Microtest
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Test Report

Report No.:	MTi240830017-01E1
Date of issue:	2024-09-24
Applicant:	Shenzhen Huiying Electronics Co., Ltd.
Product name:	Levitating moon lamp
Model(s):	VA1213, EKM-MFB-A1, HY2000, HY22001, XR-3-FLBA5, UVEHAS23, VA1213-1, VA1213-2, VA1213-3
FCC ID:	2BE7G-VA12132

Shenzhen Microtest Co., Ltd.

http://www.mtitest.cn

Address: 101, No. 7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China.
Tel: 0755-88850135-1439 Mobile: 131-4343-1439 (Wechat same number) Web: http://www.mtitest.cn E-mail: mti@51mti.com

Instructions

1. This test report shall not be partially reproduced without the written consent of the laboratory.

2. The test results in this test report are only responsible for the samples submitted

3. This test report is invalid without the seal and signature of the laboratory.

4. This test report is invalid if transferred, altered, or tampered with in any form without authorization.

5. Any objection to this test report shall be submitted to the laboratory within 15 days from the date of receipt of the report.

Table of contents

Test Result Certification	
Applicant:	Shenzhen Huiying Electronics Co., Ltd.
Address:	R.201, Building 1, Dadiyuan, Jinbi Road, Cuizhu Street, Luohu District, Shenzhen, China 518110
Manufacturer:	Shenzhen Huiying Electronics Co., Ltd.
Address:	R.201, Building 1, Dadiyuan, Jinbi Road, Cuizhu Street, Luohu District, Shenzhen, China 518110
Product description	
Product name:	Levitating moon lamp
Trademark:	VGAzer, exekoml, UVEHAS, DIDWI
Model name:	VA1213
Series Model(s):	EKM-MFB-A1, HY2000, HY22001, XR-3-FLBA5, UVEHAS23, VA1213-1, VA1213-2, VA1213-3
Standards:	47 CFR Part 18
Date of Test	
Date of test:	2024-09-20 to 2024-09-24
Test result:	Pass

Test Engineer	:	Letter. Lan.
		(Letter Lan)
Reviewed By	:	David. Lee
		(David Lee)
Approved By	:	Leon chen
		(Leon Chen)

1 General Description

1.1 Description of the EUT

Product name:	Levitating moon lamp
Model name:	VA1213
Series Model(s):	EKM-MFB-A1, HY2000, HY22001, XR-3-FLBA5, UVEHAS23, VA1213-1, VA1213-2, VA1213-3
Model difference:	All the models are the same circuit and module, except the model name, colour and appearance.
Electrical rating:	Input: DC 12V/ 150mAh Output: DC 5V/ 100mAh
Accessories:	Adaptor: Adaptor: Model: HP24L-1202000-AVU-S Input: 100-240V - 50/60Hz 0.8A Output: 12V⎓2A
Hardware version:	V-R1
Software version:	V-R1
Test sample(s) number:	MTi240830017-01S1001
RF specification:	
Operating frequency range:	115-205kHz
Modulation type:	ASK
Antenna(s) type:	Coil

1.2 Description of test modes

For test, the EUT has been pre-tested under the following test modes, Only the worst case data will be shown in the report.

No.	Emission test modes
Mode1	normal working
Mode2	stand by

1.3 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15°C ~ 35°C
Humidity:	20% RH ~ 75% RH
Atmospheric pressure:	98 kPa ~ 101 kPa

1.4 Description of support units

Support equipment list			
Description	Model	Serial No.	Manufacturer
/	/	/	/
Support cable list			
Description	Length (m)	From	To
/	/	/	/

1.5 Measurement uncertainty

Measurement	Uncertainty
Conducted emissions (AMN 150kHz~30MHz)	±3.1dB
Radiated emissions (9kHz~30MHz)	±4.3dB
Temperature	±1 °C
Humidity	± 5 %

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

2 Summary of Test Result

No.	Item	Standard	Requirement	Result
1	Conducted Emissions on AC Power Line	47 CFR Part 18	18.307	Pass
2	Radiated Emissions (9kHz-30MHz)	47 CFR Part 18	18.305	Pass

3 Test Facilities and accreditations

3.1 Test laboratory

Test laboratory:	Shenzhen Microtest Co., Ltd.
Test site location:	101, No.7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Telephone:	(86-755)88850135
Fax:	(86-755)88850136
CNAS Registration No.:	CNAS L5868
FCC Registration No.:	448573
IC Registration No.:	21760
CABID:	CN0093

4 List of test equipment

No.	Equipment	Manufacturer	Model	Serial No.	Cal. date	Cal. Due
Conducted Emissions on AC Power Line						
1	EMI Test Receiver	Rohde&schwarz	ESCI3	101368	2024-03-20	2025-03-19
2	Artificial mains network	Schwarzbeck	NSLK 8127	183	2024-03-21	2025-03-20
3	Artificial Mains Network	Rohde & Schwarz	ESH2-Z5	100263	2024-03-20	2025-03-19
Radiated Emissions (9kHz-30MHz)						
1	EMI Test Receiver	Rohde&schwarz	ESCI7	101166	2024-03-20	2025-03-19
2	Active Loop Antenna	Schwarzbeck	FMZB 1519 B	00066	2024-03-23	2025-03-22
3	Amplifier	Hewlett-Packard	8447F	3113A06184	2024-03-20	2025-03-19

