

TEST REPORT

Product : PowerPack for MagSafe
Trade mark : Popsockets
Model/Type reference : P5000A
Serial Number : N/A
Report Number : EED32Q80305101
FCC ID : 2ATTR-P5000A
Date of Issue : Apr. 28, 2024
Test Standards : 47 CFR Part 15 Subpart C
Test result : PASS

Prepared for:

Popsockets LLC

1426 Pearl St, Ste 400, Boulder, CO 80302, USA

Prepared by:

Centre Testing International Group Co., Ltd.

Hongwei Industrial Zone, Bao'an 70 District,

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Date:

Tom Chen

Apr. 28, 2024

Aaron Ma

Check No.: 6746130324



1 Version

Version No.	Date	Description
00	Apr. 28, 2024	Original

2 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15 Subpart C Section 15.203	ANSI C63.10:2013	PASS
AC Power Line Conducted Emission	47 CFR Part 15 Subpart C Section 15.207	ANSI C63.10:2013	N/A
Radiated Emissions	47 CFR Part 15 Subpart C Section 15.209	ANSI C63.10:2013	PASS

Remark:

N/A:Wireless charging does not work when using type C charging.

Company Name and Address shown on Report, the sample(s) and sample Information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.

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4 General Information

4.1 Client Information

Applicant:	Popsockets LLC
Address of Applicant:	1426 Pearl St, Ste 400, Boulder, CO 80302, USA
Manufacturer:	Popsockets LLC
Address of Manufacturer:	1426 Pearl St, Ste 400, Boulder, CO 80302, USA

4.2 General Description of EUT

Product Name:	PowerPack for MagSafe	
Model No.:	P5000A	
Trade Mark:	Popsockets	
Frequency Range:	111kHz-205kHz	
Center Frequency:	128kHz	
Modulation Type:	ASK	
Antenna Type:	Coil antenna	
Power Supply:	Input:	5V,2A
	Battery:	DC 3.85V
	Output:	5W/7.5W/10W/12W/15W
Test Power Grade:	Default	
Test Software of EUT:	RF test	
Sample Received Date:	Mar. 15, 2024	
Sample tested Date:	Mar. 15, 2024 to Apr. 07, 2024	

4.3 Test Environment and Mode

Operating Environment:	
Radiated Spurious Emissions:	
Temperature:	22~25.0 °C
Humidity:	50~55 % RH
Atmospheric Pressure:	1010mbar
Conducted Emissions:	
Temperature:	22~25.0 °C
Humidity:	50~55 % RH
Atmospheric Pressure:	1010mbar
Test mode: Transmitting mode	
Mode a:	Wireless charging mode(Null load)(Connect to adapter)
Mode b:	Wireless charging mode(33.3% load)(Connect to adapter)
Mode c:	Wireless charging mode(66.7% load)(Connect to adapter)
Mode d:	Wireless charging mode(Half load)(Connect to adapter)
Mode e:	Wireless charging mode(Full load)(Connect to adapter)
Note:	
1.Wireless output:5W,7.5W,10W,15W(maximum wireless output 15W during charging)	

4.4 Description of Support Units

The EUT has been tested with associated equipment below.

1) support equipment

Description	Manufacturer	Model No.	Certification	Supplied by
Intelligent wireless charging full function test kit	YBZ	/	FCC ID and DOC	CTI

4.5 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.6 Deviation from Standards

None.

4.7 Abnormalities from Standard Conditions

None.

4.8 Other Information Requested by the Customer

None.

4.9 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Radio Frequency	7.9×10^{-8}
2	RF power, conducted	0.46dB (30MHz-1GHz)
		0.55dB (1GHz-18GHz)
3	Radiated Spurious emission test	3.3dB (9kHz-30MHz)
		4.3dB (30MHz-1GHz)
		4.5dB (1GHz-12.75GHz)
4	Conduction emission	3.5dB (9kHz to 150kHz)
		3.1dB (150kHz to 30MHz)
5	Temperature test	0.64°C
6	Humidity test	3.8%
7	DC power voltages	0.026%

5 Equipment List

3M Semi-anechoic Chamber (2)- Radiated disturbance Test					
Equipment	Manufacturer	Model	Serial No.	Cal. date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
3M Chamber & Accessory Equipment	TDK	SAC-3	---	05/22/2022	05/21/2025
Receiver	R&S	ESCI7	100938-003	09/22/2023	09/21/2024
Spectrum Analyzer	R&S	FSV40	101200	07/25/2023	07/24/2024
TRILOG Broadband Antenna	schwarzbeck	VULB 9163	9163-618	05/22/2022	05/21/2025
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-076	04/15/2021	04/14/2024
Microwave Preamplifier	Tonscend	EMC051845SE	980380	12/14/2023	12/13/2024
Horn Antenna	A.H.SYSTEMS	SAS-574	374	05/29/2021	05/28/2024
Horn Antenna	ETS-LINGREN	BBHA 9120D	9120D-1869	04/15/2021	04/14/2024
Preamplifier	Agilent	11909A	12-1	03/28/2023 03/22/2024	03/27/2024 03/21/2025
Preamplifier	CD	PAP-1840-60	6041.6042	07/03/2023	07/02/2024
Test software	Fara	EZ-EMC	EMEC-3A1-Pre	---	---
Cable line	Fulai(7M)	SF106	5219/6A	---	---
Cable line	Fulai(6M)	SF106	5220/6A	---	---
Cable line	Fulai(3M)	SF106	5216/6A	---	---
Cable line	Fulai(3M)	SF106	5217/6A	---	---

6 Test results and Measurement Data

6.1 Antenna Requirement

Standard requirement:	47 CFR Part 15C Section 15.203
15.203 requirement: 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.	
EUT Antenna:	Please see Internal photos
The antenna is attached on the main PCB and no consideration of replacement.	

6.2 Radiated Emissions

Test Requirement: 47 CFR Part 15C Section 15.231(b) and 15.209

Test Method: ANSI C63.10 2013

Test Site: Measurement Distance: 3m (Semi-Anechoic Chamber)

Receiver Setup:

Frequency	Detector	RBW	VBW	Remark
0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak

Test Setup:

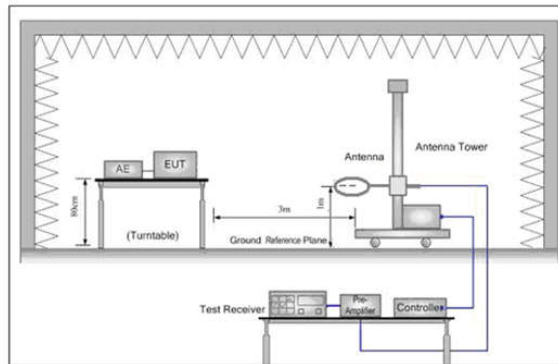


Figure . Below 30MHz

Test Procedure:

Below 1GHz test procedure as below:

- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rota table table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Limit:
(Spurious
Emissions)

Frequency	Field strength (microvolt/meter)	Limit (dBμV/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
1.705MHz-30MHz	30	-	-	30

Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

Test Mode:

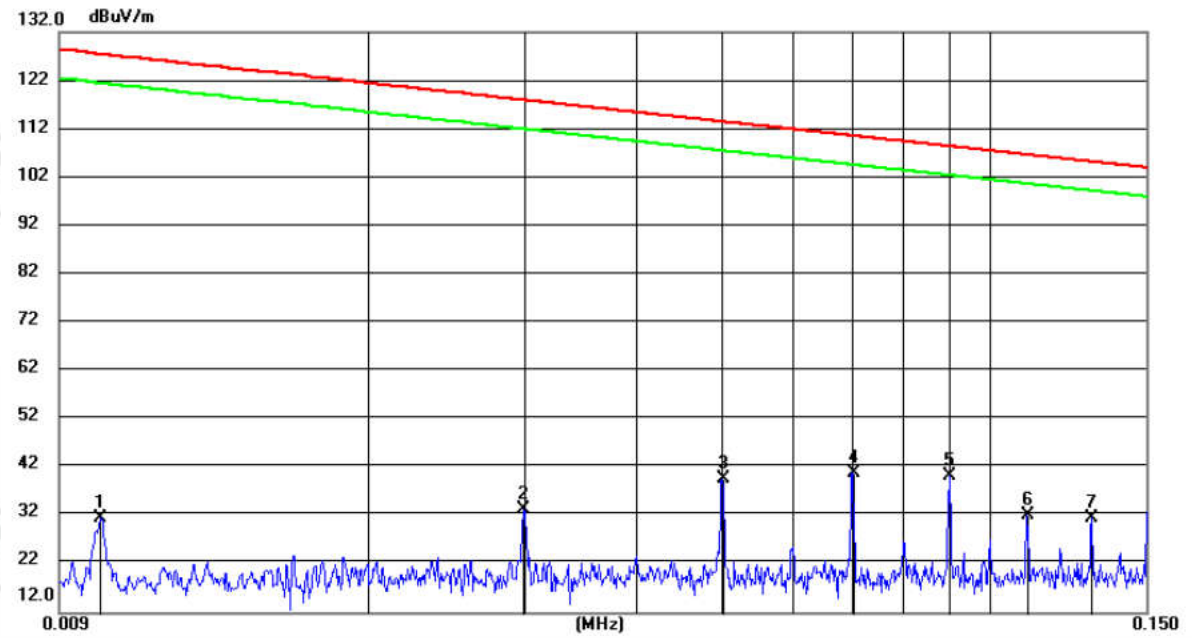
Transmitting mode, refer to section 4.3

Test Results:

