

TEST REPORT

Reference No..... : WTX21X01000209W
FCC ID : 2AYFPPDT-SAC-XX
Applicant : ARTIKA FOR LIVING INC.
Address..... : 1756 50th avenue, lachine, Qc, CanadaH8T 2V5
Product Name : Fixed Luminaires
Test Model. : MD8309-1-3BD(PDT-SAC-BL)
Standards : **FCC PART15 SUBPART B**
Date of Receipt sample : Jan.04, 2021
Date of Test..... : Jan.04, 2021 to Jan.11, 2021
Date of Issue : Jan.11, 2021
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 compiler and approver.

Prepared By:

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TABLE OF CONTENTS

1. GENERAL INFORMATION	4
1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT).....	4
1.2 TEST STANDARDS.....	5
1.3 TEST METHODOLOGY.....	5
1.4 TEST FACILITY.....	5
1.5 EUT SETUP AND OPERATION MODE.....	6
1.6 MEASUREMENT UNCERTAINTY.....	6
1.7 TEST EQUIPMENT LIST AND DETAILS.....	7
2. SUMMARY OF TEST RESULTS	8
3. CONDUCTED EMISSIONS	9
3.1 TEST PROCEDURE.....	9
3.2 BASIC TEST SETUP BLOCK DIAGRAM.....	9
3.3 ENVIRONMENTAL CONDITIONS.....	9
3.4 SUMMARY OF TEST RESULTS.....	9
3.5 CONDUCTED EMISSIONS TEST DATA.....	9
4. RADIATED EMISSION	12
4.1 TEST PROCEDURE.....	12
4.2 BLOCK DIAGRAM OF TEST SETUP.....	12
4.3 TEST RECEIVER SETUP.....	12
4.4 CORRECTED AMPLITUDE & MARGIN CALCULATION.....	13
4.5 ENVIRONMENTAL CONDITIONS.....	13
4.6 SUMMARY OF TEST RESULTS.....	13
APPENDIX PHOTOGRAPHS	18

Report version

Version No.	Date of issue	Description
Rev.00	Jan.11, 2021	Original
/	/	/

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: ARTIKA FOR LIVING INC.
 Address of applicant: 1756 50th avenue, lachine, Qc, Canada H8T 2V5

Manufacturer: HIFLY ILLUMINATION CO., LIMITED
 Address of manufacturer: BLOCK 1, 1/F, BUILDING 2, No.2, YIHUI 3RD ROAD,
 MAOHUI INDUSTRIAL ZONE, HENG LAN TOWN,
 ZHONGSHAN GUANGDONG

General Description of EUT	
Product Name:	Fixed Luminaires
Trade Name:	/
Model No.:	MD8309-1-3BD(PDT-SAC-BL)
Adding Model(s):	MD8309-1-XYT (PDT-SAC-XXXXXX) XXXXX can be A to Z and/or 0 to 9 and/or blank (commercial code)
<p><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 MD8309-1-3BD(PDT-SAC-BL), but the circuit and the electronic construction do not change, declared by the manufacturer.</i></p>	

Technical Characteristics of EUT	
Rated Voltage:	AC120V/ 60Hz
Rated Current:	/
Rated Power:	/
Power Adapter Model:	/
Lowest Internal Frequency:	/
Highest Internal Frequency:	Above 108MHz
Classification of ITE:	Class B

1.2 Test Standards

The tests were performed according to following standards:

FCC Rules Part 15 Subpart B: Unintentional Radiators.

ANSI C63.4-2014: 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.

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, 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

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.

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:

Test Mode List:

Test Mode	Description	Remark	Power Supply Mode
TM1	Normal Working	Connect AC plug;	AC120V 60Hz for AC plug

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
/	/	/	/

Special Cable List and Details

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

1.6 Measurement Uncertainty

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

1.7 Test Equipment List and Details

Description	Manufacturer	Model	Serial No.	Cal Date	Due Date
Spectrum Analyzer	Agilent	E4407B	MY41440400	2020-04-28	2021-04-27
Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2020-04-28	2021-04-27
EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2020-04-28	2021-04-27
Amplifier	Agilent	8447F	3113A06717	2020-04-28	2021-04-27
Amplifier	C&D	PAP-1G18	2002	2020-04-28	2021-04-27
Broadband Antenna	Schwarz beck	VULB9163	9163-333	2019-05-05	2021-05-04
Horn Antenna	ETS	3117	00086197	2019-05-05	2021-05-04
Loop Antenna	Schwarz beck	FMZB 1516	9773	2019-05-05	2021-05-04
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2020-04-28	2021-04-27
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2020-04-28	2021-04-27
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2020-04-28	2021-04-27

