

TEST REPORT

Job No. : GPWE2411000191EC
Test Report No. : F690501-RF-EMC003324
Applicant : LG Electronics USA, Inc.
Product Name : RF Dongle
Model Name : PWFMD202
Standards : FCC Part 15 Subpart B
ICES-003 Issue 7:2020
FCC ID : BEJ-PWFMD202
Date of Receipt : November 28, 2024
Date of Test : January 17, 2025 ~ February 6, 2025
Date of Issue : March 28, 2025
Test Result : Complied

- 1) This test report does not assure KOLAS accreditation.
2) The results of this test report are effective only to the items tested.
3) The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received.

	Tested by (Name, signature)	Approved by (Name, signature)
Affirmation	Lucas Ku 	Paul Kang 

SGS Korea Co., Ltd. Gunpo Laboratory

4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, 15807, KOREA

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Revision History

Revision	Report Number	Description
0	F690501-RF-EMC003324	Initial

1. Test Laboratory

1.1 General information

Name	SGS Korea Co., Ltd.		
- Branch Site	4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Republic of Korea		
	Tel. 82 31 428 5700		Fax. 82 31 427 5370
- Branch Site-3	35, Giheungdanji-ro 121beon-gil, Giheung-gu, Yongin-si, Gyeonggi-do, Republic of Korea		
	Tel. 82 31 548 0710		Fax. 82 31 548 0719
- Branch Site-4	12, Dongtansandan 10-gil, Hwaseong-si, Gyeonggi-do, 18487, Republic of Korea		
	Tel. 82 31 8007 5302		Fax. 82 31 427 2370
Website	http://www.sgsgroup.kr/ee		

SGS Korea Co., Ltd. has been accredited by the agencies listed in the following table;

Accreditation	Accreditation bodies	Accreditation No.
KC	MSIT- RRA	KR0150
FCC	FCC (MRA)	
IC	IC (MRA)	
Vietnam-MIC	Vietnam-MIC	
Japan EMI	VCCI	C-14102, T-11156, R-13662, G-20037
KOLAS	KATS - KOLAS	Testing No.123
CBTL	IECEE	TL 146
SDPPI	SDPPI	-

2. General Information of E.U.T.

2.1 Applicant Information

Applicant	LG Electronics USA, Inc.
Applicant Address	111 Sylvan Avenue North Building Englewood Cliffs, NJ 07632, USA
Manufacturer	LG Electronics Inc.
Manufacturer Address	84, Wanam-ro, Seongsan-gu, Changwon-si, Gyeongsangnam-do 51554, Republic of Korea

2.2 General Information of E.U.T.

Classification	Description
Product Name	RF Dongle
Model Name	PWFMDD202
Alt. Model Name	-
Model Differences	-
Serial No.	-
EMI Classification	Class B
Internal Clock Frequency	2 480 MHz
Rated Power	5 Vd.c., 12 Vd.c.
Tested Power	120 V~, 60 Hz(SMPS)
H/W Version	V1.0
S/W Version	V1.0
Port	USB A-type
Components	-
Function	RF Dongle

2.3 Configurations of E.U.T

Description	Model	Serial No.	Manufacturer	Note
Main Board	USB Dongle	-	-	-

3. E.U.T. Operation and Test Configuration

3.1 Peripheral Equipments

Description	Model	Serial No.	Manufacturer	Note.
Laptop	NT740U5L	-	Samsung Electronics Co., Ltd.	-
5V/12V SMPS	ZRNU093L1GA	-	LG Electronics Inc.	-
TOUCH PANNEL	-	-	-	-
Connect type Converting Cable(8cm)	-	-	-	-
USB Cable(55cm)	-	-	-	-
Connect type Converting Cable(8cm) + USB Cable(55cm)	-	-	-	-
USB Cable(120cm)	-	-	-	-
USB Extension Cable (10m)	-	-	-	-

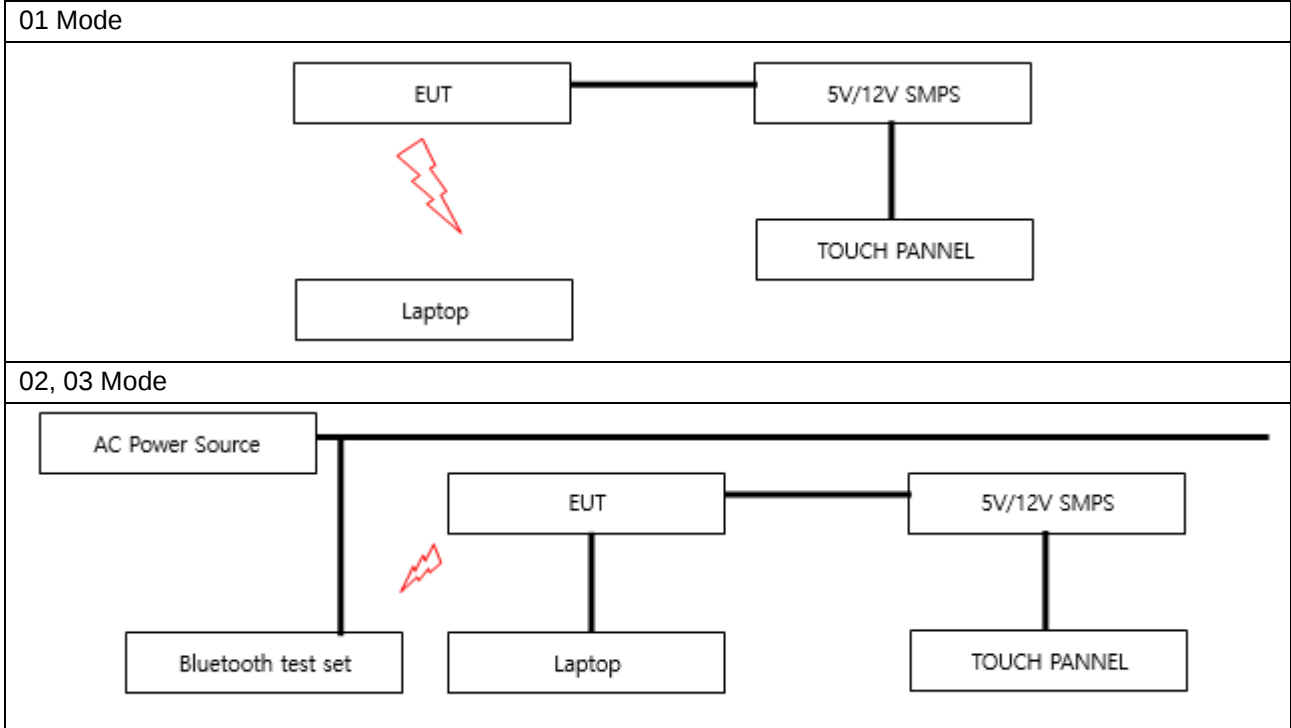
3.2 Cable List

Start		END		Cable Spec.		Used core
Name	I/O Port	Name	I/O Port	Length (m)	Shield	
01 Mode						
EUT	USB A-TYPE	5V/12V SMPS	DC OUT	10	Unshielded	1 EA
	-	Laptop	-	-	-	-
02, 03 Mode						
EUT	USB A-TYPE	5V/12V SMPS	DC OUT	10	Unshielded	1 EA
		Laptop	USB A-TYPE	0.5	Unshielded	-
	-	Bluetooth test set	-	-	-	-

3.3 Operating Modes and Conditions

Operating mode		Operating condition
01	WIFI	WIFI communication with laptop and USB data communication status to SMPS.
02	Bluetooth Tx	Bluetooth communication(TX) with Bluetooth test set and USB data communication status to SMPS.
03	Bluetooth Rx	Bluetooth communication(RX) with Bluetooth test set and USB data communication status to SMPS.

3.4 Test System Layout



3.5 Modifications to the test items during testing

☒

No modifications done during testing

☐

Modification done during testing (see details below)

No.	Description of modification (if any)
1	
2	

4. Test Results

4.1 Summary

Test Items	Standards	Test Results
Conducted Emission	FCC Part 15 Subpart B Section 15.107 ICES-003 Issue 7:2020 ANSI C63.4a:2017	Complied
Radiated Emission	FCC Part 15 Subpart B Section 15.109 ICES-003 Issue 7:2020 ANSI C63.4a:2017	Complied

4.2 Note

- 1 Test Methods of all test items are performed according to the basic standard in subclause 4.1.
- 2 EUT tested at all voltage(5 Vd.c., 12 Vd.c.)
- 3 During worst-case verification, the condition with a 10m cable was identified as the most severe case. The test was conducted under this condition.

Emission Test

5.1 Test Method and Limits

Test Items	Measuring Frequency Range	RBW	Measuring Distance
Conducted Emission	0.15 MHz - 30 MHz	9 kHz	-
Radiated Emission	30 MHz - 1 GHz	120 kHz	10 m or 3 m
	Above 1 GHz	1 MHz	3 m

5.2 Test Limits

Frequency Range	Limits(dBμV)		Class
	Quasi-peak	CISPR-Average	
0.15 MHz - 0.5 MHz	79	66	Class A
0.5 MHz - 30 MHz	73	60	
0.15 MHz - 0.5 MHz	66 to 56 ^{Note1}	56 to 46 ^{Note1}	Class B
0.5 MHz - 5 MHz	56	46	
5 MHz - 30 MHz	60	50	

[Table 2.1 Conducted Emission Limits]

Frequency Range	Limits(dBμV/m)	Class
	Quasi-peak	
30 MHz - 88 MHz	39.0	Class A (10 m method)
88 MHz - 216 MHz	43.5	
216 MHz - 960 MHz	46.5	
960 MHz - 1 GHz	49.5	
30 MHz - 88 MHz	40.0	Class B (3 m method)
88 MHz - 216 MHz	43.5	
216 MHz - 960 MHz	46.0	
960 MHz - 1 GHz	54.0	

[Table 2.2 Radiated Emission Limits below 1 GHz_For FCC Part 15 Subpart B]

Frequency Range	Limits(dBμV/m)	Class
	Quasi-peak	
30 MHz - 88 MHz	40.0	Class A (10 m method)
88 MHz - 216 MHz	43.5	
216 MHz - 230 MHz	46.5	
230 MHz - 960 MHz	47.0	
960 MHz - 1 GHz	49.5	

30 MHz - 88 MHz	50.0	Class A (3 m method)
88 MHz - 216 MHz	54.0	
216 MHz - 230 MHz	56.9	
230 MHz - 960 MHz	57.0	
960 MHz - 1 GHz	60.0	
30 MHz - 88 MHz	30.0	Class B (10 m method)
88 MHz - 216 MHz	33.1	
216 MHz - 230 MHz	35.6	
230 MHz - 960 MHz	37.0	
960 MHz - 1 GHz	43.5	
30 MHz - 88 MHz	40.0	Class B (3 m method)
88 MHz - 216 MHz	43.5	
216 MHz - 230 MHz	46.0	
230 MHz - 960 MHz	47.0	
960 MHz - 1 GHz	54.0	

[Table 2.3 Radiated Emission Limits below 1 GHz_For ICES-003 Issue 7 : 2020]

Frequency Range	Limits(dBμV)		Class
	Peak	CISPR-Average	
Above 1 GHz	79.5	59.5	Class A
	74.0	54.0	Class B

[Table 2.4 Radiated Emission Limits Above 1 GHz_For FCC Part 15 Subpart B ^{Note2}]

Frequency Range	Limits(dBμV)		Class
	Peak	CISPR-Average	
Above 1 GHz	80.0	60.0	Class A
	74.0	54.0	Class B

[Table 2.5 Radiated Emission Limits Above 1 GHz_For ICES-003 Issue 7 : 2020]

Note 1. The lower limit shall apply at the transition frequencies. The limit decreases linearly with the logarithm of that frequency.

Note 2. The limits of class A equipment is extrapolated using an extrapolation factor of 20 dB/decade because it was measured at 3 m distance not 10 m distance.

5.3 Conducted Emission

5.3.1 Test Equipments

Description	Model No.	Manufacturer	Serial No	Cal Due. Date
EMI TEST RECEIVER	ESU8	R&S	100128	2025-05-28
2-LINE V-NETWORK	ENV216	R&S	101180	2025-08-09
ARTIFICIAL MAIN NETWORK	ESH2-Z5	R&S	100303	2025-08-23
PULSE LIMITER	ESH3-Z2	R&S	100283	2025-08-21
Bluetooth Test Set	MT8852B	Anritsu	6272420469	2025-03-29
EMH-1Lab-CE-01	-	-	-	2025-07-05

Note. Measuring software is below

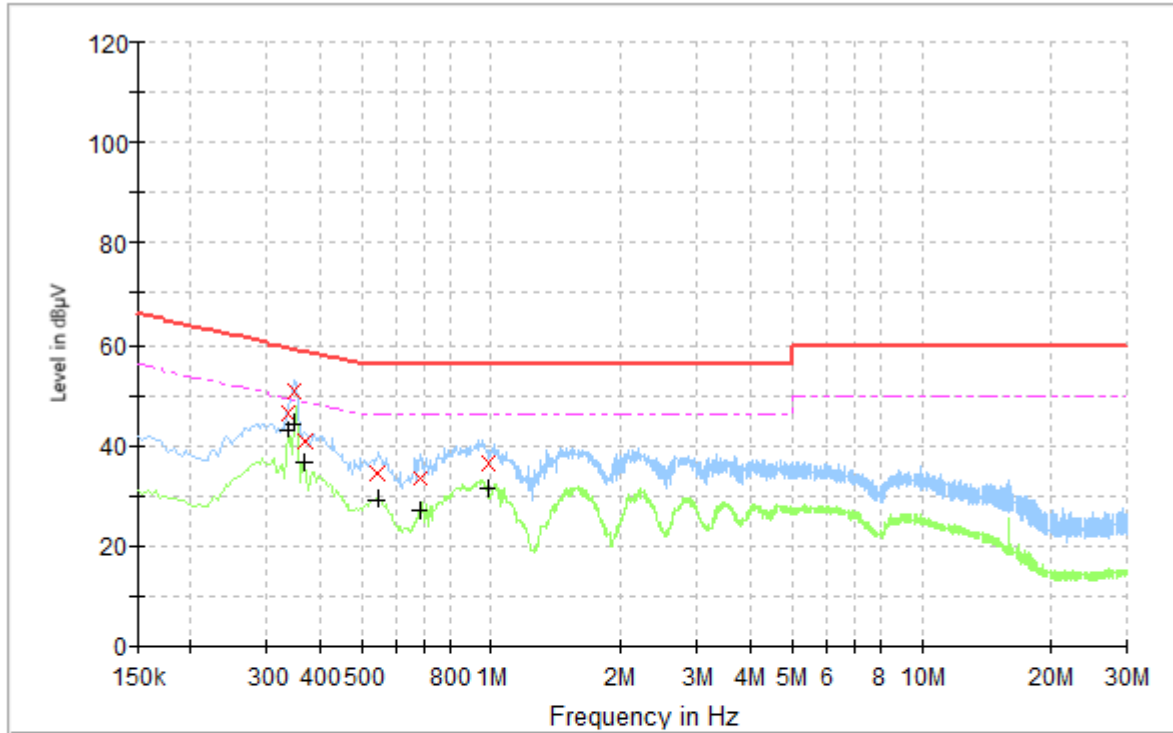
- Branch Site : EMC32(V10.60.20) from R&S
- Branch Site-3 : EMC32(V10.40.10) from R&S
- Branch Site-4 : EMC32(V10.40.00) from R&S

5.3.2 Environment Conditions

Test Site	Shield Room in Branch site-3
Temperature	(Minimum 20.3, Maximum 20.8) °C
Humidity	(Minimum 30.0, Maximum 32.0) % R.H.
Atmospheric Pressure	(Minimum 101.4, Maximum 101.5) kPa
Test Date	2025-02-05 ~ 2025-02-06

5.3.3 Test Results

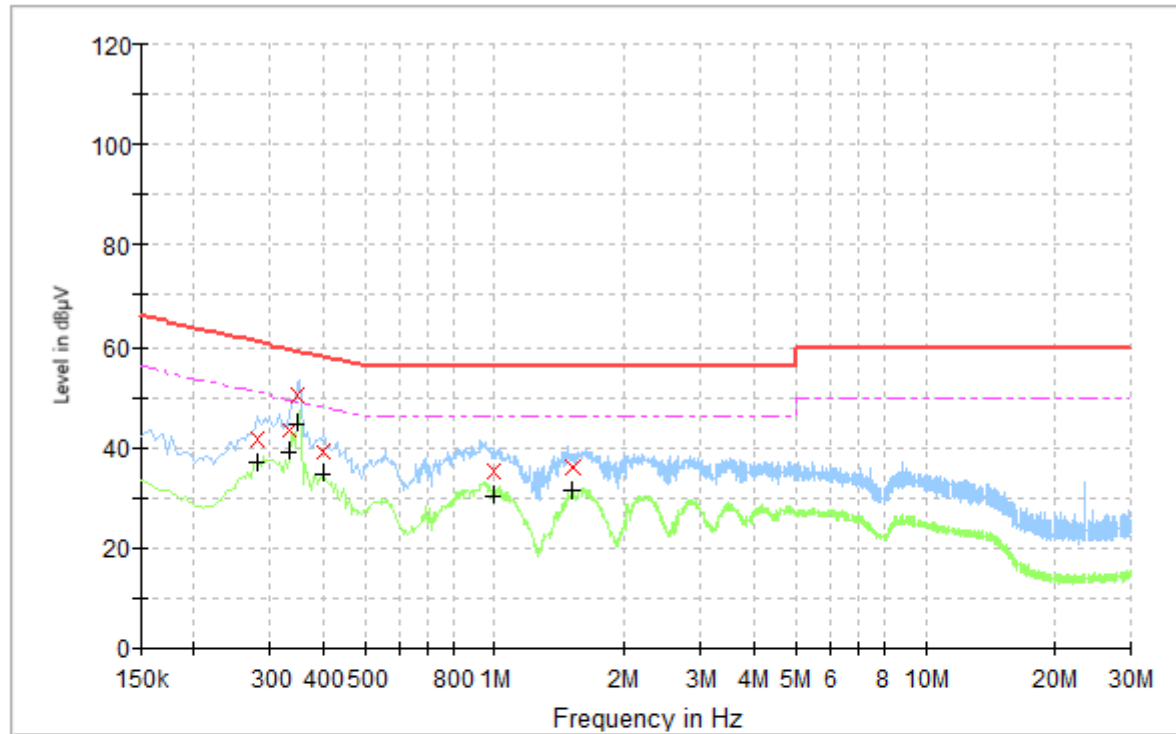
Live Line_01 Mode (5 Vd.c.)



