

TEST REPORT

Reference No...... : WTD24X09217632W001
FCC ID..... : 2ALCV-PBW1010X
Applicant..... : Emerson Radio Corp.
Address..... : 959 Route 46 East, Suite 210, 2nd Floor, Parsippany, NJ 07054, USA
Manufacturer..... : Shenzhen Blue Times Technology Co., Ltd.
Address..... : B Block, Taixinglong Technology Zone, Hezhou, Xixiang, Bao'an, Shenzhen, Guangdong, China
Product Name..... : POWER BANK 10,000mAh WITH 15W WIRELESS CHARGING AND WIRED OUTPUT 22.5W
Model No...... : PBW1010W
Standards..... : **47 CFR FCC Part 18**
Date of Receipt sample..... : 2024-09-18
Date of Test..... : 2024-09-18 to 2024-10-09
Date of Issue..... : 2024-10-09
Test Report Form No...... : WTX_FCC Part 18_001
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.

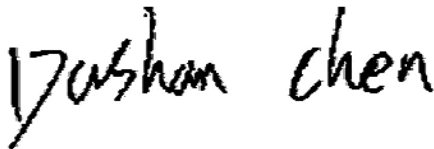
Prepared By:

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Tested by:



Dashan Chen

Approved by:



Jason Su

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Report version

Version No.	Date of issue	Description
Rev.00	2024-10-09	Original
/	/	/

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT	
Product Name:	POWER BANK 10,000mAh WITH 15W WIRELESS CHARGING AND WIRED OUTPUT 22.5W
Trade Name:	/
Model No.:	PBW1010W
Adding Model(s):	PBW1010P, PBW1010U, PBW1010B
<i>Note: The test data is gathered from a production sample, provided by the manufacturer. The appearance of others models listed in the report is different from main-test model PBW1010W, but the circuit and the electronic construction do not change, declared by the manufacturer.</i>	

Technical Characteristics of EUT	
Frequency Range:	100~205kHz@5W/10W 128kHz@7.5W 360kHz@15W
Modulation Type:	ASK
Antenna Type:	Coil Antenna
Input:	DC5V2.4A, DC9V2A, DC12V1.5A
Wireless output:	5W, 7.5W, 10W, 15W
<i>Note The Antenna Gain is provided by the customer and can affect the validity of results.</i>	

1.2 Test Standards

The tests were performed according to following standards:

The tests were performed according to following standards:

47 CFR FCC Part 18: Industrial, Scientific, and medical medical equipment.

MP5-1986: FCC METHODS OF MESUREMENTS OF RADIO NOISE EMISSIONS FROM INDUSTRIAL, SCIENTIFIC, AND MEDICAL EQUIPMENT.

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 C63.4-2014 and FCC MP-5:1986, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

1.4 Test Facility

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

Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road, Bao'an District, Shenzhen, P.R.C. (518101)

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.

1.5 EUT Setup and Operation Mode

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

Test Mode List:

Test Mode	Description	Remark	Power Supply Mode
TM1	Wireless Charging	Output 5W	Input: DC5V2.4A
TM2	Wireless Charging	Output 7.5W	Input: DC5V2.4A
TM3	Wireless Charging	Output 10W	Input: DC9V2A
TM4	Wireless Charging	Output 15W	Input: DC12V1.5A

EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
/	/	/	/

Auxiliary Equipment List and Details

Description	Manufacturer	Model	Serial Number
Adapter	Xiaomi	MDY-08-ES	/
iPhone	Apple Inc	A3104	/
Wireless charging tester	YBZ	YBZ wireless charging tester	

Special Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
USB Cable	1.0	Shielded	With Ferrite

1.6 Measurement Uncertainty

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

1.7 Test Equipment List and Details

Description	Manufacturer	Model	Serial No.	Cal Date	Due Date
Spectrum Analyzer	Rohde & Schwarz	FSP	836079/035	2024-02-24	2025-02-23
EMI Test Receiver	Rohde & Schwarz	ESPI	101259	2024-02-24	2025-02-23
Amplifier	HP	8447F	2805A0347 5	2024-02-24	2025-02-23
Amplifier	C&D	PAP-1G18	2002	2024-02-27	2025-02-26
Trilog Broadband Antenna	Schwarz beck	VULB9163	9163-333	2024-02-24	2025-02-23
Horn Antenna	ETS	3117	00086197	2024-02-26	2025-02-25
Loop Antenna	Schwarz beck	FMZB 1516	9773	2024-02-26	2025-02-25
Trilog Broadband Antenna	Schwarz beck	VULB9163(B)	9163-635	2024-03-17	2027-03-16
Amplifier	Agilent	8447D	2944A1045 7	2024-02-24	2025-02-23
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2024-02-24	2025-02-23

Software List			
Description	Manufacturer	Model	Version
EMI Test Software (Radiated Emission A)	Farad	EZ-EMC	RA-03A1 (1.1.4.2)
EMI Test Software (Radiated Emission B)	Farad	EZ-EMC	RA-03A1 (1.1.4.2)
EMI Test Software (Radiated Emission C)	Farad	EZ-EMC	RA-03A1-2 (1.1.4.2)
EMI Test Software (Conducted Emission Room 1#)	Farad	EZ-EMC	3A1*CE-RE 1.1.4.3
EMI Test Software (Conducted Emission Room 2#)	Farad	EZ-EMC	3A1*CE-RE 1.1.4.3

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

2. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§18.307 (b)	Conducted Emission	N/A
§18.305 (b)	Radiated Emission	Compliant