Software List			
Description	Manufacturer	Model	Version
EMI Test Software (Radiated Emission)*	Farad	EZ-EMC	RA-03A1
EMI Test Software (Conducted Emission)*	Farad	EZ-EMC	RA-03A1

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

2. SUMMARY OF TEST RESULTS

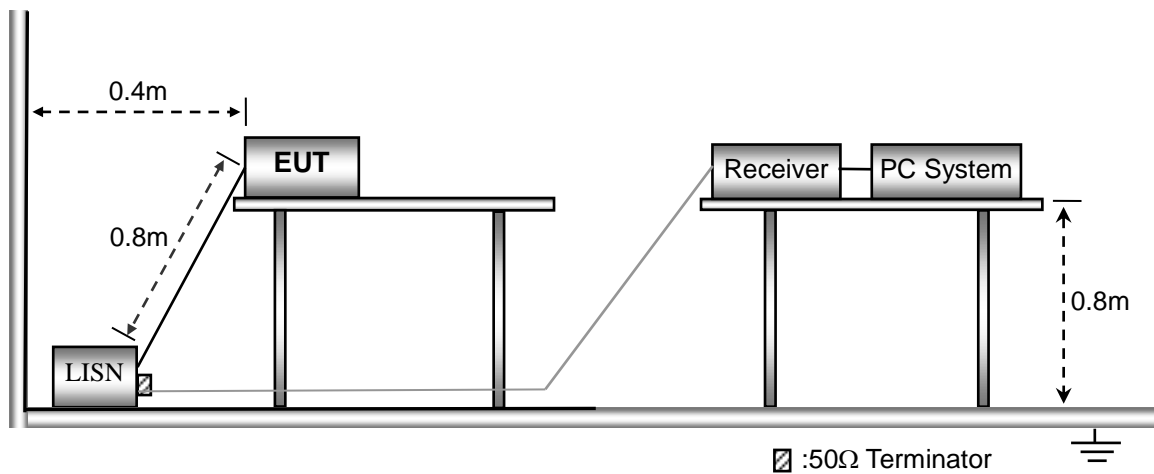
Description of Test	Result
§15.107(a) Conducted Emission	Compliant
§15.109(a) Radiated Emission	Compliant

3. Conducted Emissions

3.1 Test Procedure

Test is conducting under the description of ANSI C63.4-2014, 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.

