

TEST REPORT

Reference No...... : WTX23X05105679W
FCC ID..... : 2AYV2-SM-561
Applicant : Shenzhen Simolio Electronic Co., Ltd
Address : 6F, Bldg 1, Block A, Xifa Industrial Zone, Yintian Xixiang, Gongle Community,
Xixiang St, Baoan District, Shenzhen, Guangdong
Manufacturer : The same as Applicant
Address : The same as Applicant
Product Name : IR Wireless headphone
Model No...... : SM-561
Standards : **FCC PART15 SUBPART B**
Date of Receipt sample : 2023-05-16
Date of Test..... : 2023-05-16 to 2023-05-19
Date of Issue : 2023-05-19
Test Report Form No. : WTX_FCC PART15B_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.

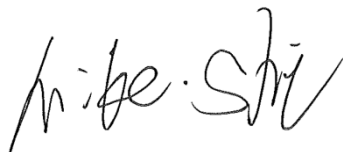
Prepared By:

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

Tel.: +86-755-33663308 Fax.: +86-755-33663309 Email: sem@waltek.com.cn

Tested by:



Mike Shi

Approved by:



Silin Chen

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.....7

1.7 TEST EQUIPMENT LIST AND DETAILS.....8

2. SUMMARY OF TEST RESULTS10

3. RADIATED EMISSION.....11

3.1 TEST PROCEDURE.....11

3.2 BLOCK DIAGRAM OF TEST SETUP.....11

3.3 TEST RECEIVER SETUP.....11

3.4 CORRECTED AMPLITUDE & MARGIN CALCULATION.....12

3.5 ENVIRONMENTAL CONDITIONS.....12

3.6 SUMMARY OF TEST RESULTS.....12

APPENDIX PHOTOGRAPHS.....17

Report version

Version No.	Date of issue	Description
Rev.00	2023-05-19	Original
/	/	/

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT	
Product Name:	IR Wireless headphone
Trade Name:	SIMOLIO, Joanbro
Model No.:	SM-561
Adding Model(s):	SM-561TV, SM-562, SM-562TV, SM-563, SM-563TV, SM-564, SM-565, SM-566, SM-567, SM-568, SM-568TV, SM-569, SM-569TV, SM-261A, SM-264D, SM-265D, SM-266D, SM-863D, IR1, IR1TV, IR2, IR2TV, IR3, IR4, IR5, IR6, IR7, IR8, IR8TV
<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 SM-561, but the circuit and the electronic construction do not change, declared by the manufacturer.</i></p>	

Technical Characteristics of EUT	
Rated Voltage:	DC1.5V"AAA"*2
Rated Current:	/
Rated Power:	/
Power Adapter Model:	/
Lowest Internal Frequency:	/
Highest Internal Frequency:	Below 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	Wireless IR receive	/	DC1.5V"AAA"*2
TM2	AUX Input	Connect to mobile phone, and AUX input. Playing 1kHz Audio.	DC1.5V"AAA"*2

