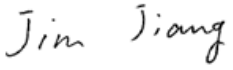
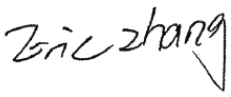
CTC Laboratories, Inc.

1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China
Tel: +86-755-27521059 Fax: +86-755-27521011 http://www.sz-ctc.org.cn

TEST REPORT

Report No. .....:	**CTC20232065E09**
FCC ID.....:	**QCI-IDNMOD1**
Applicant .....:	**SMART Technologies Inc.**
Address……..……..….:	3636 Research Road NW Calgary, AB T2L 1Y1 Canada
Manufacturer.....:	SMART Technologies Inc.
Address.....:	3636 Research Road NW Calgary, AB T2L 1Y1 Canada
Product Name .....:	**SMART QX/V4 NFC Module**
Trade Mark .....:	SMART
Model/Type reference.....:	IDNMOD1
Listed Model(s).....:	/
Standard .....:	**FCC CFR Title 47 Part 15 Subpart C Section 15.225**
Date of receipt of test sample……:	Nov. 8, 2023
Date of testing……..:	Nov. 8, 2023 to Mar. 4, 2024
Date of issue……....:	Mar. 5, 2024
Result……:	**PASS**

Compiled by: (Printed name + signature)	Jim Jiang	
Supervised by: (Printed name + signature)	Eric Zhang	
Approved by: (Printed name + signature)	Totti Zhao	

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1. TEST SUMMARY

1.1. Test Standards

The tests were performed according to following standards:

FCC Rules Part 15.225: Operation within the band 13.110-14.010MHz.
ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices.

1.2. Report Version

Revised No.	Date of issue	Description
01	Mar. 5, 2024	Original

1.3. Test Description

FCC Part 15.225			
Test Item	**Standard Section**	**Result**	**Test Engineer**
Conducted Emission	15.207	Pass	Seth Chen
Radiated Emissions	15.209&15.225(d)	Pass	Jim Jiang
Field Strength of the Fundamental	15.209&15.225(d)	Pass	Jim Jiang
Occupied Bandwidth and 20dB Bandwidth	15.215	Pass	Jim Jiang
Antenna requirement	15.203	Pass	Jim Jiang
Frequency Stability	15.225(e)	Pass	Jim Jiang

Note:

N/A: Not applicable.

The measurement uncertainty is not included in the test result.

1.4. Test Facility

Address of the report laboratory

CTC Laboratories, Inc.

Add: 1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China

Laboratory accreditation

The test facility is recognized, certified, or accredited by the following organizations:

A2LA-Lab Cert. No.: 4340.01

CTC Laboratories, Inc. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

Industry Canada (Registration No.: 9783A, CAB Identifier: CN0029)

CTC Laboratories, Inc. EMC Laboratory has been registered by Certification and Engineer Bureau of Industry Canada for the performance of with Registration NO.: 9783A on Jan, 2016.

FCC (Registration No.: 951311, Designation Number CN1208)

CTC Laboratories, Inc. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained inour files. Registration 951311, Aug 26, 2017.

1.5. Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the CTC Laboratories, Inc. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Below is the best measurement capability for CTC Laboratories, Inc.

Test Items	Measurement Uncertainty	Notes
Transmitter power conducted	0.42 dB	(1)
Transmitter power Radiated	2.14 dB	(1)
Conducted spurious emissions 9kHz~40GHz	1.60 dB	(1)
Radiated spurious emissions 9kHz~40GHz	2.20 dB	(1)
Conducted Emissions 9kHz~30MHz	3.20 dB	(1)
Radiated Emissions 30~1000MHz	4.70 dB	(1)
Radiated Emissions 1~18GHz	5.00 dB	(1)
Radiated Emissions 18~40GHz	5.54 dB	(1)
Occupied Bandwidth	---------	(1)

Note (1): This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

1.6. Environmental Conditions

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

Temperature:	21°C~27°C
Relative Humidity:	40%~60%
Air Pressure:	101kPa

1.7. EUT Operation State

The EUT has been tested under typical operating condition. The Applicant provides NFC Card to control the EUT for staying in continuous transmitting mode for testing.

2. GENERAL INFORMATION

2.1. Client Information

Applicant:	SMART Technologies Inc.
Address:	3636 Research Road NW Calgary, AB T2L 1Y1 Canada
Manufacturer:	SMART Technologies Inc.
Address:	3636 Research Road NW Calgary, AB T2L 1Y1 Canada

2.2. General Description of EUT

Product Name:	SMART QX/V4 NFC Module
Trade Mark:	SMART
Model/Type reference:	IDNMOD1
Listed Model(s):	/
Power supply:	DC5V 1A
Host Device Model:	IDX55-5, IDX65-5, IDQR65-A, IDX75-5, IDQR75-A, IDX86-5, IDQR86-A
Temperature Range:	-20℃ ~ +60℃
Hardware version:	B
Software version:	v1.4
RF Parameter	
Modulation:	ASK
Operation frequency:	13.56MHz
Antenna type:	PCB Antenna

2.3. Accessory Equipment Information

Equipment Information			
Name	Model	S/N	Manufacturer
/	/	/	/
Cable Information			
Name	Shielded Type	Ferrite Core	Length
/	/	/	/
Test Software Information			
Name	Version	/	/
/	/	/	/

2.4. Measurement Instruments List

Tonscend JS0806-2 Test system					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSV40-N	101331	Mar. 14, 2024
2	Spectrum Analyzer	R&S	FSV40-N	101654	Aug. 07, 2024
3	Spectrum Analyzer	R&S	FSU26	100105	Dec. 12, 2024
4	MXA Signal Analyzer	Keysight	N9020A	MY46471737	Dec. 12, 2024
5	MXA Signal Analyzer	Keysight	N9020A	MY52091402	Aug. 22, 2024
6	MXG Vector Signal Generator	Agilent	N5182A	MY47420864	Dec. 12, 2024
7	PSG Analog Signal Generator	Agilent	E8257D	MY46521908	Dec. 12, 2024
8	EXG Analog Signal Generator	Keysight	N5173B	MY59100842	Dec. 12, 2024
9	MXG Vector Signal Generator	Keysight	N5182B	MY59100212	Dec. 12, 2024
10	USB Wideband Power Sensor	Keysight	U2021XA	MY55130004	Mar. 14, 2024
11	USB Wideband Power Sensor	Keysight	U2021XA	MY55130006	Mar. 14, 2024
12	Wideband Radio Communication Tester	R&S	CMW500	102257	May 25, 2024
13	Wideband Radio Communication Tester	R&S	CMW500	102414	Dec. 12, 2024
14	RF Control Unit	Tonscend	JS0806-2	/	Aug. 22, 2024
15	High and low temperature test chamber	ESPEC	MT3035	/	Mar. 24, 2024

Radiated emission					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated Until
1	Trilog-Broadband Antenna	Schwarzbeck	VULB 9163	01026	Dec. 18, 2024
2	Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-647	Sep. 25, 2025
3	Test Receiver	Keysight	N9038A	MY56400071	Dec. 12, 2024
4	Broadband Amplifier	SCHWARZBECK	BBV9743B	259	Dec. 12, 2024
5	Mirowave Broadband Amplifier	SCHWARZBECK	BBV9718C	111	Dec. 12, 2024
6	Loop Antenna	ETS	6507	1446	Dec. 12, 2024
7	3m chamber 3	YIHENG	EE106	/	Aug. 28, 2026
8	Test Software	FARA	EZ-EMC	FA-03A2	/

Conducted Emission					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	LISN	R&S	ENV216	101112	Dec. 12, 2024
2	LISN	R&S	ENV216	101113	Dec. 12, 2024
3	EMI Test Receiver	R&S	ESCS30	100353	Dec. 12, 2024
4	ISN CAT6	Schwarzbeck	NTFM 8158	CAT6-8158-0046	Dec. 12, 2024
5	ISN CAT5	Schwarzbeck	NTFM 8158	CAT5-8158-0046	Dec. 12, 2024
6	Test Software	R&S	EMC32	6.10.10	/

Note:

1. The Cal. Interval was one year.
2. The cable loss has calculated in test result which connection between each test instruments.

3. TEST ITEM AND RESULTS

3.1. Conducted Emission

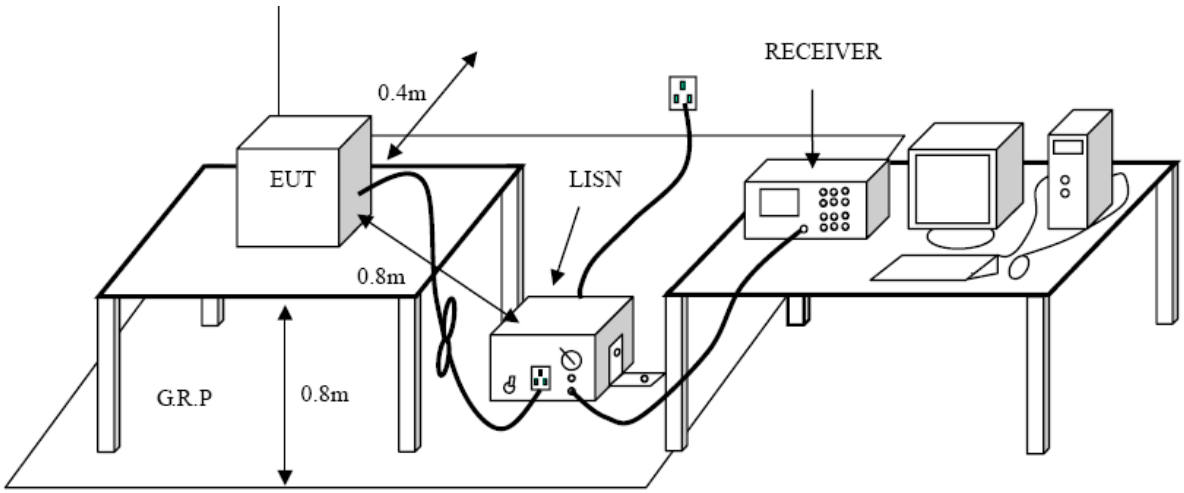
Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.207:

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

Notes:
(1) *Decreasing linearly with logarithm of the frequency.
(2) The lower limit shall apply at the transition frequencies.
(3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

Test Configuration



Test Procedure

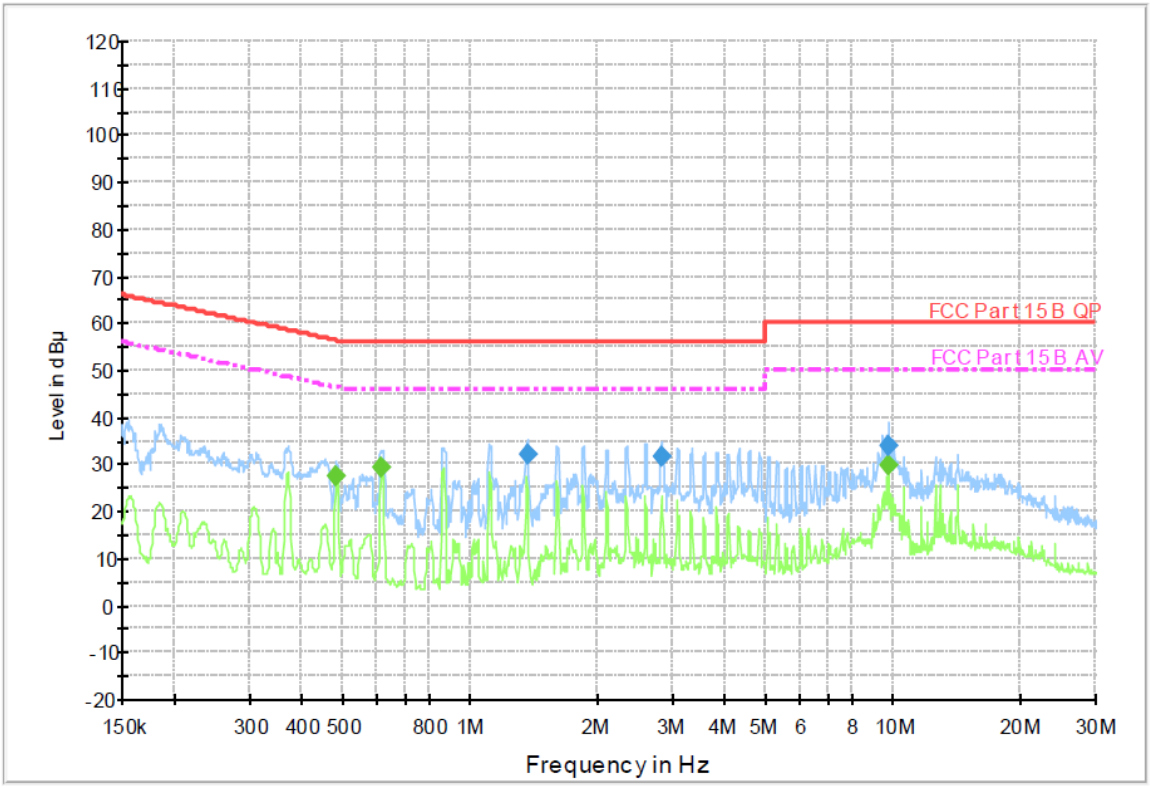
1. The EUT was setup according to ANSI C63.10:2013 requirements.
2. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface.
3. The EUT and simulators are connected to the main power through a line impedances stabilization network (LISN). The LISN provides a 50ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)
4. Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
5. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
6. Conducted Emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
7. During the above scans, the emissions were maximized by cable manipulation.

Test Mode

Please refer to the clause 1.7.

Test Results

Host Device Model:	IDX55-5
Test Voltage:	AC 120V/60Hz
Terminal:	Line



Final Measurement Detector 1

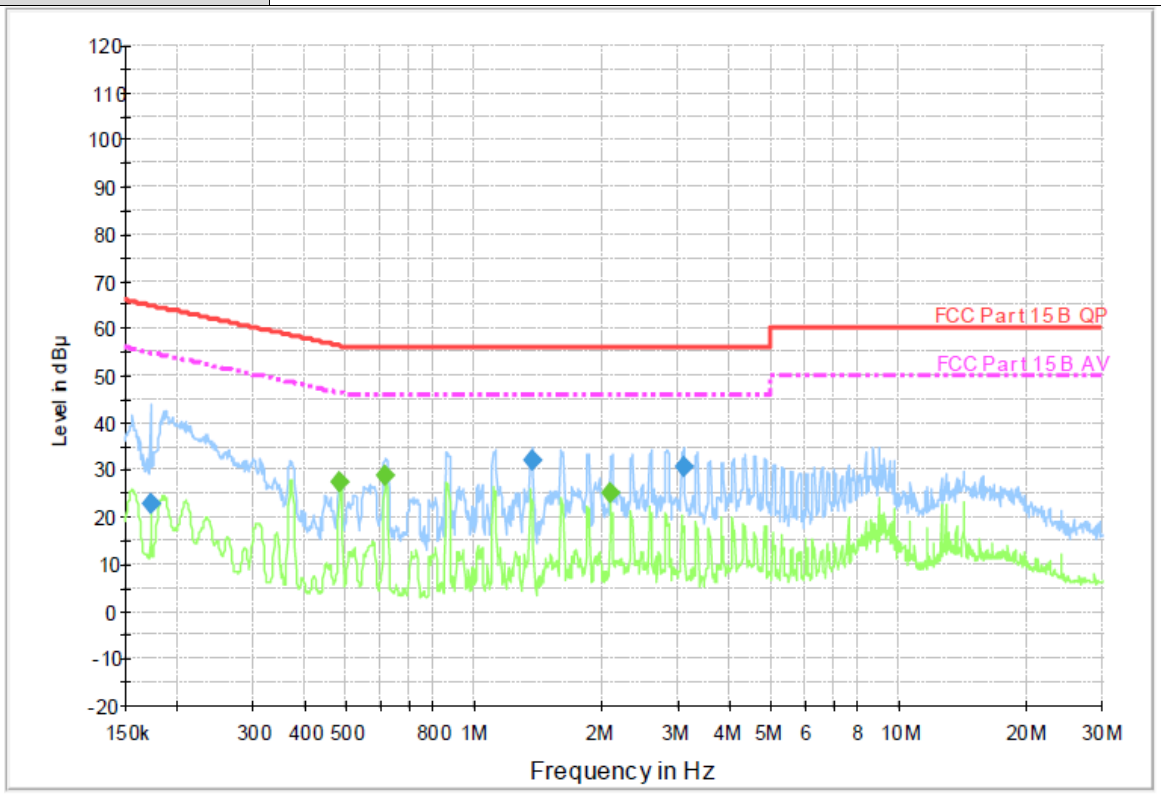
Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
1.358630	32.1	1000.00	9.000	On	L1	9.5	24.0	56.0	
2.820790	31.5	1000.00	9.000	On	L1	9.5	24.5	56.0	
9.723470	33.8	1000.00	9.000	On	L1	9.7	26.2	60.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.481210	27.5	1000.00	9.000	On	L1	9.5	18.8	46.3	
0.616350	29.4	1000.00	9.000	On	L1	9.5	16.6	46.0	
9.723470	29.7	1000.00	9.000	On	L1	9.7	20.3	50.0	

Emission Level = Read Level + Correct Factor

Host Device Model:	IDX55-5
Test Voltage:	AC 120V/60Hz
Terminal:	Neutral



Final Measurement Detector 1

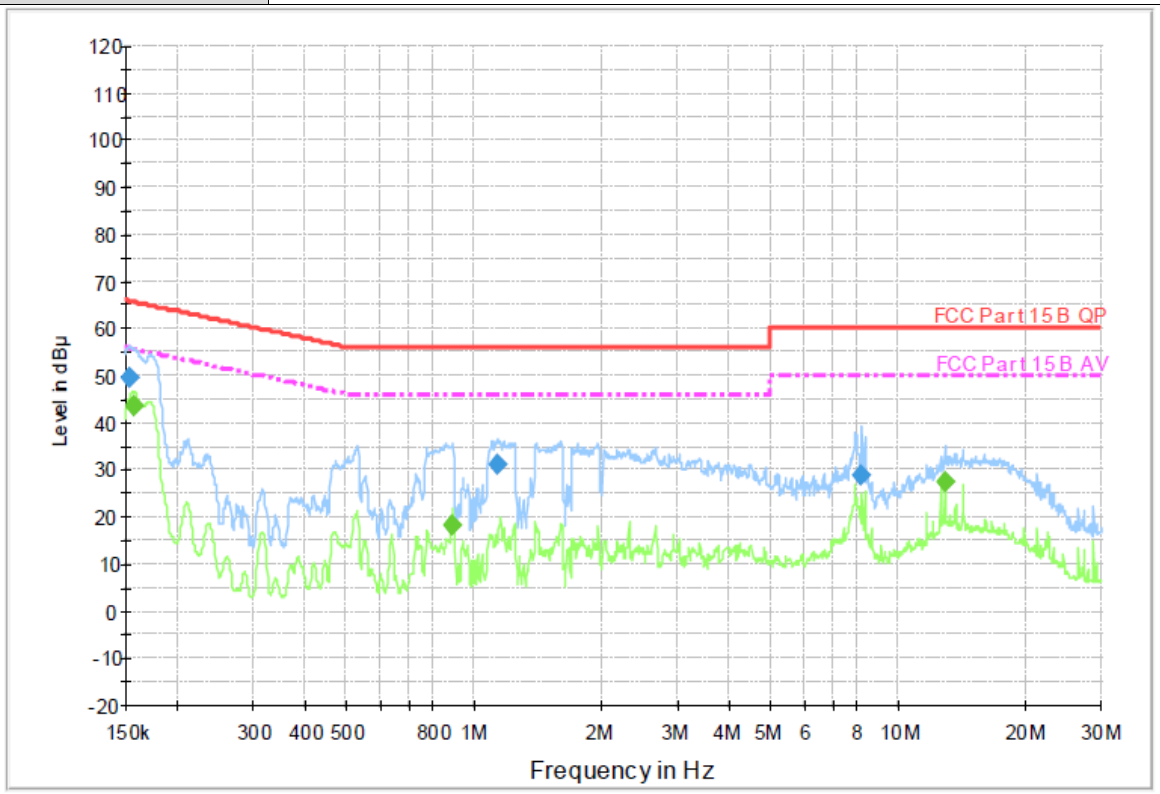
Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.171810	23.1	1000.00	9.000	On	N	9.3	41.8	64.9	
1.364060	32.0	1000.00	9.000	On	N	9.4	24.0	56.0	
3.092050	30.7	1000.00	9.000	On	N	9.4	25.3	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.481210	27.3	1000.00	9.000	On	N	9.4	19.0	46.3	
0.616350	28.7	1000.00	9.000	On	N	9.4	17.3	46.0	
2.082610	25.2	1000.00	9.000	On	N	9.4	20.8	46.0	

Emission Level = Read Level + Correct Factor

Host Device Model:	IDX65-5
Test Voltage:	AC 120V/60Hz
Terminal:	Line



Final Measurement Detector 1

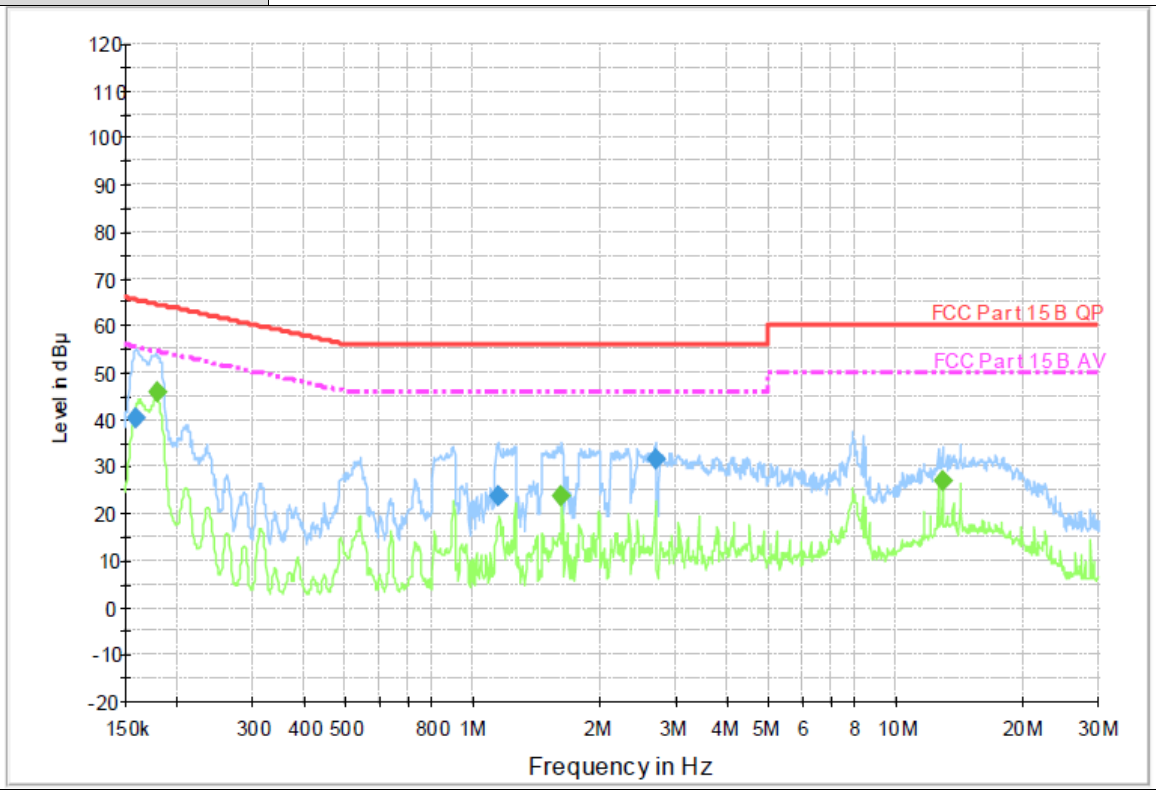
Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.153020	49.7	1000.00	9.000	On	L1	9.4	16.1	65.8	
1.126200	31.3	1000.00	9.000	On	L1	9.5	24.7	56.0	
8.189770	28.9	1000.00	9.000	On	L1	9.6	31.1	60.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.156730	43.6	1000.00	9.000	On	L1	9.4	12.0	55.6	
0.882800	18.2	1000.00	9.000	On	L1	9.5	27.8	46.0	
12.807010	27.4	1000.00	9.000	On	L1	9.8	22.6	50.0	

Emission Level = Read Level + Correct Factor

Host Device Model:	IDX65-5
Test Voltage:	AC 120V/60Hz
Terminal:	Neutral



Final Measurement Detector 1

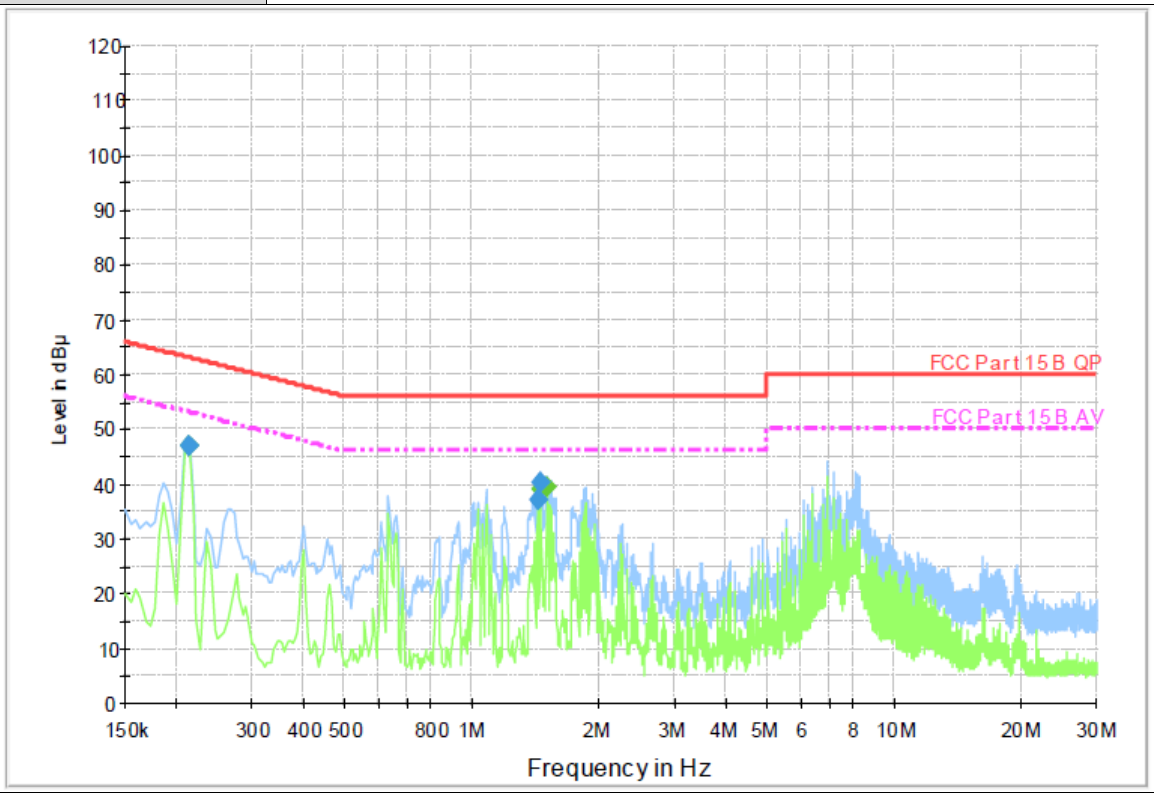
Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.158620	40.2	1000.00	9.000	On	N	9.3	25.3	65.5	
1.139770	23.9	1000.00	9.000	On	N	9.4	32.1	56.0	
2.688850	31.7	1000.00	9.000	On	N	9.4	24.3	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.178090	46.0	1000.00	9.000	On	N	9.3	8.6	54.6	
1.613060	23.8	1000.00	9.000	On	N	9.4	22.2	46.0	
12.807010	27.1	1000.00	9.000	On	N	9.6	22.9	50.0	

Emission Level = Read Level + Correct Factor

Host Device Model:	IDQR65-A
Test Voltage:	AC 120V/60Hz
Terminal:	Line



Final Measurement Detector 1

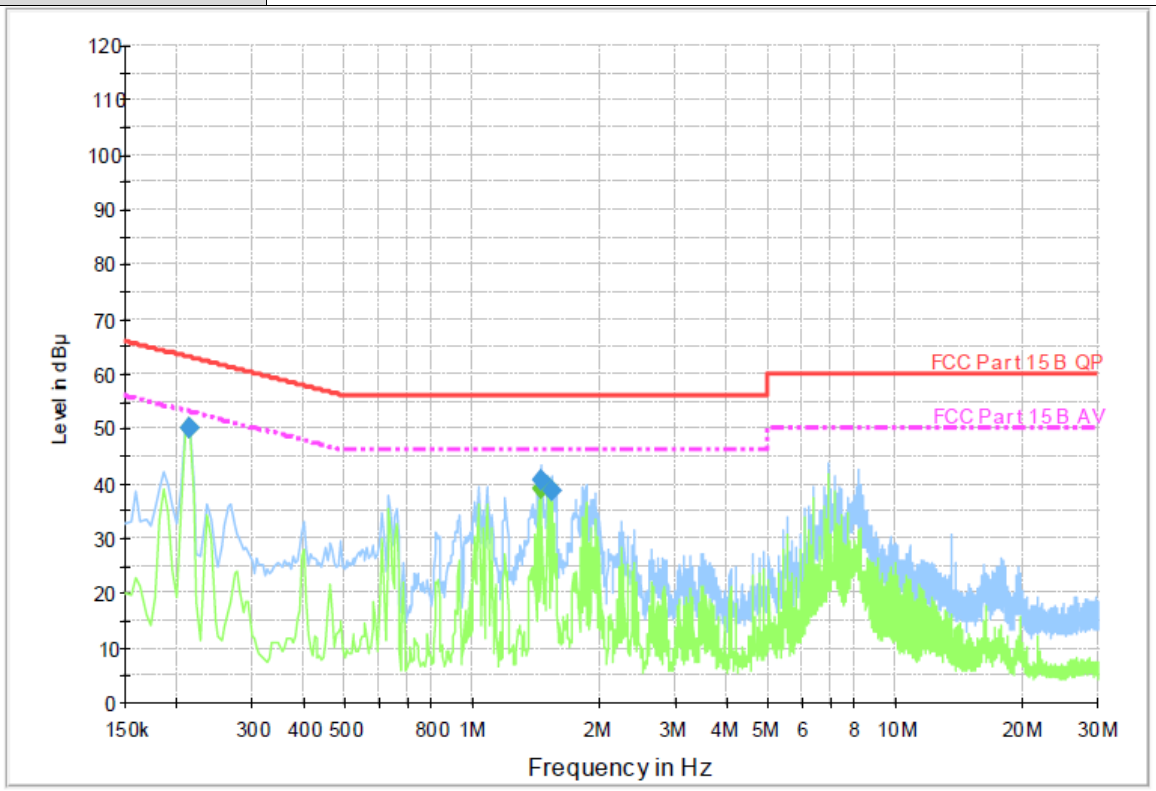
Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.213000	47.1	1000.00	9.000	On	L1	9.5	16.0	63.1	
1.423500	37.3	1000.00	9.000	On	L1	9.5	18.7	56.0	
1.450500	40.4	1000.00	9.000	On	L1	9.5	15.6	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.213000	46.9	1000.00	9.000	On	L1	9.5	6.2	53.1	
1.450500	39.0	1000.00	9.000	On	L1	9.5	7.0	46.0	
1.500000	39.3	1000.00	9.000	On	L1	9.5	6.7	46.0	

