FCC Part 15B
Measurement and Test Report

For

Shenzhen Huadoo Bright Group Limited

Room 13E, jinsong Buiding, Tai ran 4th Rood, chegong miao, Futian Distrct,Shenzhen, Guangdong

FCC ID: 2ACXS-H1

Test Rule(s):	FCC Part 15 Subpart B
Product Description:	mobile phone
Tested Model:	Huadoo H1
Report No.:	STR14128002I-3
Tested Date:	2014-12-02 to 2014-12-12
Issued Date:	2014-12-12
Tested By:	Jason Su / Engineer
Reviewed By:	Lahm Peng / EMC Manager
Approved & Authorized By:	Jandy so / PSQ Manager

Prepared By:

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant:	Shenzhen Huadoo Bright Group Limited
Address of applicant:	Room 13E, jinsong Building, Tai ran 4th Rood, chegong miao, Futian District, Shenzhen Guangdong
Manufacturer:	Huadoo Bright Group Limited BaoAn Branch Office
Address of manufacturer:	10th floor, Fenghuang science & technology building,No.6, Lingbei 4th road,1st industry park, Fenghuang, Fuyong town, Bao'an District, Shenzhen, China

General Description of EUT	
Product Name:	mobile phone
Trade Name:	Huadoo
Model No.:	Huadoo H1
Adding Model(s):	/
Note: The test data is gathered from a production sample, provided by the manufacturer.	

Technical Characteristics of EUT	
Rated Voltage:	Battery DC 3.7V
Rated Current:	2000mA
Rated Power:	/
Power Adapter Model:	HJ-0501000
Lowest Internal Frequency:	26MHz
Highest Internal Frequency:	64MHz
Classification of ITE:	Class B

1.2 Test Standards

The following report is prepared on behalf of the Shenzhen Huadoo Bright Group Limited in accordance with Part 2, Subpart J, and Part 15, Subparts A and B of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC Part 15, Subpart B, and section 15.205, 15.107, and 15.109 rules.

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 C63.4-2003, 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

FCC – Registration No.: 934118

Shenzhen SEM.Test Technology 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 and the Registration is 934118.

Industry Canada (IC) Registration No.: 11464A

The 3m Semi-anechoic chamber of Shenzhen SEM.Test Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

CNAS Registration No.: L4062

Shenzhen SEM.Test Technology Co., Ltd. is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L4062. All measurement facilities used to collect the measurement data are located at 1/F, Building A, Hongwei Industrial Park, Liuxian 2nd Road, Bao'an District, Shenzhen, P.R.C (518101).

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
TM1	Charging & Playing	Connect to Adapter, Earphone
TM2	Downloading	Connect to PC
TM3	Camera	/

EUT Cable List and Details

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

Auxiliary Equipment List and Details

Description	Manufacturer	Model	Serial Number
Notebook	Lenovo	E10	/

Special Cable List and Details

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

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§ 15.107 (a)	Conducted Emissions	Compliant
§ 15.109 (a)	Radiated Emissions	Compliant

N/A: not applicable

3. Conducted Emissions

3.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is ± 2.88 dB.

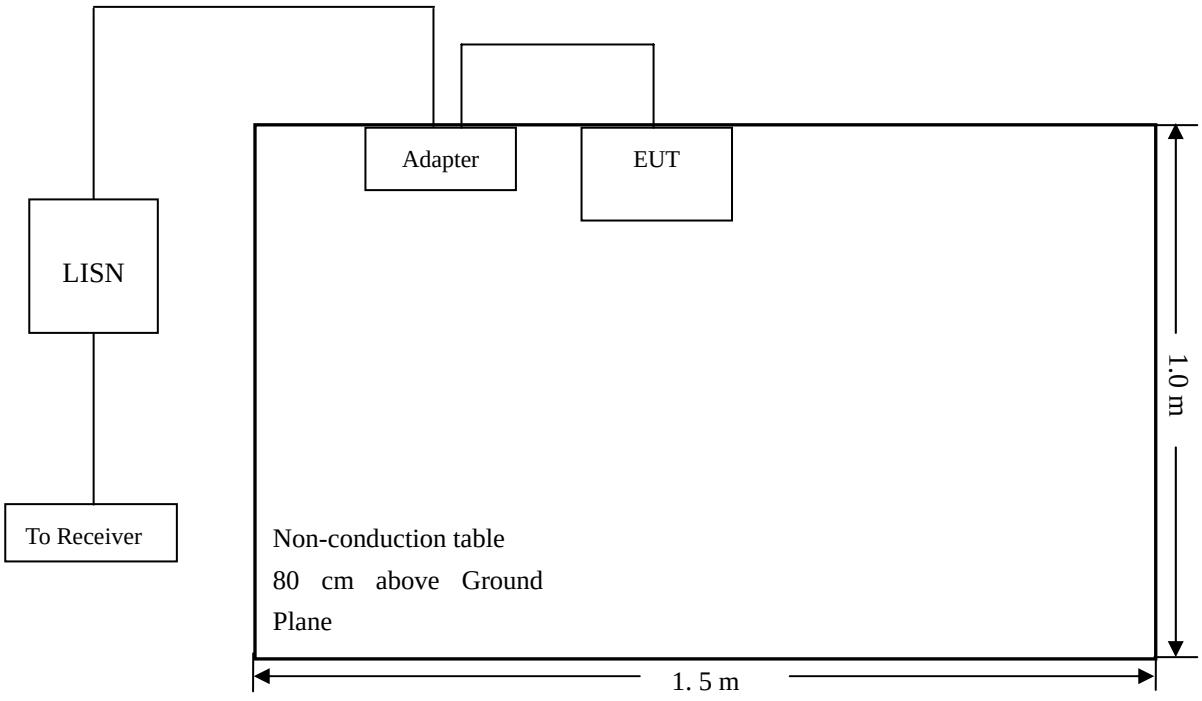
3.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2014-05-28	2015-05-27
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2014-05-28	2015-05-27
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2014-05-28	2015-05-27