3.2 Basic Test Setup Block Diagram



3.3 Environmental Conditions

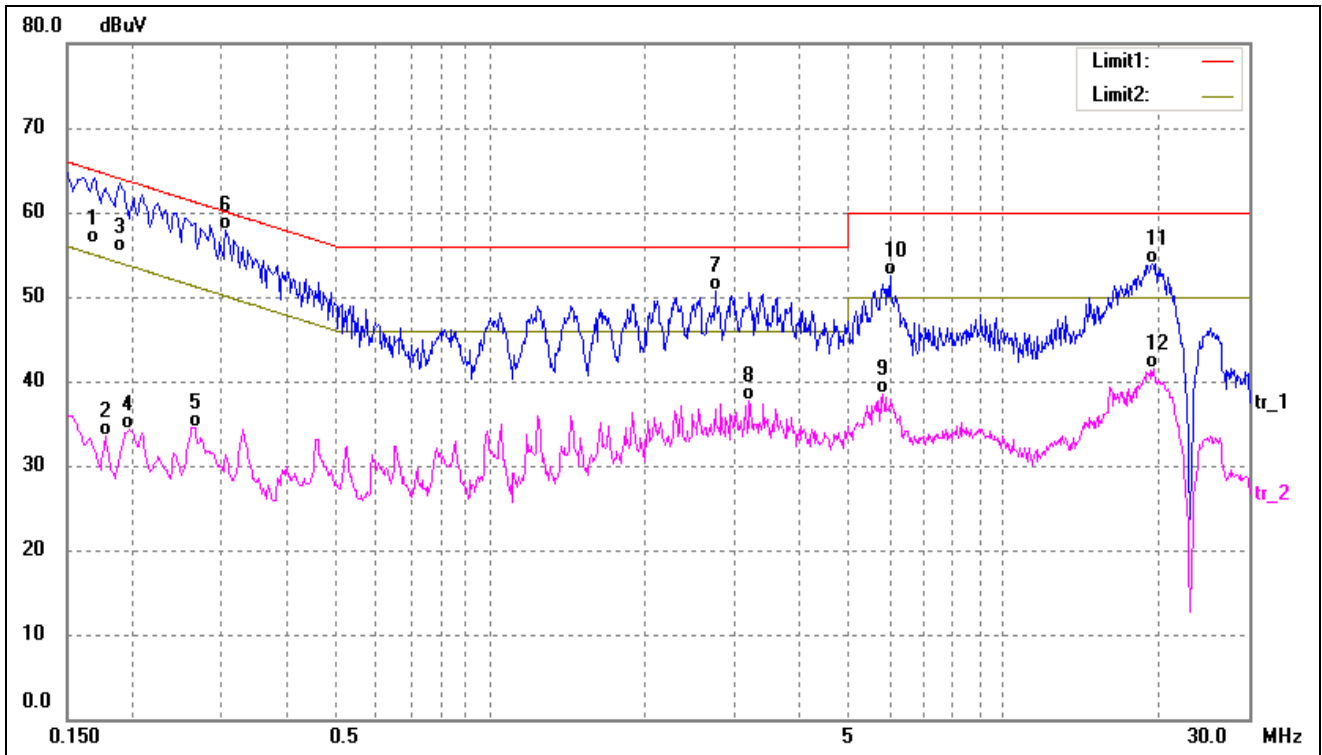
Temperature:	22.5 °C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

3.4 Summary of Test Results

Look at the graphs and data below :