Emission Level = Read Level + Correct Factor

Host Device Model:	IDQR65-A
Test Voltage:	AC 120V/60Hz
Terminal:	Neutral



Final Measurement Detector 1

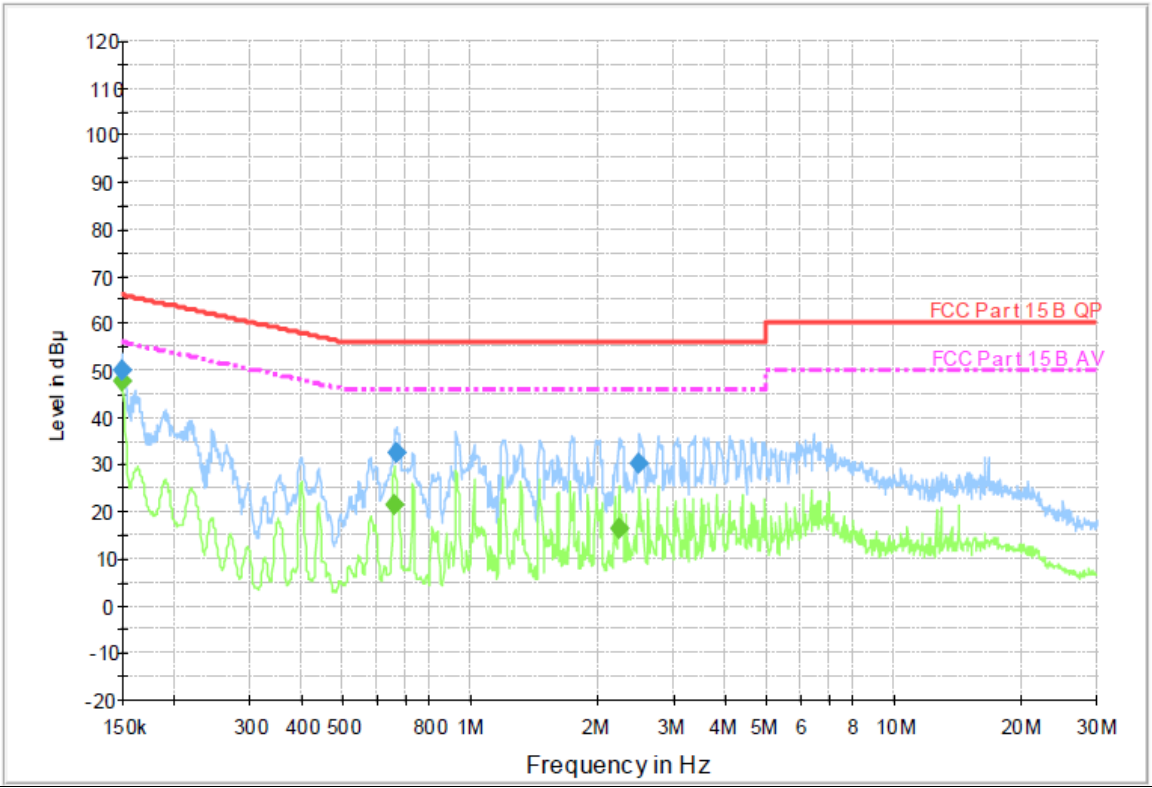
Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.213000	50.1	1000.00	9.000	On	N	9.4	13.1	63.1	
1.450500	40.6	1000.00	9.000	On	N	9.4	15.4	56.0	
1.527000	38.5	1000.00	9.000	On	N	9.4	17.5	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.213000	50.0	1000.00	9.000	On	N	9.4	3.1	53.1	
1.450500	38.9	1000.00	9.000	On	N	9.4	7.1	46.0	
1.500000	39.3	1000.00	9.000	On	N	9.4	6.7	46.0	

Emission Level = Read Level + Correct Factor

Host Device Model:	IDX75-5
Test Voltage:	AC 120V/60Hz
Terminal:	Line



Final Measurement Detector 1

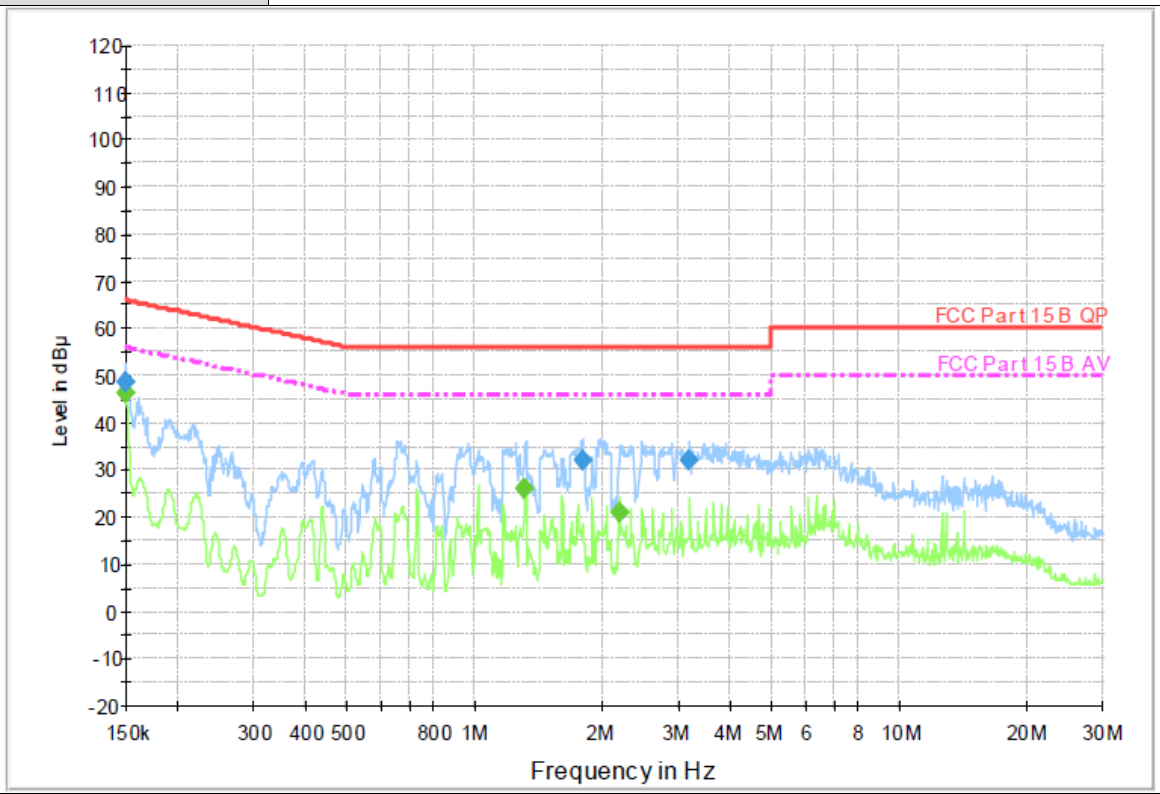
Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.150000	49.8	1000.00	9.000	On	L1	9.4	16.2	66.0	
0.667580	32.3	1000.00	9.000	On	L1	9.5	23.7	56.0	
2.492440	30.1	1000.00	9.000	On	L1	9.5	25.9	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.150000	47.7	1000.00	9.000	On	L1	9.4	8.3	56.0	
0.659630	21.6	1000.00	9.000	On	L1	9.5	24.4	46.0	
2.228850	16.6	1000.00	9.000	On	L1	9.5	29.4	46.0	

Emission Level = Read Level + Correct Factor

Host Device Model:	IDX75-5
Test Voltage:	AC 120V/60Hz
Terminal:	Neutral



Final Measurement Detector 1

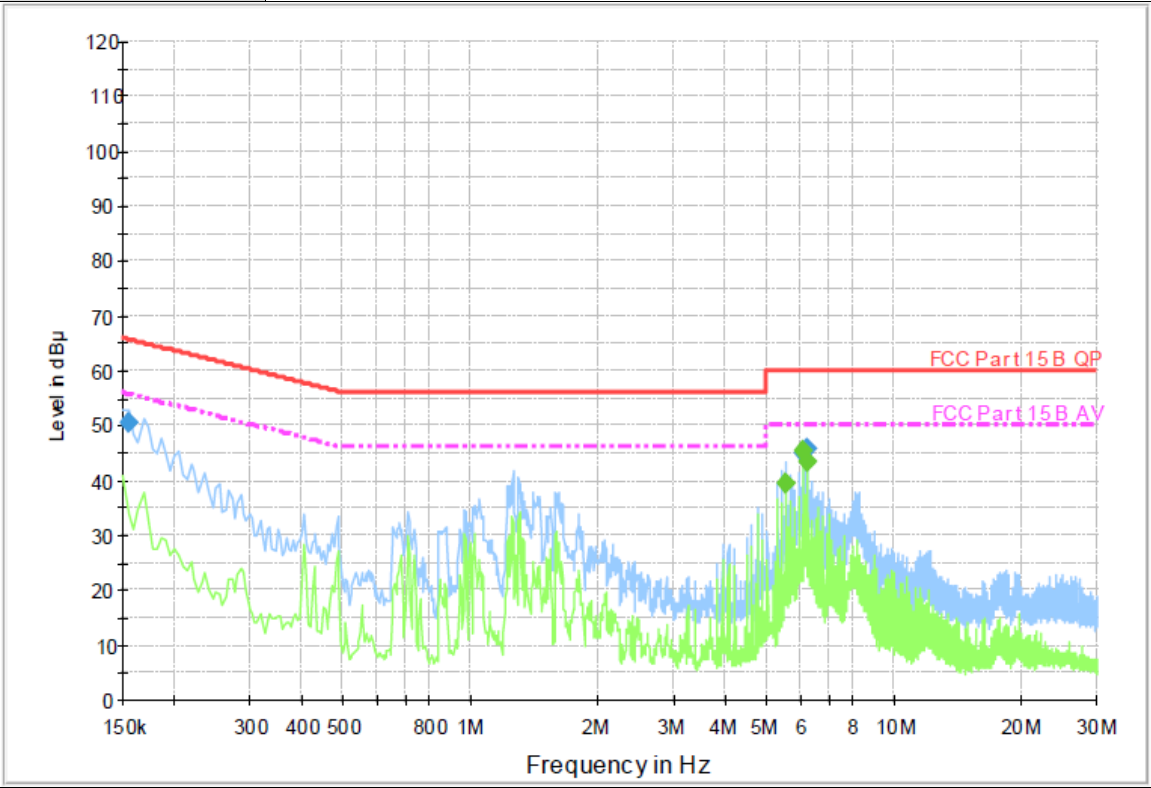
Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.150000	48.6	1000.00	9.000	On	N	9.3	17.4	66.0	
1.789480	32.1	1000.00	9.000	On	N	9.4	23.9	56.0	
3.192390	32.0	1000.00	9.000	On	N	9.4	24.0	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.150000	46.2	1000.00	9.000	On	N	9.3	9.8	56.0	
1.305460	26.3	1000.00	9.000	On	N	9.4	19.7	46.0	
2.176100	21.2	1000.00	9.000	On	N	9.4	24.8	46.0	

Emission Level = Read Level + Correct Factor

Host Device Model:	IDQR75-A
Test Voltage:	AC 120V/60Hz
Terminal:	Line



Final Measurement Detector 1

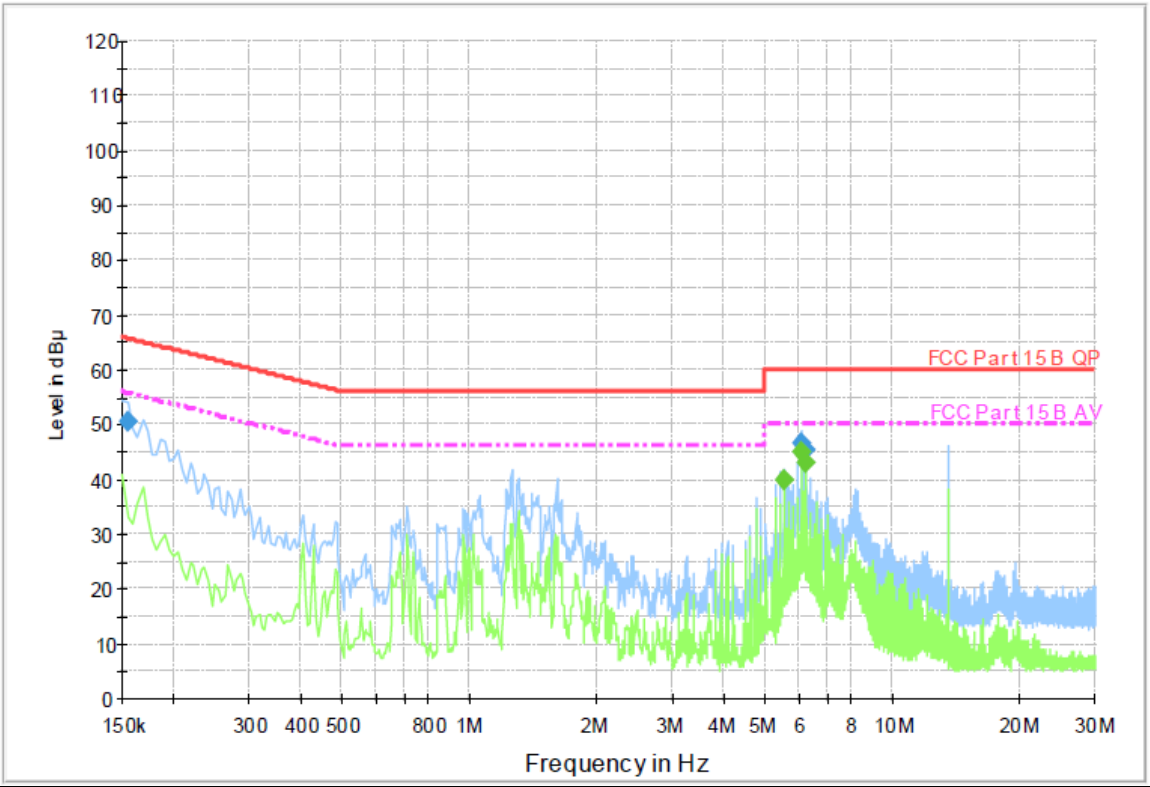
Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.154500	50.7	1000.00	9.000	On	L1	9.5	15.1	65.8	
6.072000	45.1	1000.00	9.000	On	L1	9.6	14.9	60.0	
6.211500	45.6	1000.00	9.000	On	L1	9.6	14.4	60.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
5.536500	39.6	1000.00	9.000	On	L1	9.5	10.4	50.0	
6.076500	45.2	1000.00	9.000	On	L1	9.6	4.8	50.0	
6.211500	43.6	1000.00	9.000	On	L1	9.6	6.4	50.0	

Emission Level = Read Level + Correct Factor

Host Device Model:	IDQR75-A
Test Voltage:	AC 120V/60Hz
Terminal:	Neutral



Final Measurement Detector 1

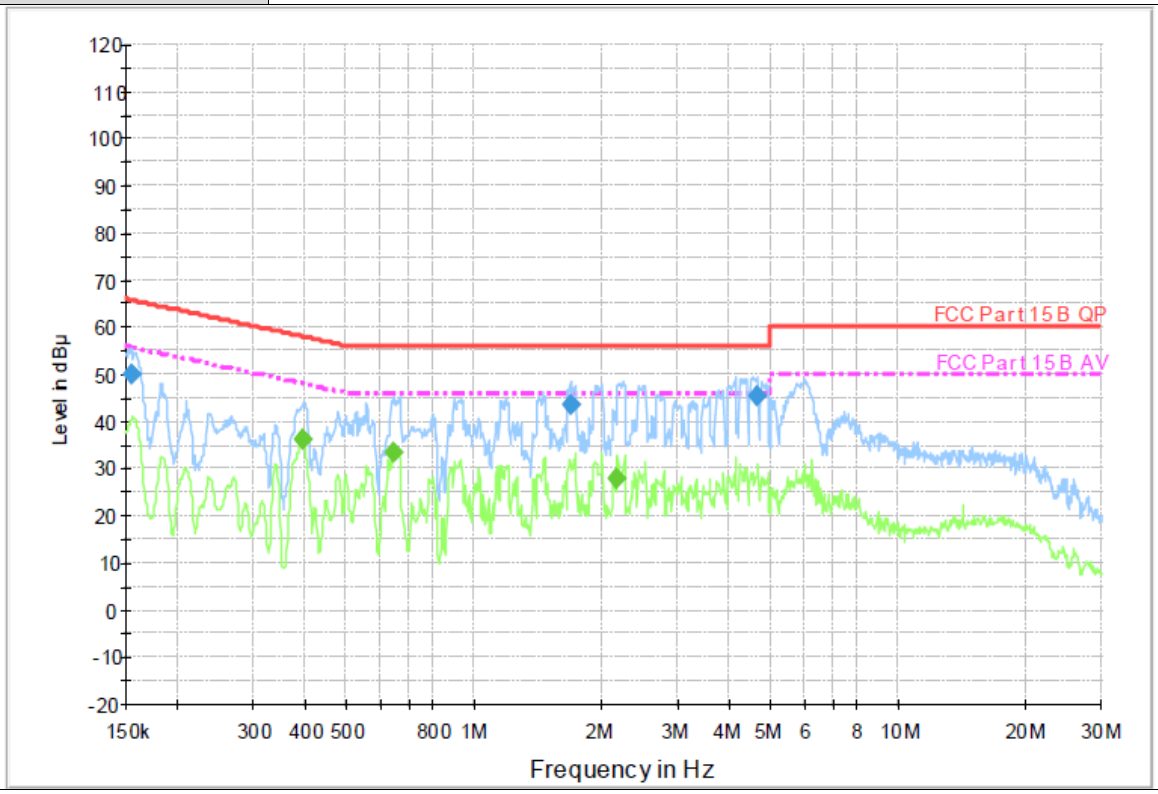
Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.154500	50.7	1000.00	9.000	On	N	9.5	15.1	65.8	
6.076500	46.7	1000.00	9.000	On	N	9.5	13.3	60.0	
6.211500	45.4	1000.00	9.000	On	N	9.5	14.6	60.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
5.536500	39.7	1000.00	9.000	On	N	9.5	10.3	50.0	
6.076500	45.1	1000.00	9.000	On	N	9.5	4.9	50.0	
6.211500	43.2	1000.00	9.000	On	N	9.5	6.8	50.0	

Emission Level = Read Level + Correct Factor

Host Device Model:	IDX86-5
Test Voltage:	AC 120V/60Hz
Terminal:	Line



Final Measurement Detector 1

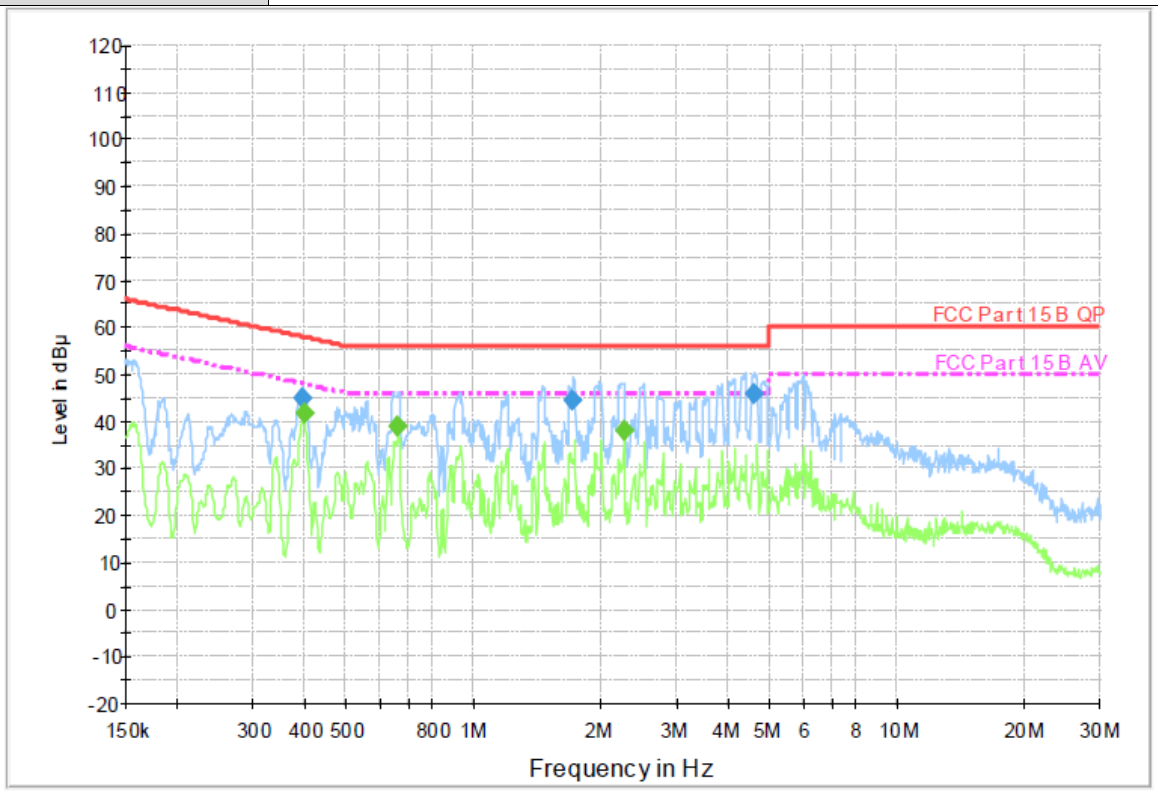
Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.155490	49.9	1000.00	9.000	On	L1	9.4	15.8	65.7	
1.678760	43.4	1000.00	9.000	On	L1	9.5	12.6	56.0	
4.627550	45.5	1000.00	9.000	On	L1	9.5	10.5	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.392570	36.1	1000.00	9.000	On	L1	9.5	11.9	48.0	
0.641450	33.5	1000.00	9.000	On	L1	9.5	12.5	46.0	
2.167430	27.9	1000.00	9.000	On	L1	9.5	18.1	46.0	

Emission Level = Read Level + Correct Factor

Host Device Model:	IDX86-5
Test Voltage:	AC 120V/60Hz
Terminal:	Neutral



Final Measurement Detector 1

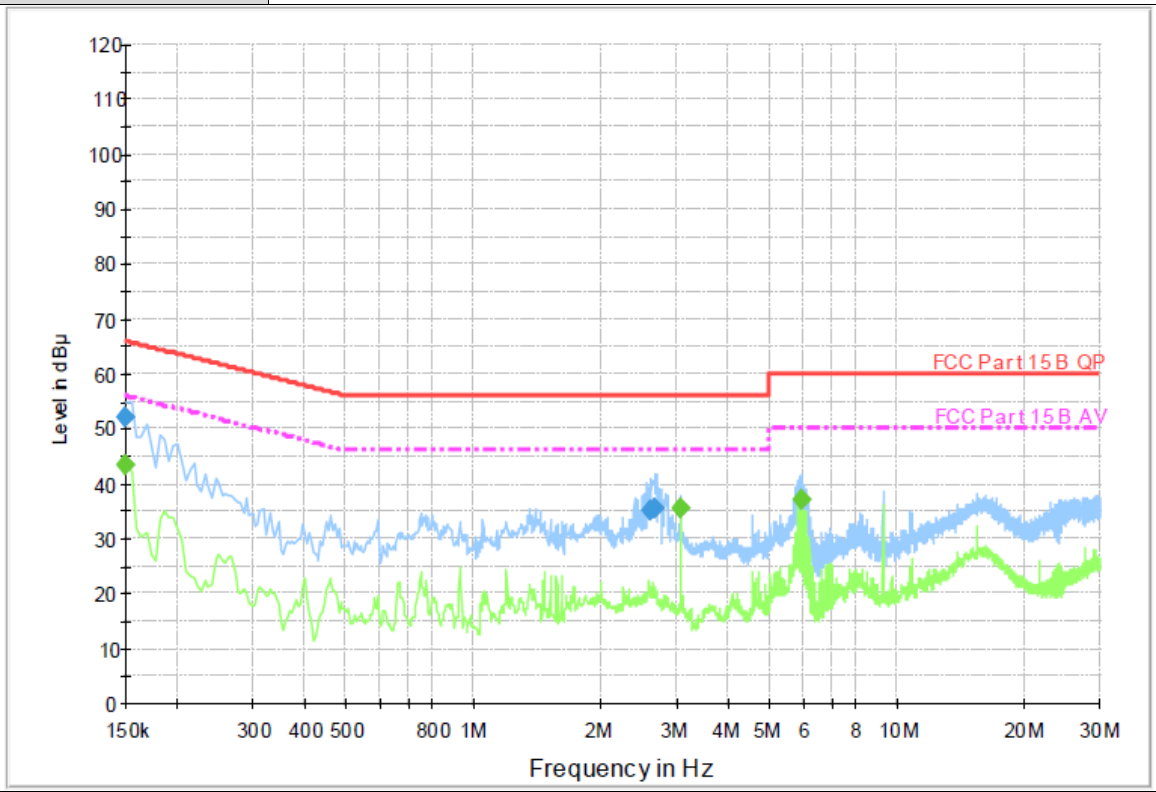
Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.392570	44.7	1000.00	9.000	On	N	9.4	13.3	58.0	
1.712600	44.6	1000.00	9.000	On	N	9.4	11.4	56.0	
4.572460	45.9	1000.00	9.000	On	N	9.4	10.1	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.395720	41.9	1000.00	9.000	On	N	9.4	6.0	47.9	
0.662270	38.9	1000.00	9.000	On	N	9.4	7.2	46.0	
2.255710	38.0	1000.00	9.000	On	N	9.4	8.0	46.0	

Emission Level = Read Level + Correct Factor

Host Device Model:	IDQR86-A
Test Voltage:	AC 120V/60Hz
Terminal:	Line



Final Measurement Detector 1

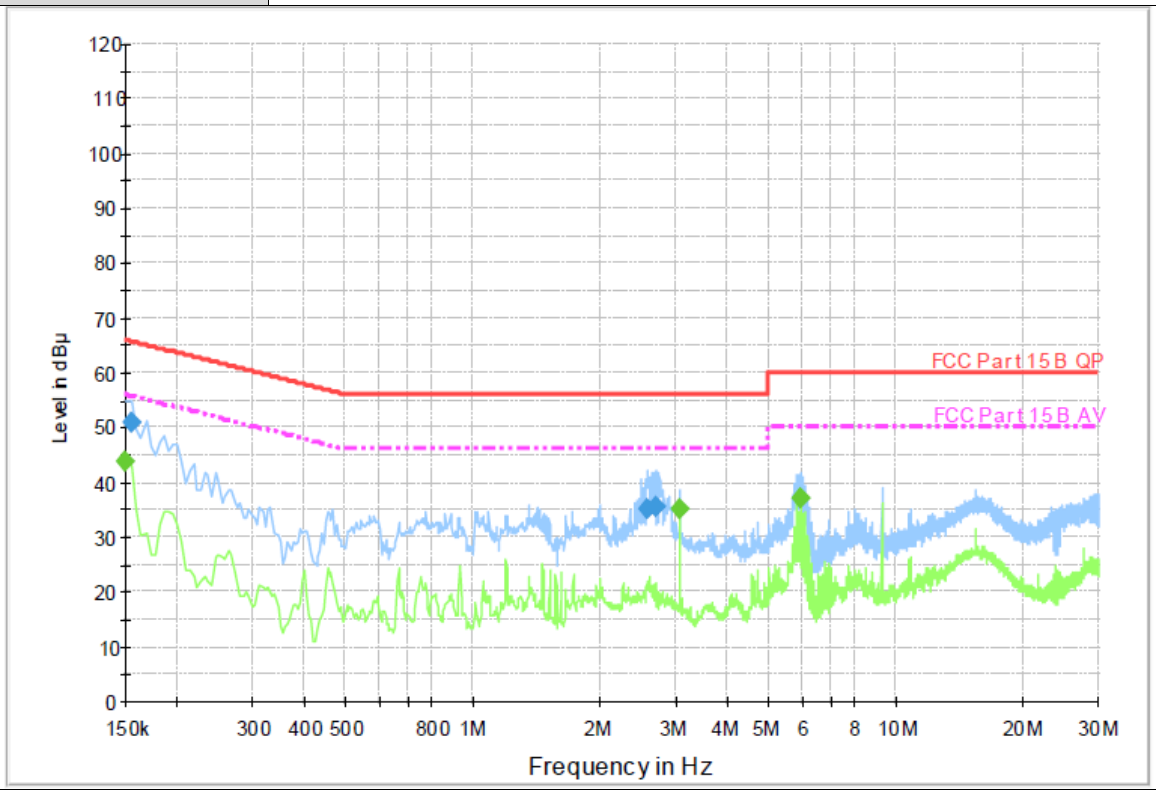
Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.150000	52.2	1000.00	9.000	On	L1	9.5	13.8	66.0	
2.602500	35.2	1000.00	9.000	On	L1	9.5	20.8	56.0	
2.661000	35.6	1000.00	9.000	On	L1	9.5	20.4	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.150000	43.3	1000.00	9.000	On	L1	9.5	12.7	56.0	
3.070500	35.3	1000.00	9.000	On	L1	9.5	10.7	46.0	
5.941500	36.9	1000.00	9.000	On	L1	9.6	13.1	50.0	

Emission Level = Read Level + Correct Factor

Host Device Model:	IDQR86-A
Test Voltage:	AC 120V/60Hz
Terminal:	Neutral



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.154500	51.0	1000.00	9.000	On	N	9.5	14.8	65.8	
2.571000	35.3	1000.00	9.000	On	N	9.4	20.7	56.0	
2.692500	35.4	1000.00	9.000	On	N	9.4	20.6	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.150000	43.7	1000.00	9.000	On	N	9.5	12.3	56.0	
3.070500	35.1	1000.00	9.000	On	N	9.4	10.9	46.0	
5.941500	37.0	1000.00	9.000	On	N	9.5	13.0	50.0	

Emission Level = Read Level + Correct Factor

3.2. Radiated Emission

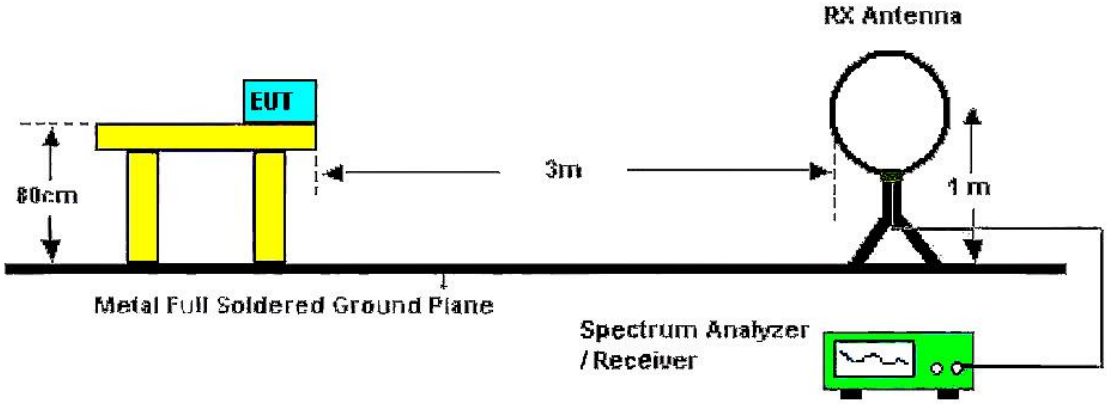
Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.209

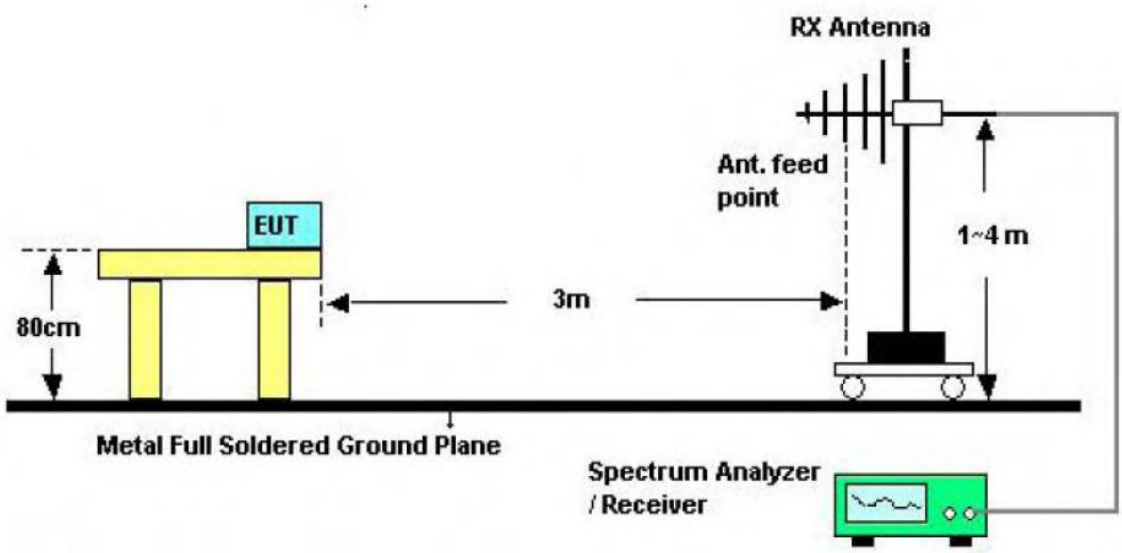
Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F (kHz)	300
0.490~1.705	24000/F (kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

Frequency Range (MHz)	dBμV/m (at 3 meters)	
	Peak	Average
Above 1000	74	54

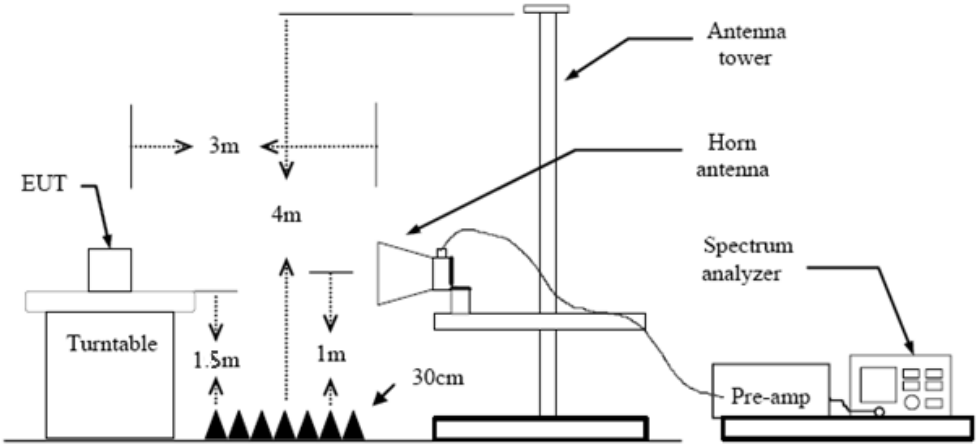
Test Configuration



Below 30MHz Test Setup



Below 1000MHz Test Setup



Above 1GHz Test Setup

Test Procedure

1. The EUT was setup and tested according to ANSI C63.10:2013
2. The EUT is placed on a turn table which is 0.8 meter above ground for below 1 GHz, and 1.5 m for above 1 GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower.
4. 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 turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
5. Set to the maximum power setting and enable the EUT transmit continuously.

