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Guangzhou Branch**

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Report No.: GZEM180700372301
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FCC ID: TAPC18-RK18W01

TEST REPORT

Application No.: GZEM1807003723HS
Applicant: Guangdong Midea Consumer Electric Manufacturing Co.,Ltd
Address of Applicant: 19 Sanle Road, Beijiao, Shunde, Foshan, Guangdong, P.R. China
Manufacturer: Guangdong Midea Consumer Electric Manufacturing Co.,Ltd
Address of Manufacturer: 19 Sanle Road, Beijiao, Shunde, Foshan, Guangdong, P.R. China
Factory: Guangdong Midea Consumer Electric Manufacturing Co.,Ltd
Address of Factory: 19 Sanle Road, Beijiao, Shunde, Foshan, Guangdong, P.R. China
Equipment Under Test (EUT):
EUT Name: Induction Cooker
Model No.: C18-RK18W01
FCC ID: TAPC18-RK18W01
Trade Mark: Midea
Standard(s) : 47 CFR Part 18
Date of Receipt: 2018-07-04
Date of Test: 2018-07-16 to 2018-10-19
Date of Issue: 2018-12-10

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.



Kobe Jian
Lab Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

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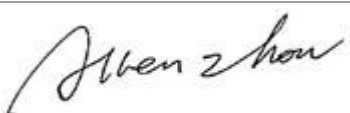
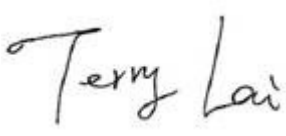
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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2018-12-10		Original

Authorized for issue by:				
Tested By		 Allen_Zhou /Project Engineer		2018-07-16 to 2018-10-19 Date
Checked By		 Terry_Lai /Reviewer		2018-12-10 Date



2 Test Summary

Emission Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at Mains Terminals (9kHz-30MHz)	47 CFR Part 18	FCC OST/MP-5:1986	N/A	Pass
Radiated Emissions (Magnetic field Strength) (9kHz-30MHz)	47 CFR Part 18	FCC OST/MP-5:1986	N/A	Pass ^①

N/A: Not applicable

①: The EUT passed the Radiated Emissions (Magnetic field Strength) (9kHz-30MHz) test after modification.



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4 General Information

4.1 Details of E.U.T.

Power Supply: AC 120V,60Hz
Test Voltage: AC 120V
Cable: 2 wires ×1.5m unscreened AC mains cable
Operating frequency: 22kHz

4.2 Description of Support Units

The EUT has been tested with an enamelled steel vessel of diameter of 180 mm with water.

4.3 Measurement Uncertainty

EMC

No.	Item	Measurement Uncertainty
1	Conducted Disturbance Voltage at Mains Terminals	±3.63dB (9kHz to 150kHz)
		±3.22dB (150kHz to 30MHz)
2	Disturbance Power	±3.78dB
3	Radiated Emissions	±5.0dB (30MHz-1GHz)
		±5.0dB (1GHz-6GHz)
4	Temperature	±0.4 °C
5	Humidity	±1.3%
6	DC power	±0.5 %

4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory,
198 Kezhu Road, Sciencetech Park, Guangzhou Economic & Technology Development District,
Guangzhou, China 510663

Tel: +86 20 82155555 Fax: +86 20 82075059

No tests were sub-contracted.



4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

● **NVLAP (Lab Code: 200611-0)**

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

The 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.

● **ACMA**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our NVLAP accreditation.

● **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

● **CNAS (Lab Code: L0167)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAS-CL01:2006 accreditation criteria for testing laboratories (identical to

ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

● **FCC Recognized 2.948 Listed Test Firm(Registration No.: 282399)**

SGS-CSTC Standards Technical Services 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 282399, May 31, 2002.

● **FCC Recognized Accredited Test Firm(Registration No.: 486818)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: CN5016, Test Firm Registration Number: 486818, Jul 13, 2017.

● **Industry Canada (Registration No.: 4620B-1)**

The 3m/10m Alternate Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Certification and Engineering of Industry Canada for radio equipment testing with Registration No. 4620B-1.

● **VCCI (Registration No.: R-2460, C-2584, G-449 and T-1179)**

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2460, C-2584, G-449 and T-1179 respectively.

● **CBTL (Lab Code: TL129)**

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2005, the Basic Rules, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.



4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

The EUT passed the Radiated Emissions (Magnetic field Strength) (9kHz-30MHz) test after modification.