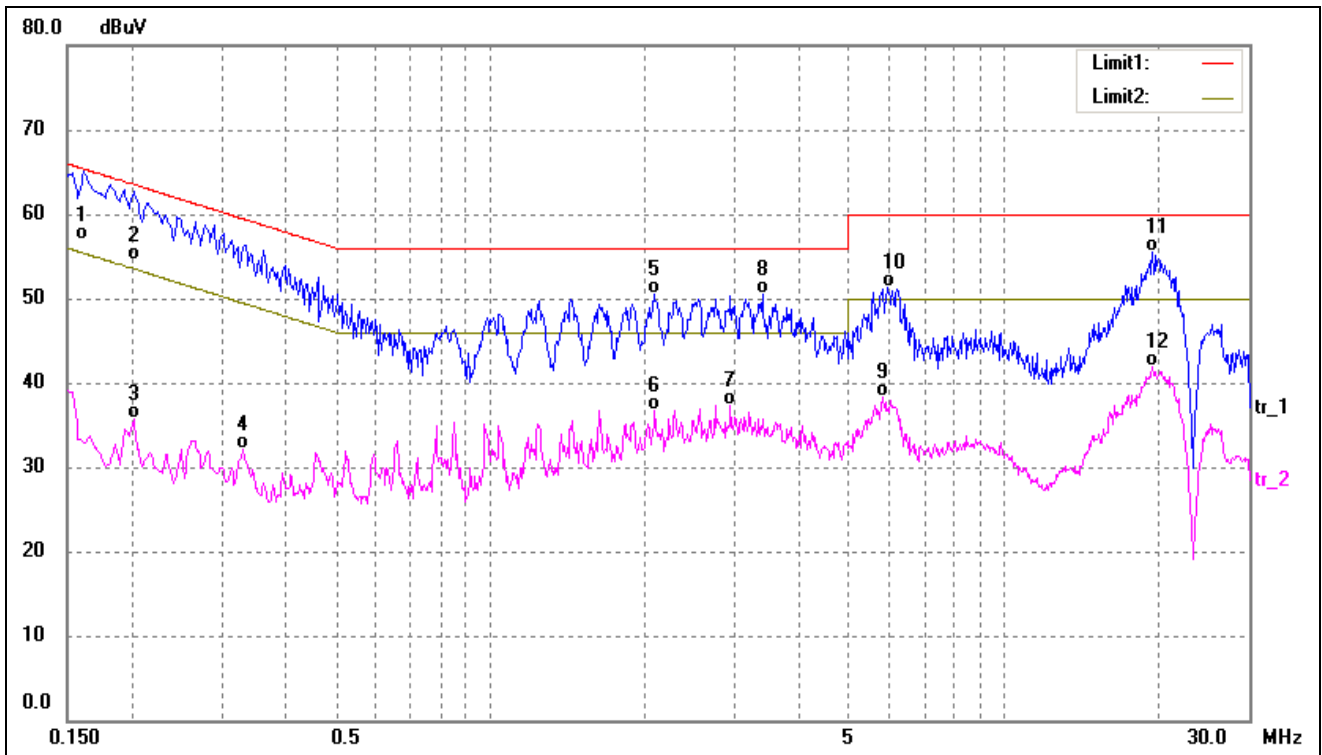
3.5 Conducted Emissions Test Data

Test mode:	TM1	Polarity:	Line
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1700	45.99	10.25	56.24	64.96	-8.72	QP
2	0.1780	23.24	10.26	33.50	54.58	-21.08	AVG
3	0.1900	45.11	10.26	55.37	64.04	-8.67	QP
4	0.1980	24.03	10.27	34.30	53.69	-19.39	AVG
5	0.2660	24.28	10.25	34.53	51.24	-16.71	AVG
6*	0.3060	47.58	10.24	57.82	60.08	-2.26	QP
7	2.7500	40.38	10.28	50.66	56.00	-5.34	QP
8	3.2060	27.50	10.27	37.77	46.00	-8.23	AVG
9	5.8180	28.32	10.23	38.55	50.00	-11.45	AVG
10	6.0220	42.28	10.24	52.52	60.00	-7.48	QP
11	19.4420	43.31	10.59	53.90	60.00	-6.10	QP
12	19.5660	30.94	10.59	41.53	50.00	-8.47	AVG

Test mode:	TM1	Polarity:	Neutral
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1620	46.67	10.26	56.93	65.36	-8.43	QP
2	0.2020	44.28	10.27	54.55	63.52	-8.97	QP
3	0.2020	25.45	10.27	35.72	53.52	-17.80	AVG
4	0.3300	21.92	10.26	32.18	49.45	-17.27	AVG
5	2.0860	40.25	10.30	50.55	56.00	-5.45	QP
6	2.0980	26.47	10.29	36.76	46.00	-9.24	AVG
7	2.9460	27.03	10.27	37.30	46.00	-8.70	AVG
8	3.3980	40.18	10.26	50.44	56.00	-5.56	QP
9	5.8219	27.98	10.23	38.21	50.00	-11.79	AVG
10	5.9499	41.07	10.23	51.30	60.00	-8.70	QP
11*	19.5099	44.82	10.59	55.41	60.00	-4.59	QP
12	19.5099	31.22	10.59	41.81	50.00	-8.19	AVG

