EMC22	HFP-3.0/18 G-60	CDSI	2021.03.23

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