5 Equipment List

Conducted Emissions at Mains Terminals (9kHz-30MHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	Zhong Yu	8m x 3m x 3.8m	EMC0306	N/A	N/A
Two-Line V-Netwok	R&S	ENV216	EMC0118	2018-01-19	2019-01-18
LISN	R&S	ENV216	EMC2135	2018-09-21	2019-09-20
EMI Test Receiver	Rohde & Schwarz	ESCS30	EMC0506	2018-11-19	2019-11-18
Coaxial Cable	HangTianXing	2m	EMC0107	2017-07-23	2019-07-22
Voltage Probe	SGS	N/A	EMC0106	2018-04-04	2020-04-03
Conical Metal Housing	SGS-EMC	N/A	EMC0167	2018-04-19	2020-04-18
Test Software E3c	Audix	Ver. 5.4.1221b	GZE100-62	N/A	N/A



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Radiated Emissions (Magnetic field Strength) (9kHz-30MHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test Receiver	Rohde & Schwarz	ESIB26	EMC0522	2018-01-19	2019-01-18
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC0056	2018-01-19	2019-01-18
Chamber cable	HangTianXing	N/A	EMC0542	2017-06-30	2019-06-30
Trilog Broadband Antenna 30MHz-1GHz	SCHWARZBECKME SS-ELEKTRONIK	VULB 9160	EMC2025	2016-09-08	2019-09-07
Trilog Broadband Antenna 30MHz-1GHz	SCHWARZBECKME SS-ELEKTRONIK	VULB 9168	SEM003-18	2016-06-29	2019-06-28
Bi-log Type Antenna	Schaffner -Chase	CBL6112B	EMC0524	2016-09-08	2019-09-07
Bi-log Type Antenna	Schaffner -Chase	CBL6143	EMC0519	2017-05-04	2020-05-03
Horn Antenna 1GHz-18GHz	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2016-09-09	2019-09-08
1GHz-26.5 GHz Pre-Amplifier	Agilent	8449B	EMC0521	2018-01-08	2019-01-07
Amplifier	HP	8447F	EMC2065	2018-06-01	2019-05-31
Pre-Amplifier MH648A	ANRITSU CORP	MH648A	EMC2086	2018-11-19	2019-11-18
Active Loop Antenna	EMCO	6502	EMC0523	2018-02-24	2019-02-23
High Pass Filter(915MHz)	FSY MICROWAVE	HM1465-9SS	EMC2079	2018-01-19	2019-01-18
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2018-01-08	2019-01-07
10m Semi-Anechoic Chamber	ETS	N/A	EMC0530	2017-06-18	2019-06-18
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2017-12-19	2019-12-18
MXE EMI Receiver	Keysight	N9038A	EMC2139	2018-11-19	2019-11-18
EXA Signal Analyzer	Keysight	N9010A	EMC2138	2018-11-19	2019-11-18
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A

General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
DMM	Fluke	73	EMC0006	2018-07-20	2019-07-19
DMM	Fluke	73	EMC0007	2018-07-19	2019-07-18

6 Emission Test Results

6.1 Conducted Emissions at Mains Terminals (9kHz-30MHz)

Test Requirement:	47 CFR Part 18
Test Method:	FCC OST/MP-5:1986
Frequency Range:	9kHz to 30MHz
Limit:	
0.009MHz – 0.05MHz	110dB(μV) quasi-peak
0.05MHz – 0.15MHz	90dB(μV)-80dB(μV) quasi-peak
0.15MHz – 0.5MHz	66dB(μV)-56dB(μV) quasi-peak, 56dB(μV)-46dB(μV) average
0.5MHz – 5MHz	56dB(μV) quasi-peak, 46dB(μV) average
5MHz – 30MHz	60dB(μV) quasi-peak, 50dB(μV) average
Detector:	Peak for pre-scan (200Hz resolution bandwidth) 0.009M to 0.15MHz Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

6.1.1 E.U.T. Operation

Operating Environment:

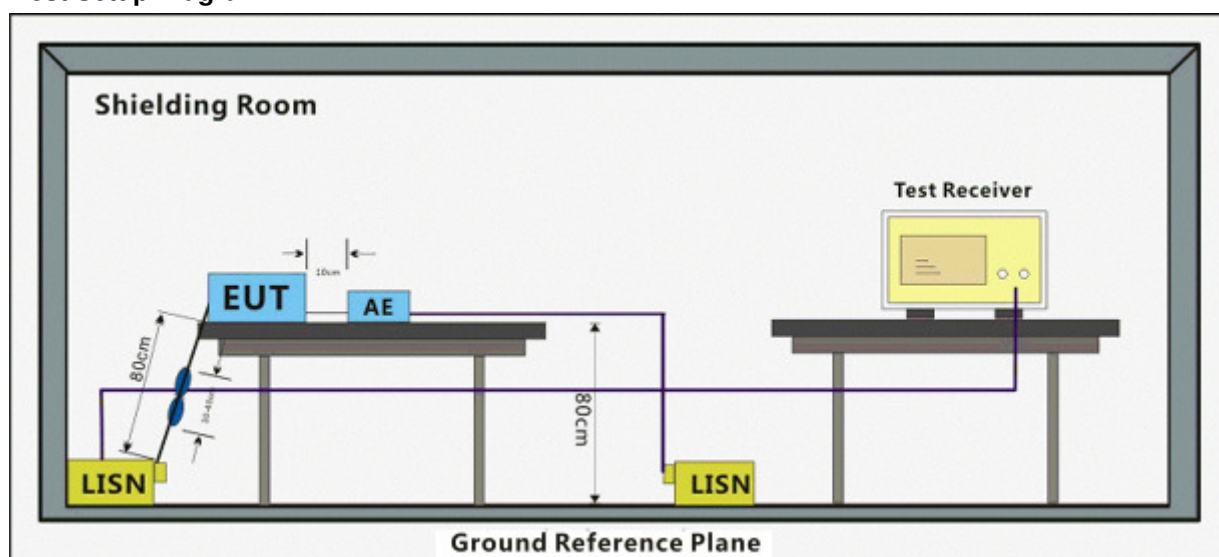
Temperature: 24.1 °C Humidity: 51.1 % RH Atmospheric Pressure: 1020 mbar