5 Emission Test Results (EMI)

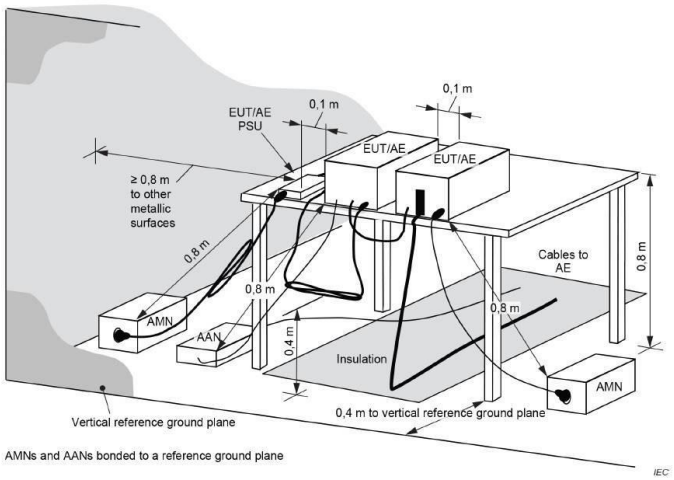
5.1 Conducted Emissions on AC Power Line

Test Requirement:	18.307
Test Method:	MP-5 Clause 7
Procedure:	An initial pre-scan was performed with peak detector.Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected. Remark: Level= Read Level+ Cable Loss+ LISN Factor

5.1.1 E.U.T. Operation:

Operating Environment:					
Temperature:	25.9 °C	Humidity:	44 %	Atmospheric Pressure:	101 kPa
Pre test mode:	Mode1, Mode2				
Final test mode:	All of the listed pre-test mode were tested, only the data of the worst mode (Mode1) is recorded in the report				

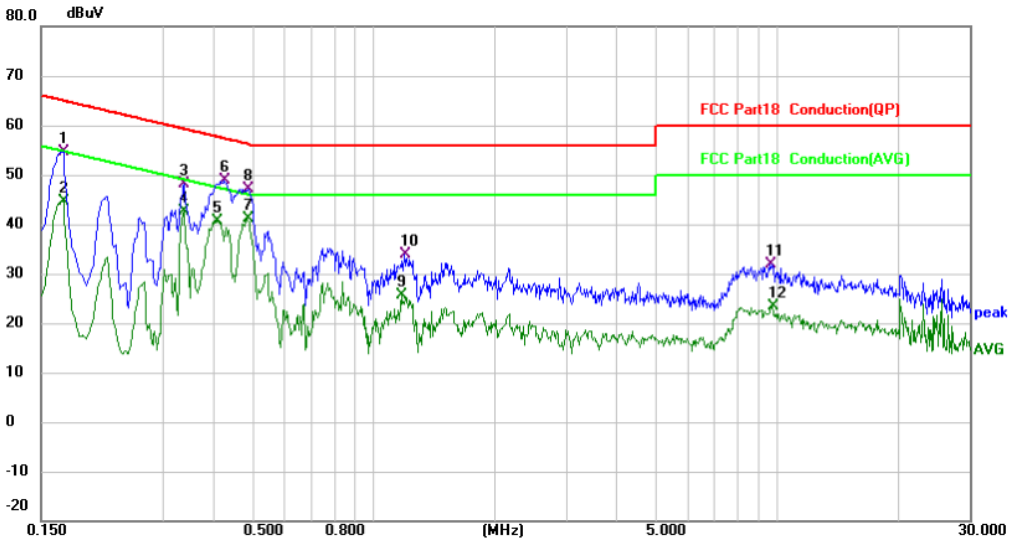
5.1.2 Test Setup Diagram:



5.1.3 Test Data:

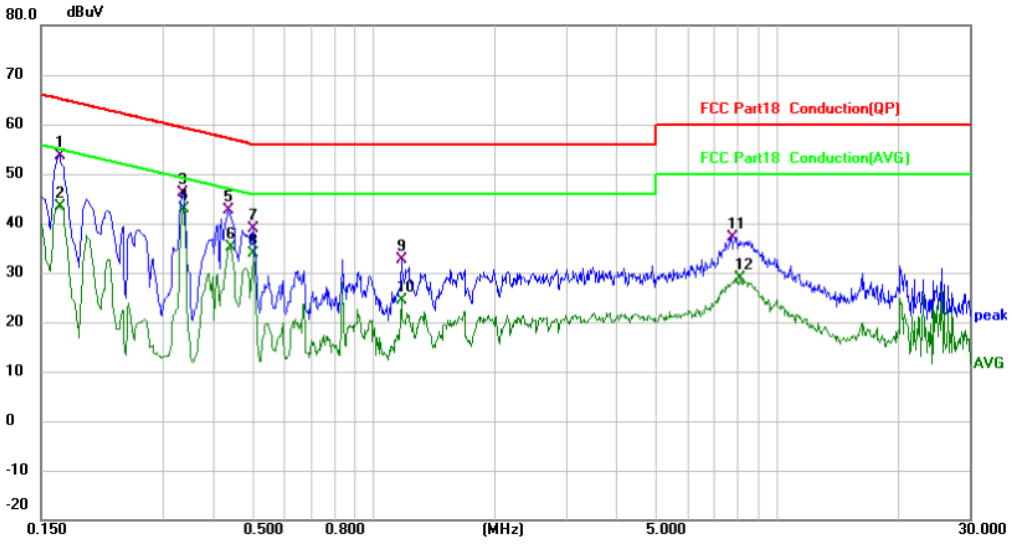
VA1213:

Mode1 / Line: Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1700	44.00	10.74	54.74	64.96	-10.22	QP	
2		0.1700	33.78	10.74	44.52	54.96	-10.44	AVG	
3		0.3379	37.40	10.73	48.13	59.25	-11.12	QP	
4		0.3379	31.82	10.73	42.55	49.25	-6.70	AVG	
5		0.4100	29.91	10.72	40.63	47.65	-7.02	AVG	
6		0.4260	38.12	10.72	48.84	57.33	-8.49	QP	
7	*	0.4860	30.47	10.72	41.19	46.24	-5.05	AVG	
8		0.4900	36.52	10.72	47.24	56.17	-8.93	QP	
9		1.1780	14.97	10.74	25.71	46.00	-20.29	AVG	
10		1.1940	23.20	10.74	33.94	56.00	-22.06	QP	
11		9.6340	20.66	11.24	31.90	60.00	-28.10	QP	
12		9.7460	12.13	11.21	23.34	50.00	-26.66	AVG	

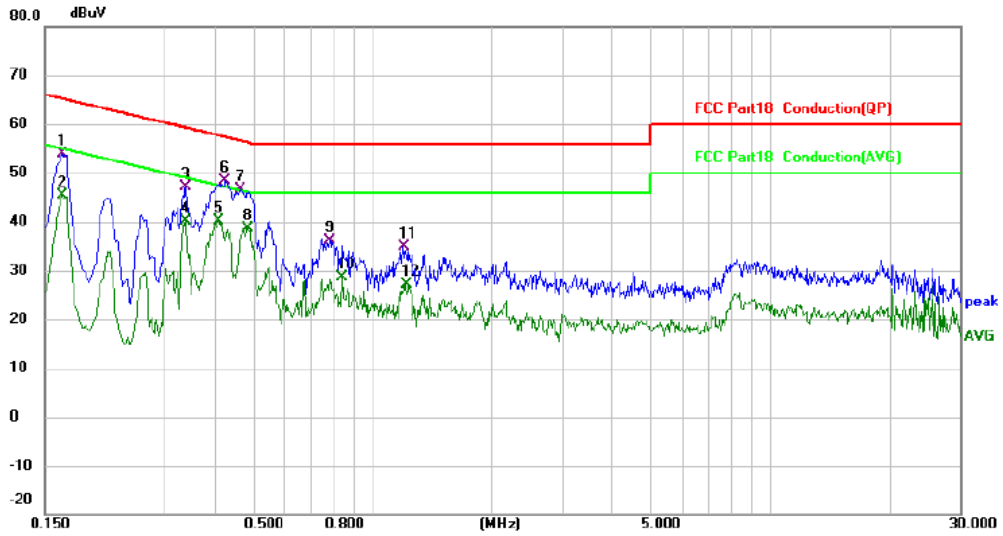
Mode1 / Line: Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1660	42.81	10.76	53.57	65.16	-11.59	QP	
2		0.1660	32.55	10.76	43.31	55.16	-11.85	AVG	
3		0.3339	35.28	10.75	46.03	59.35	-13.32	QP	
4	*	0.3379	32.25	10.75	43.00	49.25	-6.25	AVG	
5		0.4380	31.83	10.74	42.57	57.10	-14.53	QP	
6		0.4420	24.41	10.74	35.15	47.02	-11.87	AVG	
7		0.5020	28.14	10.74	38.88	56.00	-17.12	QP	
8		0.5060	23.11	10.74	33.85	46.00	-12.15	AVG	
9		1.1780	21.86	10.76	32.62	56.00	-23.38	QP	
10		1.1780	13.73	10.76	24.49	46.00	-21.51	AVG	
11		7.7139	26.10	11.02	37.12	60.00	-22.88	QP	
12		8.1219	17.76	11.05	28.81	50.00	-21.19	AVG	