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
Mobile phone	apple	A1700	/

Special Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
AUX Cable	1.5	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
<input checked="" type="checkbox"/> Chamber A: Below 1GHz					
Spectrum Analyzer	Rohde & Schwarz	FSP	836079/035	2023-02-25	2024-02-24
EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2023-02-25	2024-02-24
Amplifier	HP	8447F	2805A03475	2023-02-25	2024-02-24
Loop Antenna	Schwarz beck	FMZB 1516	9773	2021-03-20	2024-03-19
Trilog Broadband Antenna	Schwarz beck	VULB9163	9163-333	2023-03-20	2026-03-19
<input type="checkbox"/> Chamber A: Above 1GHz					
Amplifier	C&D	PAP-1G18	14918	2023-02-25	2024-02-24
Horn Antenna	ETS	3117	00086197	2021-03-19	2024-03-18
<input type="checkbox"/> Chamber B: Below 1GHz					
EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2023-02-25	2024-02-24
Trilog Broadband Antenna	Schwarz beck	VULB9163(B)	9163-635	2021-04-09	2024-04-08
Amplifier	Agilent	8447D	2944A10179	2023-02-25	2024-02-24
<input type="checkbox"/> Chamber C: Below 1GHz					
EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2023-02-25	2024-02-24
Trilog Broadband Antenna	Schwarz beck	VULB 9168	1194	2021-05-28	2024-05-27
Amplifier	HP	8447F	2944A03869	2023-02-25	2024-02-24
<input type="checkbox"/> Chamber C: Above 1GHz					
EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2023-02-25	2024-02-24
Horn Antenna	POAM	RTF-11A	LP228060221	2023-03-10	2026-03-09
Amplifier	Tonscend	TAP01018050	AP22E806235	2023-02-25	2024-02-24
<input checked="" type="checkbox"/> Conducted Room 1#					
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2023-02-25	2024-02-24
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2023-02-25	2024-02-24
AC LISN	Schwarz beck	NSLK8126	8126-224	2023-02-25	2024-02-24
<input type="checkbox"/> Conducted Room 2#					
EMI Test Receiver	Rohde & Schwarz	ESPI	10129	2023-02-25	2024-02-24

Reference No.: WTX23X05105679W

LISN	Rohde & Schwarz	ENV 216	100097	2023-02-25	2024-02-24
------	-----------------	---------	--------	------------	------------

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	N/A
§15.109(a) Radiated Emission	Compliant

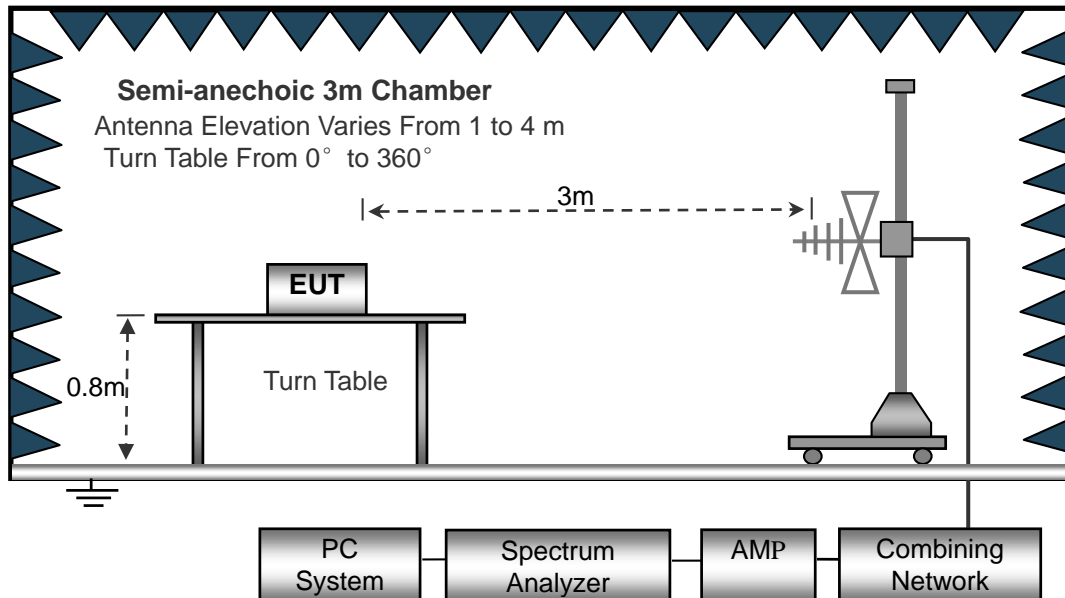
3. RADIATED EMISSION

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 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.