Final Result

Frequency (kHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.338	---	42.83	49.25	6.42	15 000.0	9.000	L1	ON	19.8
0.338	46.21	---	59.25	13.05	15 000.0	9.000	L1	ON	19.8
0.350	---	44.07	48.96	4.90	15 000.0	9.000	L1	ON	19.8
0.350	50.87	---	58.96	8.09	15 000.0	9.000	L1	ON	19.8
0.370	---	36.51	48.50	11.99	15 000.0	9.000	L1	ON	19.8
0.370	40.62	---	58.50	17.88	15 000.0	9.000	L1	ON	19.8
0.546	---	29.18	46.00	16.82	15 000.0	9.000	L1	ON	19.9
0.546	34.43	---	56.00	21.57	15 000.0	9.000	L1	ON	19.9
0.682	---	26.75	46.00	19.25	15 000.0	9.000	L1	ON	19.8
0.682	33.42	---	56.00	22.58	15 000.0	9.000	L1	ON	19.8
0.978	---	31.05	46.00	14.95	15 000.0	9.000	L1	ON	19.8
0.978	36.29	---	56.00	19.71	15 000.0	9.000	L1	ON	19.8

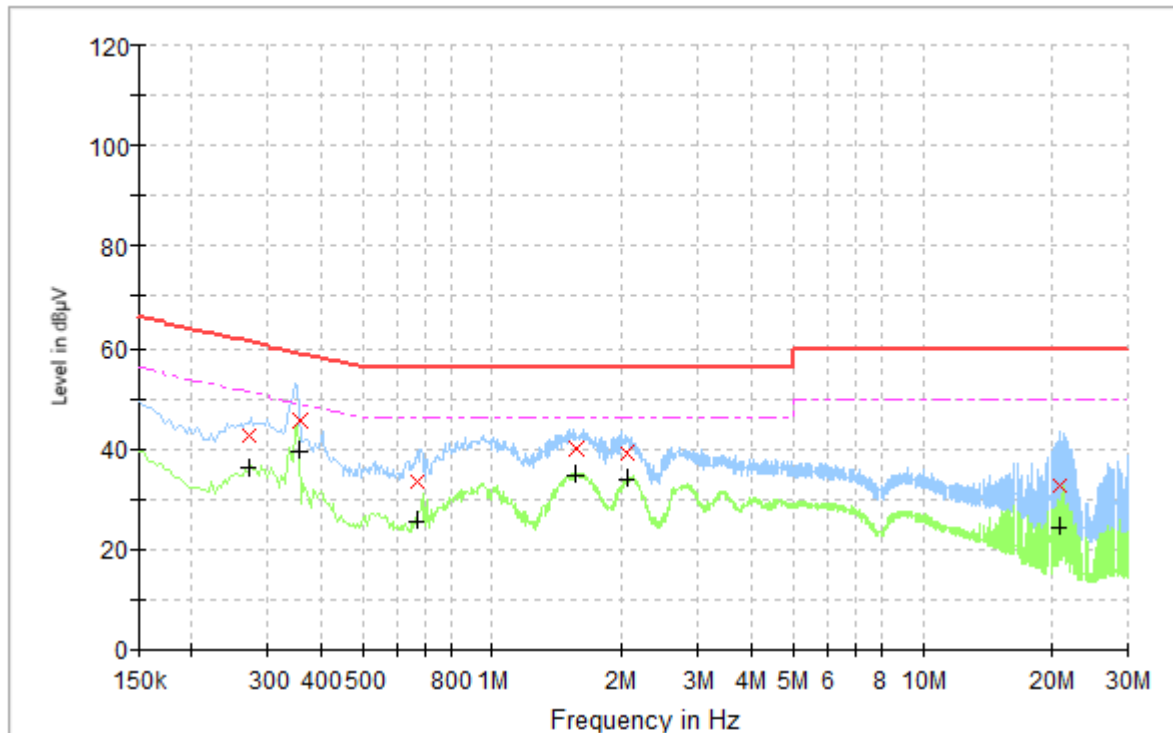
Neutral Line_01 Mode (5 Vd.c.)



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.282	---	36.76	50.76	13.99	15 000.0	9.000	N	ON	19.7
0.282	41.65	---	60.76	19.10	15 000.0	9.000	N	ON	19.7
0.334	---	38.93	49.35	10.42	15 000.0	9.000	N	ON	19.8
0.334	43.49	---	59.35	15.86	15 000.0	9.000	N	ON	19.8
0.350	---	44.83	48.96	4.13	15 000.0	9.000	N	ON	19.8
0.350	50.07	---	58.96	8.89	15 000.0	9.000	N	ON	19.8
0.398	---	34.66	47.90	13.24	15 000.0	9.000	N	ON	19.9
0.398	39.15	---	57.90	18.75	15 000.0	9.000	N	ON	19.9
0.994	---	30.44	46.00	15.56	15 000.0	9.000	N	ON	19.7
0.994	35.31	---	56.00	20.69	15 000.0	9.000	N	ON	19.7
1.514	---	31.24	46.00	14.76	15 000.0	9.000	N	ON	19.8
1.514	35.90	---	56.00	20.10	15 000.0	9.000	N	ON	19.8

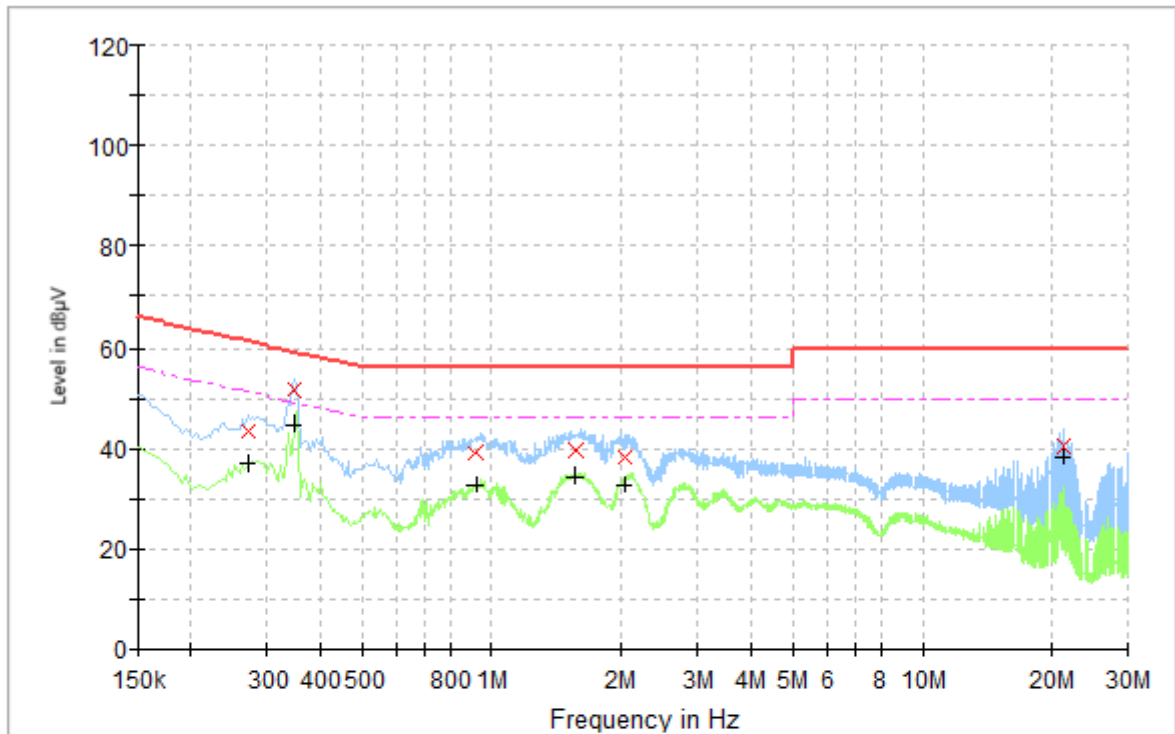
Live Line_02 Mode (5 Vd.c.)



Final Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.270	---	35.80	51.12	15.32	15 000.0	9.000	L1	ON	19.6
0.270	42.66	---	61.12	18.46	15 000.0	9.000	L1	ON	19.6
0.358	---	39.27	48.78	9.51	15 000.0	9.000	L1	ON	19.8
0.358	45.66	---	58.78	13.12	15 000.0	9.000	L1	ON	19.8
0.666	---	25.74	46.00	20.26	15 000.0	9.000	L1	ON	19.8
0.666	33.43	---	56.00	22.57	15 000.0	9.000	L1	ON	19.8
1.562	---	34.84	46.00	11.16	15 000.0	9.000	L1	ON	19.8
1.562	40.05	---	56.00	15.95	15 000.0	9.000	L1	ON	19.8
2.054	---	33.88	46.00	12.12	15 000.0	9.000	L1	ON	19.8
2.054	38.87	---	56.00	17.13	15 000.0	9.000	L1	ON	19.8
20.826	---	24.09	50.00	25.91	15 000.0	9.000	L1	ON	20.7
20.826	32.44	---	60.00	27.56	15 000.0	9.000	L1	ON	20.7

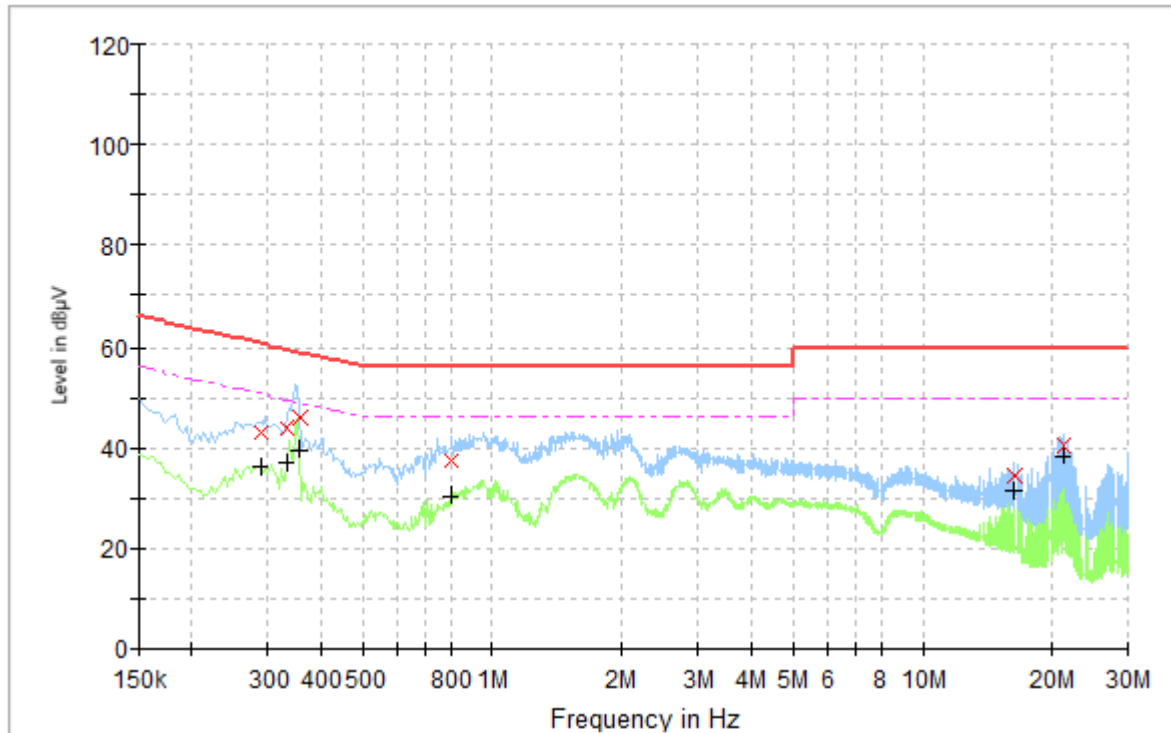
Neutral Line_02 Mode (5 Vd.c.)



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.270	---	36.73	51.12	14.39	15 000.0	9.000	N	ON	19.6
0.270	43.24	---	61.12	17.88	15 000.0	9.000	N	ON	19.6
0.350	---	44.58	48.96	4.39	15 000.0	9.000	N	ON	19.8
0.350	51.63	---	58.96	7.33	15 000.0	9.000	N	ON	19.8
0.918	---	32.32	46.00	13.68	15 000.0	9.000	N	ON	19.7
0.918	38.97	---	56.00	17.03	15 000.0	9.000	N	ON	19.7
1.570	---	34.13	46.00	11.87	15 000.0	9.000	N	ON	19.8
1.570	39.46	---	56.00	16.54	15 000.0	9.000	N	ON	19.8
2.042	---	32.64	46.00	13.36	15 000.0	9.000	N	ON	19.8
2.042	38.06	---	56.00	17.94	15 000.0	9.000	N	ON	19.8
21.398	---	37.94	50.00	12.06	15 000.0	9.000	N	ON	20.8
21.398	40.07	---	60.00	19.93	15 000.0	9.000	N	ON	20.8

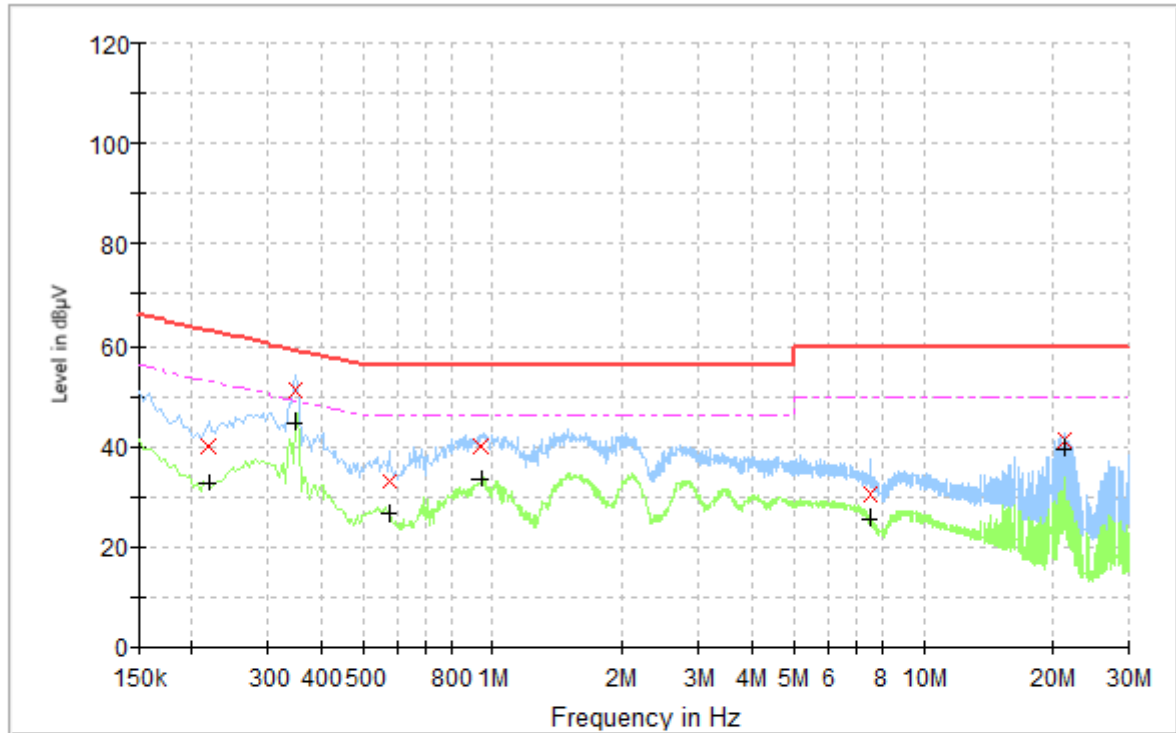
Live Line_03 Mode (5 Vd.c.)



