



TEST REPORT

Reference No...... : WTF23F10229148E

Applicant..... : Guangdong DOUHE Technology Co., Ltd.

Address..... : Room 310-J100, No. 1, Mingzhu 1st Street, Hengli Town, Nansha District, Guangzhou City, Guangdong Province, China

Manufacturer : Hunan Douhe Intelligent Appliance Co.,Ltd

Address..... : No.107,Fazhan Road,Ningxiang National Economic and Technological Development Zone,Changsha,Hunan,China (Block 1-5,Lanyuegu Industrial Park of Intelligent Home Appliance Accessories)

Product Name..... : Air Purifier

Model No : DH-JH03, MGK21J03, MJH003, MG03JH, MK03, MGJHQ03, MJ003H, BJ03H, BM03JHQ, BMJH03, JHQ003M, 21JHQ03B, 03JH21M, J03HMG, BJ03HM, MKJHQ03

Test specification..... : 47 CFR PART 15 SUBPART B (Oct.,2021)

Date of Receipt sample : 2022-08-12

Date of Test : 2022-08-12 to 2022-08-15

Date of Issue..... : 2023-11-15

Test Report Form No. : WEO-FCC15A-01B

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 (Foshan) Co., Ltd.

Address: No.13-19, 2/F., 2nd Building, Sunlink International Machinery City,
Chencun, Shunde District, Foshan, Guangdong, China

Tel:+86-757-23811398

Fax:+86-757-23811381

E-mail:info@waltek.com.cn

Tested by:

Roy Hong

Approved by:





1 Test Summary

Test Item	Test Requirement	Class	Test Method	Test Result
Conducted Emission	47 CFR PART 15 SUBPART B (Oct.,2021)	Class B	ANSI C63.4: 2014	Pass
Radiated Emission	47 CFR PART 15 SUBPART B (Oct.,2021)	Class B	ANSI C63.4: 2014	Pass

Remark:

Pass Test item meets the requirement
N/A Test case does not apply to the test object

WALTEK



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3 General Information

3.1 General Description of E.U.T.

Product Name : Air Purifier

Model No. : DH-JH03, MGK21J03, MJH003, MG03JH, MK03, MGJHQ03, MJ003H, BJ03H, BM03JHQ, BMJH03, JHQ003M, 21JHQ03B, 03JH21M, J03HMG, BJ03HM, MKJHQ03

Remark : All models have same circuit diagram only their model name is different, therefore the full EMC tests were performed on model DH-JH03.

3.2 Details of E.U.T.

Technical Data : Purifier:DC 24V
Adapter GQ36-240150-AU
Input: 100-240V~, 50/60Hz, 1.0A Max;
Output: DC 24V, 1.5A
Adapter GQ24-240100-AU
Input: 100-240V~, 50/60Hz, 1.0A Max;
Output: DC 24V, 1.0A

3.3 Description of Support Units

The EUT has been tested as an independent unit. DH-JH03 is the test sample. Both tests were performed in the condition of AC 120V/60Hz input.

3.4 Standards Applicable for Testing

The tests were performed according to following standards:

47 CFR PART 15 SUBPART B (Oct.,2021) Radio frequency devices



3.5 Test Facility

The test facility has a test site registered with the following organizations:

- **ISED – Registration No.: 21895**

Waltek Testing Group (Foshan) Co., Ltd. has been registered and fully described in a report filed with the Innovation, Science and Economic Development Canada (ISED). The acceptance letter from the ISED is maintained in our files. Registration ISED number: 21895, March 12, 2019

- **FCC – Registration No.: 820106**

Waltek Testing Group (Foshan) 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. Registration 820106, August 16, 2018

- **NVLAP – Lab Code: 600191-0**

Waltek Testing Group (Foshan) Co., Ltd. EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 600191-0.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

3.6 Subcontracted

Whether parts of tests for the product have been subcontracted to other labs:

☐ Yes ☒ No

If Yes, list the related test items and lab information:

Test items: --

Lab information: --

3.7 Abnormalities from Standard Conditions

None.

3.8 Other

This report is based on report No. WTF22F08163317E for revising the applicant information. It does not affect the test items. Therefore the EUT is deemed to fulfill all the requirements and no further test has been performed.