Pre test these modes to find the worst case:

- a:Test in heating at maximum power mode.
- b:Test in heating at middle power mode.
- c:Test in heating at minimum power mode.

The worst case for final test: a:Test in heating at maximum power mode.

6.1.2 Test Setup Diagram

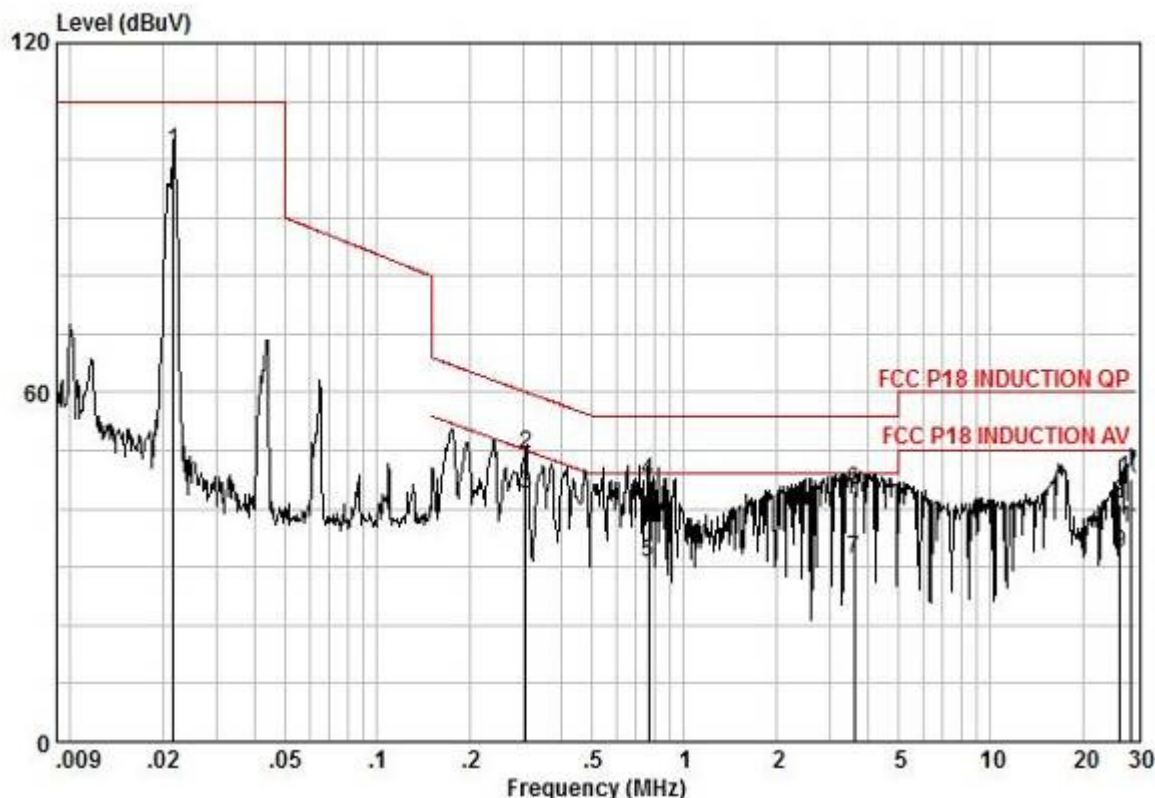


6.1.3 Measurement Data

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.