4. RADIATED EMISSION

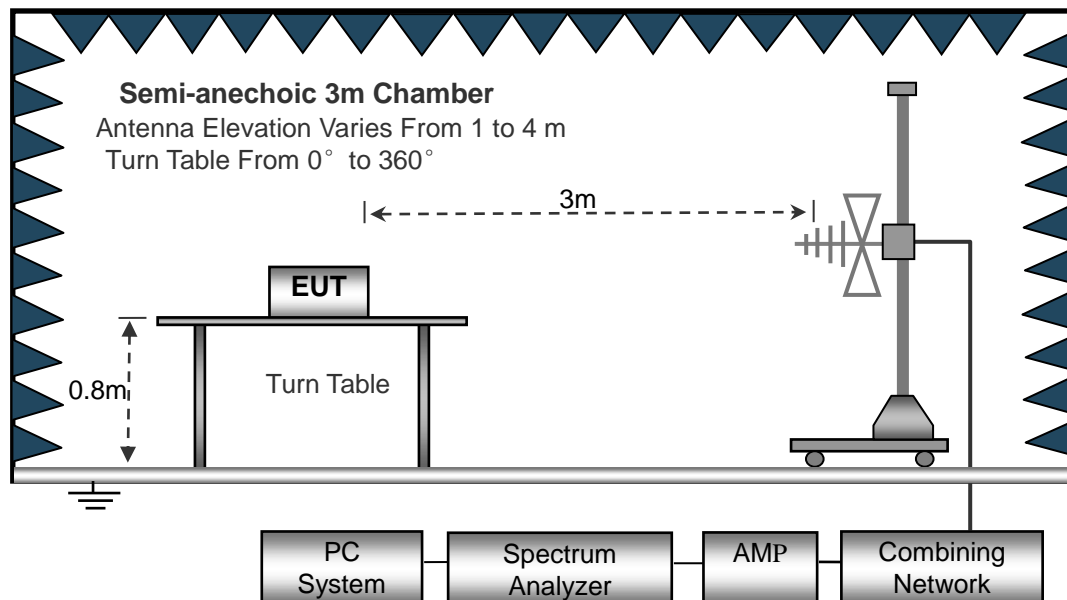
4.1 Test Procedure

The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 15.109 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.

4.2 Block Diagram of Test Setup



4.3 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

Frequency :Above 1GHz

RBW=1MHz,

VBW=3MHz(Peak), 10Hz(AV)

Sweep time= Auto

Trace = max hold

Detector function = peak, AV

4.4 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:

$$\begin{aligned} \text{Corr. Ampl.} &= \text{Indicated Reading} + \text{Correct} \\ \text{Correct} &= \text{Ant.Factor} + \text{Cable Loss} - \text{Ampl.Gain} \end{aligned}$$

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 a Class B device. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15.109(a) Limit}$$

4.5 Environmental Conditions

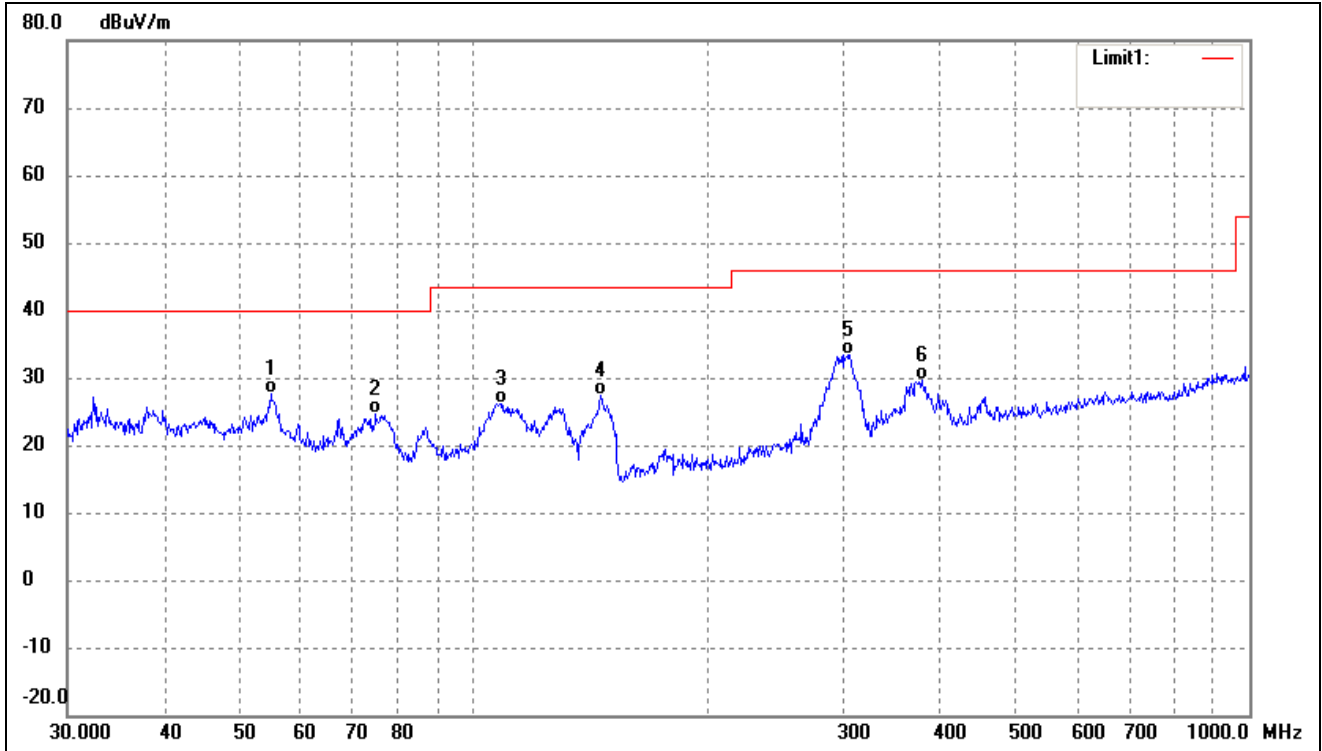
Temperature:	22.5 °C
Relative Humidity:	54 %
ATM Pressure:	1011 mbar