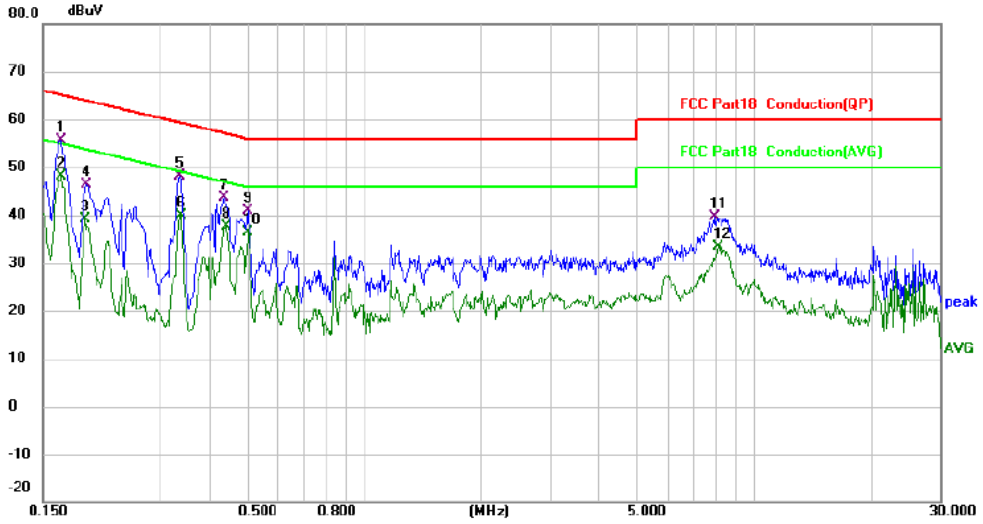
VA1213-1:

Mode1 / Line: Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1658	43.05	10.74	53.79	65.17	-11.38	QP	
2		0.1658	34.67	10.74	45.41	55.17	-9.76	AVG	
3		0.3379	36.40	10.73	47.13	59.25	-12.12	QP	
4		0.3379	29.32	10.73	40.05	49.25	-9.20	AVG	
5	*	0.4100	29.41	10.72	40.13	47.65	-7.52	AVG	
6		0.4259	37.62	10.72	48.34	57.33	-8.99	QP	
7		0.4660	35.83	10.72	46.55	56.58	-10.03	QP	
8		0.4858	27.97	10.72	38.69	46.24	-7.55	AVG	
9		0.7820	25.37	10.74	36.11	56.00	-19.89	QP	
10		0.8378	17.94	10.74	28.68	46.00	-17.32	AVG	
11		1.1938	24.20	10.74	34.94	56.00	-21.06	QP	
12		1.2138	16.47	10.74	27.21	46.00	-18.79	AVG	

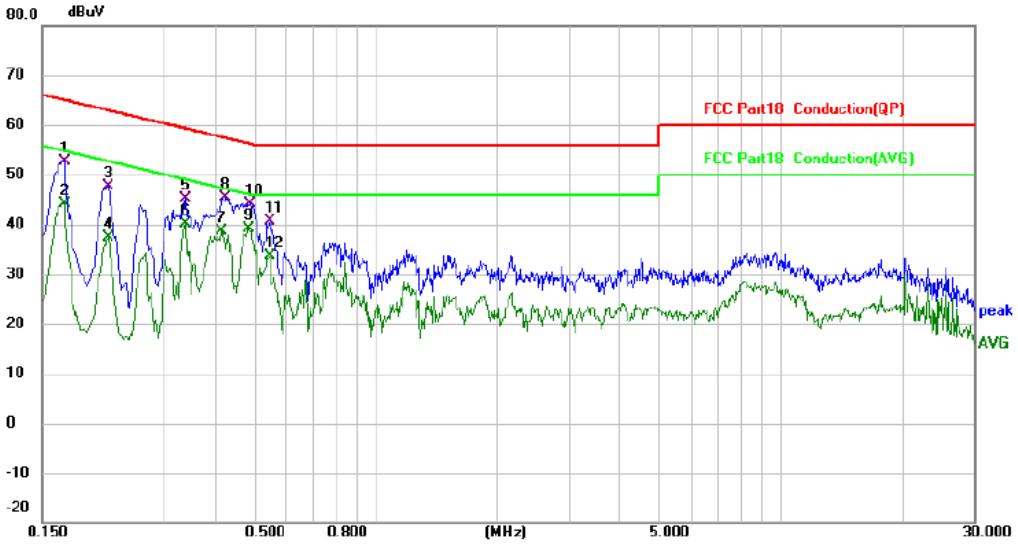
Mode1 / Line: Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1675	44.93	10.76	55.69	65.08	-9.39	QP	
2	*	0.1675	37.31	10.76	48.07	55.08	-7.01	AVG	
3		0.1922	28.38	10.76	39.14	53.94	-14.80	AVG	
4		0.1940	35.74	10.76	46.50	63.86	-17.36	QP	
5		0.3339	37.28	10.75	48.03	59.35	-11.32	QP	
6		0.3379	29.25	10.75	40.00	49.25	-9.25	AVG	
7		0.4380	32.83	10.74	43.57	57.10	-13.53	QP	
8		0.4420	26.91	10.74	37.65	47.02	-9.37	AVG	
9		0.5020	30.14	10.74	40.88	56.00	-15.12	QP	
10		0.5060	25.61	10.74	36.35	46.00	-9.65	AVG	
11		7.9500	28.52	11.04	39.56	60.00	-20.44	QP	
12		8.1219	22.26	11.05	33.31	50.00	-16.69	AVG	