4 Equipment Used during Test

☐ Mains Terminal Disturbance Voltage (Conducted Emission) 1#					
Item	Equipment	Manufacturer	Model No.	Serial No.	Calibration Status
1.	EMI Test Receiver	R&S	ESR3	102423	Valid
2.	LISN	R&S	ENV216	101343	Valid
3.	Cable 7	HUBER+SUHNER	CBL2-NN-6M	223NN624	Valid
4.	Switch	CD	RSU-A4 18G	RSUA4008	Valid
☒ Mains Terminal Disturbance Voltage (Conducted Emission) 2#					
Item	Equipment	Manufacturer	Model No.	Serial No.	Calibration Status
1.	EMI Test Receiver	R&S	ESCI	101178	Valid
2.	LISN	R&S	ENV216	101215	Valid
3.	Cable 1	HUBER+SUHNER	CBL2-NN-6M	6102701	Valid
4.	Switch	ESE	RSU/M2	---	Valid
☐ Mains Terminal Disturbance Voltage (Conducted Emission) 3#					
Item	Equipment	Manufacturer	Model No.	Serial No.	Calibration Status
1.	EMI Test Receiver	R&S	ESR3	102842	Valid
2.	LISN	R&S	ENV216	101542	Valid
3.	Cable 12	YIHENG	LMR195UF-NMM-2.5	---	Valid
4.	Manual RF Switch	YIHENG	SW-2	RSU0402	Valid
☒ Radiated Emission (30MHz to 1GHz) 1#					
Item	Equipment	Manufacturer	Model No.	Serial No.	Calibration Status
1.	3m Semi-anechoic Chamber	CHANGCHUANG	9m×6m×6m	-	Valid
2.	EMI Test Receiver	R&S	ESR7	101566	Valid
3.	Trilog Broadband Antenna	SCHWARZBECK	VULB 9162	9162-117	Valid
4.	Coaxial Cable (below 1GHz)	H+S	CBL3-NN-12+3 m	214NN320	Valid
☐ Radiated Emission (30MHz to 1GHz) 2#					
Item	Equipment	Manufacturer	Model No.	Serial No.	Calibration Status
1.	3m Semi-anechoic Chamber	YIHENG	10m×5.3m×3.5m	YH2021071804	Valid
2.	EMI Test Receiver	R&S	ESR7	102454	Valid
3.	Trilog Broadband Antenna	SCHWARZBECK	VULB 9163	01418	Valid
4.	Coaxial Cable (below 1GHz)	Times-Microwave Systems	LMR240UF-NMSM-7.5	-	Valid

☐: Not Used

☒: Used



4.1 Software List

Description	Manufacturer	Model	Version
EMI Test Software (Conducted Emission 1#)	FARATRONIC	EZ-EMC	EMEC-3A1
EMI Test Software (Conducted Emission 2#)	FARATRONIC	EZ-EMC	CON-03A1
EMI Test Software (Conducted Emission 3#)	FARATRONIC	EZ-EMC	COM 3A1.1
EMI Test Software (Radiated Emission 1#)	FARATRONIC	EZ-EMC	RA-03A1-1
EMI Test Software (Radiated Emission 2#)	FARATRONIC	EZ-EMC	RA-03A1-1

4.2 Measurement Uncertainty

Test Item	Frequency Range	Uncertainty	Note
Conducted Emission	150kHz~30MHz	±2.6dB	(1)
Radiated Emission	30MHz~1GHz	±4.5dB	(1)

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

4.3 Special Accessories and Auxiliary Equipment

Item	Equipment	Technical Data	Manufacturer	Model No.	Serial No.
1.	/	/	/	/	/

4.4 Decision Rule

Compliance or non-compliance with a disturbance limit shall be determined in the following manner.

If U_{LAB} is less than or equal to U_{cispr} , then

- Compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- Non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

If U_{LAB} is greater than U_{cispr} , then

- Compliance is deemed to occur if no measured disturbance level, increased by $(U_{LAB}-U_{cispr})$, exceeds the disturbance limit;
- Non-compliance is deemed to occur if any measured disturbance level, increased by $(U_{LAB}-U_{cispr})$, exceeds the disturbance limit.



5 Emission Test Results

5.1 Conducted Emission

Test Requirement	: 47 CFR PART 15, SUBPART B
Test Method	: ANSI C63.4
Test Result	: Pass
Test Limit	: 47 CFR PART 15, SUBPART B Section 15.107
Frequency Range	: 150kHz to 30MHz
Class	: Class B

5.1.1 E.U.T. Operation

Operating Environment:

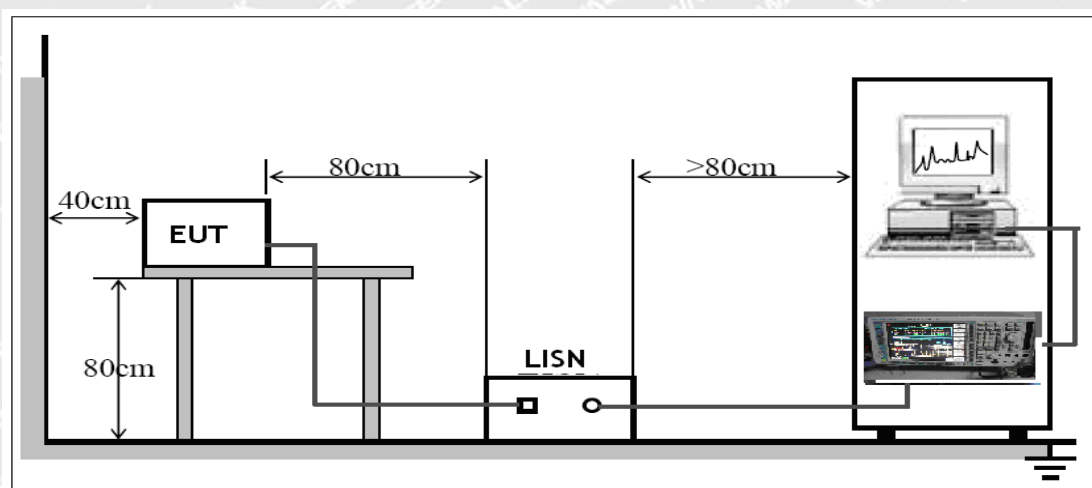
Temperature	: 24.8°C
Humidity	: 49.3%RH
Atmospheric Pressure	: 101.2 kPa

EUT Operation:

Input Voltage	: AC 120V/60Hz
Operating Mode	: Max power mode

5.1.2 Block Diagram of Test Setup

The Conducted Emission tests were performed in accordance with the ANSI C63.4.