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	C Average (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.290	---	36.08	50.52	14.44	15 000.0	9.000	L1	ON	19.7
0.290	42.96	---	60.52	17.57	15 000.0	9.000	L1	ON	19.7
0.334	---	36.84	49.35	12.51	15 000.0	9.000	L1	ON	19.8
0.334	43.69	---	59.35	15.66	15 000.0	9.000	L1	ON	19.8
0.358	---	39.41	48.78	9.37	15 000.0	9.000	L1	ON	19.8
0.358	45.80	---	58.78	12.97	15 000.0	9.000	L1	ON	19.8
0.802	---	30.34	46.00	15.66	15 000.0	9.000	L1	ON	19.8
0.802	37.40	---	56.00	18.60	15 000.0	9.000	L1	ON	19.8
16.402	---	31.00	50.00	19.00	15 000.0	9.000	L1	ON	20.5
16.402	34.03	---	60.00	25.97	15 000.0	9.000	L1	ON	20.5
21.402	---	38.13	50.00	11.87	15 000.0	9.000	L1	ON	20.8
21.402	40.48	---	60.00	19.52	15 000.0	9.000	L1	ON	20.8

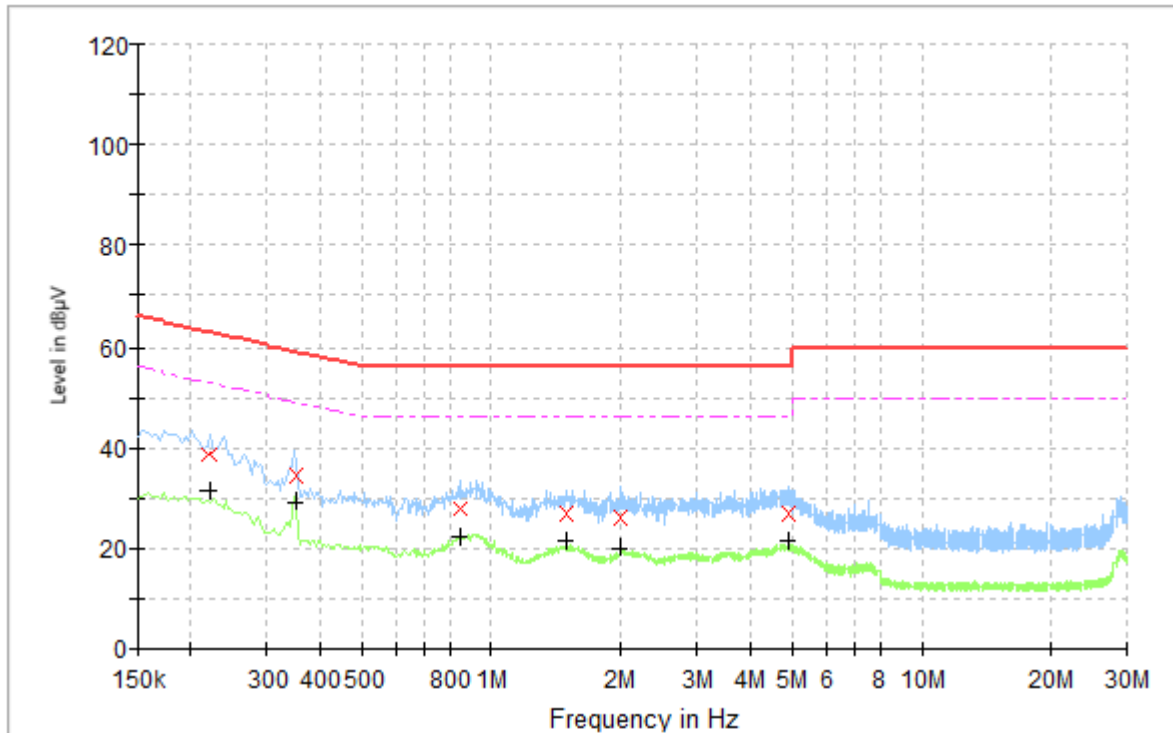
Neutral Line_03 Mode (5 Vd.c.)



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.218	---	32.57	52.90	20.33	15 000.0	9.000	N	ON	19.7
0.218	39.83	---	62.90	23.06	15 000.0	9.000	N	ON	19.7
0.350	---	44.77	48.96	4.19	15 000.0	9.000	N	ON	19.8
0.350	51.12	---	58.96	7.85	15 000.0	9.000	N	ON	19.8
0.578	---	26.25	46.00	19.75	15 000.0	9.000	N	ON	19.8
0.578	32.83	---	56.00	23.17	15 000.0	9.000	N	ON	19.8
0.942	---	33.18	46.00	12.82	15 000.0	9.000	N	ON	19.7
0.942	39.73	---	56.00	16.27	15 000.0	9.000	N	ON	19.7
7.538	---	25.45	50.00	24.55	15 000.0	9.000	N	ON	20.1
7.538	30.28	---	60.00	29.72	15 000.0	9.000	N	ON	20.1
21.282	---	39.46	50.00	10.54	15 000.0	9.000	N	ON	20.8
21.282	41.02	---	60.00	18.98	15 000.0	9.000	N	ON	20.8

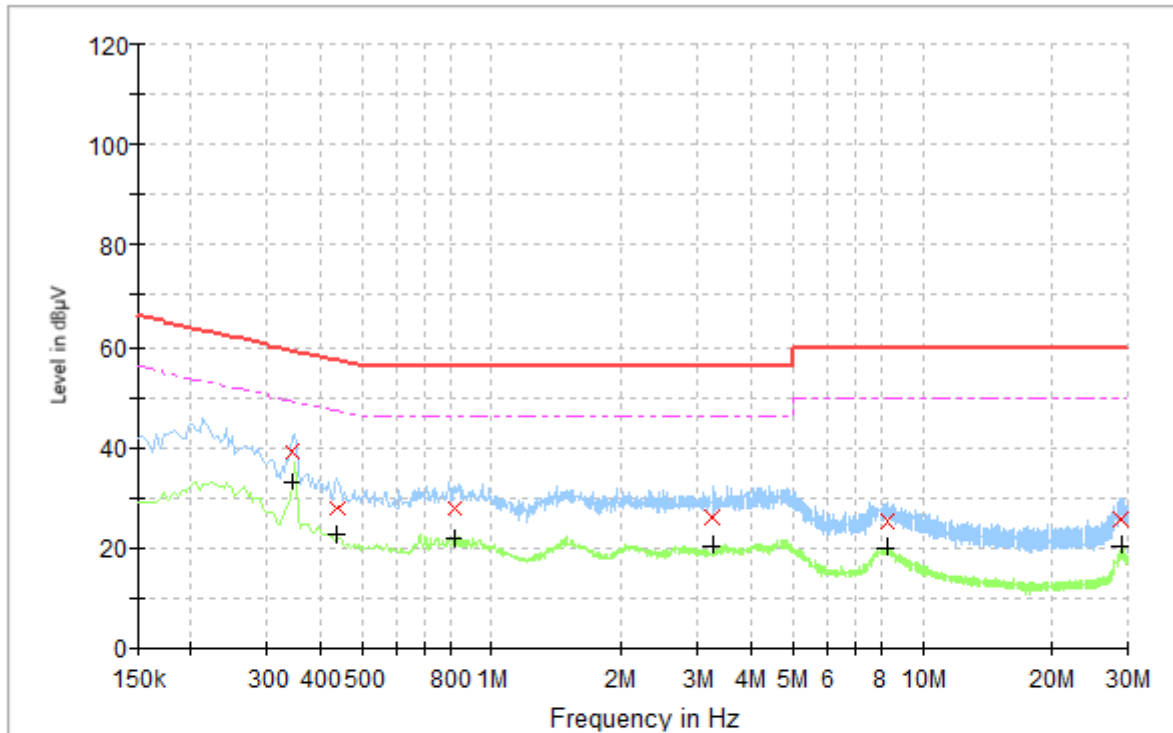
Live Line_01 Mode (12 Vd.c.)



Final Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.222	---	31.09	52.74	21.66	15 000.0	9.000	L1	ON	19.6
0.222	38.77	---	62.74	23.98	15 000.0	9.000	L1	ON	19.6
0.354	---	28.94	48.87	19.92	15 000.0	9.000	L1	ON	19.7
0.354	34.31	---	58.87	24.56	15 000.0	9.000	L1	ON	19.7
0.846	---	22.24	46.00	23.76	15 000.0	9.000	L1	ON	19.7
0.846	27.89	---	56.00	28.11	15 000.0	9.000	L1	ON	19.7
1.494	---	21.07	46.00	24.93	15 000.0	9.000	L1	ON	19.7
1.494	27.00	---	56.00	29.00	15 000.0	9.000	L1	ON	19.7
1.986	---	20.05	46.00	25.95	15 000.0	9.000	L1	ON	19.7
1.986	25.95	---	56.00	30.05	15 000.0	9.000	L1	ON	19.7
4.910	---	21.20	46.00	24.80	15 000.0	9.000	L1	ON	19.8
4.910	26.91	---	56.00	29.09	15 000.0	9.000	L1	ON	19.8

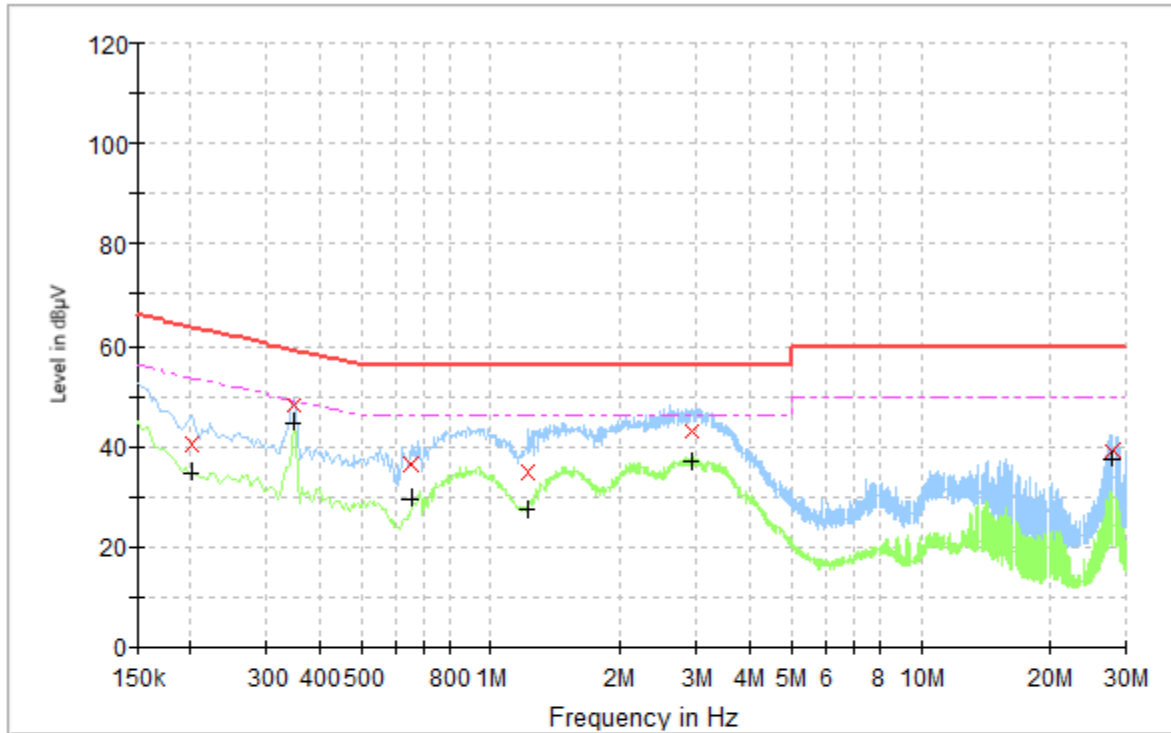
Neutral Line_01 Mode (12 Vd.c.)



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.346	---	32.73	49.06	16.33	15 000.0	9.000	N	ON	19.7
0.346	38.92	---	59.06	20.14	15 000.0	9.000	N	ON	19.7
0.438	---	22.39	47.10	24.71	15 000.0	9.000	N	ON	19.8
0.438	27.89	---	57.10	29.21	15 000.0	9.000	N	ON	19.8
0.822	---	21.77	46.00	24.23	15 000.0	9.000	N	ON	19.7
0.822	27.63	---	56.00	28.37	15 000.0	9.000	N	ON	19.7
3.242	---	20.20	46.00	25.80	15 000.0	9.000	N	ON	19.6
3.242	26.05	---	56.00	29.95	15 000.0	9.000	N	ON	19.6
8.270	---	20.01	50.00	29.99	15 000.0	9.000	N	ON	19.8
8.270	25.26	---	60.00	34.74	15 000.0	9.000	N	ON	19.8
29.010	---	20.31	50.00	29.69	15 000.0	9.000	N	ON	20.2
29.010	25.61	---	60.00	34.39	15 000.0	9.000	N	ON	20.2

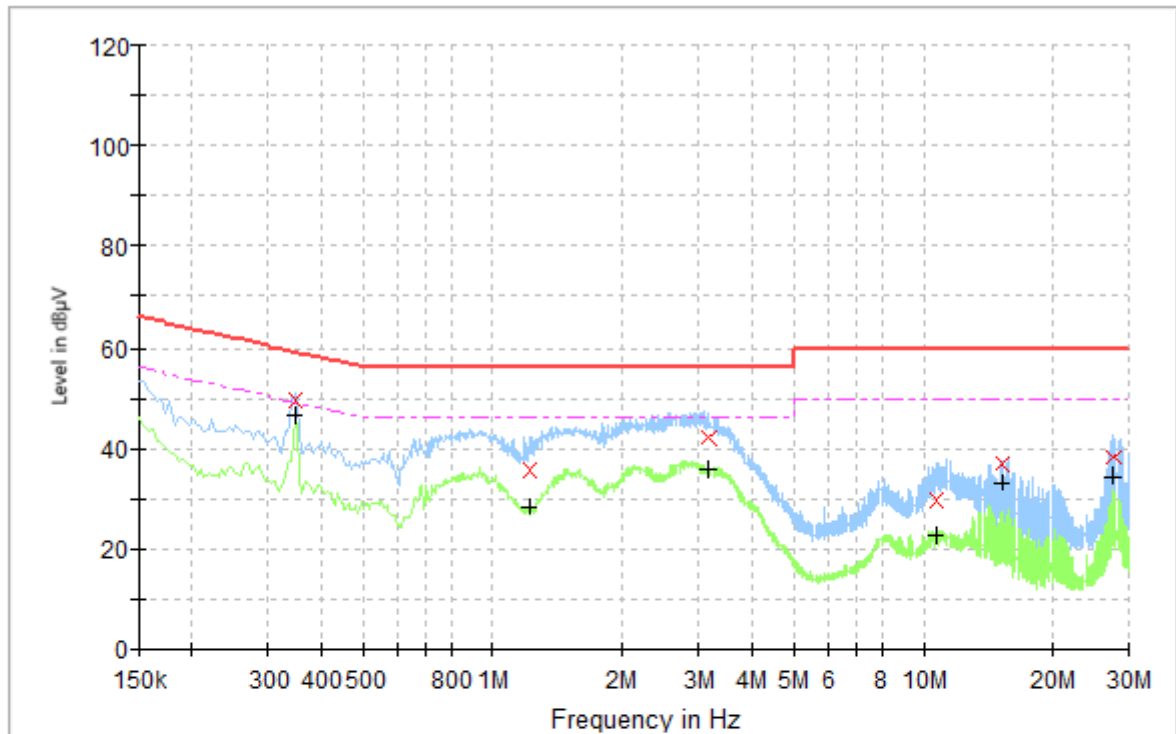
Live Line_02 Mode (12 Vd.c.)