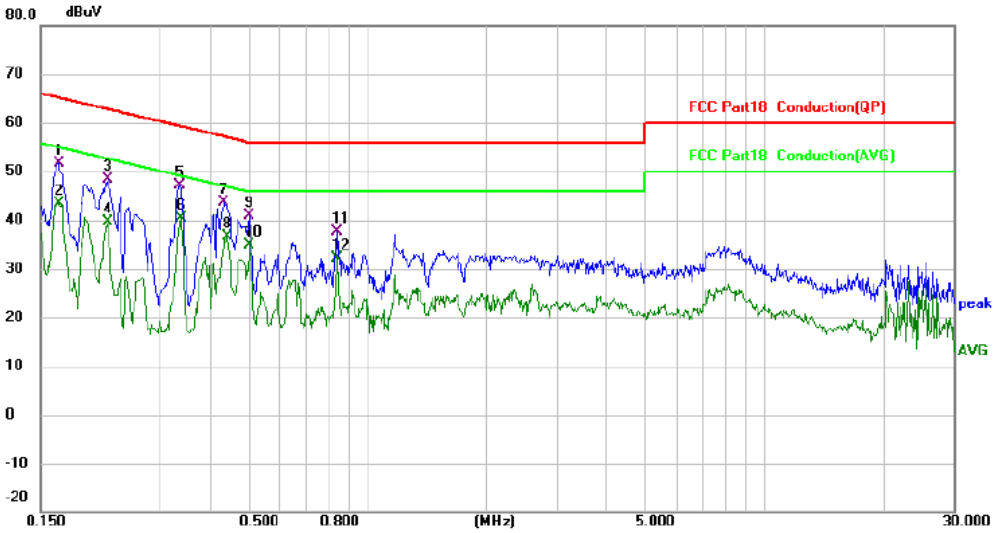
VA1213-3:

Mode1 / Line: Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1700	42.00	10.74	52.74	64.96	-12.22	QP	
2		0.1700	33.28	10.74	44.02	54.96	-10.94	AVG	
3		0.2179	36.98	10.74	47.72	62.90	-15.18	QP	
4		0.2179	26.73	10.74	37.47	52.90	-15.43	AVG	
5		0.3379	34.40	10.73	45.13	59.25	-14.12	QP	
6		0.3379	29.32	10.73	40.05	49.25	-9.20	AVG	
7		0.4138	28.00	10.72	38.72	47.57	-8.85	AVG	
8		0.4259	34.62	10.72	45.34	57.33	-11.99	QP	
9	*	0.4858	28.47	10.72	39.19	46.24	-7.05	AVG	
10		0.4900	33.52	10.72	44.24	56.17	-11.93	QP	
11		0.5460	29.97	10.72	40.69	56.00	-15.31	QP	
12		0.5460	22.81	10.72	33.53	46.00	-12.47	AVG	

Mode1 / Line: Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1660	40.81	10.76	51.57	65.16	-13.59	QP	
2		0.1660	32.55	10.76	43.31	55.16	-11.85	AVG	
3		0.2220	37.53	10.76	48.29	62.74	-14.45	QP	
4		0.2220	28.79	10.76	39.55	52.74	-13.19	AVG	
5		0.3339	36.28	10.75	47.03	59.35	-12.32	QP	
6	*	0.3379	29.75	10.75	40.50	49.25	-8.75	AVG	
7		0.4339	32.83	10.74	43.57	57.18	-13.61	QP	
8		0.4420	25.91	10.74	36.65	47.02	-10.37	AVG	
9		0.5020	30.14	10.74	40.88	56.00	-15.12	QP	
10		0.5060	24.11	10.74	34.85	46.00	-11.15	AVG	
11		0.8417	26.84	10.76	37.60	56.00	-18.40	QP	
12		0.8417	21.44	10.76	32.20	46.00	-13.80	AVG	

5.2 Radiated Emissions (9kHz-30MHz)

<table>
<tr><td>Test Requirement:</td><td colspan="4">18.305</td></tr>
<tr><td>Test Limit:</td><td colspan="4">
<table>
<tr><td>Operating frequency</td><td>RF Power generated by equipment (watts)</td><td>Field strength limit (uV/m)</td><td>Distance (meters)</td></tr>
<tr><td>Any ISM frequency</td><td>Below 500</td><td>25</td><td>300</td></tr>
<tr><td></td><td>500 or more</td><td>25 × SQRT(power/500)</td><td>300 (1)</td></tr>
<tr><td>Any non-ISM frequency</td><td>Below 500</td><td>15</td><td>300</td></tr>
<tr><td></td><td>500 or more</td><td>15 × SQRT(power/500)</td><td>300 (1)</td></tr>
<tr><td>On or below 5,725 MHz</td><td>Any</td><td>10</td><td>1,600</td></tr>
<tr><td>Above 5,725 MHz</td><td>Any</td><td>(2)</td><td>(2)</td></tr>
<tr><td>Any ISM frequency</td><td>Any</td><td>25</td><td>300</td></tr>
<tr><td>Any non-ISM frequency</td><td>Any</td><td>15</td><td>300</td></tr>
<tr><td>Below 490 kHz</td><td>Below 500</td><td>2,400/F(kHz)</td><td>300</td></tr>
<tr><td></td><td>500 or more</td><td>2,400/F(kHz) × SQRT(power/500)</td><td>300 (3)</td></tr>
<tr><td>490 to 1,600 kHz</td><td>Any</td><td>24,000/F(kHz)</td><td>30</td></tr>
<tr><td>Above 1,600 kHz</td><td>Any</td><td>15</td><td>30</td></tr>
<tr><td>Below 90 kHz</td><td>Any</td><td>1,500</td><td>30 (4)</td></tr>
<tr><td>On or above 90 kHz</td><td>Any</td><td>300</td><td>30 (4)</td></tr>
<tr><td colspan="4">(1) Field strength may not exceed 10 μV/m at 1600 meters. Consumer equipment operating below 1000 MHz is not permitted the increase in field strength otherwise permitted here for power over 500 watts.
(2) Reduced to the greatest extent possible.
(3) Field strength may not exceed 10 μV/m at 1600 meters. Consumer equipment is not permitted the increase in field strength otherwise permitted here for over 500 watts.
(4) Induction cooking ranges manufactured prior to February 1, 1980, shall be subject to the field strength limits for miscellaneous ISM equipment.</td></tr>
</table>
</td></tr>
<tr><td>Test Method:</td><td colspan="4">MP-5 Clause 5/6</td></tr>
<tr><td>Procedure:</td><td colspan="4">Frequency range: 9KHz-30MHz
An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Average measurements were conducted based on the peak sweep graph. The EUT was measured by loop antenna with 2 orthogonal polarities.
The red line show in graphic is the limit in standard used in this section.
Level=Read Level + Antenna Factor + Cable Loss - Preamp Factor</td></tr>
</table>

