

# TEST REPORT

**Reference No.**..... : WTX23X11250481W001  
**FCC ID** ..... : 2AFKNPF2203  
**Applicant** ..... : Spigen Korea Co., Ltd.  
**Address** ..... : Spigen HQ-A, 446, Bongeunsa-ro, Gangnam-gu, Seoul, 06153, South Korea  
**Manufacturer** ..... : The same as Applicant  
**Address** ..... : The same as Applicant  
**Product Name** ..... : ArcField Wireless Charger  
**Model No.**..... : PF2203  
**Standards** ..... : FCC Part 15.207&15.209  
**Date of Receipt sample** .... : 2023-11-24  
**Date of Test**..... : 2023-11-24 to 2024-02-02  
**Date of Issue** ..... : 2024-02-02  
**Test Report Form No.** ..... : WTX\_Part 15\_207\_209W  
**Test Result**..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.

**Prepared By:**

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Mike Shi

Approved by:



Silin Chen

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**Report version**

Version No.	Date of issue	Description
Rev.00	2024-02-02	Original
/	/	/


## 1. GENERAL INFORMATION

### 1.1 Product Description for Equipment Under Test (EUT)

#### Client Information

Factory 1#: SuiChuan CE LINK LIMITED  
 Address of factory: SuiChuan county industrial park east zone, Ji'an city  
 Jiangxi province,China.

Factory 2#: CE LINK VIET NAM COMPANY LIMITED.  
 Address of factory Lot CNSG04&CNSG06 Van Trung Industrial Zone,  
 Viet Yen district, Bac Giang Province, Vietnam

General Description of EUT	
Product Name:	ArcField Wireless Charger
Trade Name:	Spigen
	
Model No.:	PF2203
Adding Model(s):	/
Rated Voltage:	Input:5.0V/9.0V/12.0V/15.0V
Rated Current:	Input:3.0A/3.0A/2.5A/2.0A
Rate Power:	Output 1: 15.0W(for iphone 12 or later) Output 2: 5W(for Apple Watch) Output 3: 5W(for Air Pods)
Power Adapter Model:	Model:PD30U-ITNC Input:100-240V~, 50/60Hz, 1.0A Max Output:DC5.0V3.0A,9.0V3.0A,15.0V,2.0A,20.0V1.5A
<i>Note: The test data is gathered from a production sample, provided by the manufacturer.</i>	

Technical Characteristics of EUT	
Frequency Range:	Transmitter 1(Phone):115kHz-205kHz Transmitter 1(Phone):360kHz Transmitter 2(Watch):326.5kHz Transmitter 2(Watch):1.778MHz Transmitter 3(Earphone):115kHz-205kHz
Antenna Type:	Coil Antenna
Radio Technology:	/

## 1.2 Test Standards

The tests were performed according to following standards:

**FCC Rules Part 15.207**: Conducted limits.

**FCC Rules Part 15.209**: Radiated emission limits; general requirements.

**ANSI C63.10-2013**: American National Standard for Testing Unlicensed Wireless Devices.

**Maintenance of compliance** is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

## 1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, the equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted accordingly in reference to the Operating Instructions.

## 1.4 Test Facility

### **Address of the test laboratory**

Laboratory: Waltek Testing Group (Shenzhen) Co., Ltd.

Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road, Block 70 Bao'an District, Shenzhen, Guangdong, China

### **FCC – Registration No.: 125990**

Waltek Testing Group (Shenzhen) Co., Ltd. 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 in our files. The Designation Number is CN5010, and Test Firm Registration Number is 125990.

### **Industry Canada (IC) Registration No.: 11464A**

The 3m Semi-anechoic chamber of Waltek Testing Group (Shenzhen) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A and the CAB identifier is CN0057.

## 1.5 EUT Setup and Operation Mode

The equipment under test (EUT) was configured to measure its highest possible emission. The test modes were adapted according to the operation manual for use, more detailed description as follows:

<b>Test Mode List</b>			
Test Mode	Description	Remark	Power Supply Mode
TM1	Wireless charging	Output 3 :Wireless output(5W)	Input: DC5V/9V
TM2	Wireless charging	Output 1:Wireless output(15W)	Input: DC5V/9V
TM3	Wireless charging	Output 2:iWatch(2.5W)	Input: DC5V/9V
TM4	Wireless charging	Output 2:iWatch(5W)	Input: DC5V/9V

Note: Only the worst are recorded in this report.

<b>EUT Cable List and Details</b>			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
DC Cable	2.0	Shielded	Without Ferrite

<b>Special Cable List and Details</b>			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

<b>Auxiliary Equipment List and Details</b>			
Description	Manufacturer	Model	Serial Number
Wireless charging tester	/	YBZ	/

## 1.6 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
Conducted Emissions	Conducted	9-150kHz $\pm 3.74$ dB
		0.15-30MHz $\pm 3.34$ dB
Radiated Emissions	Radiated	30-200MHz $\pm 4.52$ dB
		0.2-1GHz $\pm 5.56$ dB
		1-6GHz $\pm 3.84$ dB
		6-18GHz $\pm 3.92$ dB

**1.7 Test Equipment List and Details**

Fixed asset Number	Description	Manufacturer	Model	Serial No.	Cal Date	Due. Date
WTXE1005A 1005	Spectrum Analyzer	Agilent	N9020A	US471401 02	2023-02-25	2024-02-24
WTXE1004A 1-001	Spectrum Analyzer	Rohde & Schwarz	FSP40	100612	2023-02-25	2024-02-24
<input checked="" type="checkbox"/> Chamber A: Below 1GHz						
WTXE1005A 1003	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/03 5	2023-02-25	2024-02-24
WTXE1007A 1001	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/00 5	2023-02-25	2024-02-24
WTXE1007A 1001	Amplifier	HP	8447F	2805A034 75	2023-02-25	2024-02-24
WTXE1010A 1007	Loop Antenna	Schwarz beck	FMZB 1516	9773	2021-03-20	2024-03-19
WTXE1010A 1006	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2023-03-20	2026-03-19
<input checked="" type="checkbox"/> Chamber A: Above 1GHz						
WTXE1005A 1003	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/03 5	2023-02-25	2024-02-24
WTXE1007A 1001	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/00 5	2023-02-25	2024-02-24
WTXE1065A 1001	Amplifier	C&D	PAP-1G18	14918	2023-02-25	2024-02-24
WTXE1010A 1005	Horn Antenna	ETS	3117	00086197	2021-03-19	2024-03-18
WTXE1010A 1010	DRG Horn Antenna	A.H. SYSTEMS	SAS-574	571	2021-03-19	2024-03-18
WTXE1003A 1001	Pre-amplifier	Schwarzbeck	BBV 9721	9721-031	2023-02-25	2024-02-24
<input type="checkbox"/> Chamber B:Below 1GHz						
WTXE1010A 1006	Trilog Broadband Antenna	Schwarz beck	VULB9163(B)	9163-635	2021-04-09	2024-04-08
WTXE1038A 1001	Amplifier	Agilent	8447D	2944A104 57	2023-02-25	2024-02-24
WTXE1001A 1002	EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2023-02-25	2024-02-24
<input type="checkbox"/> Chamber C:Below 1GHz						



WTXE1093A 1001	EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2023-02-25	2024-02-24
WTXE1010A 1013-1	Trilog Broadband Antenna	Schwarz beck	VULB 9168	1194	2021-05-28	2024-05-27
WTXE1007A 1002	Amplifier	HP	8447F	2944A038 69	2023-02-25	2024-02-24
WTXE1010A 1007	Loop Antenna	Schwarz beck	FMZB 1516	9773	2021-03-20	2024-03-19
<input type="checkbox"/> Chamber C: Above 1GHz						
WTXE1093A 1001	EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2023-02-25	2024-02-24
WTXE1103A 1005	Horn Antenna	POAM	RTF-118A	1820	2023-03-10	2026-03-09
WTXE1103A 1006	Amplifier	Tonscend	TAP01018050	AP22E806 235	2023-02-25	2024-02-24
WTXE1010A 1010	DRG Horn Antenna	A.H. SYSTEMS	SAS-574	571	2021-03-19	2024-03-18
WTXE1003A 1001	Pre-amplifier	Schwarzbeck	BBV 9721	9721-031	2023-02-25	2024-02-24
<input checked="" type="checkbox"/> Conducted Room 1#						
WTXE1001A 1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2023-02-25	2024-02-24
WTXE1002A 1001	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2023-02-25	2024-02-24
WTXE1003A 1001	AC LISN	Schwarz beck	NSLK8126	8126-279	2023-02-25	2024-02-24
<input type="checkbox"/> Conducted Room 2#						
WTXE1001A 1004	EMI Test Receiver	Rohde & Schwarz	ESPI	101259	2023-02-25	2024-02-24
WTXE1003A 1003	LISN	Rohde & Schwarz	ENV 216	100097	2023-02-25	2024-02-24

<b>Software List</b>			
Description	Manufacturer	Model	Version
EMI Test Software (Radiated Emission)*	Farad	EZ-EMC	RA-03A1
EMI Test Software (Conducted Emission Room 1#)*	Farad	EZ-EMC	RA-03A1
EMI Test Software (Conducted Emission Room 2#)*	SKET	EMC-I	V2.0

\*Remark: indicates software version used in the compliance certification testing.

## 2. SUMMARY OF TEST RESULTS

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Description of Test	Result
§15.203 Antenna Requirement	Compliant
§15.207 (a) Conducted Emission	Compliant
§15.209 Radiated Emission	Compliant

N/A: not applicable.

### **3. Antenna Requirement**

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#### **3.1 Standard Applicable**

According to FCC Part 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

#### **3.2 Test Result**

This product has three Coil Antennas, fulfill the requirement of this section.

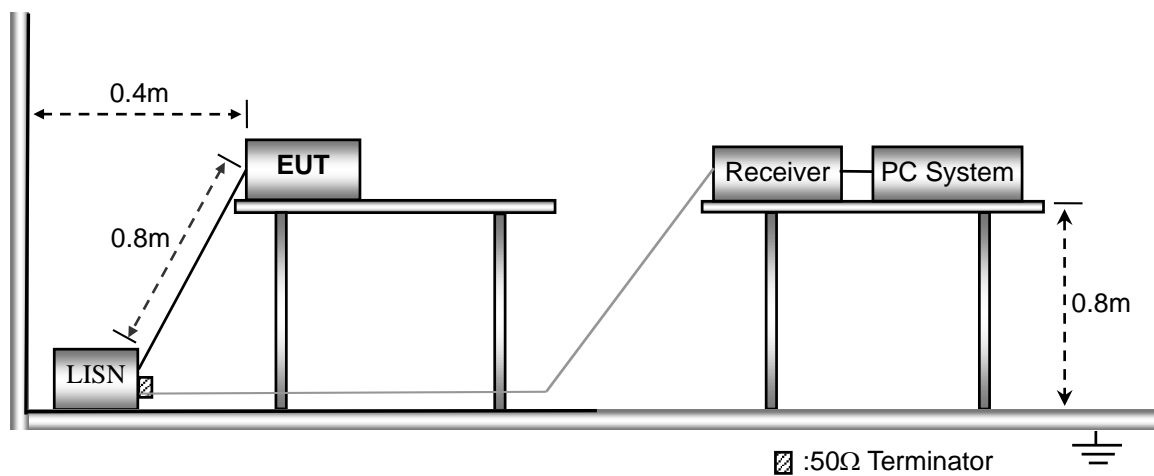
## 4. Conducted Emissions

### 4.1 Test Procedure

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 Limit.

The external I/O cables were draped along the test table and formed a bundle 30 to 40cm long in the middle. The spacing between the peripherals was 10cm.

### 4.2 Basic Test Setup Block Diagram

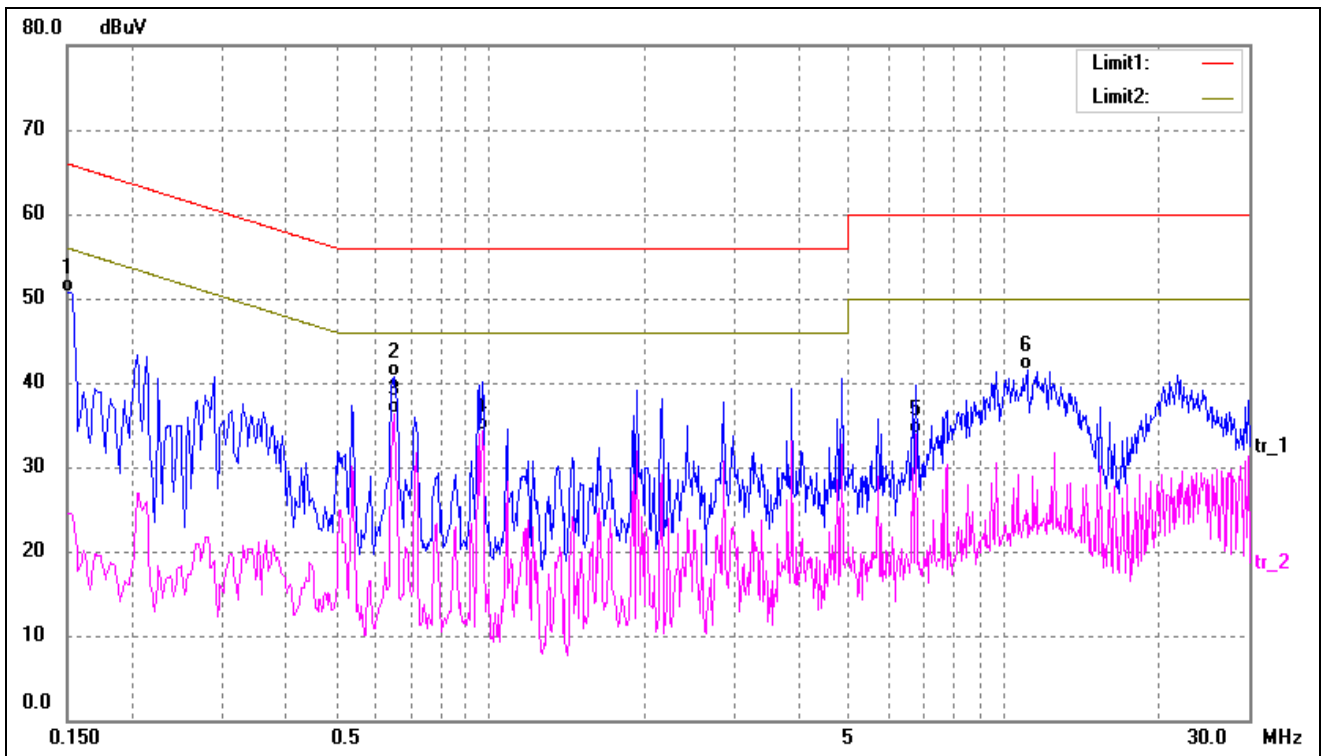


### 4.3 Environmental Conditions

Temperature:	25 °C
Relative Humidity:	55 %
ATM Pressure:	1011 mbar

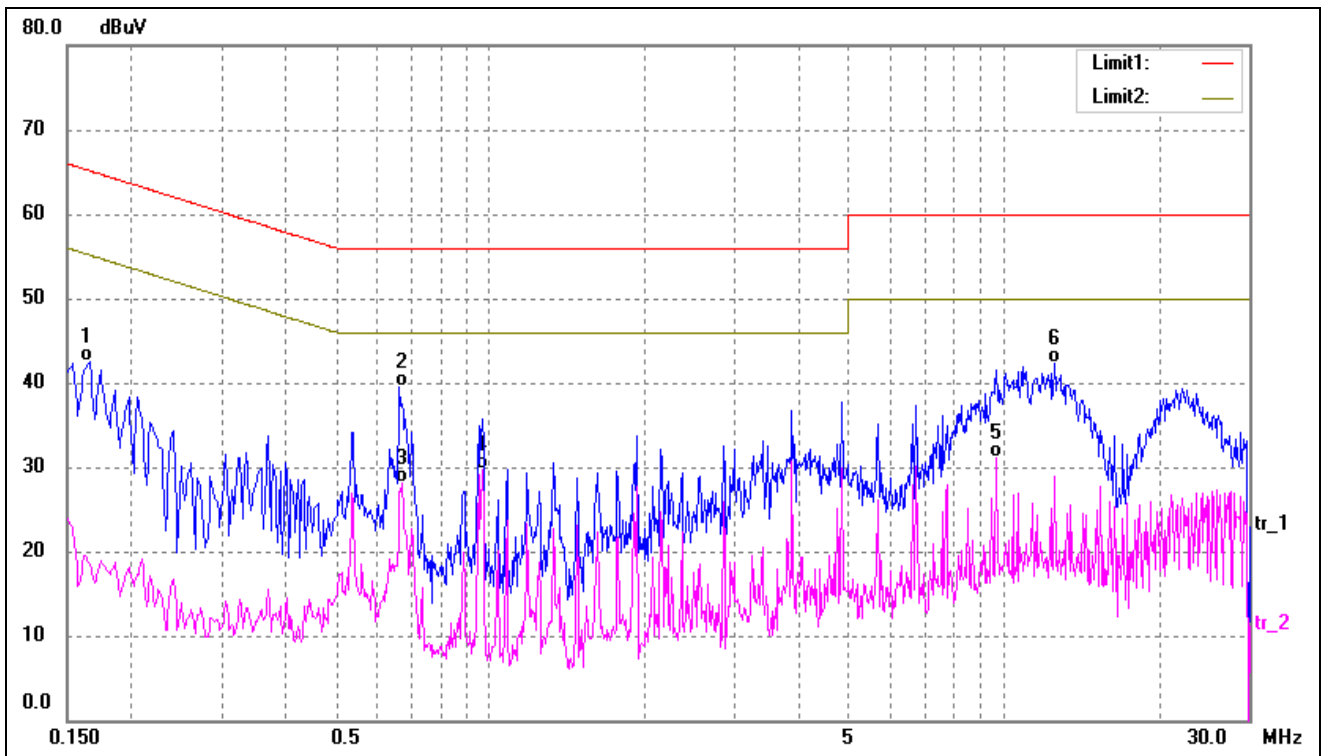
### 4.4 Summary of Test Results/Plots

Test mode:	TM1	Polarity:	Line
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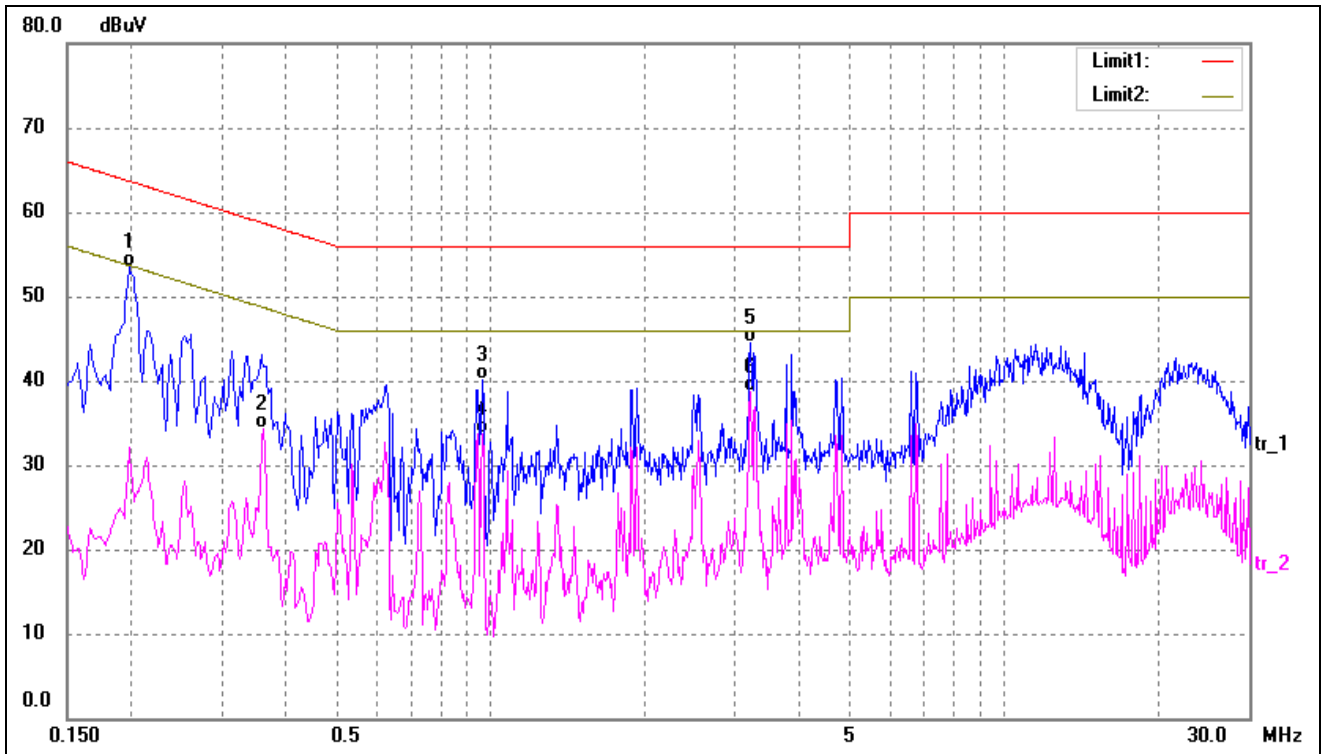
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1500	40.40	10.40	50.80	66.00	-15.20	QP
2	0.6500	30.49	10.20	40.69	56.00	-15.31	QP
3*	0.6500	26.01	10.20	36.21	46.00	-9.79	AVG
4	0.9660	24.08	10.14	34.22	46.00	-11.78	AVG
5	6.7620	23.50	10.38	33.88	50.00	-16.12	AVG
6	11.1180	31.06	10.35	41.41	60.00	-18.59	QP

Test mode:	TM1	Polarity:	Neutral
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1660	32.10	10.40	42.50	65.16	-22.66	QP
2	0.6660	29.40	10.20	39.60	56.00	-16.40	QP
3	0.6740	17.92	10.20	28.12	46.00	-17.88	AVG
4*	0.9660	19.62	10.14	29.76	46.00	-16.24	AVG
5	9.6620	20.64	10.38	31.02	50.00	-18.98	AVG
6	12.5580	32.07	10.30	42.37	60.00	-17.63	QP

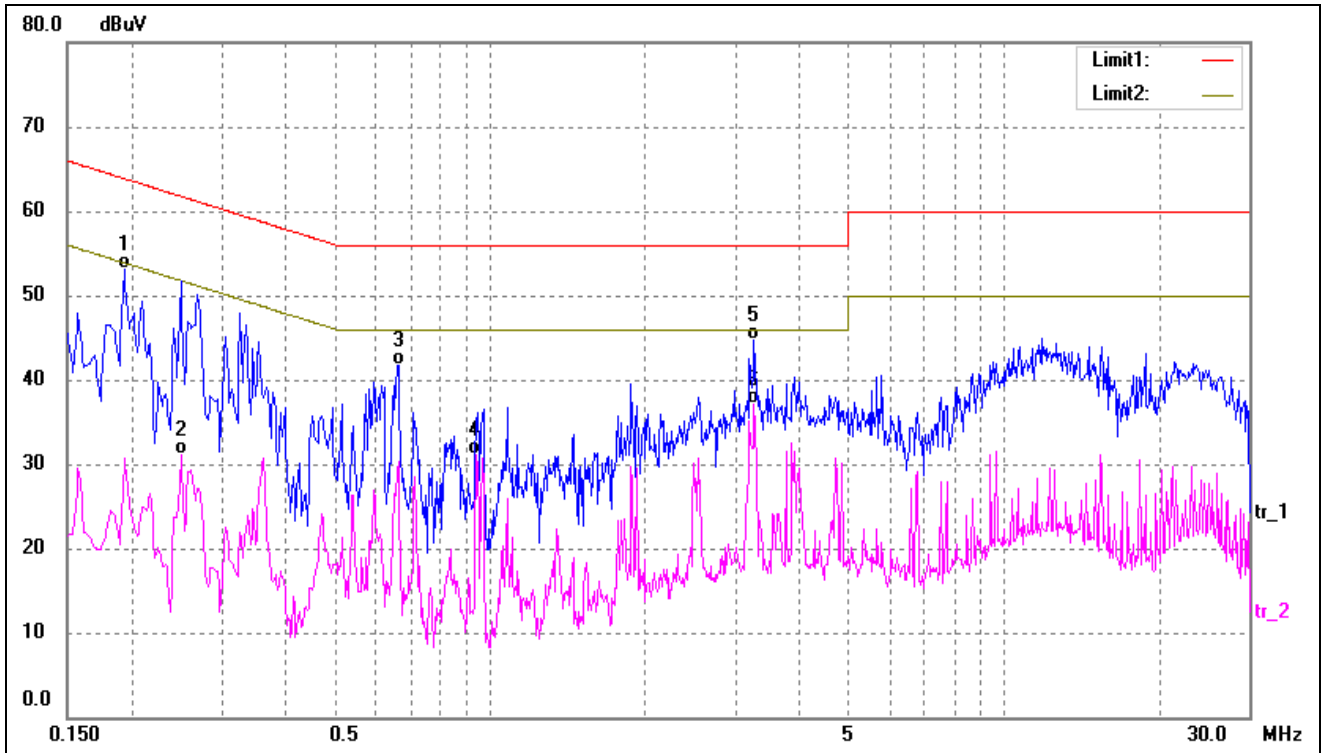
Test mode:	TM2	Polarity:	Line
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1980	43.10	10.39	53.49	63.69	-10.20	QP
2	0.3620	24.10	10.28	34.38	48.68	-14.30	AVG
3	0.9660	30.01	10.14	40.15	56.00	-15.85	QP
4	0.9660	23.66	10.14	33.80	46.00	-12.20	AVG
5	3.2180	34.39	10.14	44.53	56.00	-11.47	QP
6*	3.2180	28.61	10.14	38.75	46.00	-7.25	AVG

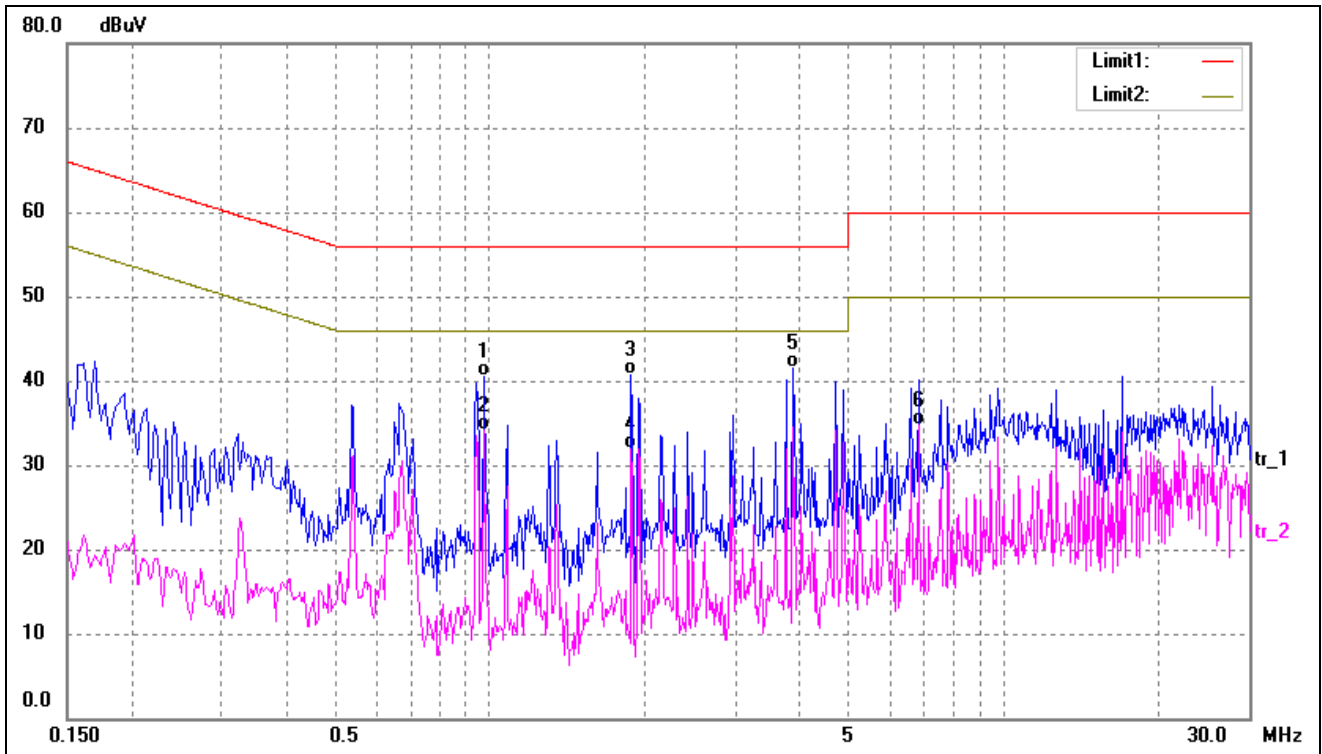


Test mode:	TM2	Polarity:	Neutral
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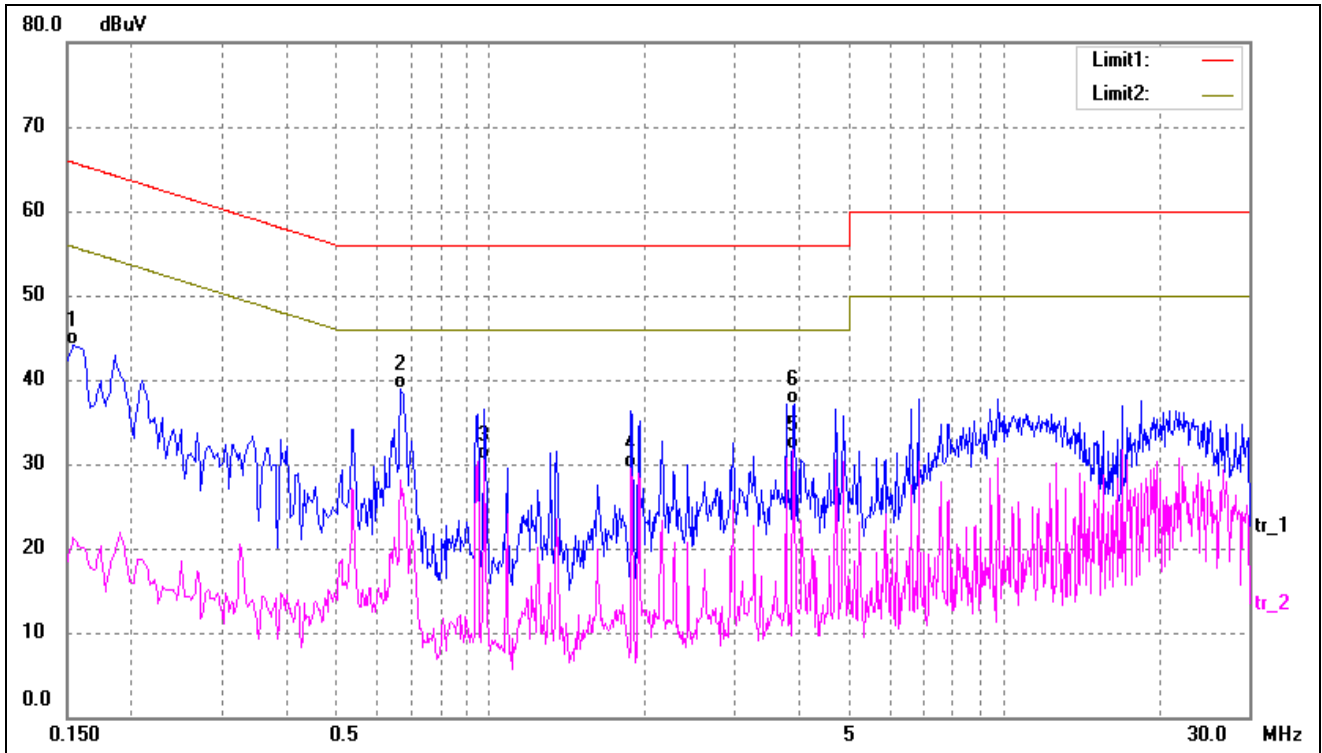
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1940	42.80	10.39	53.19	63.86	-10.67	QP
2	0.2500	20.79	10.34	31.13	51.76	-20.63	AVG
3	0.6620	31.54	10.20	41.74	56.00	-14.26	QP
4	0.9420	20.92	10.15	31.07	46.00	-14.93	AVG
5	3.2620	34.51	10.14	44.65	56.00	-11.35	QP
6*	3.2620	26.95	10.14	37.09	46.00	-8.91	AVG

Test mode:	TM3	Polarity:	Line
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.9740	30.28	10.14	40.42	56.00	-15.58	QP
2*	0.9740	23.96	10.14	34.10	46.00	-11.90	AVG
3	1.8860	30.72	9.99	40.71	56.00	-15.29	QP
4	1.8860	21.98	9.99	31.97	46.00	-14.03	AVG
5	3.8940	31.25	10.23	41.48	56.00	-14.52	QP
6	6.8180	24.36	10.38	34.74	50.00	-15.26	AVG

Test mode:	TM3	Polarity:	Neutral
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1540	33.65	10.41	44.06	65.78	-21.72	QP
2	0.6700	28.74	10.20	38.94	56.00	-17.06	QP
3	0.9740	20.29	10.14	30.43	46.00	-15.57	AVG
4	1.8860	19.48	9.99	29.47	46.00	-16.53	AVG
5*	3.8940	21.38	10.23	31.61	46.00	-14.39	AVG
6	3.9020	26.97	10.23	37.20	56.00	-18.80	QP

## 5. RADIATED EMISSION

### 5.1 Standard Applicable

According to 15.209(a), radiated emission limits; general requirements.

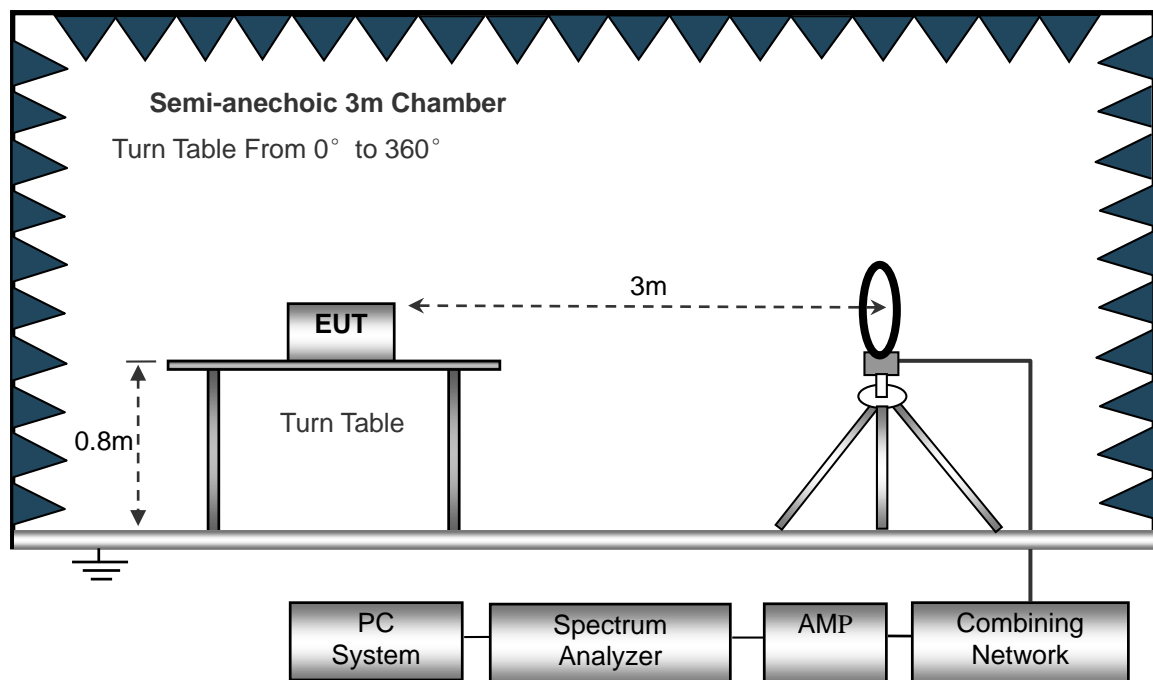
Frequency (MHz)	Field Strength		Field Strength Limit at 3m Measurement Dist	
	uV/m	Distance (m)	uV/m	dBuV/m
0.009 ~ 0.490	$2400/F(\text{kHz})$	300	$10000 * 2400/F(\text{kHz})$	$20\log^{(2400/F(\text{kHz}))} + 80$
0.490 ~ 1.705	$24000/F(\text{kHz})$	30	$100 * 24000/F(\text{kHz})$	$20\log^{(24000/F(\text{kHz}))} + 40$
1.705 ~ 30	30	30	$100 * 30$	$20\log^{(30)} + 40$
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

### 5.2 Test Procedure

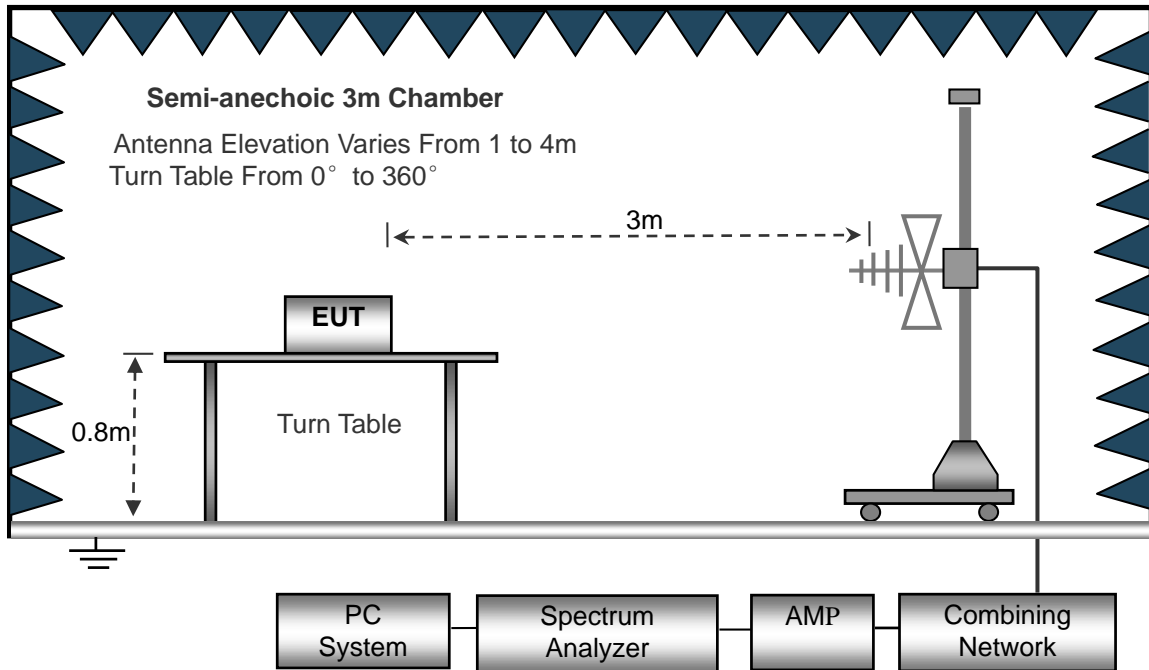
The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.209 Limit.

The external I/O cables were draped along the test table and formed a bundle 30 to 40cm long in the middle. The spacing between the peripherals was 10cm.

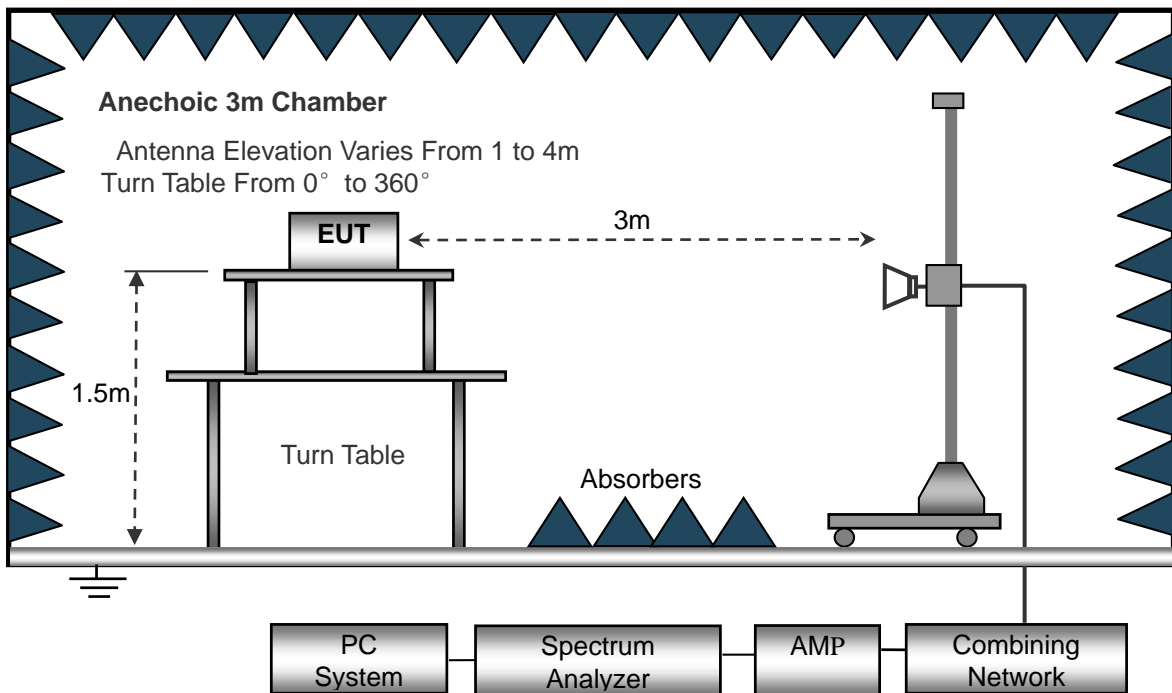
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30MHz to 1GHz.



The test setup for emission measurement above 1GHz.



### 5.3 Test Receiver Setup

Frequency :9kHz-30MHz	Frequency :30MHz-1GHz	Frequency :Above 1GHz
RBW=10kHz,	RBW=120kHz,	RBW=1MHz,
VBW =30kHz	VBW=300kHz	VBW=3MHz(Peak), 10Hz(AV)
Sweep time= Auto	Sweep time= Auto	Sweep time= Auto
Trace = max hold	Trace = max hold	Trace = max hold
Detector function = peak	Detector function = peak, QP	Detector function = peak, AV

### 5.4 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} - \text{Corr. Factor}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dB $\mu$ V means the emission is 6dB $\mu$ V below the maximum limit for a Class B device. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15.209(a) Limit}$$

### 5.5 Environmental Conditions

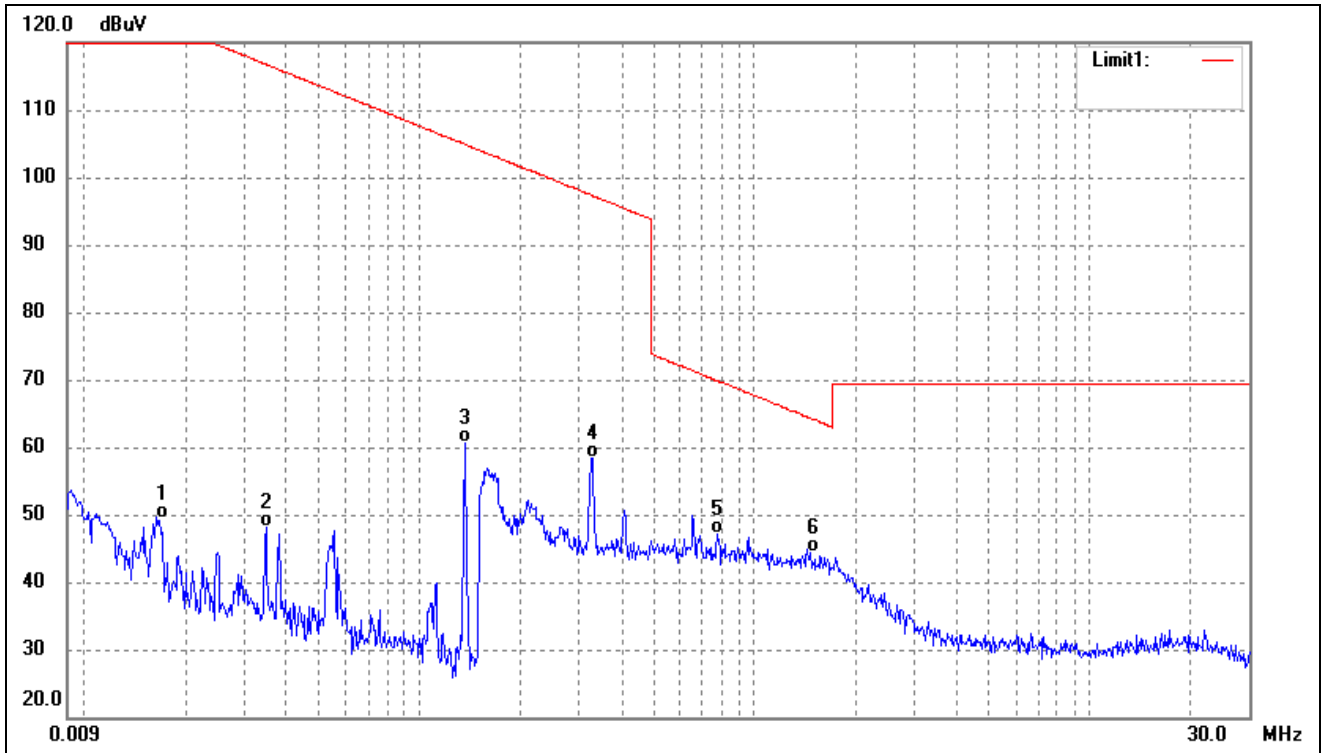
Temperature:	25 °C
Relative Humidity:	55 %
ATM Pressure:	1011 mbar

### 5.6 Summary of Test Results/Plots

**Note:** this EUT was tested in 3 orthogonal positions and the worst case position data was reported.

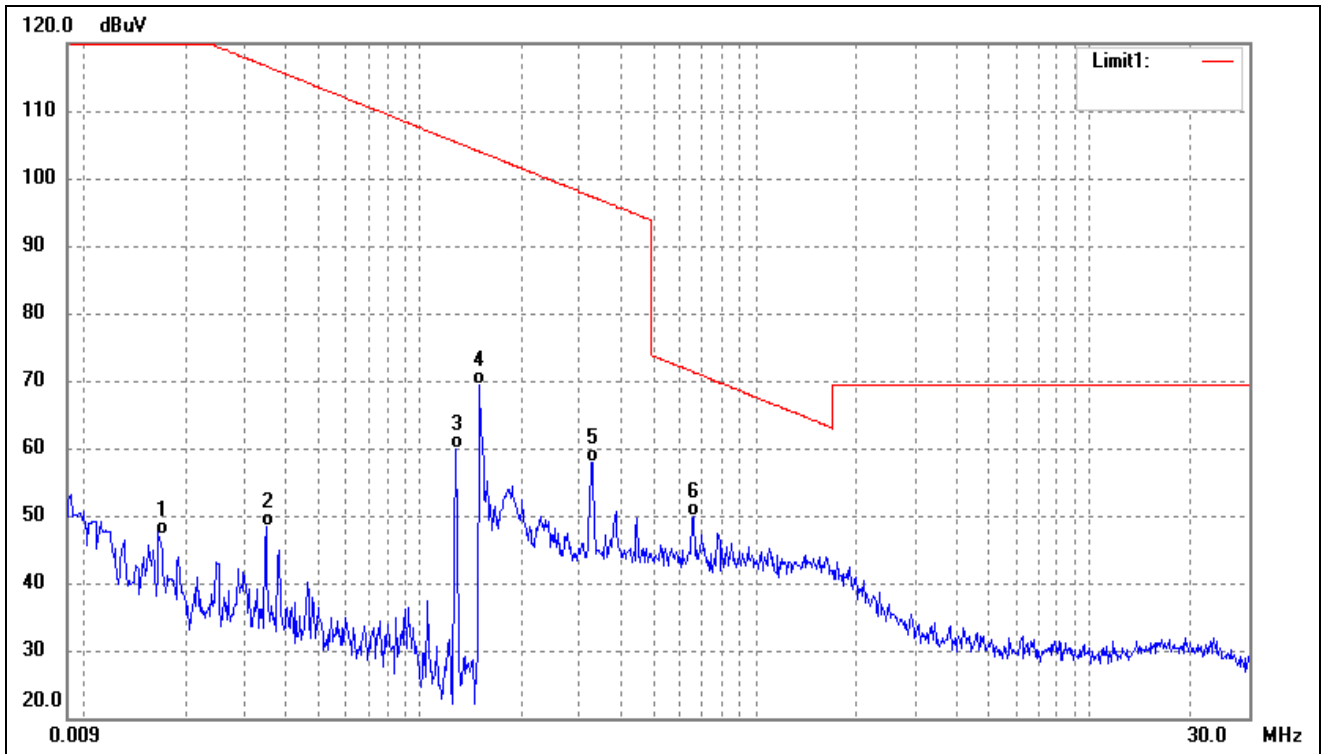
➤ Below 30MHz

Test mode:	TM1	Polarity:	Vertical
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No.	Frequency (MHz)	Reading (dBuA)	Correct (dB)	Result (dBuA)	Limit (dBuA)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	0.0164	56.52	-7.02	49.50	123.29	-73.79	-	-	QP
2	0.0347	54.35	-6.26	48.09	116.78	-68.69	-	-	QP
3	0.1363	67.08	-6.41	60.67	104.91	-44.24	-	-	QP
4	0.3251	66.25	-7.80	58.45	97.36	-38.91	-	-	QP
5	0.7752	53.55	-6.38	47.17	69.83	-22.66	-	-	QP
6	1.4718	50.54	-6.13	44.41	64.27	-19.86	-	-	QP

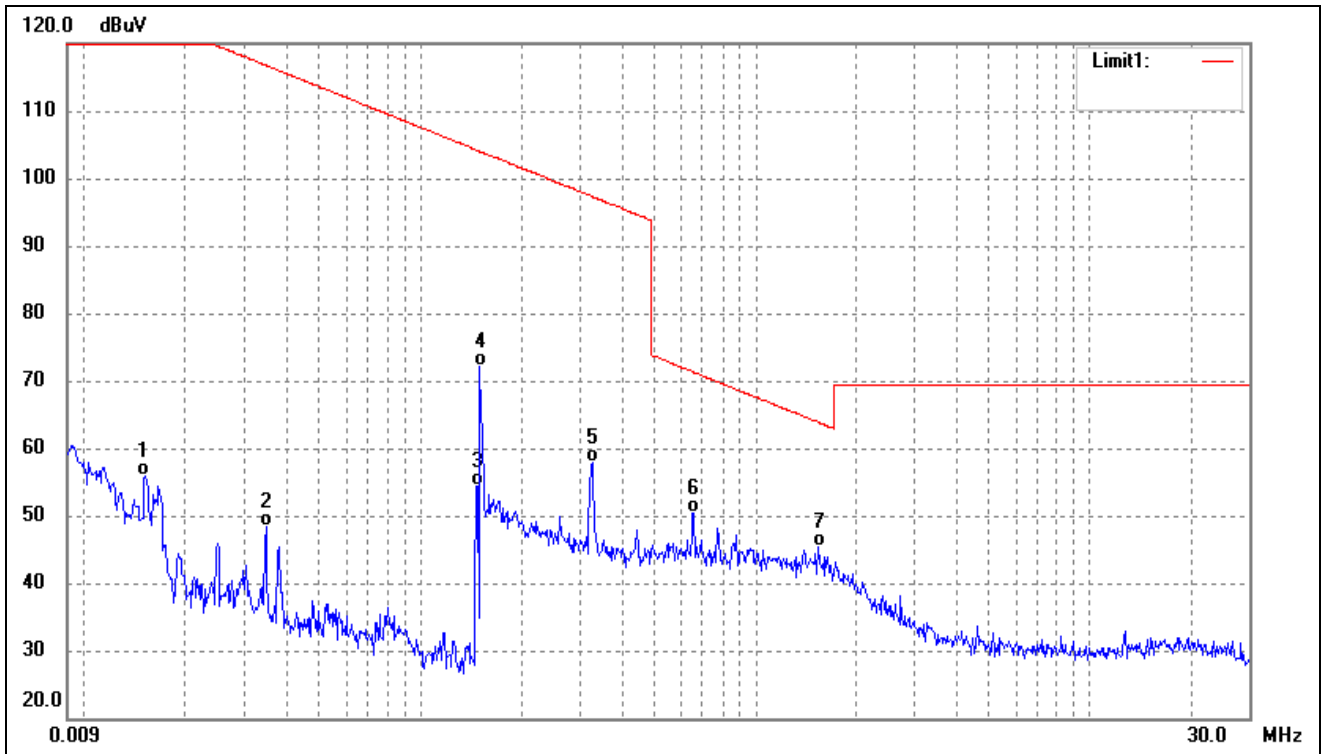
Test mode:	TM2	Polarity:	Vertical
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	0.0167	54.10	-7.02	47.08	122.97	-75.89	-	-	QP
2	0.0347	54.71	-6.26	48.45	116.66	-68.21	-	-	QP
3	0.1281	66.30	-6.45	59.85	105.38	-45.53	-	-	QP
4	0.1499	75.66	-6.33	69.33	104.02	-34.69	-	-	QP
5	0.3251	65.73	-7.80	57.93	97.34	-39.41	-	-	QP
6	0.6543	49.78	0.00	49.78	71.30	-21.52	-	-	QP



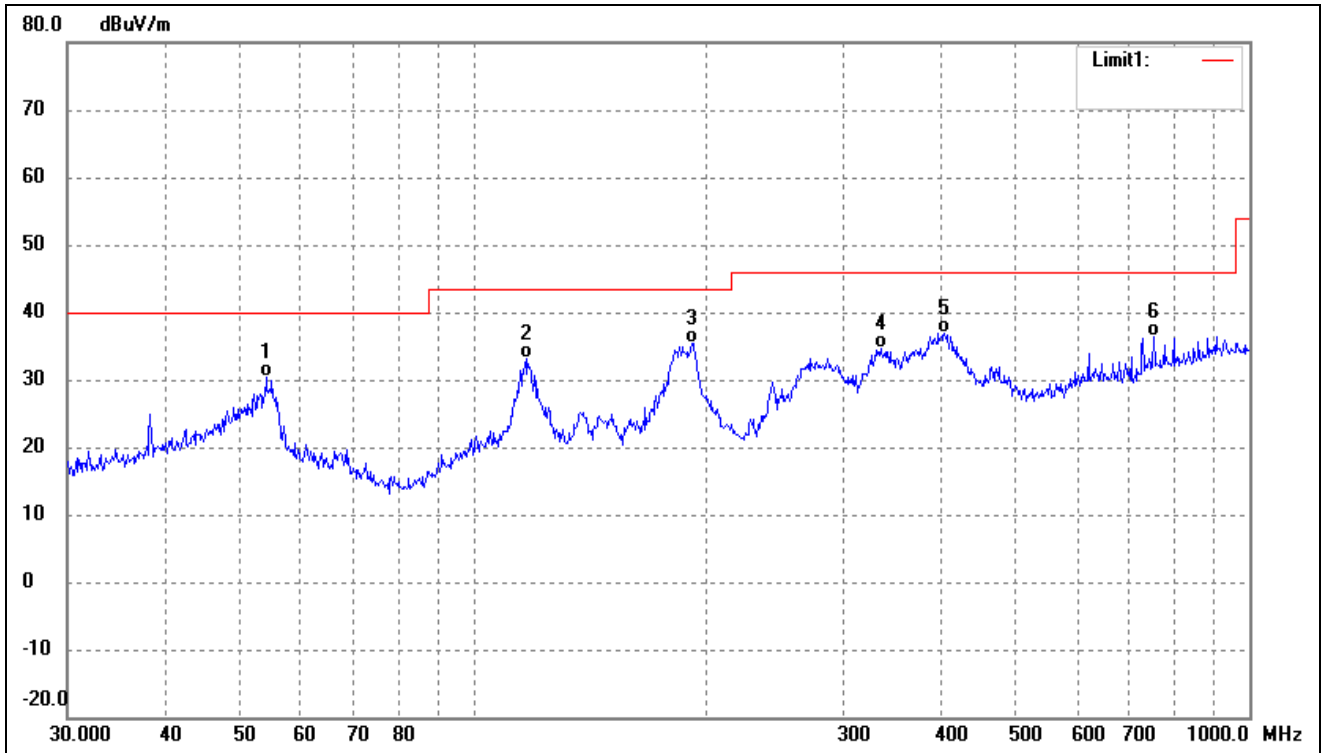
Test mode:	TM3	Polarity:	Vertical
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	0.0153	62.86	-7.02	55.84	123.89	-68.05	-	-	QP
2	0.0347	54.63	-6.26	48.37	116.78	-68.41	-	-	QP
3	0.1479	60.77	-6.34	54.43	104.20	-49.77	-	-	QP
4	0.1499	78.47	-6.36	72.11	104.08	-31.97	-	-	QP
5	0.3268	65.64	-7.80	57.84	97.32	-39.48	-	-	QP
6	0.6508	57.32	-6.86	50.46	71.34	-20.88	-	-	QP
7	1.5436	51.41	-6.11	45.30	63.86	-18.56	-	-	QP

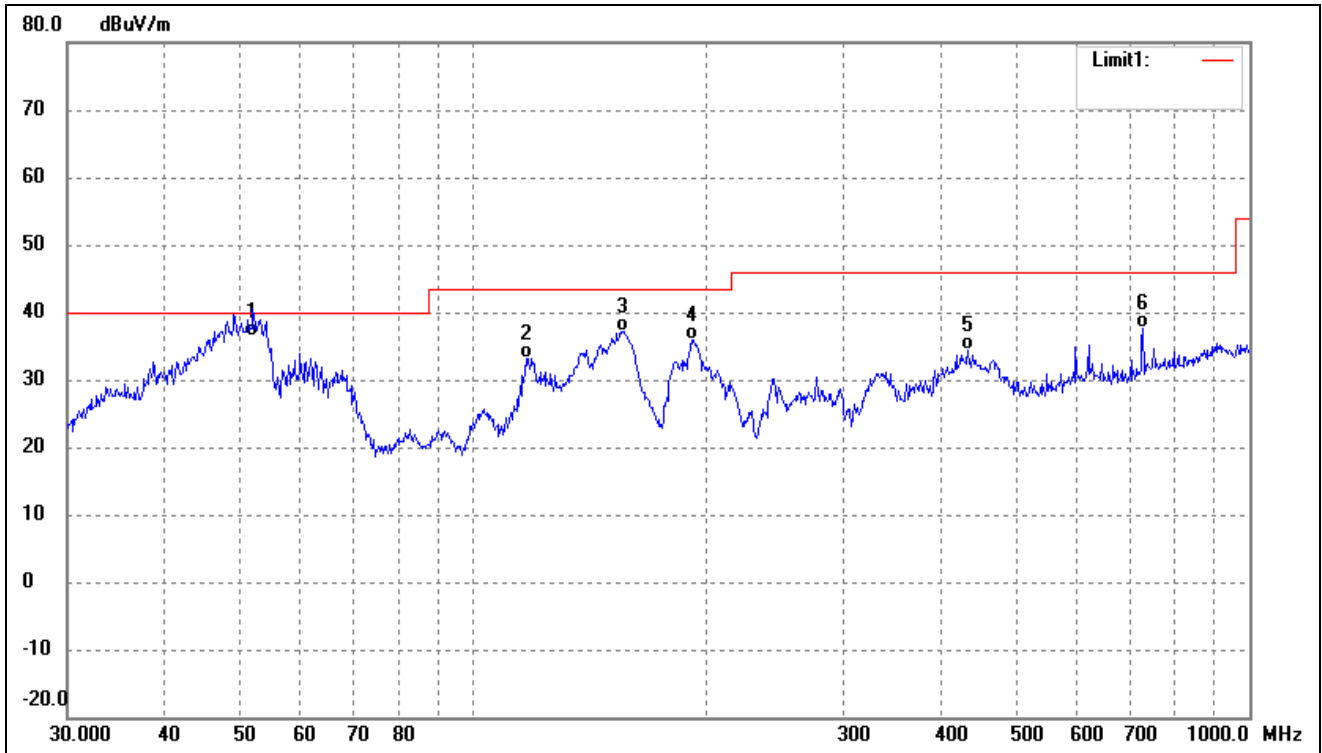
➤ 30MHz-1GHz

Test mode:	TM1	Polarity:	Horizontal
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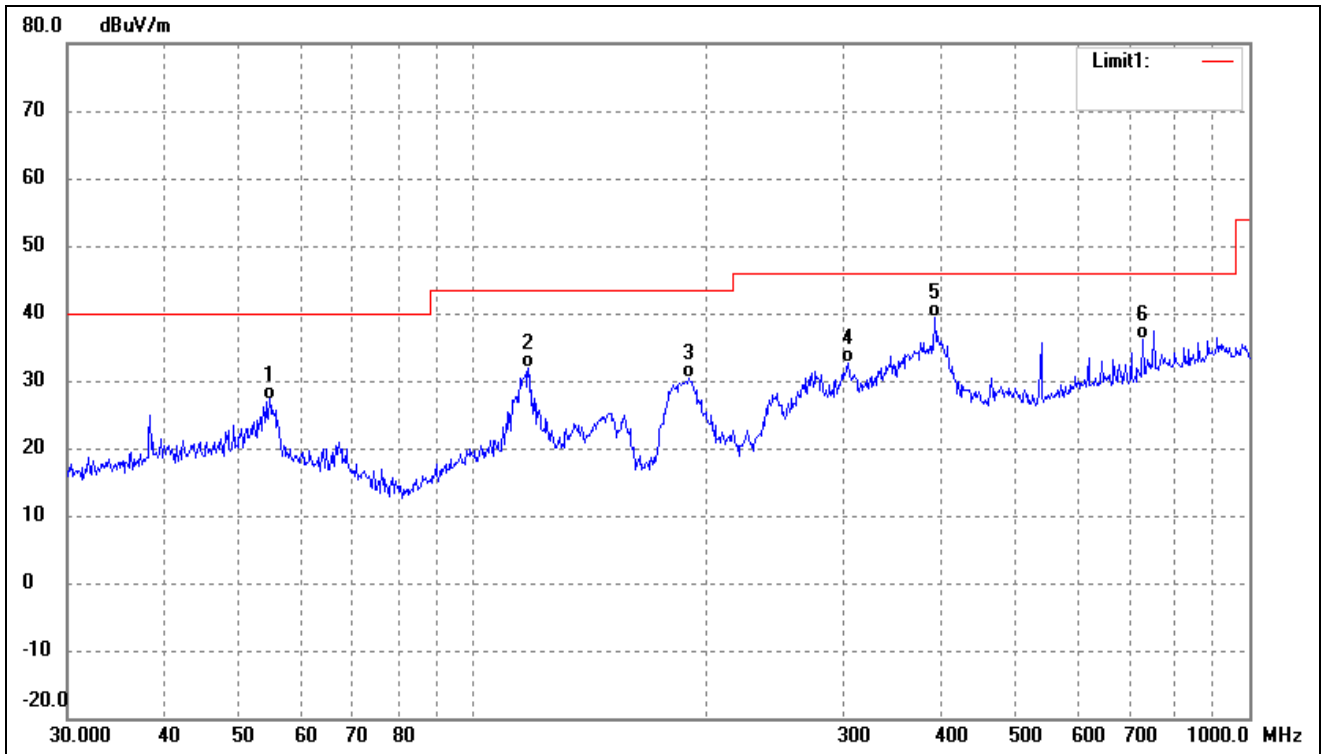
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	54.0711	38.36	-8.10	30.26	40.00	-9.74	-	-	QP
2	116.9495	42.98	-9.78	33.20	43.50	-10.30	-	-	QP
3	191.0738	44.06	-8.68	35.38	43.50	-8.12	-	-	QP
4	334.8589	38.40	-3.81	34.59	46.00	-11.41	-	-	QP
5	404.6665	39.45	-2.57	36.88	46.00	-9.12	-	-	QP
6	752.7432	32.58	3.68	36.26	46.00	-9.74	-	-	QP

Test mode:	TM1	Polarity:	Vertical
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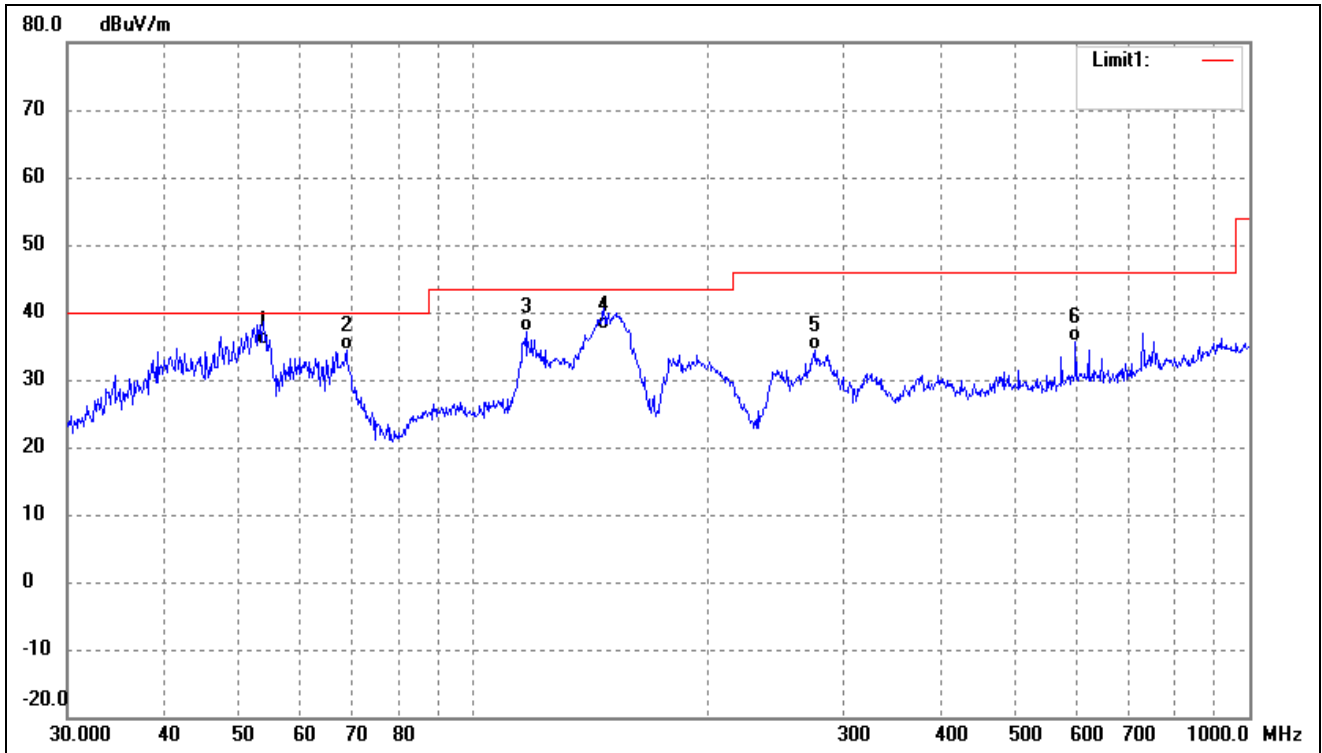
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	52.0251	44.25	-7.97	36.28	40.00	-3.72	-	-	QP
2	116.9495	43.01	-9.78	33.23	43.50	-10.27	-	-	QP
3	155.9101	48.71	-11.58	37.13	43.50	-6.37	-	-	QP
4	191.0738	44.66	-8.68	35.98	43.50	-7.52	-	-	QP
5	434.0651	36.54	-2.22	34.32	46.00	-11.68	-	-	QP
6	729.3583	34.41	3.15	37.56	46.00	-8.44	-	-	QP

Test mode:	TM2	Polarity:	Horizontal
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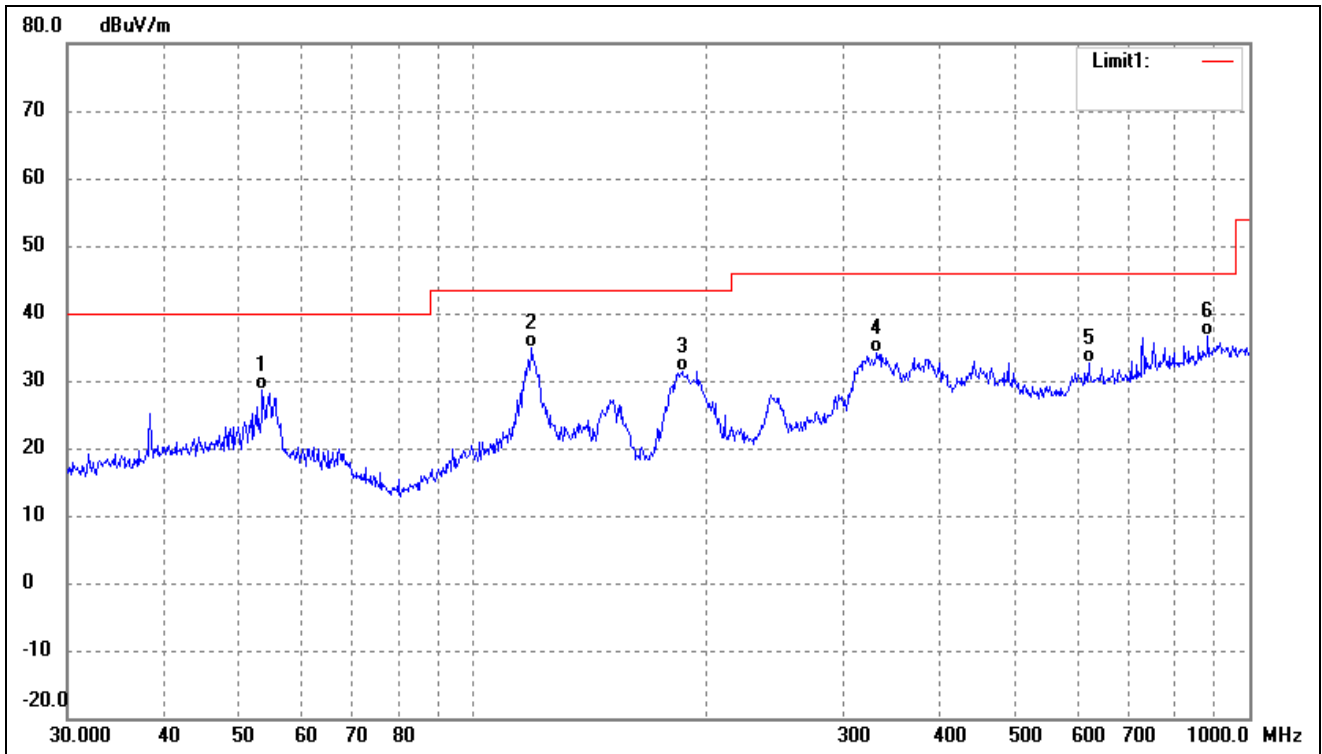
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	54.6429	35.40	-8.15	27.25	40.00	-12.75	-	-	QP
2	117.7725	41.84	-9.90	31.94	43.50	-11.56	-	-	QP
3	189.7385	39.14	-8.85	30.29	43.50	-13.21	-	-	QP
4	303.5437	37.52	-4.87	32.65	46.00	-13.35	-	-	QP
5	393.4724	42.33	-2.88	39.45	46.00	-6.55	-	-	QP
6	729.3583	32.98	3.15	36.13	46.00	-9.87	-	-	QP

Test mode:	TM2	Polarity:	Vertical
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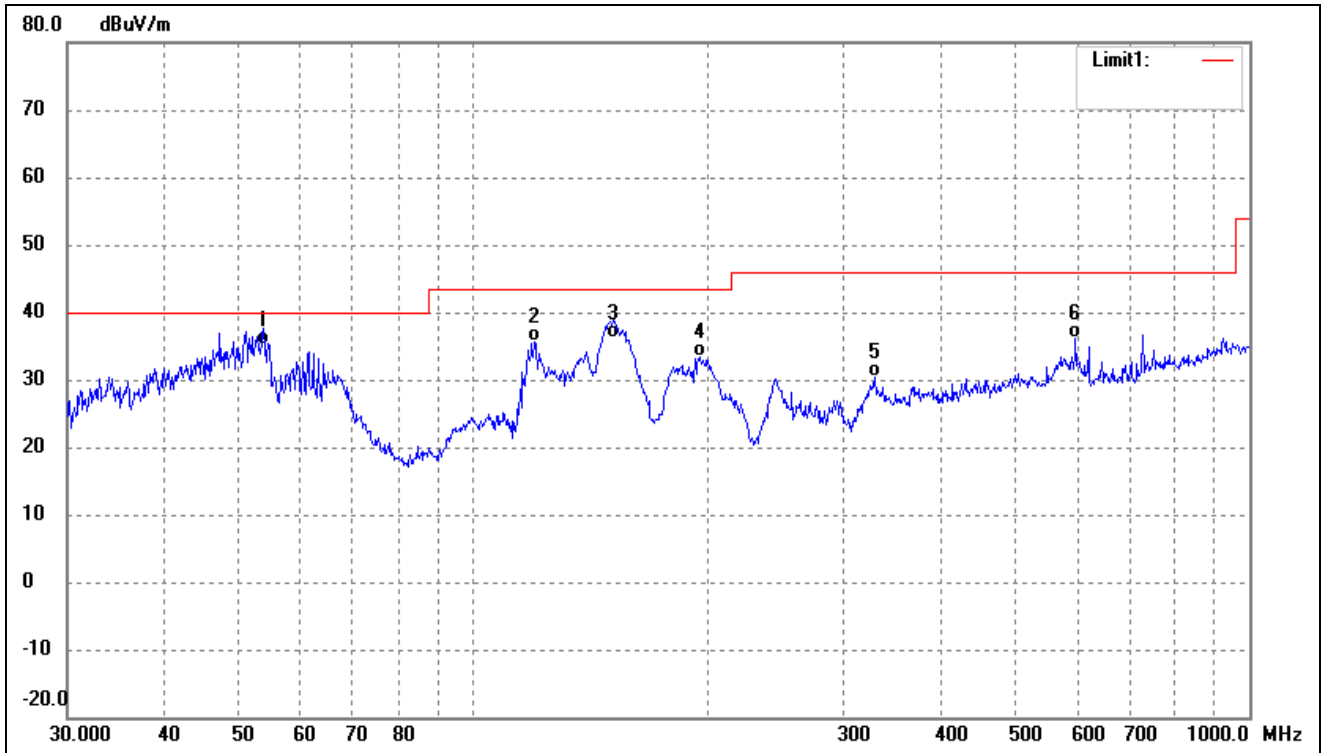
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	53.6932	43.25	-8.07	35.18	40.00	-4.82	-	-	QP
2	68.6310	45.81	-11.47	34.34	40.00	-5.66	-	-	QP
3	116.9495	46.90	-9.78	37.12	43.50	-6.38	-	-	QP
4	147.4036	49.25	-11.91	37.34	43.50	-6.16	-	-	QP
5	276.1236	40.08	-5.77	34.31	46.00	-11.69	-	-	QP
6	597.2234	34.56	1.17	35.73	46.00	-10.27	-	-	QP

Test mode:	TM3	Polarity:	Horizontal
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	53.5052	36.56	-8.05	28.51	40.00	-11.49	-	-	QP
2	119.0180	45.06	-10.08	34.98	43.50	-8.52	-	-	QP
3	185.7882	40.75	-9.34	31.41	43.50	-12.09	-	-	QP
4	331.3547	38.20	-3.97	34.23	46.00	-11.77	-	-	QP
5	620.7096	31.28	1.31	32.59	46.00	-13.41	-	-	QP
6	884.5029	31.38	5.32	36.70	46.00	-9.30	-	-	QP

Test mode:	TM3	Polarity:	Vertical
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	53.6932	43.25	-8.07	35.18	40.00	-4.82	-	-	QP
2	119.8556	45.74	-10.22	35.52	43.50	-7.98	-	-	QP
3	151.5972	47.98	-11.80	36.18	43.50	-7.32	-	-	QP
4	195.8220	41.62	-8.31	33.31	43.50	-10.19	-	-	QP
5	329.0390	34.39	-4.07	30.32	46.00	-15.68	-	-	QP
6	597.2234	34.85	1.17	36.02	46.00	-9.98	-	-	QP

Remark: '-' Means' the test Degree and Height are not recorded by the test software and only show the worst case in the test report.

## 6. Occupied Bandwidth

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### 6.1 Standard Applicable

According to 15.215,20dB emission bandwidth.

### 6.2 Test Procedure

- The transmitter shall be operated at its maximum carrier power measured under normal test conditions.
- The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts.
- The resolution bandwidth (RBW) shall be in the range of 1% to 5% of the occupied bandwidth (OBW) and video bandwidth (VBW) shall be approximately 3x RBW.

### 6.3 Environmental Conditions

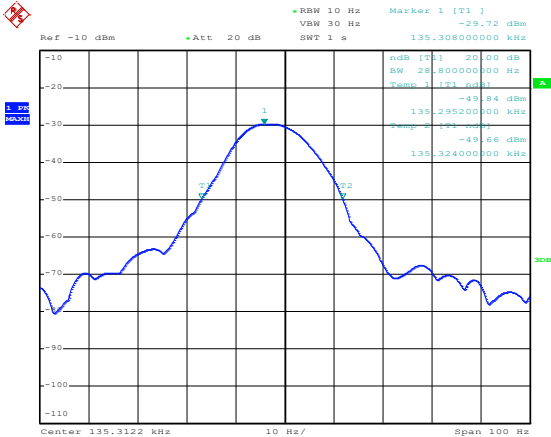
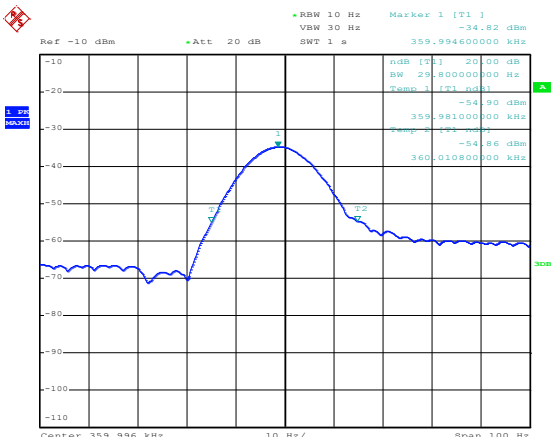
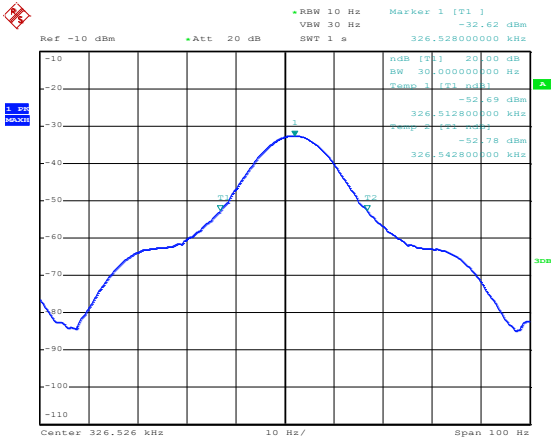
Temperature:	25 °C
Relative Humidity:	53%
ATM Pressure:	1018 mbar

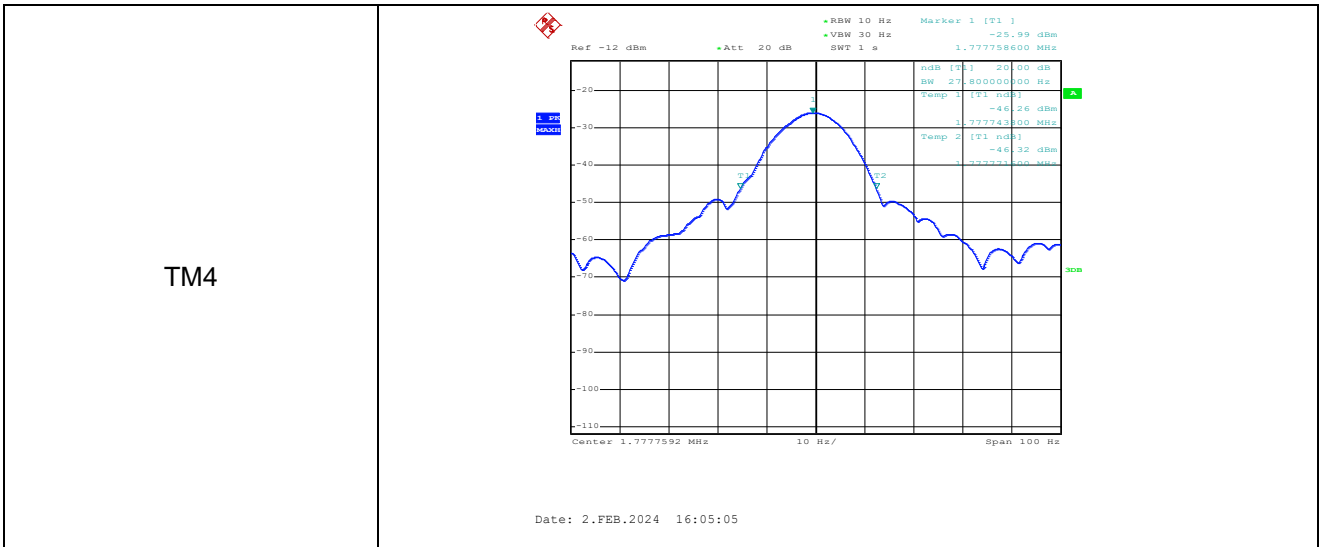
### 6.4 Summary of Test Results/Plots

Test mode	Test Channel(kHz)	20dB Bandwidth(Hz)
TM1	135.312	28.8
TM2	359.996	29.8
TM3	326.526	30.0
TM4	1777.7592	27.8

*Please refer to the attached plots.*



<p>TM1</p>	 <p>Ref -10 dBm    •Att 20 dB    •RBW 10 Hz    Marker 1 [T1]    -29.72 dBm          VBW 30 Hz    SWT 1 s    135.30800000 kHz</p> <p>ndB [T1] 20.00 dB          BW 28.80000000 Hz          Temp 1 [T1] 135.29520000 kHz    -49.28 dBm          Temp 2 [T2] 135.32400000 kHz    -49.66 dBm</p> <p>Center 135.3122 kHz    10 Hz/    Span 100 Hz</p> <p>Date: 16.DEC.2023 10:59:27</p>
<p>TM2</p>	 <p>Ref -10 dBm    •Att 20 dB    •RBW 10 Hz    Marker 1 [T1]    -34.82 dBm          VBW 30 Hz    SWT 1 s    359.99400000 kHz</p> <p>ndB [T1] 20.00 dB          BW 29.80000000 Hz          Temp 1 [T1] 359.98100000 kHz    -54.90 dBm          Temp 2 [T2] 360.01080000 kHz    -54.86 dBm</p> <p>Center 359.996 kHz    10 Hz/    Span 100 Hz</p> <p>Date: 16.DEC.2023 11:10:15</p>
<p>TM3</p>	 <p>Ref -10 dBm    •Att 20 dB    •RBW 10 Hz    Marker 1 [T1]    -32.62 dBm          VBW 30 Hz    SWT 1 s    326.52800000 kHz</p> <p>ndB [T1] 20.00 dB          BW 30.00000000 Hz          Temp 1 [T1] 326.51280000 kHz    -52.69 dBm          Temp 2 [T2] 326.54280000 kHz    -52.78 dBm</p> <p>Center 326.526 kHz    10 Hz/    Span 100 Hz</p> <p>Date: 16.DEC.2023 10:54:00</p>



*Note: The RBW of the analyzer measuring Bandwidth cannot be adjusted to 1%-5% OBW, the RBW of the test setting is the closest value.*

## APPENDIX PHOTOGRAPHS

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Please refer to “ANNEX”

\*\*\*\*\* END OF REPORT \*\*\*\*\*