Pass

9kHz~150kHz:

Measurement Data (Mode a):



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		0.0100	10.45	21.30	31.75	127.40	-95.65	QP	100	239
2		0.0299	12.61	20.92	33.53	117.94	-84.41	QP	100	94
3		0.0501	18.73	20.90	39.63	113.49	-73.86	QP	100	152
4		0.0702	20.05	20.83	40.88	110.57	-69.69	QP	100	7
5	*	0.0901	19.38	20.85	40.23	108.42	-68.19	QP	100	167
6		0.1101	11.32	20.84	32.16	106.69	-74.53	QP	100	21
7		0.1303	10.87	20.90	31.77	105.23	-73.46	QP	100	28

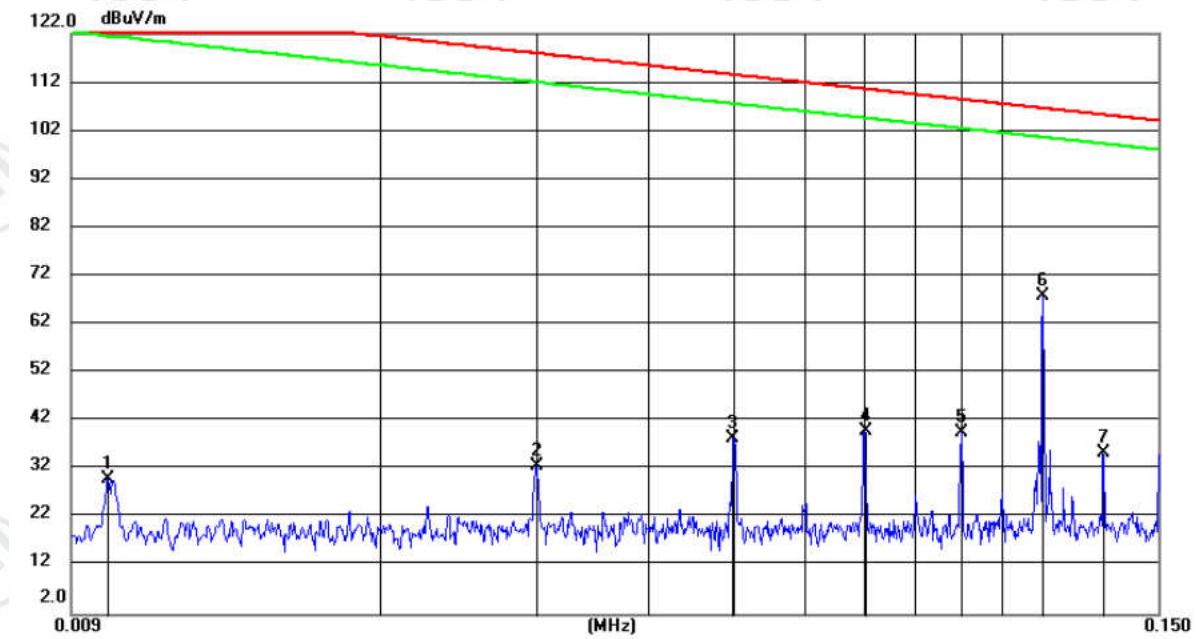
Remark:

- 1.According ANSI C63.10-2013 chapter 6.4.6,We tested the parallel,perpendicular,and ground-parallel of loop antenna,and was recorded the worst parallel data of loop antenna in the report.
- 2.The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

Measurement Data (Mode b):



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		0.0099	8.71	21.30	30.01	127.48	-97.47	QP	100	272
2		0.0300	11.68	20.92	32.60	117.91	-85.31	QP	100	106
3		0.0499	17.65	20.90	38.55	113.52	-74.97	QP	100	99
4		0.0702	19.25	20.83	40.08	110.57	-70.49	QP	100	352
5		0.0901	18.69	20.85	39.54	108.42	-68.88	QP	100	352
6	*	0.1113	46.87	20.85	67.72	106.59	-38.87	QP	100	287
7		0.1300	14.50	20.90	35.40	105.25	-69.85	QP	100	352

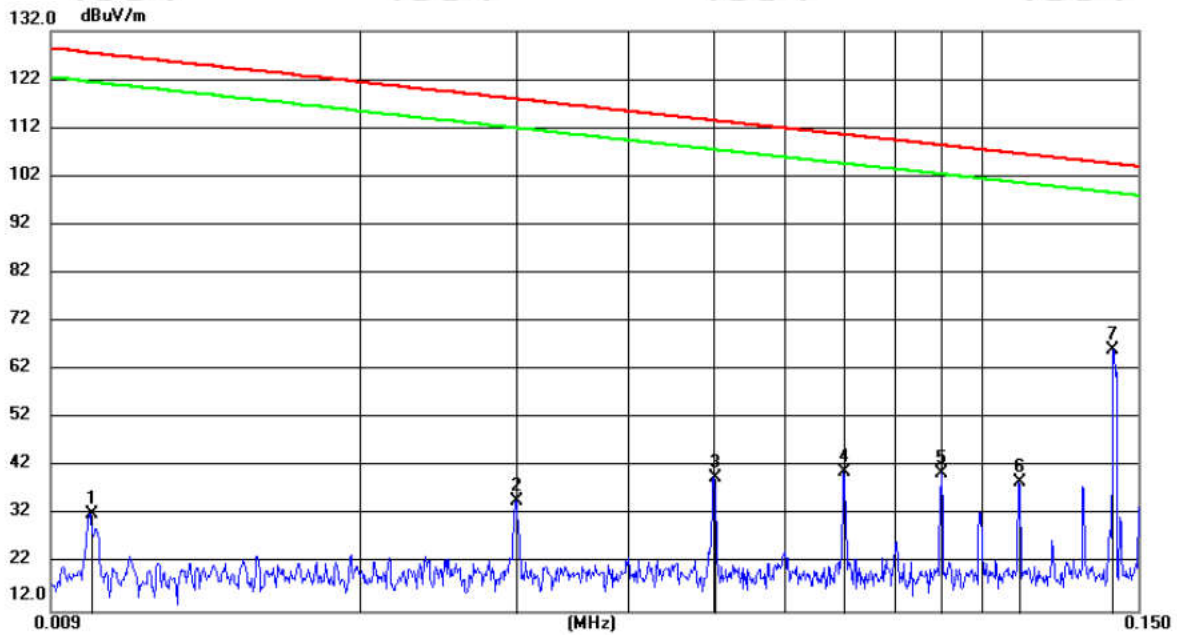
Remark:

1. According ANSI C63.10-2013 chapter 6.4.6, We tested the parallel, perpendicular, and ground-parallel of loop antenna, and was recorded the worst parallel data of loop antenna in the report.
2. The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor - Antenna Factor - Cable Factor

Measurement Data (Mode c):



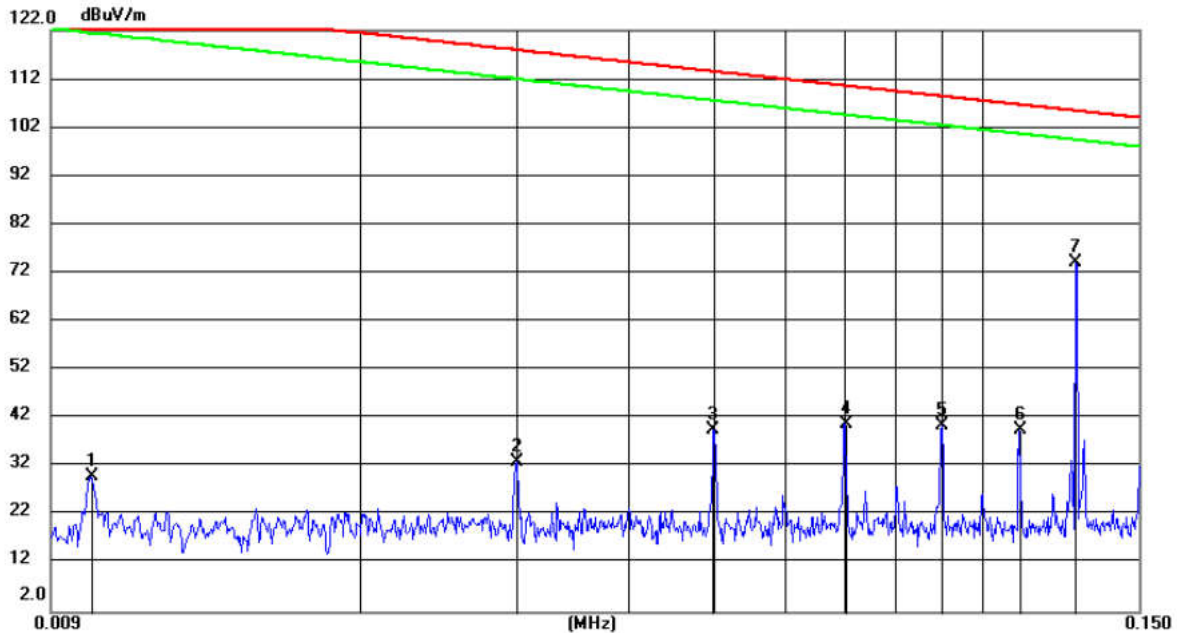
Remark:

1. According ANSI C63.10-2013 chapter 6.4.6, We tested the parallel, perpendicular, and ground-parallel of loop antenna, and was recorded the worst parallel data of loop antenna in the report.
2. The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor - Antenna Factor - Cable Factor

Measurement Data (Mode d):



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Antenna Height cm	Table Degree degree	Comment
1		0.0100	8.82	21.30	30.12	127.40	-97.28	QP	100	240	
2		0.0300	12.11	20.92	33.03	117.91	-84.88	QP	100	145	
3		0.0499	18.75	20.90	39.65	113.52	-73.87	QP	100	7	
4		0.0702	19.97	20.83	40.80	110.57	-69.77	QP	100	7	
5		0.0901	19.75	20.85	40.60	108.42	-67.82	QP	100	7	
6		0.1101	18.87	20.84	39.71	106.69	-66.98	QP	100	7	
7	*	0.1274	53.12	20.89	74.01	105.43	-31.42	QP	100	342	

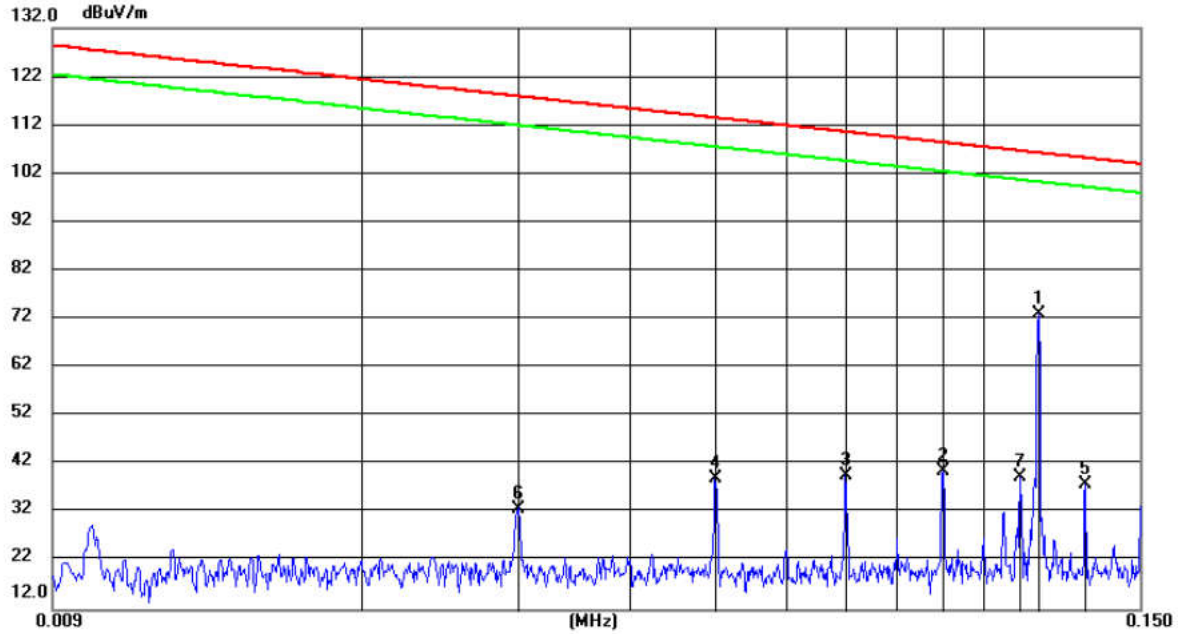
Remark:

1. According ANSI C63.10-2013 chapter 6.4.6, We tested the parallel, perpendicular, and ground-parallel of loop antenna, and was recorded the worst parallel data of loop antenna in the report.
2. The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor - Antenna Factor - Cable Factor

Measurement Data (Mode e):



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	0.1154	52.28	20.85	73.13	106.28	-33.15	QP	100	285
2		0.0901	19.95	20.85	40.80	108.42	-67.62	QP	100	7
3		0.0700	19.01	20.83	39.84	110.60	-70.76	QP	100	7
4		0.0500	18.40	20.90	39.30	113.50	-74.20	QP	100	360
5		0.1303	16.98	20.90	37.88	105.23	-67.35	QP	100	7
6		0.0300	12.08	20.92	33.00	117.91	-84.91	QP	100	248
7		0.1100	18.52	20.84	39.36	106.70	-67.34	QP	100	7

Remark:

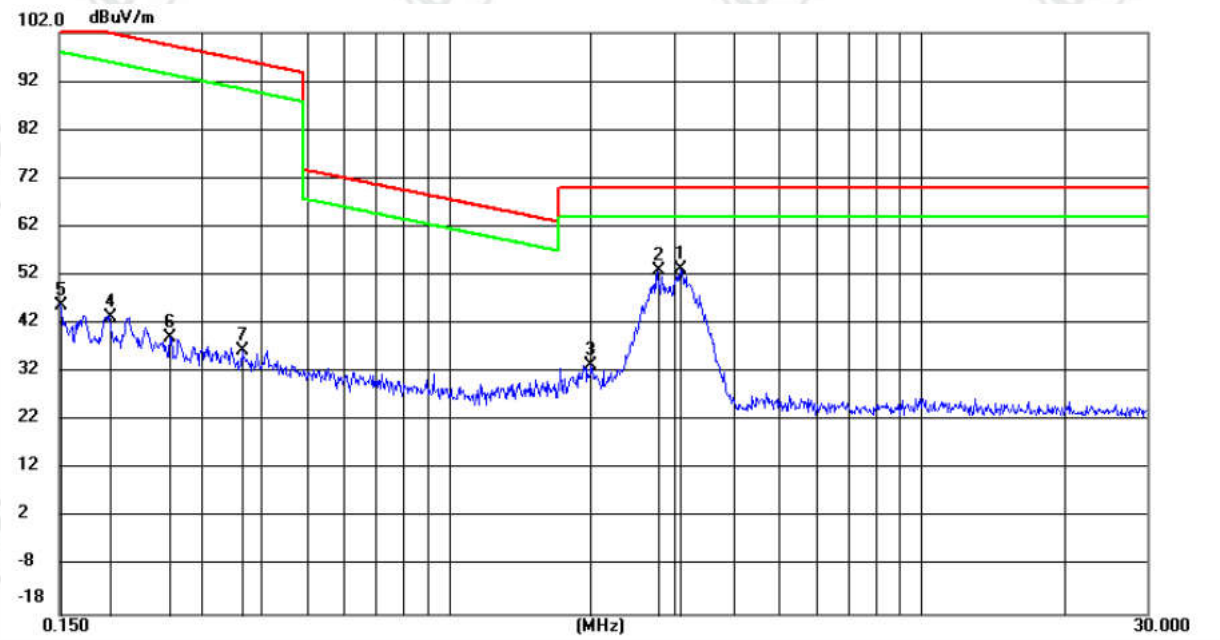
1. According ANSI C63.10-2013 chapter 6.4.6, We tested the parallel, perpendicular, and ground-parallel of loop antenna, and was recorded the worst parallel data of loop antenna in the report.
2. The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor - Antenna Factor - Cable Factor

150kHz~30MHz:

Measurement Data (Mode a):