N/A: not applicable

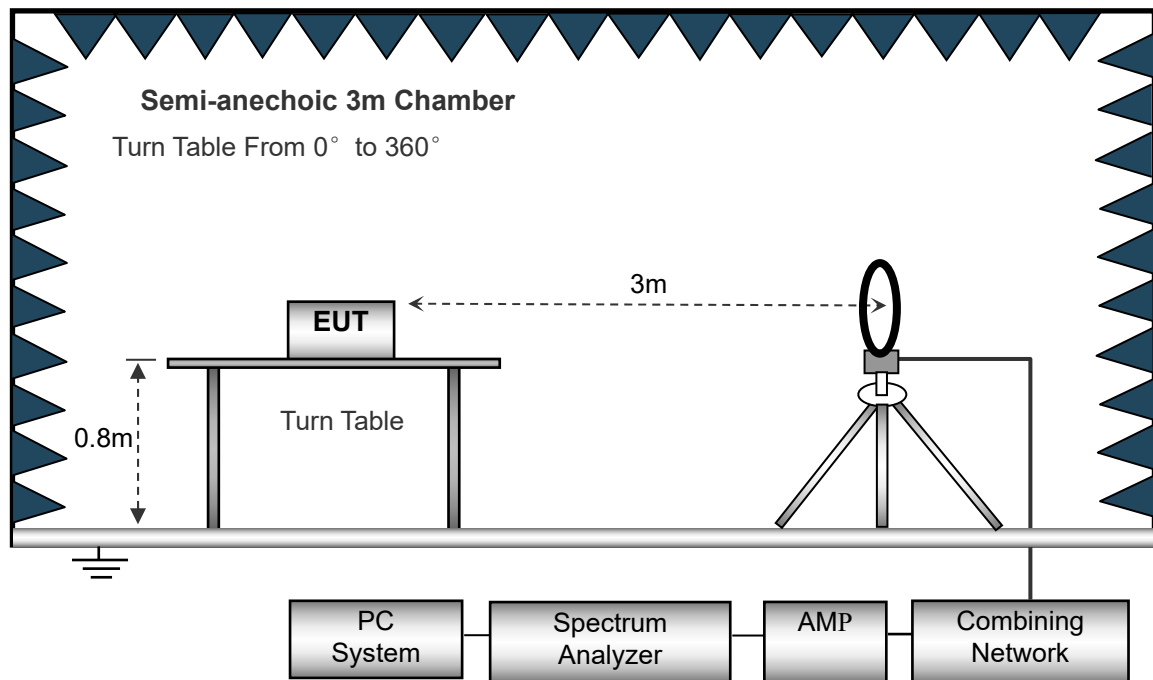
3. Radiated Emissions

3.1 Test Procedure

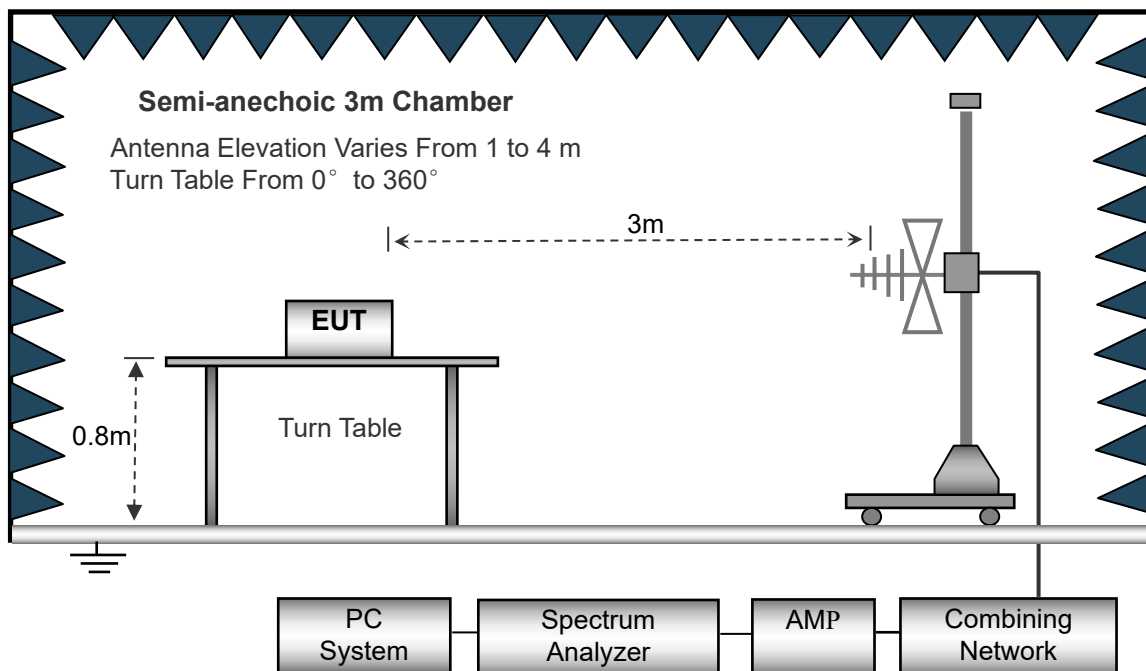
The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 18.305 Limit.

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

The test setup for emission measurement below 30MHz..