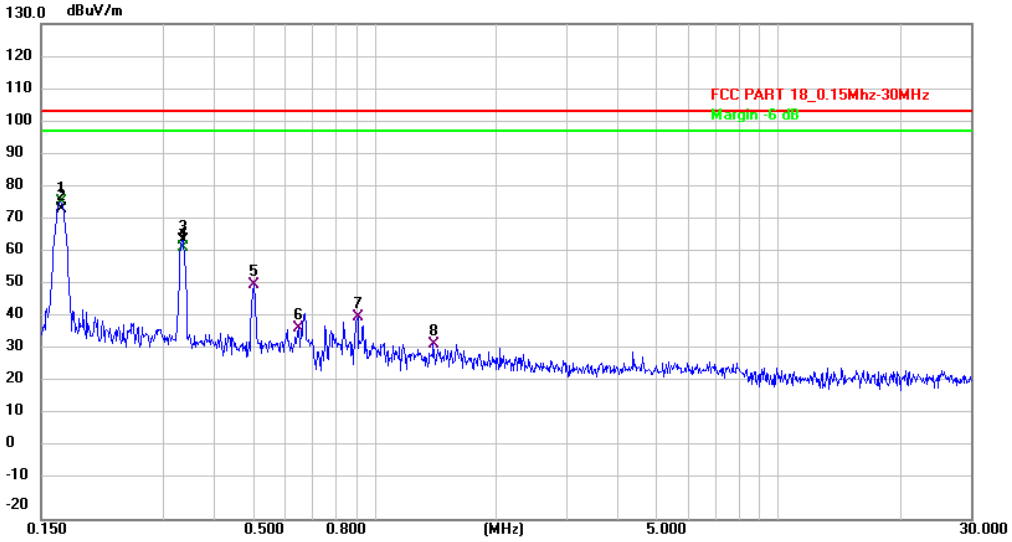
5.2.1 E.U.T. Operation:

<table>
<tr><td colspan="6">Operating Environment:</td></tr>
<tr><td>Temperature:</td><td>22.5 °C</td><td>Humidity:</td><td>43 %</td><td>Atmospheric Pressure:</td><td>101 kPa</td></tr>
<tr><td>Pre test mode:</td><td colspan="5">Mode1, Mode2</td></tr>
<tr><td>Final test mode:</td><td colspan="5">All of the listed pre-test mode were tested, only the data of the worst mode (Mode1) is recorded in the report</td></tr>
</table>

5.2.2 Test Data:

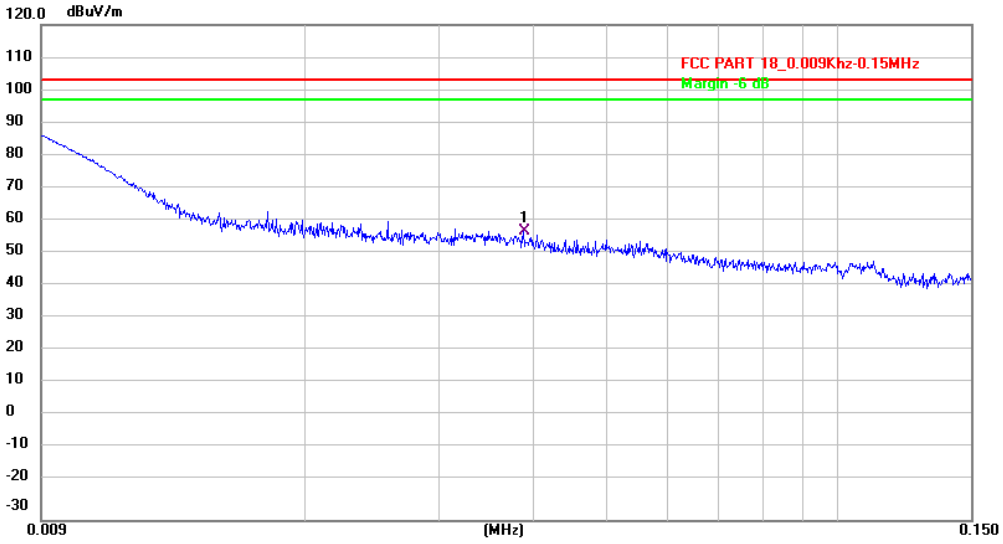
VA1213:

Mode1 / Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.1676	55.54	20.64	76.18	103.50	-27.32	AVG	
2		0.1677	53.21	20.64	73.85	103.50	-29.65	peak	
3		0.3356	43.62	21.03	64.65	103.50	-38.85	peak	
4	X	0.3356	41.43	21.03	62.46	103.50	-41.04	AVG	
5		0.5020	29.60	21.40	51.00	103.50	-52.50	QP	
6		0.6474	16.30	21.76	38.06	103.50	-65.44	QP	
7		0.9087	18.98	22.38	41.36	103.50	-62.14	QP	
8		1.3958	9.71	23.42	33.13	103.50	-70.37	QP	

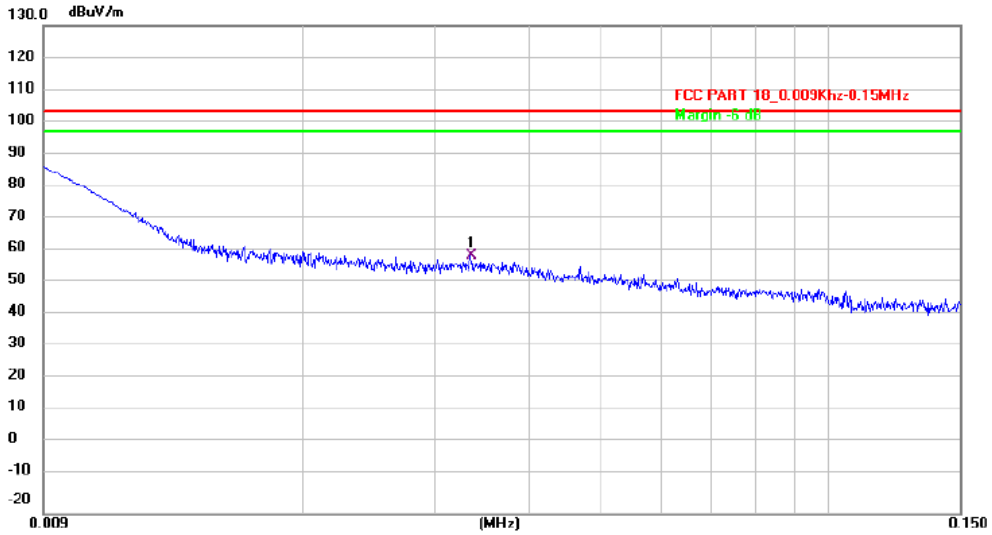
Mode1 / Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0388	36.53	20.91	57.44	103.50	-46.06	QP	

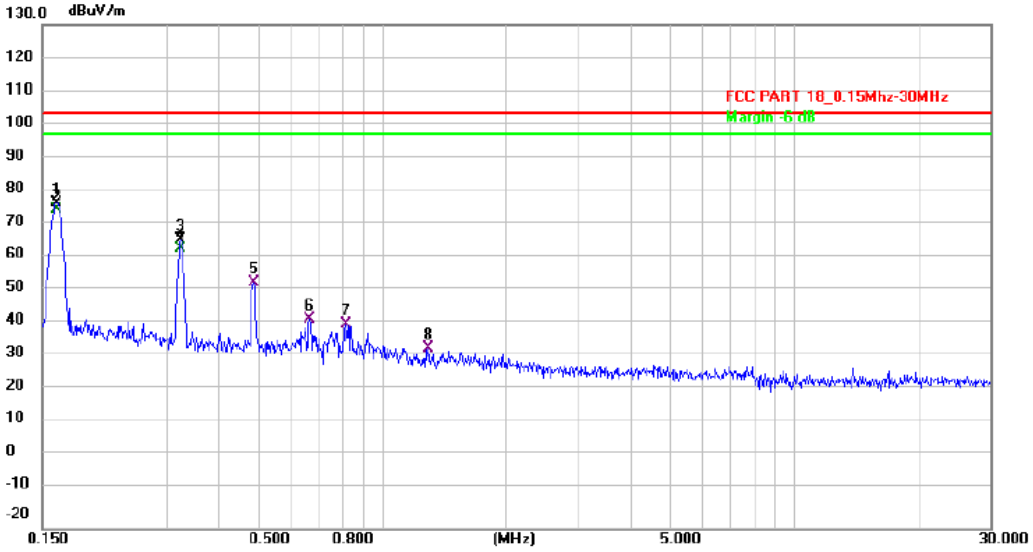
VA1213-1:

Mode1 / Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0334	38.26	20.97	59.23	103.50	-44.27	QP	