3.3 Test Procedure

Test is conducting under the description of ANSI C63.4-2003, 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.

3.4 Basic Test Setup Block Diagram



3.5 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	52%
ATM Pressure:	1011 mbar

3.6 Summary of Test Results/Plots

According to the data in section 3.7, the EUT complied with the FCC Part 15.107(a) Conducted margin for a Class B device, with the *worst* margin reading of:

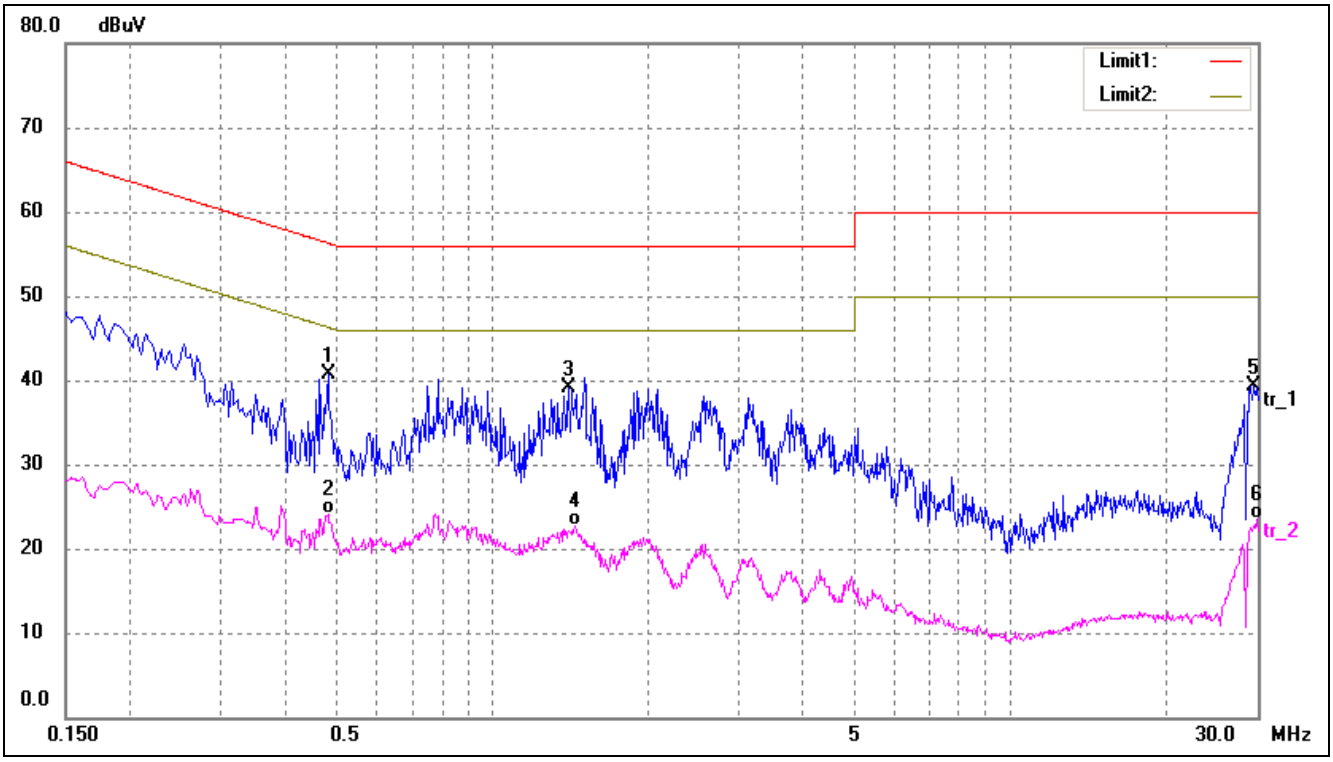
-15.51 dB at **0.4820 MHz** in the ***Neutral***, **Peak** detector, 0.15-30MHz