Measured Level = Read level + Cable Loss + LISN Factor

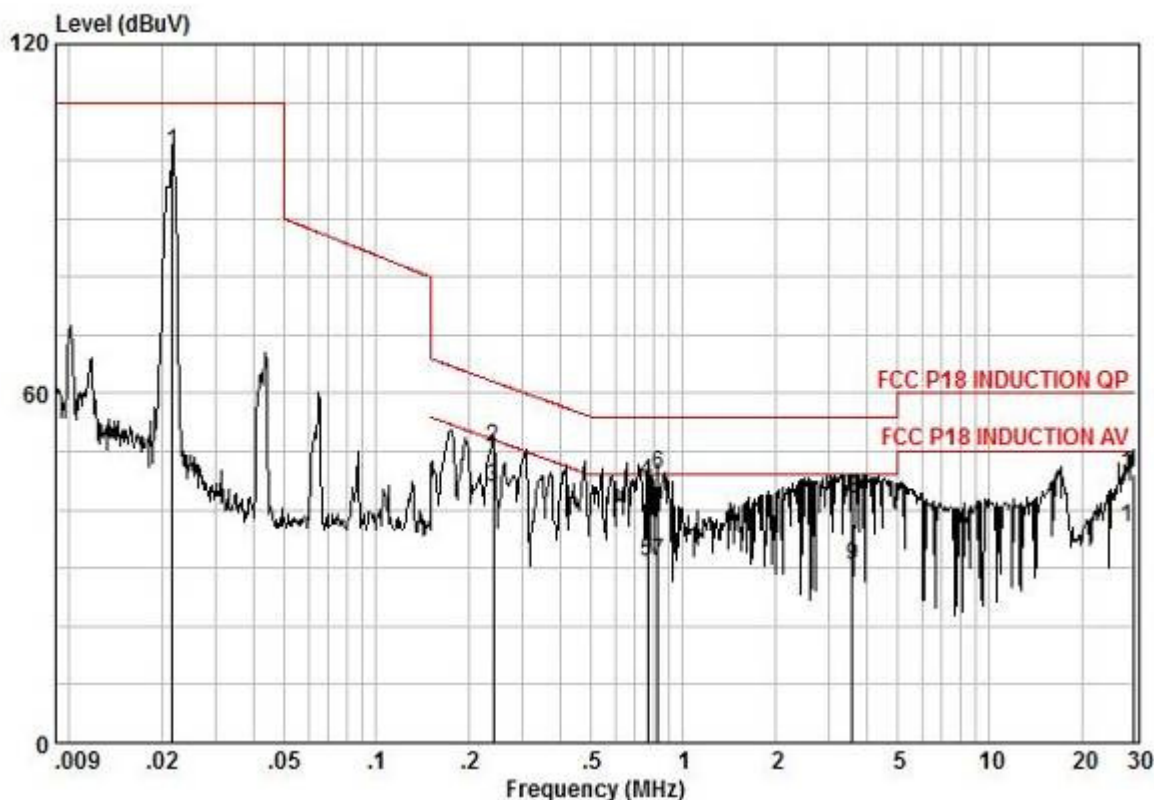
Mode:a; Line:Live Line



Pol :LIVE
 No :
 Model :

Frequency MHz	read level dBuV	Cable Loss dB	LISN Factor dB	Measured level dBuV	Limit Line dBuV	Over limit dB	Remark
0.02	91.53	0.10	9.75	101.38	110.00	-8.62	QP
0.31	39.51	0.15	9.63	49.29	60.10	-10.81	QP
0.31	32.57	0.15	9.63	42.35	50.10	-7.75	AVERAGE
0.77	34.98	0.26	9.62	44.86	56.00	-11.14	QP
0.77	20.95	0.26	9.62	30.83	46.00	-15.17	AVERAGE
3.60	33.01	0.59	9.62	43.23	56.00	-12.77	QP
3.60	21.13	0.59	9.62	31.35	46.00	-14.65	AVERAGE
26.56	30.73	0.63	9.64	41.00	60.00	-19.00	QP
26.56	22.06	0.63	9.64	32.33	50.00	-17.67	AVERAGE
28.75	34.86	0.56	9.61	45.03	60.00	-14.97	QP
28.75	26.37	0.56	9.61	36.54	50.00	-13.46	AVERAGE

Mode:a; Line:Neutral Line



Pol : NEUTRAL
 No :
 Model :

Frequency MHz	read level dBuV	Cable Loss dB	LISN Factor dB	Measured level dBuV	Limit Line dBuV	Over limit dB	Remark
0.02	91.39	0.10	9.86	101.35	110.00	-8.65	QP
0.24	41.05	0.12	9.58	50.75	62.08	-11.33	QP
0.24	34.01	0.12	9.58	43.71	52.08	-8.37	AVERAGE
0.77	34.96	0.26	9.59	44.81	56.00	-11.19	QP
0.77	21.21	0.26	9.59	31.06	46.00	-14.94	AVERAGE
0.83	36.27	0.27	9.59	46.13	56.00	-9.87	QP
0.83	21.31	0.27	9.59	31.17	46.00	-14.83	AVERAGE
3.57	31.72	0.59	9.58	41.89	56.00	-14.11	QP
3.57	20.32	0.59	9.58	30.49	46.00	-15.51	AVERAGE
29.37	35.83	0.53	9.68	46.05	60.00	-13.95	QP
29.37	26.61	0.53	9.68	36.83	50.00	-13.17	AVERAGE

6.2 Radiated Emissions (Magnetic field Strength) (9kHz-30MHz)

Test Requirement: 47 CFR Part 18
 Test Method: FCC OST/MP-5:1986
 Frequency Range: 9kHz to 30MHz
 Measurement Distance: 10m
 Detector: Peak for pre-scan, Average for the final result
 (200 Hz Resolution Bandwidth for 9 kHz to 150 kHz
 9 kHz Resolution Bandwidth for 150 kHz to 30 MHz)

Limit:

Equipment	Operating frequency	RF Power generated by equipment (watts)	Field strength limit (uV/m)	Distance (meters)
Induction cooking ranges	Below 90 kHz	Any	1,500	430
	On or above 90 kHz	Any	300	430

For Induction cooking ranges and the operating frequency is below 90 kHz, the field strength limit is 1,500 $\mu\text{V/m}$ @30m, i.e. $20\lg(1500)+20\lg(30/10)=63.52+9.54=73.06\text{dBuV/m}$ @ 10m distance.

6.2.1 E.U.T. Operation

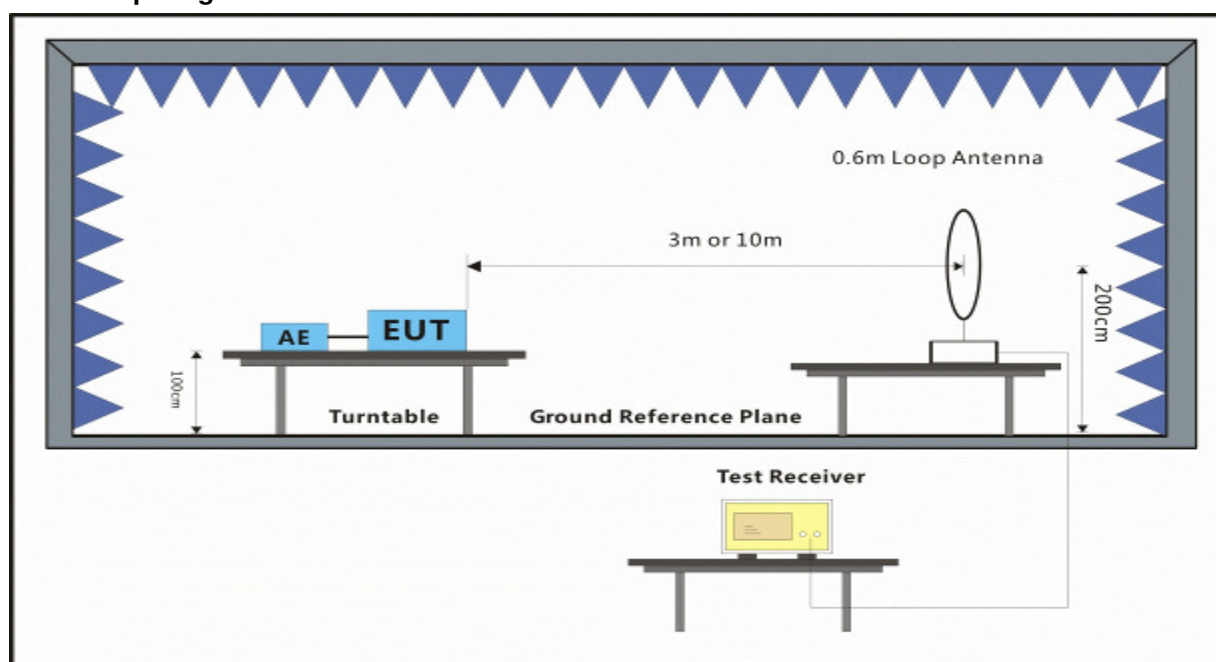
Operating Environment:

Temperature: 23 °C Humidity: 55 % RH Atmospheric Pressure: 1020 mbar

Pre test these modes to find the worst case:
 a:Test in heating at maximum power mode.
 b:Test in heating at middle power mode.
 c:Test in heating at minimum power mode.

The worst case for final test: a:Test in heating at maximum power mode.

6.2.2 Test Setup Diagram

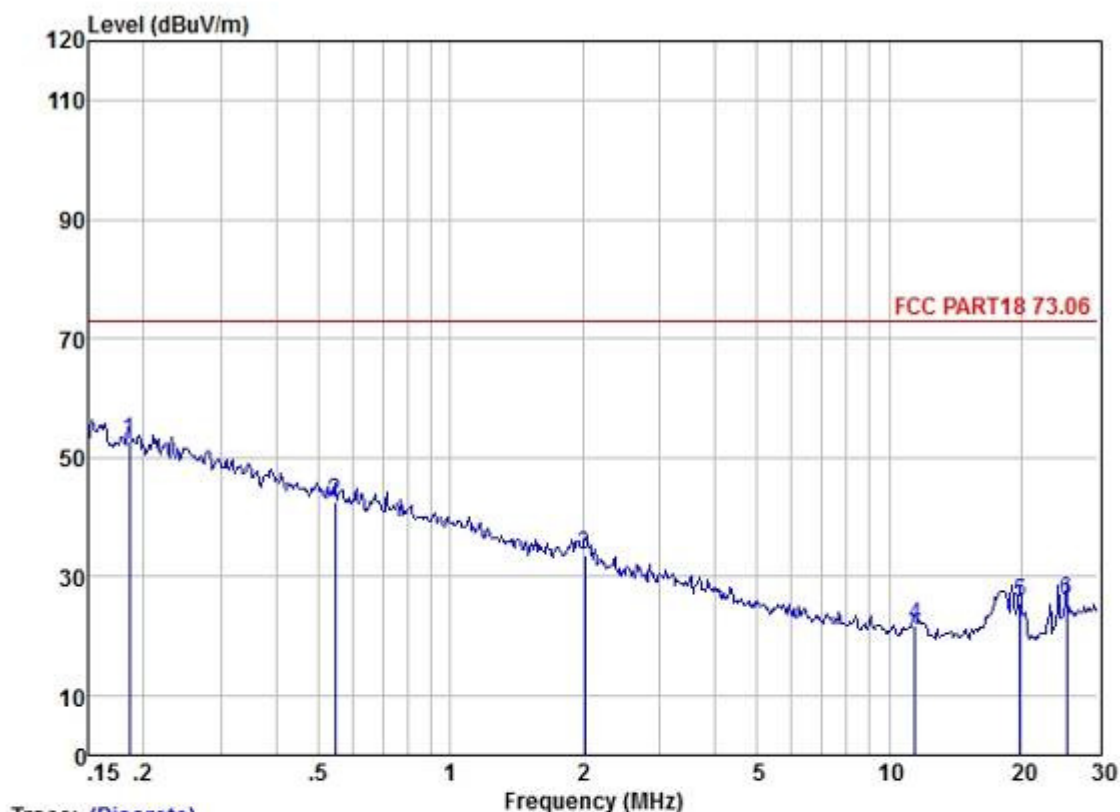


6.2.3 Measurement Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.

Level=Read Level + Antenna Factor + Cable Loss - Preamp Factor

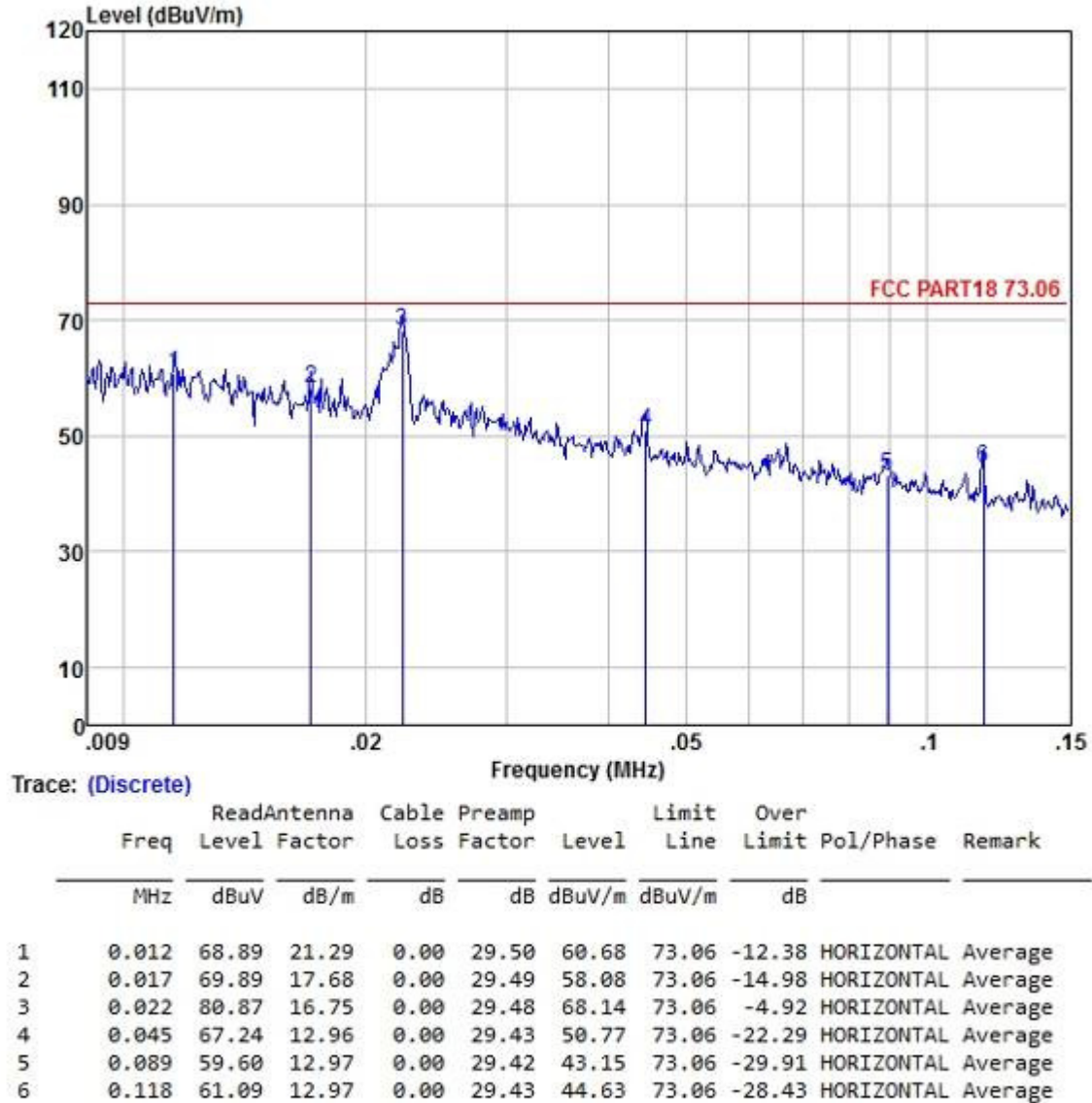
Mode:a; Polarization:Horizontal



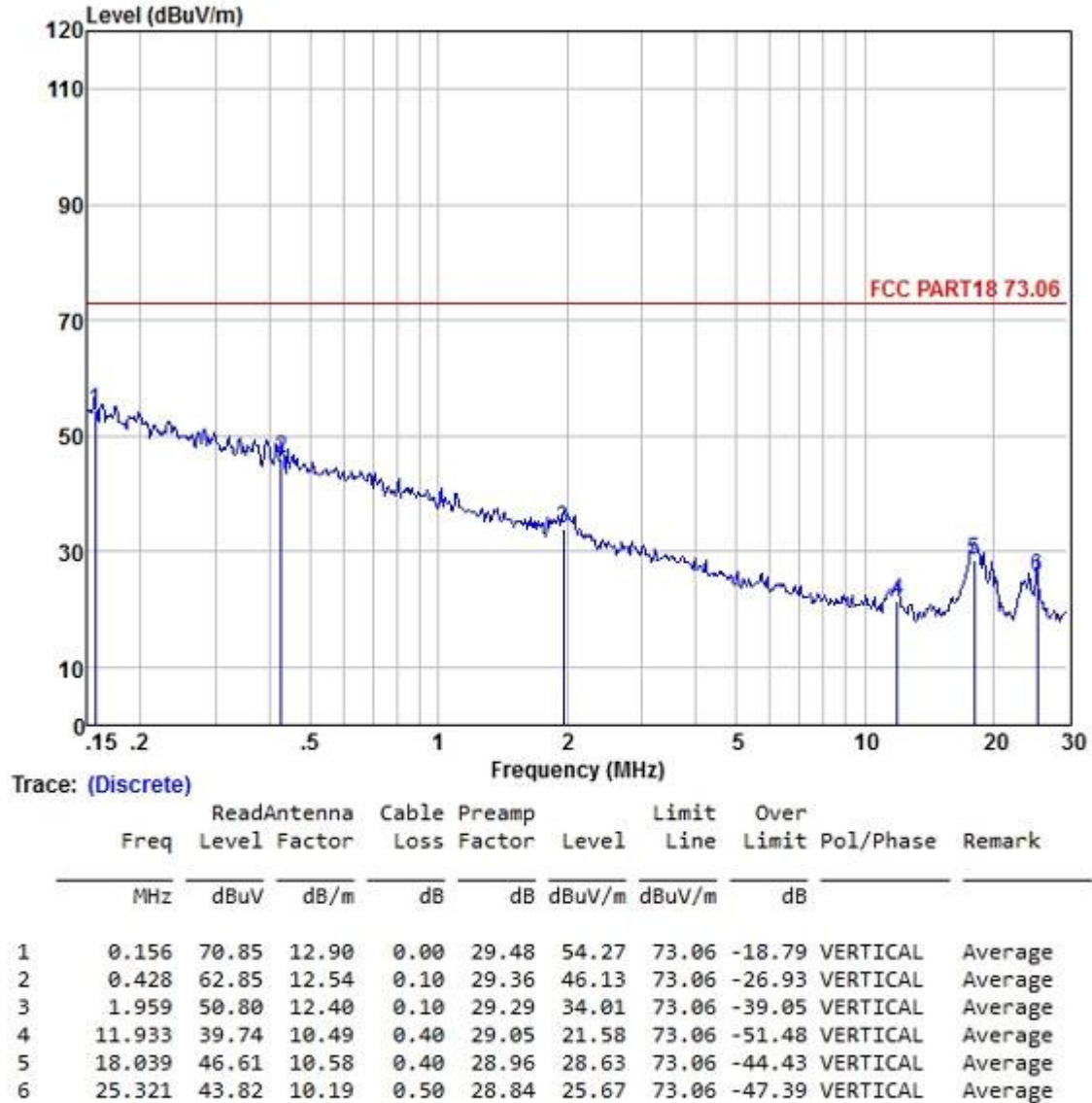
Trace: (Discrete)

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	0.185	69.60	12.86	0.00	29.50	52.96	73.06	-20.10	HORIZONTAL	Average
2	0.546	59.37	12.52	0.10	29.35	42.64	73.06	-30.42	HORIZONTAL	Average
3	2.023	50.39	12.39	0.10	29.29	33.59	73.06	-39.47	HORIZONTAL	Average
4	11.438	39.79	10.53	0.34	29.06	21.60	73.06	-51.46	HORIZONTAL	Average
5	19.845	43.36	10.69	0.50	28.94	25.61	73.06	-47.45	HORIZONTAL	Average
6	25.321	44.16	10.19	0.50	28.84	26.01	73.06	-47.05	HORIZONTAL	Average

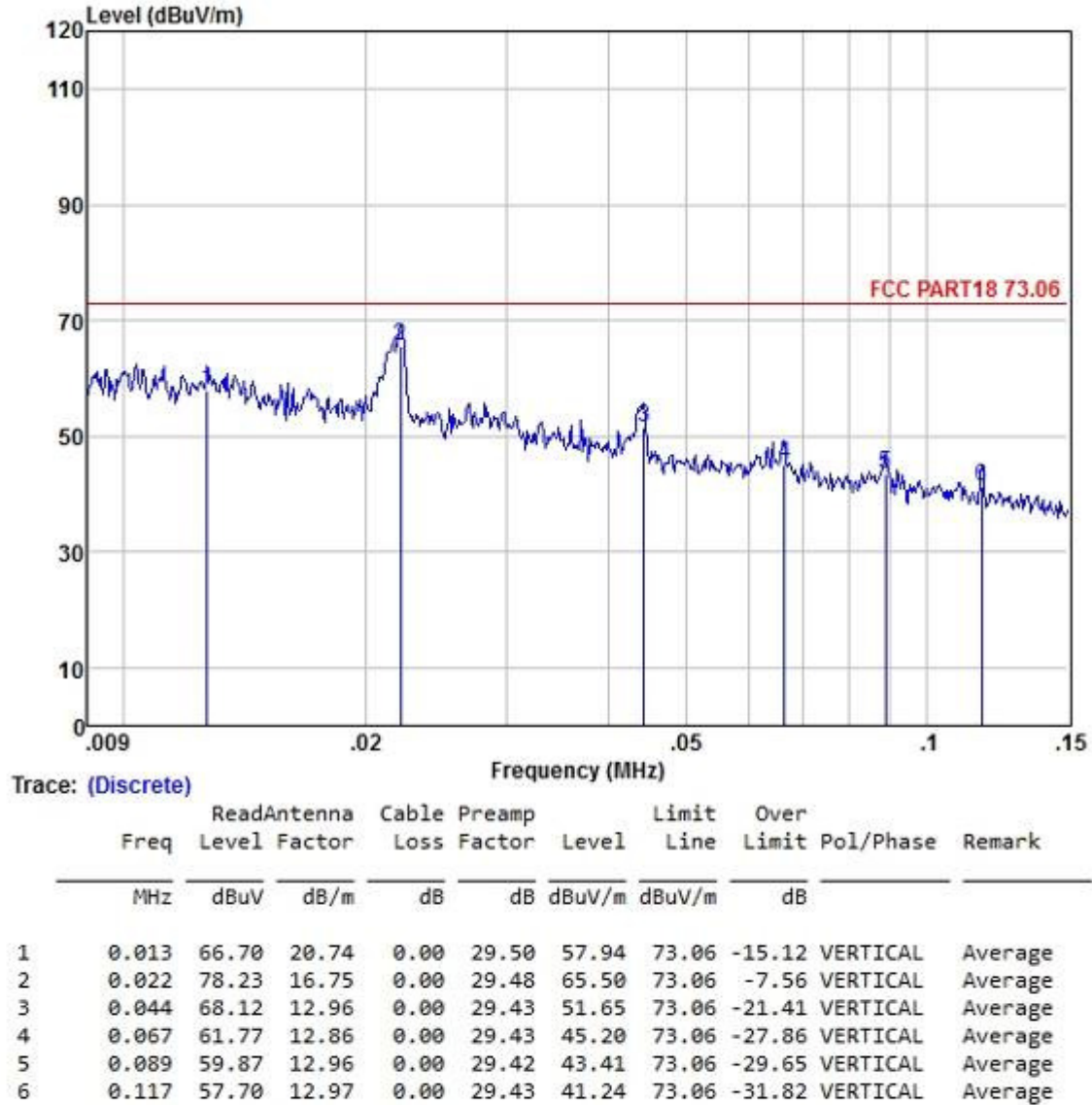
Mode:a; Polarization:Horizontal



Mode:a; Polarization:Vertical



Mode:a; Polarization:Vertical



--End of Report--