6. Use the following spectrum analyzer settings

(1) Span shall wide enough to fully capture the emission being measured;

(2) 9Hz - 150kHz:

RBW=300 Hz, VBW=1 kHz, Sweep=auto, Detector function=peak, Trace=max hold;

If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

(3) 150kHz - 30MHz:

RBW=10 kHz, VBW=30 kHz, Sweep=auto, Detector function=peak, Trace=max hold;

If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

(4) 30MHz - 1GHz:

RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, Trace=max hold;

If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

(5) From 1 GHz to 10th harmonic:

RBW=1MHz, VBW=3MHz Peak detector for Peak value.

RBW=1MHz, VBW=3MHz RMS detector for Average value.

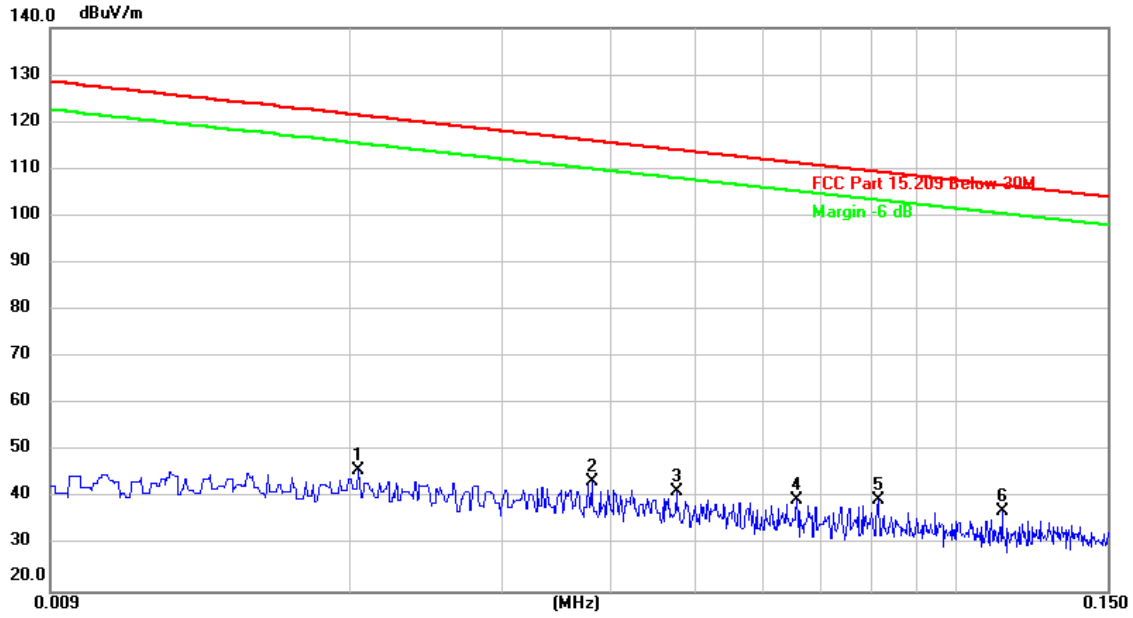
Test Mode

Please refer to the clause 1.7.

Test Result

9 KHz~150 KHz

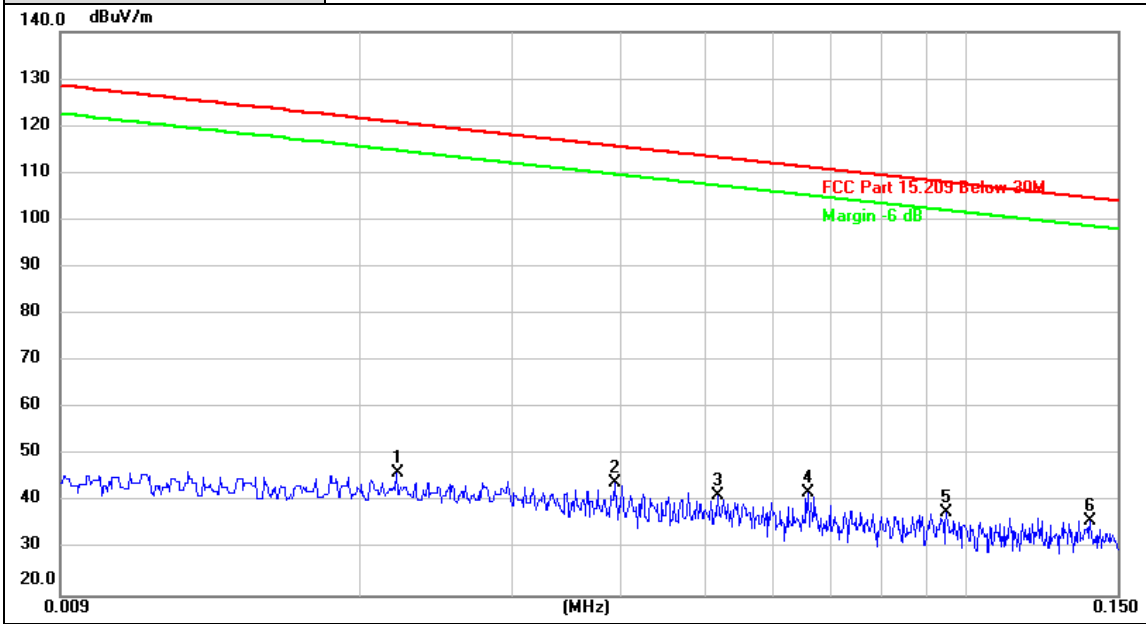
Host Device Model:	IDX55-5
Ant. Pol.	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0204	54.80	-8.86	45.94	121.41	-75.47	peak
2	0.0379	55.19	-11.61	43.58	116.03	-72.45	peak
3	0.0475	53.51	-12.02	41.49	114.07	-72.58	peak
4	0.0655	52.05	-12.26	39.79	111.28	-71.49	peak
5	0.0814	53.33	-13.61	39.72	109.39	-69.67	peak
6 *	0.1129	51.67	-14.44	37.23	106.55	-69.32	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

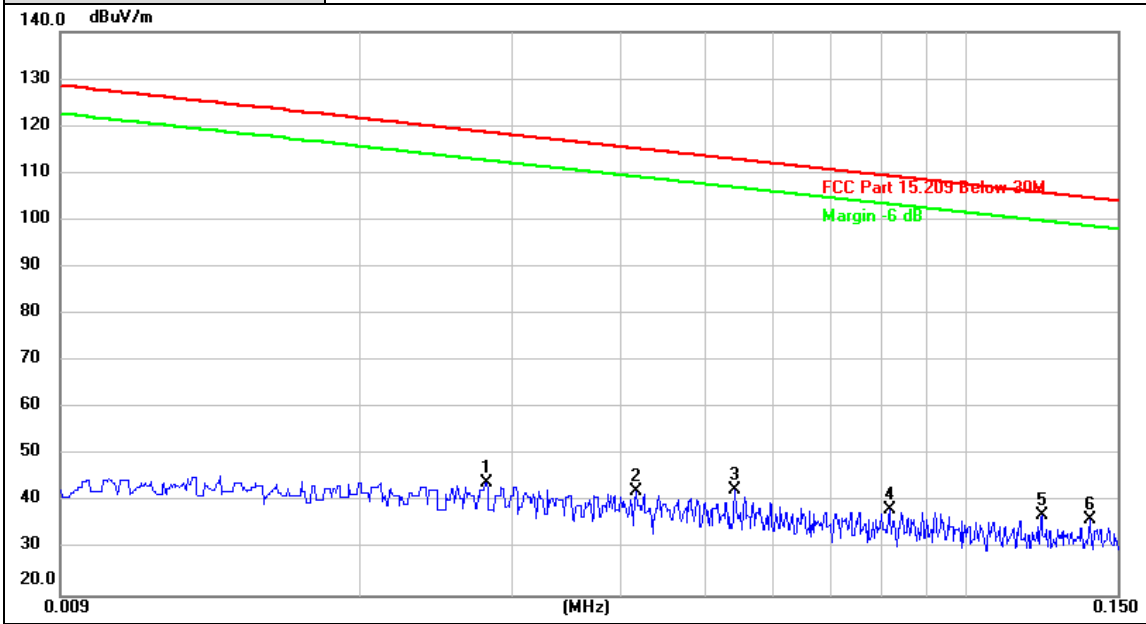
Host Device Model:	IDX55-5
Ant. Pol.	Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0218	55.37	-9.21	46.16	120.84	-74.68	peak
2	0.0393	55.79	-11.67	44.12	115.72	-71.60	peak
3	0.0517	53.57	-12.15	41.42	113.33	-71.91	peak
4	0.0656	54.27	-12.26	42.01	111.27	-69.26	peak
5	0.0950	52.33	-14.54	37.79	108.05	-70.26	peak
6 *	0.1391	50.41	-14.49	35.92	104.74	-68.82	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

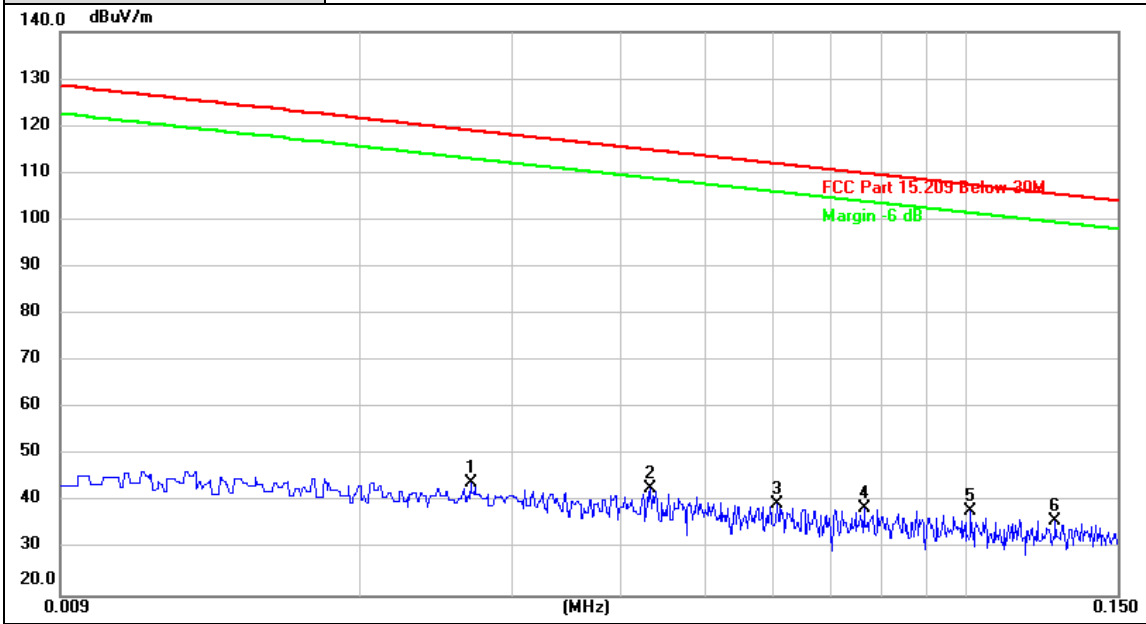
Host Device Model:	IDX65-5
Ant. Pol.	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0279	54.86	-10.78	44.08	118.69	-74.61	peak
2	0.0417	54.23	-11.77	42.46	115.20	-72.74	peak
3	0.0541	54.96	-12.17	42.79	112.94	-70.15	peak
4	0.0816	52.17	-13.63	38.54	109.37	-70.83	peak
5	0.1222	51.80	-14.42	37.38	105.86	-68.48	peak
6 *	0.1391	50.94	-14.49	36.45	104.74	-68.29	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

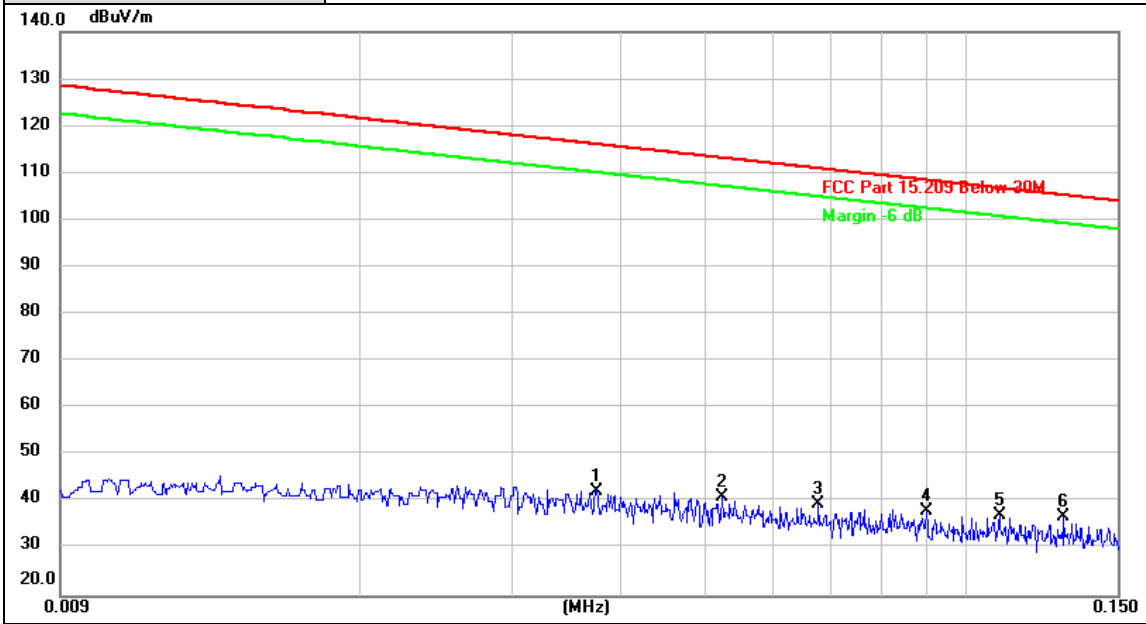
Host Device Model:	IDX65-5
Ant. Pol.	Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0268	54.57	-10.49	44.08	119.04	-74.96	peak
2	0.0432	54.74	-11.84	42.90	114.89	-71.99	peak
3	0.0606	51.99	-12.22	39.77	111.95	-72.18	peak
4	0.0762	51.67	-13.01	38.66	109.97	-71.31	peak
5 *	0.1010	52.76	-14.50	38.26	107.52	-69.26	peak
6	0.1270	50.52	-14.42	36.10	105.53	-69.43	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

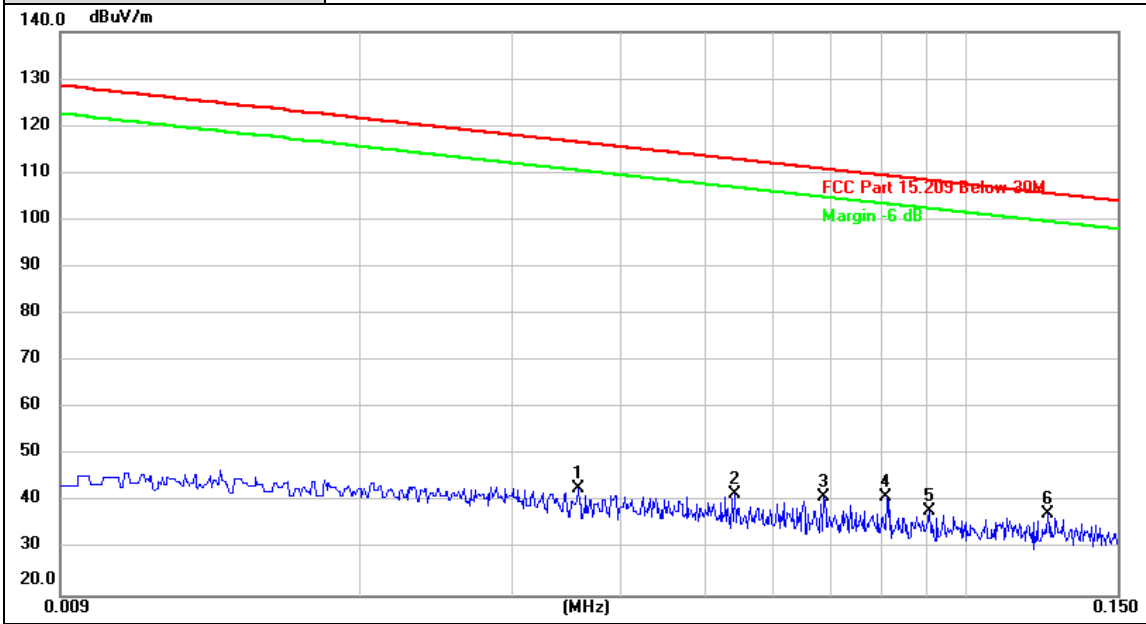
Host Device Model:	IDQR65-A
Ant. Pol.	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0374	54.09	-11.59	42.50	116.15	-73.65	peak
2	0.0522	53.27	-12.15	41.12	113.25	-72.13	peak
3	0.0675	51.88	-12.28	39.60	111.02	-71.42	peak
4	0.0900	52.87	-14.57	38.30	108.52	-70.22	peak
5	0.1092	51.67	-14.44	37.23	106.84	-69.61	peak
6 *	0.1295	51.35	-14.40	36.95	105.36	-68.41	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

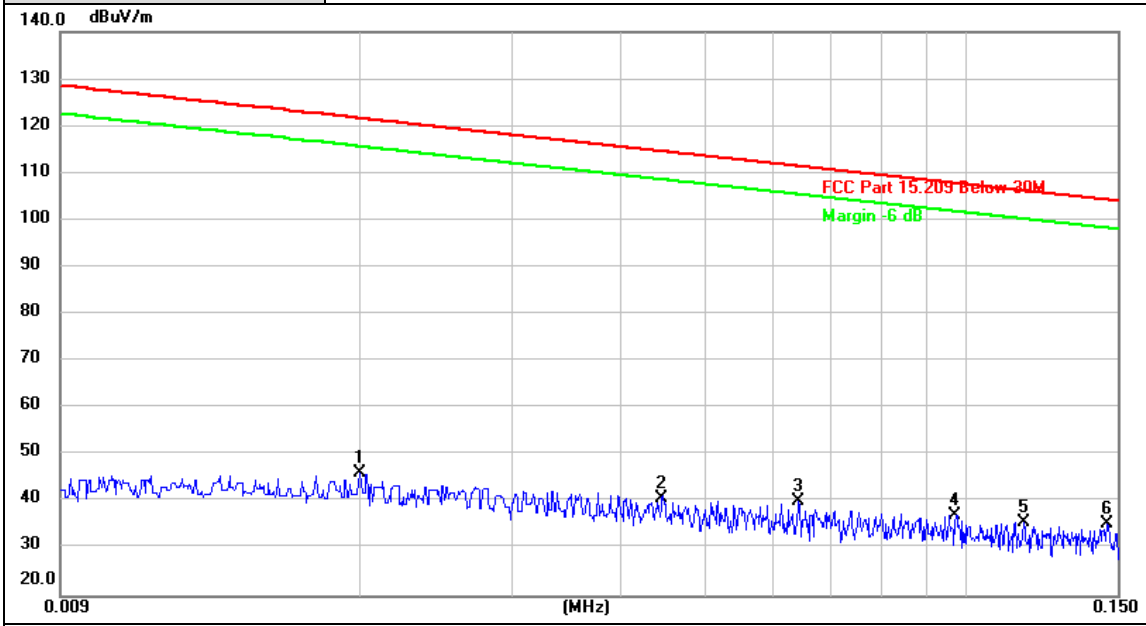
Host Device Model:	IDQR65-A
Ant. Pol.	Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0357	54.38	-11.51	42.87	116.55	-73.68	peak
2	0.0541	54.07	-12.17	41.90	112.94	-71.04	peak
3	0.0685	53.32	-12.28	41.04	110.89	-69.85	peak
4	0.0810	54.62	-13.56	41.06	109.43	-68.37	peak
5	0.0907	52.62	-14.56	38.06	108.45	-70.39	peak
6 *	0.1242	52.04	-14.42	37.62	105.72	-68.10	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

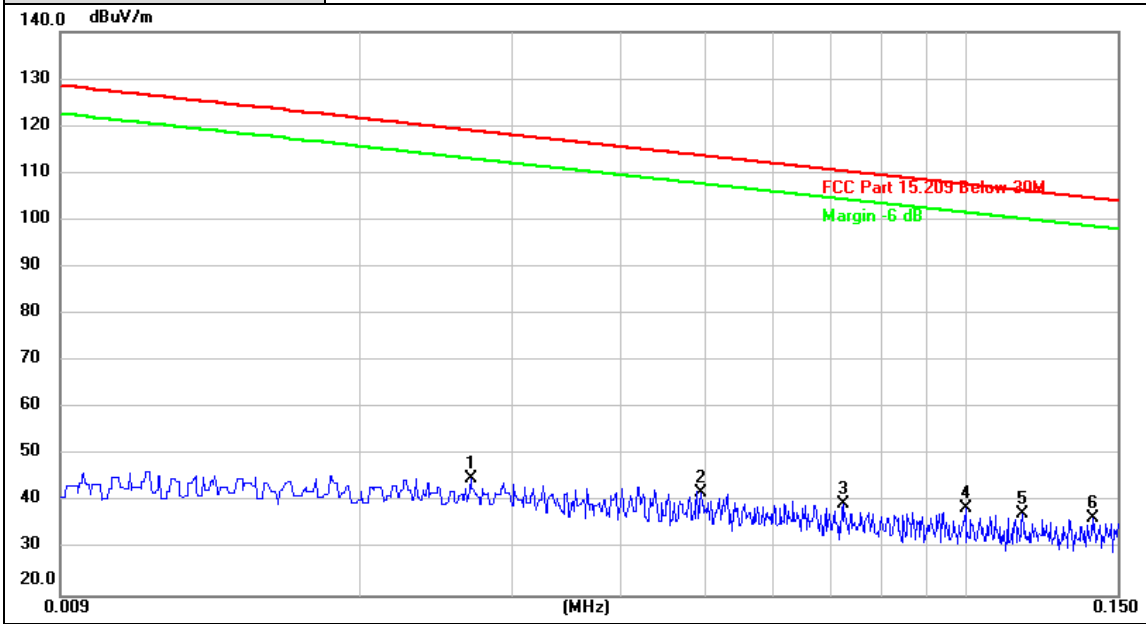
Host Device Model:	IDX75-5
Ant. Pol.	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0200	55.02	-8.76	46.26	121.58	-75.32	peak
2	0.0446	52.63	-11.90	40.73	114.62	-73.89	peak
3	0.0641	52.40	-12.25	40.15	111.47	-71.32	peak
4	0.0974	51.87	-14.52	37.35	107.83	-70.48	peak
5	0.1165	50.06	-14.43	35.63	106.28	-70.65	peak
6 *	0.1456	50.10	-14.54	35.56	104.34	-68.78	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

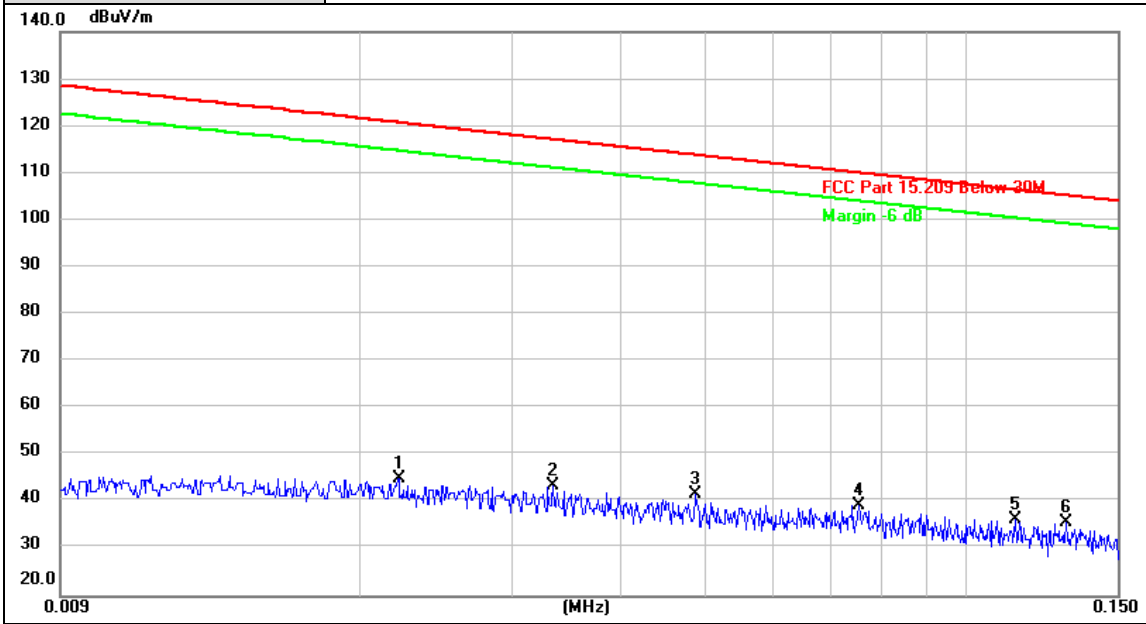
Host Device Model:	IDX75-5
Ant. Pol.	Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0268	55.57	-10.49	45.08	119.04	-73.96	peak
2	0.0495	54.27	-12.11	42.16	113.71	-71.55	peak
3	0.0719	52.28	-12.52	39.76	110.47	-70.71	peak
4	0.1000	53.10	-14.50	38.60	107.60	-69.00	peak
5	0.1163	51.99	-14.43	37.56	106.29	-68.73	peak
6 *	0.1400	51.27	-14.49	36.78	104.68	-67.90	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