3.7 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

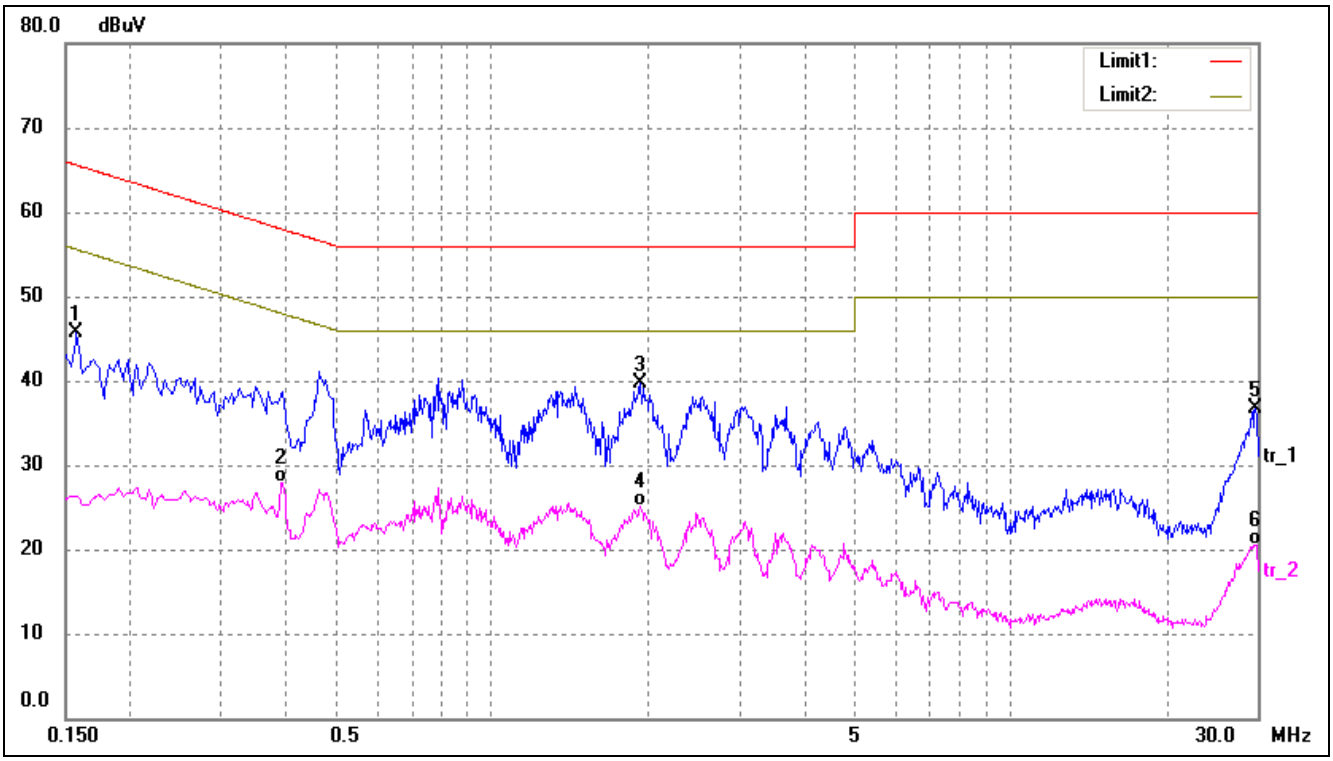
EUT: *Mobile phone*
Tested Model: *Huadoo H1*
Operating Condiation: *AC 120V/60Hz; Adapter DC 5V/1A*
Comment: *TM1*

Test Specification: *Neutral*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.4820	31.29	9.50	40.79	56.30	-15.51	peak
2	0.4820	14.57	9.50	24.07	46.30	-22.23	AVG
3	1.4100	29.18	10.00	39.18	56.00	-16.82	peak
4	1.4460	12.72	10.00	22.72	46.00	-23.28	AVG
5	29.5540	26.38	13.00	39.38	60.00	-20.62	peak
6	29.9580	10.52	13.00	23.52	50.00	-26.48	AVG

Test Specification: *Line*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.1580	36.13	9.50	45.63	65.57	-19.94	peak
2	0.3900	18.39	9.50	27.89	48.06	-20.17	AVG
3	1.9300	29.62	10.00	39.62	56.00	-16.38	peak
4	1.9300	15.04	10.00	25.04	46.00	-20.96	AVG
5	29.7540	23.74	13.00	36.74	60.00	-23.26	peak
6	29.7540	7.55	13.00	20.55	50.00	-29.45	AVG