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



3.2 Test Receiver Setup

Frequency :9kHz-30MHz

RBW=10KHz

VBW =30KHz

Sweep time= Auto

Trace = max hold

Detector function = peak

Frequency :30MHz-1GHz

RBW=120KHz,

VBW=300KHz

Sweep time= Auto

Trace = max hold

Detector function = peak, QP

3.3 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 μ V means the emission is 6dB μ V below the maximum limit for Any non-ISM frequency device. The equation for margin calculation is as follows:

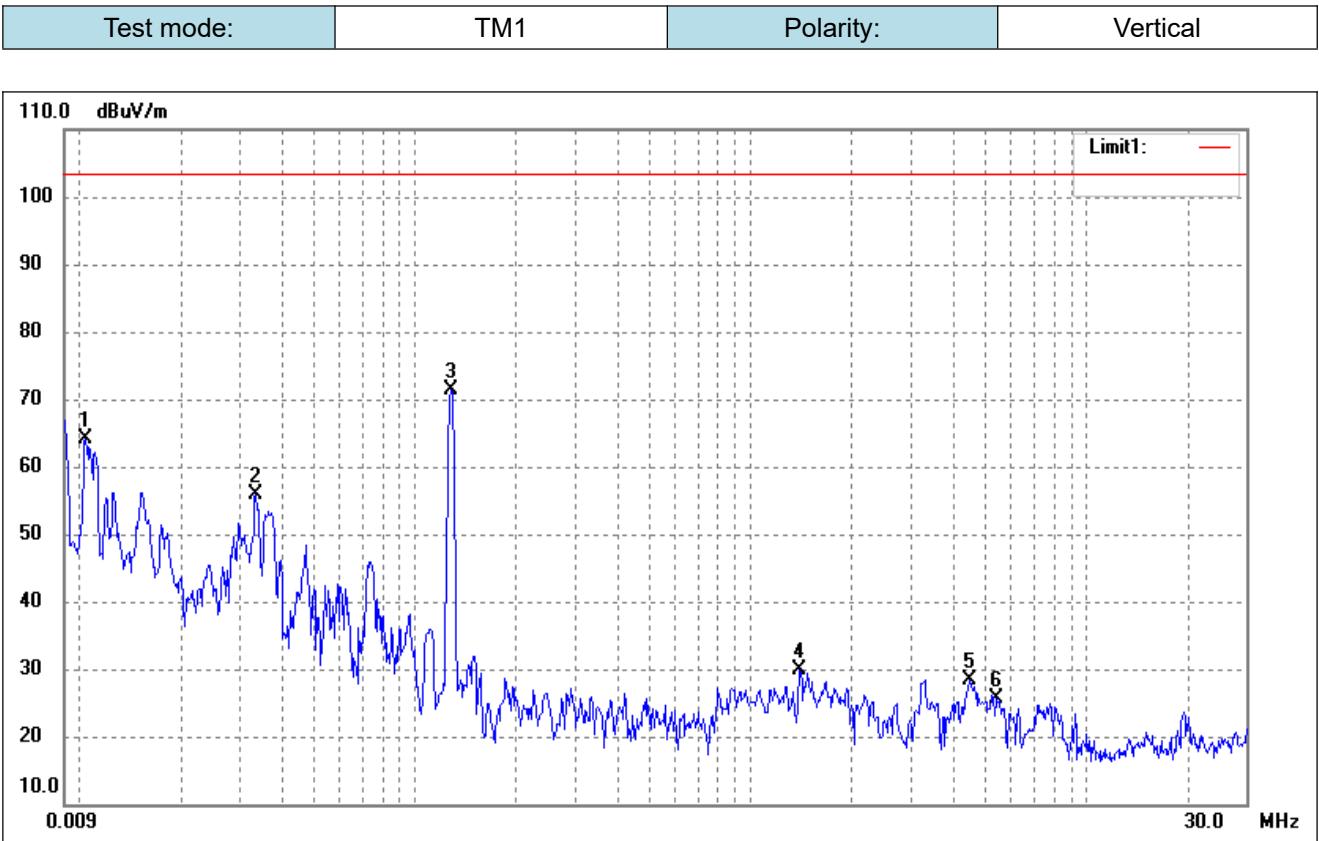
$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 18.305 Limit}$$