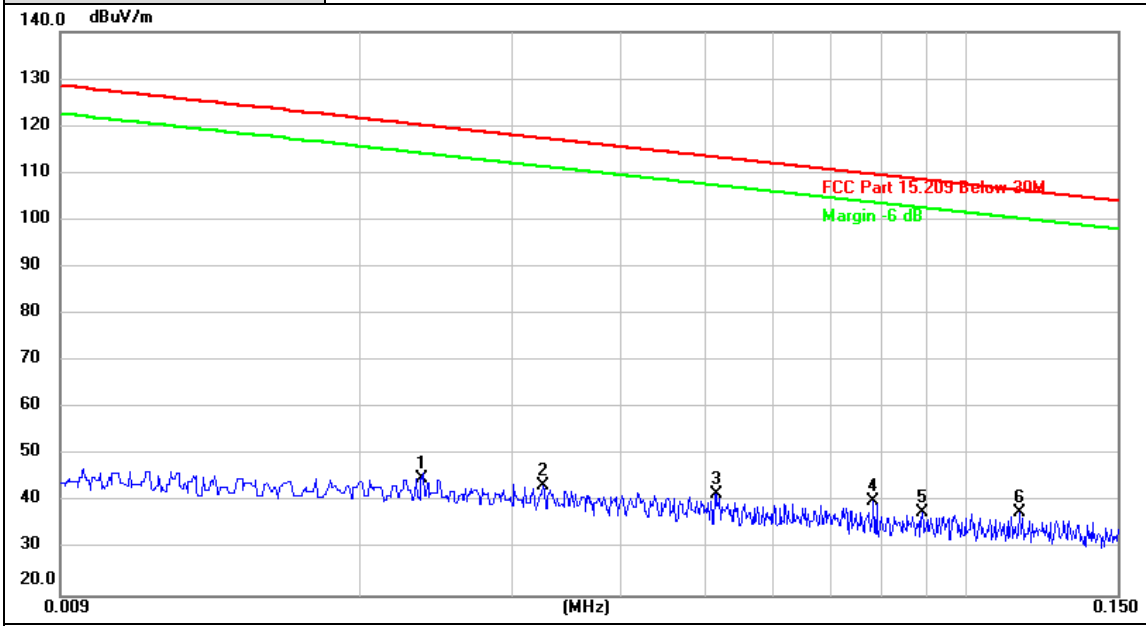
Host Device Model:	IDQR75-A
Ant. Pol.	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0221	54.35	-9.30	45.05	120.72	-75.67	peak
2	0.0333	54.90	-11.41	43.49	117.16	-73.67	peak
3	0.0487	53.82	-12.08	41.74	113.85	-72.11	peak
4	0.0751	52.27	-12.89	39.38	110.09	-70.71	peak
5	0.1140	50.65	-14.43	36.22	106.47	-70.25	peak
6 *	0.1305	50.24	-14.41	35.83	105.29	-69.46	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

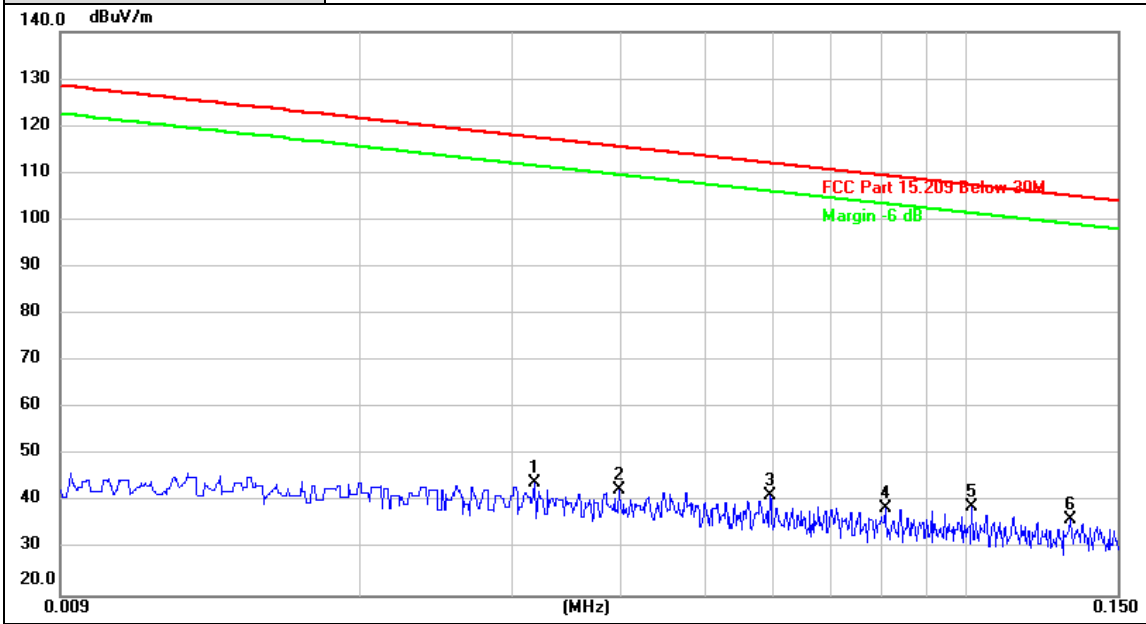
Host Device Model:	IDQR75-A
Ant. Pol.	Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0235	54.79	-9.65	45.14	120.18	-75.04	peak
2	0.0325	54.96	-11.38	43.58	117.37	-73.79	peak
3	0.0514	54.02	-12.15	41.87	113.39	-71.52	peak
4	0.0782	53.43	-13.24	40.19	109.74	-69.55	peak
5	0.0889	52.37	-14.46	37.91	108.63	-70.72	peak
6 *	0.1154	52.21	-14.43	37.78	106.36	-68.58	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

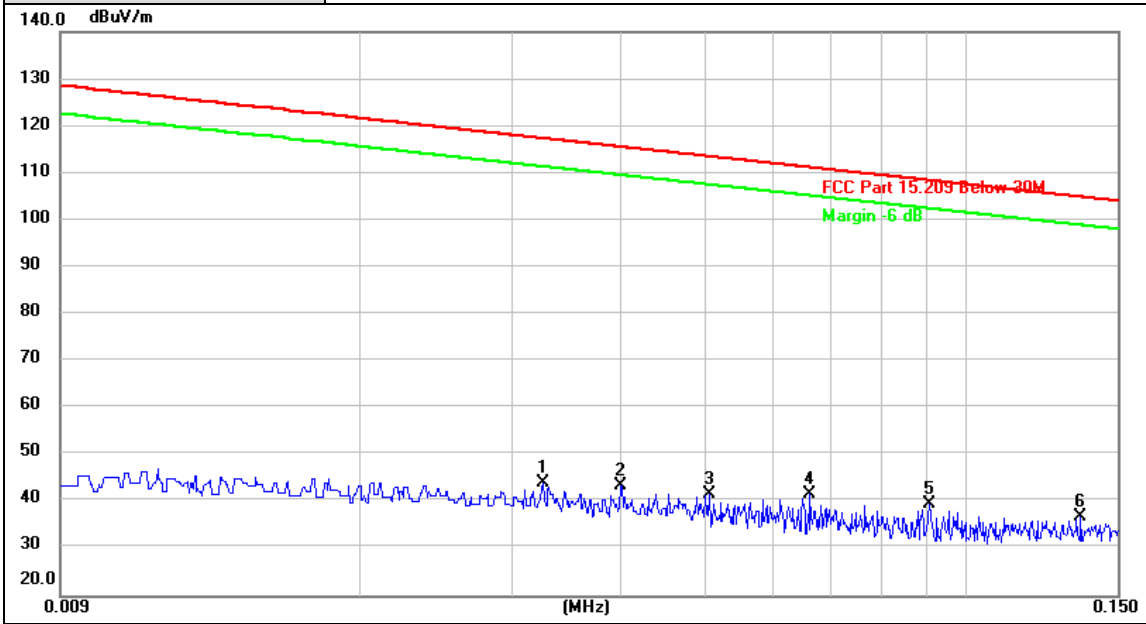
Host Device Model:	IDX86-5
Ant. Pol.	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0318	55.65	-11.35	44.30	117.56	-73.26	peak
2	0.0398	54.39	-11.70	42.69	115.61	-72.92	peak
3	0.0594	53.72	-12.21	41.51	112.13	-70.62	peak
4	0.0806	52.39	-13.52	38.87	109.48	-70.61	peak
5 *	0.1015	53.53	-14.49	39.04	107.47	-68.43	peak
6	0.1318	50.84	-14.42	36.42	105.21	-68.79	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

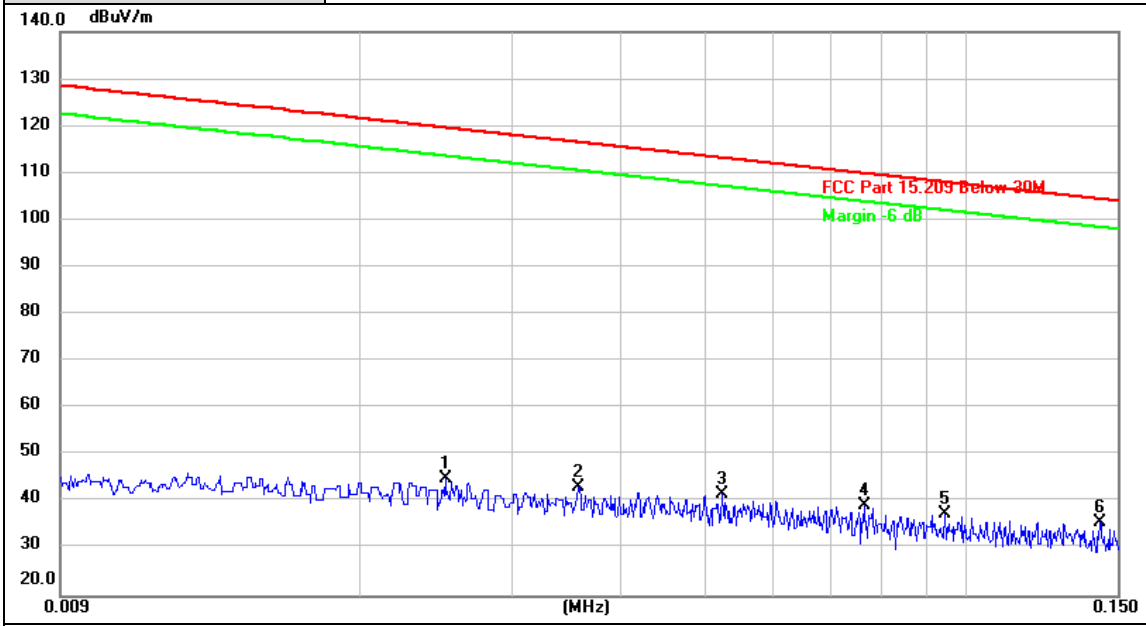
Host Device Model:	IDX86-5
Ant. Pol.	Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0325	55.46	-11.38	44.08	117.37	-73.29	peak
2	0.0400	55.38	-11.70	43.68	115.56	-71.88	peak
3	0.0505	54.01	-12.13	41.88	113.54	-71.66	peak
4	0.0661	53.95	-12.27	41.68	111.20	-69.52	peak
5	0.0907	54.12	-14.56	39.56	108.45	-68.89	peak
6 *	0.1355	51.29	-14.45	36.84	104.97	-68.13	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

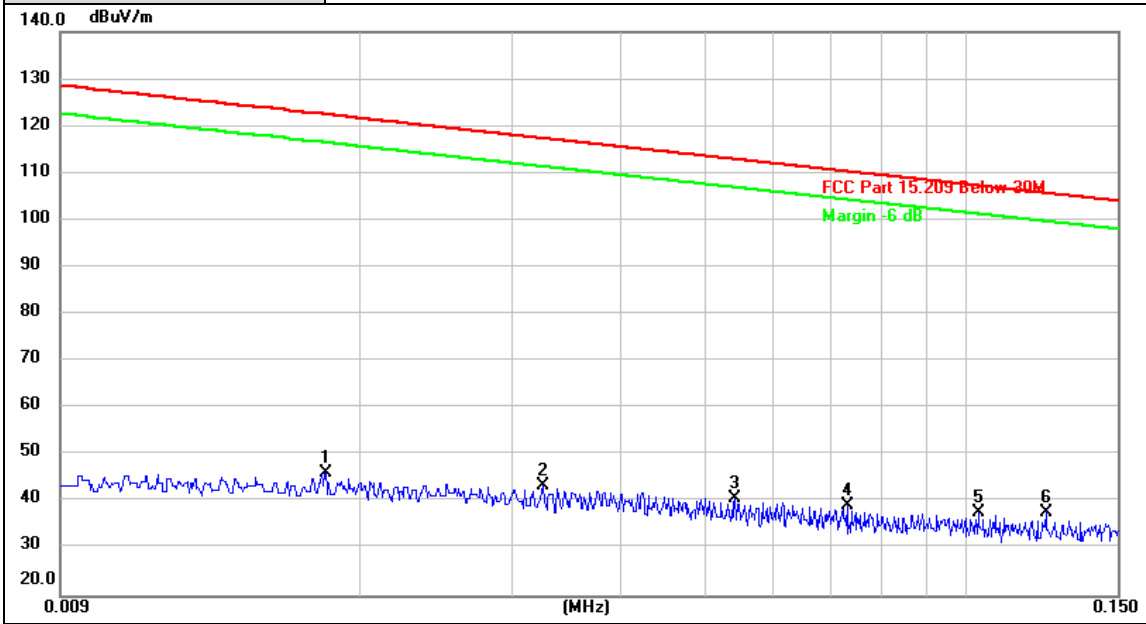
Host Device Model:	IDQR86-A
Ant. Pol.	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0250	55.11	-10.04	45.07	119.65	-74.58	peak
2	0.0357	54.74	-11.51	43.23	116.55	-73.32	peak
3	0.0522	53.77	-12.15	41.62	113.25	-71.63	peak
4	0.0763	52.47	-13.02	39.45	109.95	-70.50	peak
5	0.0942	52.01	-14.54	37.47	108.12	-70.65	peak
6 *	0.1428	50.41	-14.51	35.90	104.51	-68.61	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Host Device Model:	IDQR86-A
Ant. Pol.	Vertical

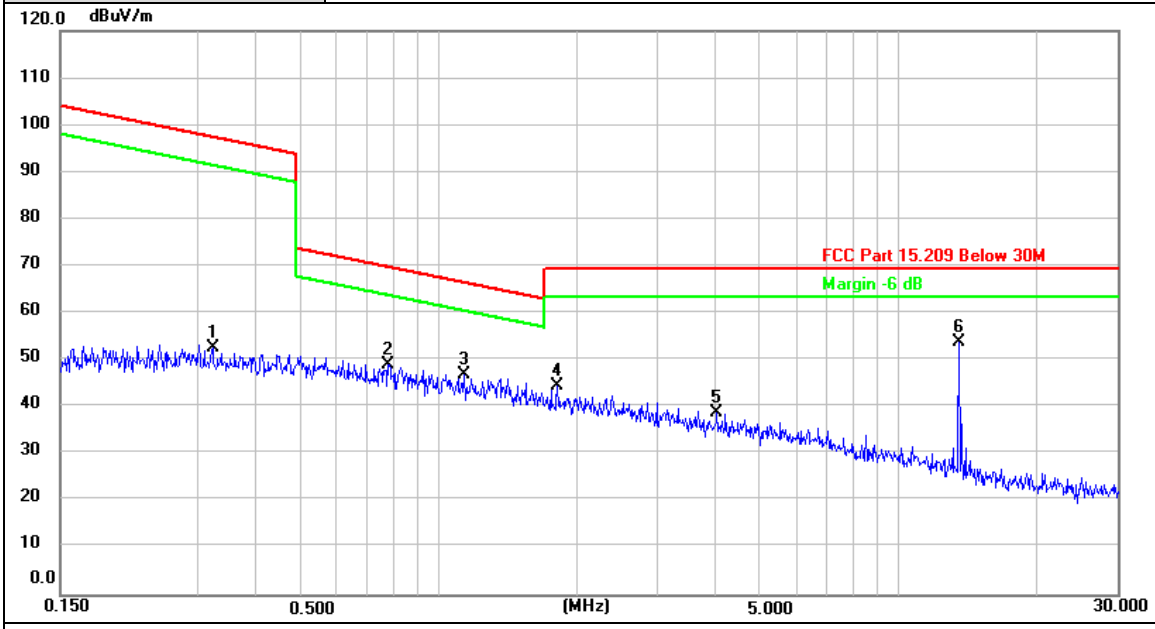


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0182	54.45	-8.29	46.16	122.40	-76.24	peak
2	0.0325	54.96	-11.38	43.58	117.37	-73.79	peak
3	0.0541	53.07	-12.17	40.90	112.94	-72.04	peak
4	0.0728	51.82	-12.62	39.20	110.36	-71.16	peak
5	0.1034	52.43	-14.48	37.95	107.31	-69.36	peak
6 *	0.1237	52.41	-14.41	38.00	105.76	-67.76	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

150 KHz~30 MHz

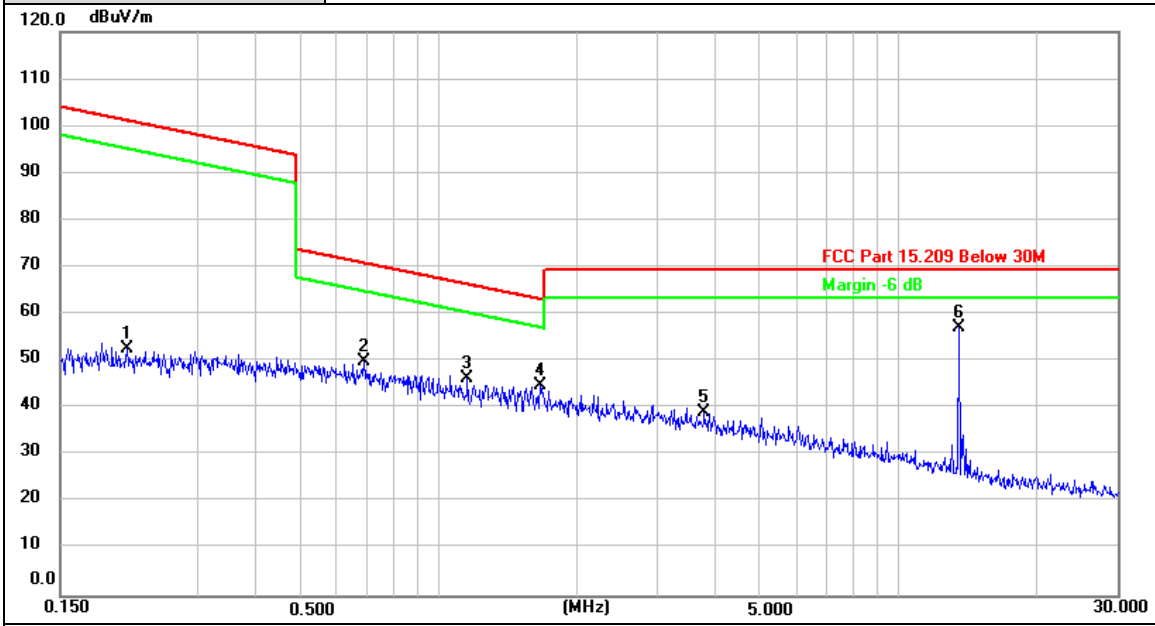
Host Device Model:	IDX55-5
Ant. Pol.	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.3215	67.72	-15.14	52.58	97.46	-44.88	peak
2	0.7751	64.18	-15.14	49.04	69.82	-20.78	peak
3	1.1350	62.03	-15.08	46.95	66.50	-19.55	peak
4	1.8095	59.56	-15.14	44.42	69.54	-25.12	peak
5	4.0274	53.90	-15.06	38.84	69.54	-30.70	peak
6 *	13.5523	69.10	-15.13	53.97	69.54	-15.57	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

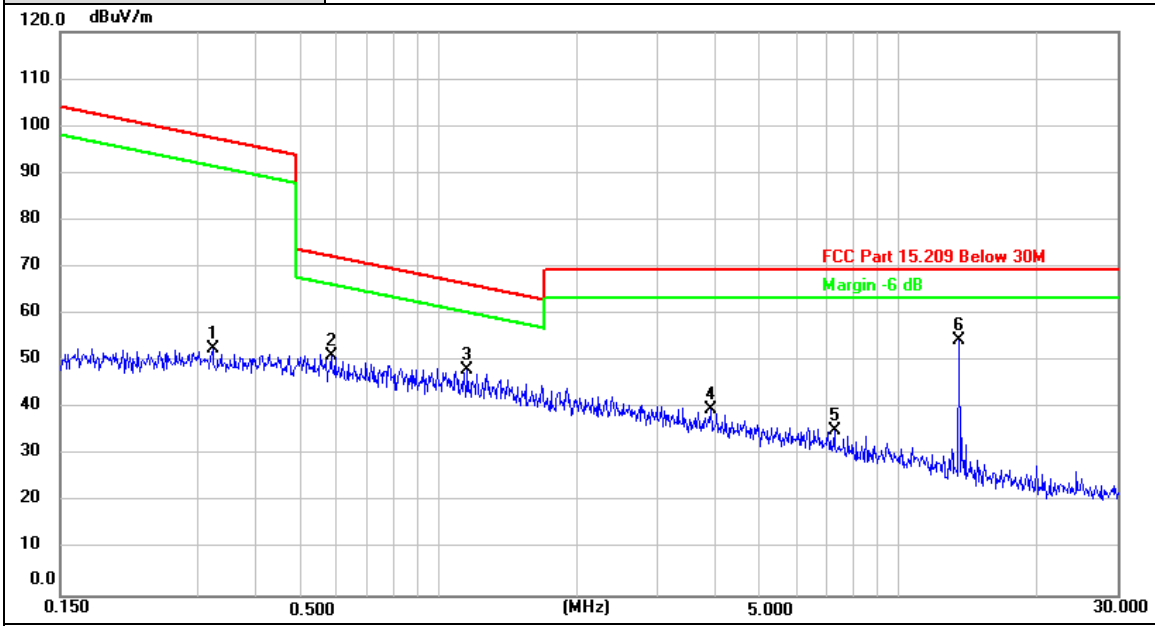
Host Device Model:	IDX55-5
Ant. Pol.	Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.2094	67.49	-14.80	52.69	101.18	-48.49	peak
2	0.6862	65.05	-15.16	49.89	70.88	-20.99	peak
3	1.1532	61.55	-15.09	46.46	66.37	-19.91	peak
4	1.6624	60.07	-15.13	44.94	63.19	-18.25	peak
5	3.7793	54.31	-15.09	39.22	69.54	-30.32	peak
6 *	13.5518	72.35	-15.13	57.22	69.54	-12.32	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

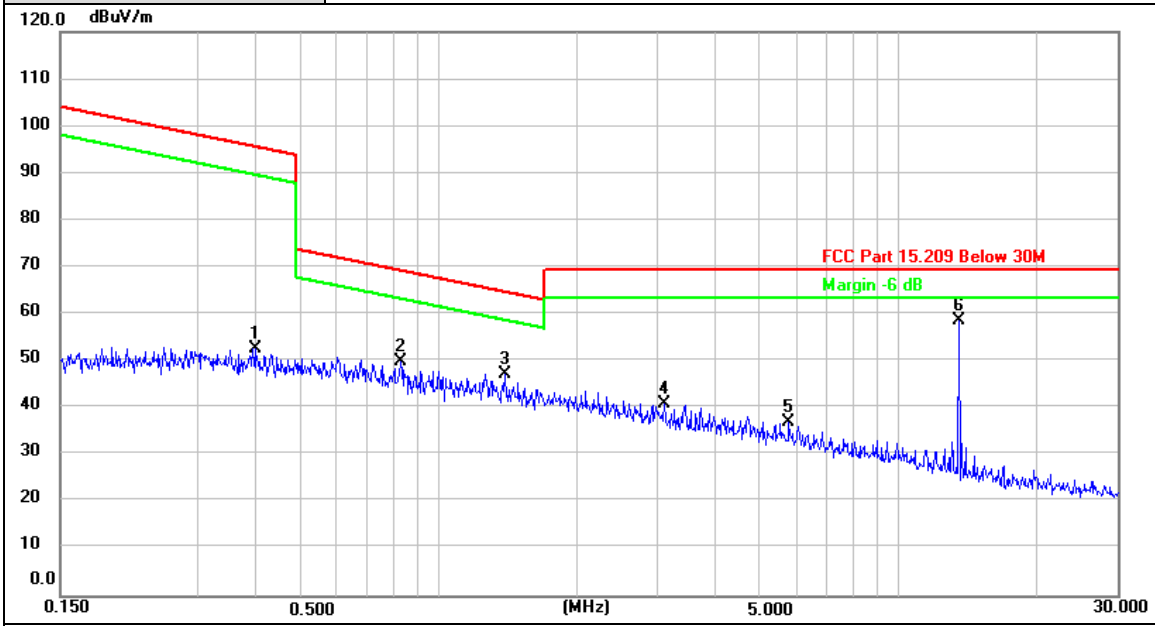
Host Device Model:	IDX65-5
Ant. Pol.	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.3215	67.72	-15.14	52.58	97.46	-44.88	peak
2	0.5823	66.31	-15.18	51.13	72.30	-21.17	peak
3	1.1532	63.24	-15.09	48.15	66.37	-18.22	peak
4	3.9014	54.87	-15.08	39.79	69.54	-29.75	peak
5	7.2515	50.22	-15.11	35.11	69.54	-34.43	peak
6 *	13.5522	69.60	-15.13	54.47	69.54	-15.07	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

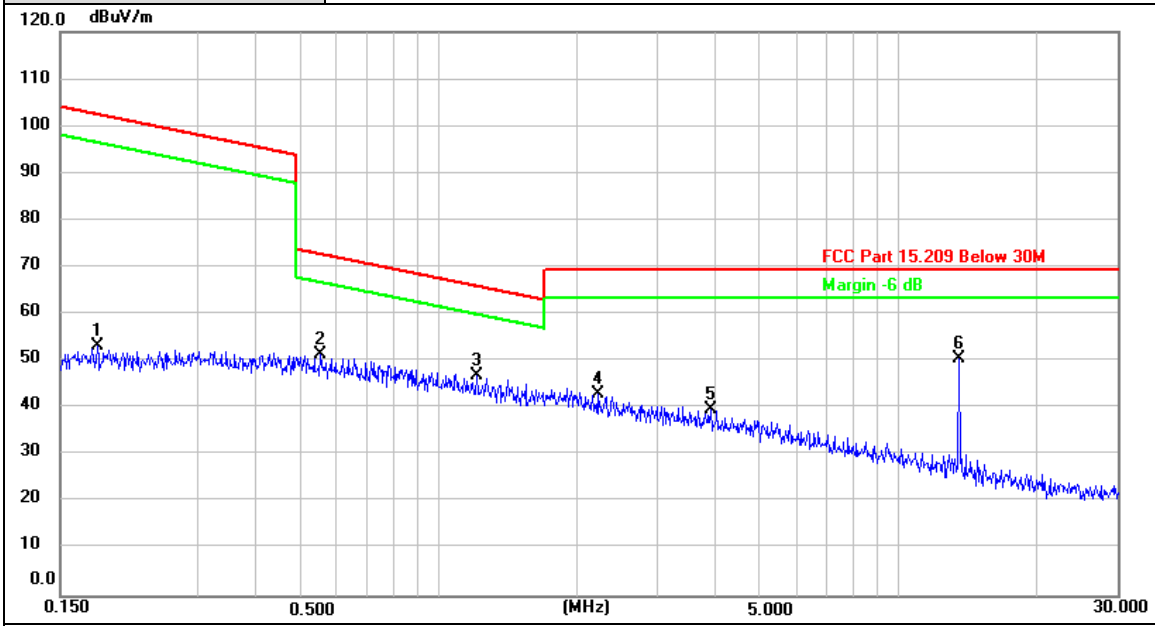
Host Device Model:	IDX65-5
Ant. Pol.	Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.3976	67.76	-15.16	52.60	95.62	-43.02	peak
2	0.8256	65.11	-15.13	49.98	69.27	-19.29	peak
3	1.3884	62.25	-15.13	47.12	64.75	-17.63	peak
4	3.0901	56.30	-15.21	41.09	69.54	-28.45	peak
5	5.7743	52.01	-14.97	37.04	69.54	-32.50	peak
6 *	13.5515	73.85	-15.13	58.72	69.54	-10.82	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

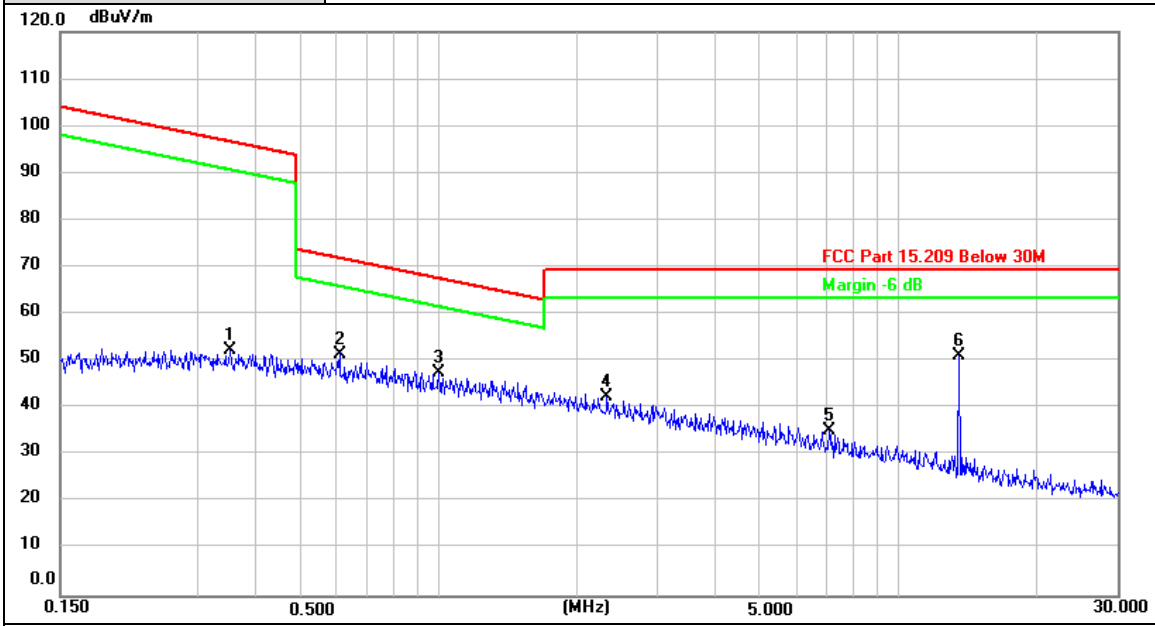
Host Device Model:	IDQR65-A
Ant. Pol.	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.1804	67.90	-14.69	53.21	102.48	-49.27	peak
2	0.5522	66.52	-15.19	51.33	72.76	-21.43	peak
3	1.2096	61.96	-15.10	46.86	65.95	-19.09	peak
4	2.2130	58.19	-15.17	43.02	69.54	-26.52	peak
5	3.9014	54.87	-15.08	39.79	69.54	-29.75	peak
6 *	13.5568	65.60	-15.13	50.47	69.54	-19.07	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