4. Radiated Emissions

4.1 Measurement Uncertainty

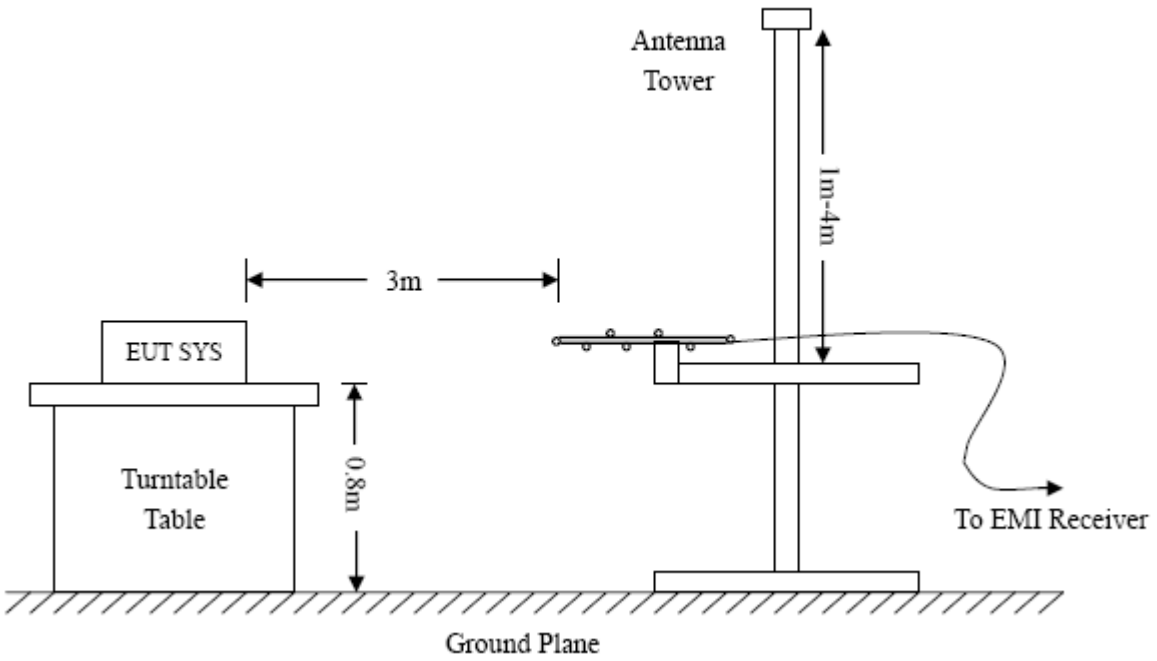
Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement is ± 5.10 dB.

4.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2014-05-28	2015-05-27
EMI Test Receiver	R&S	ESVB	825471/005	2014-05-28	2015-05-27
Pre-amplifier	Agilent	8447F	3113A06717	2014-05-28	2015-05-27
Pre-amplifier	Compliance Direction	PAP-0118	24002	2014-05-28	2015-05-27
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2014-05-24	2015-05-23
Horn Antenna	ETS	3117	00086197	2014-05-24	2015-05-23
Loop Antenna	SCHWARZECK	HFRA 5165	9365	2014-05-24	2015-05-23

4.3 Test Procedure

The setup of EUT is according with per ANSI C63.4-2003 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.



4.4 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

4.5 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:

Corr. Ampl. = Indicated Reading – Corr. Factor

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

Margin = Corr. Ampl. – FCC Part 15.109(a) Limit

4.6 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	55 %
ATM Pressure:	1011 mbar

4.7 Summary of Test Results/Plots

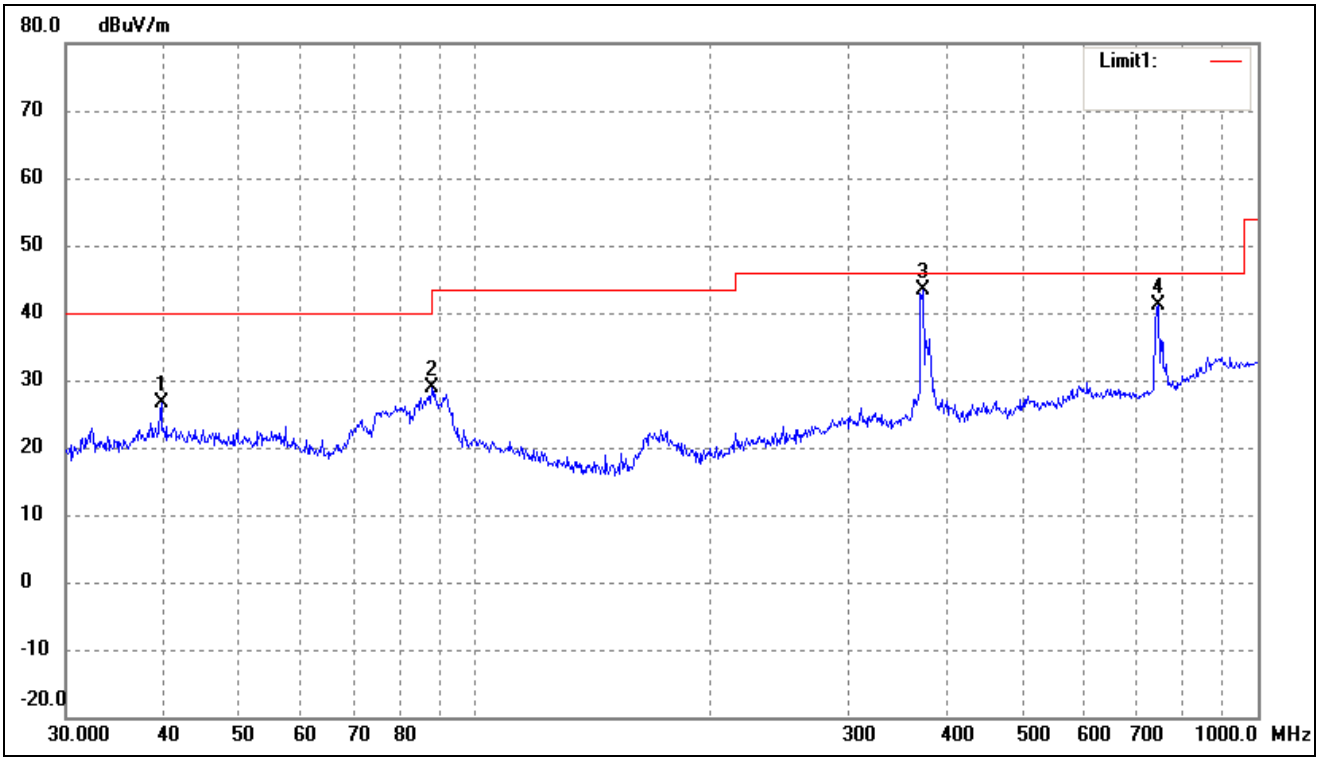
According to the data, the EUT complied with the FCC Part 15.109(a) rule, and had the worst margin of:

-1.36 dB at **744.8661MHz** in the **Horizontal** polarization, **TM2** mode, **9 kHz** to **1 GHz**, **3Meters**

Plot of Radiated Emissions Test Data

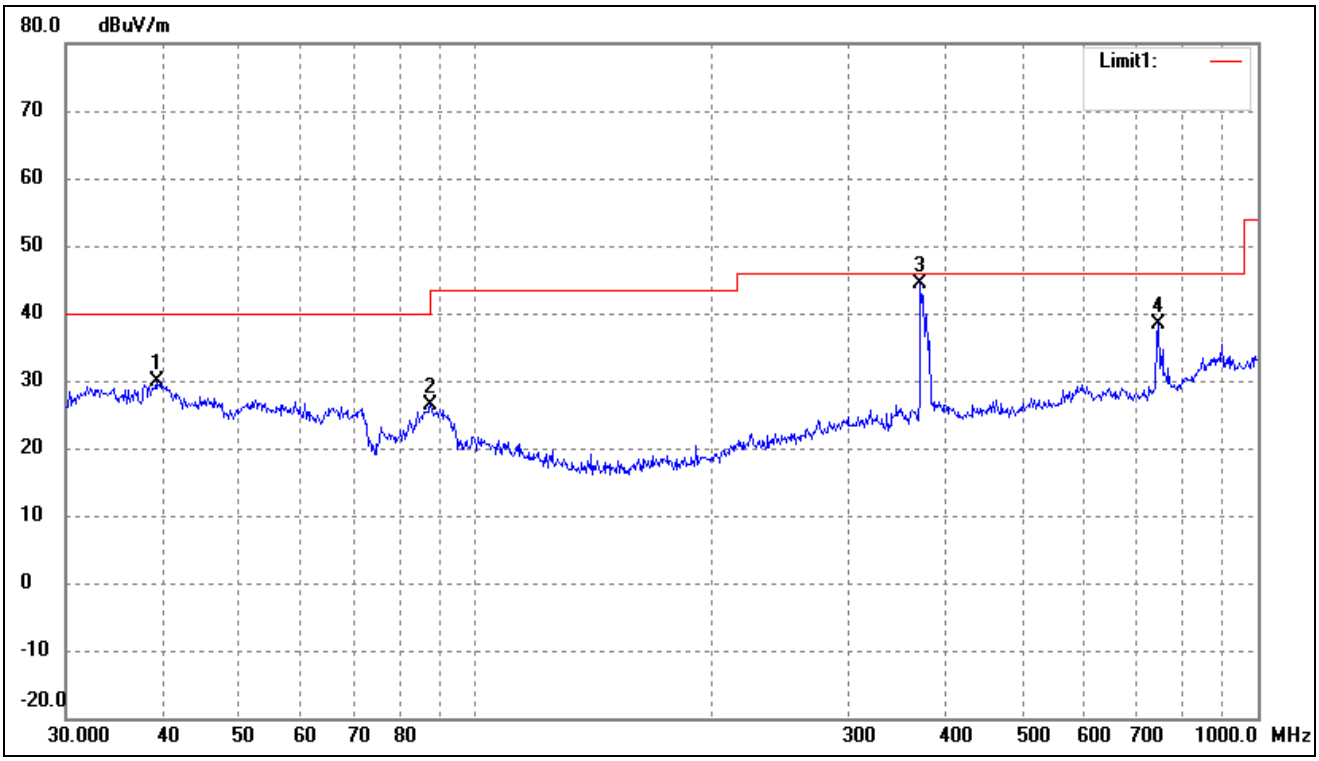
EUT: *Mobile phone*
Tested Model: *Huadoo H1*
Operating Condition: *TM1*
Comment: *AC 120V/60Hz; adapter DC 5V*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	39.7146	19.36	7.17	26.53	40.00	-13.47	321	100	peak
2	88.0329	25.80	3.10	28.90	43.50	-14.60	356	100	peak
3	373.3111	34.20	9.22	43.42	46.00	-2.58	25	100	peak
4	744.8661	27.34	13.82	41.16	46.00	-4.84	212	100	peak