3.4 Environmental Conditions

Temperature:	22.5 °C
Relative Humidity:	54 %
ATM Pressure:	1011 mbar

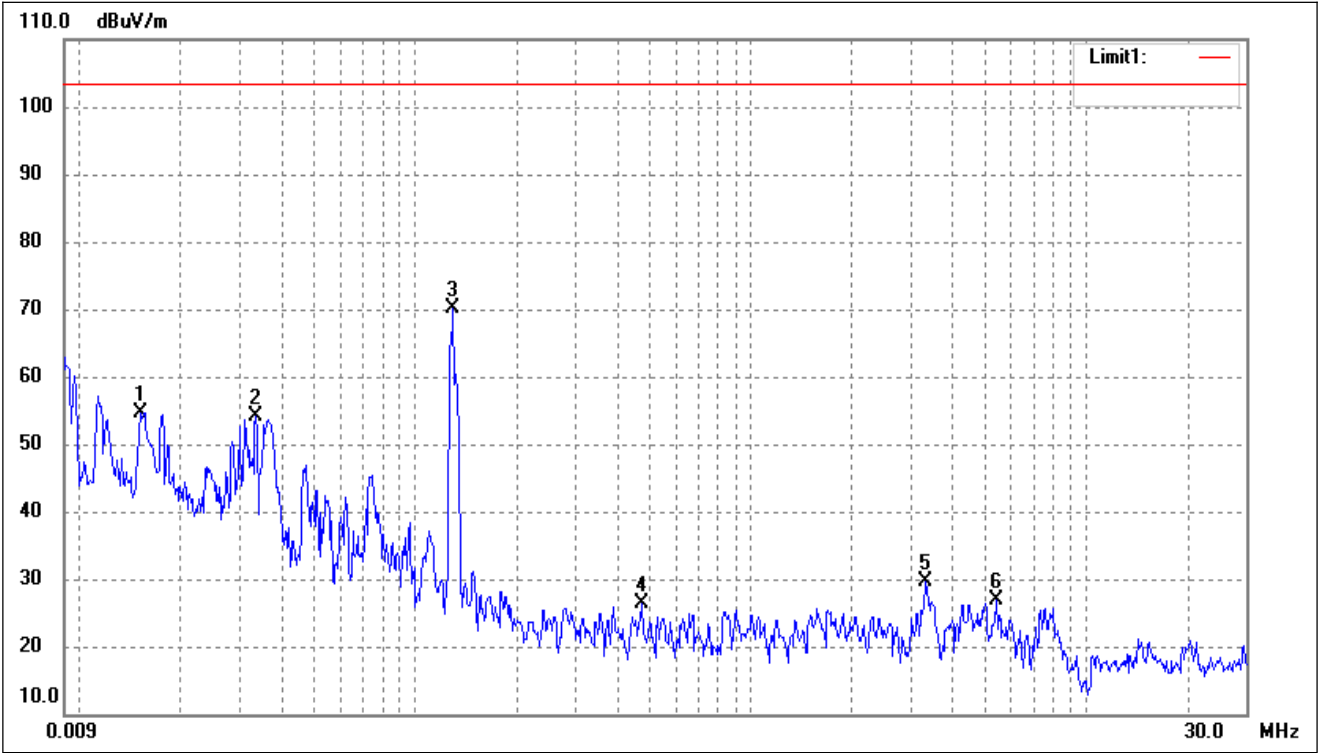
3.5 Summary of Test Results/Plots

Plot of Radiated Emissions Test Data (Below 30MHz)



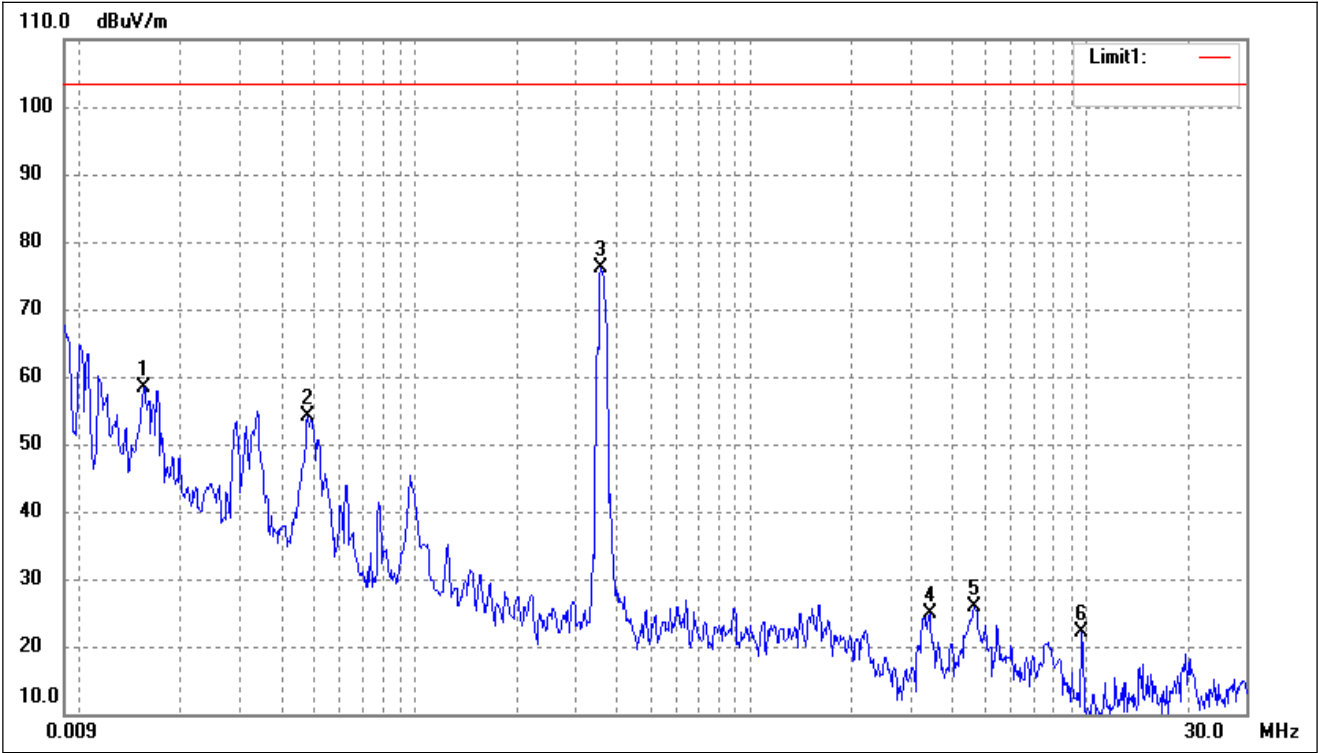
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	0.0104	70.52	-6.41	64.11	103.50	-39.39	-	-	peak
2	0.0335	62.71	-6.86	55.85	103.50	-47.65	-	-	peak
3	0.1277	79.21	-7.95	71.26	103.50	-32.24	-	-	peak
4	1.3979	37.83	-7.91	29.92	103.50	-73.58	-	-	peak
5	4.4954	36.10	-7.60	28.50	103.50	-75.00	-	-	peak
6	5.4174	33.20	-7.67	25.53	103.50	-77.97	-	-	peak

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	0.0151	61.20	-6.50	54.70	103.50	-48.80	-	-	peak
2	0.0335	61.01	-6.86	54.15	103.50	-49.35	-	-	peak
3	0.1298	78.18	-7.96	70.22	103.50	-33.28	-	-	peak
4	0.4714	34.56	-8.29	26.27	103.50	-77.23	-	-	peak
5	3.3298	37.33	-7.67	29.66	103.50	-73.84	-	-	peak
6	5.4174	34.59	-7.67	26.92	103.50	-76.58	-	-	peak

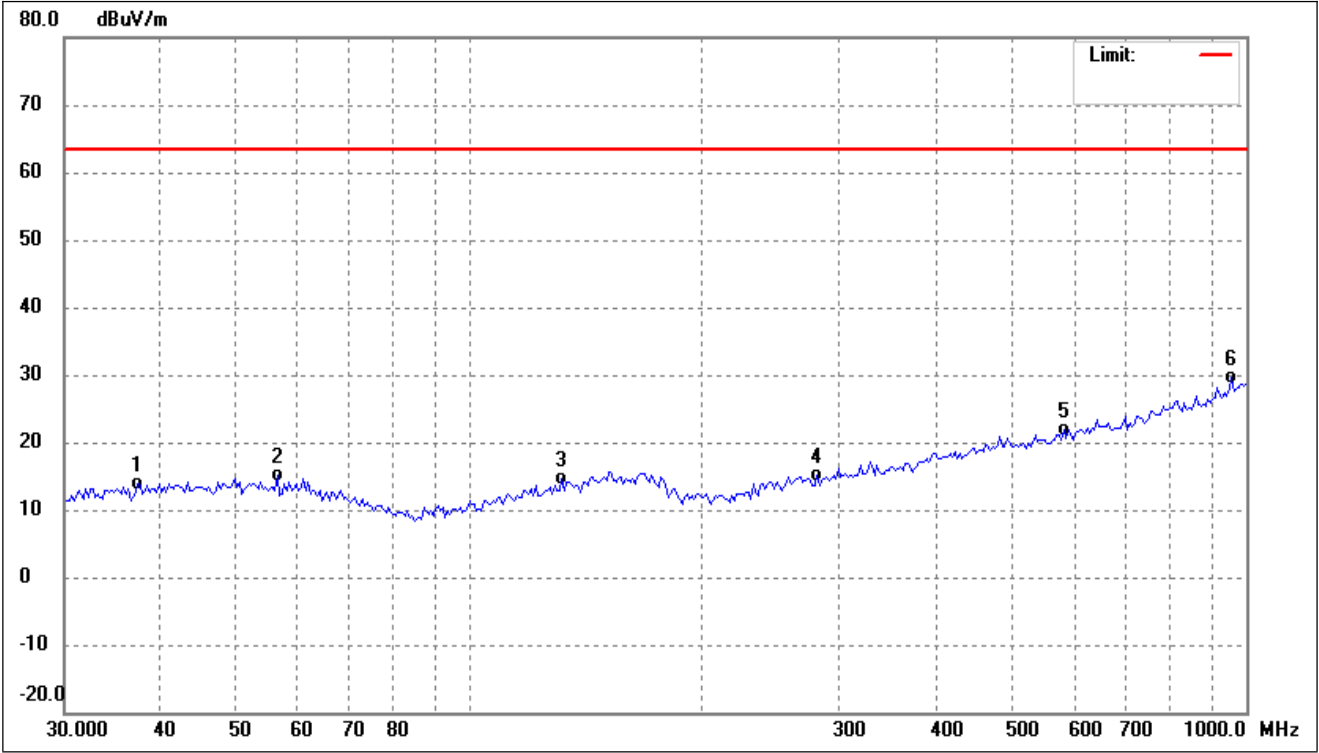
Test mode:	TM3	Polarity:	Vertical
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	0.0155	64.77	-6.50	58.27	103.50	-45.23	-	-	peak
2	0.0479	61.23	-7.21	54.02	103.50	-49.48	-	-	peak
3	0.3578	84.60	-8.36	76.24	103.50	-27.26	-	-	peak
4	3.4118	32.53	-7.65	24.88	103.50	-78.62	-	-	peak
5	4.6436	33.43	-7.60	25.83	103.50	-77.67	-	-	peak
6	9.6365	30.12	-7.88	22.24	103.50	-81.26	-	-	peak

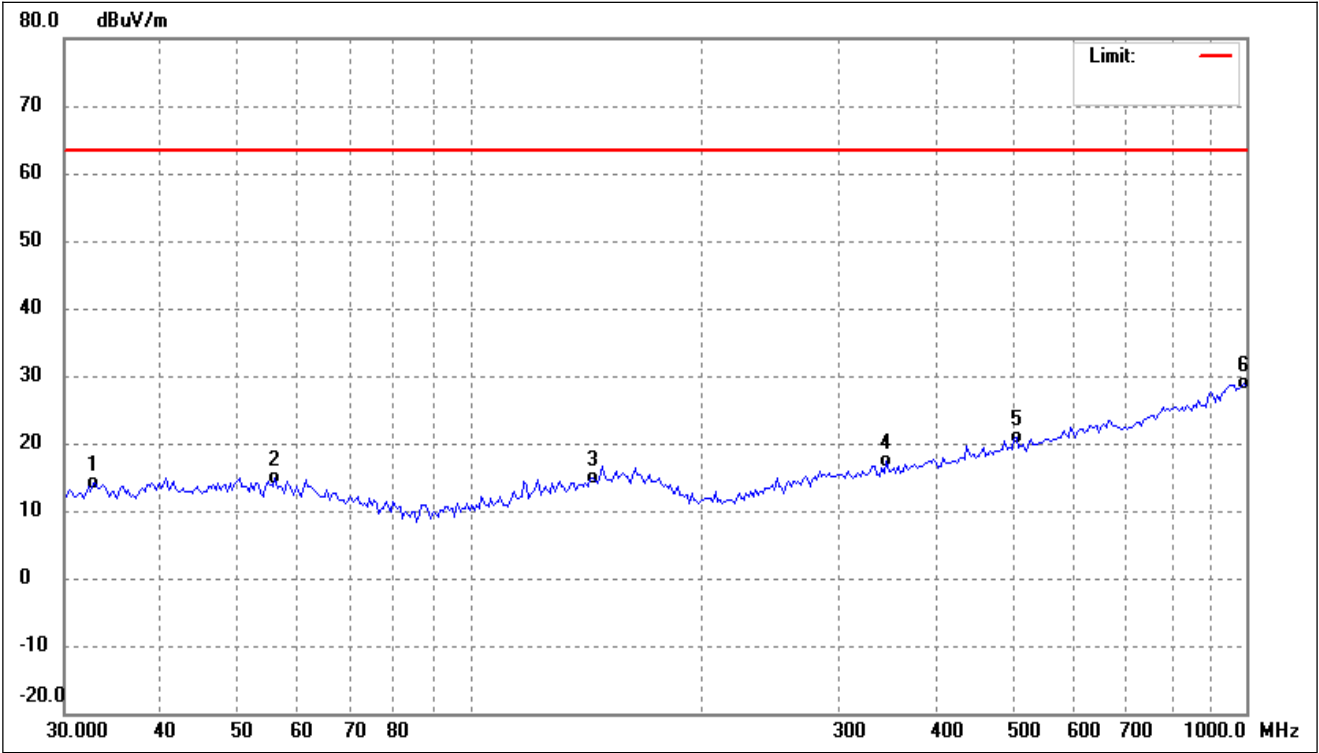
Plot of Radiated Emissions Test Data (Above 30MHz)

Test mode:	TM1	Polarity:	Horizontal
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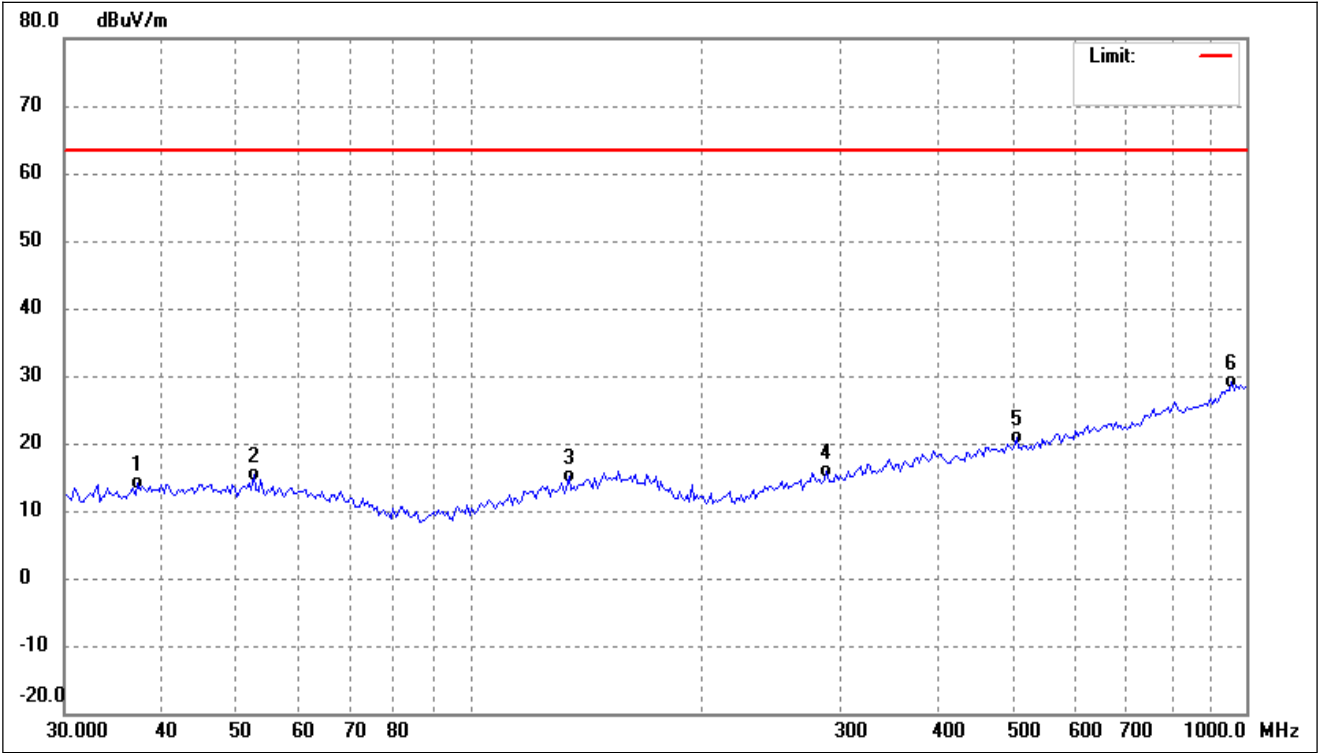
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	37.3017	27.39	-13.45	13.94	63.50	-49.56	-	-	QP
2	56.4662	28.84	-13.79	15.05	63.50	-48.45	-	-	QP
3	131.2235	28.82	-14.26	14.56	63.50	-48.94	-	-	QP
4	280.2936	28.84	-13.60	15.24	63.50	-48.26	-	-	QP
5	582.1122	30.23	-8.27	21.96	63.50	-41.54	-	-	QP
6	958.7135	32.28	-2.74	29.54	63.50	-33.96	-	-	QP

Test mode:	TM1	Polarity:	Vertical
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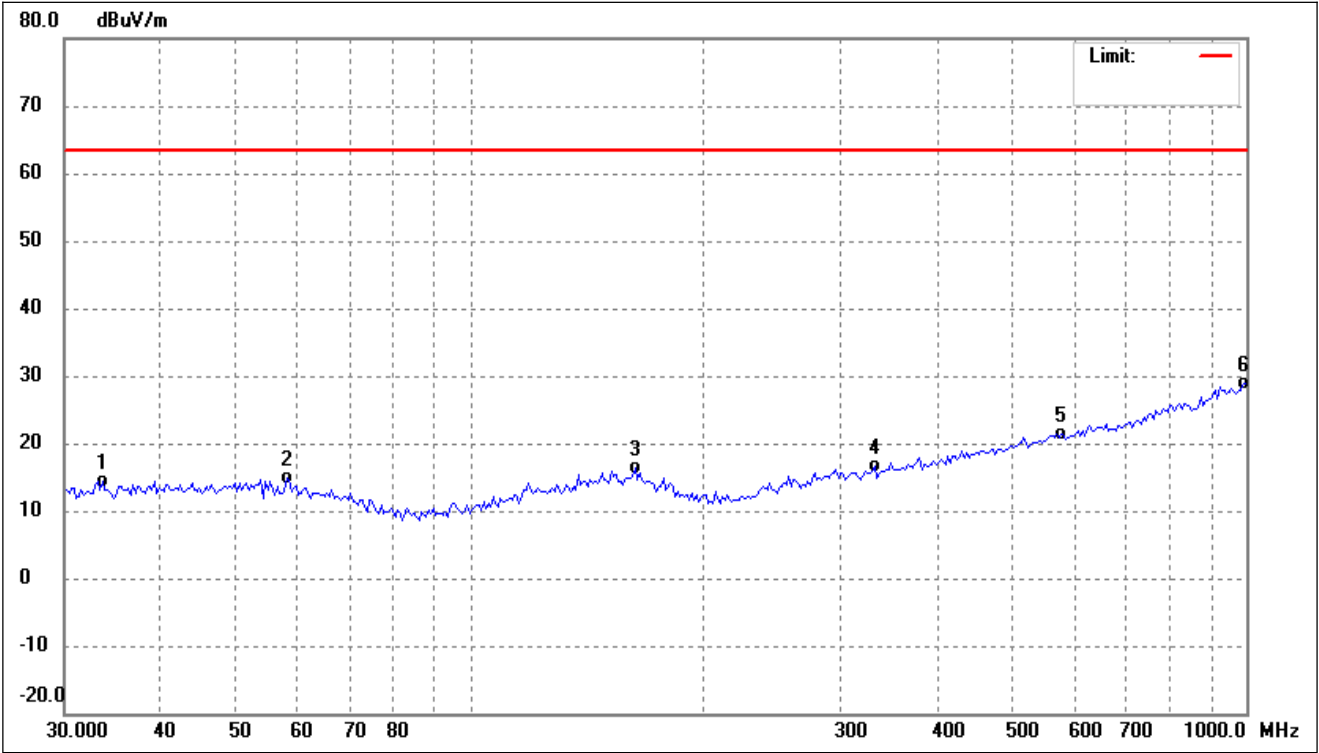
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	32.6395	28.08	-13.96	14.12	63.50	-49.38	-	-	QP
2	56.0708	28.56	-13.78	14.78	63.50	-48.72	-	-	QP
3	143.7760	28.57	-13.57	15.00	63.50	-48.50	-	-	QP
4	343.6506	29.79	-12.31	17.48	63.50	-46.02	-	-	QP
5	505.7891	31.05	-10.17	20.88	63.50	-42.62	-	-	QP
6	992.9975	31.40	-2.62	28.78	63.50	-34.72	-	-	QP

Test mode:	TM2	Polarity:	Horizontal
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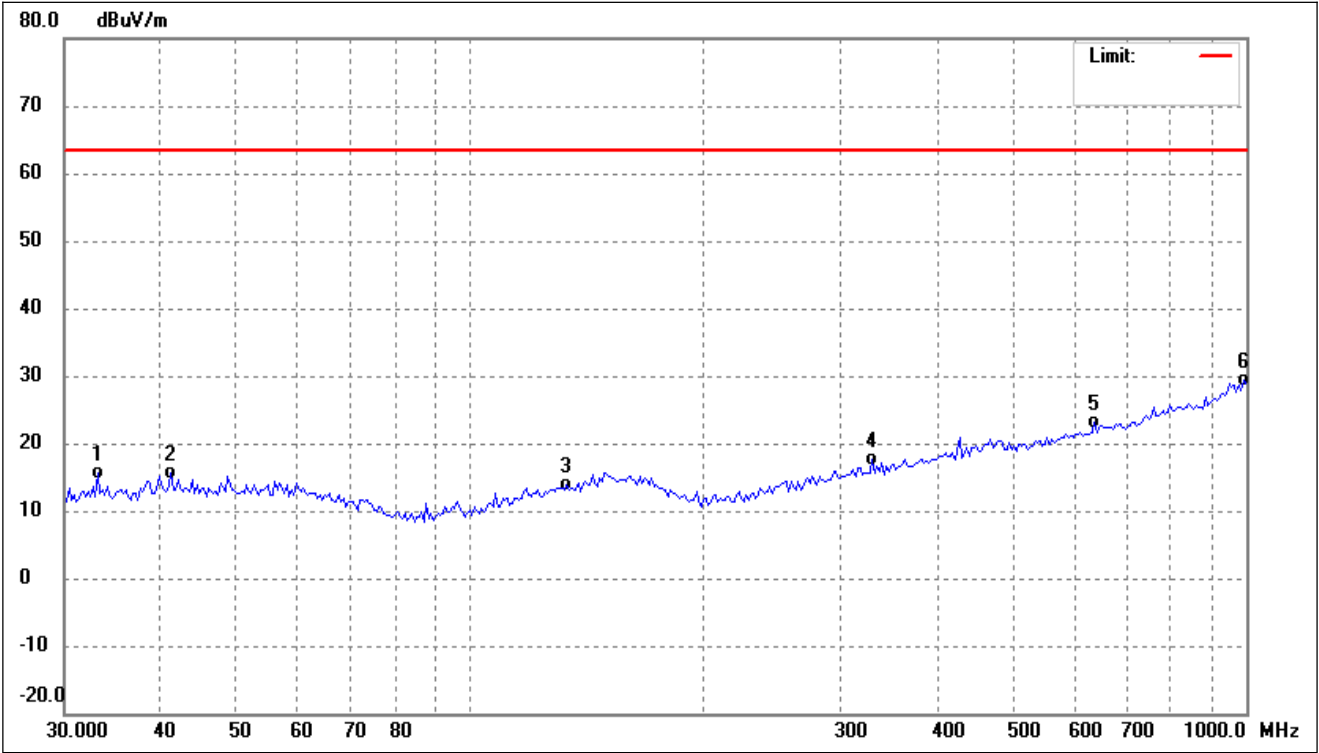
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	37.3017	27.54	-13.45	14.09	63.50	-49.41	-	-	QP
2	52.6345	28.83	-13.51	15.32	63.50	-48.18	-	-	QP
3	134.0194	29.25	-14.15	15.10	63.50	-48.40	-	-	QP
4	288.2840	29.33	-13.35	15.98	63.50	-47.52	-	-	QP
5	505.7891	31.11	-10.18	20.93	63.50	-42.57	-	-	QP
6	958.7135	31.85	-2.74	29.11	63.50	-34.39	-	-	QP

Test mode:	TM2	Polarity:	Vertical
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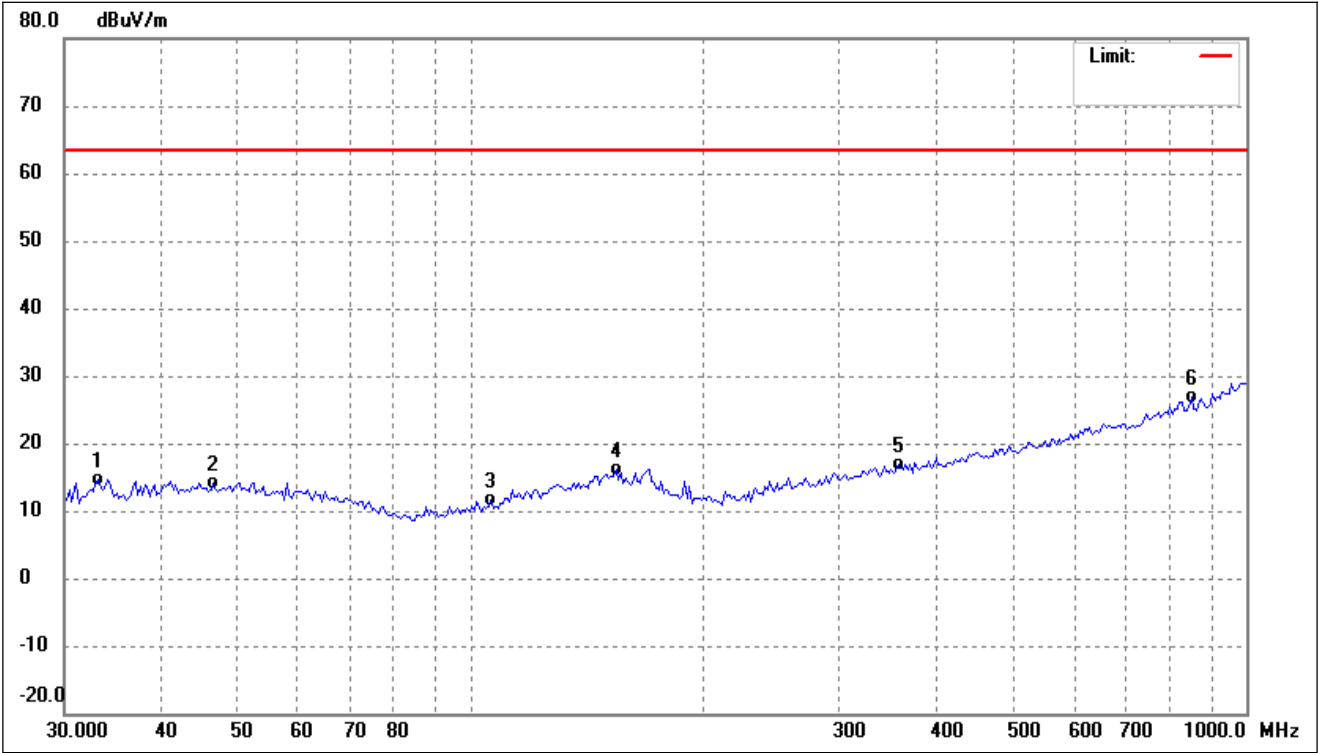
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	33.5700	28.18	-13.89	14.29	63.50	-49.21	-	-	QP
2	58.0759	28.70	-13.87	14.83	63.50	-48.67	-	-	QP
3	163.1623	29.46	-13.12	16.34	63.50	-47.16	-	-	QP
4	331.7858	28.93	-12.42	16.51	63.50	-46.99	-	-	QP
5	578.0359	29.81	-8.37	21.44	63.50	-42.06	-	-	QP
6	992.9975	31.51	-2.62	28.89	63.50	-34.61	-	-	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	33.1015	29.53	-13.93	15.60	63.50	-47.90	-	-	QP
2	41.1581	28.74	-13.11	15.63	63.50	-47.87	-	-	QP
3	133.0809	28.14	-14.18	13.96	63.50	-49.54	-	-	QP
4	329.4625	30.11	-12.45	17.66	63.50	-45.84	-	-	QP
5	637.7947	30.57	-7.32	23.25	63.50	-40.25	-	-	QP
6	992.9975	31.92	-2.62	29.30	63.50	-34.20	-	-	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	33.1015	28.56	-13.93	14.63	63.50	-48.87	-	-	QP
2	46.7077	27.43	-13.31	14.12	63.50	-49.38	-	-	QP
3	106.2812	28.07	-16.41	11.66	63.50	-51.84	-	-	QP
4	154.2428	29.28	-13.04	16.24	63.50	-47.26	-	-	QP
5	355.9397	28.99	-12.15	16.84	63.50	-46.66	-	-	QP
6	850.7603	31.23	-4.40	26.83	63.50	-36.67	-	-	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.

APPENDIX PHOTOGRAPHS

Please refer to “ANNEX”

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