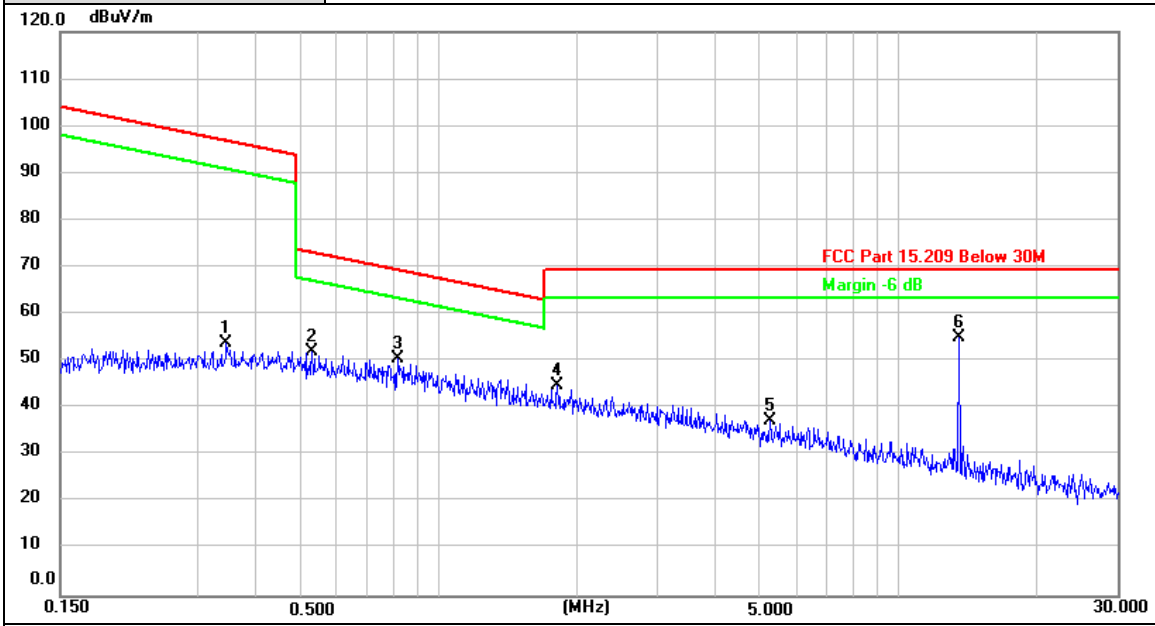
Host Device Model:	IDQR65-A
Ant. Pol.	Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.3501	67.46	-15.15	52.31	96.72	-44.41	peak
2	0.6075	66.78	-15.18	51.60	71.93	-20.33	peak
3	0.9996	62.52	-15.06	47.46	67.61	-20.15	peak
4	2.3212	57.62	-15.17	42.45	69.54	-27.09	peak
5	7.0621	50.29	-15.09	35.20	69.54	-34.34	peak
6 *	13.5570	66.35	-15.13	51.22	69.54	-18.32	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

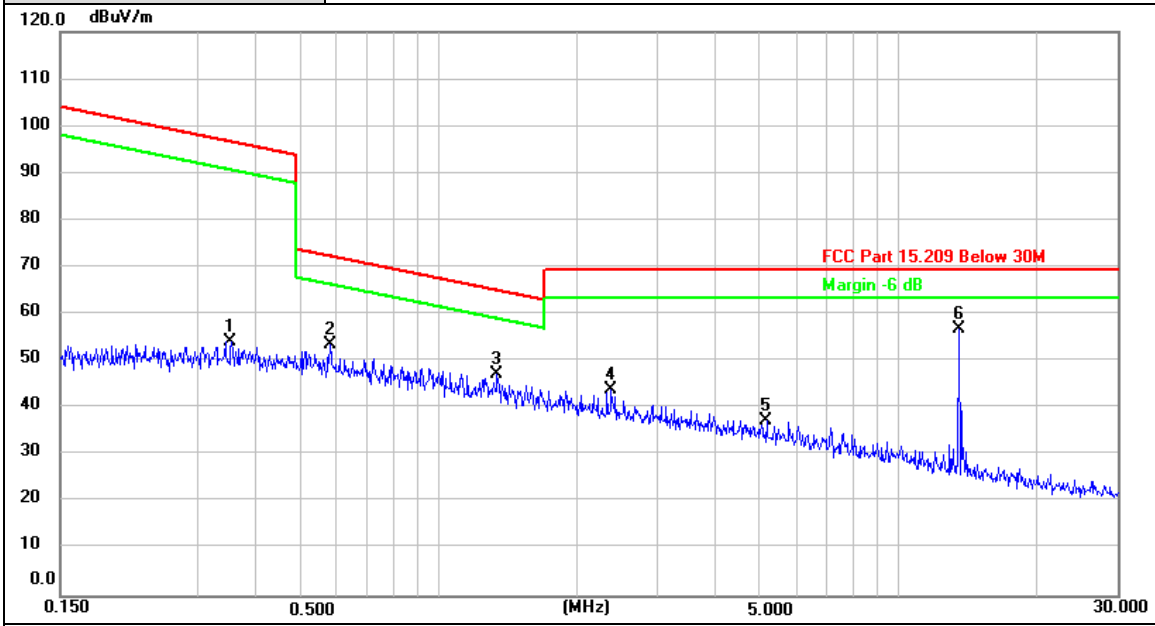
Host Device Model:	IDX75-5
Ant. Pol.	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.3446	69.06	-15.15	53.91	96.86	-42.95	peak
2	0.5292	67.33	-15.19	52.14	73.13	-20.99	peak
3	0.8125	65.66	-15.14	50.52	69.41	-18.89	peak
4	1.8095	60.06	-15.14	44.92	69.54	-24.62	peak
5	5.2488	52.23	-14.93	37.30	69.54	-32.24	peak
6 *	13.5525	70.10	-15.13	54.97	69.54	-14.57	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

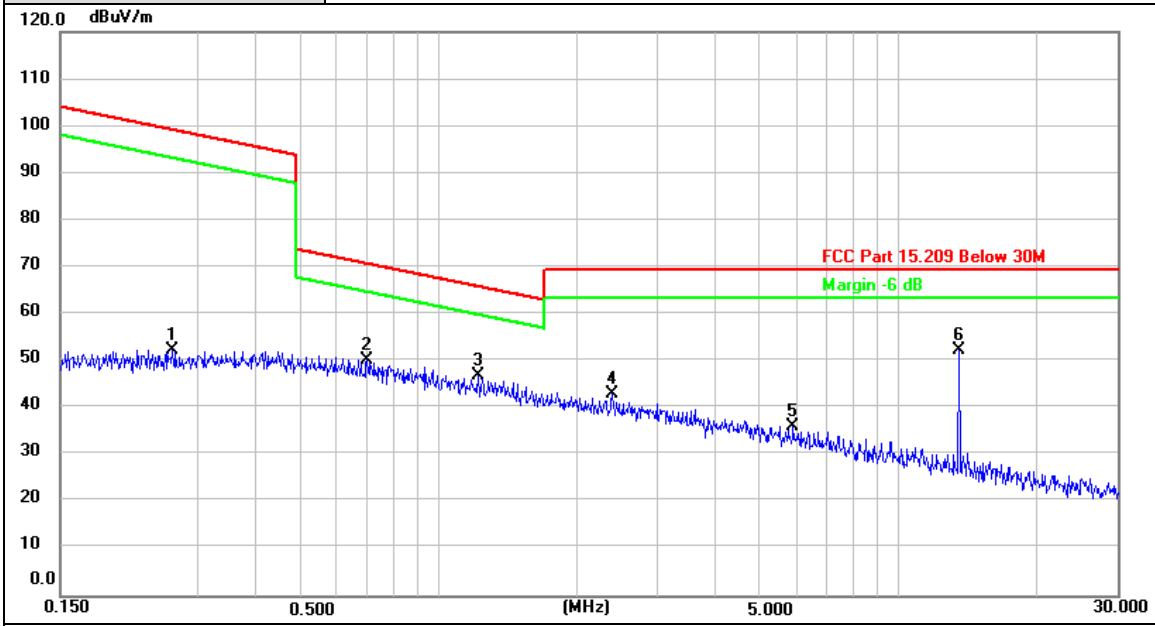
Host Device Model:	IDX75-5
Ant. Pol.	Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.3537	69.38	-15.15	54.23	96.63	-42.40	peak
2	0.5792	68.74	-15.18	53.56	72.35	-18.79	peak
3	1.3378	62.27	-15.12	47.15	65.08	-17.93	peak
4	2.3708	59.13	-15.18	43.95	69.54	-25.59	peak
5	5.1660	52.26	-14.92	37.34	69.54	-32.20	peak
6 *	13.5520	71.85	-15.13	56.72	69.54	-12.82	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

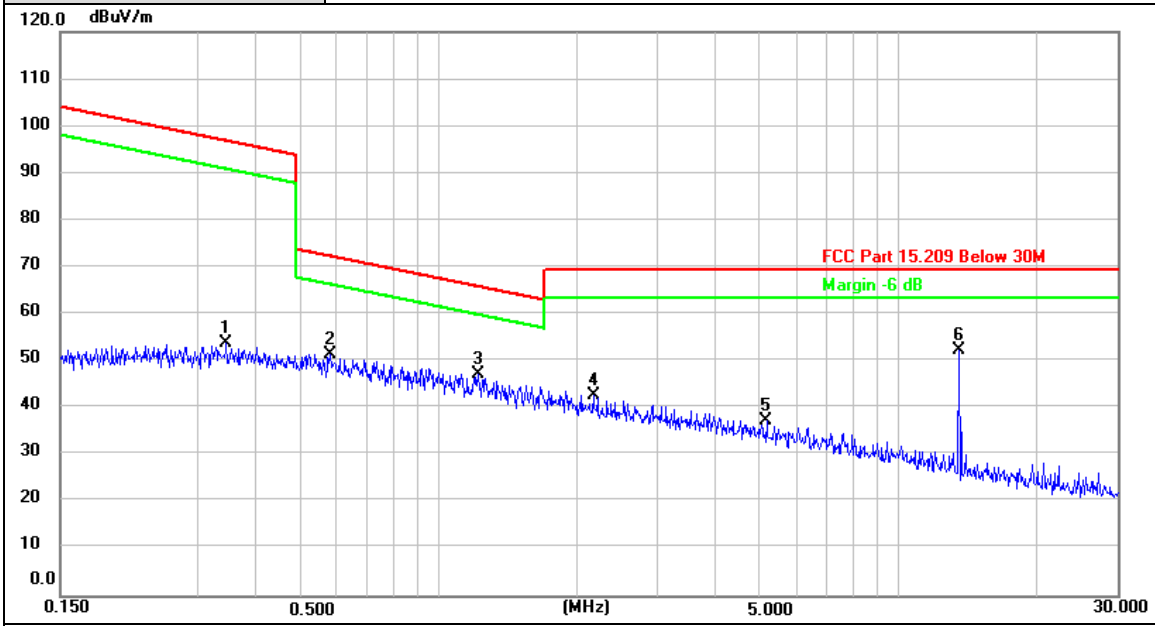
Host Device Model:	IDQR75-A
Ant. Pol.	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.2630	67.28	-14.99	52.29	99.20	-46.91	peak
2	0.6972	65.31	-15.16	50.15	70.74	-20.59	peak
3	1.2157	62.09	-15.10	46.99	65.91	-18.92	peak
4	2.3835	58.18	-15.18	43.00	69.54	-26.54	peak
5	5.8978	51.23	-14.98	36.25	69.54	-33.29	peak
6 *	13.5508	67.60	-15.13	52.47	69.54	-17.07	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

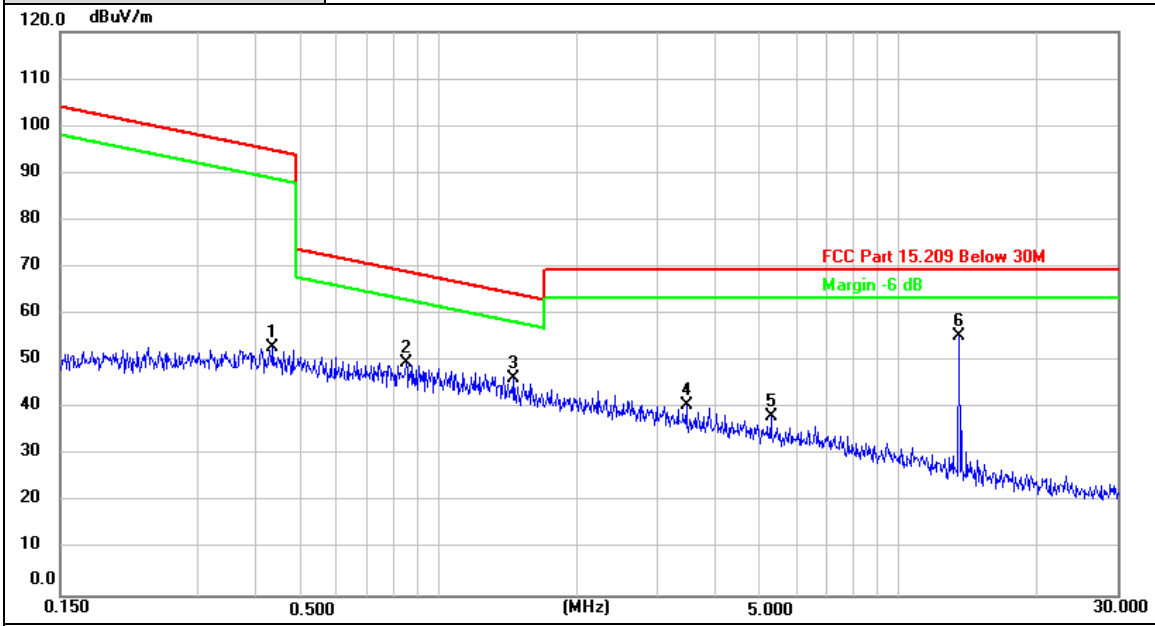
Host Device Model:	IDQR75-A
Ant. Pol.	Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.3446	68.94	-15.15	53.79	96.86	-43.07	peak
2	0.5792	66.74	-15.18	51.56	72.35	-20.79	peak
3	1.2157	62.40	-15.10	47.30	65.91	-18.61	peak
4	2.1667	58.01	-15.17	42.84	69.54	-26.70	peak
5	5.1660	52.26	-14.92	37.34	69.54	-32.20	peak
6 *	13.5582	67.35	-15.13	52.22	69.54	-17.32	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

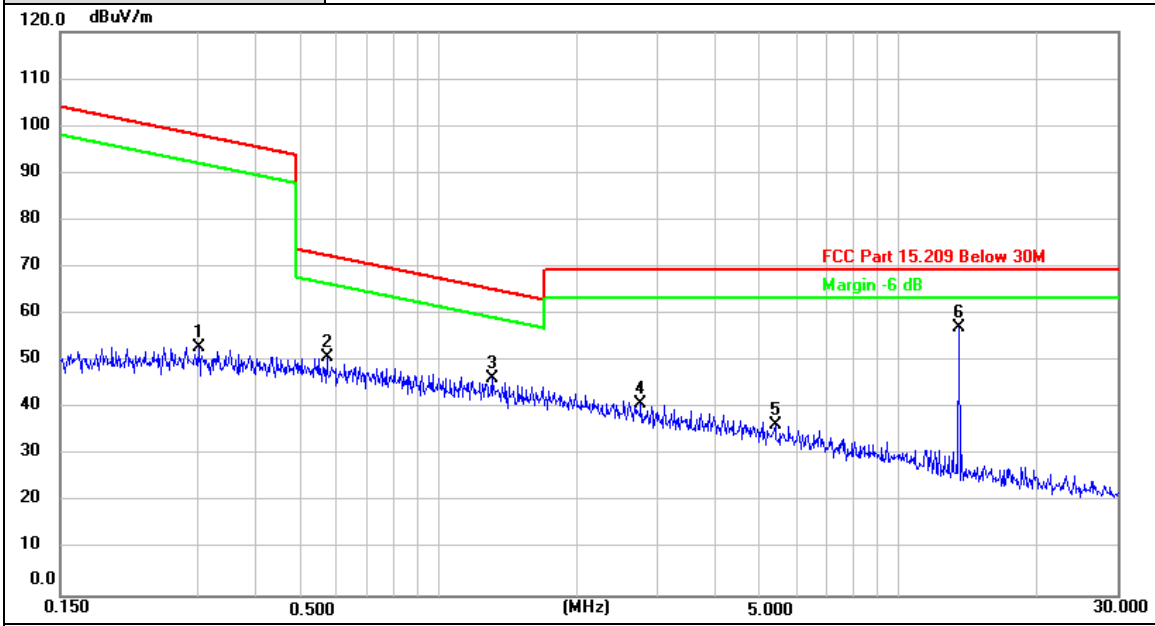
Host Device Model:	IDX86-5
Ant. Pol.	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.4349	68.23	-15.18	53.05	94.84	-41.79	peak
2	0.8477	64.87	-15.12	49.75	69.04	-19.29	peak
3	1.4556	61.52	-15.12	46.40	64.34	-17.94	peak
4	3.4538	55.74	-15.14	40.60	69.54	-28.94	peak
5	5.2769	53.20	-14.93	38.27	69.54	-31.27	peak
6 *	13.5524	70.60	-15.13	55.47	69.54	-14.07	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

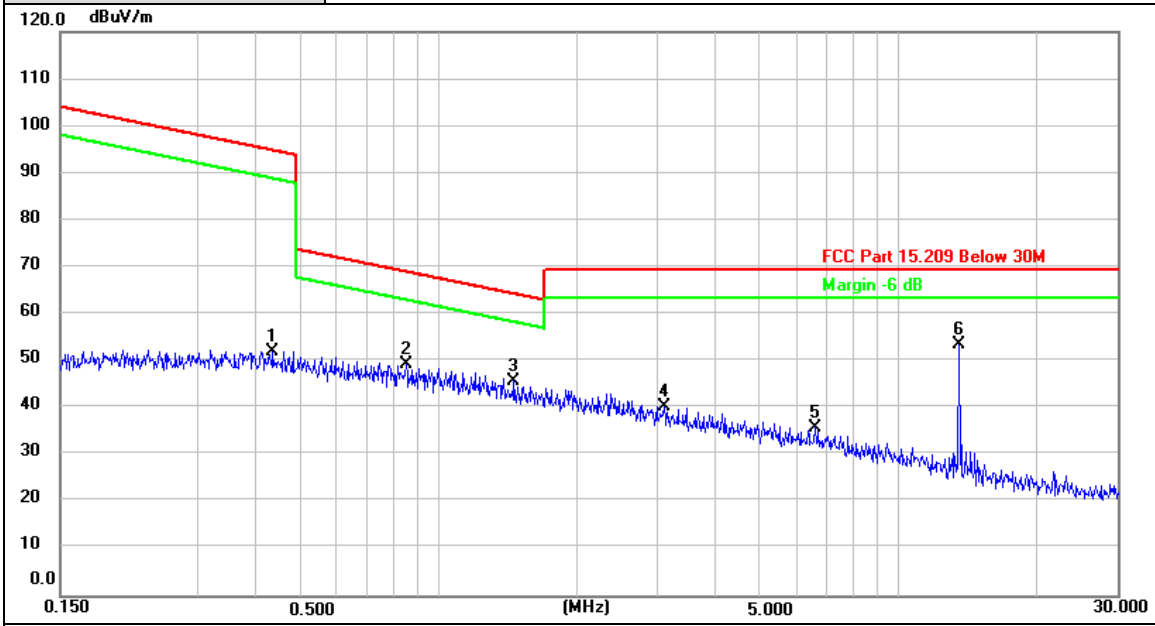
Host Device Model:	IDX86-5
Ant. Pol.	Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.3002	68.01	-15.13	52.88	98.06	-45.18	peak
2	0.5700	66.16	-15.19	50.97	72.49	-21.52	peak
3	1.3024	61.42	-15.11	46.31	65.31	-19.00	peak
4	2.7501	56.21	-15.21	41.00	69.54	-28.54	peak
5	5.3900	51.28	-14.93	36.35	69.54	-33.19	peak
6 *	13.5529	72.35	-15.13	57.22	69.54	-12.32	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

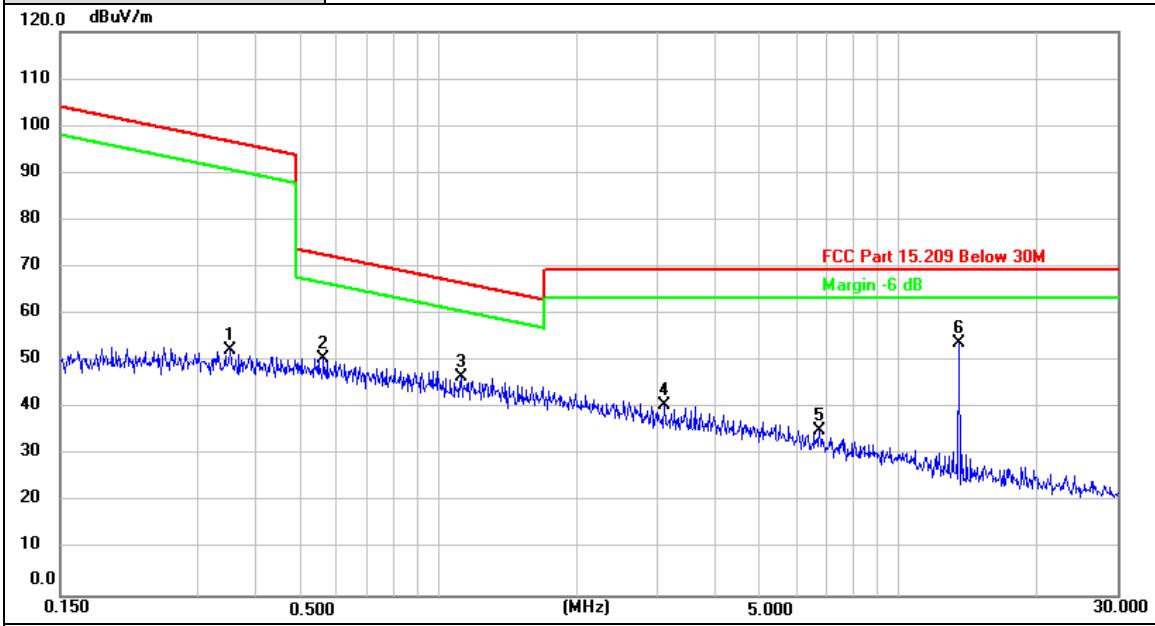
Host Device Model:	IDQR86-A
Ant. Pol.	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.4349	67.23	-15.18	52.05	94.84	-42.79	peak
2	0.8477	64.37	-15.12	49.25	69.04	-19.79	peak
3	1.4556	61.02	-15.12	45.90	64.34	-18.44	peak
4	3.0901	55.62	-15.21	40.41	69.54	-29.13	peak
5	6.5921	51.04	-15.04	36.00	69.54	-33.54	peak
6 *	13.5576	68.60	-15.13	53.47	69.54	-16.07	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Host Device Model:	IDQR86-A
Ant. Pol.	Vertical

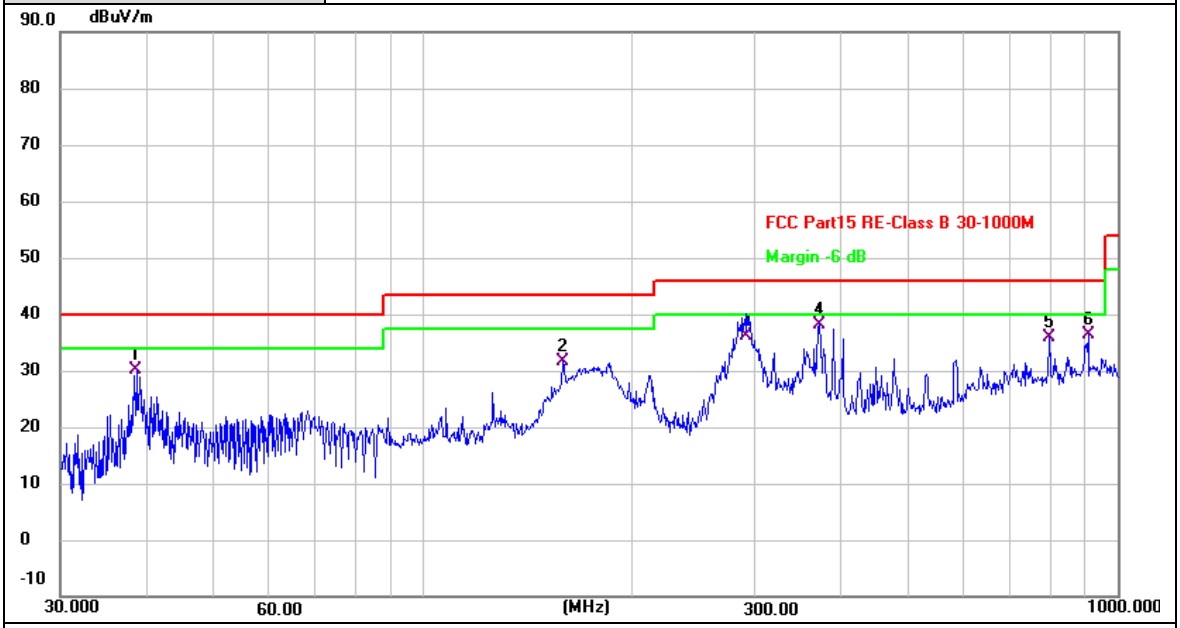


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.3501	67.46	-15.15	52.31	96.72	-44.41	peak
2	0.5611	65.74	-15.19	50.55	72.62	-22.07	peak
3	1.1169	61.78	-15.08	46.70	66.64	-19.94	peak
4	3.0901	55.80	-15.21	40.59	69.54	-28.95	peak
5	6.7332	50.42	-15.05	35.37	69.54	-34.17	peak
6 *	13.5554	68.85	-15.13	53.72	69.54	-15.82	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

30MHz-1GHz

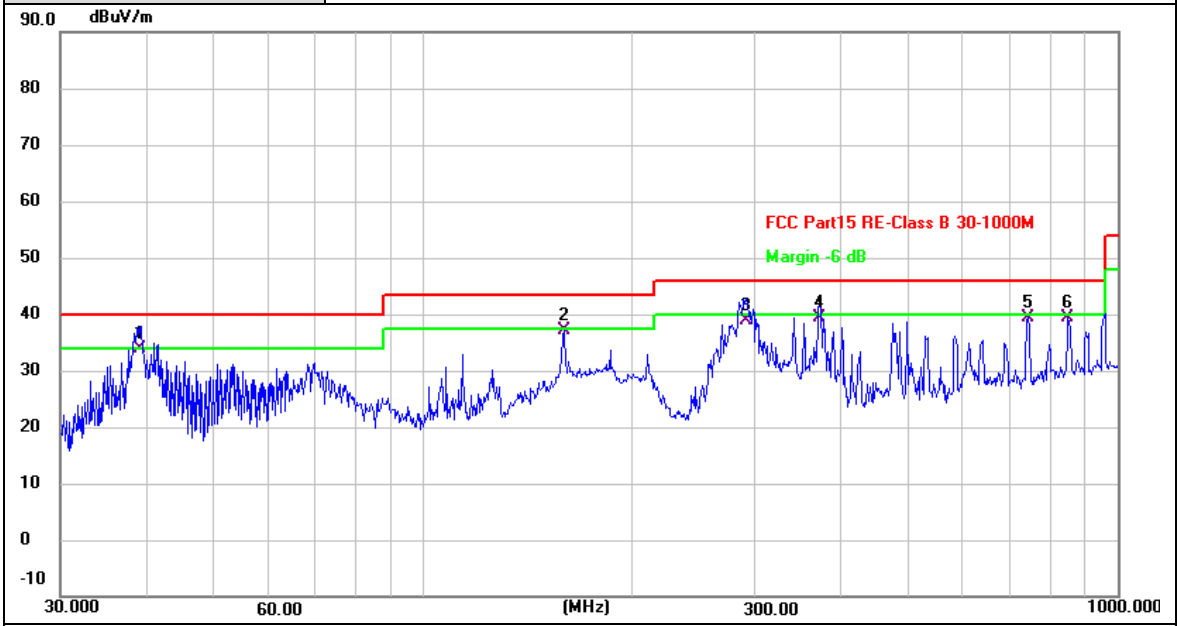
Host Device Model:	IDX55-5
Ant. Pol.	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	38.6160	44.80	-14.76	30.04	40.00	-9.96	QP
2	158.6677	50.72	-19.01	31.71	43.50	-11.79	QP
3	291.0360	49.72	-13.66	36.06	46.00	-9.94	QP
4 *	372.0045	49.61	-11.54	38.07	46.00	-7.93	QP
5	796.1830	40.23	-4.35	35.88	46.00	-10.12	QP
6	906.4824	39.17	-2.91	36.26	46.00	-9.74	QP

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

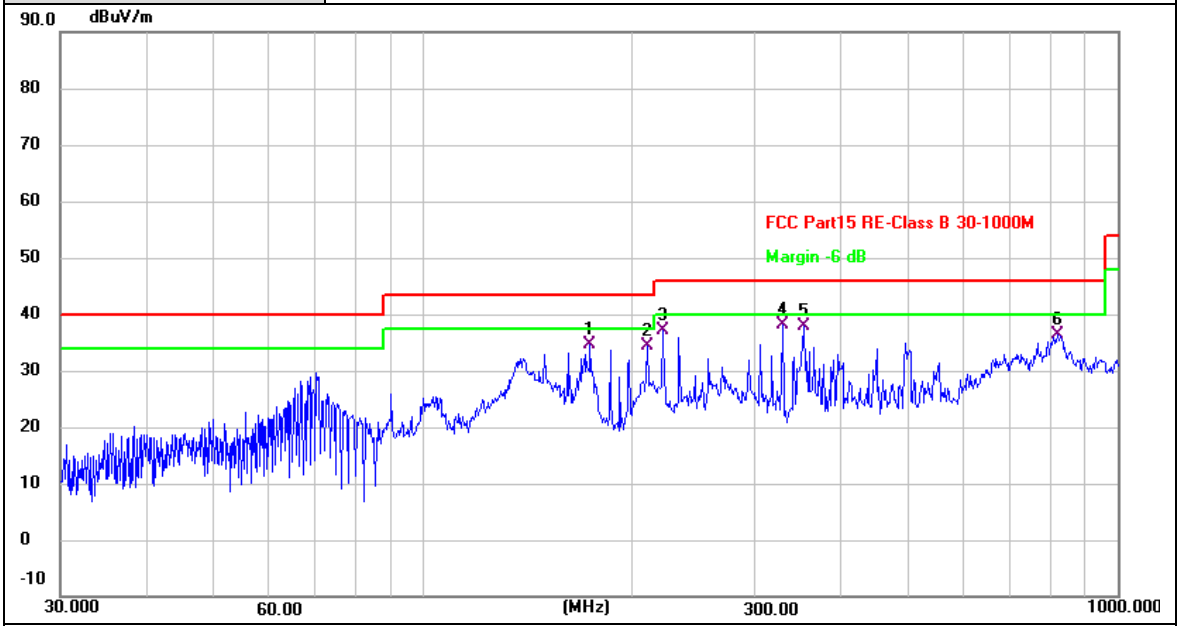
Host Device Model:	IDX55-5
Ant. Pol.	Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	39.0242	48.56	-14.65	33.91	40.00	-6.09	QP
2	159.2251	56.24	-18.99	37.25	43.50	-6.25	QP
3	291.0360	52.45	-13.66	38.79	46.00	-7.21	QP
4	372.0045	50.95	-11.54	39.41	46.00	-6.59	QP
5	742.2587	44.28	-5.02	39.26	46.00	-6.74	QP
6	848.0561	43.21	-3.73	39.48	46.00	-6.52	QP