5.1.3 Measurement Data

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.



5.1.4 Corrected Amplitude & Margin Calculation

The Corrected factor is calculated by adding LISN VDF(Voltage Division Facotr), Cable Loss and Transient Limiter Attenuation. The basic equation is as follows:

$$\text{Measurement} = \text{Reading Level} + \text{Correct Factor}$$

$$\text{Correct Facotor} = \text{LISN VDF} + \text{Cable Loss}$$

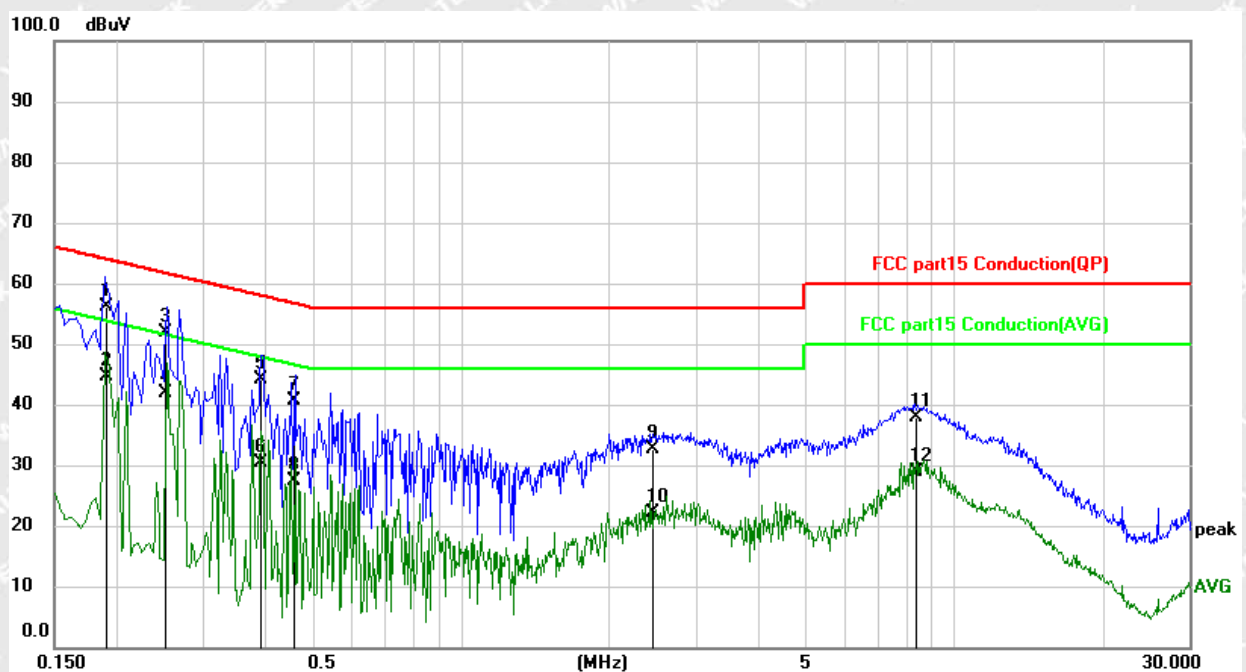
The "Margin" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Measurement}$$