4.6 Summary of Test Results

Look at the graphs and data below:

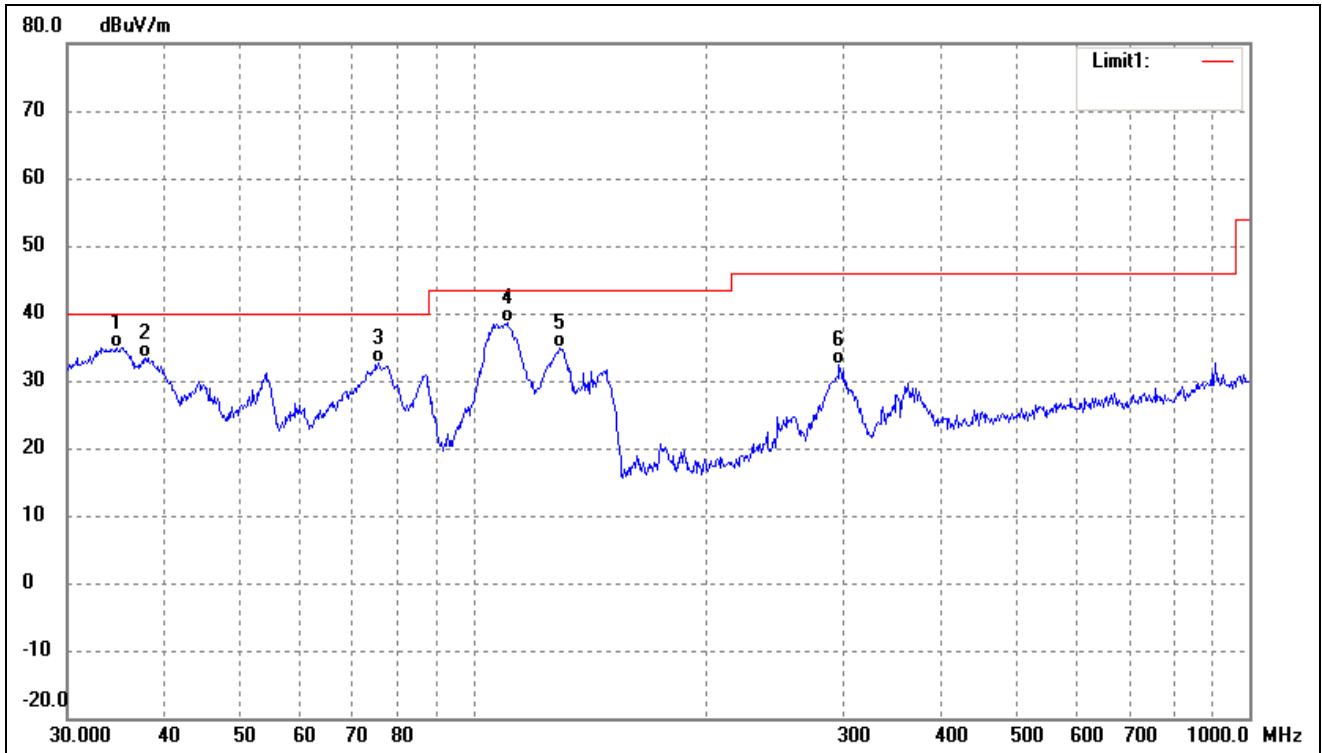
➤ Below 1GHz

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	54.8348	40.46	-12.89	27.57	40.00	-12.43	-	-	QP
2	74.9191	40.55	-16.02	24.53	40.00	-15.47	-	-	QP
3	108.6470	39.52	-13.31	26.21	43.50	-17.29	-	-	QP
4	145.8611	43.04	-15.77	27.27	43.50	-16.23	-	-	QP
5	303.5437	42.39	-8.92	33.47	46.00	-12.53	-	-	QP
6	378.5843	36.67	-7.09	29.58	46.00	-16.42	-	-	QP