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

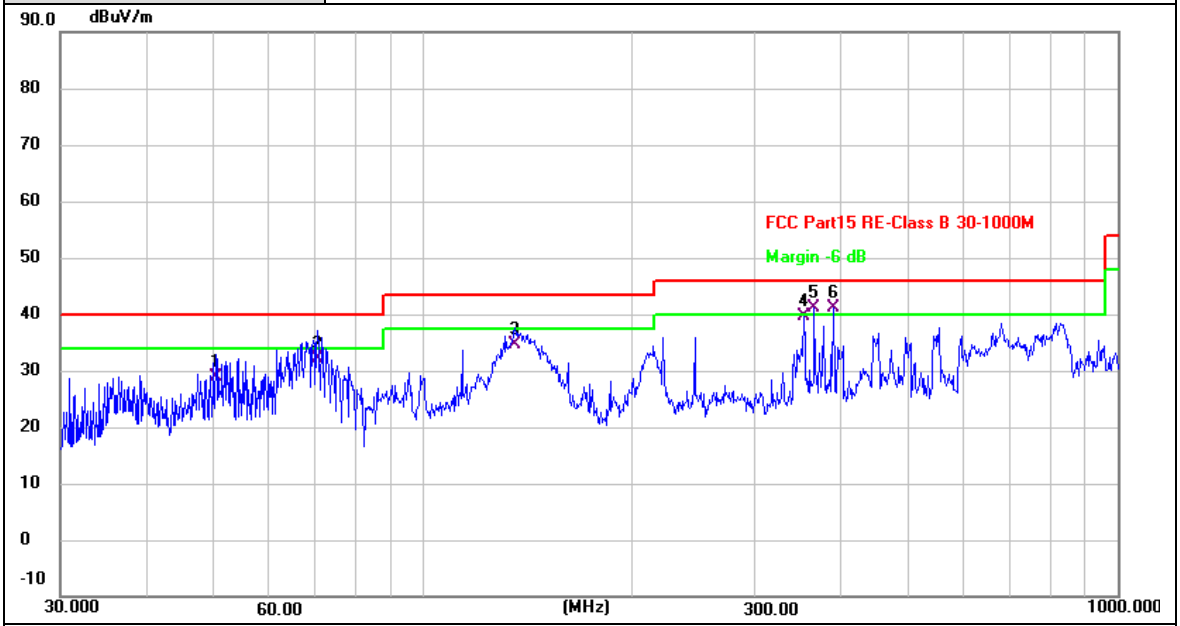
Host Device Model:	IDX65-5
Ant. Pol.	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	173.8135	52.89	-18.26	34.63	43.50	-8.87	QP
2	210.0481	50.13	-15.67	34.46	43.50	-9.04	QP
3	221.3921	52.54	-15.34	37.20	46.00	-8.80	QP
4 *	329.0390	50.55	-12.53	38.02	46.00	-7.98	QP
5	352.9433	49.66	-11.80	37.86	46.00	-8.14	QP
6	818.8340	40.33	-4.07	36.26	46.00	-9.74	QP

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

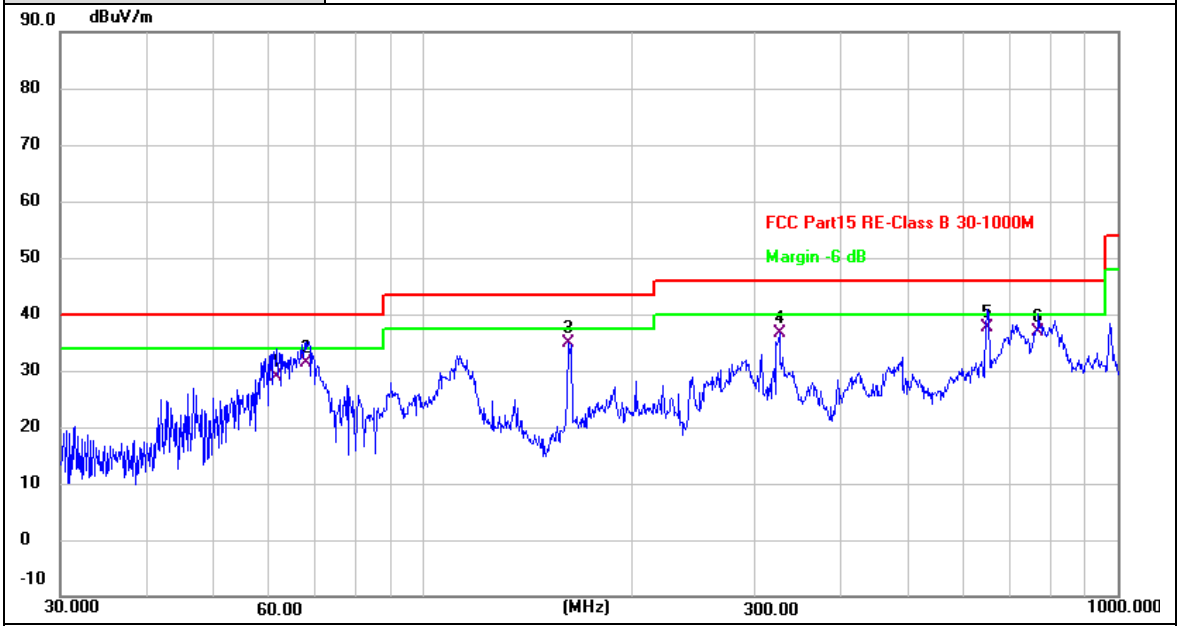
Host Device Model:	IDX65-5
Ant. Pol.	Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	50.2324	42.84	-13.93	28.91	40.00	-11.09	QP
2	70.3365	50.10	-18.09	32.01	40.00	-7.99	QP
3	135.5062	54.00	-19.48	34.52	43.50	-8.98	QP
4	352.9433	51.48	-11.80	39.68	46.00	-6.32	QP
5 !	365.5389	52.79	-11.62	41.17	46.00	-4.83	QP
6 *	389.3549	52.46	-11.28	41.18	46.00	-4.82	QP

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

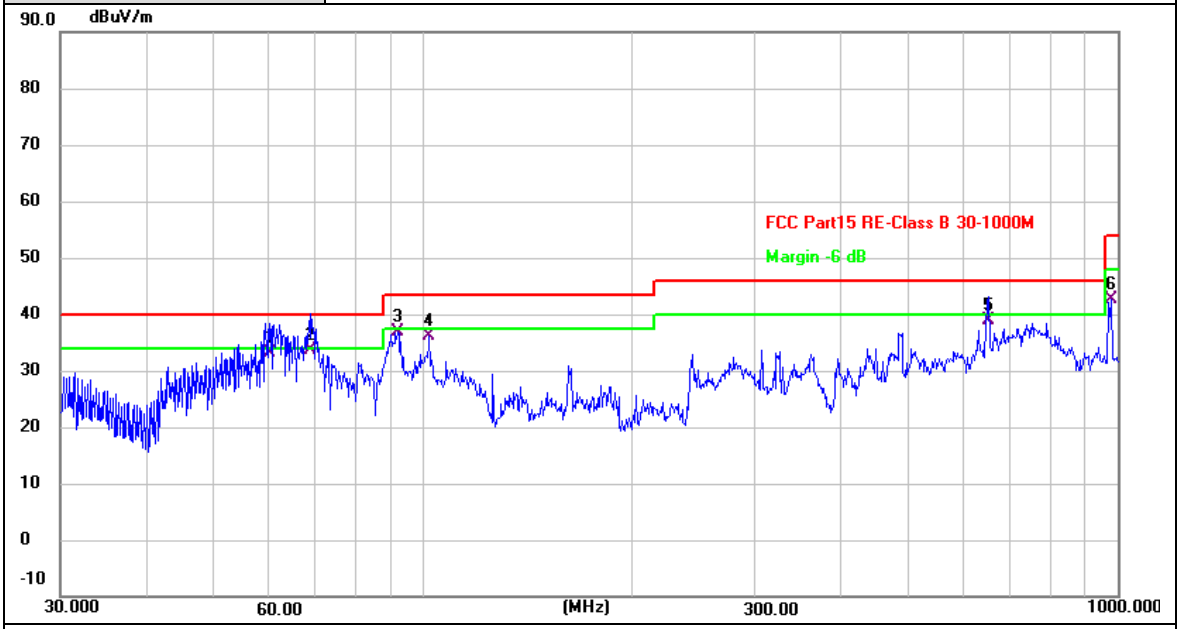
Host Device Model:	IDQR65-A
Ant. Pol.	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	61.5618	46.40	-17.47	28.93	40.00	-11.07	QP
2	67.6751	50.42	-18.95	31.47	40.00	-8.53	QP
3	161.4740	55.58	-20.69	34.89	43.50	-8.61	QP
4	325.5958	50.81	-14.19	36.62	46.00	-9.38	QP
5 *	649.6596	45.23	-7.59	37.64	46.00	-8.36	QP
6	768.7481	42.64	-5.75	36.89	46.00	-9.11	QP

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

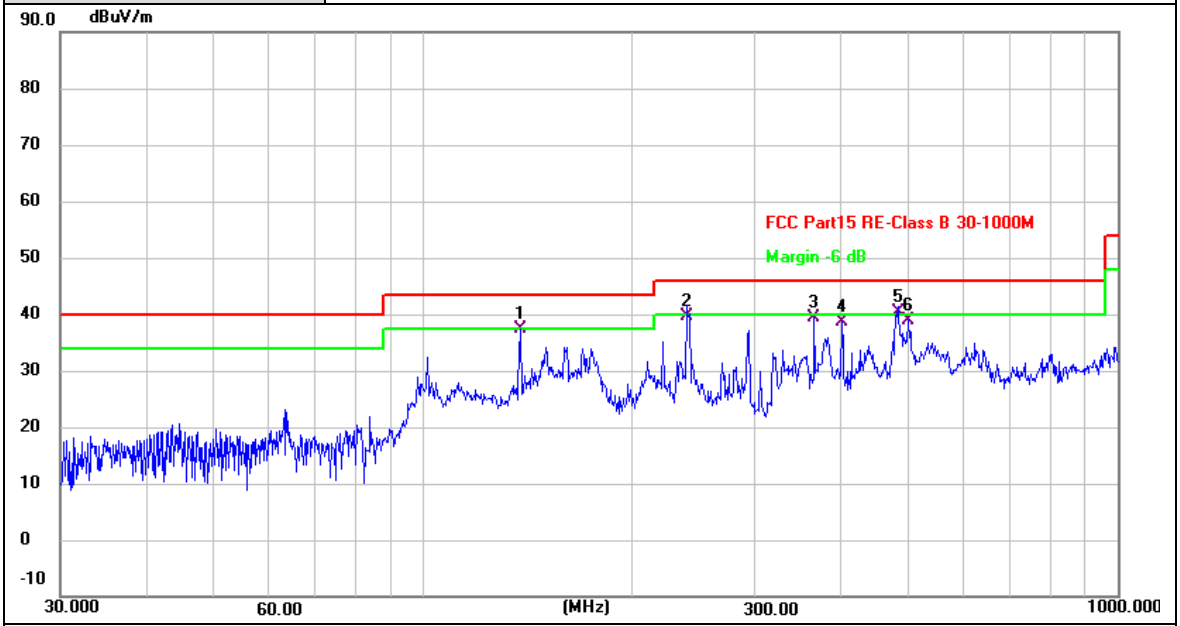
Host Device Model:	IDQR65-A
Ant. Pol.	Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	60.0691	50.29	-17.27	33.02	40.00	-6.98	QP
2 *	68.6310	52.86	-19.31	33.55	40.00	-6.45	QP
3	91.8163	55.97	-19.15	36.82	43.50	-6.68	QP
4	102.0014	53.90	-17.74	36.16	43.50	-7.34	QP
5	651.9417	46.40	-7.57	38.83	46.00	-7.17	QP
6	979.1804	45.92	-3.23	42.69	54.00	-11.31	QP

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

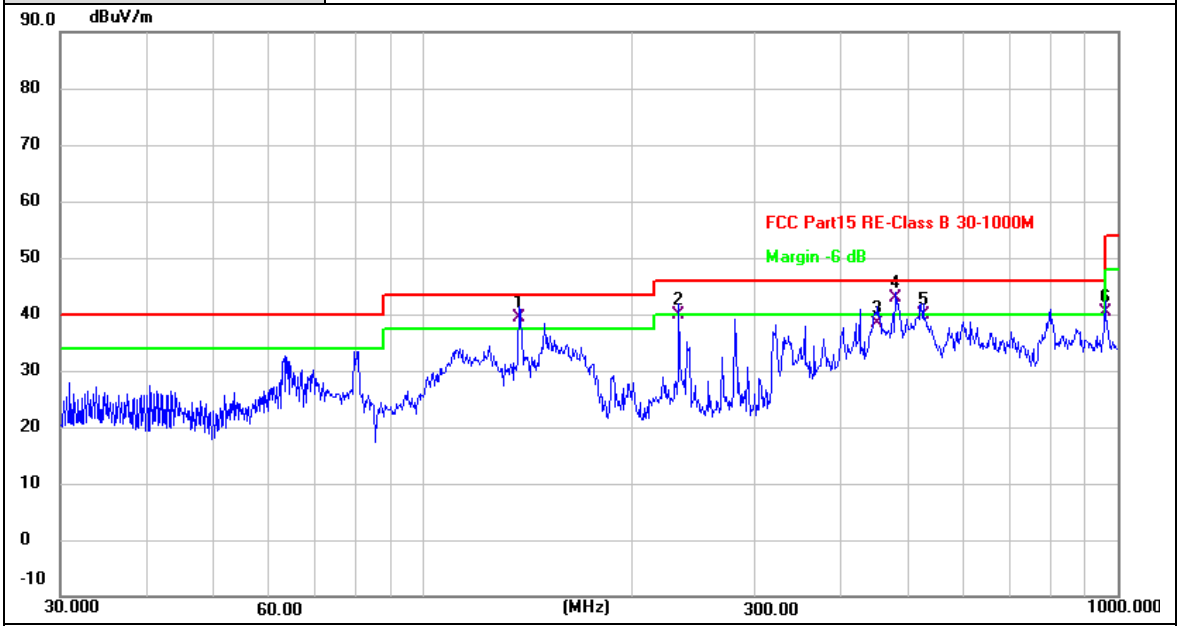
Host Device Model:	IDX75-5
Ant. Pol.	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	137.9028	57.01	-19.52	37.49	43.50	-6.01	QP
2	239.1472	54.54	-14.82	39.72	46.00	-6.28	QP
3	365.5390	50.93	-11.63	39.30	46.00	-6.70	QP
4	400.4318	49.71	-11.12	38.59	46.00	-7.41	QP
5 *	482.2155	50.00	-9.65	40.35	46.00	-5.65	QP
6	499.4246	48.13	-9.30	38.83	46.00	-7.17	QP

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

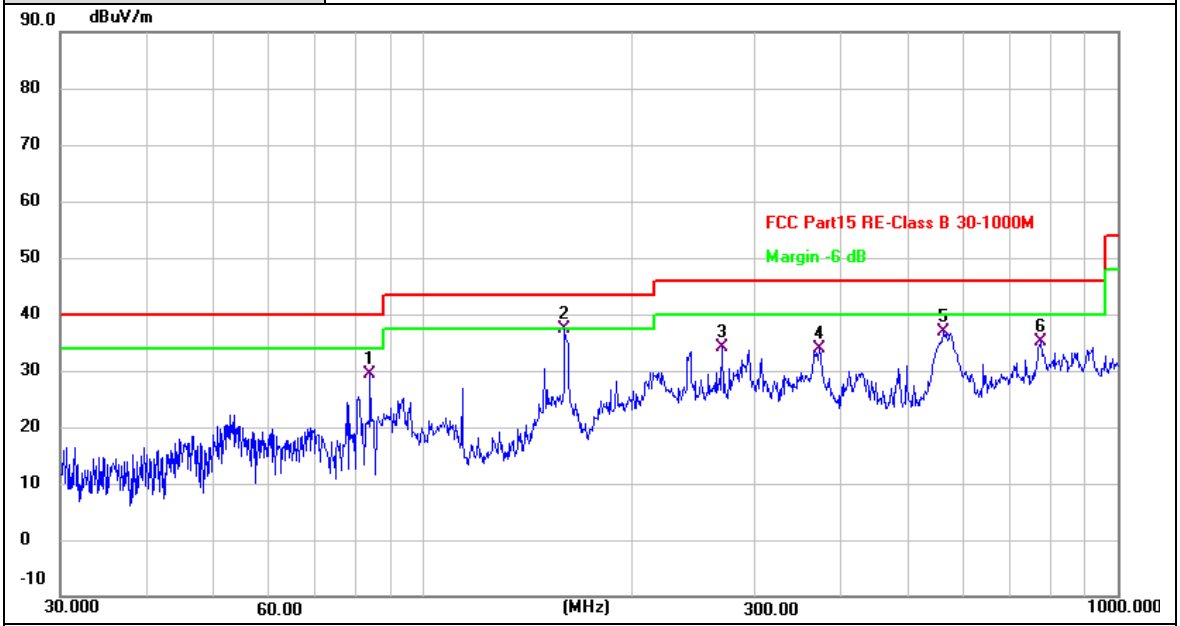
Host Device Model:	IDX75-5
Ant. Pol.	Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 !	137.4202	58.94	-19.52	39.42	43.50	-4.08	QP
2	233.3487	54.94	-14.99	39.95	46.00	-6.05	QP
3	451.1350	48.66	-10.28	38.38	46.00	-7.62	QP
4 *	478.8456	52.60	-9.72	42.88	46.00	-3.12	QP
5	524.5541	48.79	-8.87	39.92	46.00	-6.08	QP
6 !	958.7943	42.75	-2.47	40.28	46.00	-5.72	QP

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

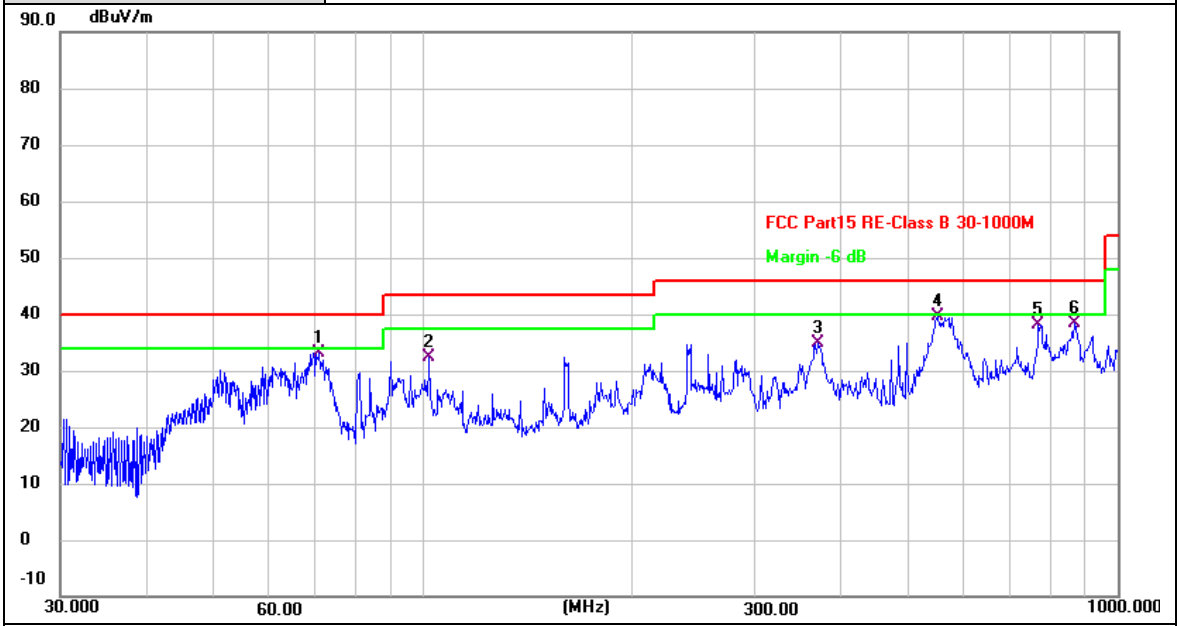
Host Device Model:	IDQR75-A
Ant. Pol.	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	83.8155	50.47	-21.14	29.33	40.00	-10.67	QP
2 *	159.7844	58.17	-20.76	37.41	43.50	-6.09	QP
3	269.4282	49.89	-15.76	34.13	46.00	-11.87	QP
4	372.0045	46.87	-12.99	33.88	46.00	-12.12	QP
5	560.6928	46.21	-9.32	36.89	46.00	-9.11	QP
6	774.1584	40.92	-5.69	35.23	46.00	-10.77	QP

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

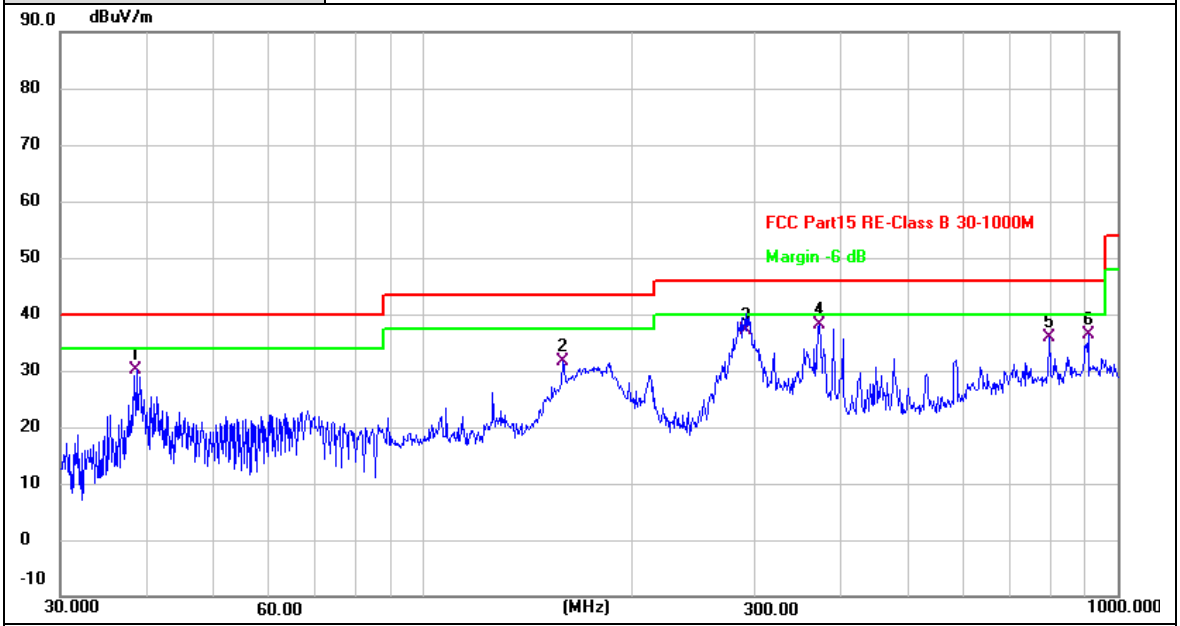
Host Device Model:	IDQR75-A
Ant. Pol.	Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	70.8315	53.36	-20.14	33.22	40.00	-6.78	QP
2	102.0014	50.24	-17.74	32.50	43.50	-11.00	QP
3	369.4047	47.88	-13.04	34.84	46.00	-11.16	QP
4 *	550.9480	49.14	-9.58	39.56	46.00	-6.44	QP
5	768.7481	43.88	-5.75	38.13	46.00	-7.87	QP
6	866.0879	42.88	-4.52	38.36	46.00	-7.64	QP

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

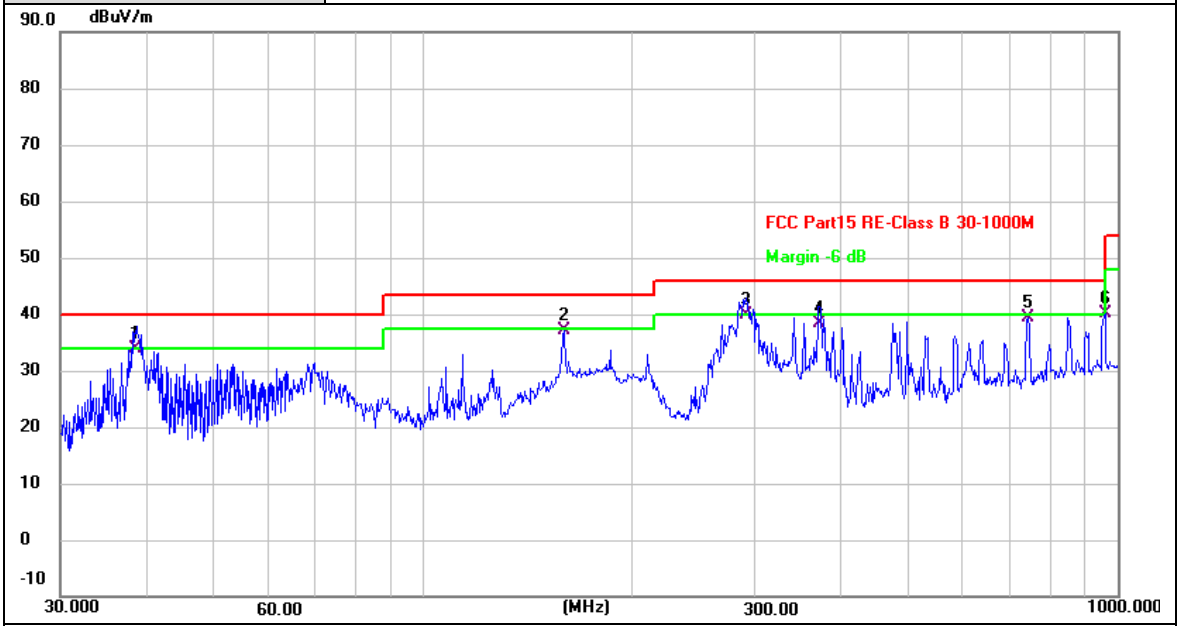
Host Device Model:	IDX86-5
Ant. Pol.	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	38.6160	44.80	-14.76	30.04	40.00	-9.96	QP
2	158.6677	50.72	-19.01	31.71	43.50	-11.79	QP
3	291.0360	50.72	-13.66	37.06	46.00	-8.94	QP
4 *	372.0045	49.61	-11.54	38.07	46.00	-7.93	QP
5	796.1830	40.23	-4.35	35.88	46.00	-10.12	QP
6	906.4824	39.17	-2.91	36.26	46.00	-9.74	QP

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

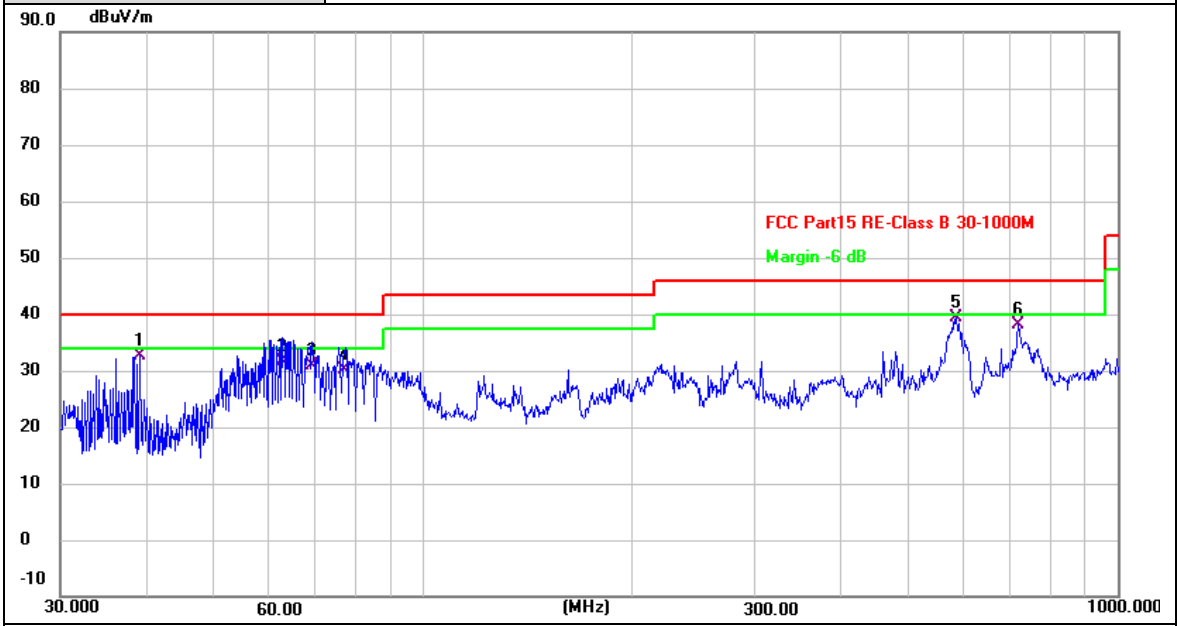
Host Device Model:	IDX86-5
Ant. Pol.	Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	38.6160	48.62	-14.76	33.86	40.00	-6.14	QP
2	159.2250	56.24	-18.99	37.25	43.50	-6.25	QP
3	291.0360	53.45	-13.66	39.79	46.00	-6.21	QP
4	372.0045	49.95	-11.54	38.41	46.00	-7.59	QP
5	742.2587	44.28	-5.02	39.26	46.00	-6.74	QP
6 *	958.7943	42.59	-2.47	40.12	46.00	-5.88	QP

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

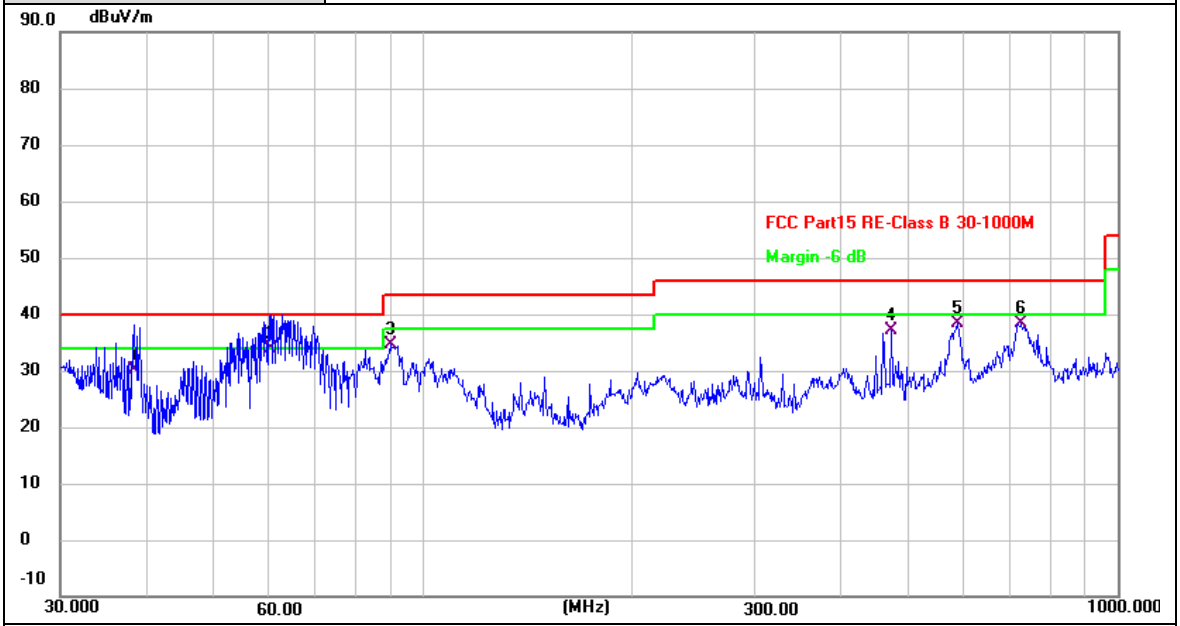
Host Device Model:	IDQR86-A
Ant. Pol.	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	39.0244	49.20	-16.69	32.51	40.00	-7.49	QP
2	62.6506	49.19	-17.62	31.57	40.00	-8.43	QP
3	69.1140	50.47	-19.48	30.99	40.00	-9.01	QP
4	77.3210	51.88	-21.73	30.15	40.00	-9.85	QP
5 *	584.7894	48.07	-8.70	39.37	46.00	-6.63	QP
6	719.1995	44.79	-6.59	38.20	46.00	-7.80	QP

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Host Device Model:	IDQR86-A
Ant. Pol.	Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	38.3462	46.94	-16.88	30.06	40.00	-9.94	QP
2 *	60.2800	51.23	-17.30	33.93	40.00	-6.07	QP
3	89.9047	54.28	-19.55	34.73	43.50	-8.77	QP
4	472.1760	48.17	-11.11	37.06	46.00	-8.94	QP
5	586.8437	47.01	-8.65	38.36	46.00	-7.64	QP
6	726.8052	44.91	-6.44	38.47	46.00	-7.53	QP

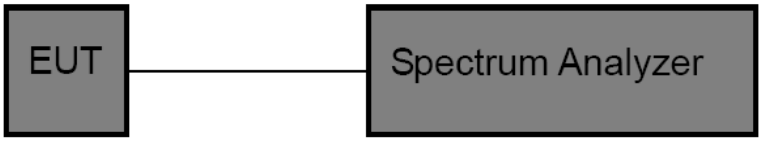
Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

3.3. 20dB Bandwidth

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.215
Intentional radiators must be designed to ensure that the 20dB emission bandwidth in the specific band. 13.553~13.567MHz.