5.1.5 Conducted Emission Test Data

With Adapter GQ36-240150-AU

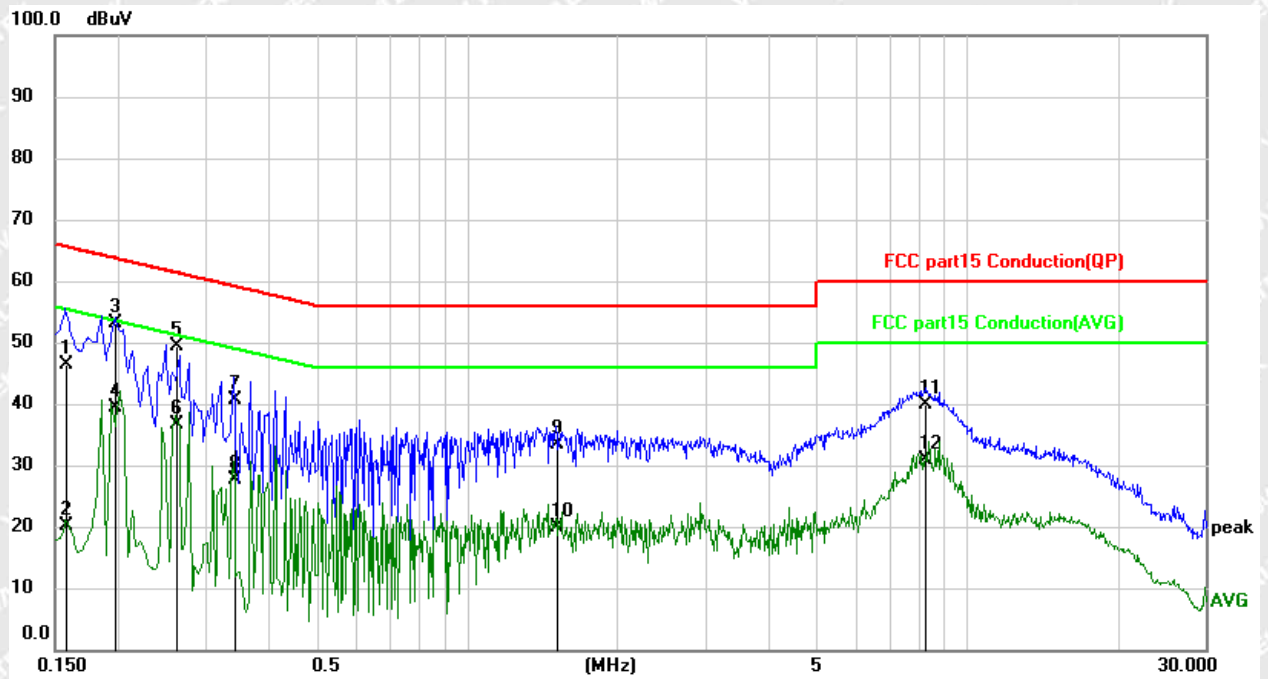
Live Line



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1904	46.58	9.63	56.21	64.02	-7.81	QP	
2		0.1904	35.03	9.63	44.66	54.02	-9.36	AVG	
3		0.2521	42.32	9.64	51.96	61.69	-9.73	QP	
4		0.2521	32.18	9.64	41.82	51.69	-9.87	AVG	
5		0.3914	34.52	9.65	44.17	58.03	-13.86	QP	
6		0.3914	20.76	9.65	30.41	48.03	-17.62	AVG	
7		0.4580	30.93	9.66	40.59	56.73	-16.14	QP	
8		0.4580	17.79	9.66	27.45	46.73	-19.28	AVG	
9		2.4420	22.82	9.72	32.54	56.00	-23.46	QP	
10		2.4420	12.43	9.72	22.15	46.00	-23.85	AVG	
11		8.3620	27.90	9.96	37.86	60.00	-22.14	QP	
12		8.3620	18.82	9.96	28.78	50.00	-21.22	AVG	



