



# SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

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Report No.: GZEM190401251702  
Page: 1 of 37  
FCC ID: 2AAODBMO870

## TEST REPORT

**Application No.:** GZEM1904012517HS  
**Applicant:** Breville Pty Ltd  
**Address of Applicant:** Ground Floor, Suite 2, 170-180 Bourke Rd, Alexandria, NSW, 2015  
**Manufacturer:** Guangdong Midea Kitchen Appliances Manufacturing Co. Ltd.  
**Address of Manufacturer:** No.6 Yong An Road, BeiJiao, Shunde, Foshan, Guangdong, China  
**Factory:** Guangdong Midea Kitchen Appliances Manufacturing Co. Ltd.  
**Address of Factory:** No.6 Yong An Road, BeiJiao, Shunde, Foshan, Guangdong, China  
**Equipment Under Test (EUT):**  
**FCC ID:** 2AAODBMO870  
**EUT Name:** Benchtop Microwave Oven  
**Model No.:** BMO870BSS  
**Trade Mark:** Breville  
**Standard(s) :** 47 CFR Part 18  
**Date of Receipt:** 2019-05-05  
**Date of Test:** 2019-05-06 to 2019-05-07  
**Date of Issue:** 2019-07-23

<b>Test Result:</b>	<b>Pass*</b>
---------------------	--------------

\* 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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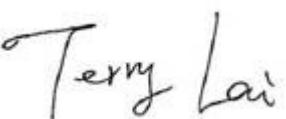
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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2019-07-23		Original

Authorized for issue by:			
Tested By	 Damon_Guan /Project Engineer		2019-05-06 to 2019-05-07
Checked By	 Terry_Lai /Reviewer		Date
			2019-07-23
			Date



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## 2 Test Summary

<b>Emission Part</b>				
<b>Item</b>	<b>Standard</b>	<b>Method</b>	<b>Requirement</b>	<b>Result</b>
Conducted Emissions at Mains Terminals (150kHz-30MHz)	47 CFR Part 18	FCC OST/MP-5:1986	N/A	Pass
Radiated Emissions (30MHz-1GHz)	47 CFR Part 18	FCC OST/MP-5:1986	N/A	Pass
Radiated Emissions (above 1GHz)	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
Operating Frequency	47 CFR Part 18	FCC OST/MP-5:1986	N/A	Pass

N/A: Not Applicable

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## 4 General Information

### 4.1 Details of E.U.T.

Power Supply: AC 120V 60Hz  
Test Voltage: AC 120V 60Hz  
Power: Power input: 1400W  
Microwave input: 1200W  
Cable: About 1.2m x 3 wires unscreened AC mains cable.

### 4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
1000mL of water in the beaker for power output and frequency measurement.	/	/	/
One of 700 and the other of 300mL of water for second and third harmonic radiation measurement.	/	/	/
700mL of water for all other measurement	/	/	/

### 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, Scientech Park, Guangzhou Economic & Technology Development District,  
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No tests were sub-contracted.



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## 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, CAB identifier: CN0052)**

SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Innovation Science and Economic Development Canada for Wireless Device Testing laboratories to test to Canadian radio equipment requirements. Registration No. 4620B, CAB identifier: CN0052.

● **VCCI (Registration No.: R-12460, C-12584, G-10449 and T-11179)**

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-12460, C-12584, G-10449 and T-11179 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, IEC60068-2-27 and Rules of procedure IEC60068-2-27, and the relevant IEC60068-2-27 CB-Scheme Operational documents.



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## 4.6 Deviation from Standards

None

## 4.7 Abnormalities from Standard Conditions

None



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## 5 Equipment List

<b>Conducted Emissions at Mains Terminals (150kHz-30MHz)</b>					
<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No</b>	<b>Inventory No</b>	<b>Cal Date</b>	<b>Cal Due Date</b>
Shielding Room	Zhong Yu	8m x 3m x 3.8m	EMC0306	N/A	N/A
Two-Line V-Netwok	R&S	ENV216	EMC0118	2019-01-11	2020-01-10
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 (30MHz-1GHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test Receiver	Rohde & Schwarz	ESIB26	EMC0522	2019-01-20	2020-01-19
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC0056	2019-01-20	2020-01-19
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	2019-01-11	2020-01-10
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	2018-03-05	2020-03-04
High Pass Filter(915MHz)	FSY MICROWAVE	HM1465-9SS	EMC2079	2019-01-11	2020-01-10
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2019-01-11	2020-01-10
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

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Radiated Emissions (above 1GHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test Receiver	Rohde & Schwarz	ESIB26	EMC0522	2019-01-20	2020-01-19
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC0056	2019-01-20	2020-01-19
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
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	2019-01-07	2020-01-08
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	2019-01-11	2020-01-10
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2019-01-11	2020-01-10
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
Trilog Broadband Antenna 30MHz-1GHz	SCHWARZBECKME SS-ELEKTRONIK	VULB 9168	SEM003-18	2016-06-29	2019-06-28
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A

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# SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

Report No.: GZEM190401251702  
Page: 11 of 37

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	2019-01-20	2020-01-19
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC0056	2019-01-20	2020-01-19
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	2019-01-11	2020-01-10
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	2018-03-05	2020-03-04
High Pass Filter(915MHz)	FSY MICROWAVE	HM1465-9SS	EMC2079	2019-01-11	2020-01-10
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2019-01-11	2020-01-10
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

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## 6 Emission Test Results

### 6.1 Conducted Emissions at Mains Terminals (150kHz-30MHz)

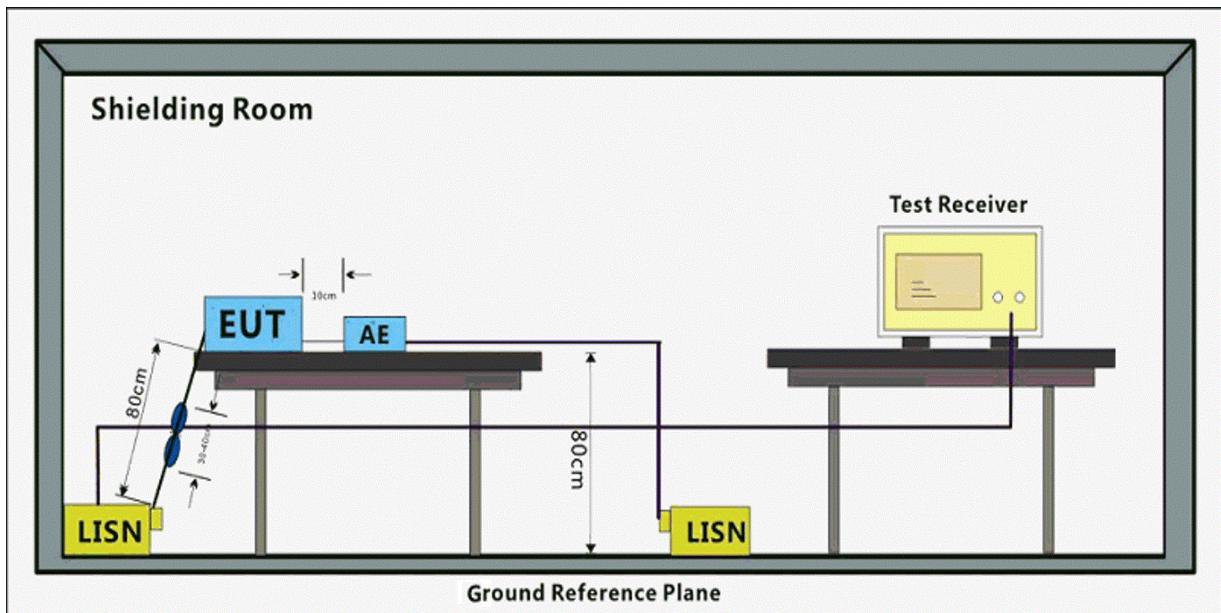
Test Requirement:	47 CFR Part 18
Test Method:	FCC OST/MP-5:1986
Frequency Range:	150kHz to 30MHz
Limit:	
0.15M-0.5MHz	66dB(μV)-56dB(μV) quasi-peak, 56dB(μV)-46dB(μV) average
0.5M-5MHz	56dB(μV) quasi-peak, 46dB(μV) average
5M-30MHz	60dB(μV) quasi-peak, 50dB(μV) average
Detector:	Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

#### 6.1.1 E.U.T. Operation

Operating Environment:

Temperature: 22.9 °C      Humidity: 51.5 % RH      Atmospheric Pressure: 1020 mbar  
Test mode      a: Test the EUT in microwave mode, setting at 100% microwave power.

#### 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.

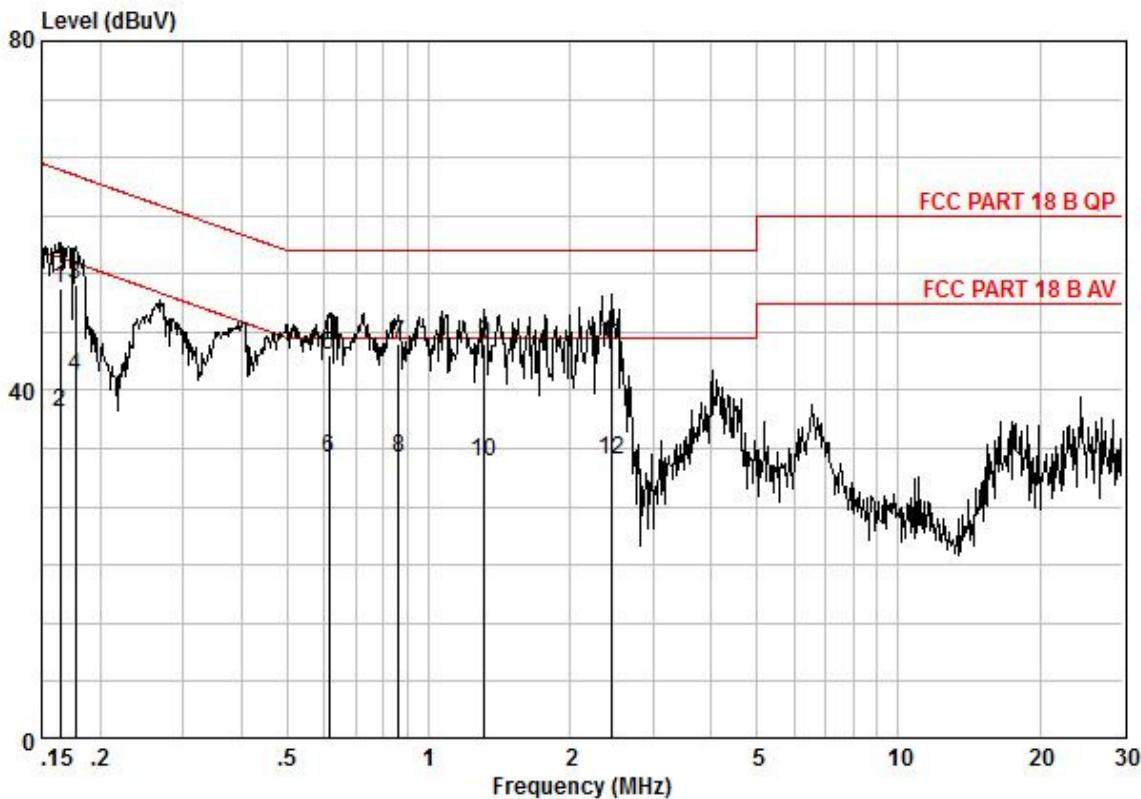
Measured Level = Read level + Cable Loss + LISN Factor