Test Specification: *Vertical*

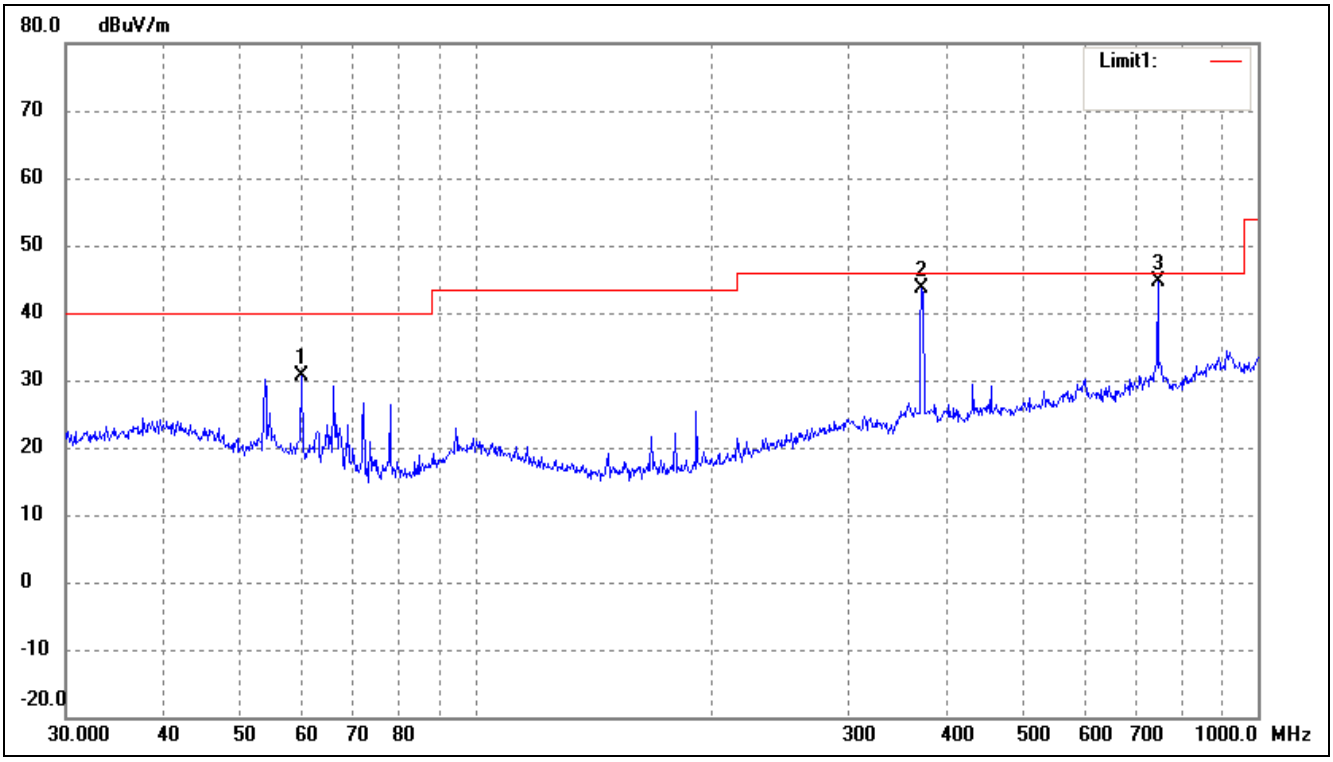


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	39.1616	20.75	9.10	29.85	40.00	-10.15	69	100	peak
2	87.7248	23.36	3.02	26.38	40.00	-13.62	128	100	peak
3	370.7022	35.11	9.21	44.32	46.00	-1.68	131	100	peak
4	744.8661	23.16	15.33	38.49	46.00	-7.51	312	100	peak