Test Configuration



Test Procedure

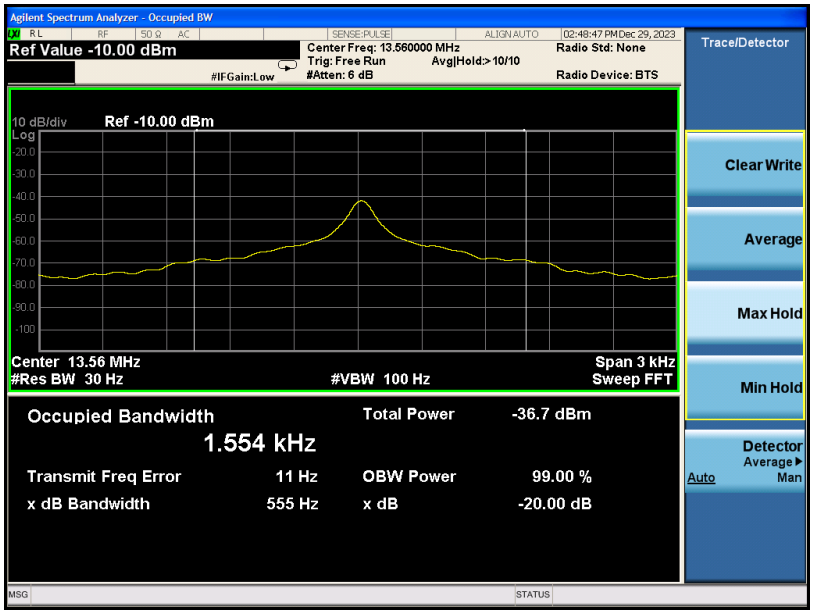
1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. Spectrum Setting:
   20dB bandwidth:
   (1) Set RBW ≥ 1% of the 20dB bandwidth.
   (2) Set the video bandwidth (VBW) ≥ RBW.
   (3) Detector = Peak.
   (4) Trace mode = Max hold.
   (5) Sweep = Auto couple.
   Occupied Bandwidth:
   (1) Set RBW = 1% ~ 5% occupied bandwidth.
   (2) Set the video bandwidth (VBW) ≥ 3 RBW.
   (3) Detector = Peak.
   (4) Trace mode = Max hold.
   (5) Sweep = Auto couple.)

Test Mode

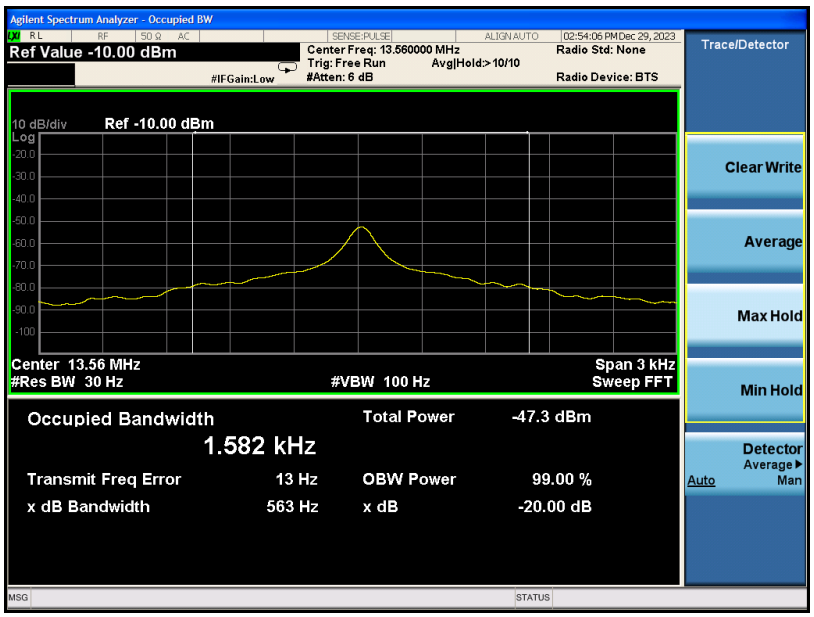
Please refer to the clause 1.7.

Test Results

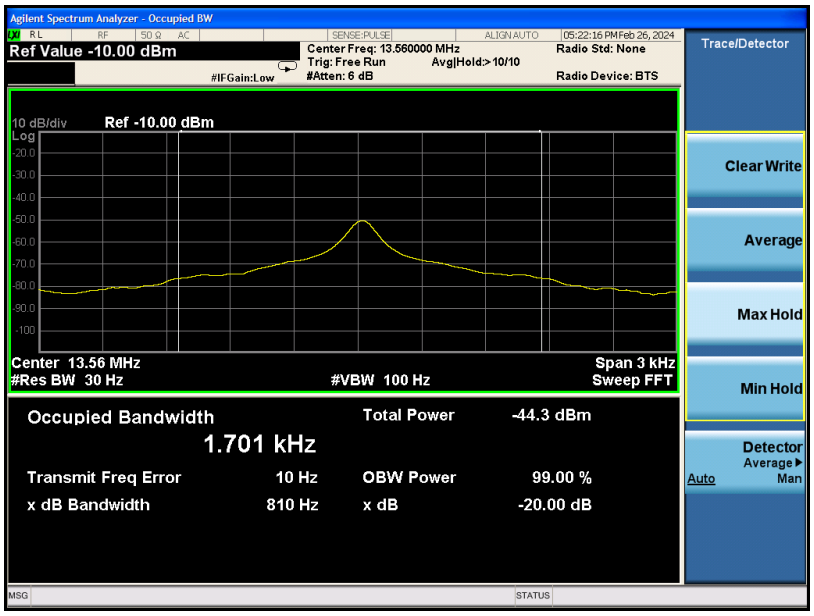
Host Device Model: IDX55-5			
Channel Frequency (MHz)	20dB Bandwidth (kHz)	Occupied Bandwidth (kHz)	Result
13.56	0.555	1.554	PASS



Host Device Model: IDX65-5			
Channel Frequency (MHz)	20dB Bandwidth (kHz)	Occupied Bandwidth (kHz)	Result
13.56	0.563	1.582	PASS

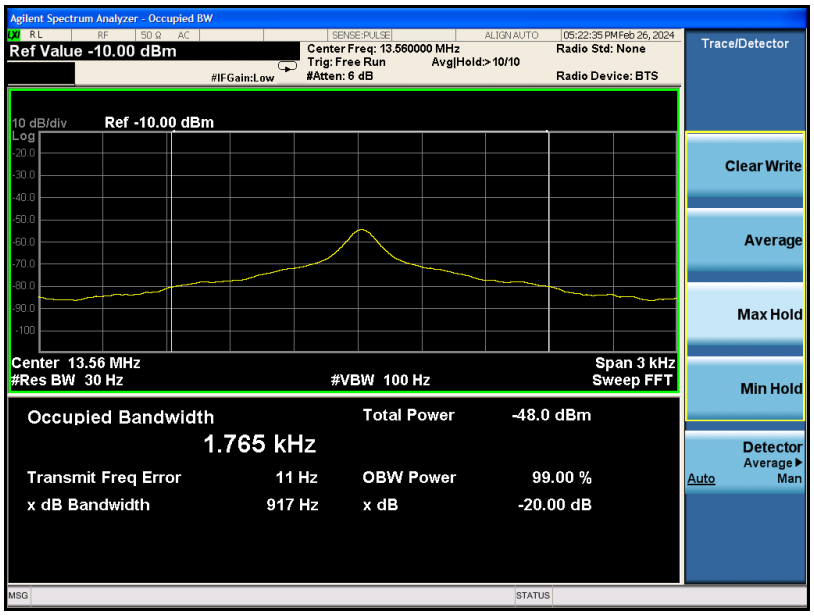


Host Device Model: IDQR65-A			
Channel Frequency (MHz)	20dB Bandwidth (kHz)	Occupied Bandwidth (kHz)	Result
13.56	0.810	1.701	PASS

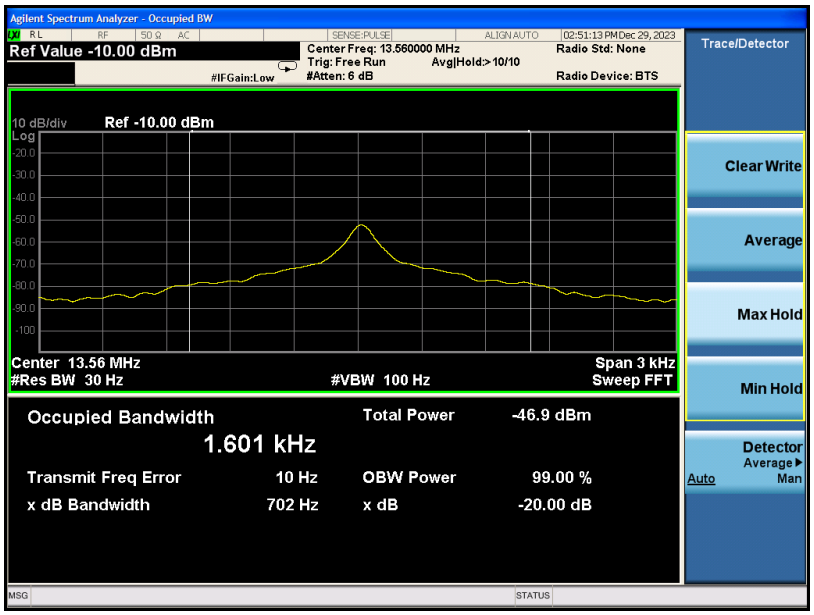


Host Device Model: IDX75-5			
Channel Frequency (MHz)	20dB Bandwidth (kHz)	Occupied Bandwidth (kHz)	Result
13.56	0.755	1.591	PASS

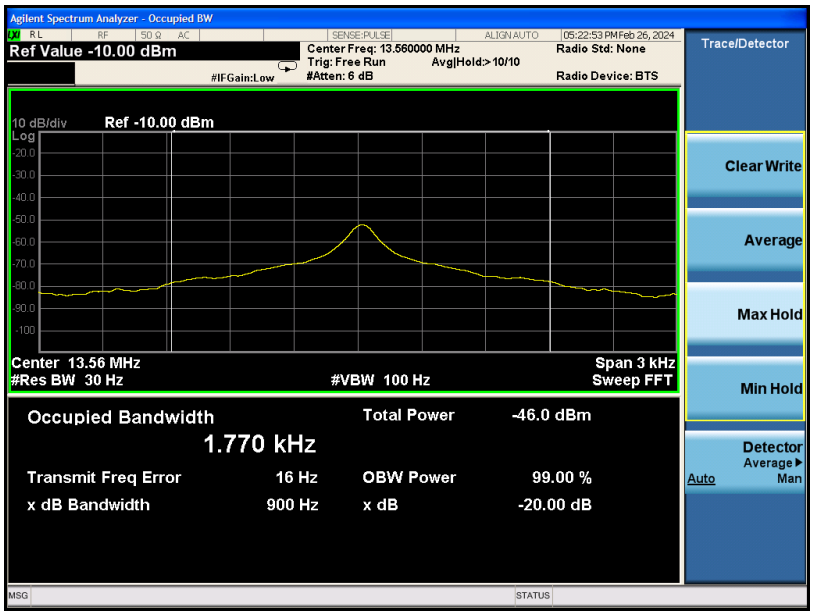
Host Device Model: IDQR75-A			
Channel Frequency (MHz)	20dB Bandwidth (kHz)	Occupied Bandwidth (kHz)	Result
13.56	0.917	1.765	PASS



Host Device Model: IDX86-5			
Channel Frequency (MHz)	20dB Bandwidth (kHz)	Occupied Bandwidth (kHz)	Result
13.56	0.702	1.601	PASS



Host Device Model: IDQR86-A			
Channel Frequency (MHz)	20dB Bandwidth (kHz)	Occupied Bandwidth (kHz)	Result
13.56	0.900	1.770	PASS



3.4. Field Strength of the Fundamental

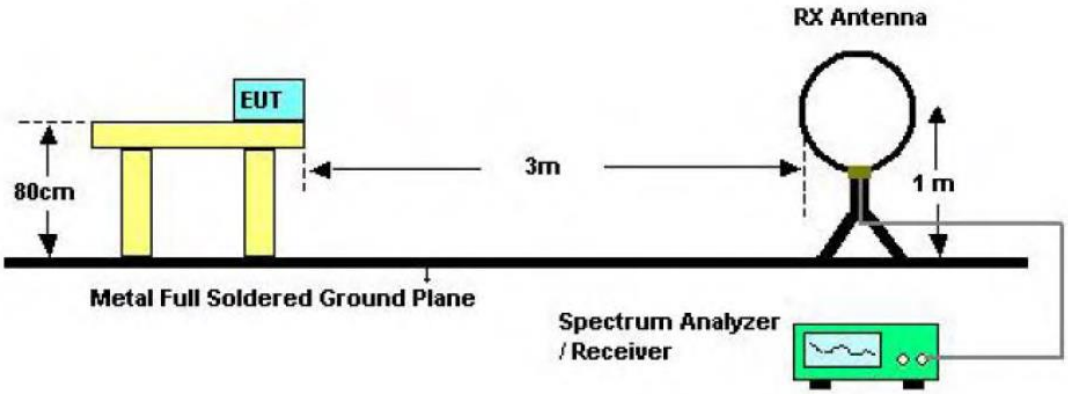
Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.225(a)(b)(c)

Fundamental frequency(MHz)	Field strength of fundamental (uV/m @30m)	Field strength of fundamental (dBuV/m @3m)
13.553-13.567	15848	124.0
13.410-13.553&13.567-13.710	334	90.5
13.110-13.410&13.710-14.010	106	80.5

Note: Limit dBuV/m @3m =Limit dBuV/m @30m +40*log(30/3)= Limit dBuV/m @30m + 40.

Test Configuration



Below 30MHz Test Setup

Test Procedure

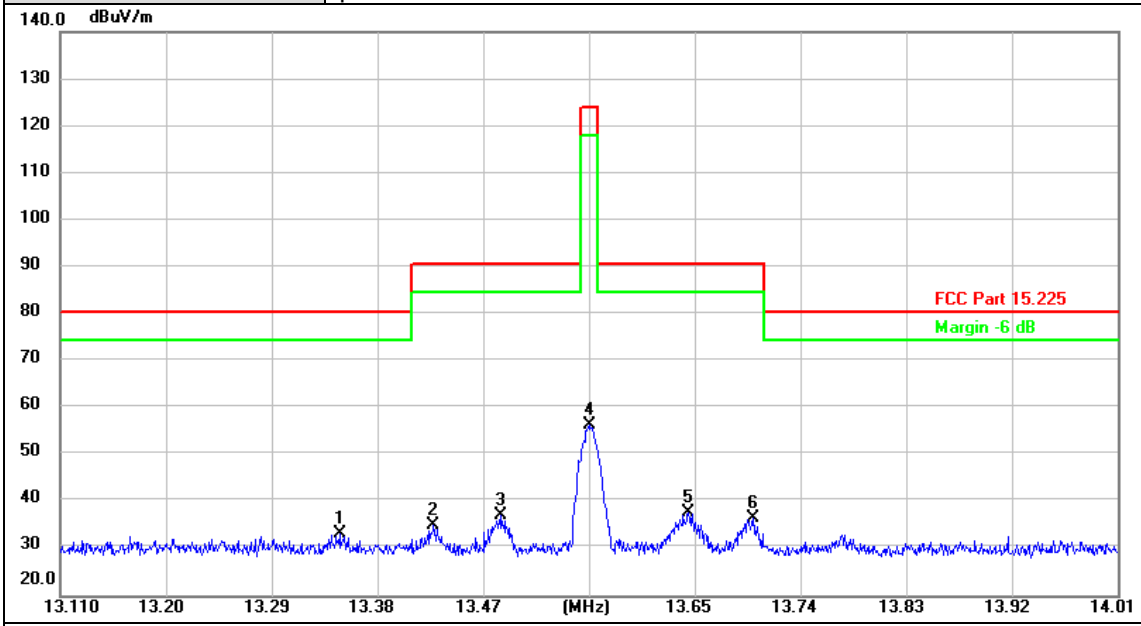
1. The EUT was setup and tested according to ANSI C63.10:2013 requirements.
2. The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
4. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.

Test Mode

Please refer to the clause 1.7.

Test Result

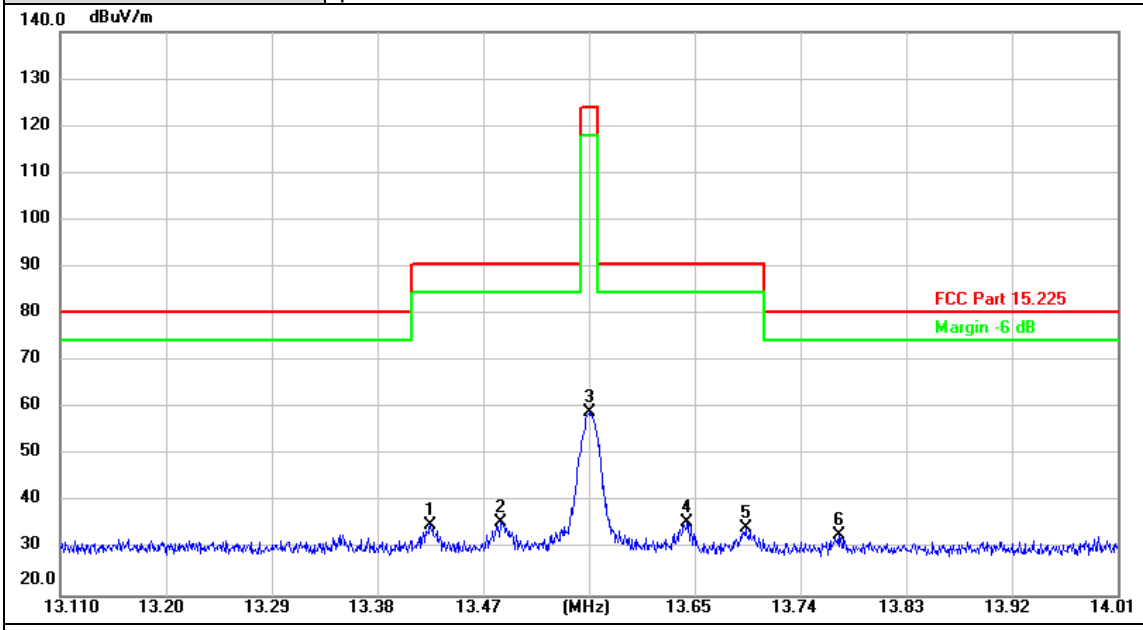
Host Device Model:	IDX55-5
Ant. Pol.	Horizontal
Remark:	No report for the emission which more than 20 dB below the prescribed limit.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	13.3475	16.78	16.60	33.38	80.50	-47.12	peak
2	13.4275	18.45	16.60	35.05	90.50	-55.45	peak
3	13.4853	20.58	16.60	37.18	90.50	-53.32	peak
4	13.5609	39.98	16.60	56.58	124.00	-67.42	peak
5	13.6446	21.18	16.60	37.78	90.50	-52.72	peak
6	13.6995	19.99	16.60	36.59	90.50	-53.91	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

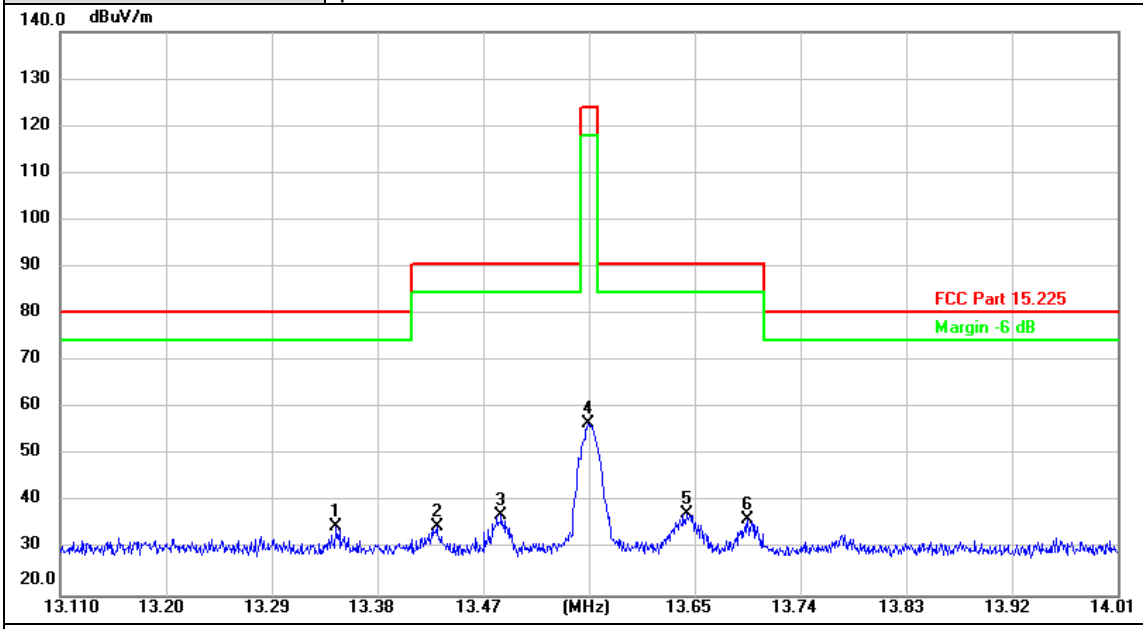
Host Device Model:	IDX55-5
Ant. Pol.	Vertical
Remark:	No report for the emission which more than 20 dB below the prescribed limit.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	13.4250	18.48	16.60	35.08	90.50	-55.42	peak
2	13.4853	19.23	16.60	35.83	90.50	-54.67	peak
3	13.5609	42.59	16.60	59.19	124.00	-64.81	peak
4	13.6437	19.11	16.60	35.71	90.50	-54.79	peak
5	13.6928	17.99	16.60	34.59	90.50	-55.91	peak
6 *	13.7721	16.56	16.60	33.16	80.50	-47.34	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

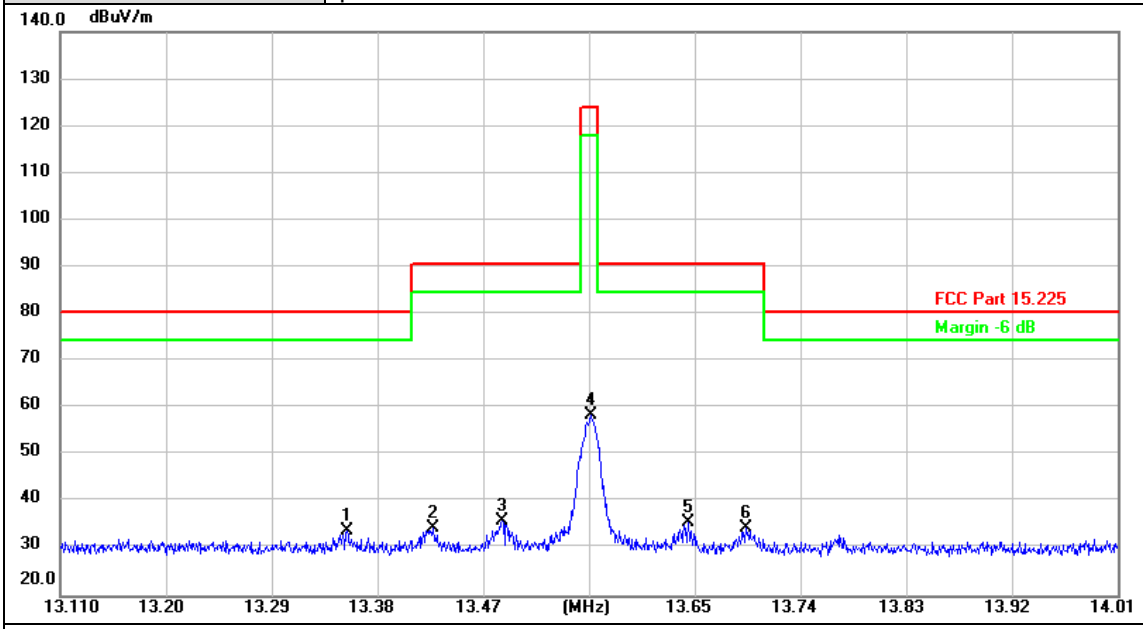
Host Device Model:	IDX65-5
Ant. Pol.	Horizontal
Remark:	No report for the emission which more than 20 dB below the prescribed limit.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	13.3449	18.11	16.60	34.71	80.50	-45.79	peak
2	13.4304	18.13	16.60	34.73	90.50	-55.77	peak
3	13.4853	20.58	16.60	37.18	90.50	-53.32	peak
4	13.5591	40.02	16.60	56.62	124.00	-67.38	peak
5	13.6425	20.87	16.60	37.47	90.50	-53.03	peak
6	13.6950	19.89	16.60	36.49	90.50	-54.01	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

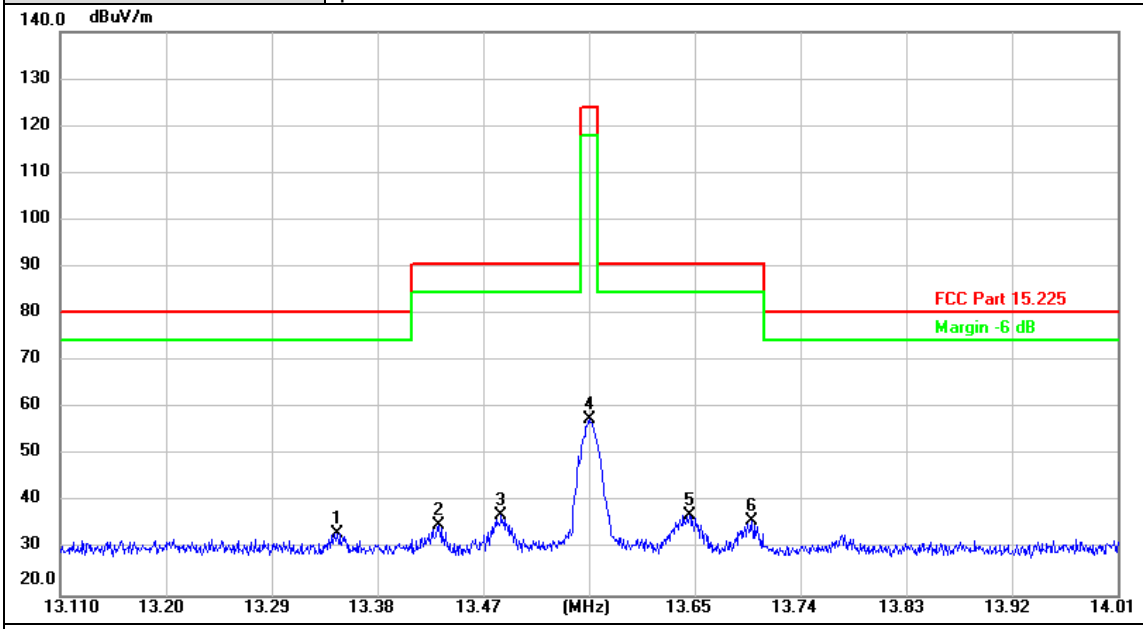
Host Device Model:	IDX65-5
Ant. Pol.	Vertical
Remark:	No report for the emission which more than 20 dB below the prescribed limit.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	13.3536	17.28	16.60	33.88	80.50	-46.62	peak
2	13.4275	17.85	16.60	34.45	90.50	-56.05	peak
3	13.4862	19.59	16.60	36.19	90.50	-54.31	peak
4	13.5617	41.87	16.60	58.47	124.00	-65.53	peak
5	13.6446	19.30	16.60	35.90	90.50	-54.60	peak
6	13.6928	17.99	16.60	34.59	90.50	-55.91	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

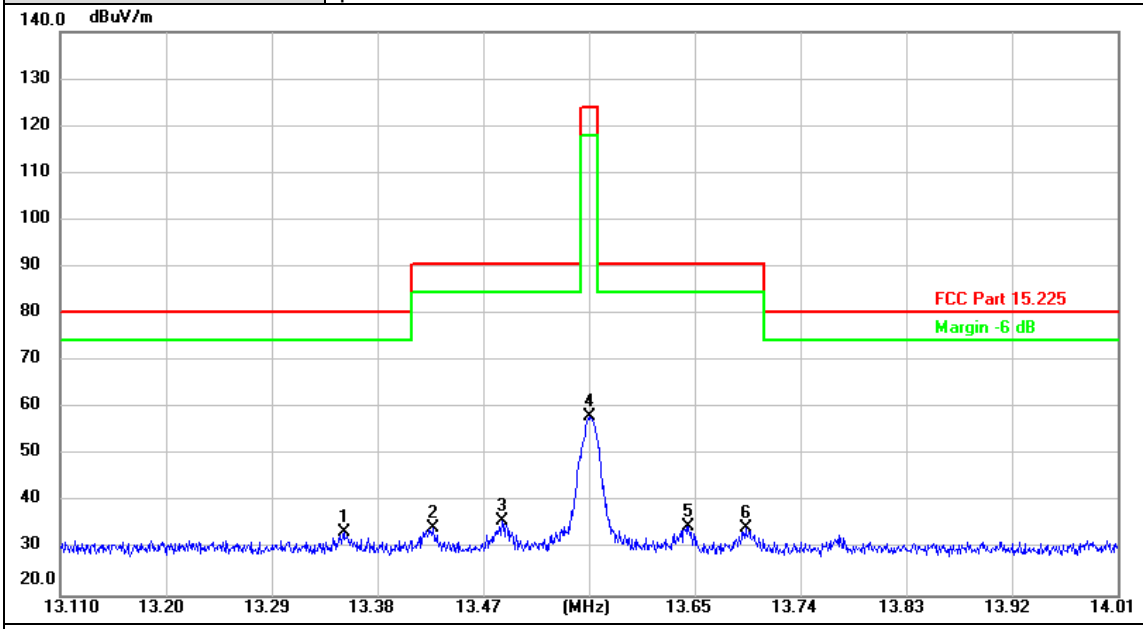
Host Device Model:	IDQR65-A
Ant. Pol.	Horizontal
Remark:	No report for the emission which more than 20 dB below the prescribed limit.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	13.3458	16.87	16.60	33.47	80.50	-47.03	peak
2	13.4321	18.43	16.60	35.03	90.50	-55.47	peak
3	13.4853	20.58	16.60	37.18	90.50	-53.32	peak
4	13.5600	41.03	16.60	57.63	124.00	-66.37	peak
5	13.6455	20.78	16.60	37.38	90.50	-53.12	peak
6	13.6986	19.55	16.60	36.15	90.50	-54.35	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