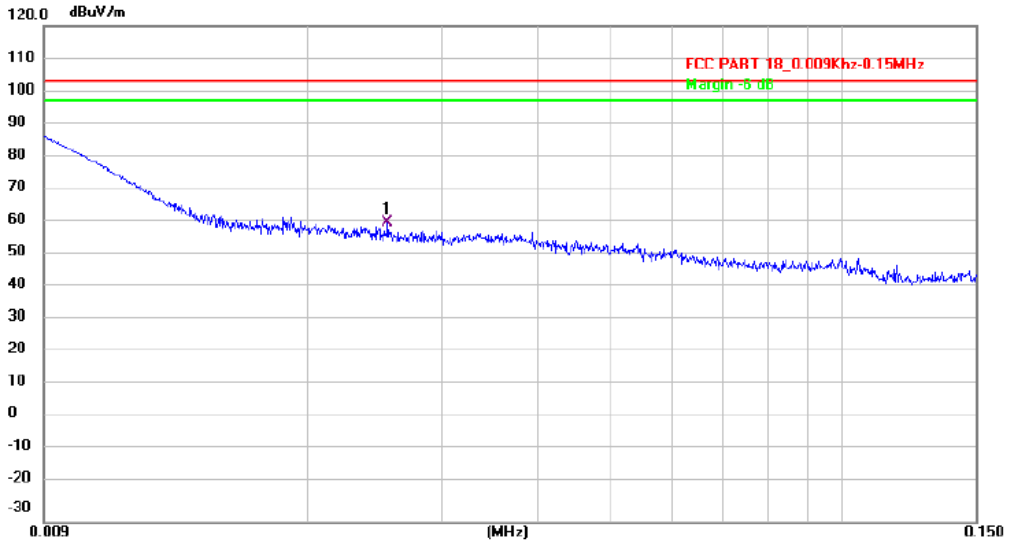
Mode1 / Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.1624	56.44	20.62	77.06	103.50	-26.44	peak	
2	X	0.1624	54.27	20.62	74.89	103.50	-28.61	AVG	
3		0.3251	44.91	21.01	65.92	103.50	-37.58	peak	
4	X	0.3251	42.28	21.01	63.29	103.50	-40.21	AVG	
5		0.4889	31.93	21.38	53.31	103.50	-50.19	QP	
6		0.6683	20.60	21.81	42.41	103.50	-61.09	QP	
7		0.8174	18.85	22.17	41.02	103.50	-62.48	QP	
8		1.2960	10.61	23.21	33.82	103.50	-69.68	QP	

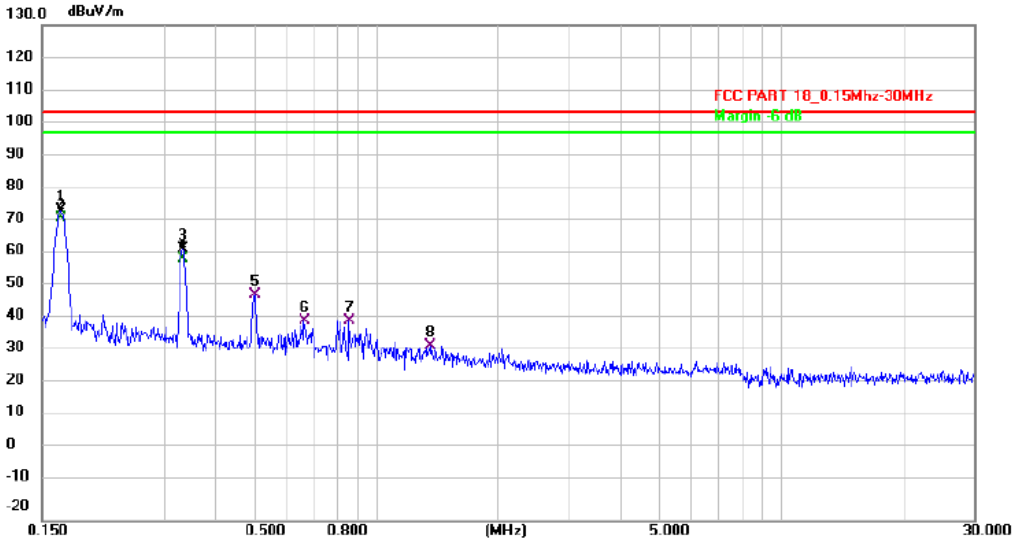
VA1213-3:

Mode1 / Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0253	39.58	21.12	60.70	103.50	-42.80	QP	

Mode1 / Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.1668	53.43	20.64	74.07	103.50	-29.43	peak	
2	X	0.1668	50.95	20.64	71.59	103.50	-31.91	AVG	
3		0.3338	41.17	21.01	62.18	103.50	-41.32	peak	
4	X	0.3338	38.36	21.01	59.37	103.50	-44.13	AVG	
5		0.5020	26.98	21.40	48.38	103.50	-55.12	QP	
6		0.6648	18.77	21.79	40.56	103.50	-62.94	QP	
7		0.8573	18.39	22.26	40.65	103.50	-62.85	QP	
8		1.3665	9.72	23.36	33.08	103.50	-70.42	QP	

Photographs of the test setup

Refer to Appendix - Test Setup Photos

Photographs of the EUT

Refer to Appendix - EUT Photos

----End of Report----