Final Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.202	---	34.77	53.53	18.76	15 000.0	9.000	L1	ON	19.7
0.202	40.43	---	63.53	23.10	15 000.0	9.000	L1	ON	19.7
0.350	---	44.83	48.96	4.13	15 000.0	9.000	L1	ON	19.7
0.350	48.18	---	58.96	10.78	15 000.0	9.000	L1	ON	19.7
0.654	---	29.39	46.00	16.61	15 000.0	9.000	L1	ON	19.8
0.654	36.32	---	56.00	19.68	15 000.0	9.000	L1	ON	19.8
1.222	---	27.23	46.00	18.77	15 000.0	9.000	L1	ON	19.6
1.222	34.68	---	56.00	21.32	15 000.0	9.000	L1	ON	19.6
2.950	---	36.83	46.00	9.17	15 000.0	9.000	L1	ON	19.7
2.950	42.81	---	56.00	13.19	15 000.0	9.000	L1	ON	19.7
28.122	---	37.39	50.00	12.61	15 000.0	9.000	L1	ON	20.0
28.122	38.87	---	60.00	21.13	15 000.0	9.000	L1	ON	20.0

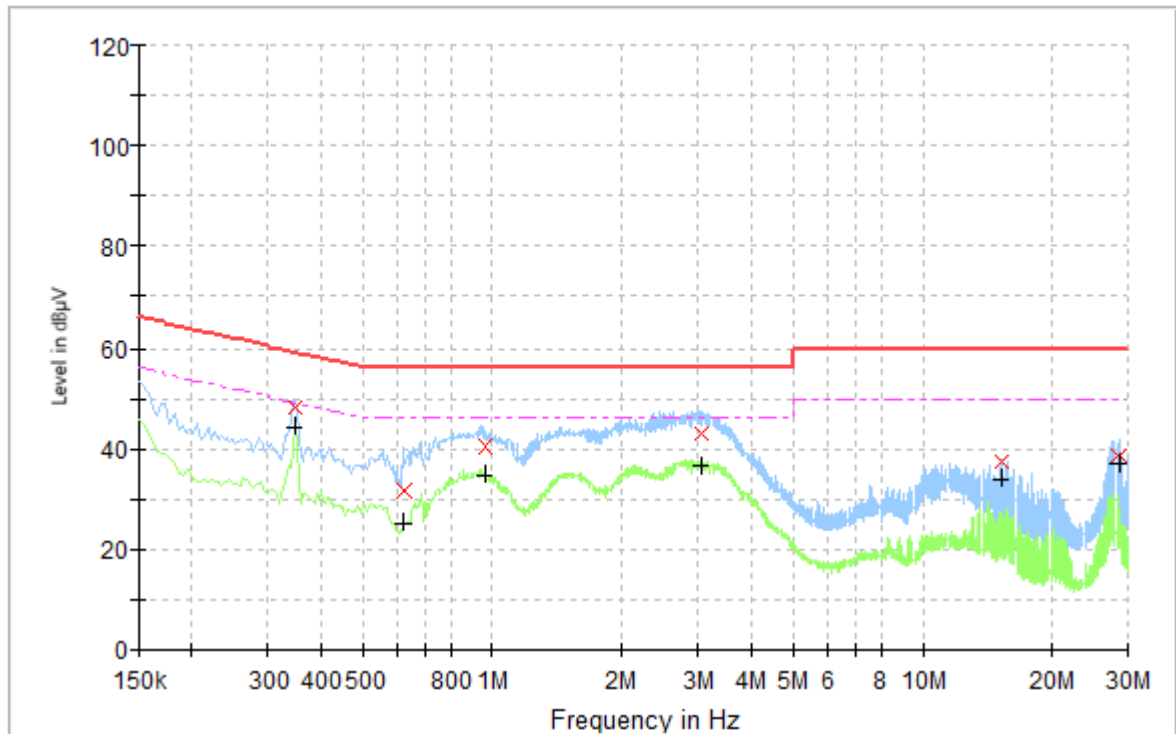
Neutral Line_02 Mode (12 Vd.c.)



Final Result

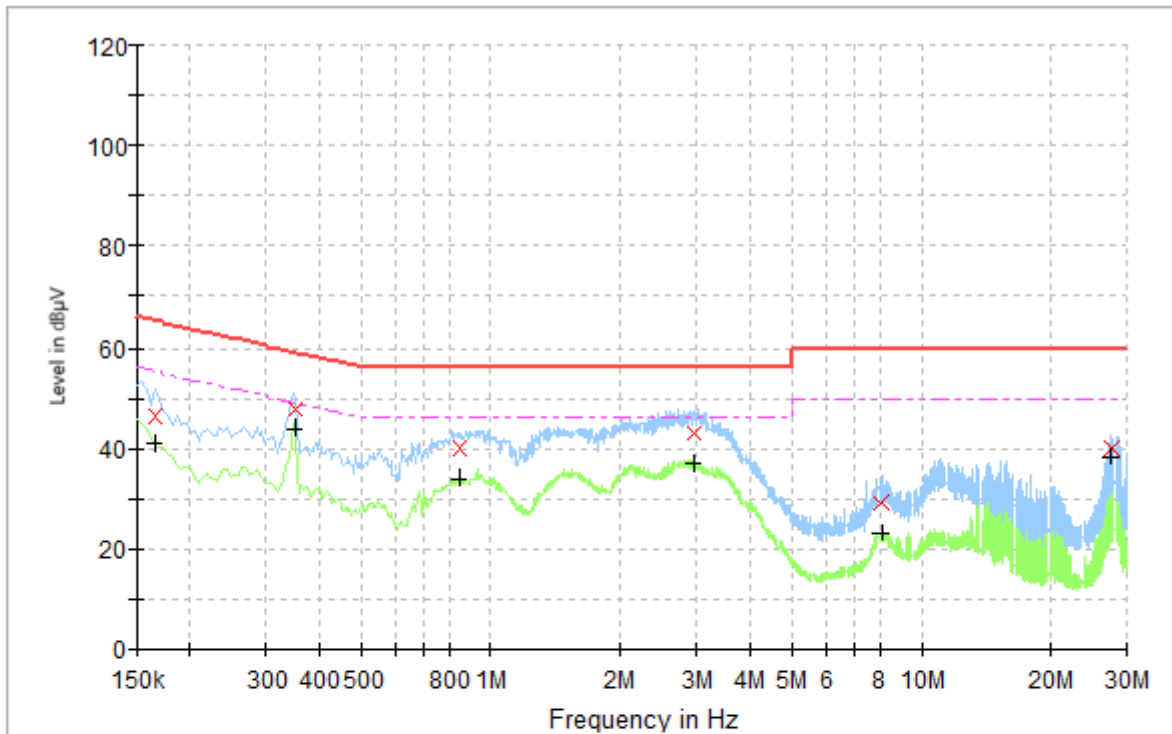
Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.350	49.42	---	58.96	9.54	15 000.0	9.000	N	ON	19.7
0.350	---	44.15	48.96	4.81	15 000.0	9.000	N	ON	19.7
1.226	35.64	---	56.00	20.36	15 000.0	9.000	N	ON	19.7
1.226	---	27.95	46.00	18.05	15 000.0	9.000	N	ON	19.7
3.162	42.00	---	56.00	14.00	15 000.0	9.000	N	ON	19.6
3.162	---	35.55	46.00	10.45	15 000.0	9.000	N	ON	19.6
10.778	29.56	---	60.00	30.44	15 000.0	9.000	N	ON	19.9
10.778	---	22.41	50.00	27.59	15 000.0	9.000	N	ON	19.9
15.358	36.76	---	60.00	23.24	15 000.0	9.000	N	ON	19.9
15.358	---	32.95	50.00	17.05	15 000.0	9.000	N	ON	19.9
27.798	38.28	---	60.00	21.72	15 000.0	9.000	N	ON	20.2
27.798	---	34.32	50.00	15.68	15 000.0	9.000	N	ON	20.2

Live Line_03 Mode (12 Vd.c.)

**Final Result**

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.350	---	44.36	48.96	4.60	15 000.0	9.000	L1	ON	19.7
0.350	47.93	---	58.96	11.03	15 000.0	9.000	L1	ON	19.7
0.622	---	25.03	46.00	20.97	15 000.0	9.000	L1	ON	19.8
0.622	31.65	---	56.00	24.35	15 000.0	9.000	L1	ON	19.8
0.958	---	34.68	46.00	11.32	15 000.0	9.000	L1	ON	19.7
0.958	40.34	---	56.00	15.66	15 000.0	9.000	L1	ON	19.7
3.086	---	36.50	46.00	9.50	15 000.0	9.000	L1	ON	19.7
3.086	42.81	---	56.00	13.19	15 000.0	9.000	L1	ON	19.7
15.322	---	33.77	50.00	16.23	15 000.0	9.000	L1	ON	19.9
15.322	37.22	---	60.00	22.78	15 000.0	9.000	L1	ON	19.9
28.638	---	36.83	50.00	13.17	15 000.0	9.000	L1	ON	20.0
28.638	38.52	---	60.00	21.48	15 000.0	9.000	L1	ON	20.0

Neutral Line_03 Mode (12 Vd.c.)



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ns)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.166	---	40.85	55.16	14.31	15 000.0	9.000	N	ON	19.8
0.166	46.38	---	65.16	18.78	15 000.0	9.000	N	ON	19.8
0.354	---	43.92	48.87	4.95	15 000.0	9.000	N	ON	19.7
0.354	47.60	---	58.87	11.27	15 000.0	9.000	N	ON	19.7
0.850	---	33.86	46.00	12.14	15 000.0	9.000	N	ON	19.7
0.850	39.75	---	56.00	16.25	15 000.0	9.000	N	ON	19.7
2.974	---	36.68	46.00	9.32	15 000.0	9.000	N	ON	19.6
2.974	42.79	---	56.00	13.21	15 000.0	9.000	N	ON	19.6
8.082	---	23.02	50.00	26.98	15 000.0	9.000	N	ON	19.8
8.082	28.87	---	60.00	31.13	15 000.0	9.000	N	ON	19.8
27.638	---	38.02	50.00	11.98	15 000.0	9.000	N	ON	20.2
27.638	39.84	---	60.00	20.16	15 000.0	9.000	N	ON	20.2

Note. Measurement Uncertainty : See Appendix A

- Line (L1) : Live Line of AC Power
- Margin = Limit – Quasi Peak or CAverage

- Line (N) : Neutral Line of AC Power
- Corr. = LISN Factor + Cable loss + Pulse Limiter factor

Ex) In case

Freq ; 0.5 Mhz, level ; 30 dB(μV), CL ; 0.2 dB, LISN ; 9.5 dB, P/L: 9.8 dB

Result = Level + CL + LISN + P/L

= 30 + 0.2 + 9.5 + 9.8

= 49.5

Margin = Limit – Result

= 79 - 49.5

= 29.5

5.4 Radiated Emission

5.4.1 Test Equipments

Equipment	Model	Manufacturer	Serial No	Cal Due. Date
EMI TEST RECEIVER	ESU40	R&S	100075	2026-01-17
TRILOG BROADBAND ANTENNA	VULB 9163	SCHWARZBECK	01126	2025-02-26
Double Ridged Horn Antenna	HF907	R&S	100208	2025-03-04
PRE-AMPLIFIER	AM-1431	MITEQ	1336160	2025-05-31
AMPLIFIER	SCU 18	R&S	10070	2025-08-21
Bluetooth Test Set	MT8852B	Anritsu	6272420469	2025-03-29
EMH-1Lab-RE-02	-	-	-	2025-07-05
EMH-1Lab-RE-03	-	-	-	2025-07-05
EMH-1Lab-RE-04	-	-	-	2025-07-05
EMH-1Lab-RE-01	-	-	-	2025-07-05
EMH-1Lab-RE-05	-	-	-	2025-07-05
EMH-1Lab-RE-06	-	-	-	2025-07-05

Note. Measuring software is below

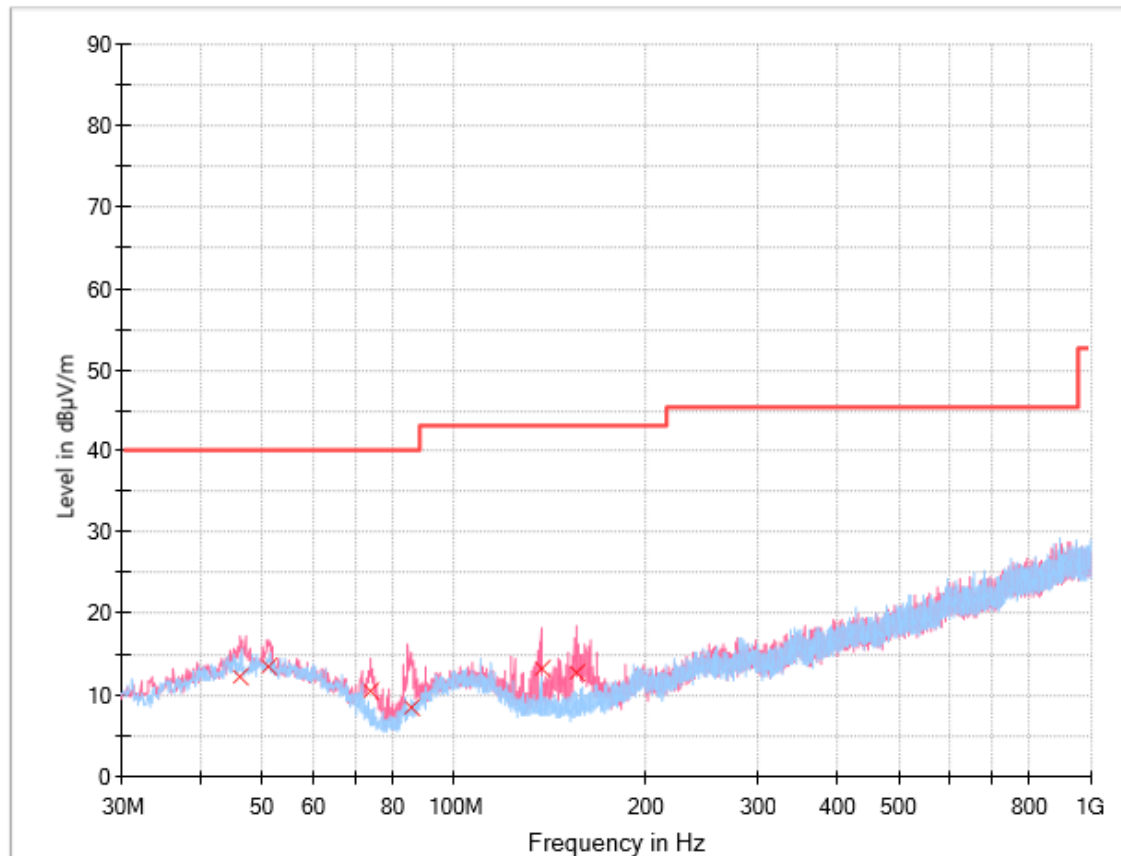
- Branch Site : ELECTRA(V5.02.0) from R&S
- Branch Site-3 : EMC32(V10.40.10) from R&S
- Branch Site-4 : EMC32(V10.40.10) from R&S

5.4.2 Environment Conditions

Test Site	10 m SEMI-ANECHOIC CHAMBER in Branch site-3
Temperature	(Minimum 20.0, Maximum 21.5) °C
Humidity	(Minimum 33.0, Maximum 36.0) % R.H.
Atmospheric Pressure	(Minimum 101.4, Maximum 102.1) kPa
Test Date	2025-01-17 (Below 1 GHz) 2025-01-22 (Above 1 GHz)

5.4.3 Test Result

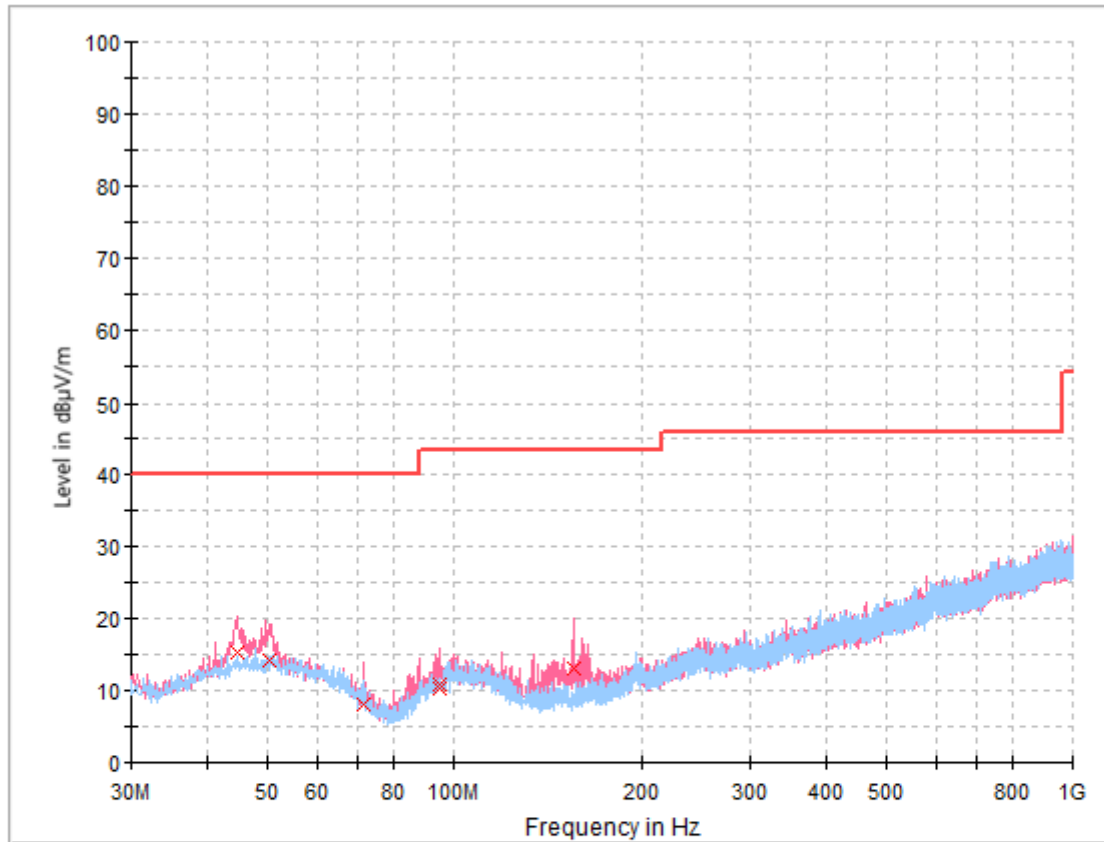
01 Mode(5 Vd.c.) [FCC Part 15 Subpart B]



Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (MHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
46.102	12.23	40.00	27.77	15 000.0	120.000	100.0	V	26.0	-17.5
50.952	13.52	40.00	26.48	15 000.0	120.000	100.0	V	137.0	-17.4
73.747	10.52	40.00	29.48	15 000.0	120.000	200.0	V	233.0	-23.1
85.581	8.47	40.00	31.53	15 000.0	120.000	200.0	V	12.0	-22.5
136.797	13.35	43.50	30.15	15 000.0	120.000	200.0	V	183.0	-22.5
156.003	12.82	43.50	30.68	15 000.0	120.000	100.0	V	35.0	-22.2