Neutral Line

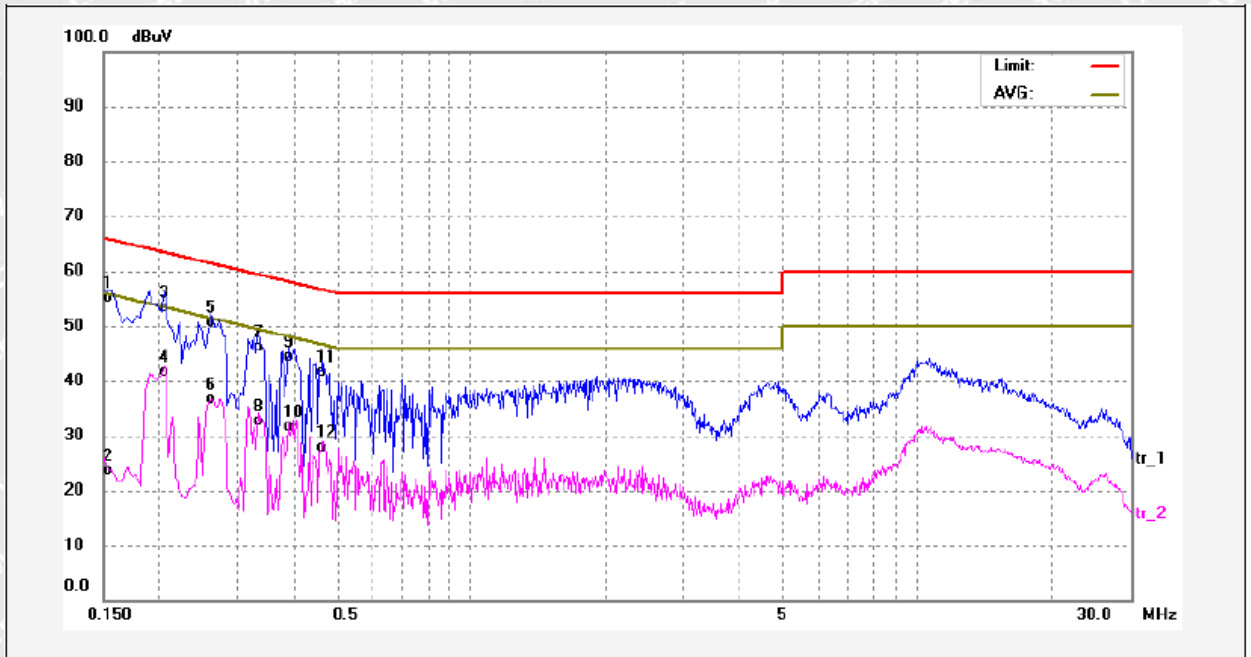


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1580	36.70	9.61	46.31	65.57	-19.26	QP	
2		0.1580	10.50	9.61	20.11	55.57	-35.46	AVG	
3	*	0.1980	43.59	9.62	53.21	63.69	-10.48	QP	
4		0.1980	29.69	9.62	39.31	53.69	-14.38	AVG	
5		0.2620	39.74	9.63	49.37	61.37	-12.00	QP	
6		0.2620	26.94	9.63	36.57	51.37	-14.80	AVG	
7		0.3420	30.90	9.64	40.54	59.15	-18.61	QP	
8		0.3420	17.89	9.64	27.53	49.15	-21.62	AVG	
9		1.5060	23.68	9.69	33.37	56.00	-22.63	QP	
10		1.5060	10.26	9.69	19.95	46.00	-26.05	AVG	
11		8.2660	29.89	9.97	39.86	60.00	-20.14	QP	
12		8.2660	20.84	9.97	30.81	50.00	-19.19	AVG	



With Adapter GQ24-240100-AU

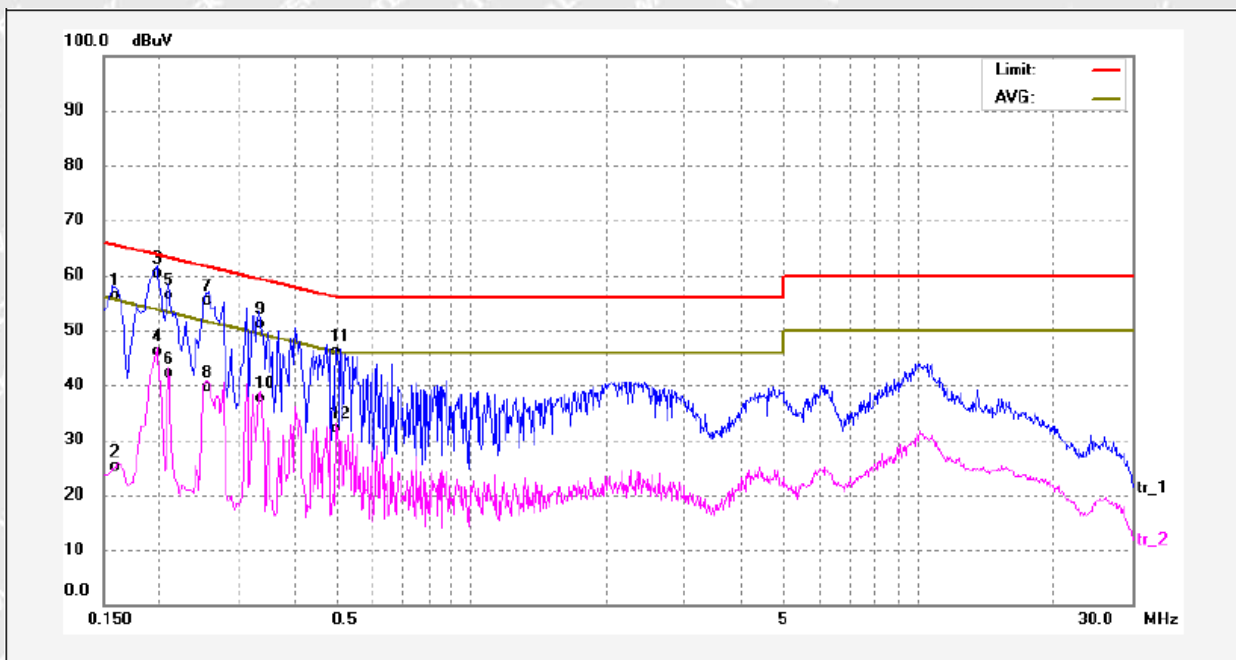
Live Line



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1556	44.60	9.65	54.25	65.69	-11.44	QP	
2	0.1556	13.00	9.65	22.65	55.69	-33.04	AVG	
3	0.2060	42.67	9.66	52.33	63.36	-11.03	QP	
4	0.2060	30.90	9.66	40.56	53.36	-12.80	AVG	
5	0.2620	40.01	9.68	49.69	61.36	-11.67	QP	
6	0.2620	25.94	9.68	35.62	51.36	-15.74	AVG	
7	0.3339	35.42	9.67	45.09	59.35	-14.26	QP	
8	0.3339	21.85	9.67	31.52	49.35	-17.83	AVG	
9	0.3899	33.67	9.68	43.35	58.06	-14.71	QP	
10	0.3899	20.94	9.68	30.62	48.06	-17.44	AVG	
11	0.4661	30.85	9.69	40.54	56.58	-16.04	QP	
12	0.4661	17.17	9.69	26.86	46.58	-19.72	AVG	



Neutral Line



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Remark
1	0.1580	45.71	9.65	55.36	65.56	-10.20	QP	
2	0.1580	14.50	9.65	24.15	55.56	-31.41	AVG	
3	0.1980	49.66	9.66	59.32	63.69	-4.37	QP	
4	0.1980	35.36	9.66	45.02	53.69	-8.67	AVG	
5	0.2100	45.60	9.66	55.26	63.20	-7.94	QP	
6	0.2100	31.54	9.66	41.20	53.20	-12.00	AVG	
7	0.2580	44.62	9.67	54.29	61.49	-7.20	QP	
8	0.2580	28.87	9.67	38.54	51.49	-12.95	AVG	
9	0.3339	40.55	9.67	50.22	59.35	-9.13	QP	
10	0.3339	26.86	9.67	36.53	49.35	-12.82	AVG	
11	0.4980	35.45	9.70	45.15	56.03	-10.88	QP	
12	0.4980	21.55	9.70	31.25	46.03	-14.78	AVG	