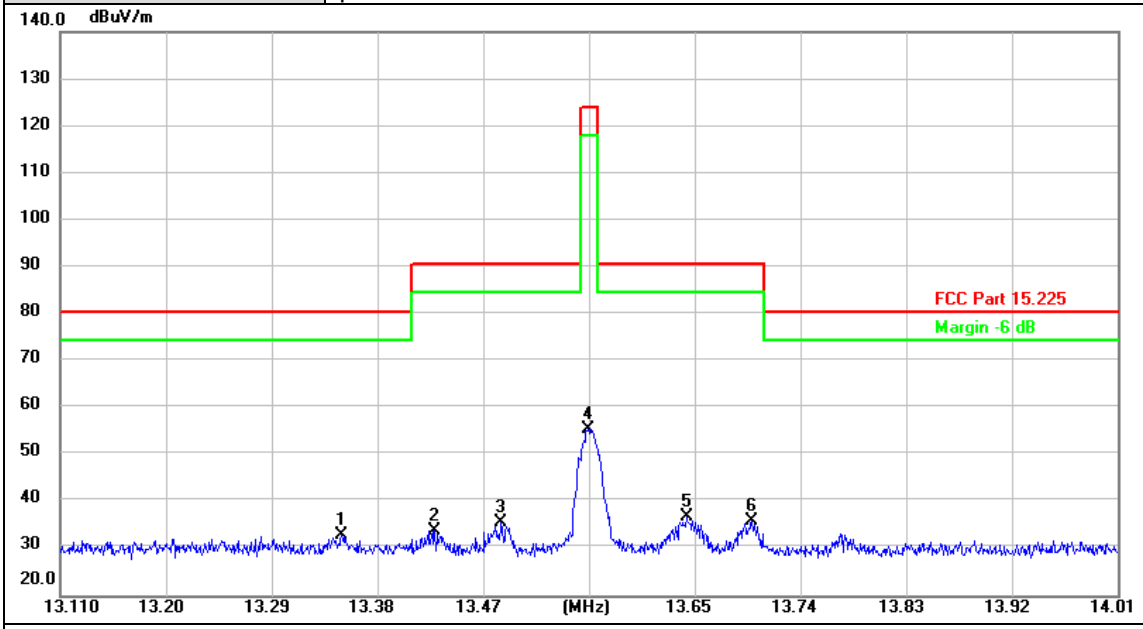
Host Device Model:	IDQR65-A
Ant. Pol.	Vertical
Remark:	No report for the emission which more than 20 dB below the prescribed limit.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	13.3512	17.01	16.60	33.61	80.50	-46.89	peak
2	13.4275	17.85	16.60	34.45	90.50	-56.05	peak
3	13.4862	19.59	16.60	36.19	90.50	-54.31	peak
4	13.5609	41.59	16.60	58.19	124.00	-65.81	peak
5	13.6446	18.30	16.60	34.90	90.50	-55.60	peak
6	13.6928	17.99	16.60	34.59	90.50	-55.91	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

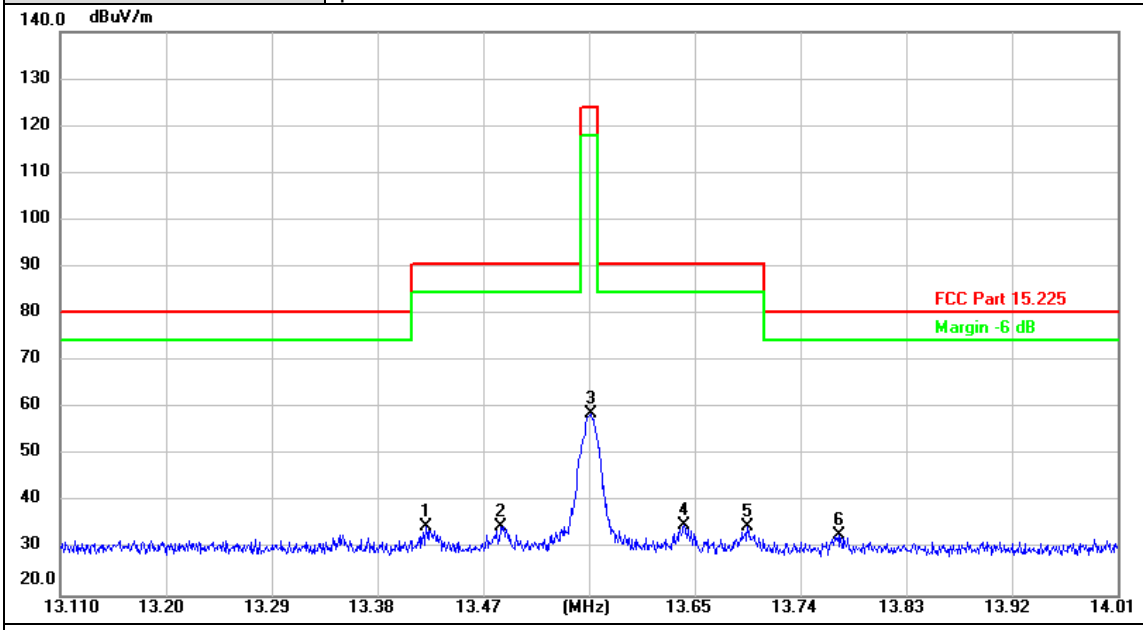
Host Device Model:	IDX75-5
Ant. Pol.	Horizontal
Remark:	No report for the emission which more than 20 dB below the prescribed limit.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	13.3490	16.37	16.60	32.97	80.50	-47.53	peak
2	13.4283	17.48	16.60	34.08	90.50	-56.42	peak
3	13.4853	19.08	16.60	35.68	90.50	-54.82	peak
4	13.5593	39.02	16.60	55.62	124.00	-68.38	peak
5	13.6425	20.37	16.60	36.97	90.50	-53.53	peak
6	13.6986	19.55	16.60	36.15	90.50	-54.35	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

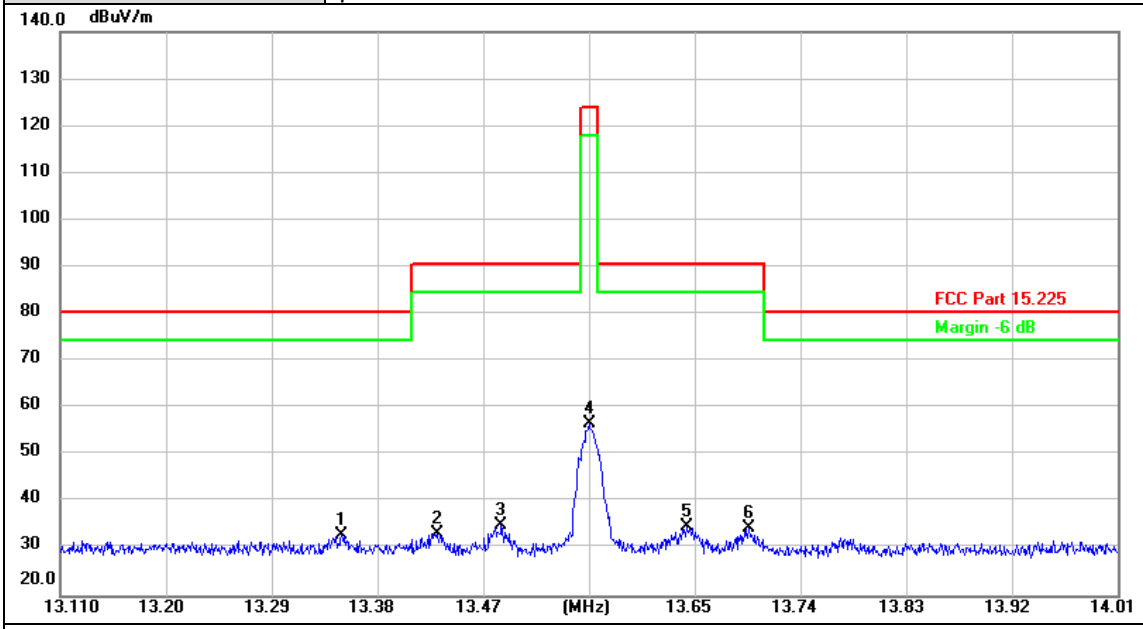
Host Device Model:	IDX75-5
Ant. Pol.	Vertical
Remark:	No report for the emission which more than 20 dB below the prescribed limit.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	13.4214	18.32	16.60	34.92	90.50	-55.58	peak
2	13.4853	18.23	16.60	34.83	90.50	-55.67	peak
3	13.5617	42.37	16.60	58.97	124.00	-65.03	peak
4	13.6410	18.53	16.60	35.13	90.50	-55.37	peak
5	13.6950	18.17	16.60	34.77	90.50	-55.73	peak
6 *	13.7721	16.56	16.60	33.16	80.50	-47.34	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

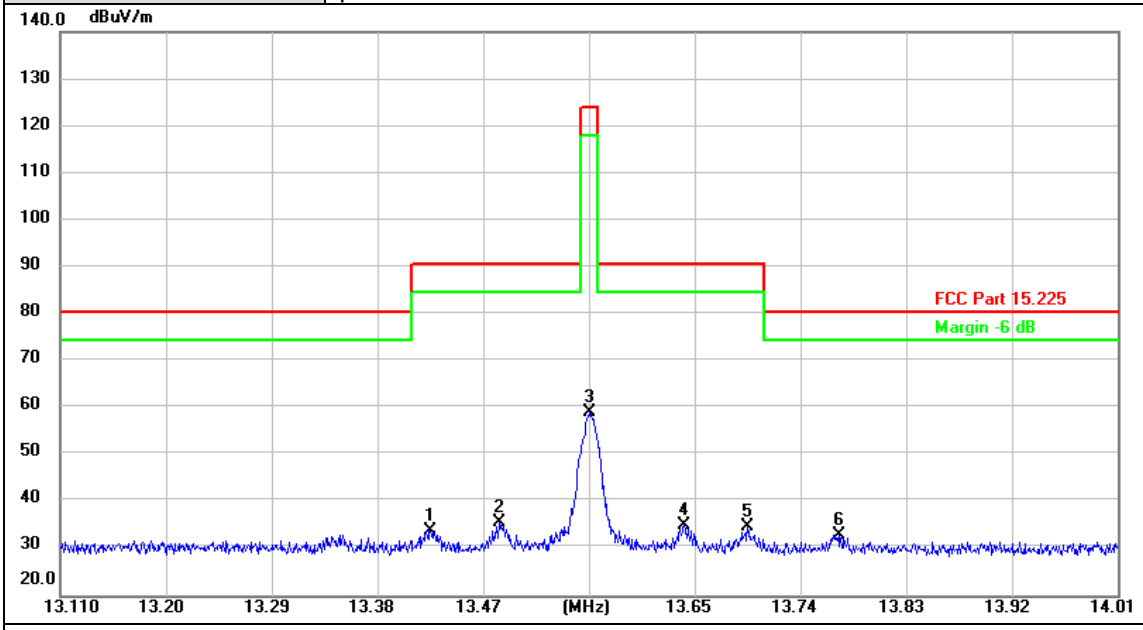
Host Device Model:	IDQR75-A
Ant. Pol.	Horizontal
Remark:	No report for the emission which more than 20 dB below the prescribed limit.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	13.3490	16.37	16.60	32.97	80.50	-47.53	peak
2	13.4313	16.66	16.60	33.26	90.50	-57.24	peak
3	13.4853	18.58	16.60	35.18	90.50	-55.32	peak
4	13.5600	40.03	16.60	56.63	124.00	-67.37	peak
5	13.6425	18.37	16.60	34.97	90.50	-55.53	peak
6	13.6958	17.92	16.60	34.52	90.50	-55.98	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

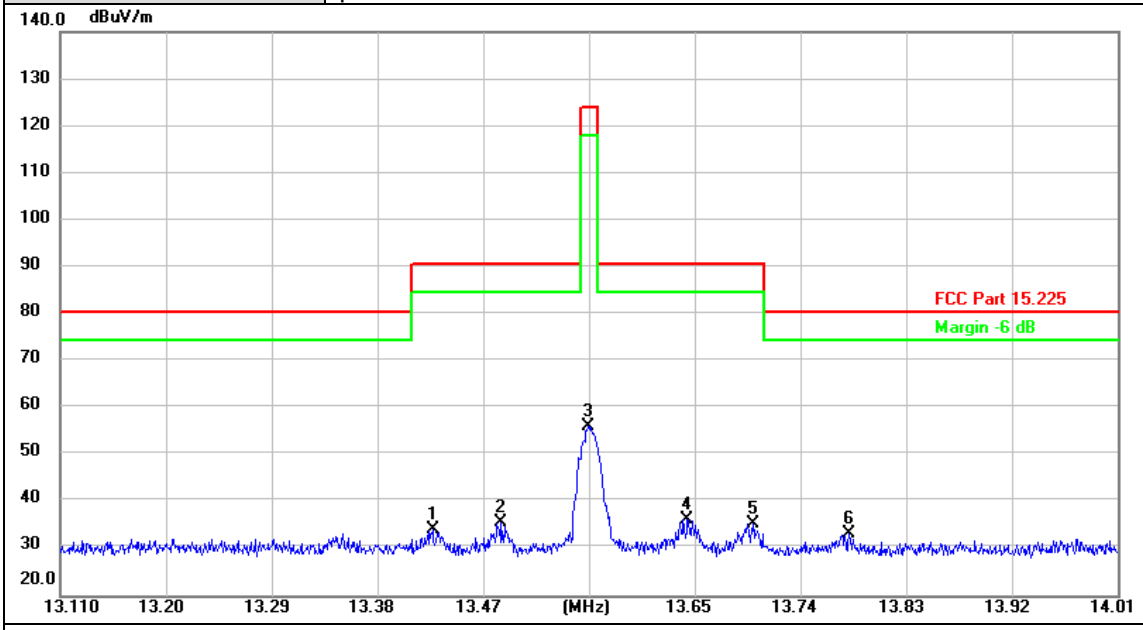
Host Device Model:	IDQR75-A
Ant. Pol.	Vertical
Remark:	No report for the emission which more than 20 dB below the prescribed limit.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	13.4250	17.48	16.60	34.08	90.50	-56.42	peak
2	13.4832	19.15	16.60	35.75	90.50	-54.75	peak
3	13.5600	42.52	16.60	59.12	124.00	-64.88	peak
4	13.6410	18.53	16.60	35.13	90.50	-55.37	peak
5	13.6950	18.17	16.60	34.77	90.50	-55.73	peak
6 *	13.7721	16.56	16.60	33.16	80.50	-47.34	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

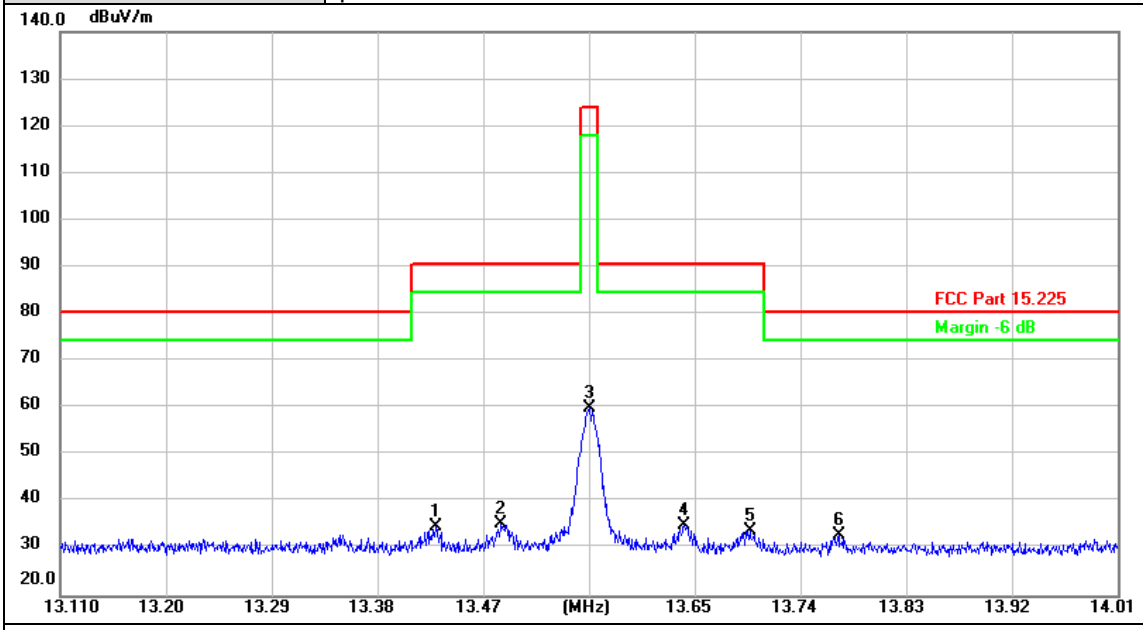
Host Device Model:	IDX86-5
Ant. Pol.	Horizontal
Remark:	No report for the emission which more than 20 dB below the prescribed limit.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	13.4268	17.72	16.60	34.32	90.50	-56.18	peak
2	13.4853	19.08	16.60	35.68	90.50	-54.82	peak
3	13.5592	39.52	16.60	56.12	124.00	-67.88	peak
4	13.6437	19.76	16.60	36.36	90.50	-54.14	peak
5	13.6995	18.99	16.60	35.59	90.50	-54.91	peak
6 *	13.7812	16.78	16.60	33.38	80.50	-47.12	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

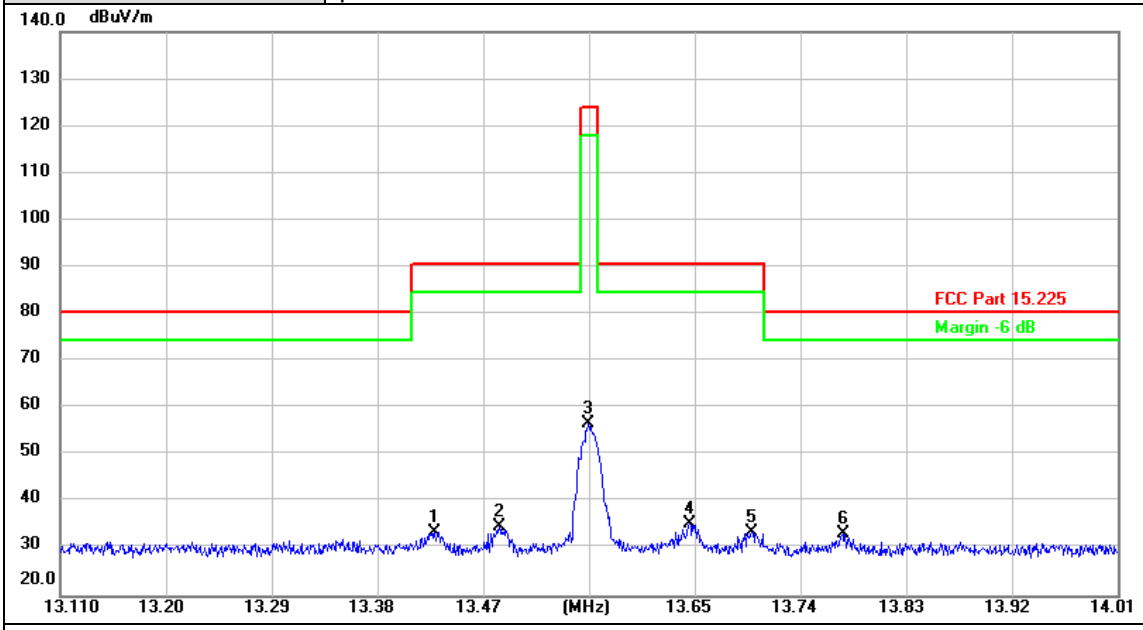
Host Device Model:	IDX86-5
Ant. Pol.	Vertical
Remark:	No report for the emission which more than 20 dB below the prescribed limit.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	13.4295	18.35	16.60	34.95	90.50	-55.55	peak
2	13.4853	18.73	16.60	35.33	90.50	-55.17	peak
3	13.5607	43.59	16.60	60.19	124.00	-63.81	peak
4	13.6410	18.53	16.60	35.13	90.50	-55.37	peak
5	13.6966	17.47	16.60	34.07	90.50	-56.43	peak
6 *	13.7721	16.56	16.60	33.16	80.50	-47.34	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

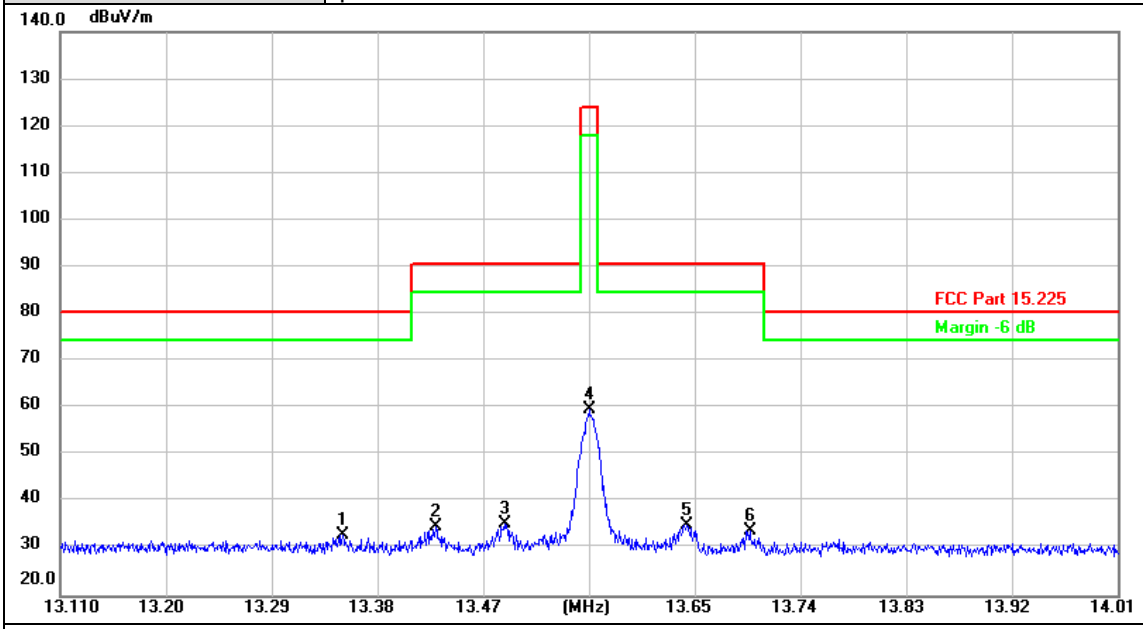
Host Device Model:	IDQR86-A
Ant. Pol.	Horizontal
Remark:	No report for the emission which more than 20 dB below the prescribed limit.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	13.4283	16.98	16.60	33.58	90.50	-56.92	peak
2	13.4832	18.10	16.60	34.70	90.50	-55.80	peak
3	13.5591	40.02	16.60	56.62	124.00	-67.38	peak
4	13.6455	18.78	16.60	35.38	90.50	-55.12	peak
5	13.6986	17.05	16.60	33.65	90.50	-56.85	peak
6 *	13.7759	16.86	16.60	33.46	80.50	-47.04	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Host Device Model:	IDQR86-A
Ant. Pol.	Vertical
Remark:	No report for the emission which more than 20 dB below the prescribed limit.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	13.3503	16.35	16.60	32.95	80.50	-47.55	peak
2	13.4295	18.35	16.60	34.95	90.50	-55.55	peak
3	13.4878	18.74	16.60	35.34	90.50	-55.16	peak
4	13.5600	43.02	16.60	59.62	124.00	-64.38	peak
5	13.6437	18.61	16.60	35.21	90.50	-55.29	peak
6	13.6966	17.47	16.60	34.07	90.50	-56.43	peak

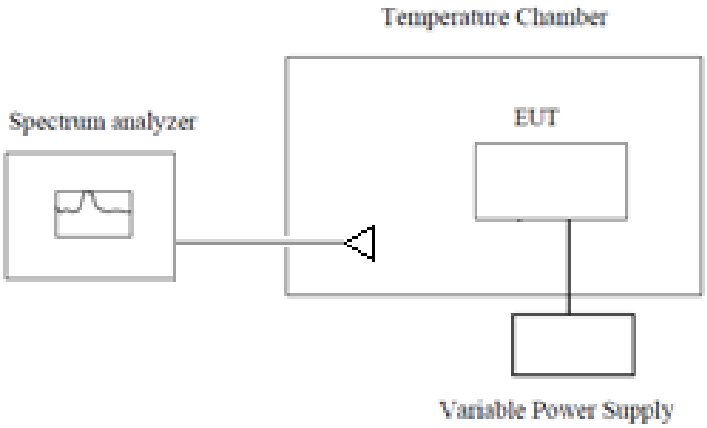
Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

3.5. Frequency Stability

Limit

The frequency tolerance of the carrier signal shall be maintained within ±0.01%(±100ppm) of the operating frequency over a temperature variation of −20 degrees to + 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

Test Configuration



Test Procedure

1. The equipment under test was connected to an external power supply.
2. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators.
3. The EUT was placed inside the temperature chamber.
4. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25℃ operating frequency as reference frequency.
5. Turn EUT off and set the chamber temperature to -20℃. After the temperature stabilized for approximately 30 minutes recorded the frequency.
6. Repeat step measure with 10℃ increased per stage until the highest temperature of +60℃ reached.

Test Mode

Please refer to the clause 1.7.

Test Result

Host Device Model: IDX55-5					
Test Environment		Frequency Reading(MHz)	Deviation(ppm)	Limit(ppm)	Result
Voltage	Temperature(℃)				
Vnom	-20	13.560234	17.257	±100	Pass
	-10	13.560210	15.487	±100	Pass
	0	13.560254	18.732	±100	Pass
	10	13.560197	14.528	±100	Pass
	20	13.560153	11.283	±100	Pass
	30	13.560202	14.897	±100	Pass
	40	13.560133	9.808	±100	Pass
	50	13.560138	10.177	±100	Pass
	60	13.560146	10.767	±100	Pass
85% Vnom	20	13.560171	12.611	±100	Pass
115% Vnom	20	13.560142	10.472	±100	Pass

Host Device Model: IDX65-5					
Test Environment		Frequency Reading(MHz)	Deviation(ppm)	Limit(ppm)	Result
Voltage	Temperature(℃)				
Vnom	-20	13.560147	10.841	±100	Pass
	-10	13.560125	9.218	±100	Pass
	0	13.560134	9.882	±100	Pass
	10	13.560210	15.487	±100	Pass
	20	13.560178	13.127	±100	Pass
	30	13.560230	16.962	±100	Pass
	40	13.560175	12.906	±100	Pass
	50	13.560152	11.209	±100	Pass
	60	13.560131	9.661	±100	Pass
85% Vnom	20	13.560189	13.938	±100	Pass
115% Vnom	20	13.560166	12.242	±100	Pass

Host Device Model: IDQR65-A					
Test Environment		Frequency Reading(MHz)	Deviation(ppm)	Limit(ppm)	Result
Voltage	Temperature(℃)				
Vnom	-20	13.560204	15.044	±100	Pass
	-10	13.560172	12.684	±100	Pass
	0	13.560165	12.168	±100	Pass
	10	13.560197	14.528	±100	Pass
	20	13.560200	14.749	±100	Pass
	30	13.560223	16.445	±100	Pass
	40	13.560146	10.767	±100	Pass
	50	13.560178	13.127	±100	Pass
	60	13.560135	9.956	±100	Pass
85% Vnom	20	13.560214	15.782	±100	Pass
115% Vnom	20	13.560180	13.274	±100	Pass

Host Device Model: IDX75-5					
Test Environment		Frequency Reading(MHz)	Deviation(ppm)	Limit(ppm)	Result
Voltage	Temperature(℃)				
Vnom	-20	13.560212	15.634	±100	Pass
	-10	13.560148	10.914	±100	Pass
	0	13.560159	11.726	±100	Pass
	10	13.560112	8.260	±100	Pass
	20	13.560137	10.103	±100	Pass
	30	13.560170	12.537	±100	Pass
	40	13.560232	17.109	±100	Pass
	50	13.560211	15.560	±100	Pass
	60	13.560194	14.307	±100	Pass
85% Vnom	20	13.560120	8.850	±100	Pass
115% Vnom	20	13.560174	12.832	±100	Pass

Host Device Model: IDQR75-A					
Test Environment		Frequency Reading(MHz)	Deviation(ppm)	Limit(ppm)	Result
Voltage	Temperature(℃)				
Vnom	-20	13.560165	12.168	±100	Pass
	-10	13.560211	15.560	±100	Pass
	0	13.560140	10.324	±100	Pass
	10	13.560219	16.150	±100	Pass
	20	13.560171	12.611	±100	Pass
	30	13.560193	14.233	±100	Pass
	40	13.560164	12.094	±100	Pass
	50	13.560185	13.643	±100	Pass
	60	13.560224	16.519	±100	Pass
85% Vnom	20	13.560148	10.914	±100	Pass
115% Vnom	20	13.560186	13.717	±100	Pass

Host Device Model: IDX86-5					
Test Environment		Frequency Reading(MHz)	Deviation(ppm)	Limit(ppm)	Result
Voltage	Temperature(℃)				
Vnom	-20	13.560219	16.150	±100	Pass
	-10	13.560185	13.643	±100	Pass
	0	13.560128	9.440	±100	Pass
	10	13.560163	12.021	±100	Pass
	20	13.560112	8.260	±100	Pass
	30	13.560227	16.740	±100	Pass
	40	13.560188	13.864	±100	Pass
	50	13.560190	14.012	±100	Pass
	60	13.560137	10.103	±100	Pass
85% Vnom	20	13.560152	11.209	±100	Pass
115% Vnom	20	13.560123	9.071	±100	Pass

Host Device Model: IDQR86-A					
Test Environment		Frequency Reading(MHz)	Deviation(ppm)	Limit(ppm)	Result
Voltage	Temperature(℃)				
Vnom	-20	13.560188	13.864	±100	Pass
	-10	13.560245	18.068	±100	Pass
	0	13.560204	15.044	±100	Pass
	10	13.560189	13.938	±100	Pass
	20	13.560147	10.841	±100	Pass
	30	13.560223	16.445	±100	Pass
	40	13.560152	11.209	±100	Pass
	50	13.560167	12.316	±100	Pass
	60	13.560218	16.077	±100	Pass
85% Vnom	20	13.560156	11.504	±100	Pass
115% Vnom	20	13.560172	12.684	±100	Pass

3.6. Antenna Requirement

Requirement

FCC CFR Title 47 Part 15 Subpart C 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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Refer to statement below for compliance.

The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

The EUT's antenna is coil antenna. The antenna's gain is 0dBi and meets the requirement. And the antenna can't be replaced by the user, which in accordance to section 15.203.

************************THE END*************************