3.2 Block Diagram of Test Setup



3.3 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

3.4 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:

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

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:

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

3.5 Environmental Conditions

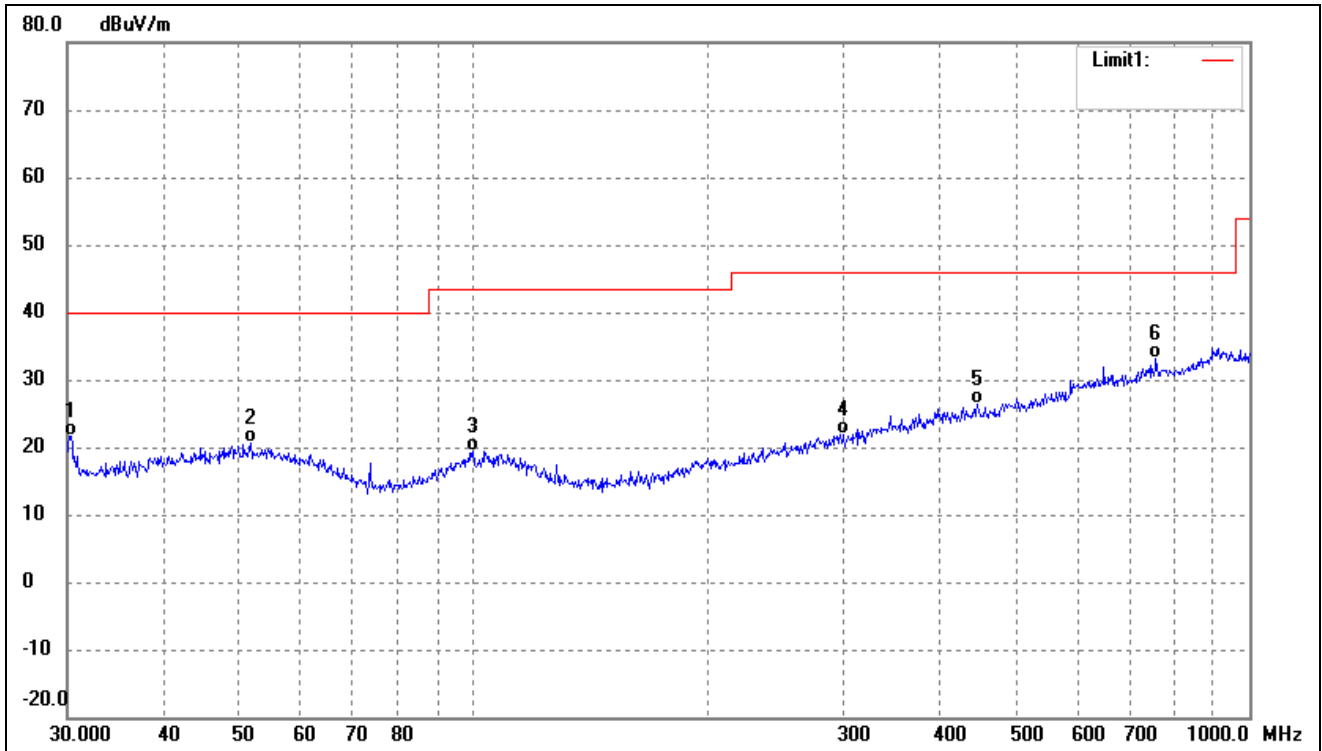
Temperature:	22.5 °C
Relative Humidity:	54 %
ATM Pressure:	1011 mbar

3.6 Summary of Test Results

Look at the graphs and data below:

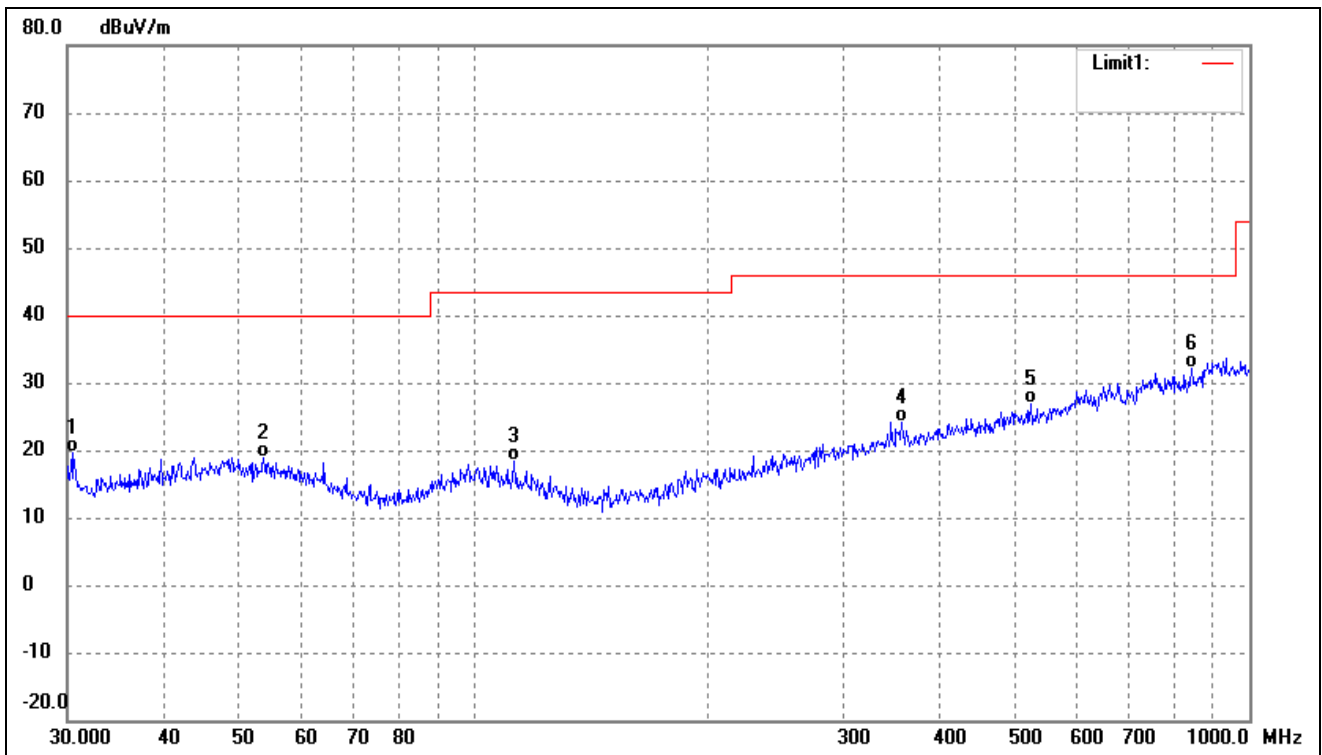
➤ Below 1GHz

Test mode:	TM1	Polarity:	Horizontal
------------	-----	-----------	------------



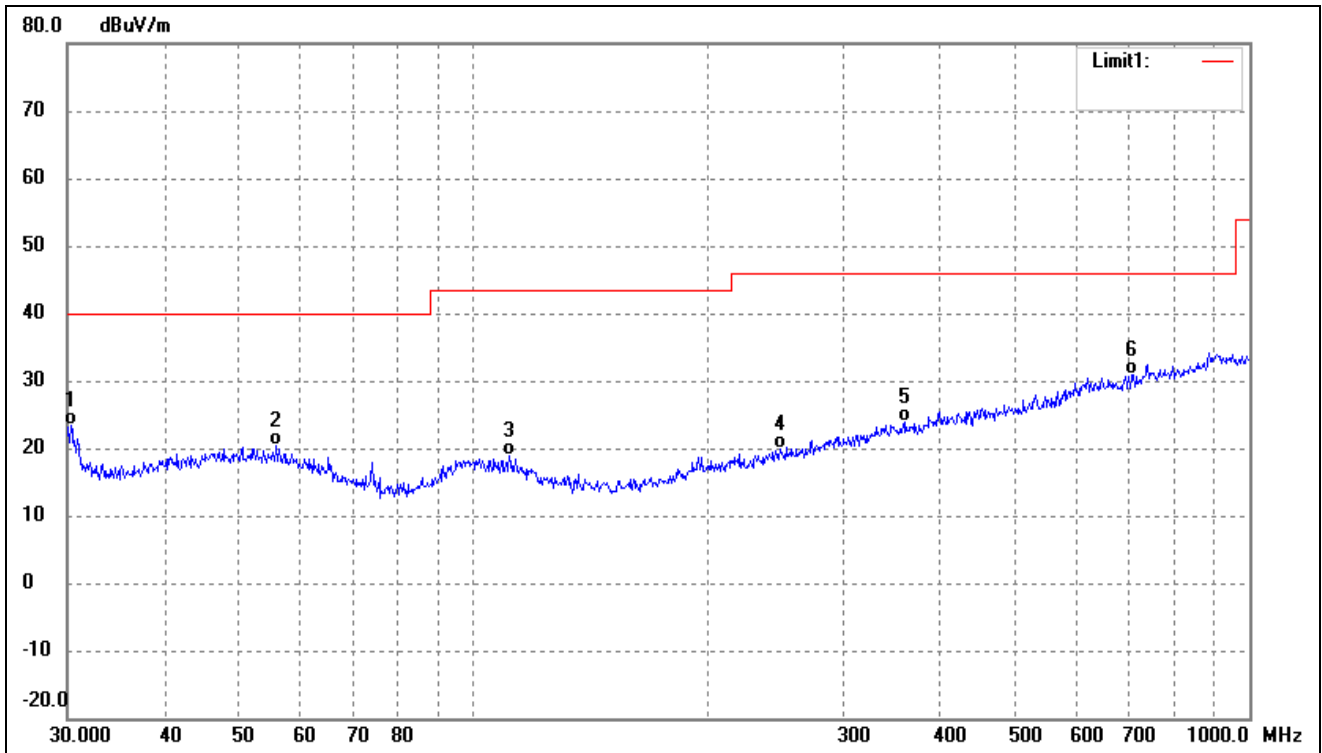
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	30.3173	32.43	-10.76	21.67	40.00	-18.33	-	-	QP
2	51.6616	27.90	-7.39	20.51	40.00	-19.49	-	-	QP
3	99.8777	28.01	-8.63	19.38	43.50	-24.12	-	-	QP
4	299.3158	26.57	-4.72	21.85	46.00	-24.15	-	-	QP
5	446.4141	28.48	-2.07	26.41	46.00	-19.59	-	-	QP
6	758.0408	29.16	3.89	33.05	46.00	-12.95	-	-	QP

Test mode:	TM1	Polarity:	Vertical
------------	-----	-----------	----------



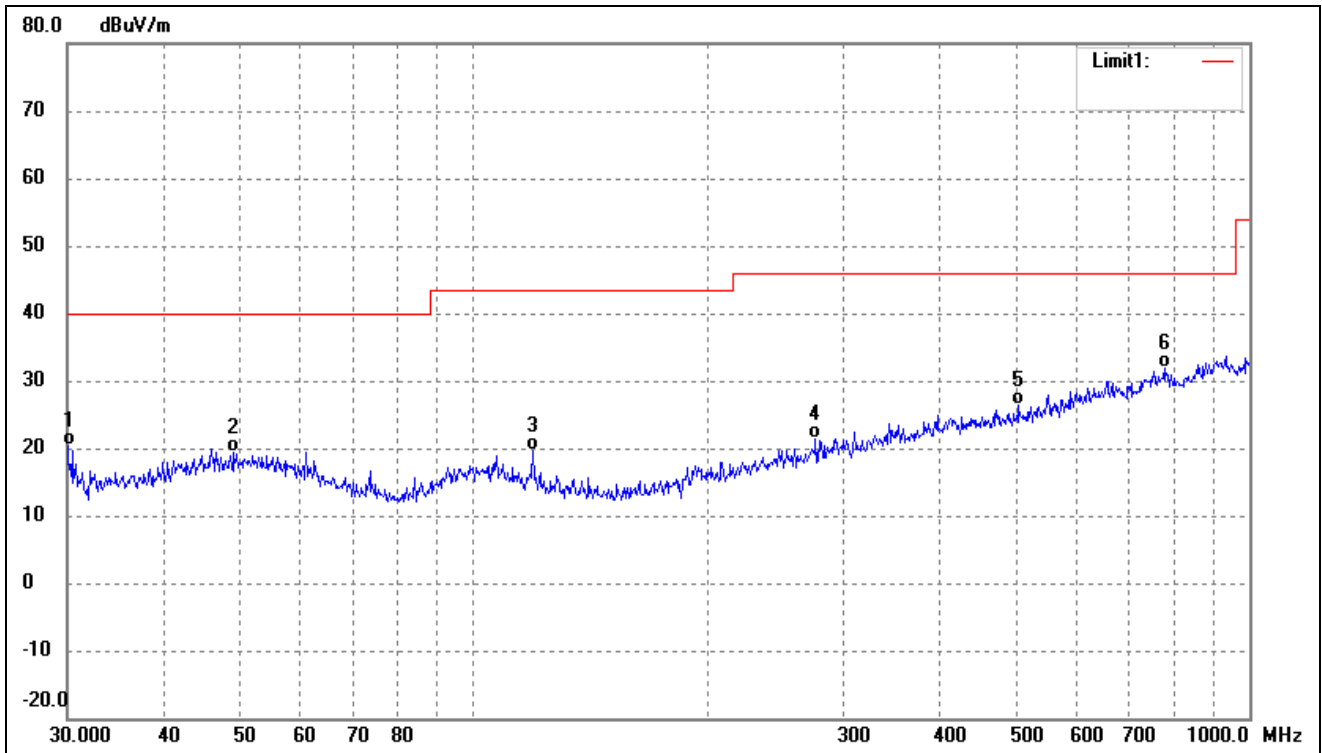
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	30.4238	30.42	-10.75	19.67	40.00	-20.33	-	-	QP
2	53.6932	26.46	-7.49	18.97	40.00	-21.03	-	-	QP
3	112.9196	27.41	-9.10	18.31	43.50	-25.19	-	-	QP
4	356.6758	27.59	-3.51	24.08	46.00	-21.92	-	-	QP
5	522.7180	27.70	-0.82	26.88	46.00	-19.12	-	-	QP
6	842.1296	27.87	4.33	32.20	46.00	-13.80	-	-	QP

Test mode:	TM2	Polarity:	Horizontal
------------	-----	-----------	------------



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	30.3173	34.07	-10.76	23.31	40.00	-16.69	-	-	QP
2	55.8047	28.16	-7.72	20.44	40.00	-19.56	-	-	QP
3	111.3468	27.81	-8.88	18.93	43.50	-24.57	-	-	QP
4	248.5519	26.18	-6.42	19.76	46.00	-26.24	-	-	QP
5	360.4477	27.31	-3.53	23.78	46.00	-22.22	-	-	QP
6	706.6999	28.82	2.06	30.88	46.00	-15.12	-	-	QP

Test mode:	TM2	Polarity:	Vertical
------------	-----	-----------	----------



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	30.0000	31.03	-10.76	20.27	40.00	-19.73	-	-	QP
2	49.1866	26.72	-7.37	19.35	40.00	-20.65	-	-	QP
3	119.4361	29.63	-10.04	19.59	43.50	-23.91	-	-	QP
4	276.1236	26.99	-5.58	21.41	46.00	-24.59	-	-	QP
5	504.7062	27.48	-1.05	26.43	46.00	-19.57	-	-	QP
6	776.8778	27.83	4.02	31.85	46.00	-14.15	-	-	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 *****