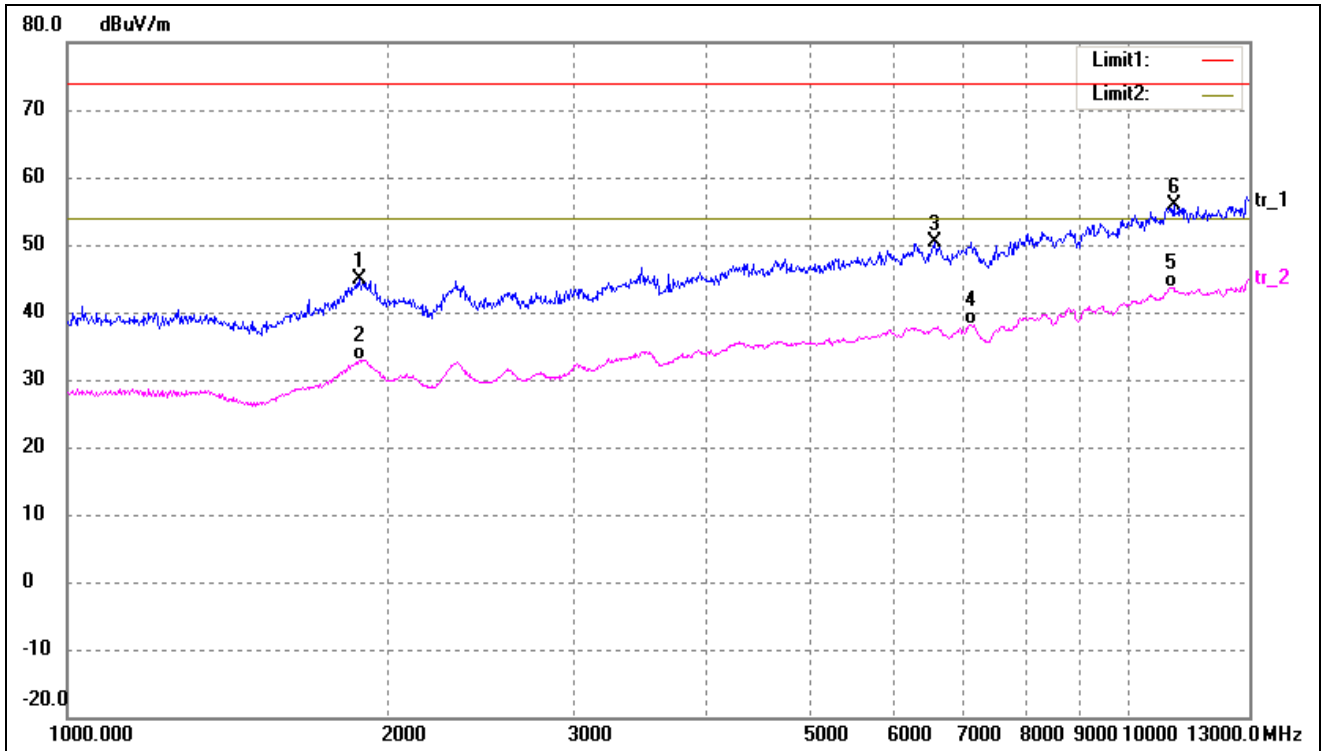
Test mode:	TM1	Polarity:	Vertical
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	34.7602	48.75	-13.88	34.87	40.00	-5.13	-	-	QP
2	37.8121	46.21	-12.81	33.40	40.00	-6.60	-	-	QP
3	75.4464	48.62	-16.11	32.51	40.00	-7.49	-	-	QP
4	110.5687	52.00	-13.36	38.64	43.50	-4.86	-	-	QP
5	129.4678	51.75	-16.83	34.92	43.50	-8.58	-	-	QP
6	296.1836	41.68	-9.19	32.49	46.00	-13.51	-	-	QP

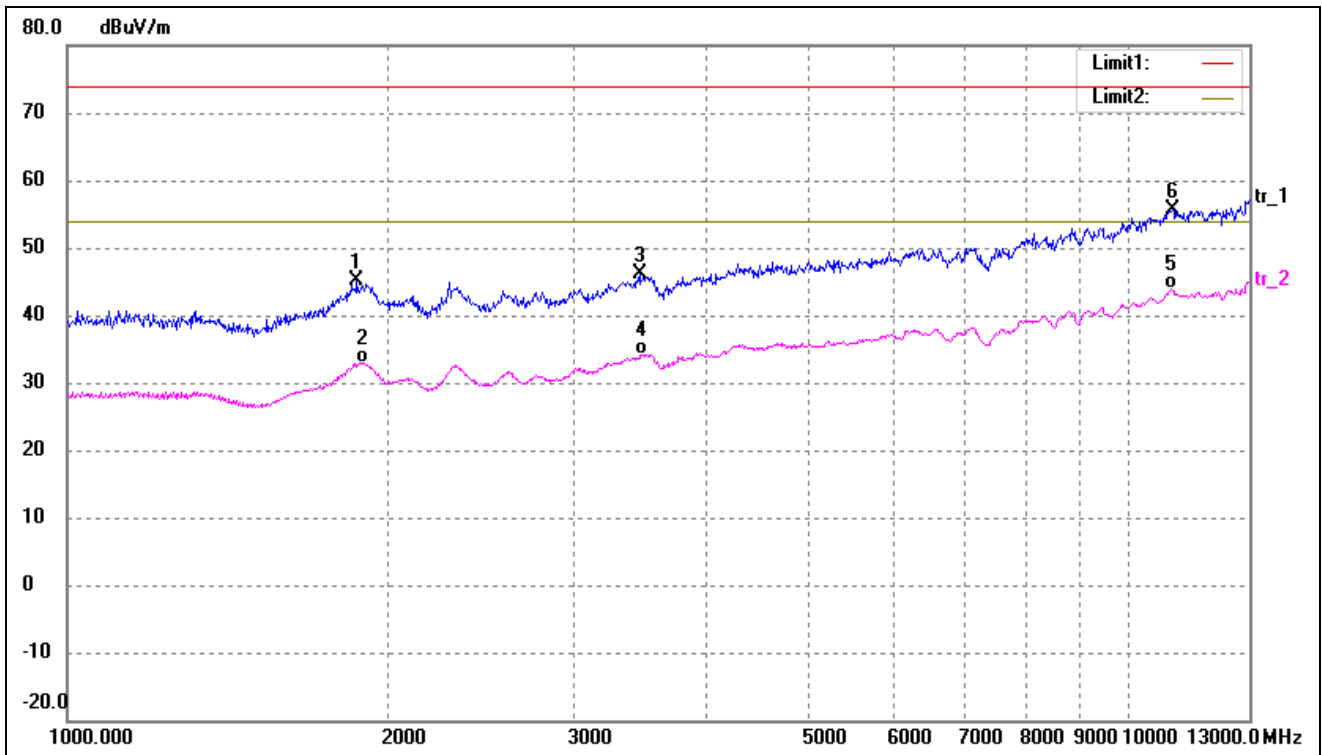
➤ Above 1GHz

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	1884.274	53.57	-8.69	44.88	74.00	-29.12	-	-	peak
2	1884.274	41.64	-8.69	32.95	54.00	-21.05	-	-	AVG
3	6571.045	52.61	-2.27	50.34	74.00	-23.66	-	-	peak
4	7114.865	40.32	-2.23	38.09	54.00	-15.91	-	-	AVG
5	10975.469	38.70	4.94	43.64	54.00	-10.36	-	-	AVG
6	11031.917	50.85	5.00	55.85	74.00	-18.15	-	-	peak

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	1874.632	53.92	-8.77	45.15	74.00	-28.85	-	-	peak
2	1893.965	41.59	-8.61	32.98	54.00	-21.02	-	-	AVG
3	3460.577	53.42	-7.32	46.10	74.00	-27.90	-	-	peak
4	3478.376	41.43	-7.26	34.17	54.00	-19.83	-	-	AVG
5	10975.469	38.83	4.94	43.77	54.00	-10.23	-	-	AVG
6	11003.657	50.60	5.02	55.62	74.00	-18.38	-	-	peak

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 *******