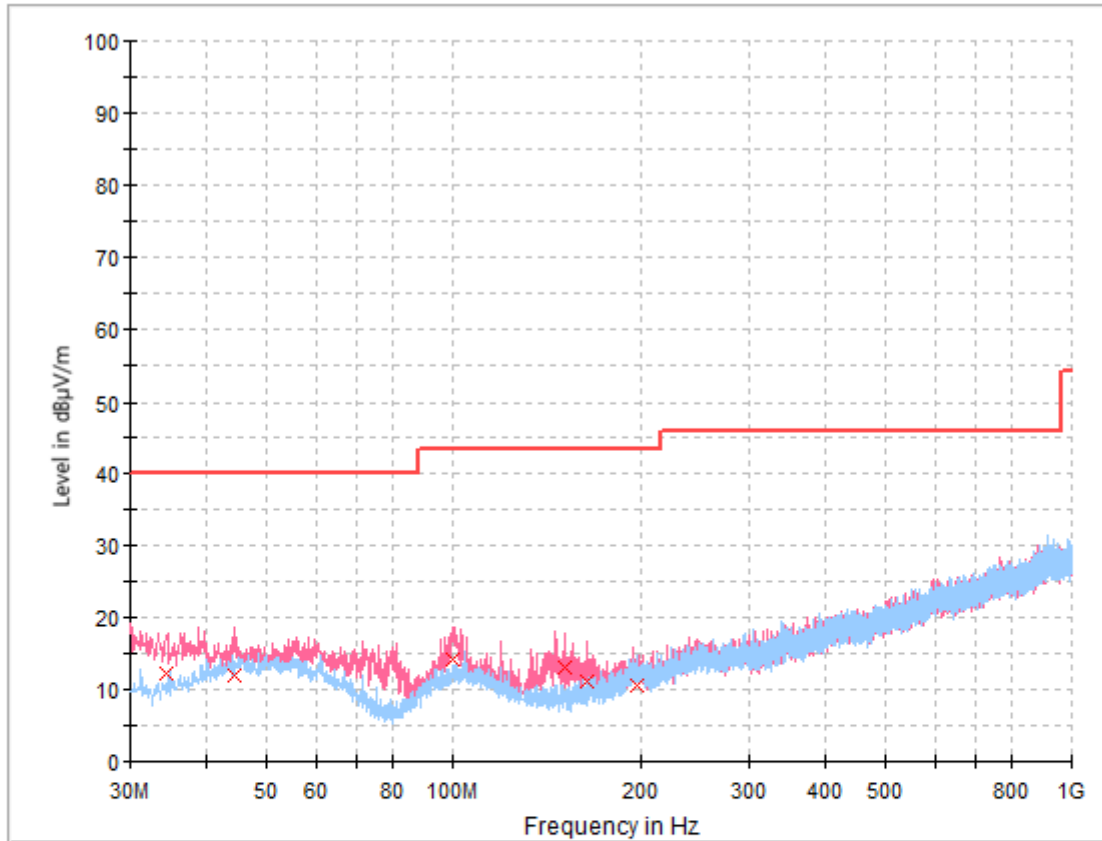
02 Mode(5 Vd.c.) [FCC Part 15 Subpart B]



Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ns)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
44.744	15.39	40.00	24.61	15 000.0	120.000	100.0	V	292.0	-17.1
50.273	14.26	40.00	25.74	15 000.0	120.000	100.0	V	83.0	-17.0
71.516	8.04	40.00	31.97	15 000.0	120.000	100.0	V	118.0	-21.8
94.699	10.97	43.50	32.53	15 000.0	120.000	100.0	V	134.0	-19.1
94.990	10.41	43.50	33.09	15 000.0	120.000	100.0	V	101.0	-19.1
154.839	13.13	43.50	30.37	15 000.0	120.000	100.0	V	251.0	-21.5

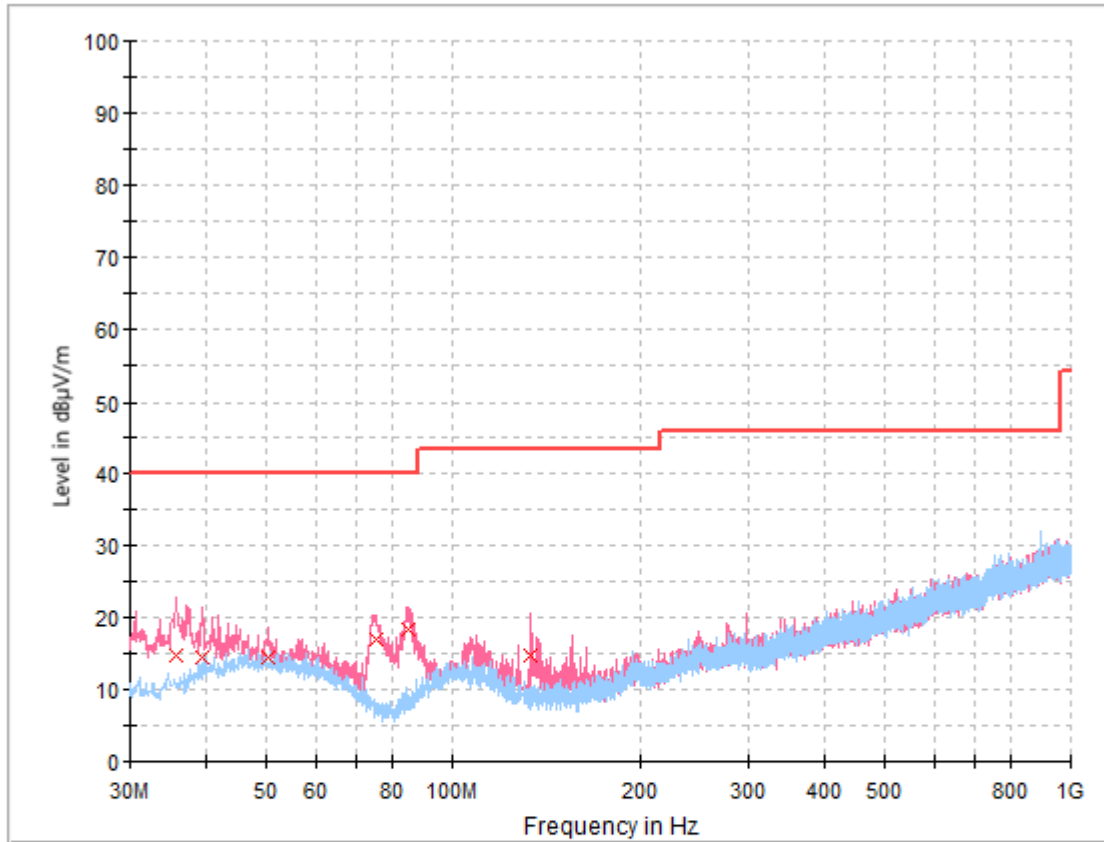
03 Mode(5 Vd.c.) [FCC Part 15 Subpart B]



Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
34.268	12.17	40.00	27.83	15 000.0	120.000	100.0	V	0.0	-20.2
44.356	11.84	40.00	28.16	15 000.0	120.000	100.0	V	123.0	-17.2
99.840	14.10	43.50	29.40	15 000.0	120.000	100.0	V	114.0	-18.3
151.056	12.97	43.50	30.53	15 000.0	120.000	100.0	V	9.0	-21.7
163.278	11.03	43.50	32.47	15 000.0	120.000	100.0	V	0.0	-20.9
197.034	10.62	43.50	32.88	15 000.0	120.000	100.0	V	0.0	-17.8

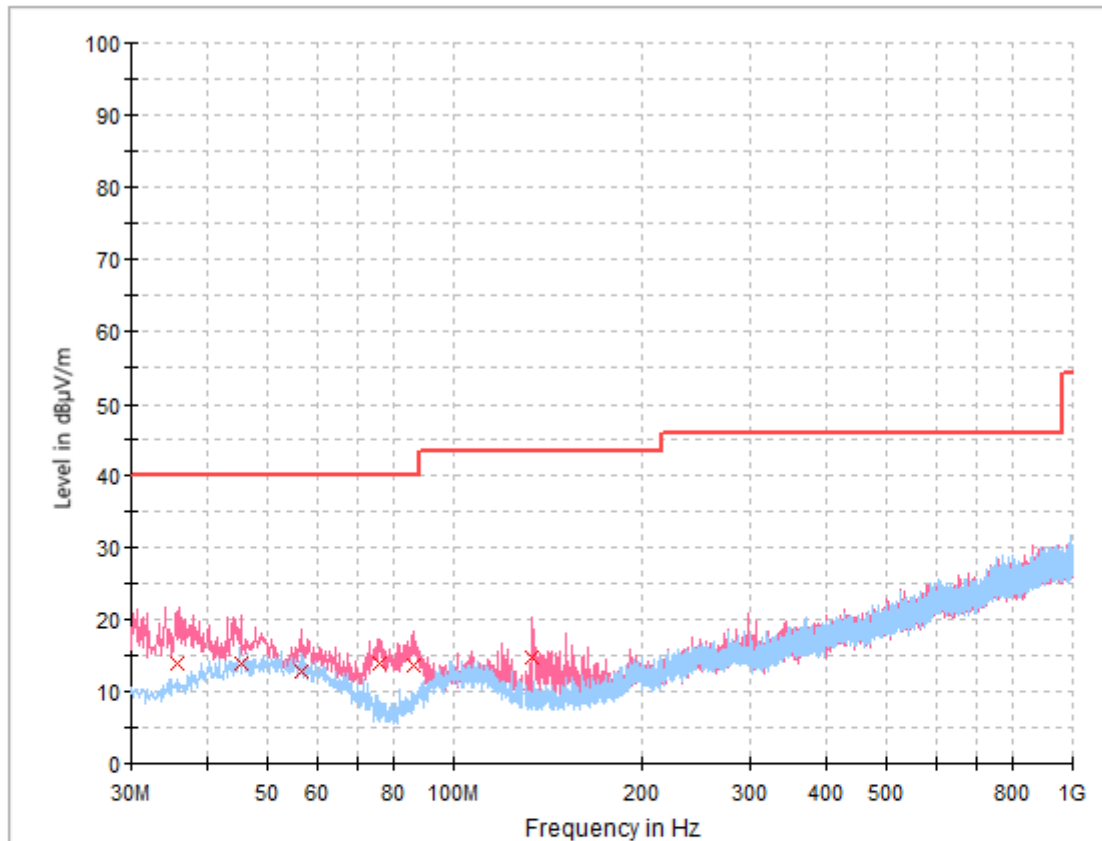
01 Mode(12 Vd.c.) [FCC Part 15 Subpart B]



Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
35.529	14.79	40.00	25.21	15 000.0	120.000	100.0	V	288.0	-19.8
39.312	14.40	40.00	25.60	15 000.0	120.000	100.0	V	34.0	-18.5
50.176	14.48	40.00	25.52	15 000.0	120.000	100.0	V	146.0	-17.0
75.105	17.12	40.00	22.88	15 000.0	120.000	100.0	V	212.0	-23.1
84.902	18.41	40.00	21.59	15 000.0	120.000	100.0	V	254.0	-22.2
133.111	14.75	43.50	28.75	15 000.0	120.000	100.0	V	128.0	-21.7

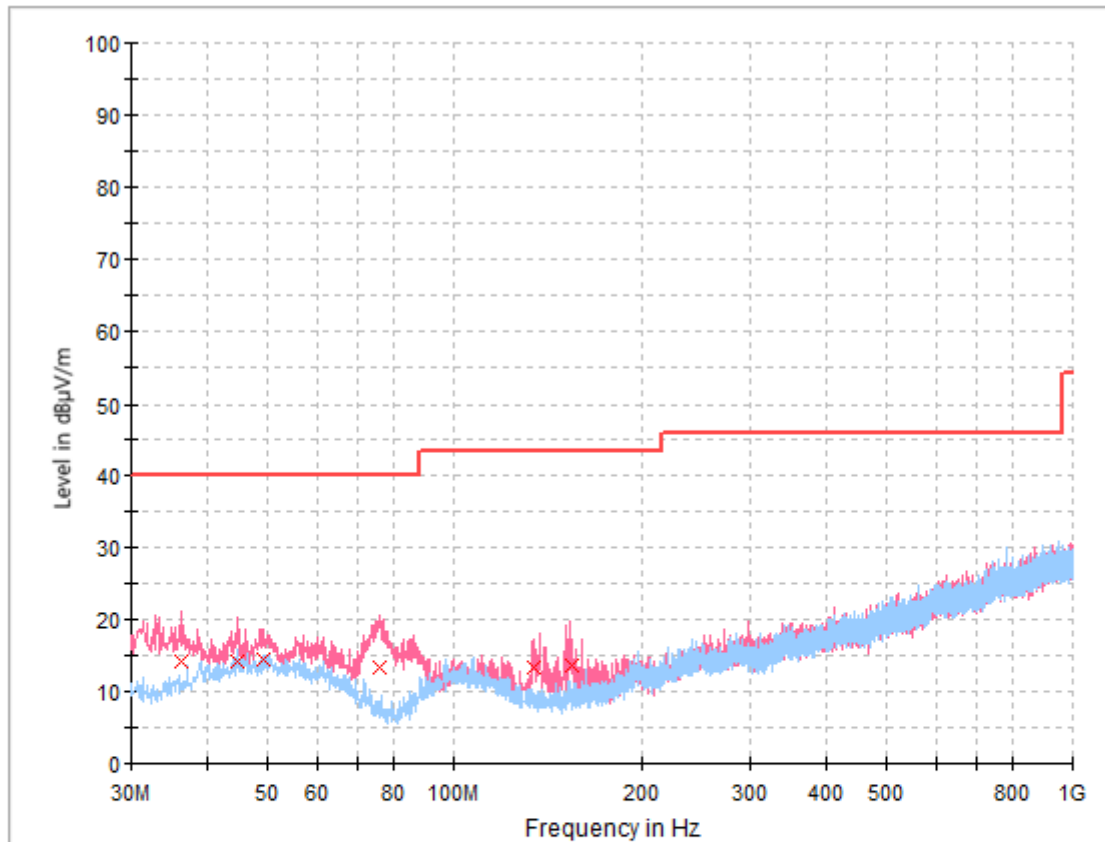
02 Mode(12 Vd.c.) [FCC Part 15 Subpart B]



Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
35.529	13.97	40.00	26.03	15 000.0	120.000	100.0	V	310.0	-19.8
45.132	13.99	40.00	26.01	15 000.0	120.000	100.0	V	0.0	-17.1
56.481	12.78	40.00	27.22	15 000.0	120.000	100.0	V	144.0	-17.6
75.590	13.86	40.00	26.14	15 000.0	120.000	100.0	V	194.0	-23.2
85.775	13.78	40.00	26.22	15 000.0	120.000	100.0	V	161.0	-21.8
132.917	14.72	43.50	28.78	15 000.0	120.000	100.0	V	153.0	-21.7

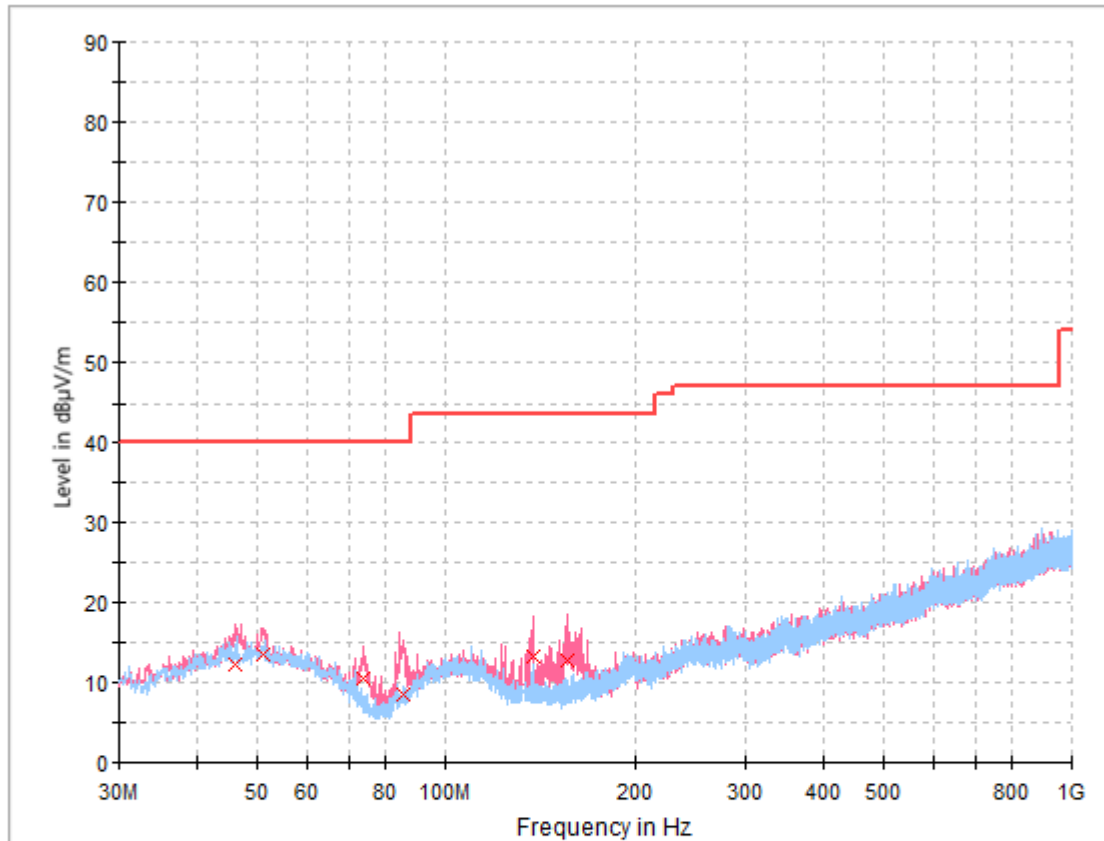
03 Mode(12 Vd.c.) [FCC Part 15 Subpart B]