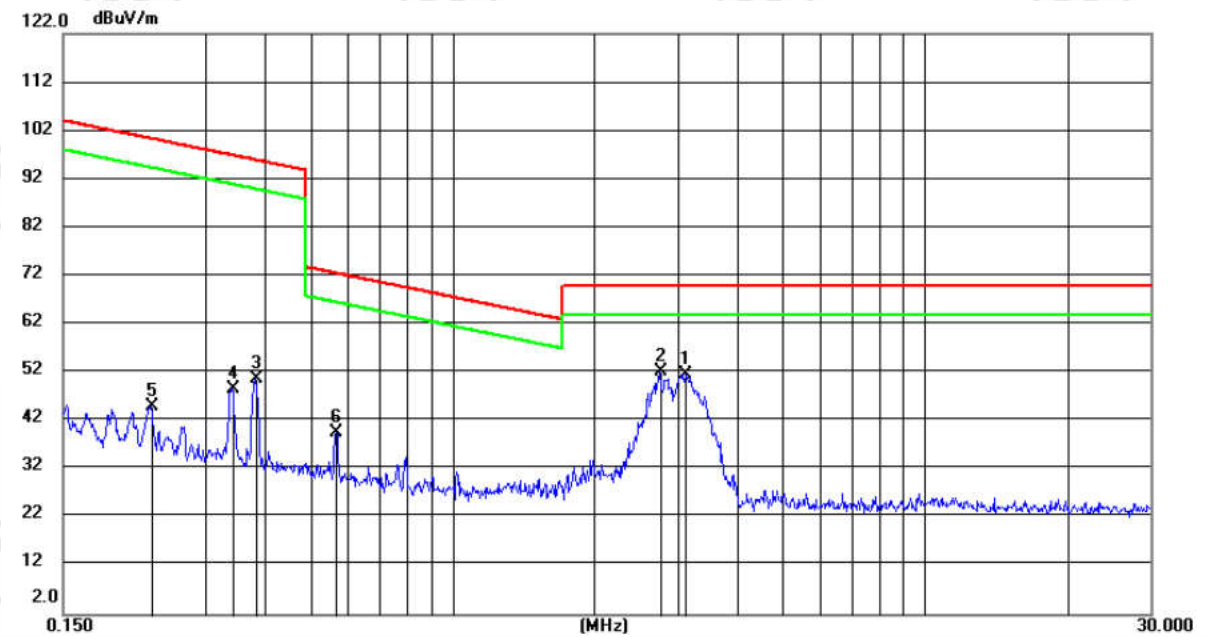


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	3.0901	32.70	20.41	53.11	70.00	-16.89	QP	100	0
2		2.7648	32.49	20.42	52.91	70.00	-17.09	QP	100	292
3		2.0011	12.94	20.44	33.38	70.00	-36.62	QP	100	352
4		0.1914	22.53	20.97	43.50	101.91	-58.41	QP	100	59
5		0.1508	24.98	20.92	45.90	103.97	-58.07	QP	100	1
6		0.2575	18.10	21.03	39.13	99.35	-60.22	QP	100	154
7		0.3653	15.73	20.81	36.54	96.34	-59.80	QP	100	59

Remark:

- 1.According ANSI C63.10-2013 chapter 6.4.6,We tested the parallel,perpendicular,and ground-parallel of loop antenna,and was recorded the worst parallel data of loop antenna in the report.
- 2.The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
- Final Test Level =Receiver Reading - Correct Factor
- Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

Measurement Data (Mode b):



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	Comment
			dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		3.1066	31.35	20.41	51.76	70.00	-18.24	QP	100	36
2	*	2.7502	31.84	20.42	52.26	70.00	-17.74	QP	100	36
3		0.3832	30.06	20.78	50.84	95.93	-45.09	QP	100	123
4		0.3410	27.76	20.86	48.62	96.94	-48.32	QP	100	43
5		0.2304	23.96	21.01	44.97	100.33	-55.36	QP	100	234
6		0.5670	19.03	20.54	39.57	72.54	-32.97	QP	100	50

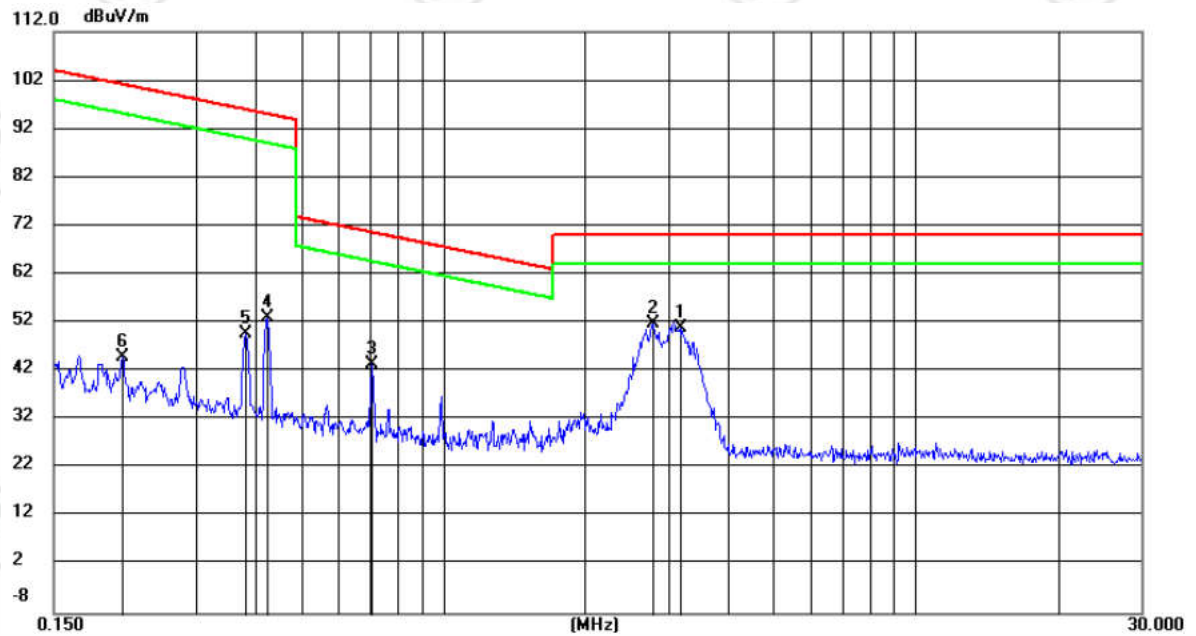
Remark:

- 1.According ANSI C63.10-2013 chapter 6.4.6,We tested the parallel,perpendicular,and ground-parallel of loop antenna,and was recorded the worst parallel data of loop antenna in the report.
- 2.The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

Measurement Data (Mode c):

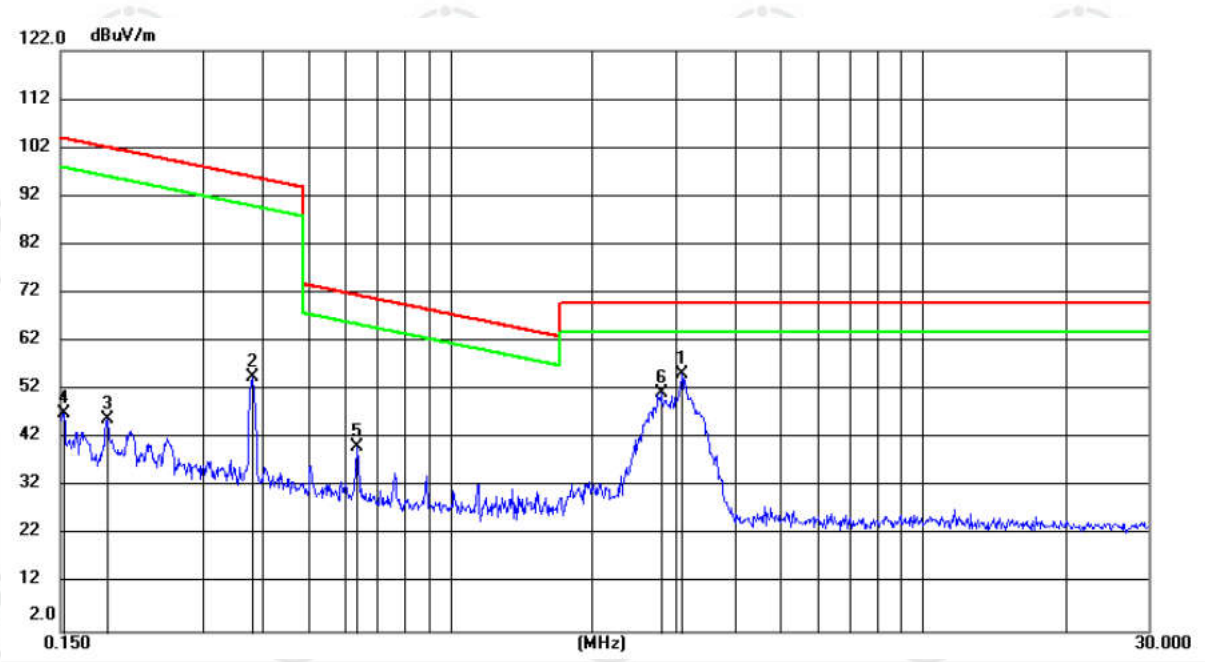


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		3.1731	30.41	20.41	50.82	70.00	-19.18	QP	100	305
2	*	2.7794	31.47	20.42	51.89	70.00	-18.11	QP	100	36
3		0.7084	22.80	20.53	43.33	70.61	-27.28	QP	100	255
4		0.4237	32.45	20.70	53.15	95.05	-41.90	QP	100	269
5		0.3811	28.88	20.78	49.66	95.97	-46.31	QP	100	152
6		0.2094	23.83	20.99	44.82	101.14	-56.32	QP	100	255

Remark:

- 1.According ANSI C63.10-2013 chapter 6.4.6,We tested the parallel,perpendicular,and ground-parallel of loop antenna,and was recorded the worst parallel data of loop antenna in the report.
- 2.The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
- Final Test Level =Receiver Reading - Correct Factor
- Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

Measurement Data (Mode d):



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	3.0901	34.85	20.41	55.26	70.00	-14.74	QP	100	352
2		0.3811	33.94	20.78	54.72	95.97	-41.25	QP	100	83
3		0.1883	24.92	20.97	45.89	102.06	-56.17	QP	100	243
4		0.1524	26.25	20.92	47.17	103.88	-56.71	QP	100	352
5		0.6338	19.80	20.54	40.34	71.57	-31.23	QP	100	25
6		2.7942	30.93	20.41	51.34	70.00	-18.66	QP	100	352

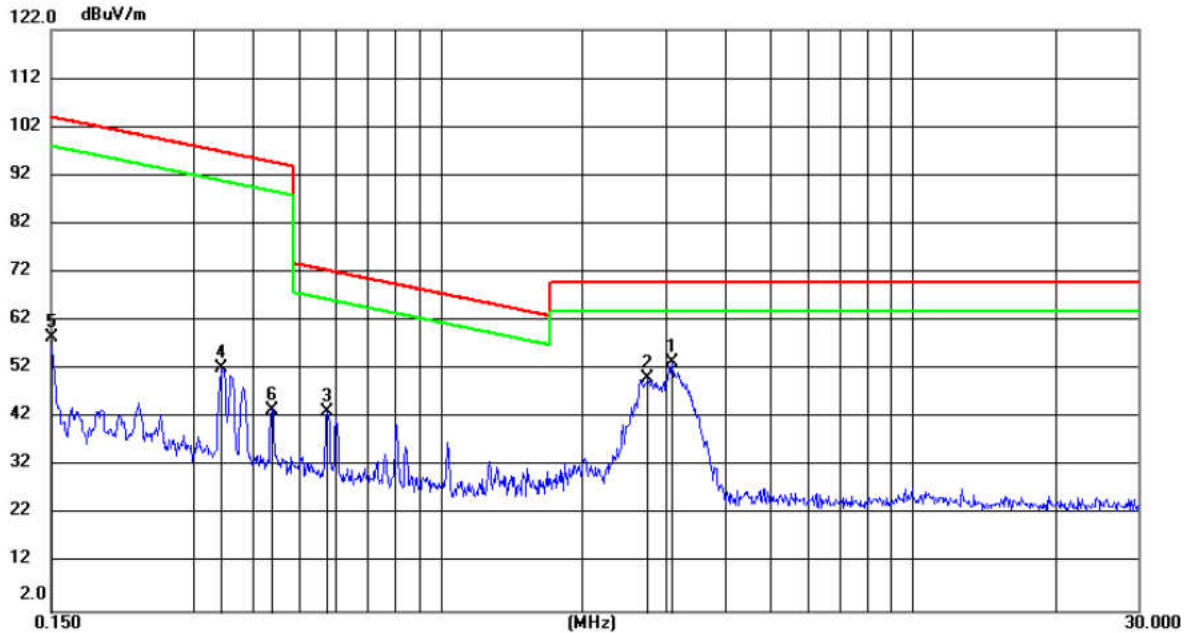
Remark:

- 1.According ANSI C63.10-2013 chapter 6.4.6,We tested the parallel,perpendicular,and ground-parallel of loop antenna,and was recorded the worst parallel data of loop antenna in the report.
- 2.The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equati on with a sample calculation is as follows:

Final Test Level =Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

Measurement Data (Mode e):



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	3.0901	32.93	20.41	53.34	70.00	-16.66	QP	100	352
2		2.7501	29.83	20.42	50.25	70.00	-19.75	QP	100	272
3		0.5761	22.67	20.54	43.21	72.40	-29.19	QP	100	61
4		0.3446	31.30	20.85	52.15	96.84	-44.69	QP	100	68
5		0.1500	37.54	20.92	58.46	104.02	-45.56	QP	100	90
6		0.4397	22.85	20.67	43.52	94.73	-51.21	QP	100	90

Remark:

1. According to ANSI C63.10-2013 chapter 6.4.6, We tested the parallel, perpendicular, and ground-parallel of loop antenna, and was recorded the worst parallel data of loop antenna in the report.
2. The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

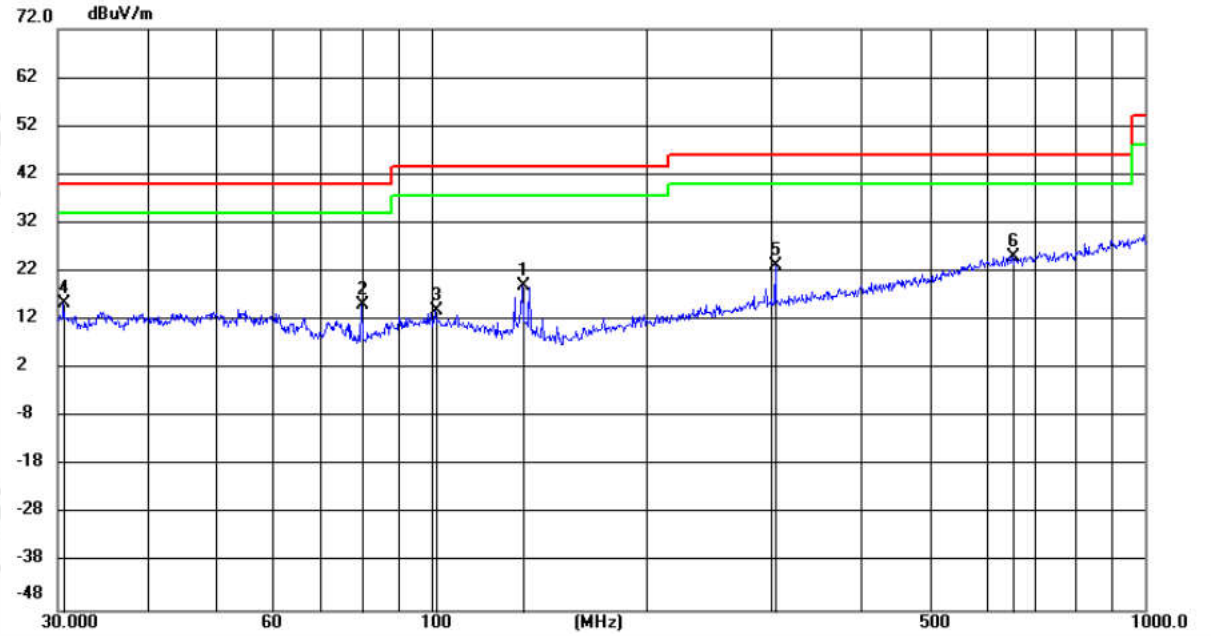
Final Test Level = Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor - Antenna Factor - Cable Factor

30MHz-1GHz:

Measurement Data (Mode a):

Polarization: Horizontal



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	Comment
			dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		134.3470	9.12	9.86	18.98	43.50	-24.52	QP	200	53
2		79.9963	5.41	9.65	15.06	40.00	-24.94	QP	100	181
3		101.4484	0.40	13.48	13.88	43.50	-29.62	QP	200	221
4		30.5788	2.81	12.75	15.56	40.00	-24.44	QP	100	262
5		304.1830	6.50	16.75	23.25	46.00	-22.75	QP	200	151
6	*	652.2847	1.25	23.88	25.13	46.00	-20.87	QP	100	201

Remark:

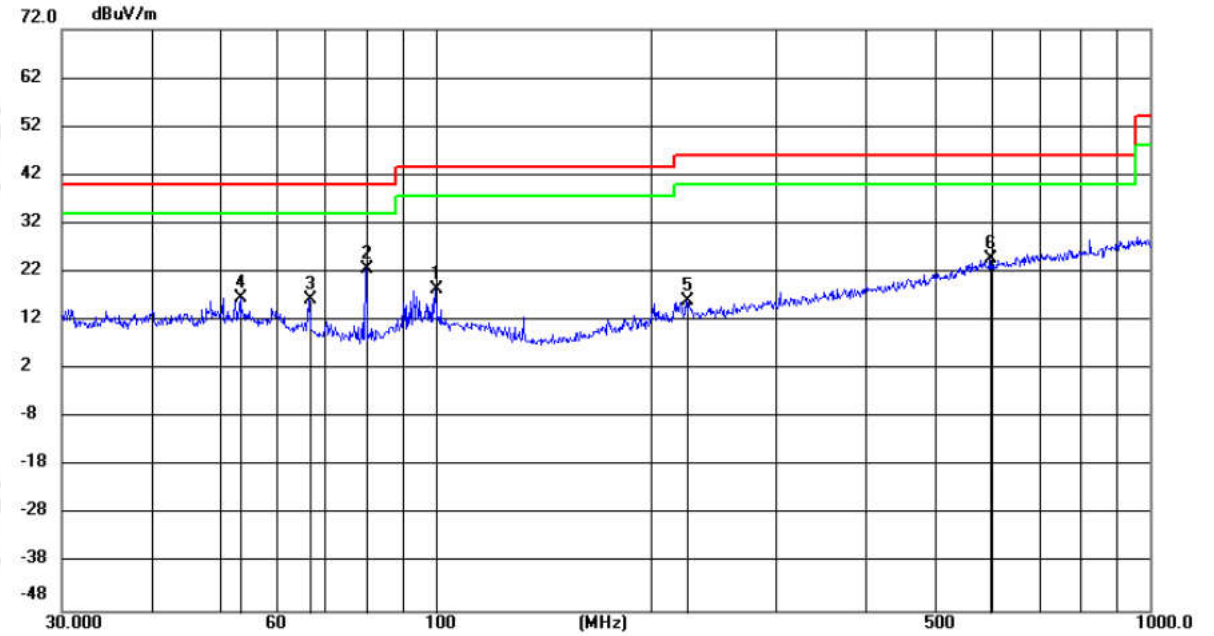
1.The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