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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
0.16	41.98	0.10	9.66	51.74	65.25	-13.51	QP
0.16	27.72	0.10	9.66	37.48	55.25	-17.77	AVERAGE
0.18	42.40	0.10	9.66	52.16	64.64	-12.48	QP
0.18	31.92	0.10	9.66	41.68	54.64	-12.96	AVERAGE
0.61	34.37	0.10	9.67	44.14	56.00	-11.86	QP
0.61	22.58	0.10	9.67	32.35	46.00	-13.65	AVERAGE
0.86	35.64	0.10	9.67	45.41	56.00	-10.59	QP
0.86	22.54	0.10	9.67	32.31	46.00	-13.69	AVERAGE
1.32	35.53	0.10	9.68	45.31	56.00	-10.69	QP
1.32	21.98	0.10	9.68	31.76	46.00	-14.24	AVERAGE
2.46	35.46	0.15	9.69	45.30	56.00	-10.70	QP
2.46	22.29	0.15	9.69	32.13	46.00	-13.87	AVERAGE

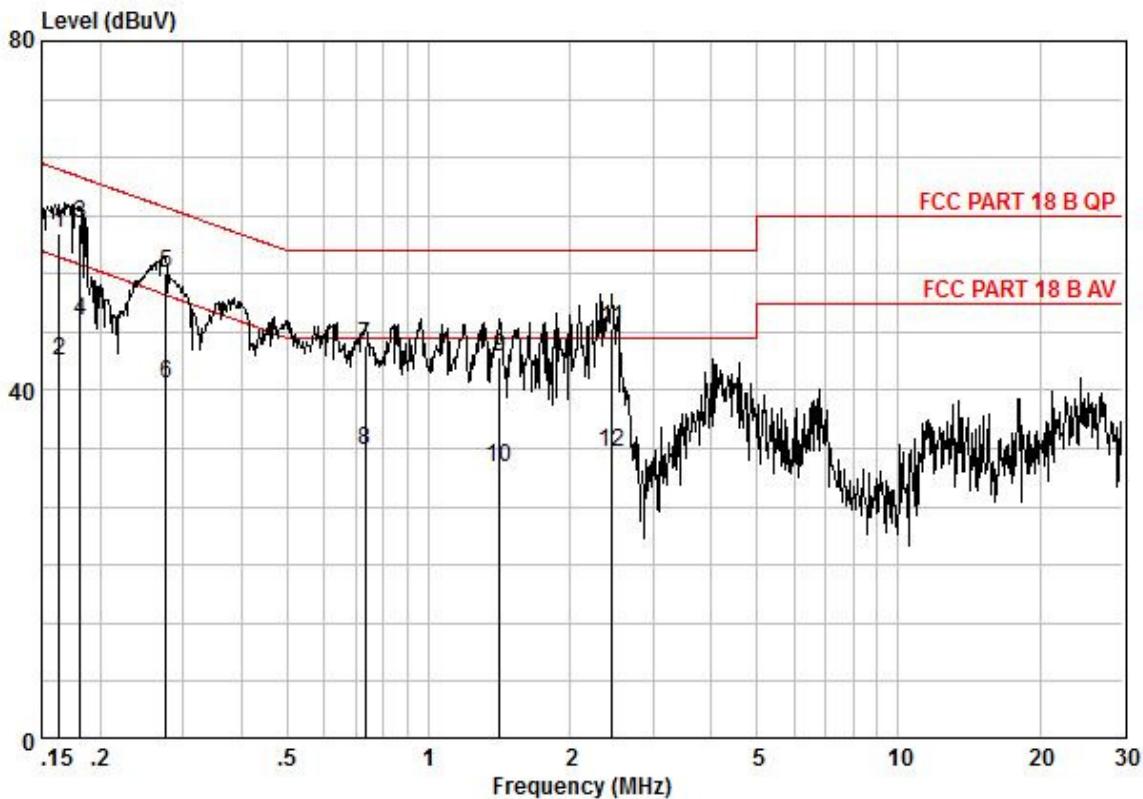
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Mode:a; Line:Neutral Line


 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
0.16	48.39	0.10	9.59	58.08	65.30	-7.21	QP
0.16	33.74	0.10	9.59	43.43	55.30	-11.86	AVERAGE
0.18	49.46	0.10	9.60	59.16	64.42	-5.26	QP
0.18	38.29	0.10	9.60	47.99	54.42	-6.43	AVERAGE
0.28	43.73	0.10	9.59	53.42	60.94	-7.52	QP
0.28	31.04	0.10	9.59	40.73	50.94	-10.21	AVERAGE
0.73	35.45	0.10	9.60	45.15	56.00	-10.85	QP
0.73	23.38	0.10	9.60	33.08	46.00	-12.92	AVERAGE
1.42	34.19	0.10	9.61	43.90	56.00	-12.10	QP
1.42	21.38	0.10	9.61	31.09	46.00	-14.91	AVERAGE
2.46	37.27	0.15	9.62	47.04	56.00	-8.96	QP
2.46	23.14	0.15	9.62	32.91	46.00	-13.09	AVERAGE

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## 6.2 Operating Frequency

Test Requirement: 47 CFR Part 18  
Test Method: FCC OST/MP-5:1986  
Frequency Range: 2400-2500 MHz  
Detector: Peak  
Limit:

ISM equipment may be operated on any frequency above 9 kHz.

And the frequency band 2400-2500MHz is allocated for use by ISM equipment.  
(§18.301)

ISM frequency	Tolerance
6.78MHz	±15.0kHz
13.56MHz	±7.0kHz
27.12MHz	±163.0kHz
40.68MHz	±20.0kHz
915MHz	±13.0MHz
2450MHz	±50.0MHz
5800MHz	±75.0MHz
24125MHz	±125.0MHz
61.25GHz	±250.0MHz
122.5GHz	±500.0MHz
245.00GHz	±1.0GHz

### 6.2.1 E.U.T. Operation

Operating Environment:

Temperature: 23.7 °C      Humidity: 54.9 % RH      Atmospheric Pressure: 1020 mbar  
Test mode      a: Test the EUT in microwave mode, setting at 100% microwave power.

### 6.2.2 Measurement Data

Polarization	ISM frequency(MHz)	Tolerance(MHz)	Measurement Data(MHz)
Horizontal	2450	±50	2418.272-2483.473
Vertical	2450	±50	2402.904-2489.571

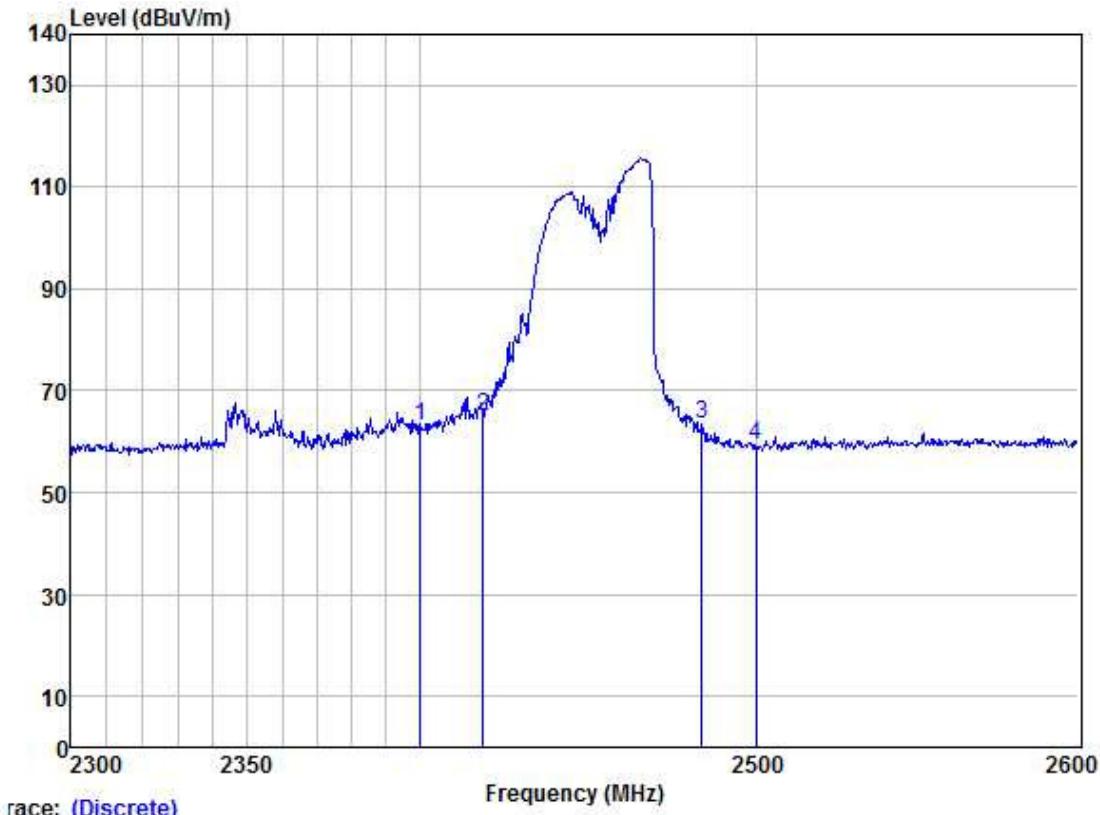
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Mode:a; Polarization:Horizontal



Race: (Discrete)	ReadAntenna		Cable		Preamp		Limit Line	Over Limit	Pol/Phase	Remark
	Freq	Level Factor	Loss	Factor	Level	dBuV/m				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2400.000	31.68	26.45	4.86	0.00	62.99	-----	-----	HORIZONTAL	Peak
2	2418.272	33.60	26.49	4.99	0.00	65.08	-----	-----	HORIZONTAL	Peak
3	2483.473	31.79	26.58	5.23	0.00	63.60	-----	-----	HORIZONTAL	Peak
4	2500.000	27.99	26.60	4.95	0.00	59.54	-----	-----	HORIZONTAL	Peak

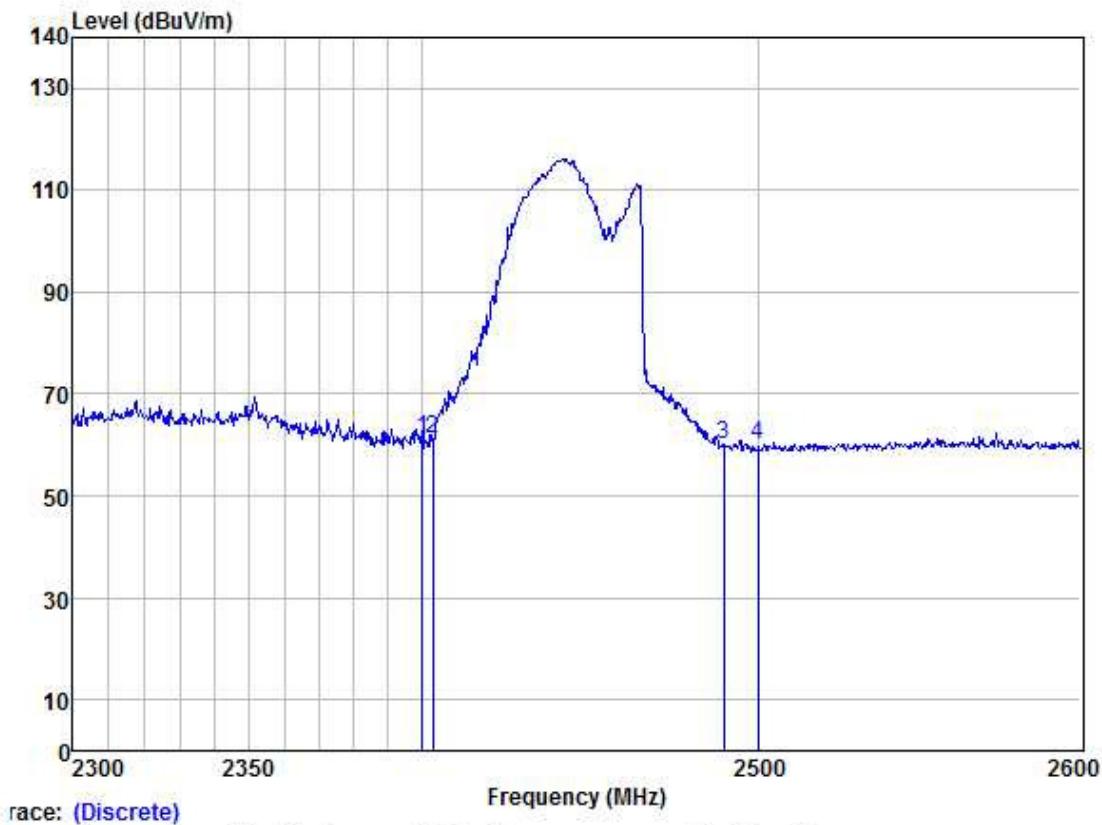
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Mode:a; Polarization:Vertical



	Trace: (Discrete)		ReadAntenna	Cable	Preamp	Limit	Over	Pol/Phase	Remark
	Freq	Level	Factor	Loss	Factor	Level	Line		
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2400.000	30.07	26.45	4.86	0.00	61.38	-----	-----	VERTICAL Peak
2	2402.904	29.93	26.45	4.86	0.00	61.24	-----	-----	VERTICAL Peak
3	2489.571	28.25	26.59	5.09	0.00	59.93	-----	-----	VERTICAL Peak
4	2500.000	28.38	26.60	4.95	0.00	59.93	-----	-----	VERTICAL Peak

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### 6.3 RF Output Power Measurement

Test Requirement: 47 CFR Part 18

Test Method: FCC OST/MP-5:1986

#### 6.3.1 E.U.T. Operation

Operating Environment:

Temperature: 20.7 °C      Humidity: 54.9 % RH      Atmospheric Pressure: 1020 mbar

Test mode a: Test the EUT in microwave mode, setting at 100% microwave power.

#### 6.3.2 Measurement Data

Mass of water (g)	Mass of the container (g)	Ambient temperature (°C)	Initial temperature (°C)	Final temperature (°C)	Heating time(S)	Power output (watts)
1100	368	20.7	19.7	47.3	125	1063.2

**Formula :**

$$P = \frac{4,187 \cdot m_w (T_2 - T_1) + 0,55 \cdot m_c (T_2 - T_0)}{t}$$

**NOTE :**

P is the microwave power output, in watts

m<sub>w</sub> is the mass of the water, in grams

m<sub>c</sub> is the mass of the container, in grams

T<sub>0</sub> is the ambient temperature, in degrees Celsius

T<sub>1</sub> is the initial temperature of the water, in degrees Celsius

T<sub>2</sub> is the final temperature of the water, in degrees Celsius

t is the heating time, in seconds, excluding the magnetron filament heating-up time.

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## 6.4 Radiated Emissions (30MHz-1GHz)

- Test Requirement: 47 CFR Part 18  
Test Method: FCC OST/MP-5:1986  
Frequency Range: 30MHz to 1GHz  
Measurement Distance: 3m  
Detector: Peak for pre-scan, Average for the final result  
( 100 kHz Resolution Bandwidth for 30MHz to 1,000MHz)  
Limit:  
(a) ISM equipment operation on a frequency specified in §18.301 is permitted unlimited radiated energy in the band specified for that frequency.  
(b) The field strength levels of emissions which lie outside the bands specified in §18.301,unless otherwise indicated, shall not exceed the following:

RF Power generated by equipment(watts)	Field strength Limit(uV/m) @300m
Below 500	25
500 or more	25*SQRT(power/500)

Power =1063.2 W according to clause 6.3.2

Limit=20lg(25\*SQRT(power/500))+20lg(300/3)=31.24+40=71.24dBuV/m  
@ 3m distance.

### 6.4.1 E.U.T. Operation

Operating Environment:

Temperature: 22.8 °C Humidity: 56.6 % RH Atmospheric Pressure: 1020 mbar  
Test mode a: Test the EUT in microwave mode, setting at 100% microwave power.

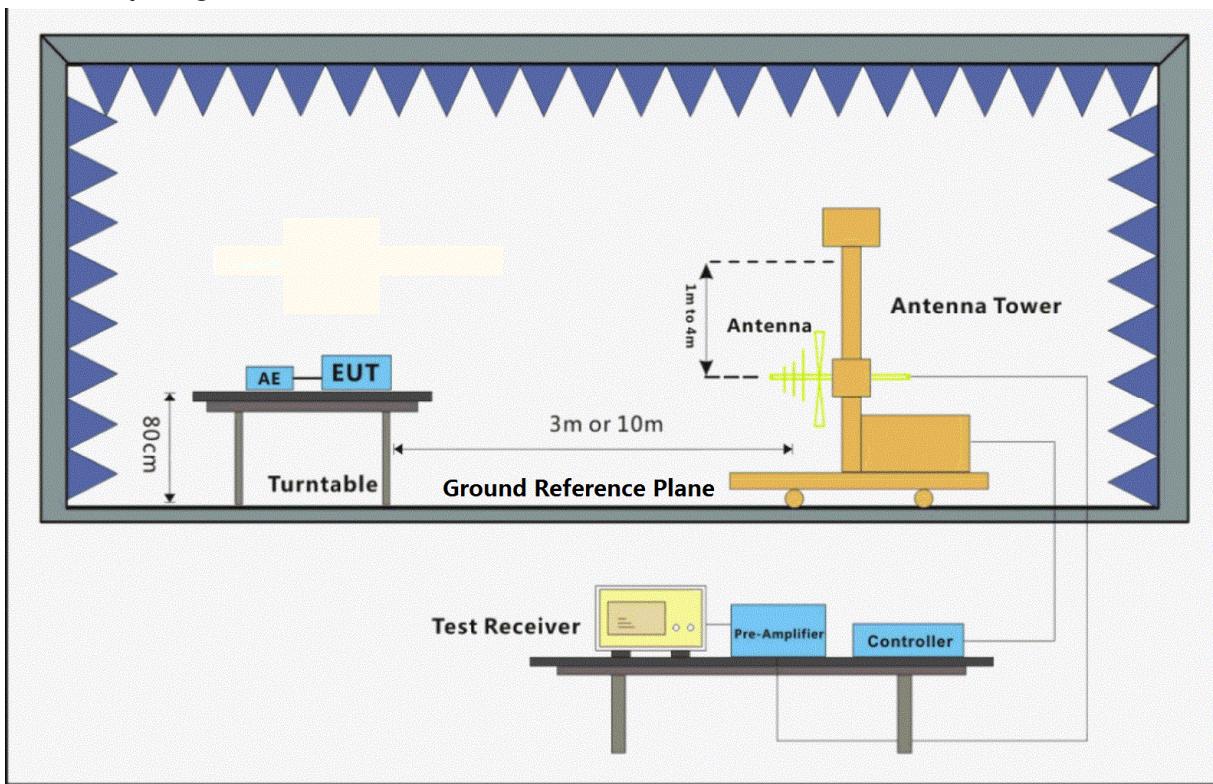
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#### 6.4.2 Test Setup Diagram



#### 6.4.3 Measurement Data

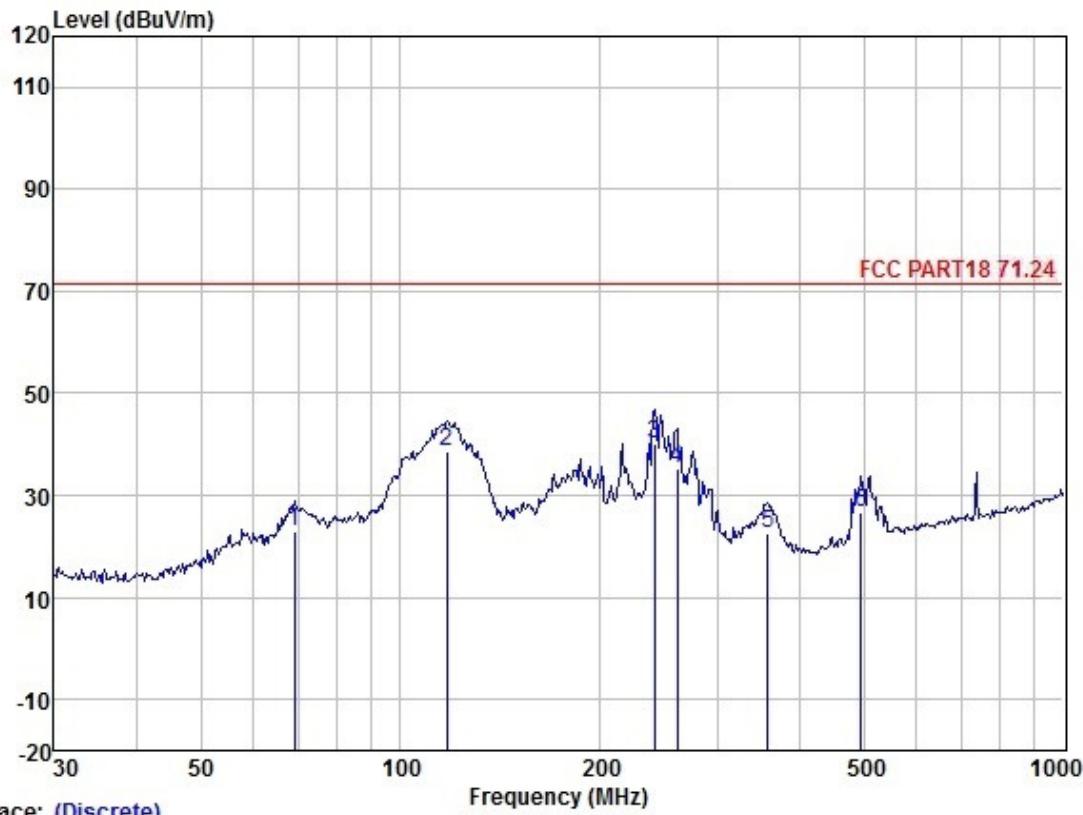
An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.

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

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Mode:a; Polarization:Horizontal



1	69.114	35.56	12.78	0.88	26.46	22.76	71.24	-48.48	HORIZONTAL Average
2	117.360	53.05	10.87	1.19	26.41	38.70	71.24	-32.54	HORIZONTAL Average
3	241.676	52.47	12.42	1.63	26.55	39.97	71.24	-31.27	HORIZONTAL Average
4	261.058	47.37	12.73	1.68	26.60	35.18	71.24	-36.06	HORIZONTAL Average
5	357.929	32.32	15.57	1.96	27.24	22.61	71.24	-48.63	HORIZONTAL Average
6	495.934	33.82	18.07	2.40	27.47	26.82	71.24	-44.42	HORIZONTAL Average

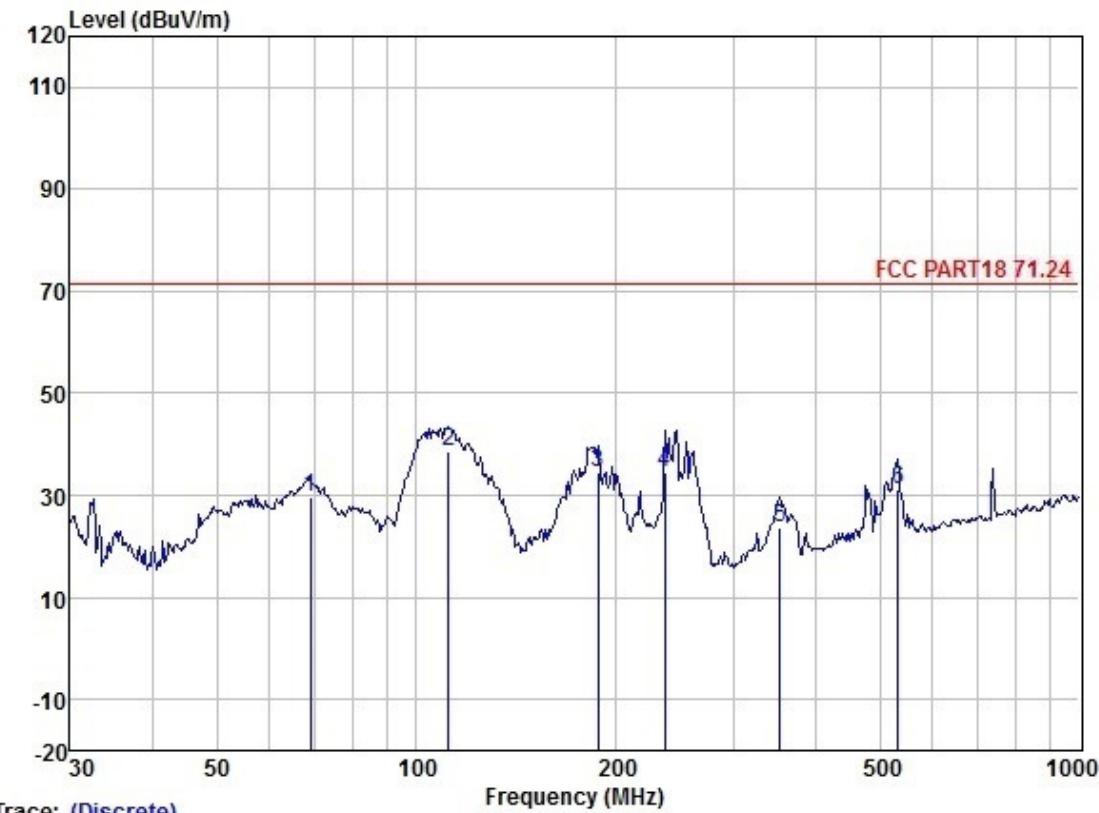
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Mode:a; Polarization:Vertical



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## 6.5 Radiated Emissions (above 1GHz)

Test Requirement: 47 CFR Part 18  
 Test Method: FCC OST/MP-5:1986  
 Frequency Range: Above 1GHz  
 Measurement Distance: 3m  
 Detector: Peak for pre-scan, Average for the final result  
 (1 MHz Resolution Bandwidth for 1,000MHz to 25,000MHz)  
 Limit:  
 (a) ISM equipment operation on a frequency specified in §18.301 is permitted unlimited radiated energy in the band specified for that frequency.  
 (b) The field strength levels of emissions which lie outside the bands specified in §18.301,unless otherwise indicated, shall not exceed the following:

RF Power generated by equipment(watts)	Field strength Limit(uV/m) @300m
Below 500	25
500 or more	25*SQRT(power/500)

Power =1063.2 W according to clause 6.3.2

Limit=20lg(25\*SQRT(power/500))+20lg(300/3)=31.24+40=71.24dBuV/m  
 @ 3m distance.

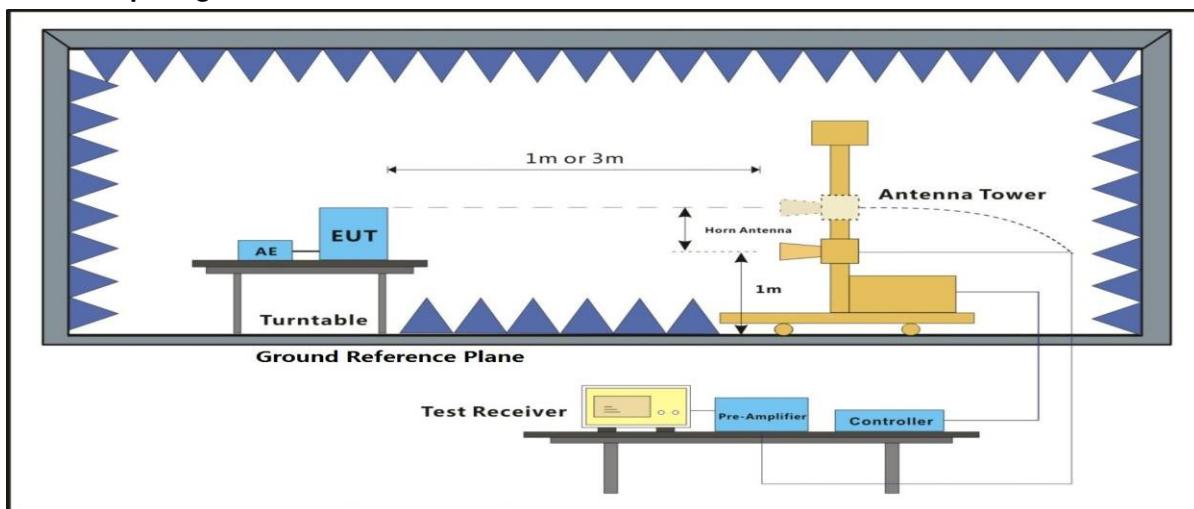
### 6.5.1 E.U.T. Operation

Operating Environment:

Temperature: 22.8 °C Humidity: 56.6 % RH Atmospheric Pressure: 1020 mbar

Test mode a: Test the EUT in microwave mode, setting at 100% microwave power.

### 6.5.2 Test Setup Diagram



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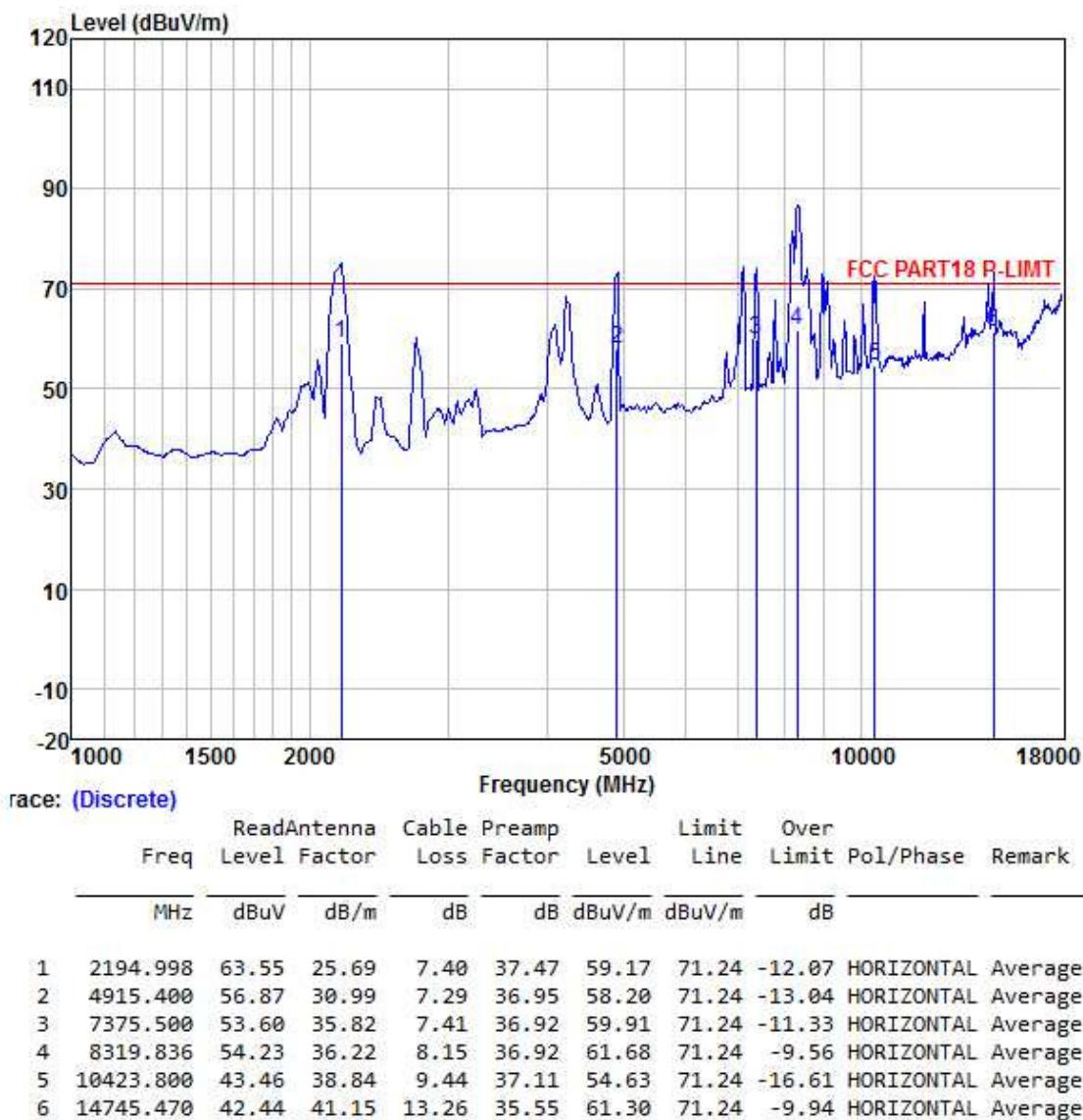
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### 6.5.3 Measurement Data

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 Horn antenna with 2 orthogonal polarities.

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

Mode:a; Polarization:Horizontal

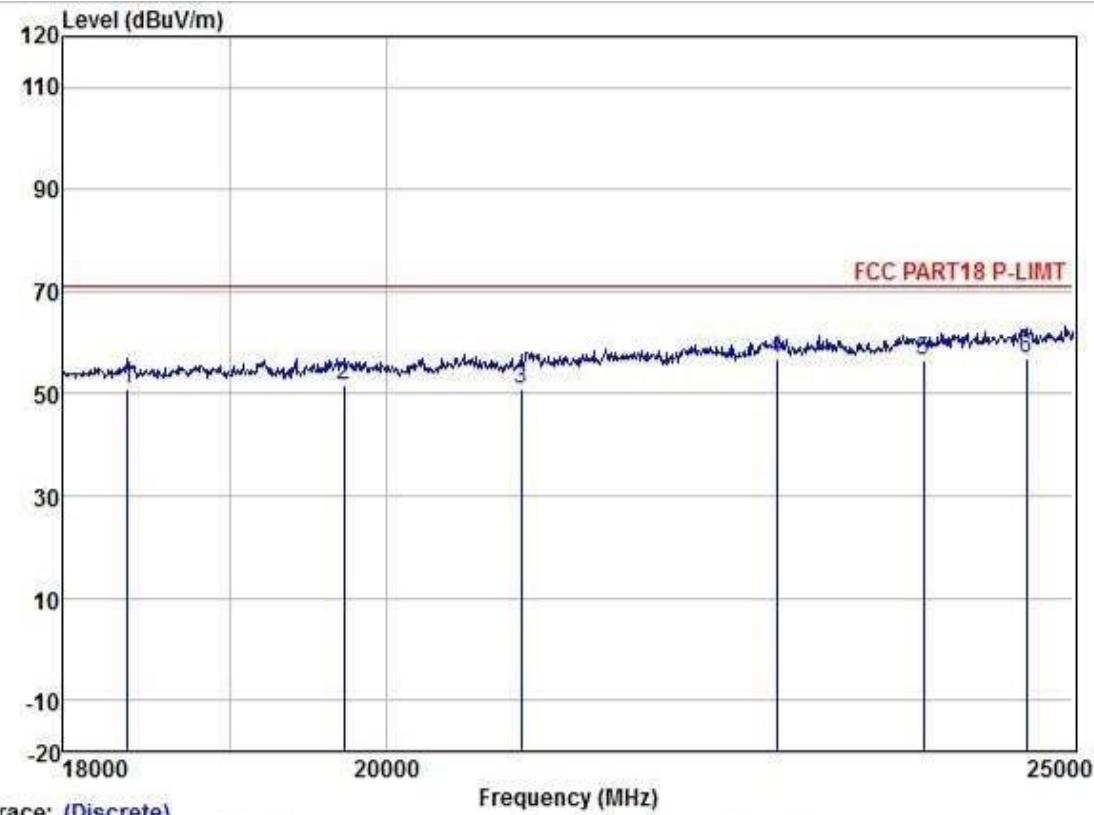


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Mode:a; Polarization:Horizontal



Race: (Discrete)	ReadAntenna		Cable		Preamp		Limit Line	Over Limit	Pol/Phase	Remark
	Freq	Level Factor	Loss	Factor	Level	dBuV/m				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dB			
1	18382.440	32.14	37.93	16.62	35.60	51.09	71.24	-20.15	HORIZONTAL	Average
2	19721.230	32.21	38.00	17.22	35.60	51.83	71.24	-19.41	HORIZONTAL	Average
3	20888.190	30.41	37.91	17.95	35.47	50.80	71.24	-20.44	HORIZONTAL	Average
4	22698.430	34.20	39.28	19.07	35.54	57.01	71.24	-14.23	HORIZONTAL	Average
5	23805.790	32.86	39.60	20.25	36.06	56.65	71.24	-14.59	HORIZONTAL	Average
6	24616.970	32.67	39.40	20.95	36.13	56.89	71.24	-14.35	HORIZONTAL	Average

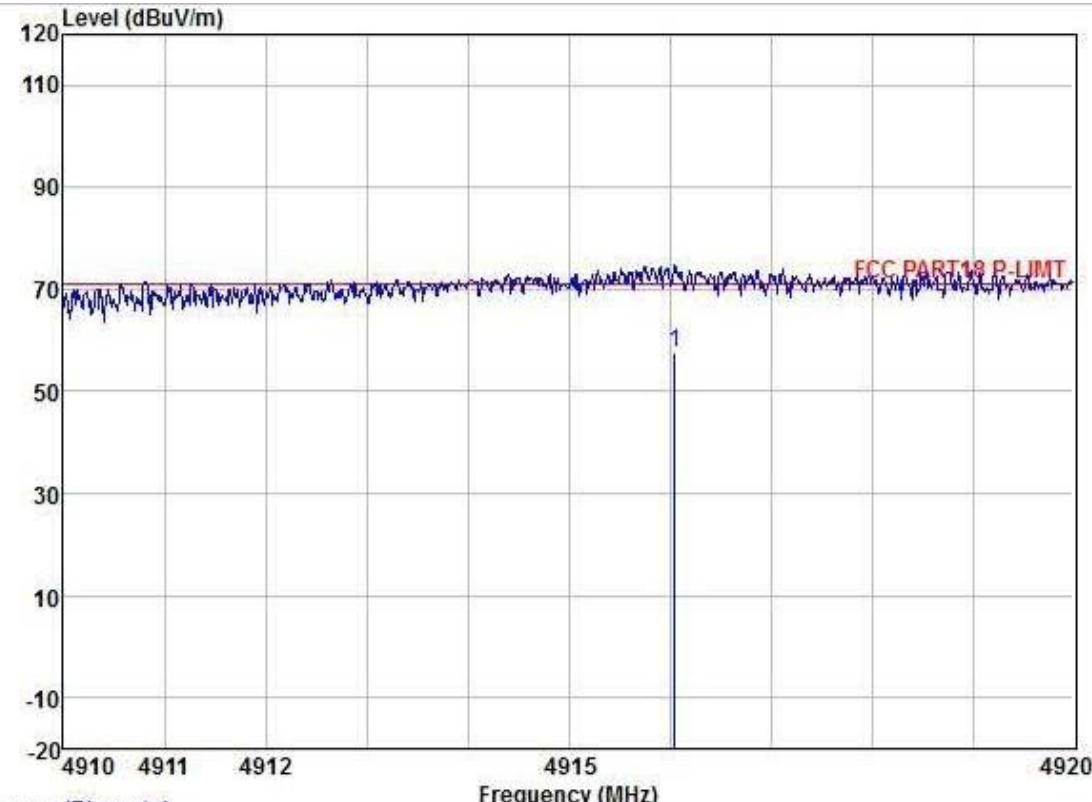


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Mode:a; Polarization:Horizontal



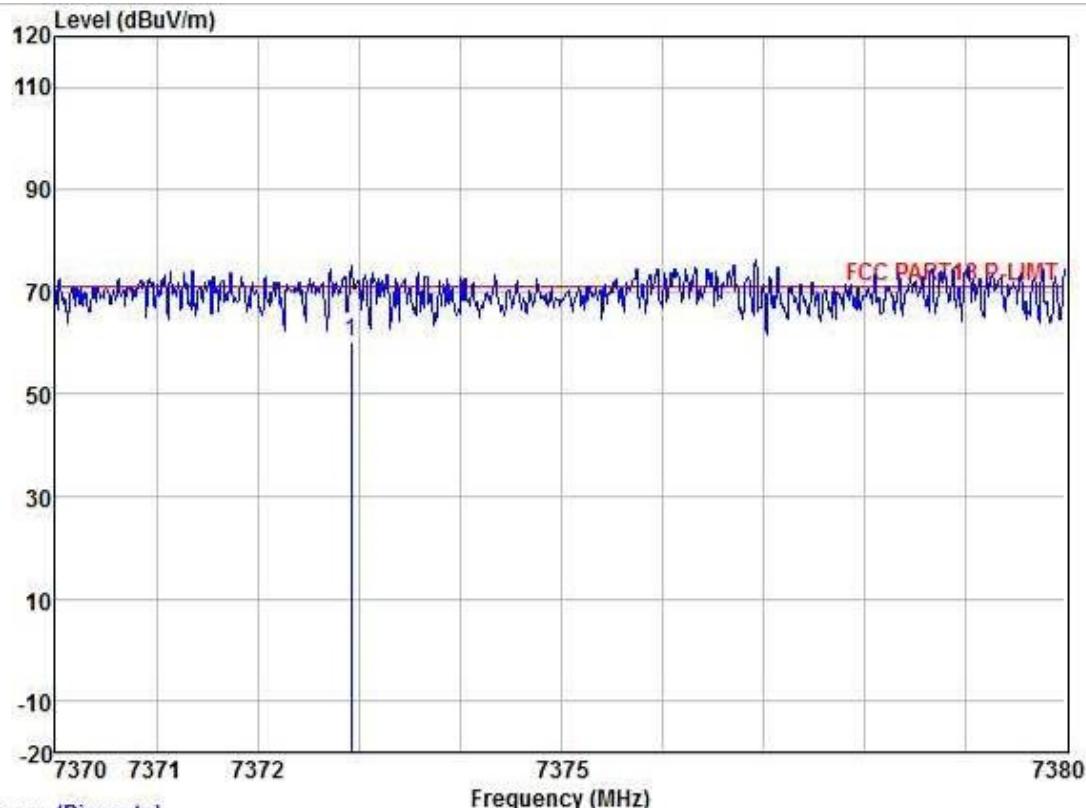
race: (Discrete)	ReadAntenna	Cable	Preamp	Limit	Over	Pol/Phase	Remark
	Freq	Level Factor	Loss Factor	Level	Line		
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	4916.047	57.40	30.99	7.29	36.95	58.73	71.24 -12.51 HORIZONTAL Average



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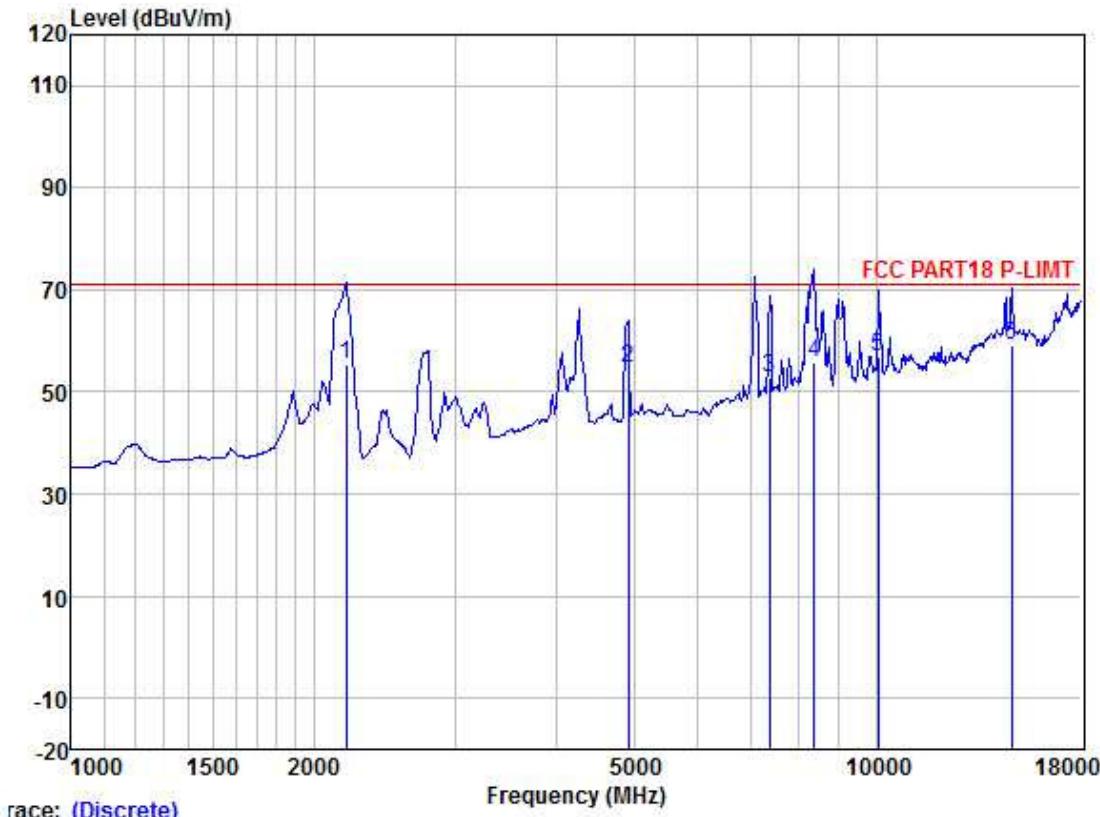
Race: (Discrete)	ReadAntenna		Cable	Preamp	Limit	Over	Pol/Phase	Remark
	Freq	Level Factor	Loss Factor	Level				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dB	
1	7372.929	53.93	35.82	7.41	36.92	60.24	71.24	-11.00 HORIZONTAL Average



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Mode:a; Polarization:Vertical



Race: (Discrete)	ReadAntenna						Limit	Over	Pol/Phase	Remark
	Freq	Level	Factor	Cable	Preamp	Line				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2194.998	59.91	25.69	7.40	37.47	55.53	71.24	-15.71	VERTICAL	Average
2	4920.600	53.50	30.99	7.29	36.95	54.83	71.24	-16.41	VERTICAL	Average
3	7379.050	46.37	35.82	7.41	36.92	52.68	71.24	-18.56	VERTICAL	Average
4	8368.069	48.61	36.18	8.11	36.93	55.97	71.24	-15.27	VERTICAL	Average
5	10068.450	47.20	38.09	8.86	37.10	57.05	71.24	-14.19	VERTICAL	Average
6	14745.470	40.41	41.15	13.26	35.55	59.27	71.24	-11.97	VERTICAL	Average

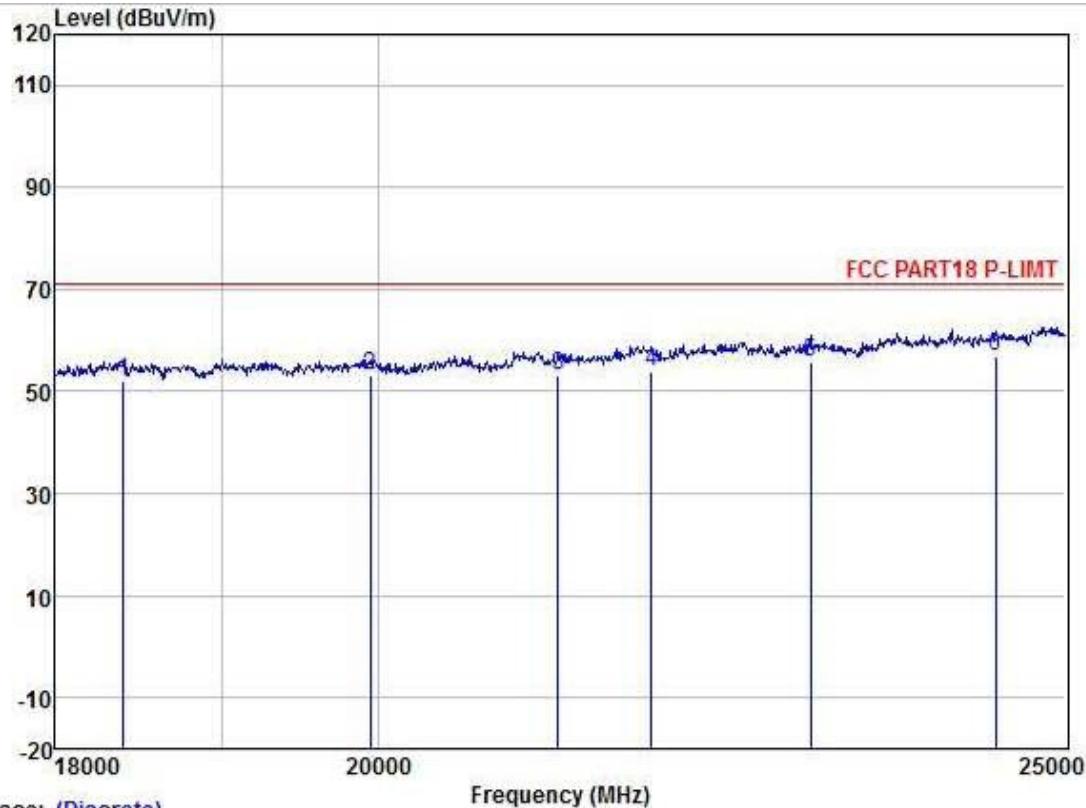
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Mode:a; Polarization:Vertical



Race: (Discrete)

Freq	Read	Antenna	Cable	Preamp	Limit	Over	Pol/Phase	Remark
	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	18400.570	33.05	37.93	16.64	35.60	52.02	71.24	-19.22 VERTICAL Average
2	19942.740	33.56	38.00	17.29	35.60	53.25	71.24	-17.99 VERTICAL Average
3	21199.270	32.51	37.95	18.08	35.41	53.13	71.24	-18.11 VERTICAL Average
4	21849.740	32.34	38.17	18.55	35.31	53.75	71.24	-17.49 VERTICAL Average
5	23013.770	32.78	39.60	19.21	35.75	55.84	71.24	-15.40 VERTICAL Average
6	24439.710	32.80	39.47	20.72	36.12	56.87	71.24	-14.37 VERTICAL Average

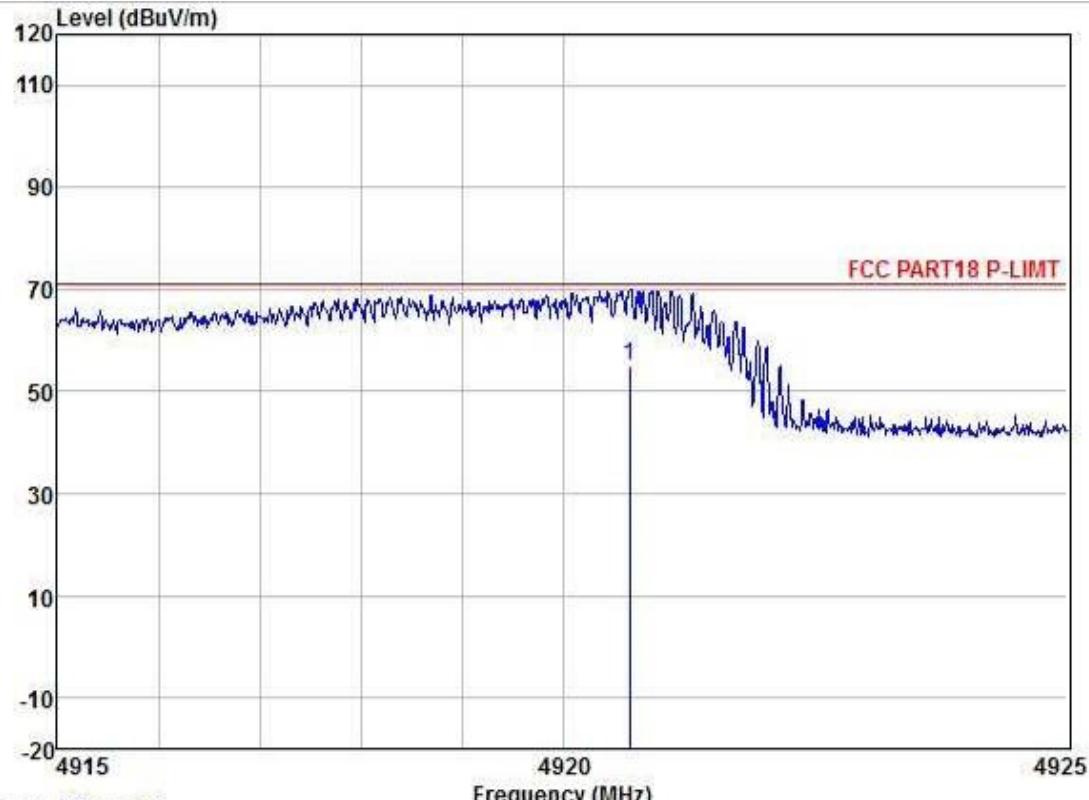
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Mode:a; Polarization:Vertical



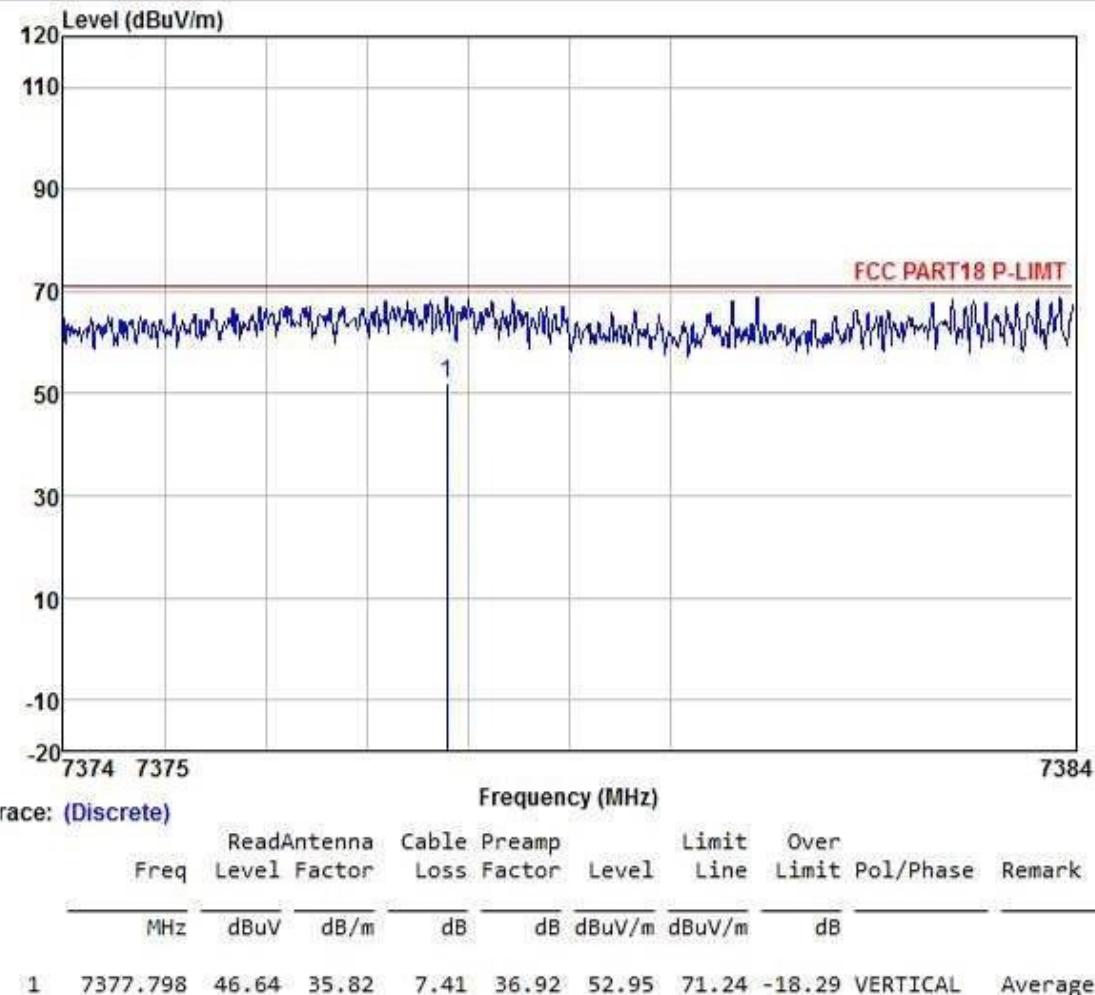
Race: (Discrete)	ReadAntenna		Cable		Preamp		Limit Line	Over Limit	Pol/Phase	Remark
	Freq	Level Factor	Loss	Factor	Level	dBuV/m				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dB	dB		
1	4920.667	53.66	30.99	7.29	36.95	54.99	71.24	-16.25	VERTICAL	Average



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## 6.6 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:  
(a) ISM equipment operation on a frequency specified in §18.301 is permitted unlimited radiated energy in the band specified for that frequency.  
(b) The field strength levels of emissions which lie outside the bands specified in §18.301,unless otherwise indicated, shall not exceed the following:

RF Power generated by equipment(watts)	Field strength Limit(uV/m) @300m
Below 500	25
500 or more	25*SQRT(power/500)

Power =1063.2 W according to clause 6.3.2

Limit=20lg(25\*SQRT(power/500))+20lg(300/10)=31.24+29.54=60.78dBuV/m @ 10m distance.

### 6.6.1 E.U.T. Operation

Operating Environment:

Temperature: 22.8 °C Humidity: 56.6 % RH Atmospheric Pressure: 1020 mbar

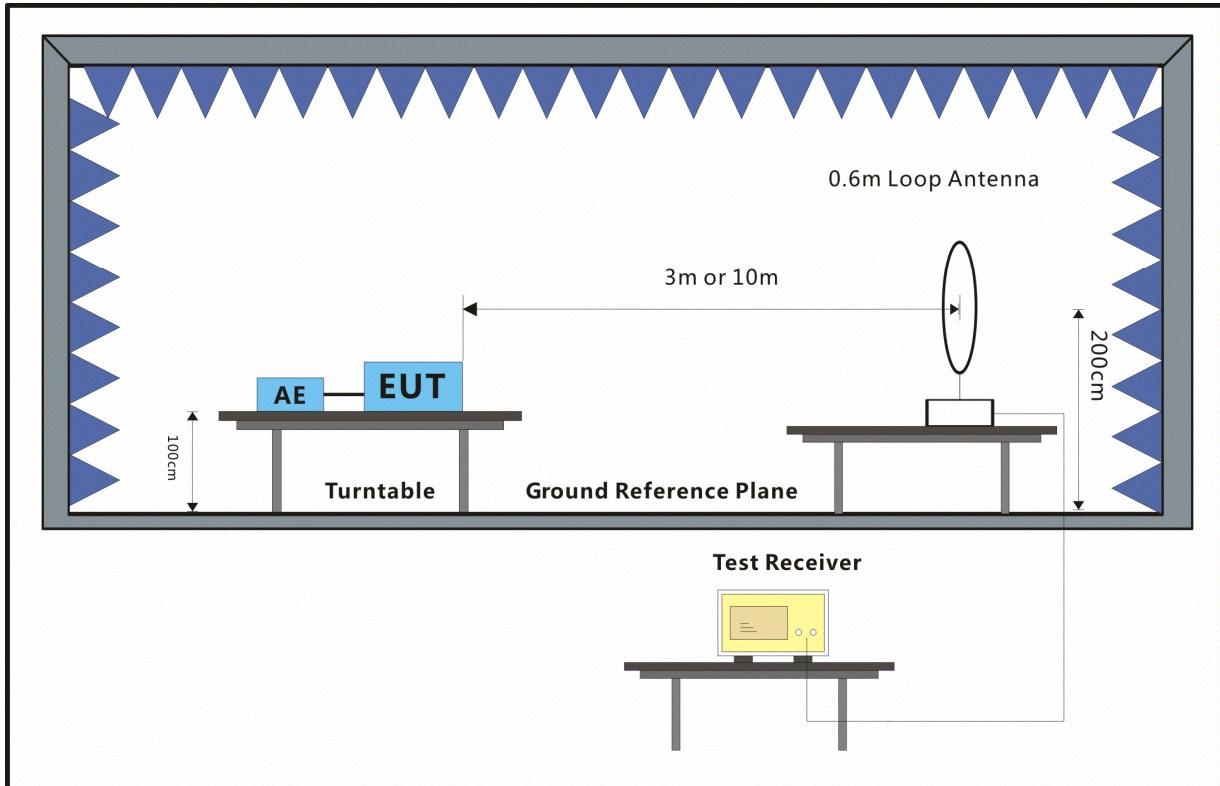
Test mode a: Test the EUT in microwave mode with maximum power.



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### 6.6.2 Test Setup Diagram



### 6.6.3 Measurement Data

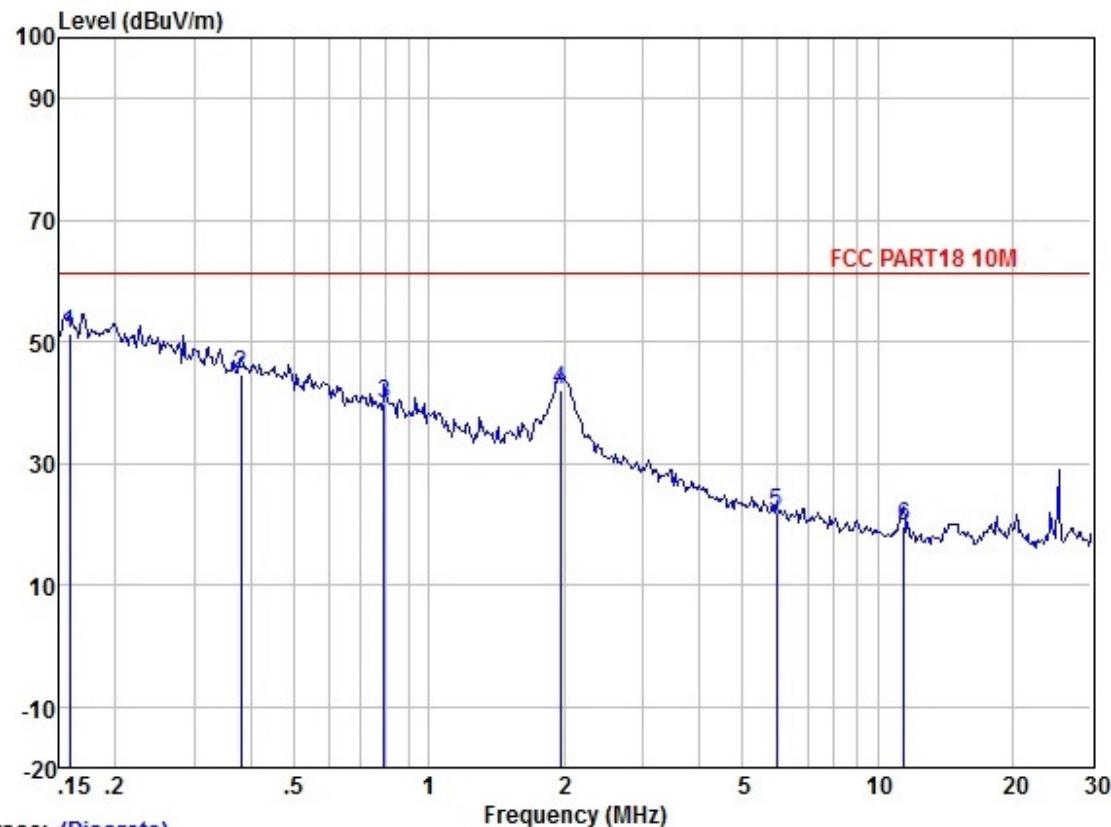
An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.

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

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Freq	ReadAntenna	Cable	Preamp	Limit	Over	Remark		
	Level	Factor	Loss	Factor	Line	Limit	Pol/Phase	
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	0.158	68.59	12.39	0.00	29.48	51.50	60.78	-9.28 HORIZONTAL Average
2	0.381	61.62	12.16	0.10	29.38	44.50	60.78	-16.28 HORIZONTAL Average
3	0.796	56.92	12.22	0.10	29.31	39.93	60.78	-20.85 HORIZONTAL Average
4	1.959	58.57	12.60	0.10	29.29	41.98	60.78	-18.80 HORIZONTAL Average
5	5.961	39.56	11.12	0.30	29.21	21.77	60.78	-39.01 HORIZONTAL Average
6	11.438	37.89	10.65	0.34	29.06	19.82	60.78	-40.96 HORIZONTAL Average

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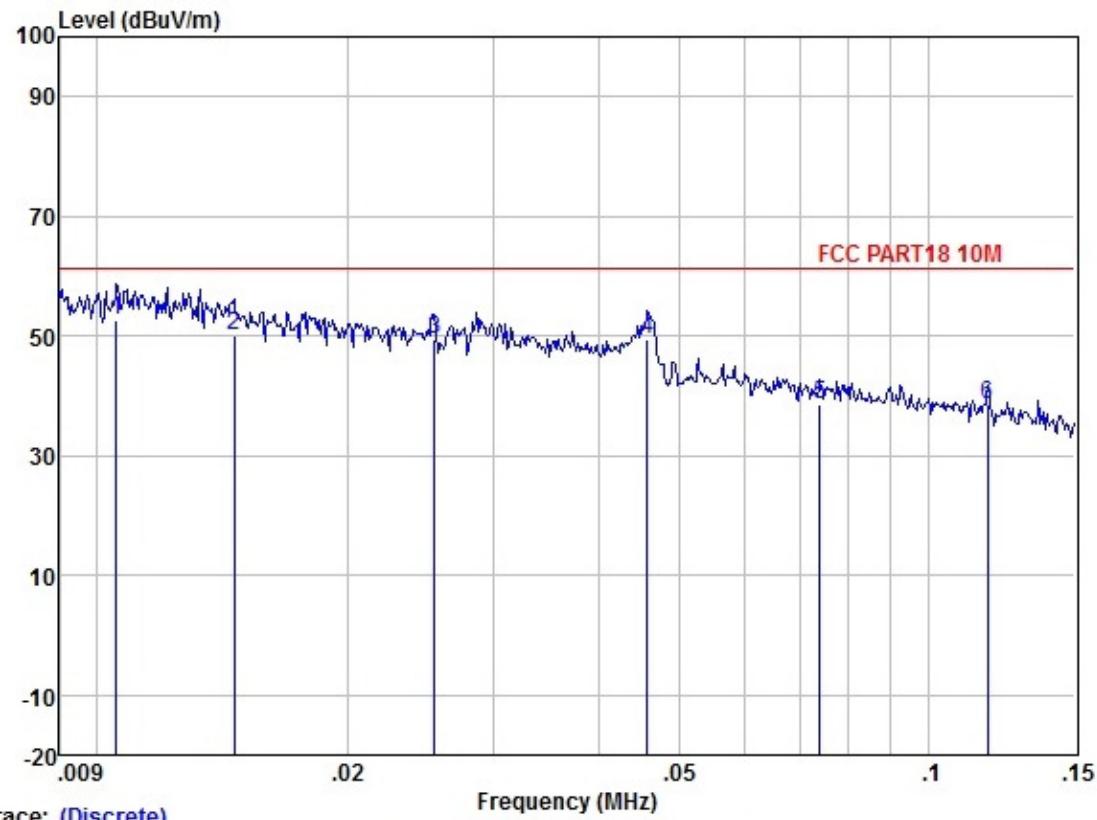
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	Freq	ReadAntenna	Cable	Preamp	Limit	Over	Over	Pol/Phase	Remark
	MHz	Level	Loss	Factor	Level	Line	Line		
		dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	0.011	60.72	21.41	0.00	29.50	52.63	60.78	-8.15	HORIZONTAL Average
2	0.015	61.15	18.35	0.00	29.49	50.01	60.78	-10.77	HORIZONTAL Average
3	0.025	63.42	15.61	0.00	29.48	49.55	60.78	-11.23	HORIZONTAL Average
4	0.046	66.10	12.66	0.00	29.43	49.33	60.78	-11.45	HORIZONTAL Average
5	0.074	55.60	12.40	0.00	29.42	38.58	60.78	-22.20	HORIZONTAL Average
6	0.118	55.73	12.40	0.00	29.43	38.70	60.78	-22.08	HORIZONTAL Average

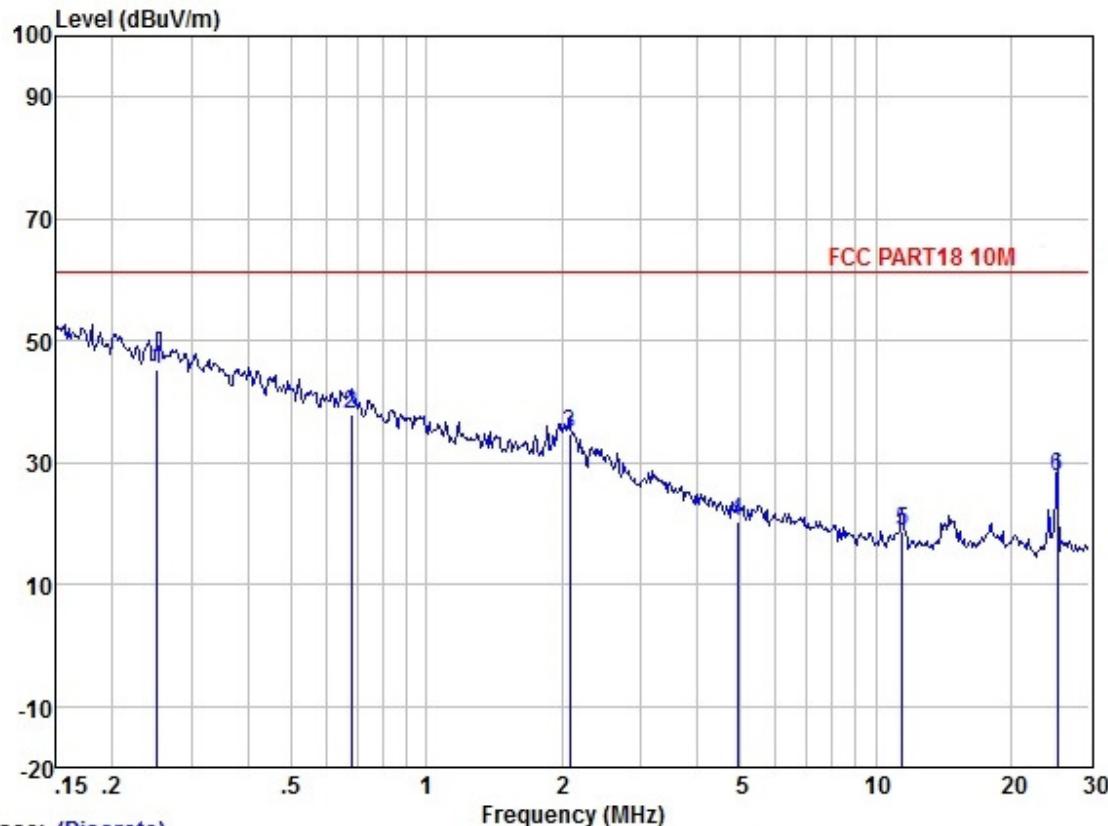
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Freq	ReadAntenna	Cable	Preamp	Limit	Over	Over	Pol/Phase	Remark
	Level	Factor	Loss					
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	0.252	62.40	12.30	0.10	29.48	45.32	60.78	-15.46 VERTICAL Average
2	0.679	54.97	12.18	0.10	29.33	37.92	60.78	-22.86 VERTICAL Average
3	2.088	51.24	12.56	0.11	29.29	34.62	60.78	-26.16 VERTICAL Average
4	4.926	38.09	11.23	0.20	29.23	20.29	60.78	-40.49 VERTICAL Average
5	11.438	36.77	10.65	0.34	29.06	18.70	60.78	-42.08 VERTICAL Average
6	25.321	45.30	10.56	0.50	28.84	27.52	60.78	-33.26 VERTICAL Average

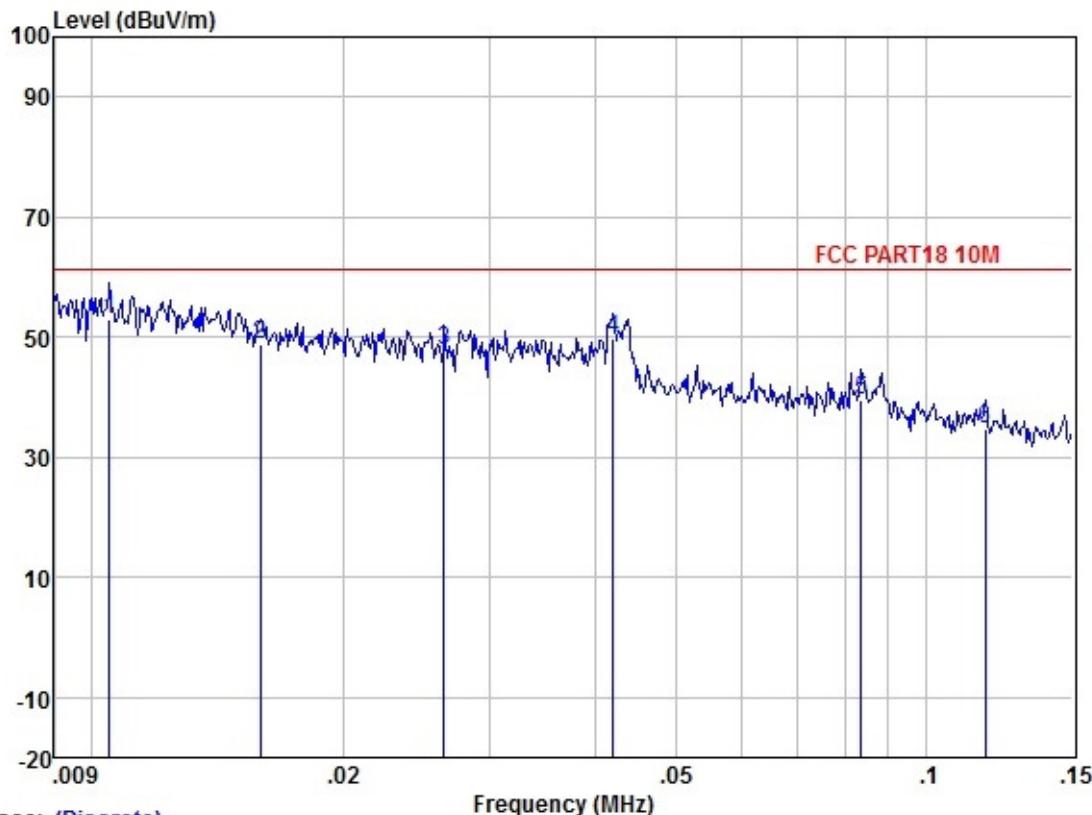
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Mode:a; Polarization:Vertical



Trace: (Discrete)

Freq	Read	Antenna	Cable	Preamp	Limit	Over	Remark		
	Freq	Level	Factor	Loss	Factor	Level			
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	0.010	61.09	21.41	0.00	29.50	53.00	60.78	-7.78	VERTICAL Average
2	0.016	60.96	17.47	0.00	29.49	48.94	60.78	-11.84	VERTICAL Average
3	0.026	61.95	15.46	0.00	29.47	47.94	60.78	-12.84	VERTICAL Average
4	0.042	66.45	12.87	0.00	29.44	49.88	60.78	-10.90	VERTICAL Average
5	0.084	56.61	12.40	0.00	29.42	39.59	60.78	-21.19	VERTICAL Average
6	0.118	51.65	12.40	0.00	29.43	34.62	60.78	-26.16	VERTICAL Average

**--End of Report--**

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