Final Result

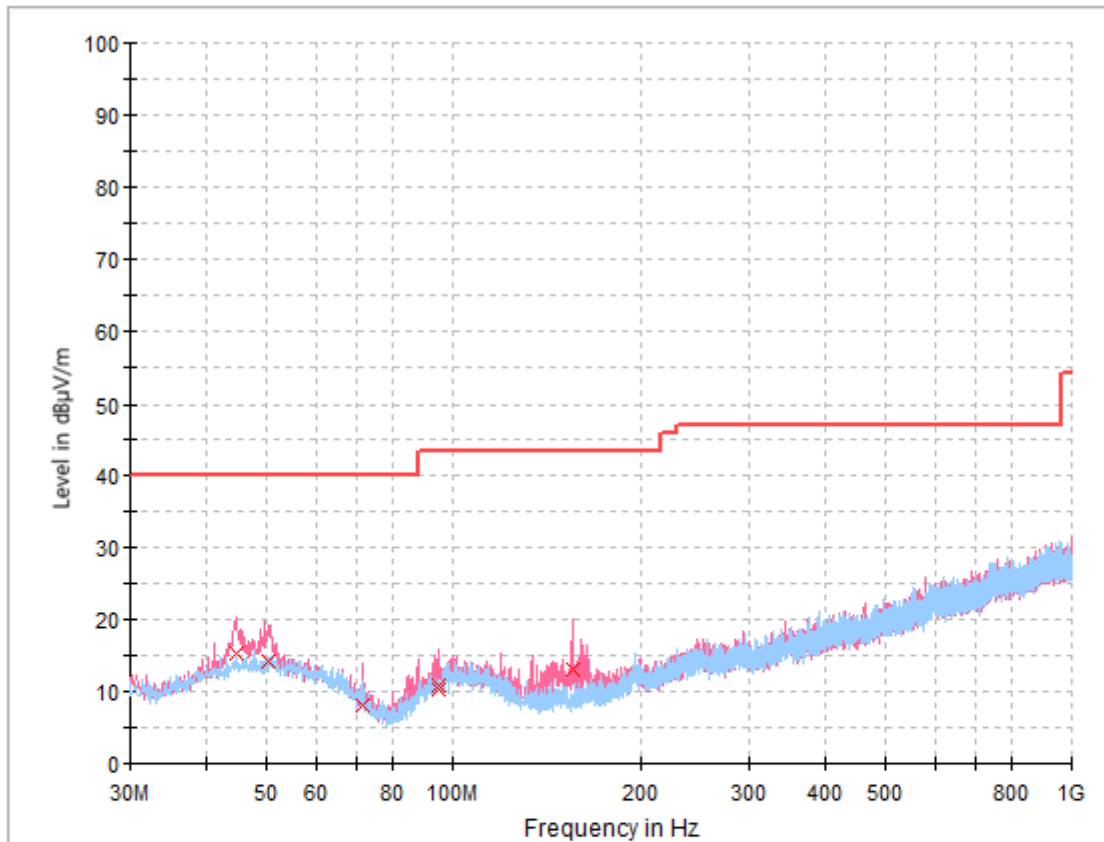
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
36.111	14.13	40.00	25.87	15 000.0	120.000	100.0	V	249.0	-19.7
44.744	14.19	40.00	25.81	15 000.0	120.000	100.0	V	283.0	-17.1
49.109	14.39	40.00	25.61	15 000.0	120.000	100.0	V	116.0	-17.0
75.784	13.28	40.00	26.72	15 000.0	120.000	100.0	V	241.0	-23.2
133.402	13.29	43.50	30.21	15 000.0	120.000	100.0	V	183.0	-21.7
153.869	13.53	43.50	29.97	15 000.0	120.000	100.0	V	274.0	-21.6

01 Mode (5 Vd.c.) [ICES-003 Issue 7: 2020]

**Final Result**

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
46.102	12.23	40.00	27.77	15 000.0	120.000	100.0	V	26.0	-17.5
50.952	13.52	40.00	26.48	15 000.0	120.000	100.0	V	137.0	-17.4
73.747	10.52	40.00	29.48	15 000.0	120.000	200.0	V	233.0	-23.1
85.581	8.47	40.00	31.53	15 000.0	120.000	200.0	V	12.0	-22.5
136.797	13.35	43.50	30.15	15 000.0	120.000	200.0	V	183.0	-22.5
156.003	12.82	43.50	30.68	15 000.0	120.000	100.0	V	35.0	-22.2

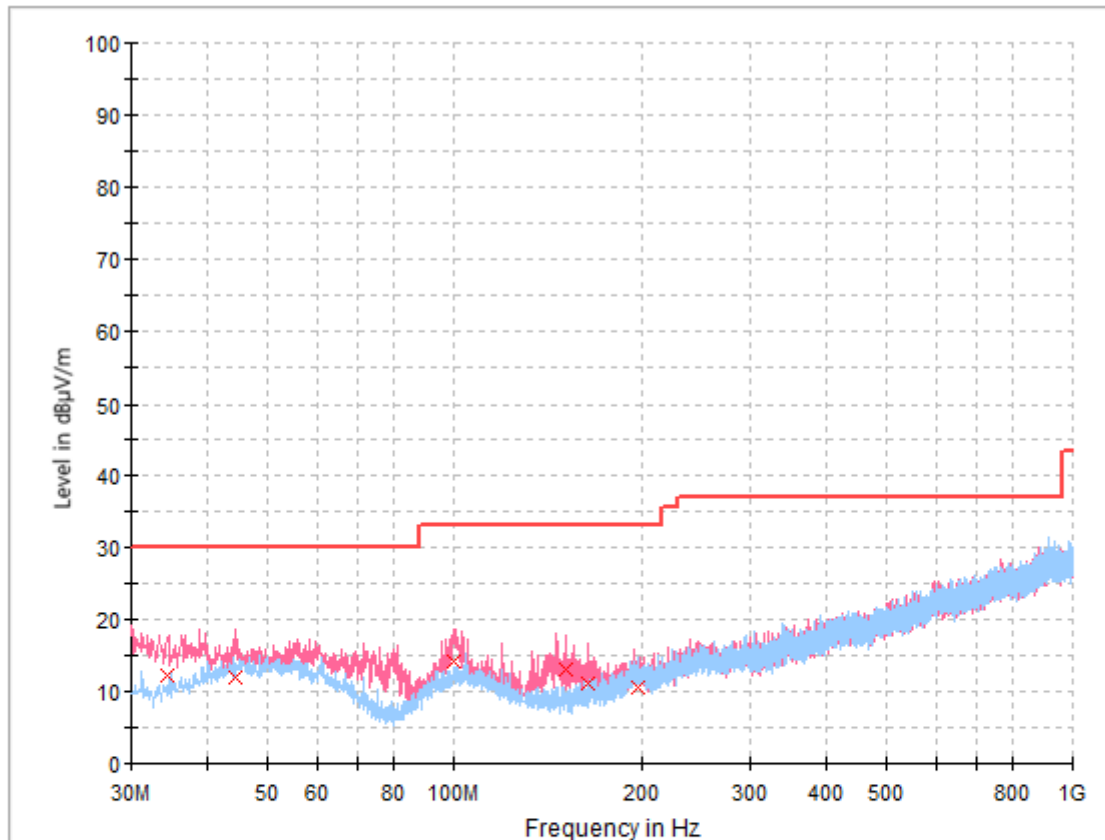
02 Mode (5 Vd.c.) [ICES-003 Issue 7: 2020]



Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
44.744	15.39	40.00	24.61	15 000.0	120.000	100.0	V	292.0	-17.1
50.273	14.26	40.00	25.74	15 000.0	120.000	100.0	V	83.0	-17.0
71.516	8.04	40.00	31.96	15 000.0	120.000	100.0	V	118.0	-21.8
94.699	10.97	43.50	32.53	15 000.0	120.000	100.0	V	134.0	-19.1
94.990	10.41	43.50	33.09	15 000.0	120.000	100.0	V	101.0	-19.1
154.839	13.13	43.50	30.37	15 000.0	120.000	100.0	V	251.0	-21.5

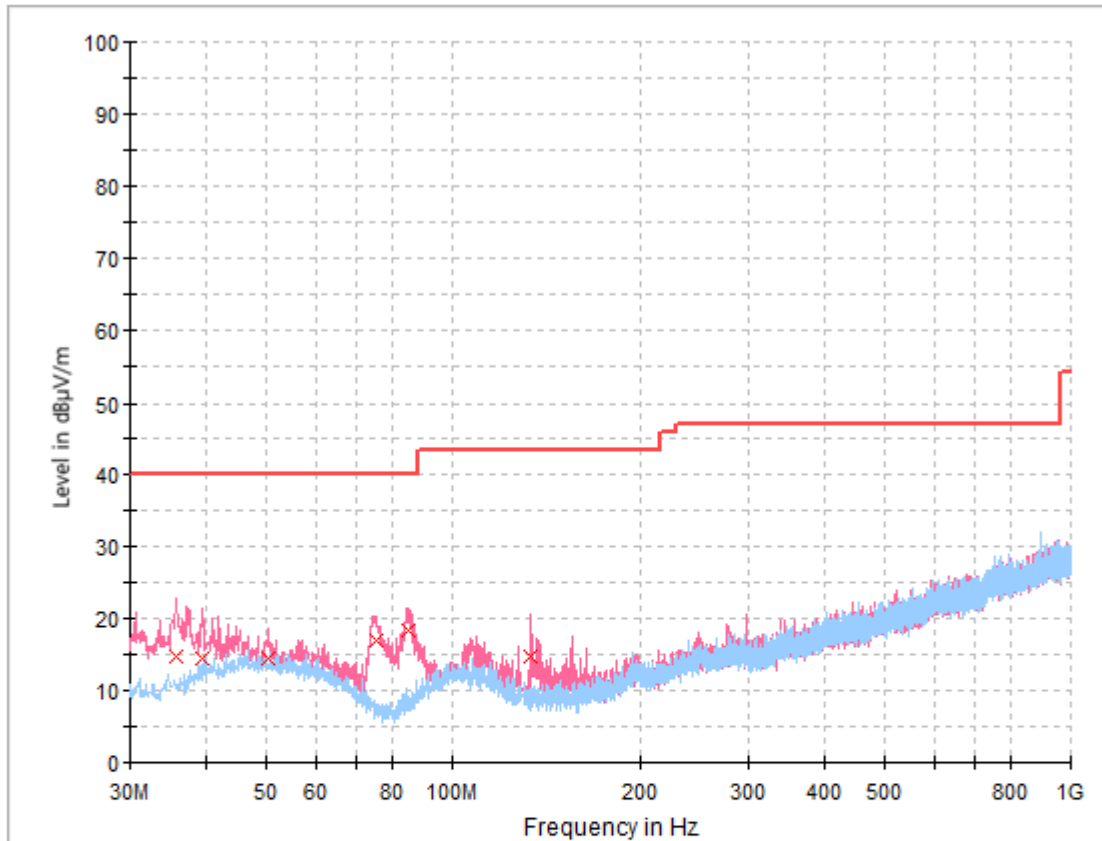
03 Mode (5 Vd.c.) [ICES-003 Issue 7: 2020]



Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ns)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
34.268	12.17	30.00	17.83	15 000.0	120.000	100.0	V	0.0	-20.2
44.356	11.84	30.00	18.16	15 000.0	120.000	100.0	V	123.0	-17.2
99.840	14.10	33.10	19.00	15 000.0	120.000	100.0	V	114.0	-18.3
151.056	12.97	33.10	20.13	15 000.0	120.000	100.0	V	9.0	-21.7
163.278	11.03	33.10	22.07	15 000.0	120.000	100.0	V	0.0	-20.9
197.034	10.62	33.10	22.48	15 000.0	120.000	100.0	V	0.0	-17.8

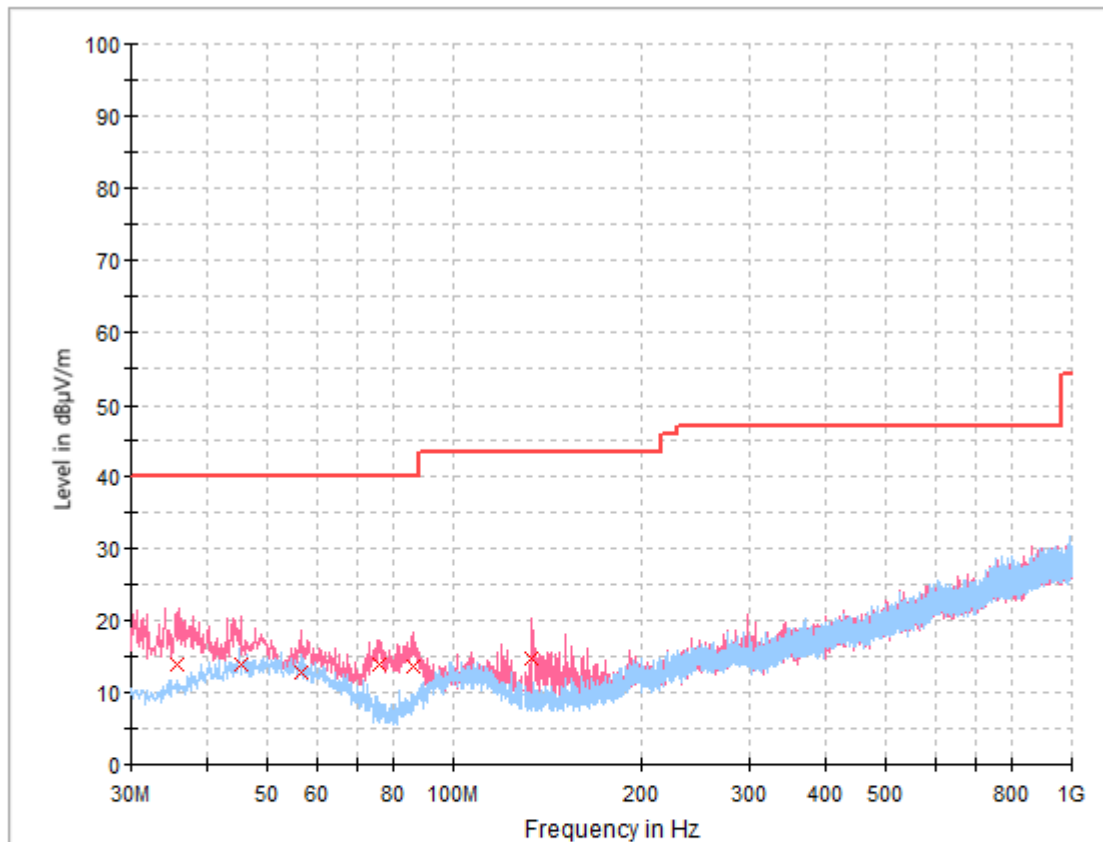
01 Mode (12 Vd.c.) [ICES-003 Issue 7: 2020]



Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
35.529	14.79	40.00	25.21	15 000.0	120.000	100.0	V	288.0	-19.8
39.312	14.40	40.00	25.60	15 000.0	120.000	100.0	V	34.0	-18.5
50.176	14.48	40.00	25.52	15 000.0	120.000	100.0	V	146.0	-17.0
75.105	17.12	40.00	22.88	15 000.0	120.000	100.0	V	212.0	-23.1
84.902	18.41	40.00	21.59	15 000.0	120.000	100.0	V	254.0	-22.2
133.111	14.75	43.50	28.75	15 000.0	120.000	100.0	V	128.0	-21.7