Plot of Radiated Emissions Test Data

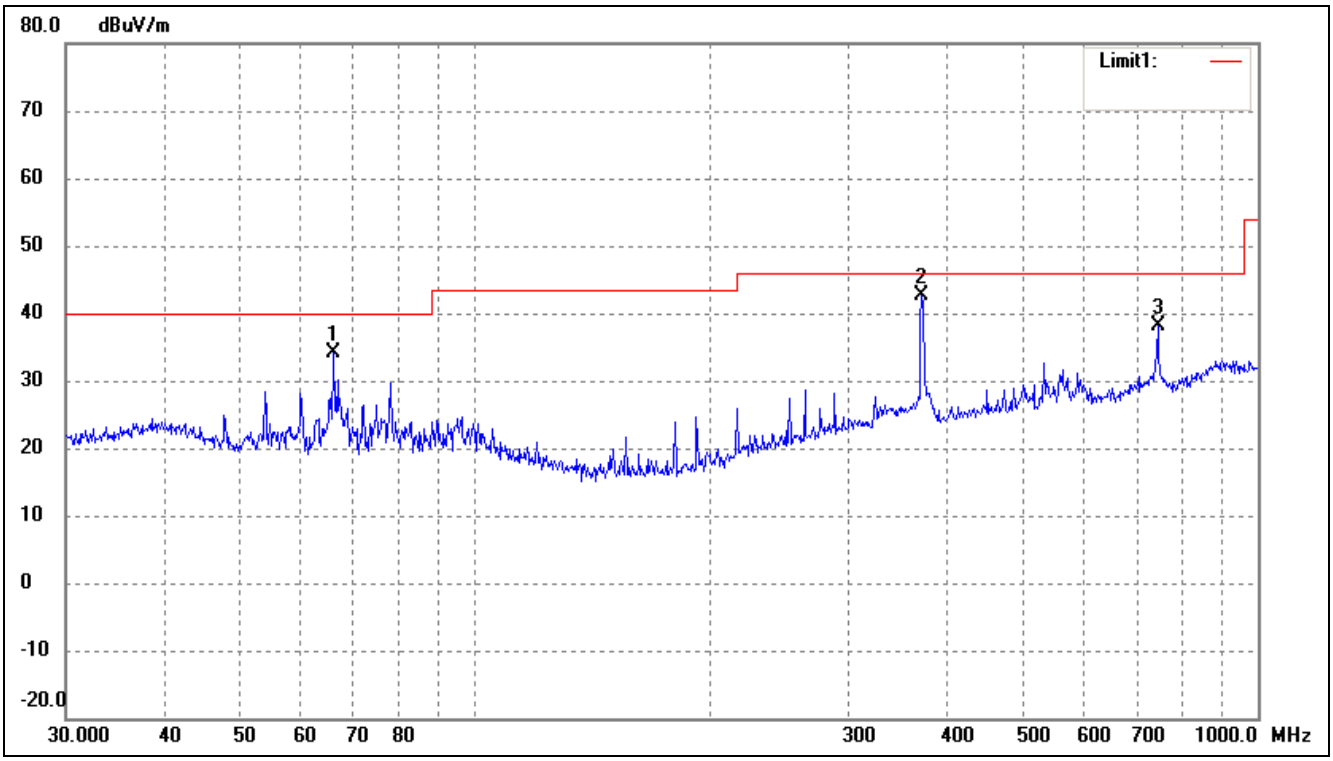
EUT: *Mobile phone*
Tested Model: *Huadoo H1*
Operating Condition: *TM2*
Comment: *AC 120V/60Hz*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	60.0691	25.30	5.36	30.66	40.00	-9.34	198	100	peak
2	372.0045	34.53	9.21	43.74	46.00	-2.26	231	100	peak
3	744.8661	30.82	13.82	44.64	46.00	-1.36	125	100	peak

Test Specification: *Vertical*

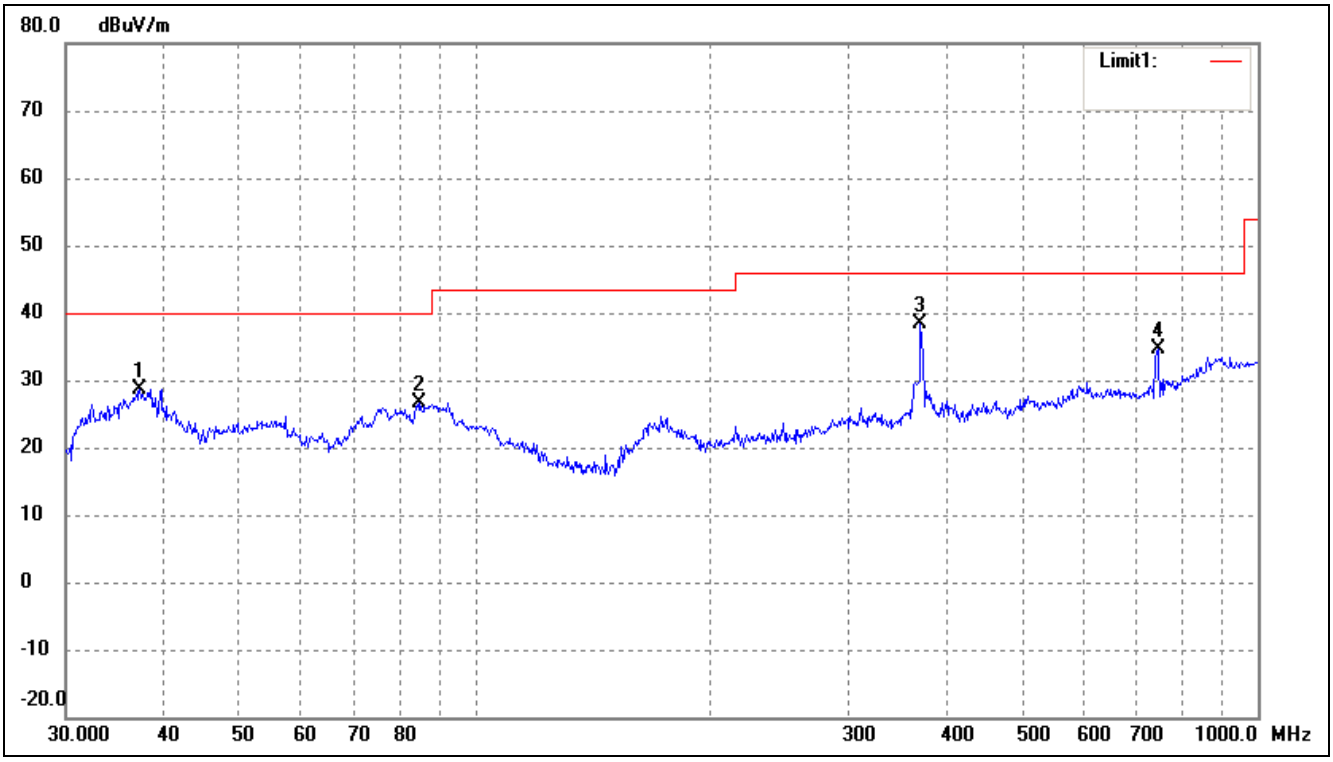


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	66.0341	30.65	3.45	34.10	40.00	-5.90	61	100	peak
2	372.0045	33.50	9.21	42.71	46.00	-3.29	231	100	peak
3	744.8660	22.81	15.33	38.14	46.00	-7.86	159	100	peak