5.2 Radiated Emission, 30MHz to 1GHz

Test Requirement	: 47 CFR PART 15, SUBPART B
Test Method	: ANSI C63.4
Test Limit.....	: 47 CFR PART 15, SUBPART B Section 15.109
Test Result	: Pass
Frequency Range	: 30MHz to 1000MHz
Class.....	: Class B

5.2.1 E.U.T. Operation

Operating Environment:

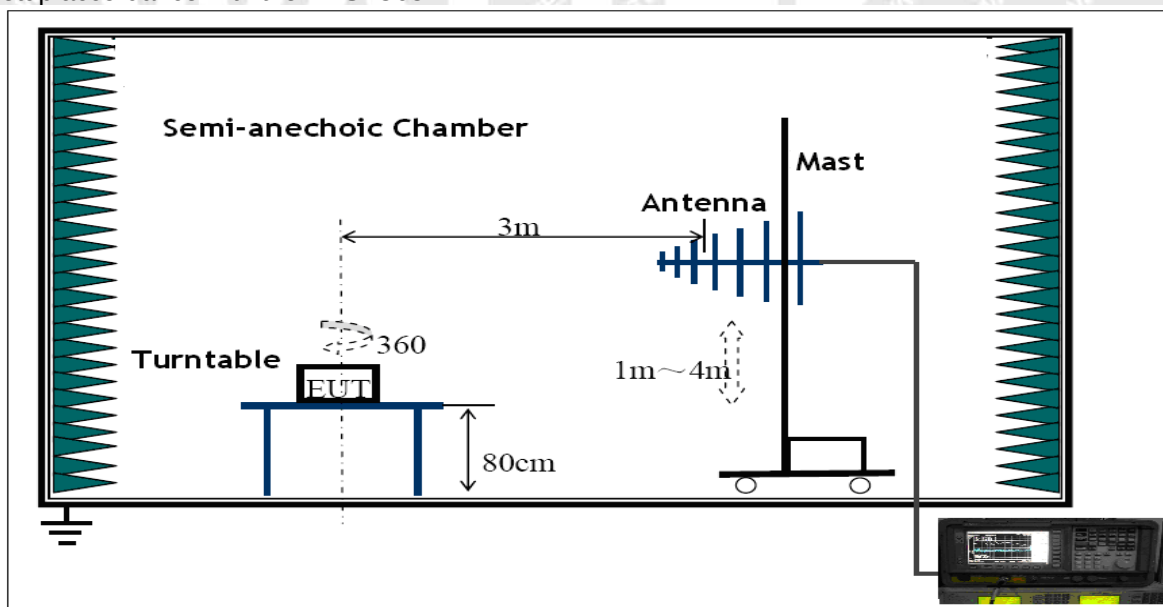
Temperature.....	: 21.5°C
Humidity	: 51.2%RH
Atmospheric Pressure	: 101.2 kPa

EUT Operation:

Input Voltage.....	: AC 120V/60Hz
Operating Mode	: Max power mode

5.2.2 Block Diagram of Test Setup

The Radiated Emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.4.



5.2.3 Measurement Data

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.