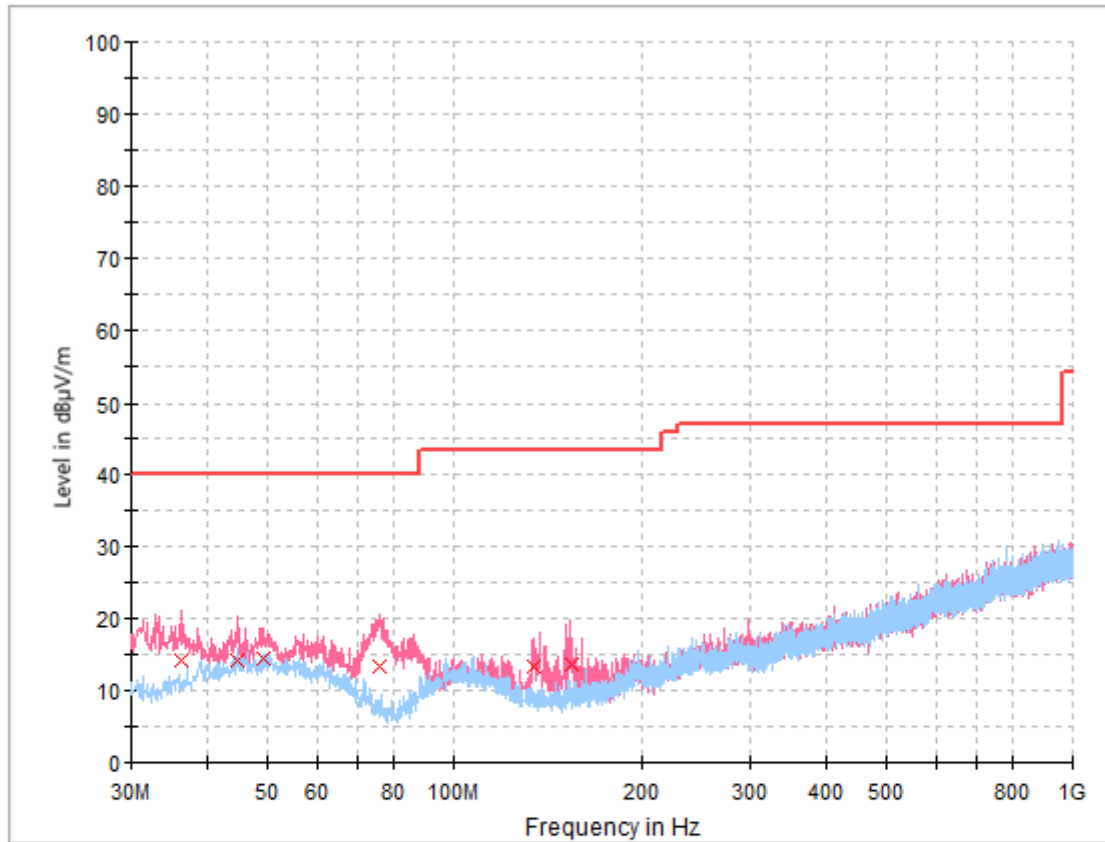
02 Mode (12 Vd.c.) [ICES-003 Issue 7: 2020]



Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
35.529	13.97	40.00	26.03	15 000.0	120.000	100.0	V	310.0	-19.8
45.132	13.99	40.00	26.01	15 000.0	120.000	100.0	V	0.0	-17.1
56.481	12.78	40.00	27.22	15 000.0	120.000	100.0	V	144.0	-17.6
75.590	13.86	40.00	26.14	15 000.0	120.000	100.0	V	194.0	-23.2
85.775	13.78	40.00	26.22	15 000.0	120.000	100.0	V	161.0	-21.8
132.917	14.72	43.50	28.78	15 000.0	120.000	100.0	V	153.0	-21.7

03 Mode (12 Vd.c.) [ICES-003 Issue 7: 2020]



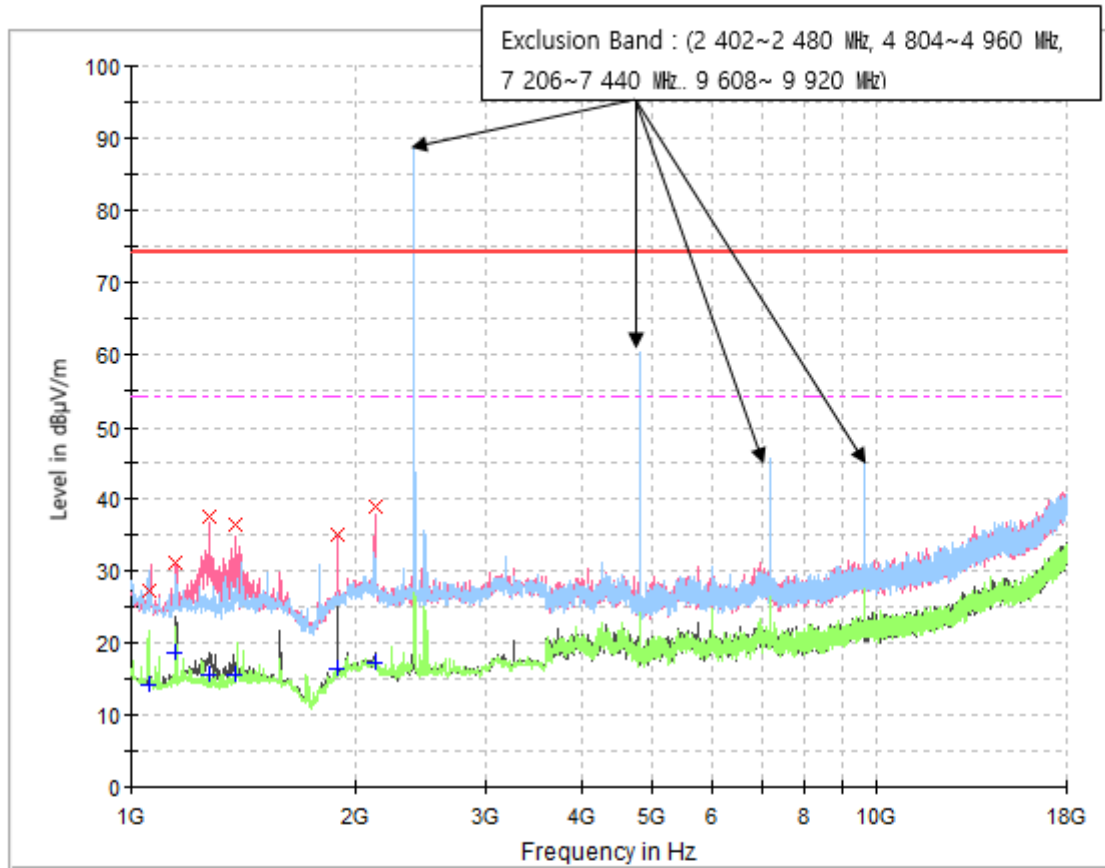
Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
36.111	14.13	40.00	25.87	15 000.0	120.000	100.0	V	249.0	-19.7
44.744	14.19	40.00	25.81	15 000.0	120.000	100.0	V	283.0	-17.1
49.109	14.39	40.00	25.61	15 000.0	120.000	100.0	V	116.0	-17.0
75.784	13.28	40.00	26.72	15 000.0	120.000	100.0	V	241.0	-23.2
133.402	13.29	43.50	30.21	15 000.0	120.000	100.0	V	183.0	-21.7
153.869	13.53	43.50	29.97	15 000.0	120.000	100.0	V	274.0	-21.6

Note. Measurement Uncertainty: See Appendix A

- POL H = Horizontal
- POL V = Vertical
- Margin = Limit – Quasi Peak
- Corr. = Antenna Factor + Cable loss – Amplifier Gain

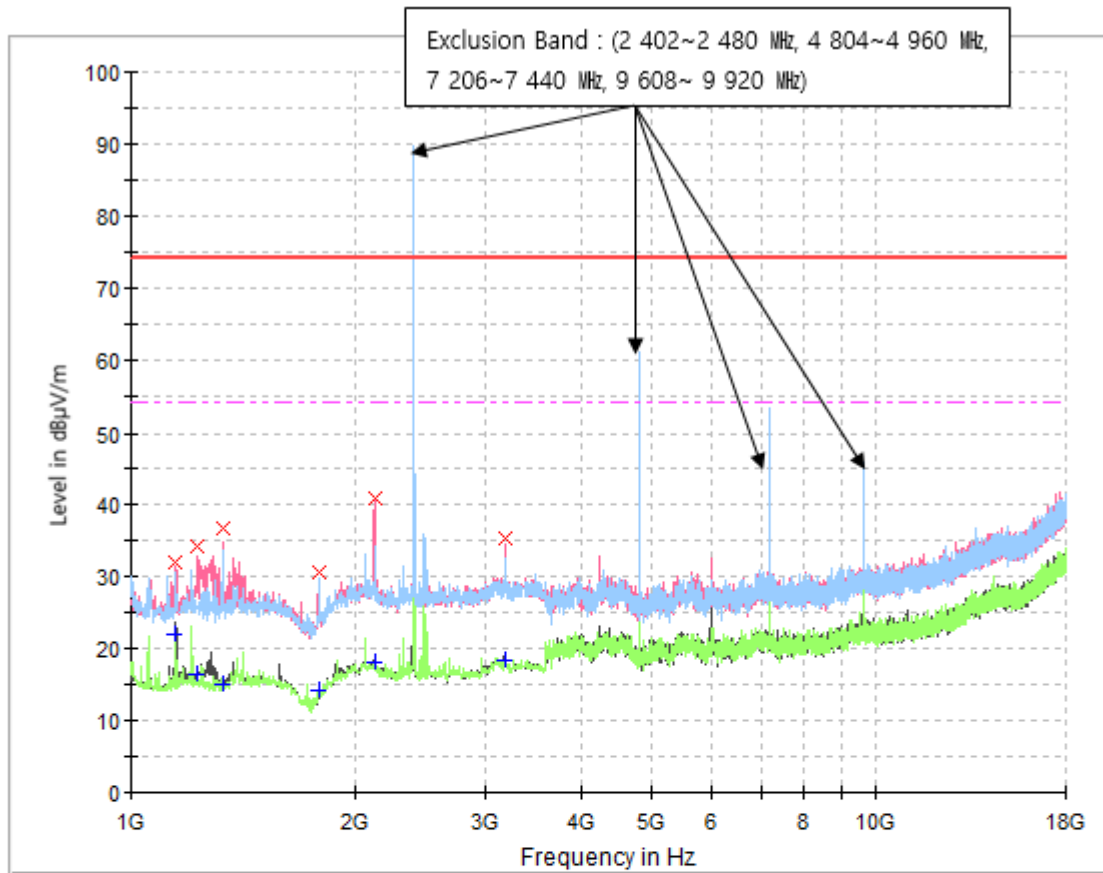
01 Mode (5 Vd.c.)



Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	CAverage (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1 054.400	---	14.30	54.00	39.70	15 000.0	1 000.000	100.0	H	332.0	-19.1
1 054.400	27.19	---	74.00	46.81	15 000.0	1 000.000	100.0	H	332.0	-19.1
1 147.900	---	18.55	54.00	35.45	15 000.0	1 000.000	100.0	V	49.0	-19.2
1 147.900	31.20	---	74.00	42.80	15 000.0	1 000.000	100.0	V	49.0	-19.2
1 273.700	37.74	---	74.00	36.26	15 000.0	1 000.000	100.0	V	352.0	-18.8
1 273.700	---	15.65	54.00	38.35	15 000.0	1 000.000	100.0	V	352.0	-18.8
1 382.500	36.38	---	74.00	37.62	15 000.0	1 000.000	100.0	V	78.0	-18.1
1 382.500	---	15.61	54.00	38.39	15 000.0	1 000.000	100.0	V	78.0	-18.1
1 897.600	35.06	---	74.00	38.94	15 000.0	1 000.000	100.0	V	245.0	-14.5
1 897.600	---	16.35	54.00	37.65	15 000.0	1 000.000	100.0	V	245.0	-14.5
2 127.100	39.13	---	74.00	34.87	15 000.0	1 000.000	100.0	V	259.0	-13.5
2 127.100	---	17.25	54.00	36.75	15 000.0	1 000.000	100.0	V	259.0	-13.5

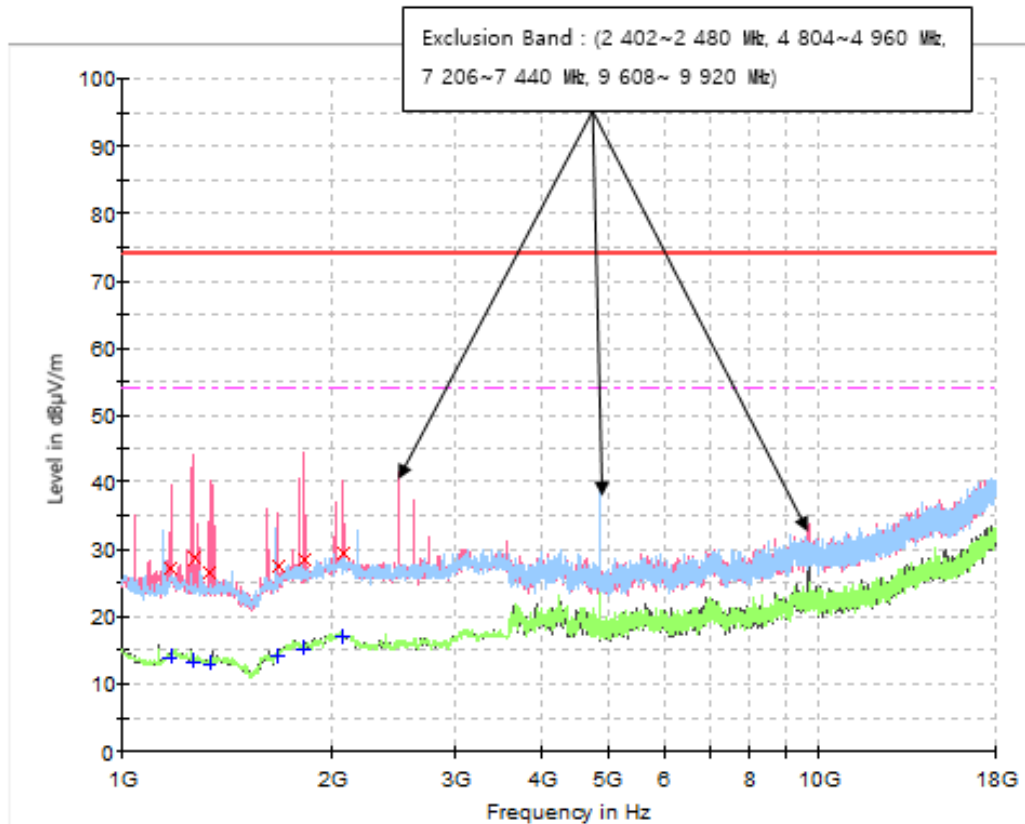
02 Mode (5 Vd.c.)



Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	CAverage (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1 147.900	32.17	---	74.00	41.83	15 000.0	1 000.000	100.0	V	44.0	-19.2
1 147.900	---	22.05	54.00	31.95	15 000.0	1 000.000	100.0	V	44.0	-19.2
1 229.500	34.38	---	74.00	39.62	15 000.0	1 000.000	100.0	V	44.0	-19.0
1 229.500	---	16.49	54.00	37.51	15 000.0	1 000.000	100.0	V	44.0	-19.0
1 331.500	---	14.99	54.00	39.01	15 000.0	1 000.000	100.0	V	0.0	-18.4
1 331.500	36.77	---	74.00	37.23	15 000.0	1 000.000	100.0	V	0.0	-18.4
1 787.100	30.65	---	74.00	43.35	15 000.0	1 000.000	100.0	V	358.0	-15.3
1 787.100	---	14.08	54.00	39.92	15 000.0	1 000.000	100.0	V	358.0	-15.3
2 125.400	---	18.16	54.00	35.84	15 000.0	1 000.000	100.0	V	208.0	-13.5
2 125.400	40.93	---	74.00	33.07	15 000.0	1 000.000	100.0	V	208.0	-13.5
3 194.700	35.51	---	74.00	38.49	15 000.0	1 000.000	100.0	H	85.0	-10.3
3 194.700	---	18.45	54.00	35.55	15 000.0	1 000.000	100.0	H	85.0	-10.3

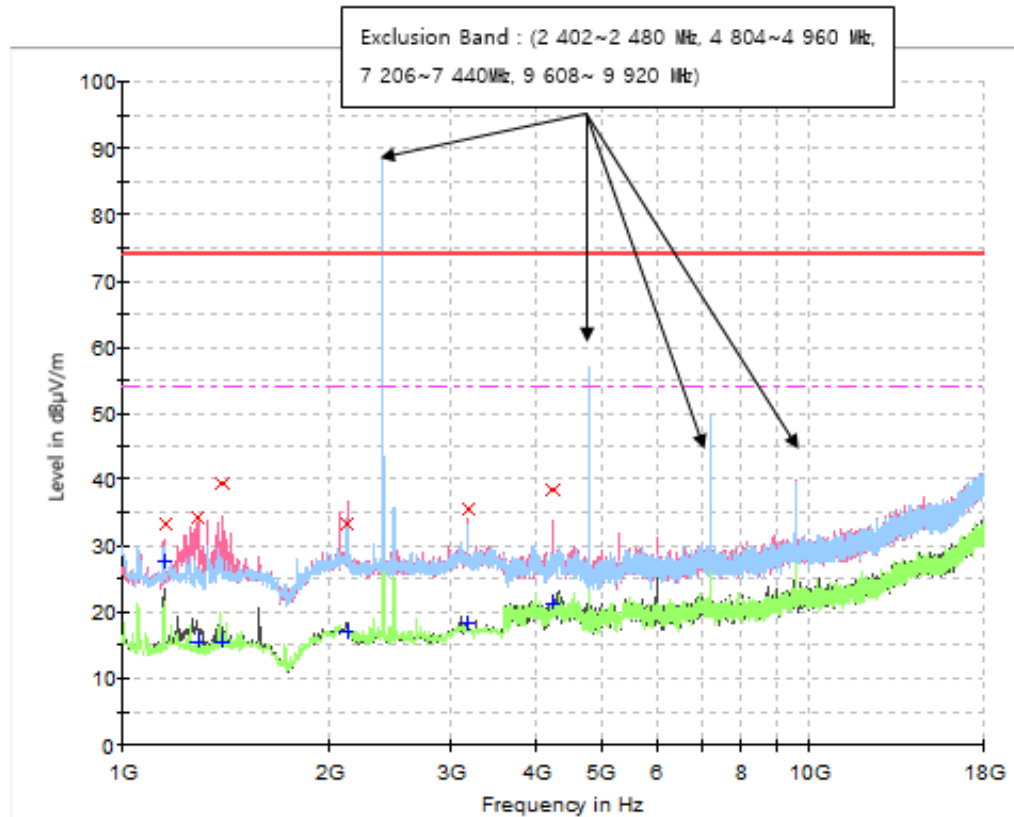
03 Mode (5 Vd.c.)



Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	CAverage (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (m)	Pol	Azimuth (deg)	Corr. (dB/m)
1 171.700	---	14.03	54.00	39.97	15 000.0	1 000.000	100.0	V	83.0	-19.2
1 171.700	27.31	---	74.00	46.69	15 000.0	1 000.000	100.0	V	83.0	-19.2
1 263.500	---	13.42	54.00	40.58	15 000.0	1 000.000	100.0	V	180.0	-18.9
1 263.500	28.57	---	74.00	45.43	15 000.0	1 000.000	100.0	V	180.0	-18.9
1 334.900	26.52	---	74.00	47.48	15 000.0	1 000.000	100.0	V	180.0	-18.4
1 334.900	---	13.09	54.00	40.91	15 000.0	1 000.000	100.0	V	180.0	-18.4
1 673.200	27.56	---	74.00	46.44	15 000.0	1 000.000	100.0	V	83.0	-15.9
1 673.200	---	14.34	54.00	39.66	15 000.0	1 000.000	100.0	V	83.0	-15.9
1 829.600	---	15.35	54.00	38.65	15 000.0	1 000.000	100.0	V	83.0	-15.1
1 829.600	28.41	---	74.00	45.59	15 000.0	1 000.000	100.0	V	83.0	-15.1
2 084.600	---	17.01	54.00	36.99	15 000.0	1 000.000	100.0	V	83.0	-13.3
2 084.600	29.63	---	74.00	44.37	15 000.0	1 000.000	100.0	V	83.0	-13.3

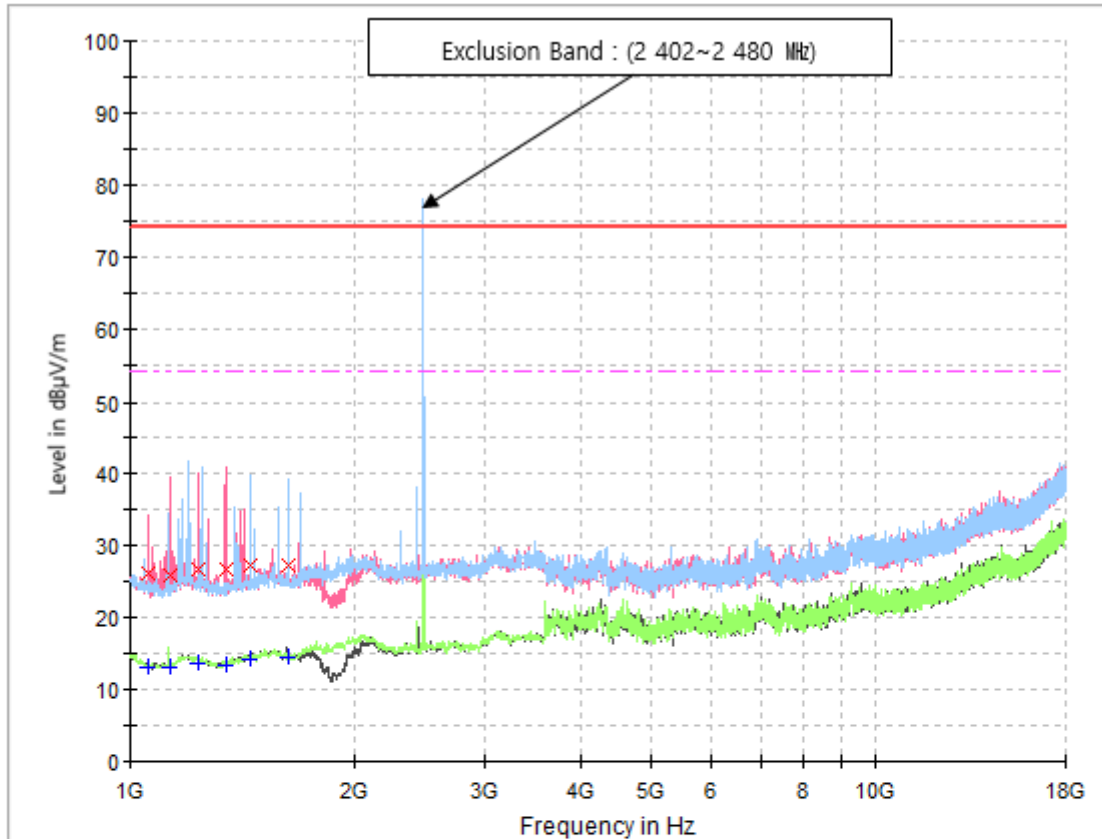
01 Mode (12 Vd.c.)



Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	CAverage (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (MHz)	Height (m)	Pol	Azimuth (deg)	Corr. (dB/m)
1 151.300	33.39	---	74.00	40.61	15 000.0	1 000.000	100.0	V	44.0	-19.2
1 151.300	---	27.63	54.00	26.37	15 000.0	1 000.000	100.0	V	44.0	-19.2
1 285.600	34.35	---	74.00	39.65	15 000.0	1 000.000	100.0	V	0.0	-18.8
1 285.600	---	15.66	54.00	38.34	15 000.0	1 000.000	100.0	V	0.0	-18.8
1 401.200	---	15.52	54.00	38.48	15 000.0	1 000.000	100.0	V	86.0	-17.9
1 401.200	39.49	---	74.00	34.51	15 000.0	1 000.000	100.0	V	86.0	-17.9
2 128.800	---	17.07	54.00	36.93	15 000.0	1 000.000	100.0	V	253.0	-13.5
2 128.800	33.29	---	74.00	40.71	15 000.0	1 000.000	100.0	V	253.0	-13.5
3 187.900	35.76	---	74.00	38.24	15 000.0	1 000.000	100.0	V	335.0	-10.3
3 187.900	---	18.33	54.00	35.67	15 000.0	1 000.000	100.0	V	335.0	-10.3
4 250.400	38.57	---	74.00	35.43	15 000.0	1 000.000	100.0	V	308.0	-7.9
4 250.400	---	21.52	54.00	32.48	15 000.0	1 000.000	100.0	V	308.0	-7.9

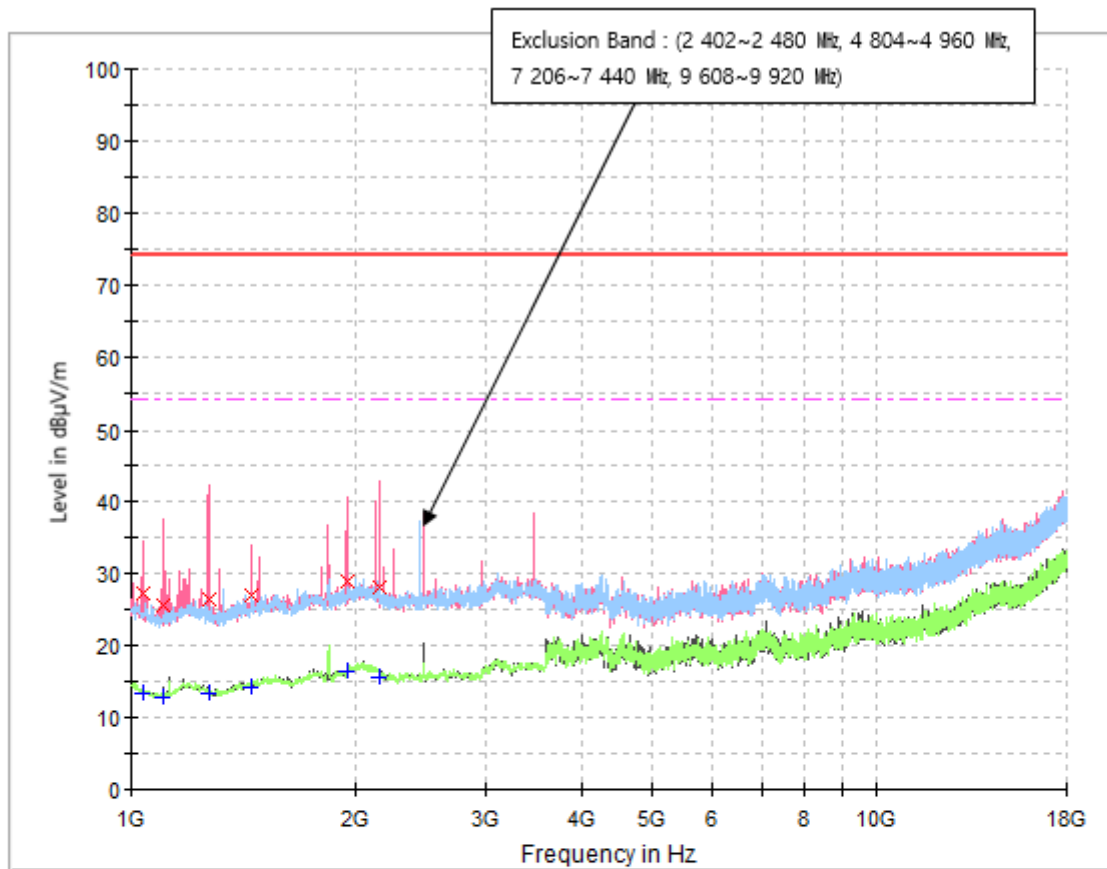
02 Mode (12 Vd.c.)



Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	CAverage (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1 057.800	---	13.01	54.00	40.99	15 000.0	1 000.000	100.0	V	20.0	-19.1
1 057.800	26.28	---	74.00	47.72	15 000.0	1 000.000	100.0	V	20.0	-19.1
1 132.600	---	13.02	54.00	40.98	15 000.0	1 000.000	100.0	V	20.0	-19.1
1 132.600	25.99	---	74.00	48.01	15 000.0	1 000.000	100.0	V	20.0	-19.1
1 236.300	---	13.73	54.00	40.27	15 000.0	1 000.000	100.0	V	2.0	-19.0
1 236.300	26.65	---	74.00	47.35	15 000.0	1 000.000	100.0	V	2.0	-19.0
1 346.800	26.63	---	74.00	47.37	15 000.0	1 000.000	100.0	V	103.0	-18.3
1 346.800	---	13.41	54.00	40.59	15 000.0	1 000.000	100.0	V	103.0	-18.3
1 450.500	27.23	---	74.00	46.77	15 000.0	1 000.000	100.0	H	0.0	-17.5
1 450.500	---	14.27	54.00	39.73	15 000.0	1 000.000	100.0	H	0.0	-17.5
1 634.100	---	14.47	54.00	39.53	15 000.0	1 000.000	100.0	H	244.0	-16.2
1 634.100	27.29	---	74.00	46.71	15 000.0	1 000.000	100.0	H	244.0	-16.2

03 Mode (12 Vd.c.)



Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	CAverage (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1 035.700	27.35	---	74.00	46.65	15 000.0	1 000.000	100.0	V	57.0	-19.1
1 035.700	---	13.25	54.00	40.75	15 000.0	1 000.000	100.0	V	57.0	-19.1
1 107.100	---	12.83	54.00	41.17	15 000.0	1 000.000	100.0	V	57.0	-19.1
1 107.100	25.61	---	74.00	48.39	15 000.0	1 000.000	100.0	V	57.0	-19.1
1270.300	26.46	---	74.00	47.54	15 000.0	1 000.000	100.0	V	43.0	-18.8
1 270.300	---	13.30	54.00	40.70	15 000.0	1 000.000	100.0	V	43.0	-18.8
1 450.500	---	14.32	54.00	39.68	15 000.0	1 000.000	100.0	V	16.0	-17.5
1 450.500	27.04	---	74.00	46.96	15 000.0	1 000.000	100.0	V	16.0	-17.5
1 957.100	29.10	---	74.00	44.90	15 000.0	1 000.000	100.0	V	16.0	-13.8
1 957.100	---	16.49	54.00	37.51	15 000.0	1 000.000	100.0	V	16.0	-13.8
2 161.100	28.25	---	74.00	45.75	15 000.0	1 000.000	100.0	V	16.0	-13.7
2 161.100	---	15.67	54.00	38.33	15 000.0	1 000.000	100.0	V	16.0	-13.7

Note. Measurement Uncertainty: See Appendix A

- AF = Antenna Factor
- POL H = Horizontal
- H = Height
- Corr. = AF + CL – AMP

- CL = Cable Loss
- POL V = Vertical
- Margin = Limit – Result
- ** The value of 'Level' includes 'Corr.'.

- AMP = Amplifier Gain
- A = Angle

Ex) In case

Freq ; 100 Mhz, level ; 30 dB(μ V/m), AF ; 10 dB/m, CL ; 4 dB, Amp ; 25 dB

Result = Level + AF + CL – Amp

= 30 + 10 + 4 - 25

= 19

Margin = Limit – Result

= 43.5 – 19

= 24.5

Appendix A: Measurement Uncertainty

Test Method		Measurement Uncertainty
Conducted Emission	ENV216	3.0 dB (The confidential level is 95 %, $k=2$)
	ESH2-Z5	2.8 dB (The confidential level is 95 %, $k=2$)
	ESH3-Z6	3.0 dB (The confidential level is 95 %, $k=2$)
Conducted Emission - Signal	ISN T800	5.3 dB (The confidential level is 95 %, $k=2$)
	ISNT8-Cat6	5.4 dB (The confidential level is 95 %, $k=2$)
	ISN S751	6.8 dB (The confidential level is 95 %, $k=2$)
Disturbance Voltage at Antenna Terminal		2.4 dB (The confidential level is 95 %, $k=2$)
Radiated Emission	9 kHz - 30 MHz	Horizontal 3.4 dB (The confidential level is 95 %, $k=2$)
		Vertical 3.4 dB (The confidential level is 95 %, $k=2$)
	30 MHz - 1 000 MHz	Horizontal 4.6 dB (The confidential level is 95 %, $k=2$)
		Vertical 5.0 dB (The confidential level is 95 %, $k=2$)
	1 GHz - 18 GHz	Horizontal 3.6 dB (The confidential level is 95 %, $k=2$)
		Vertical 3.6 dB (The confidential level is 95 %, $k=2$)

Table A.1 Measurement Uncertainty of Branch Site

Test Method		Measurement Uncertainty	
Conducted Emission	ENV216	3.3 dB	(The confidential level is 95 %, $k=2$)
	ESH3-Z6	3.3 dB	(The confidential level is 95 %, $k=2$)
	ESH2-Z5	3.1 dB	(The confidential level is 95 %, $k=2$)
	NNLK8129	3.2 dB	(The confidential level is 95 %, $k=2$)
Conducted Emission - Signal		ISN T800	5.5 dB (The confidential level is 95 %, $k=2$)
		ISN ST08	6.6 dB (The confidential level is 95 %, $k=2$)
Radiated Emission	9 kHz - 30 MHz	Horizontal	3.4 dB (The confidential level is 95 %, $k=2$)
		Vertical	3.4 dB (The confidential level is 95 %, $k=2$)
	30 MHz - 1 000 MHz	Horizontal	4.7 dB (The confidential level is 95 %, $k=2$)
		Vertical	5.0 dB (The confidential level is 95 %, $k=2$)
	1 GHz - 18 GHz	Horizontal	3.8 dB (The confidential level is 95 %, $k=2$)
		Vertical	3.8 dB (The confidential level is 95 %, $k=2$)

Table A.2 Measurement Uncertainty of Branch Site-3

Test Method		Measurement Uncertainty	
Conducted Emission	ENV216	3.5 dB	(The confidential level is 95 %, $k=2$)
	ESH2-Z5	3.3 dB	(The confidential level is 95 %, $k=2$)
	ESH3-Z6	3.3 dB	(The confidential level is 95 %, $k=2$)
	NNLK8129	3.4 dB	(The confidential level is 95 %, $k=2$)
Conducted Emission - Signal	ISN T800	5.6 dB	(The confidential level is 95 %, $k=2$)
	ISN ST08	5.5 dB	(The confidential level is 95 %, $k=2$)
Radiated Emission	9 kHz - 30 MHz (Triple Loop Ant.)	3.7 dB	(The confidential level is 95 %, $k=2$)
	9 kHz - 30 MHz (Loop Ant.)	Horizontal	4.2 dB (The confidential level is 95 %, $k=2$)
		Vertical	4.2 dB (The confidential level is 95 %, $k=2$)
	30 MHz - 1 000 MHz	Horizontal	4.8 dB (The confidential level is 95 %, $k=2$)
		Vertical	5.2 dB (The confidential level is 95 %, $k=2$)
	1 GHz - 18 GHz	Horizontal	4.5 dB (The confidential level is 95 %, $k=2$)
		Vertical	4.5 dB (The confidential level is 95 %, $k=2$)

Table A.3 Measurement Uncertainty of Branch Site-4

- End of Test Report -