Plot of Radiated Emissions Test Data

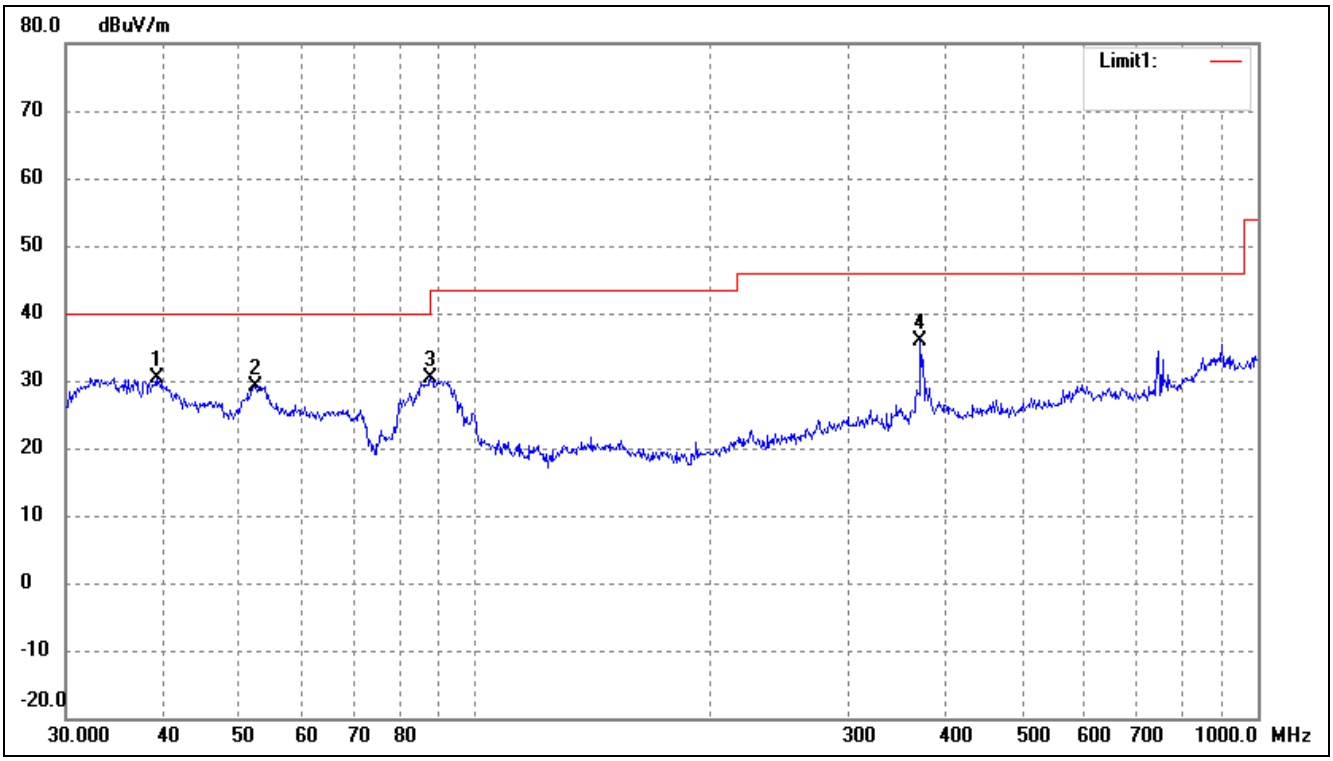
EUT: *Mobile phone*
Tested Model: *Huadoo H1*
Operating Condition: *TM3*
Comment: *AC 120V/60Hz*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	37.2854	22.20	6.52	28.72	40.00	-11.28	23	100	peak
2	84.9994	24.44	2.31	26.75	40.00	-13.25	65	100	peak
3	370.7022	29.16	9.21	38.37	46.00	-7.63	159	100	peak
4	744.8660	20.84	13.82	34.66	46.00	-11.34	231	100	peak

Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	39.1614	21.25	9.10	30.35	40.00	-9.65	314	100	peak
2	52.3913	23.20	6.05	29.25	40.00	-10.75	125	100	peak
3	87.7248	27.36	3.02	30.38	40.00	-9.62	21	100	peak
4	370.7022	26.61	9.21	35.82	46.00	-10.18	39	100	peak

Note: Testing is carried out with frequency rang 9kHz to the 1GHz, which above 1GHz is close to the noise base even antenna close up to 1meter distance according the measurement of ANSI C63.4.
The measurements greater than 20dB below the limit from 9kHz to 30MHz and test data are not provided.

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