5.2.4 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Corr. Factor}$$

$$\text{Corr. Factor} = \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

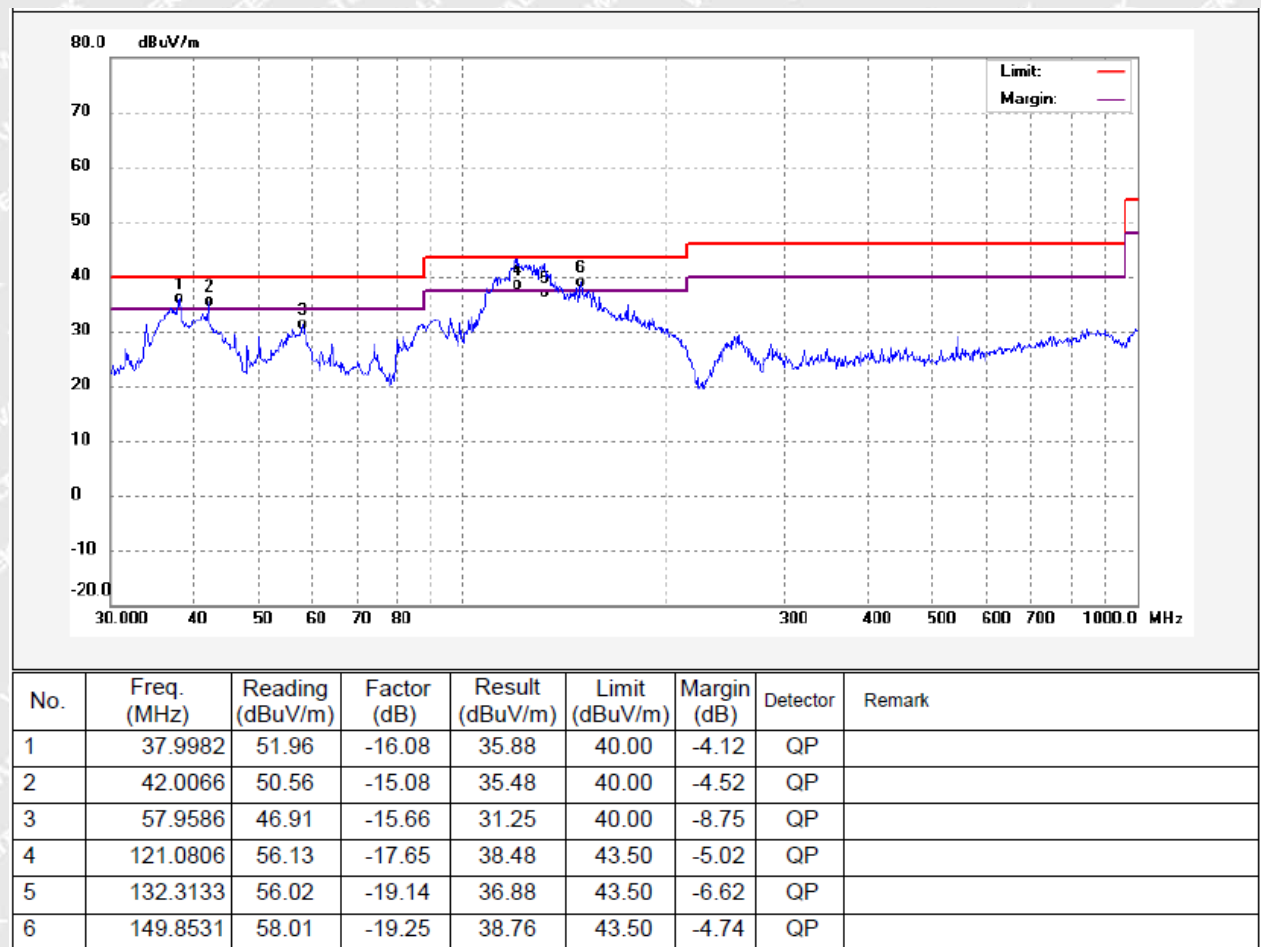
The "Margin" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the maximum limit for Class B. The equation for margin calculation is as follows:

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

5.2.5 Radiated Emission Test Data

With Adapter GQ36-240150-AU

Vertical Polarization





Horizontal Polarization

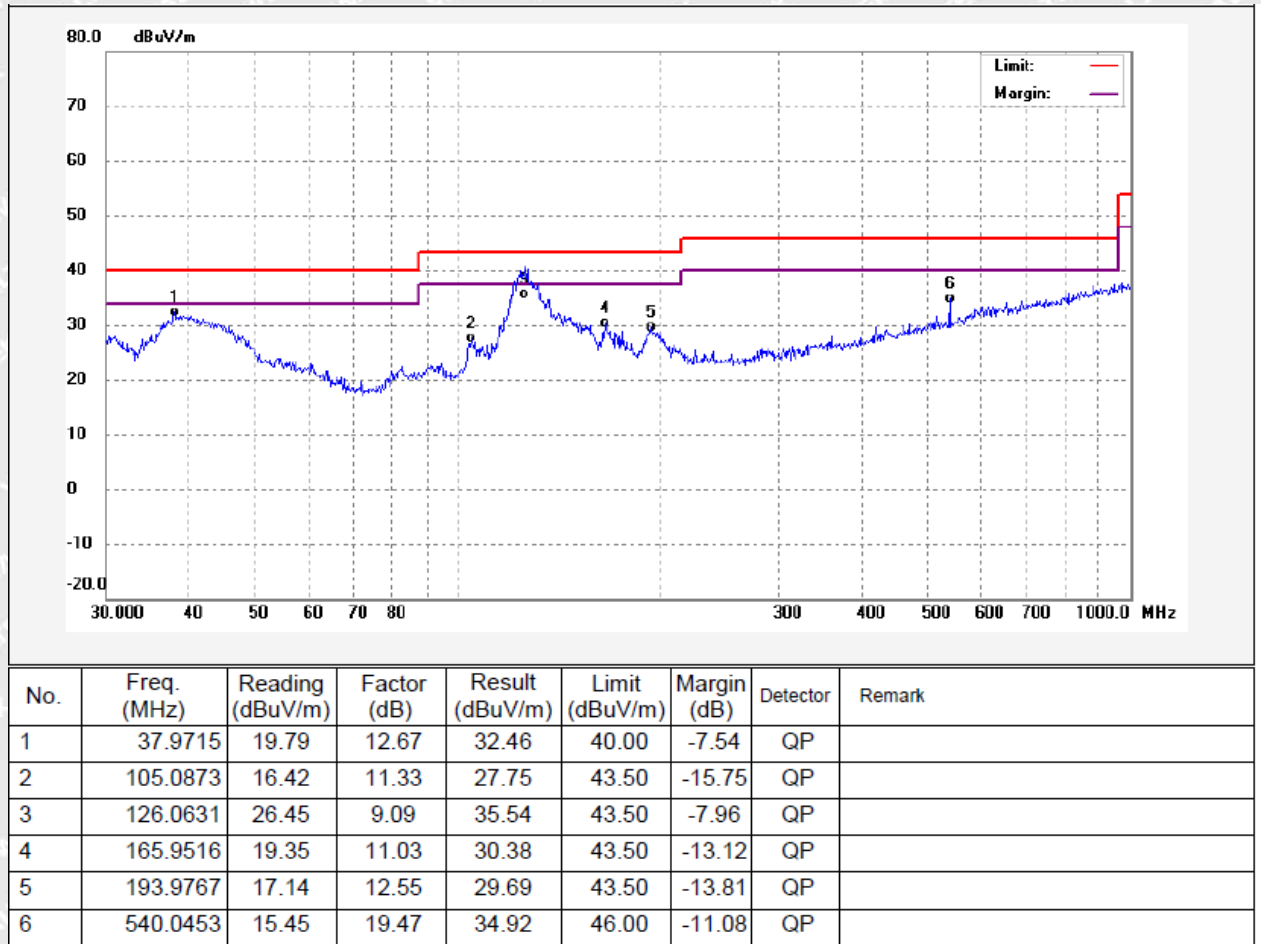


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	112.3666	53.89	-16.41	37.48	43.50	-6.02	QP	
2	119.3523	55.46	-17.39	38.07	43.50	-5.43	QP	
3	125.8863	57.17	-18.42	38.75	43.50	-4.75	QP	
4	152.1831	57.31	-19.15	38.16	43.50	-5.34	QP	
5	176.0833	54.19	-17.97	36.22	43.50	-7.28	QP	
6	215.3433	49.41	-15.51	33.90	43.50	-9.60	QP	



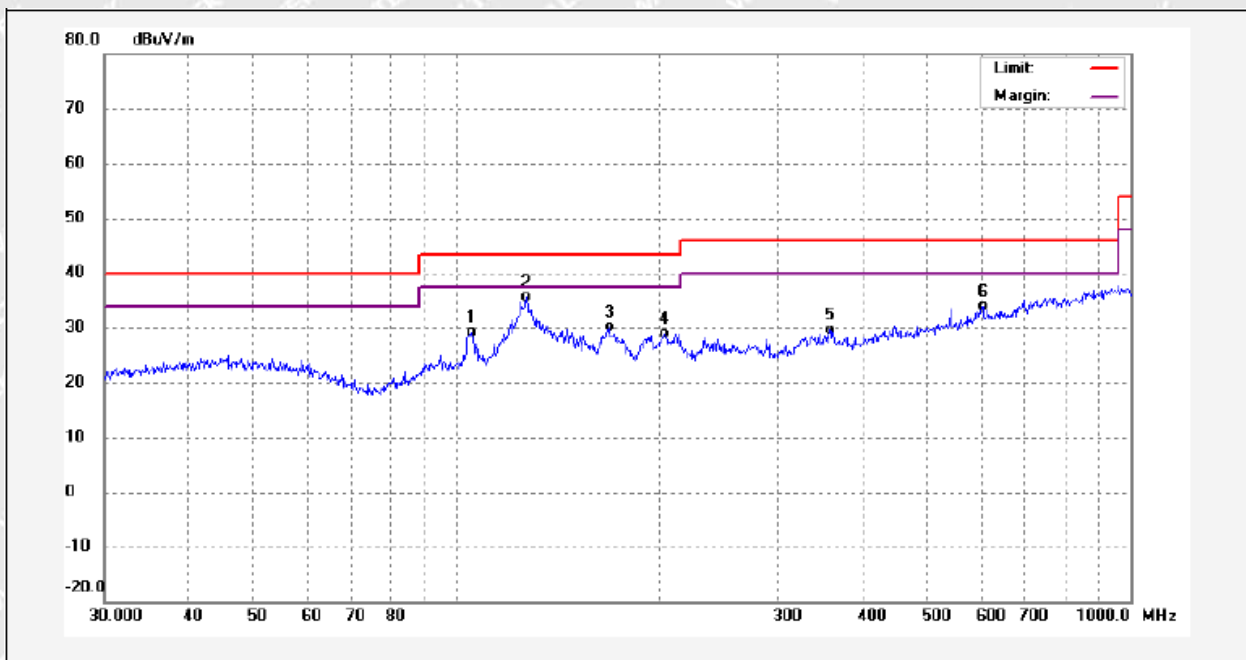
With Adapter GQ24-240100-AU

Vertical Polarization





Horizontal Polarization



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	105.3456	15.59	13.49	29.08	43.50	-14.42	QP	
2	126.9503	24.87	10.78	35.65	43.50	-7.85	QP	
3	168.5910	19.89	10.36	30.25	43.50	-13.25	QP	
4	203.7370	16.72	12.22	28.94	43.50	-14.56	QP	
5	358.3054	12.68	16.83	29.51	46.00	-16.49	QP	
6	605.0223	12.97	20.88	33.85	46.00	-12.15	QP	



6 Photographs – Test Setup

6.1 Photograph – Conducted Emission Test Setup



6.2 Photograph – Radiated Emission Test Setup, 30MHz to 1GHz





7 Photographs – Constructional Details

7.1 EUT – External Photos



**Adapter GQ36-240150-AU****Adapter GQ24-240100-AU**

===== End of Report =====