Measurement Data (Mode a):

Polarization: Vertical



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	Comment
			dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		99.9828	4.76	13.55	18.31	43.50	-25.19	QP	100	46
2	*	79.9963	13.06	9.65	22.71	40.00	-17.29	QP	200	46
3		66.6740	4.76	11.61	16.37	40.00	-23.63	QP	100	27
4		53.3366	2.90	13.87	16.77	40.00	-23.23	QP	200	139
5		224.5980	2.26	13.68	15.94	46.00	-30.06	QP	100	150
6		598.2713	1.28	23.47	24.75	46.00	-21.25	QP	100	150

Remark:

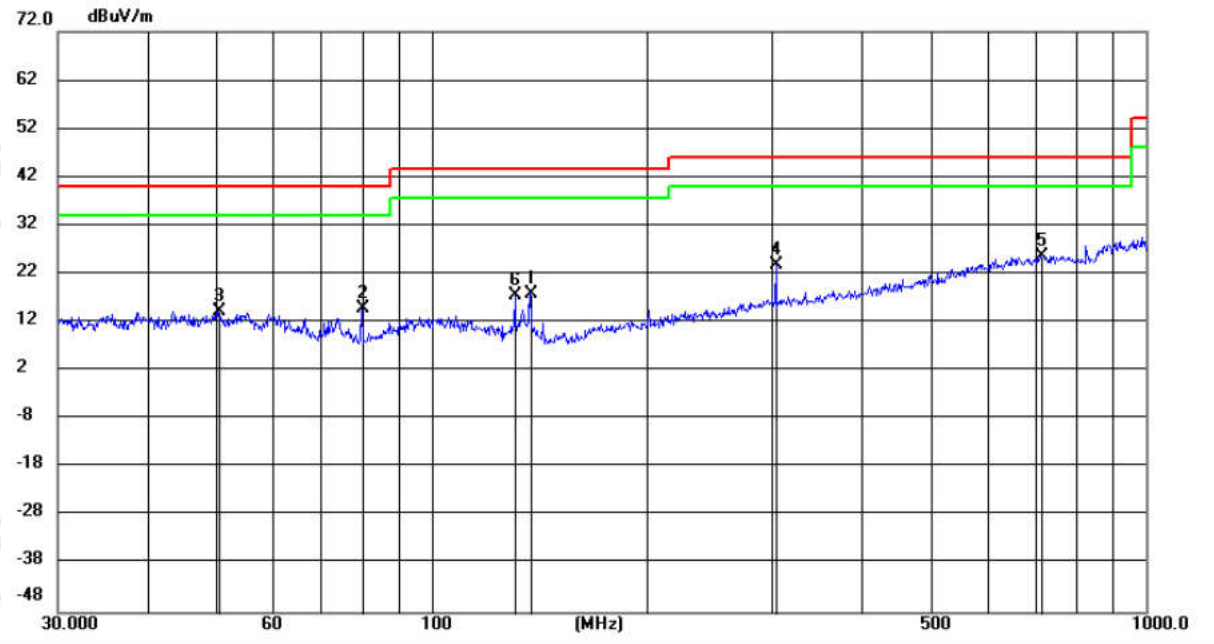
1.The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

Measurement Data (Mode b):

Polarization: Horizontal



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		137.5166	8.29	9.71	18.00	43.50	-25.50	QP	100	274
2		79.9963	5.27	9.65	14.92	40.00	-25.08	QP	200	31
3		50.2588	-0.01	14.14	14.13	40.00	-25.87	QP	100	47
4		304.1829	6.98	16.75	23.73	46.00	-22.27	QP	100	125
5	*	713.4224	1.14	24.43	25.57	46.00	-20.43	QP	200	43
6		131.2504	7.49	10.02	17.51	43.50	-25.99	QP	100	257

Remark:

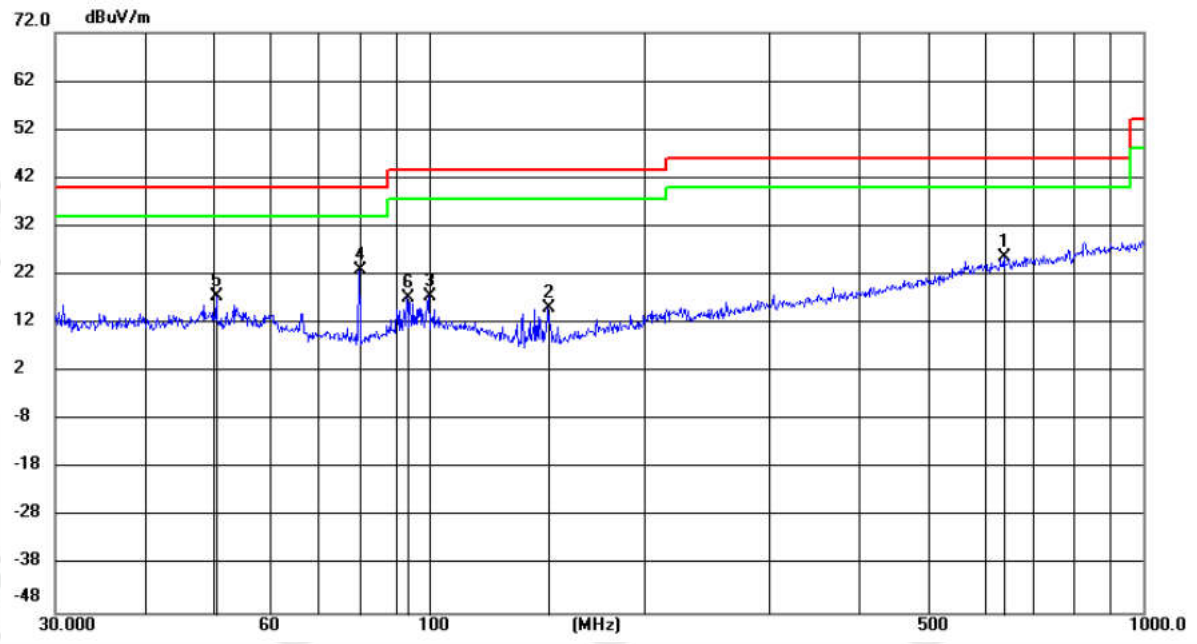
1.The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

Measurement Data (Mode b):

Polarization: Vertical



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	Comment
			dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		639.3767	1.98	23.79	25.77	46.00	-20.23	QP	100	314
2		146.9133	5.53	9.67	15.20	43.50	-28.30	QP	100	28
3		100.0178	4.11	13.55	17.66	43.50	-25.84	QP	100	147
4	*	79.9821	13.28	9.65	22.93	40.00	-17.07	QP	100	74
5		50.4885	3.32	14.13	17.45	40.00	-22.55	QP	200	24
6		93.3255	4.84	12.55	17.39	43.50	-26.11	QP	200	14

Remark:

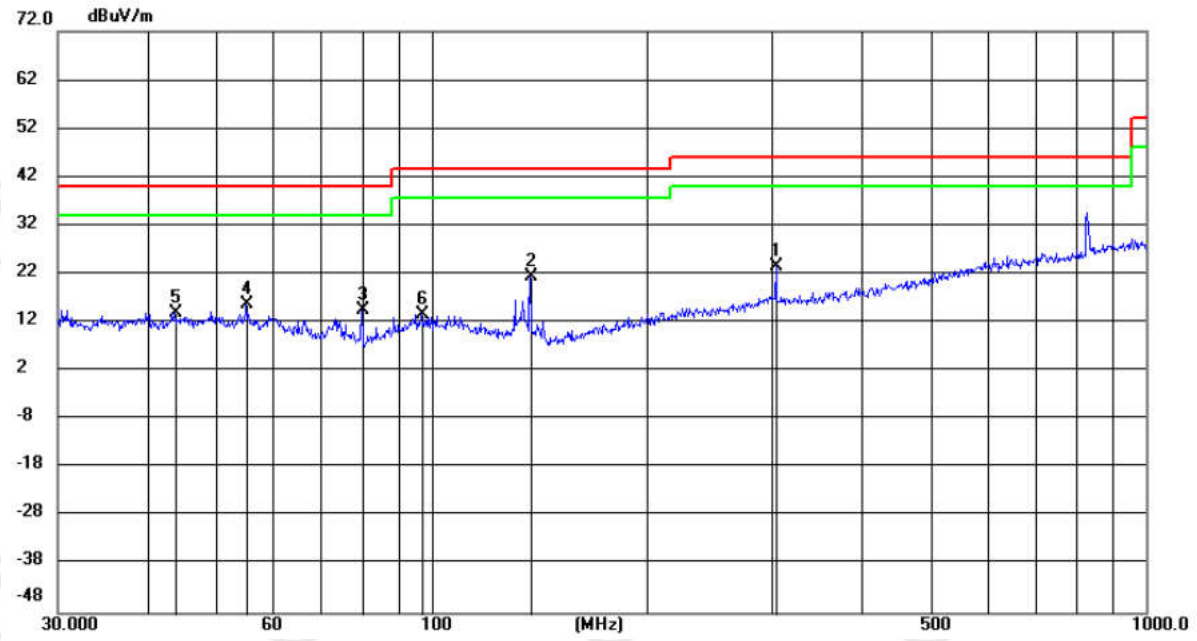
1.The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

Measurement Data (Mode c):

Polarization: Horizontal



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	dBuV	Factor	ment			Height	Degree	Comment
1		304.2363	6.87	16.75	23.62	46.00	-22.38	QP	200	24
2	*	137.5166	11.63	9.71	21.34	43.50	-22.16	QP	100	341
3		80.0104	4.93	9.65	14.58	40.00	-25.42	QP	100	317
4		55.0370	2.00	13.72	15.72	40.00	-24.28	QP	200	18
5		43.8042	0.01	14.05	14.06	40.00	-25.94	QP	100	247
6		97.0637	0.61	13.11	13.72	43.50	-29.78	QP	100	116

Remark:

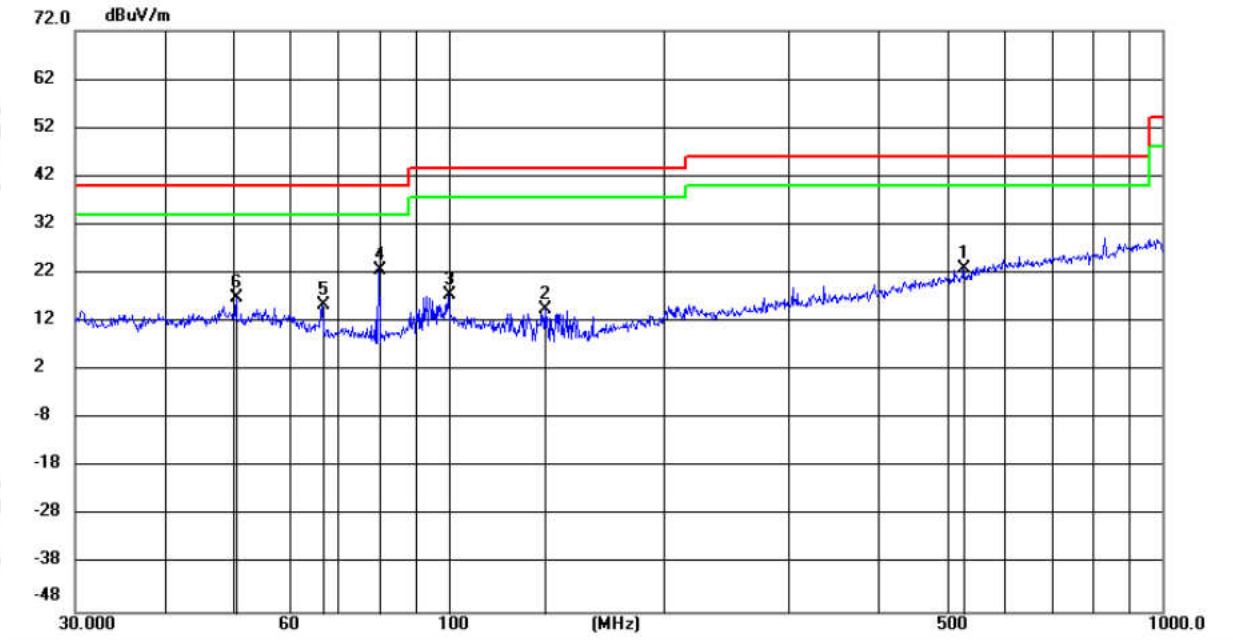
1.The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

Measurement Data (Mode c):

Polarization: Vertical



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	Comment
			dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		526.4890	1.26	21.60	22.86	46.00	-23.14	QP	100	314
2		136.6033	4.95	9.75	14.70	43.50	-28.80	QP	200	24
3		99.9477	3.91	13.54	17.45	43.50	-26.05	QP	100	43
4	*	79.9963	13.05	9.65	22.70	40.00	-17.30	QP	200	214
5		66.6505	3.73	11.62	15.35	40.00	-24.65	QP	100	196
6		50.4618	2.86	14.13	16.99	40.00	-23.01	QP	100	187

Remark:

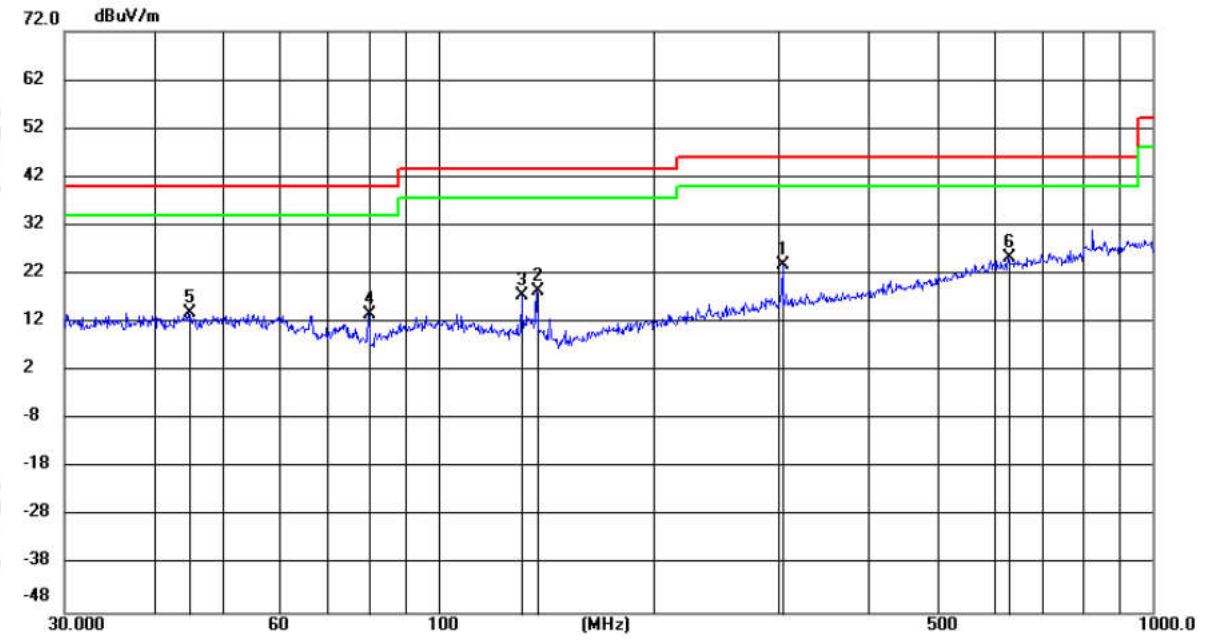
1.The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

Measurement Data (Mode d):

Polarization: Horizontal



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	Comment
			dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		304.1829	7.20	16.75	23.95	46.00	-22.05	QP	100	247
2		137.4924	8.75	9.71	18.46	43.50	-25.04	QP	100	21
3		131.2504	7.46	10.02	17.48	43.50	-26.02	QP	200	143
4		79.9963	3.99	9.65	13.64	40.00	-26.36	QP	100	274
5		44.8376	-0.02	14.07	14.05	40.00	-25.95	QP	100	25
6	*	628.5949	1.65	23.71	25.36	46.00	-20.64	QP	200	73

Remark:

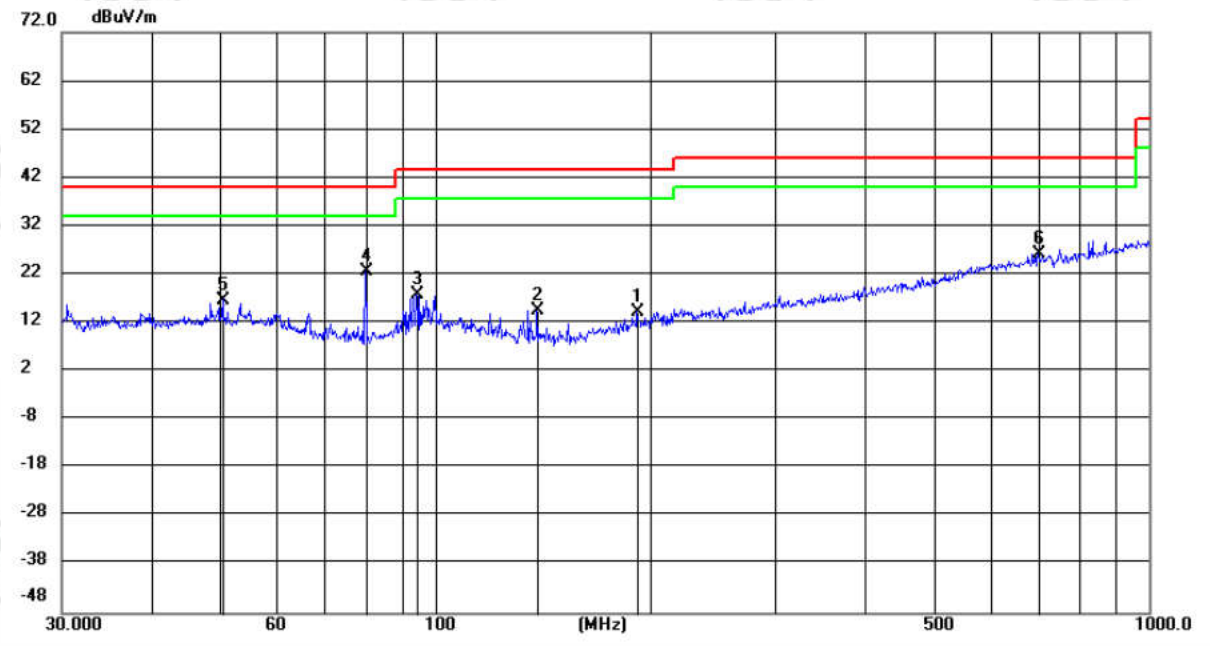
1.The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

Measurement Data (Mode d):

Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		191.9805	1.88	12.45	14.33	43.50	-29.17	QP	200	247
2		138.9706	4.85	9.64	14.49	43.50	-29.01	QP	200	17
3		94.2960	5.26	12.69	17.95	43.50	-25.55	QP	100	214
4	*	80.0104	13.00	9.65	22.65	40.00	-17.35	QP	100	287
5		50.4973	2.67	14.13	16.80	40.00	-23.20	QP	100	319
6		700.9002	2.12	24.22	26.34	46.00	-19.66	QP	100	305

Remark:

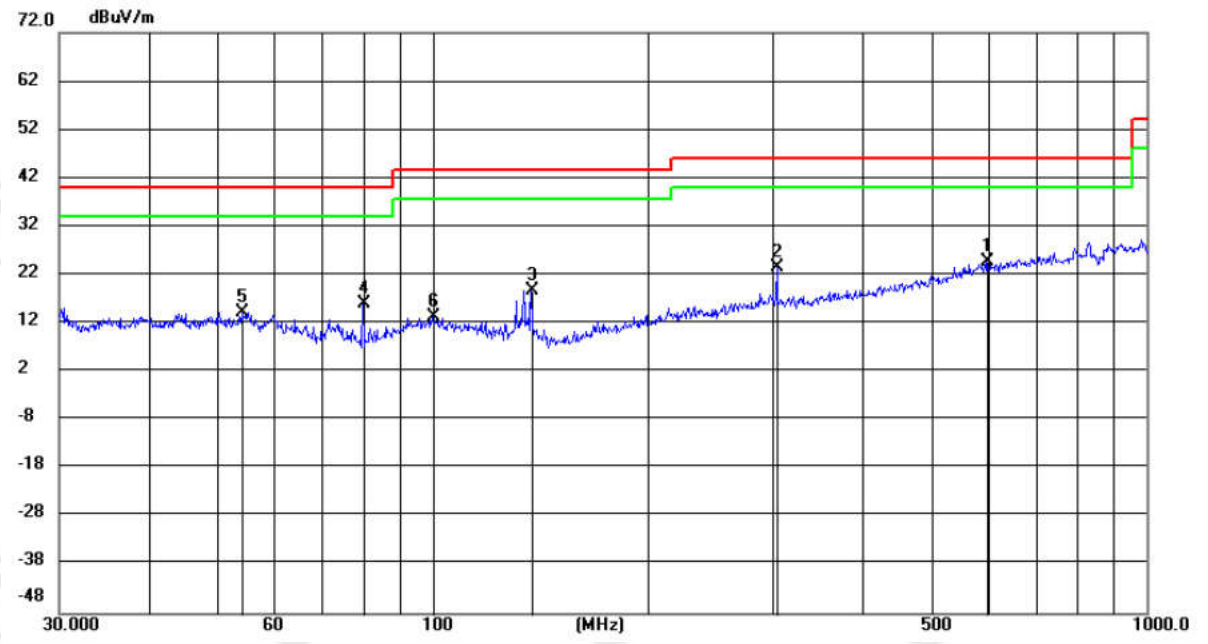
1.The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equati on with a sample calculation is as follows:

Final Test Level =Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

Measurement Data (Mode e):

Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	599.3211	1.21	23.51	24.72	46.00	-21.28	QP	100	66
2		304.1829	6.78	16.75	23.53	46.00	-22.47	QP	100	220
3		137.4684	9.07	9.71	18.78	43.50	-24.72	QP	100	352
4		79.9963	6.39	9.65	16.04	40.00	-23.96	QP	100	230
5		54.2323	0.57	13.78	14.35	40.00	-25.65	QP	100	271
6		100.0002	-0.27	13.55	13.28	43.50	-30.22	QP	100	97

Remark:

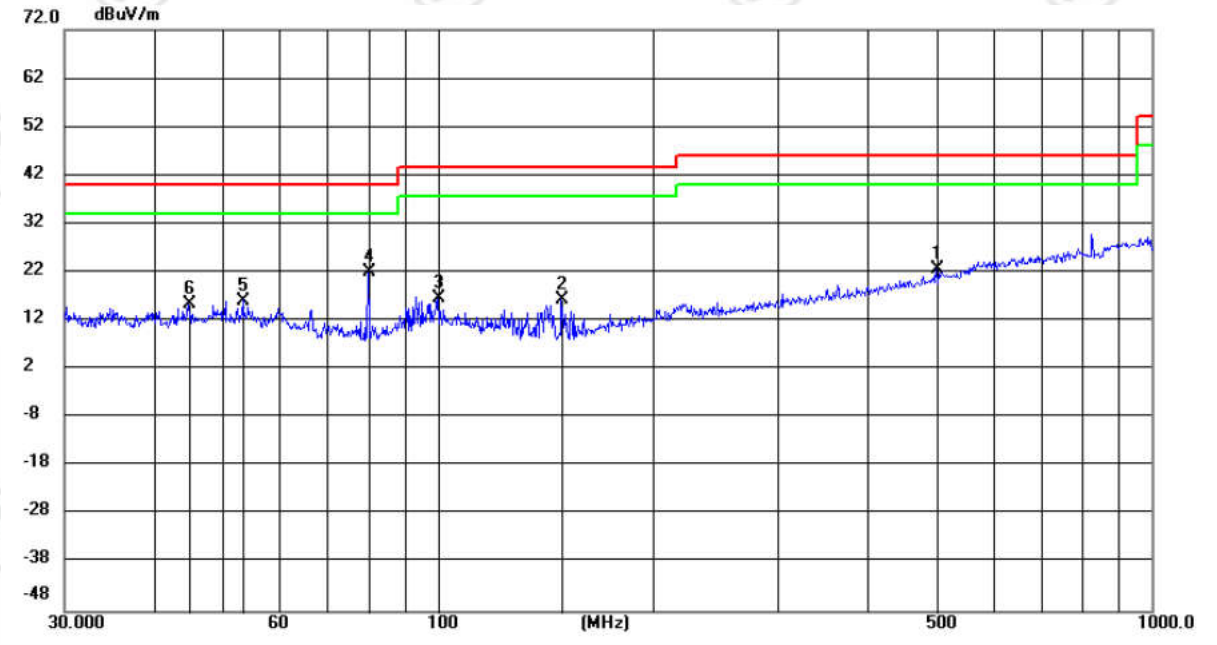
1.The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

Measurement Data (Mode e):

Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		500.0380	1.62	20.91	22.53	46.00	-23.47	QP	100	325
2		149.1452	6.72	9.69	16.41	43.50	-27.09	QP	100	273
3		99.9826	3.14	13.55	16.69	43.50	-26.81	QP	100	47
4	*	80.0104	12.54	9.65	22.19	40.00	-17.81	QP	100	294
5		53.3365	2.33	13.87	16.20	40.00	-23.80	QP	100	119
6		44.7668	1.24	14.07	15.31	40.00	-24.69	QP	100	335

Remark:

1.The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor