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Report No.: GZEM190401248502
 Page: 1 of 38
 FCC ID: 2AAODBMO850

TEST REPORT

Application No.: GZEM1904012485HS
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: 2AAODBMO850
EUT Name: Benchtop Microwave
Model No.: BMO850BSS
Trade Mark: Breville
Standard(s) : 47 CFR Part 18
Date of Receipt: 2019-05-05
Date of Test: 2019-05-06 to 2019-05-22
Date of Issue: 2019-07-23

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

Kobe Jian

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

Authorized for issue by:			
Tested By			2019-05-06 to 2019-05-22
	Damon_Guan /Project Engineer		Date
Checked By			2019-07-23
	Terry_Lai /Reviewer		Date



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2 Test Summary

Emission Part				
Item	Standard	Method	Requirement	Result
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

Remark:

** : The EUT passed: Operating Frequency test after modification.



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4 General Information

4.1 Details of E.U.T.

Power Supply:	AC 120V 60Hz Microwave input power: 1250W Microwave output power: 1200W
Test Voltage:	AC 120V 60Hz
Cable:	About 1.1m 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, Sciencetech Park, Guangzhou Economic & Technology Development District,
Guangzhou, China 510663

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

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, 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: Operating Frequency test after modification.



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5 Equipment List

Conducted Emissions at Mains Terminals (150kHz-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	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	2018-03-05	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
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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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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Guangzhou Branch | 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

6 Emission Test Results

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

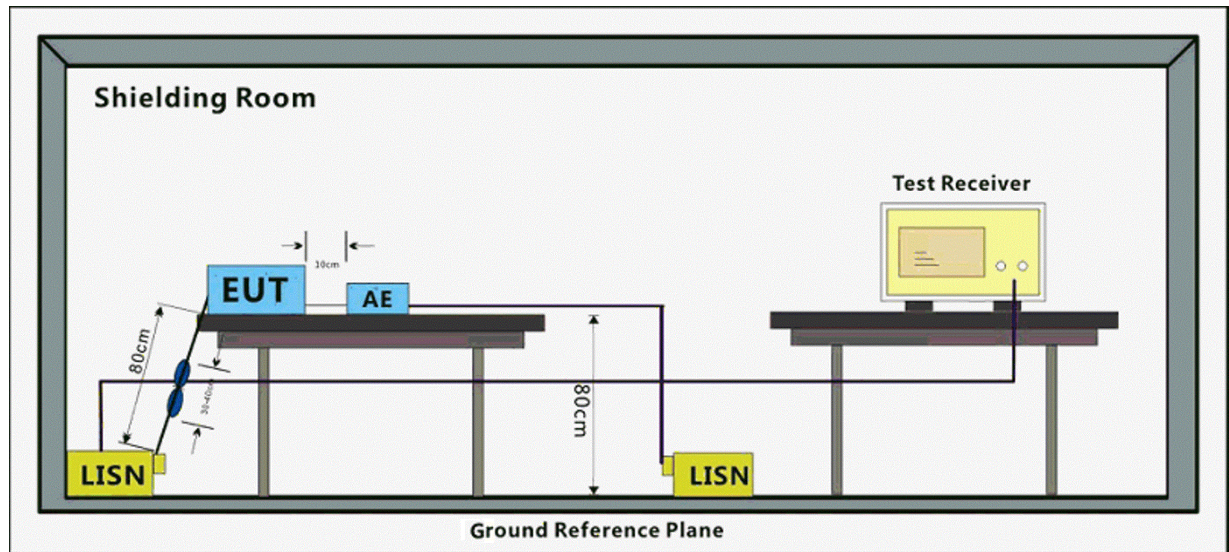
Test Requirement:	47 CFR Part 18
Test Method:	FCC OST/MP-5:1986
Frequency Range:	150kHz to 30MHz
Limit:	
0.15M-0.5MHz	66dB(μV)-56dB(μV) quasi-peak, 56dB(μV)-46dB(μV) average
0.5M-5MHz	56dB(μV) quasi-peak, 46dB(μV) average
5M-30MHz	60dB(μV) quasi-peak, 50dB(μV) average
Detector:	Peak for pre-scan (9kHz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

6.1.1 E.U.T. Operation

Operating Environment:

Temperature: 24.8 °C Humidity: 73.9 % RH Atmospheric Pressure: 1020 mbar
 Test mode a: Test the EUT in microwave mode with maximum power.

6.1.2 Test Setup Diagram



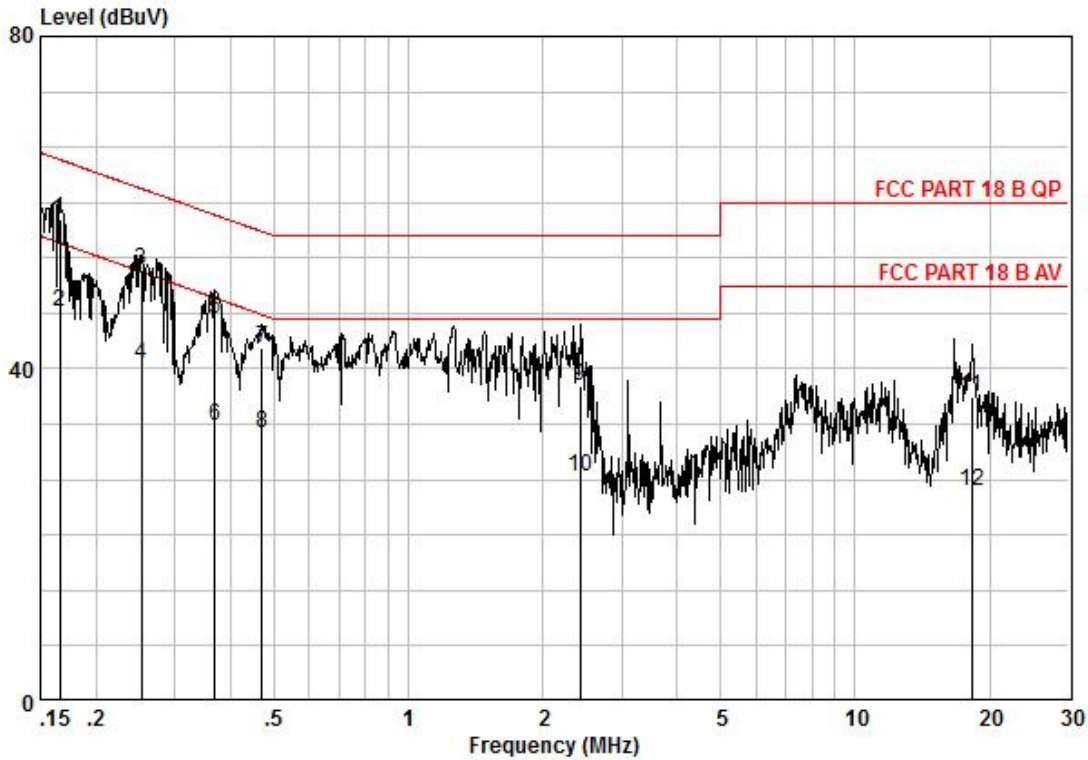
6.1.3 Measurement Data

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



Mode:a; Line:Live Line



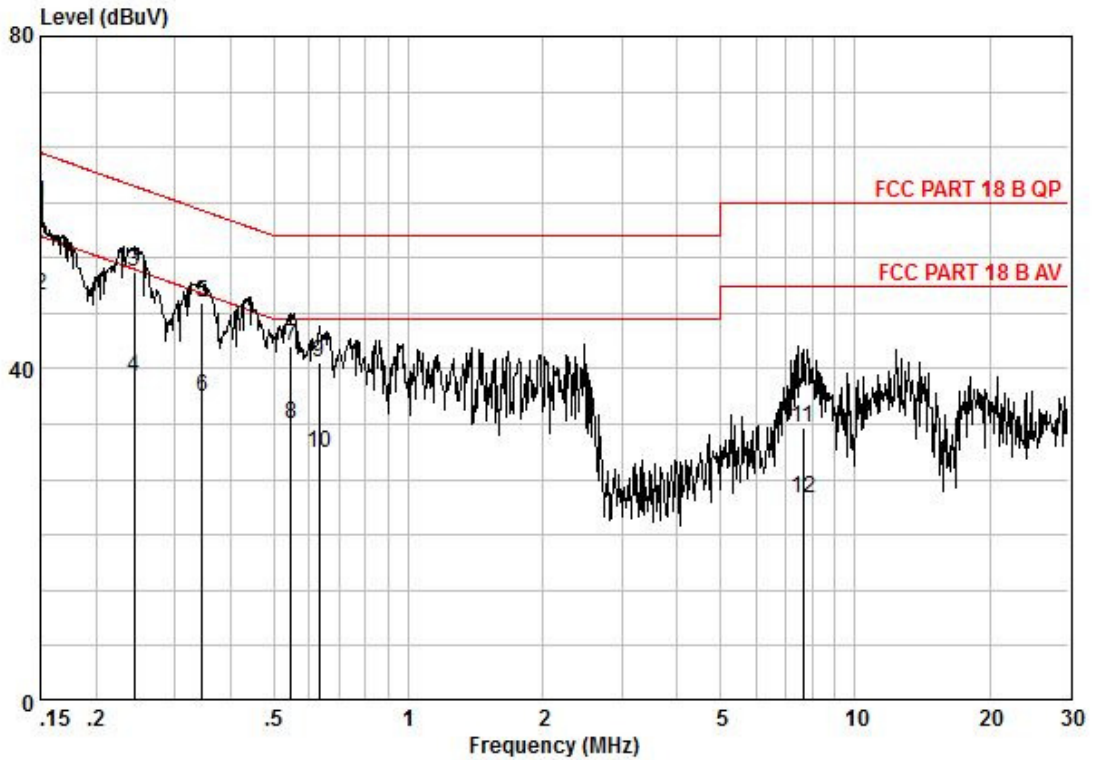
Pol :LIVE
 No :
 Model :

Frequency MHz	read level dBuV	Cable Loss dB	LISN Factor dB	Measured level dBuV	Limit Line dBuV	Over limit dB	Remark
0,17	48,31	0,10	9,66	58,07	65,16	-7,09	QP
0,17	37,07	0,10	9,66	46,83	55,16	-8,33	AVERAGE
0,25	42,19	0,10	9,67	51,96	61,69	-9,73	QP
0,25	30,68	0,10	9,67	40,45	51,69	-11,24	AVERAGE
0,37	36,32	0,10	9,66	46,08	58,52	-12,44	QP
0,37	23,45	0,10	9,66	33,21	48,52	-15,31	AVERAGE
0,47	32,79	0,10	9,67	42,56	56,49	-13,94	QP
0,47	22,47	0,10	9,67	32,24	46,49	-14,26	AVERAGE
2,42	28,19	0,15	9,69	38,03	56,00	-17,97	QP
2,42	17,22	0,15	9,69	27,06	46,00	-18,94	AVERAGE
18,23	26,44	0,40	9,82	36,66	60,00	-23,34	QP
18,23	15,14	0,40	9,82	25,36	50,00	-24,64	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
0,15	50,35	0,10	9,58	60,03	66,00	-5,97	QP
0,15	39,13	0,10	9,58	48,81	56,00	-7,19	AVERAGE
0,24	42,07	0,10	9,59	51,76	62,00	-10,23	QP
0,24	29,28	0,10	9,59	38,97	52,00	-13,02	AVERAGE
0,34	36,26	0,10	9,59	47,95	59,09	-11,14	QP
0,34	26,97	0,10	9,59	36,66	49,09	-12,43	AVERAGE
0,55	33,04	0,10	9,60	42,74	56,00	-13,26	QP
0,55	23,61	0,10	9,60	33,31	46,00	-12,69	AVERAGE
0,63	31,16	0,10	9,60	40,86	56,00	-15,14	QP
0,63	20,10	0,10	9,60	29,80	46,00	-16,20	AVERAGE
7,65	22,98	0,30	9,70	32,98	60,00	-27,02	QP
7,65	14,44	0,30	9,70	24,44	50,00	-25,56	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 with maximum power.

6.2.2 Measurement Data

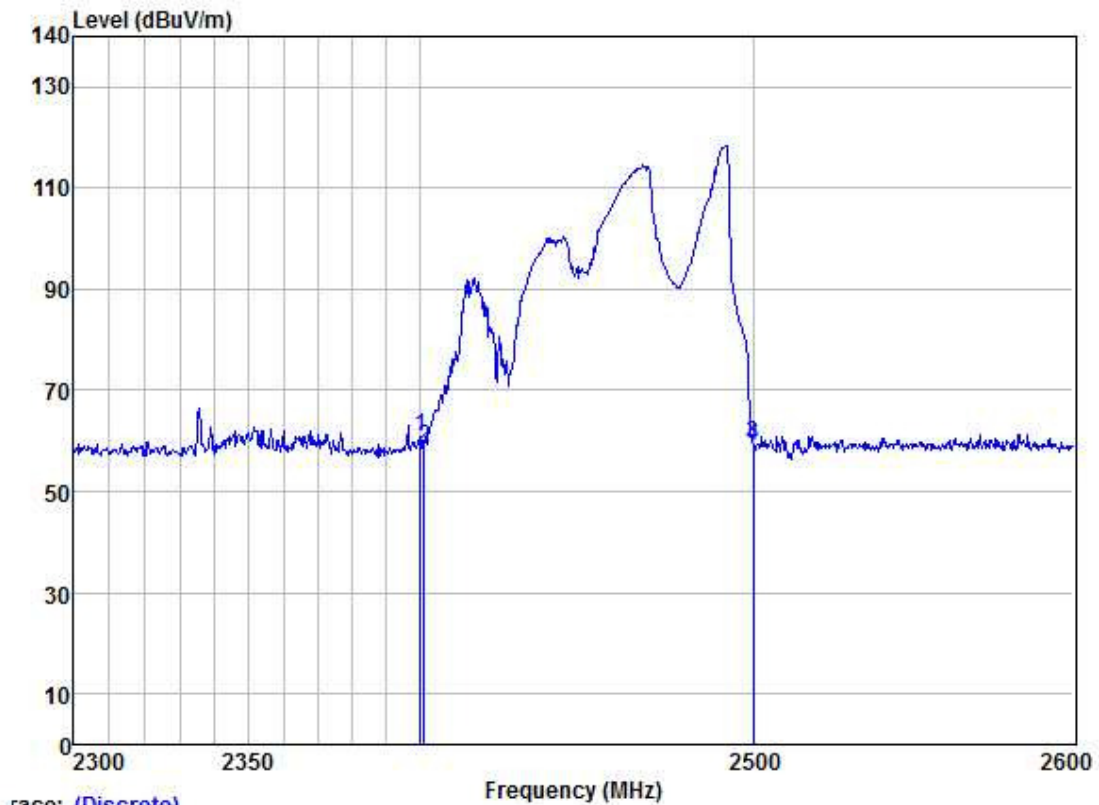
Polarization	ISM frequency(MHz)	Tolerance(MHz)	Measurement Data(MHz)
Horizontal	2450	±50	2400.843-2499.970
Vertical	2450	±50	2401.137-2499.357



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Mode:a; Polarization:Horizontal



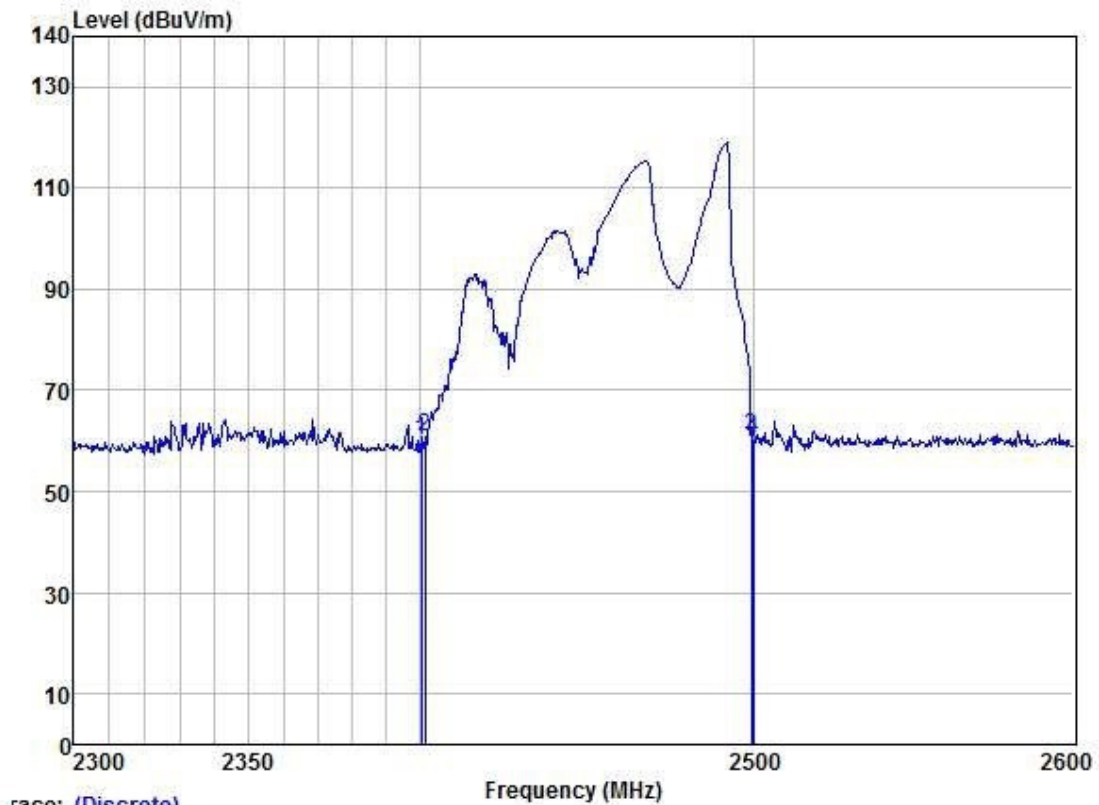
Trace: (Discrete)

	ReadAntenna	Cable	Preamp	Limit	Over				
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2400.000	29.69	26.45	4.86	0.00	61.00	-----	-----	HORIZONTAL Peak
2	2400.843	27.15	26.45	4.86	0.00	58.46	-----	-----	HORIZONTAL Peak
3	2499.970	27.84	26.60	4.95	0.00	59.39	-----	-----	HORIZONTAL Peak
4	2500.000	27.33	26.60	4.95	0.00	58.88	-----	-----	HORIZONTAL Peak



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Mode:a; Polarization:Vertical



Trace: (Discrete)	ReadAntenna	Cable	Preamp	Limit	Over				
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2400.254	28.70	26.45	4.86	0.00	60.01	-----	VERTICAL	Peak
2	2401.137	29.37	26.45	4.86	0.00	60.68	-----	VERTICAL	Peak
3	2499.357	29.29	26.60	4.95	0.00	60.84	-----	VERTICAL	Peak
4	2500.000	28.92	26.60	4.95	0.00	60.47	-----	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: 23.7 °C Humidity: 54.9 % RH Atmospheric Pressure: 1020 mbar
 Test mode a: Test the EUT in microwave mode with maximum 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)
1200	368	20.2	19.6	47.3	125	1160.7

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_w** is the mass of the water, in grams
- m_c** is the mass of the container, in grams
- T₀** is the ambient temperature, in degrees Celsius
- T₁** is the initial temperature of the water, in degrees Celsius
- T₂** 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 =1160.7 W according to clause 6.3.2

Limit=20lg(25*SQRT(power/500))+20lg(300/3)=31.62+40=71.62dBuV/m @ 3m distance.



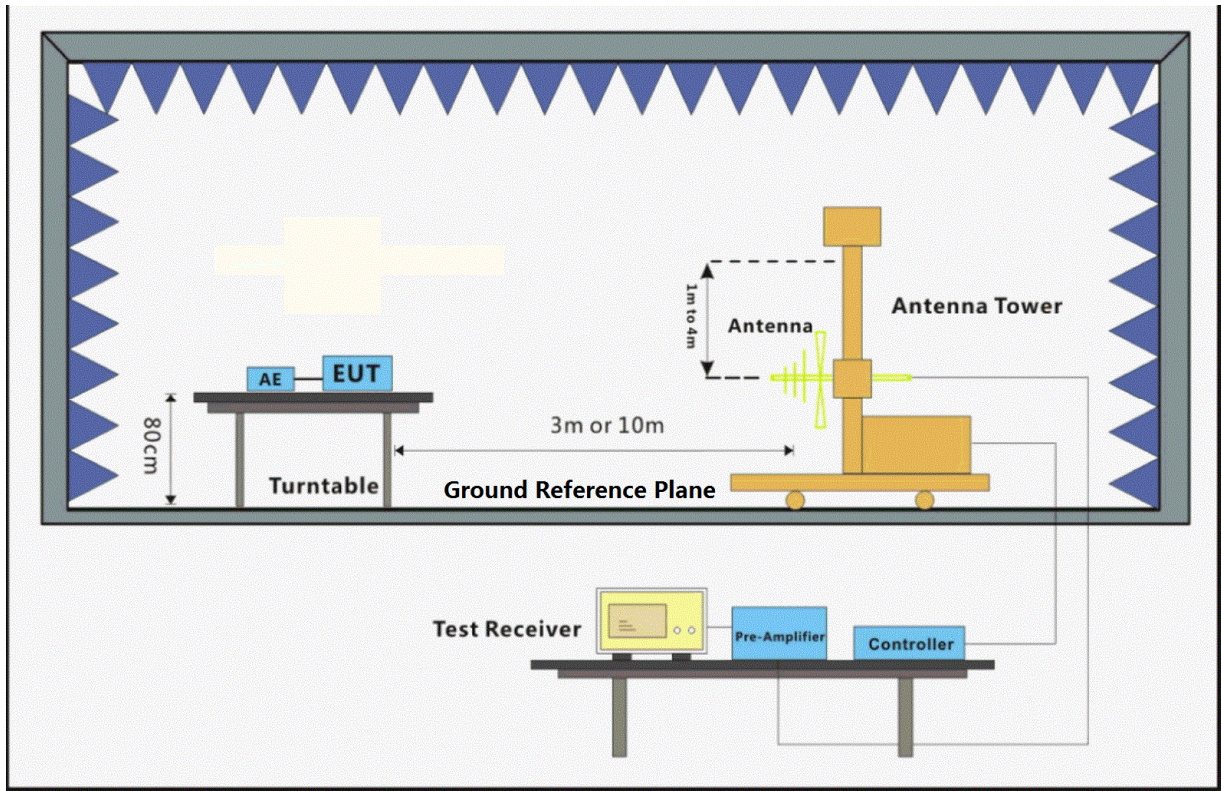
6.4.1 E.U.T. Operation

Operating Environment:

Temperature: 23 °C Humidity: 54 % RH Atmospheric Pressure: 1020 mbar

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

6.4.2 Test Setup Diagram



6.4.3 Measurement Data

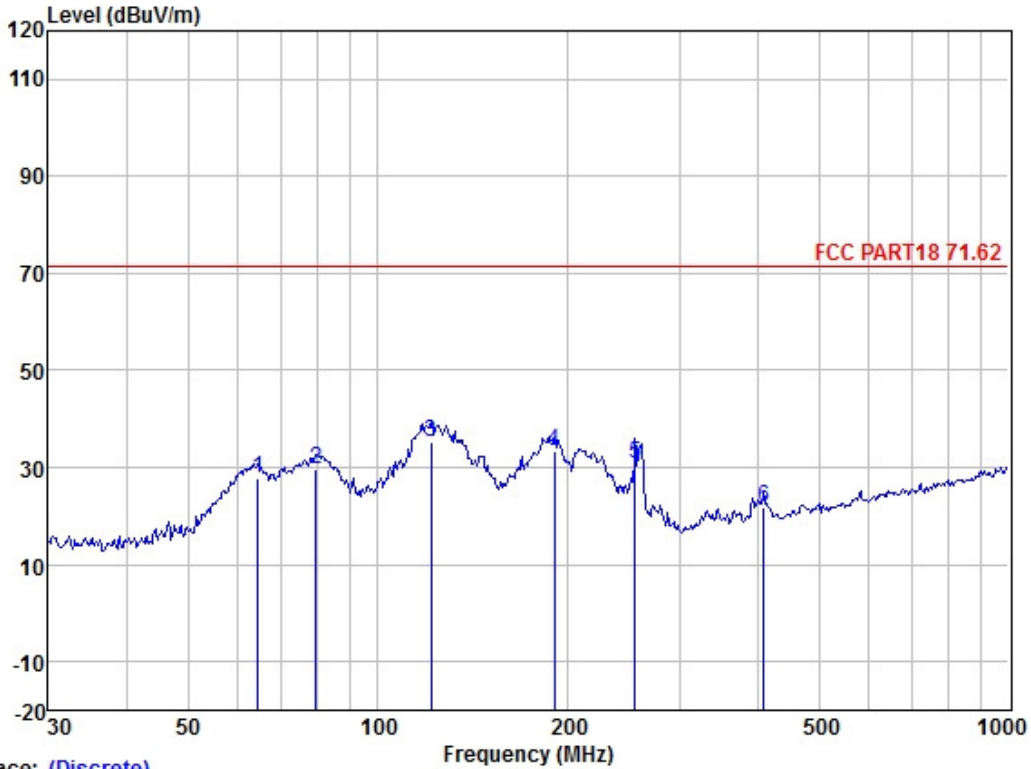
An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.

$$\text{Level} = \text{Read Level} + \text{Antenna Factor} + \text{Cable Loss} - \text{Preamp Factor}$$



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Mode:a; Polarization:Horizontal



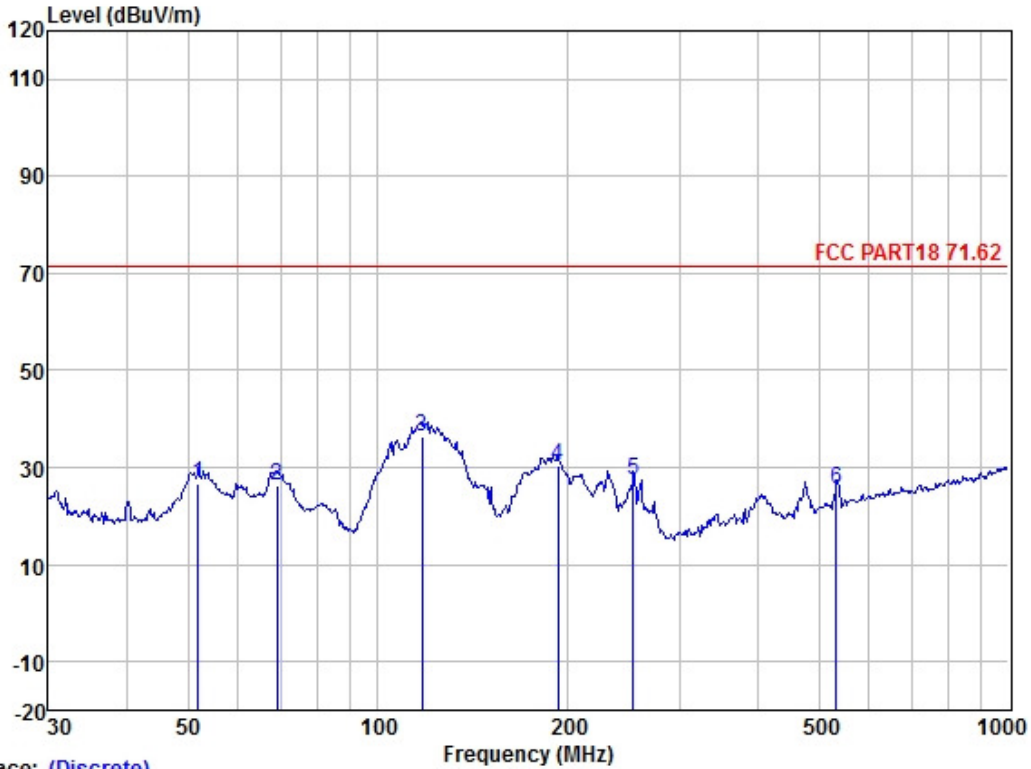
Trace: (Discrete)

	ReadAntenna	Cable	Preamp		Limit	Over			
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	64.433	39.94	13.51	0.80	26.48	27.77	71.62	-43.85	HORIZONTAL Average
2	79.800	45.45	9.65	0.98	26.42	29.66	71.62	-41.96	HORIZONTAL Average
3	121.549	49.29	11.11	1.20	26.41	35.19	71.62	-36.43	HORIZONTAL Average
4	190.405	46.55	11.87	1.47	26.45	33.44	71.62	-38.18	HORIZONTAL Average
5	255.623	43.15	12.65	1.67	26.58	30.89	71.62	-40.73	HORIZONTAL Average
6	408.946	30.68	16.40	2.25	27.36	21.97	71.62	-49.65	HORIZONTAL Average



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Mode:a; Polarization:Vertical



Trace: (Discrete)

	ReadAntenna	Cable	Preamp	Limit	Over				
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	51.843	38.15	14.45	0.74	26.50	26.84	71.62	-44.78	VERTICAL Average
2	69.114	39.09	12.78	0.88	26.46	26.29	71.62	-45.33	VERTICAL Average
3	117.360	50.78	10.87	1.19	26.41	36.43	71.62	-35.19	VERTICAL Average
4	193.095	43.89	11.62	1.48	26.45	30.54	71.62	-41.08	VERTICAL Average
5	253.837	39.54	12.63	1.67	26.58	27.26	71.62	-44.36	VERTICAL Average
6	531.964	31.78	18.70	2.45	27.46	25.47	71.62	-46.15	VERTICAL Average



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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
(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 =1160.7 W according to clause 6.3.2

Limit=20lg(25*SQRT(power/500))+20lg(300/3)=31.62+40=71.62dBuV/m @ 3m distance.



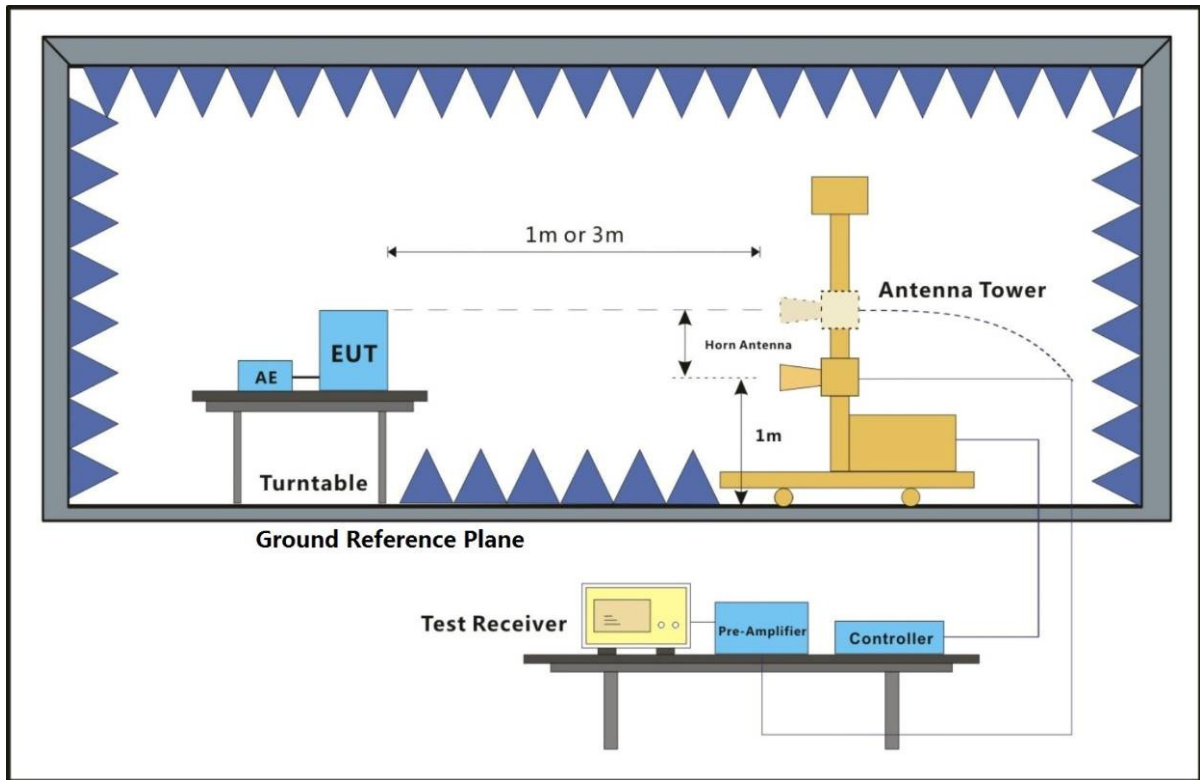
6.5.1 E.U.T. Operation

Operating Environment:

Temperature: 23 °C Humidity: 54 % RH Atmospheric Pressure: 1020 mbar

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

6.5.2 Test Setup Diagram



6.5.3 Measurement Data

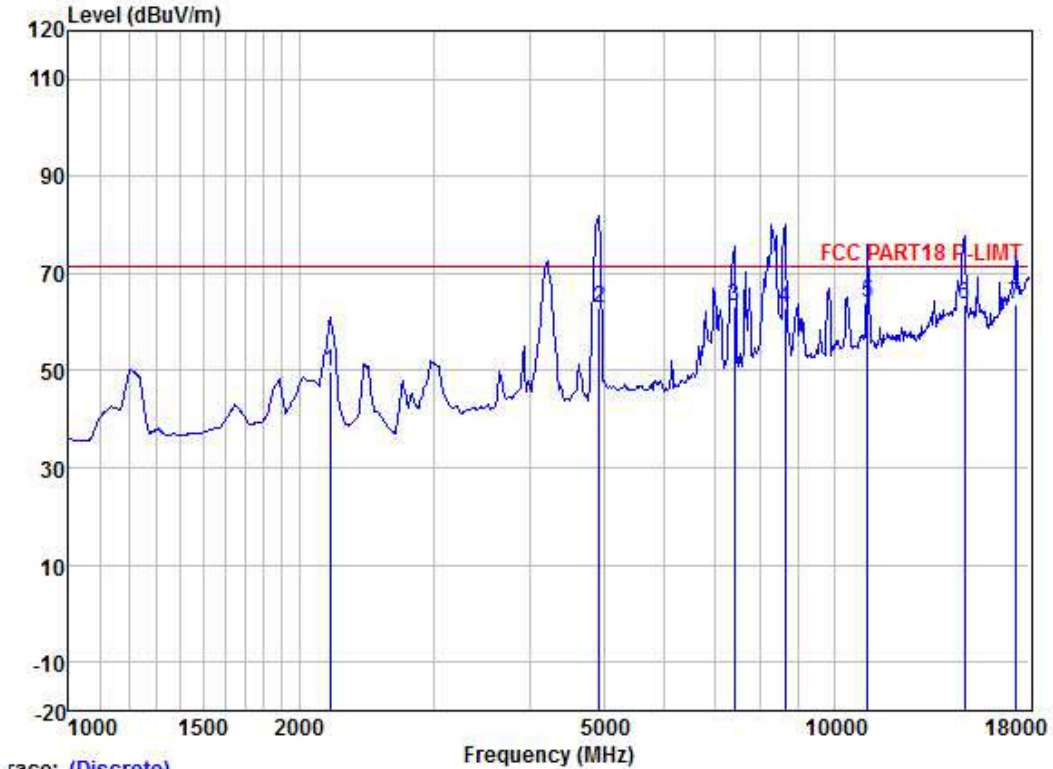
An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Average measurements were conducted based on the peak sweep graph. The EUT was measured by Horn antenna with 2 orthogonal polarities.

$$\text{Level} = \text{Read Level} + \text{Antenna Factor} + \text{Cable Loss} - \text{Preamp Factor}$$



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Mode:a; Polarization:Horizontal



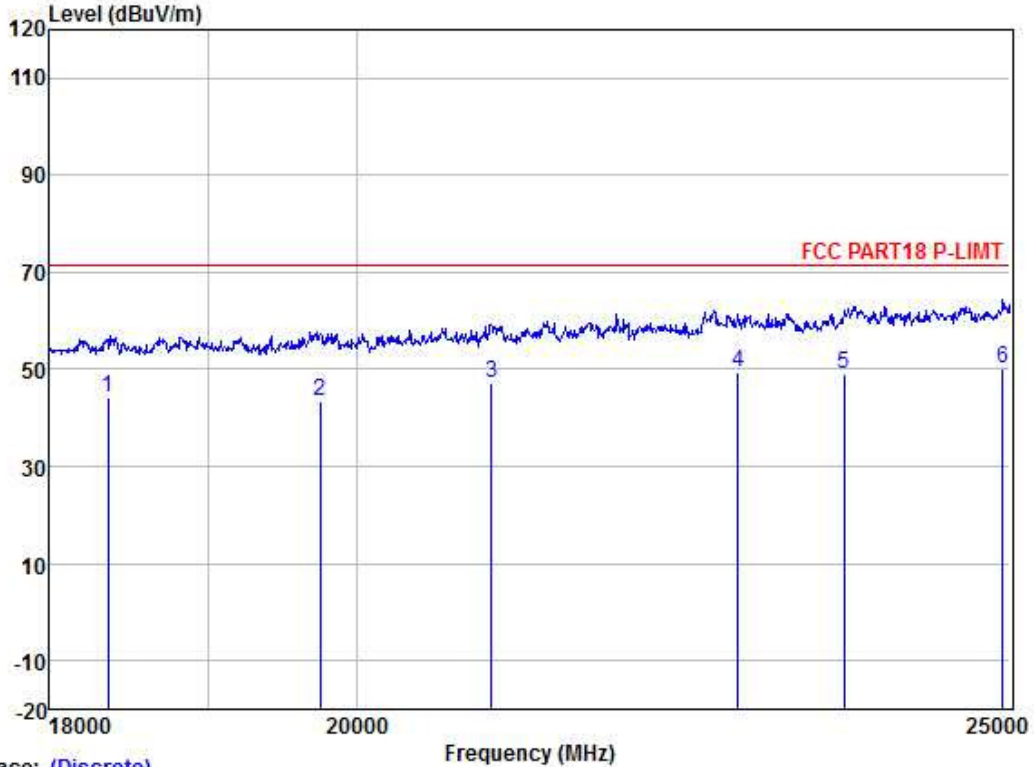
Trace: (Discrete)

	ReadAntenna	Cable	Preamp	Limit	Over				
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2193.980	54.36	25.69	7.40	37.47	49.98	71.62	-21.64	HORIZONTAL Average
2	4929.577	61.26	31.01	7.49	36.95	62.81	71.62	-8.81	HORIZONTAL Average
3	7411.461	57.00	35.89	7.42	36.92	63.39	71.62	-8.23	HORIZONTAL Average
4	8638.399	55.70	36.20	7.96	36.95	62.91	71.62	-8.71	HORIZONTAL Average
5	11076.100	51.25	39.91	9.99	37.16	63.99	71.62	-7.63	HORIZONTAL Average
6	14830.960	45.27	40.78	13.35	35.62	63.78	71.62	-7.84	HORIZONTAL Average
7	17236.280	39.77	42.20	17.49	35.78	63.68	71.62	-7.94	HORIZONTAL Average



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Mode:a; Polarization:Horizontal



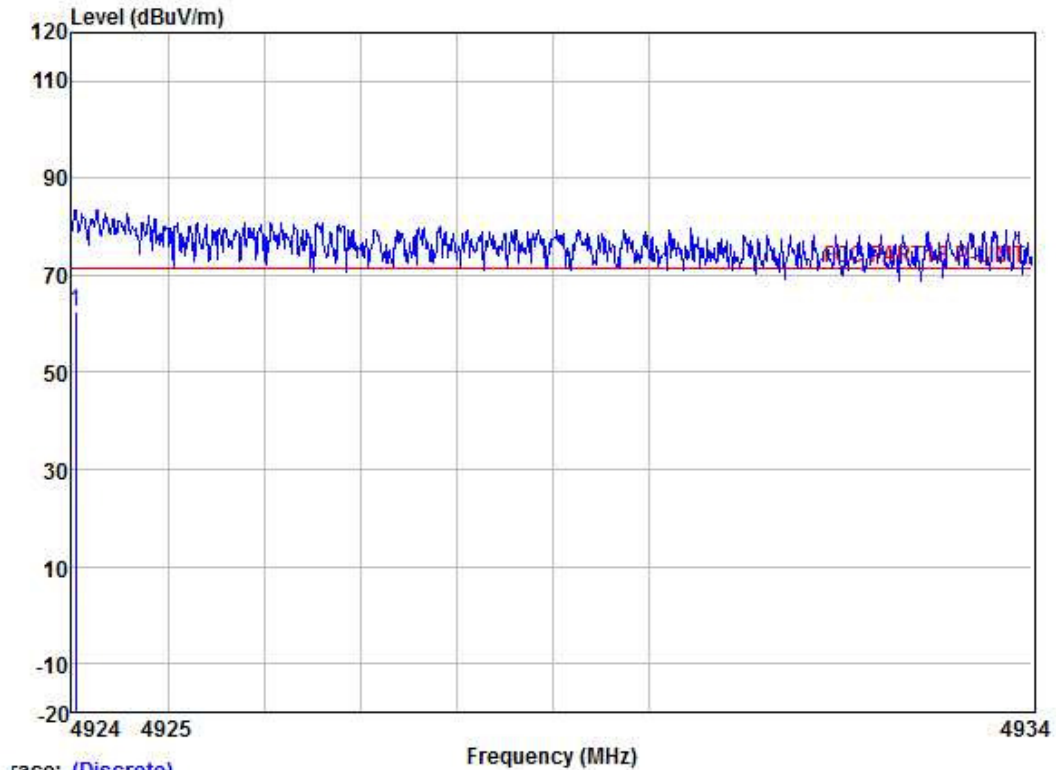
Trace: (Discrete)

	ReadAntenna	Cable	Preamp	Limit	Over				
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	18364.340	25.29	37.93	16.61	35.60	44.23	71.62	-27.39	HORIZONTAL Average
2	19747.160	23.68	38.00	17.23	35.60	43.31	71.62	-28.31	HORIZONTAL Average
3	20936.280	26.61	37.90	17.97	35.45	47.03	71.62	-24.59	HORIZONTAL Average
4	22780.600	26.40	39.39	19.11	35.57	49.33	71.62	-22.29	HORIZONTAL Average
5	23618.840	25.36	39.60	20.02	36.01	48.97	71.62	-22.65	HORIZONTAL Average
6	24934.380	25.95	39.31	21.17	36.14	50.29	71.62	-21.33	HORIZONTAL Average



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Mode:a; Polarization:Horizontal



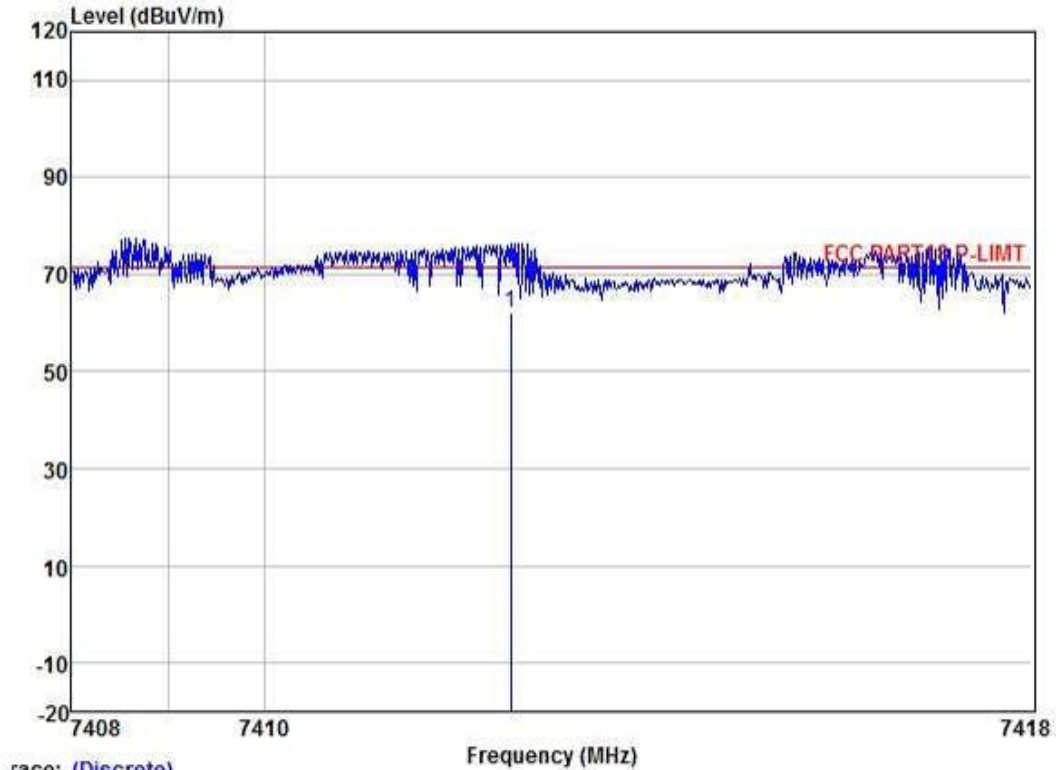
Trace: (Discrete)

	ReadAntenna	Cable	Preamp	Limit	Over				
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1 4924.040	61.02	31.01	7.49	36.95	62.57	71.62	-9.05	HORIZONTAL	Average



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Mode:a; Polarization:Horizontal



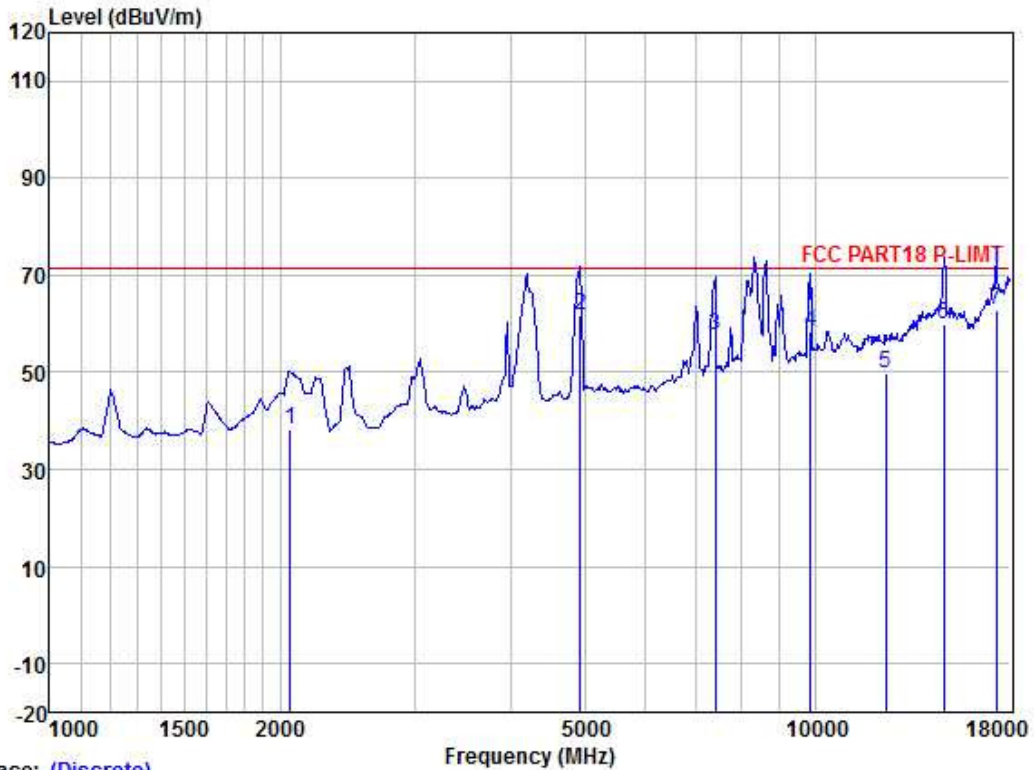
Trace: (Discrete)

	ReadAntenna	Cable	Preamp	Limit	Over				
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	7412.568	50.99	35.89	7.42	36.92	63.38	71.62	-8.24	HORIZONTAL Average



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Mode:a; Polarization:Vertical



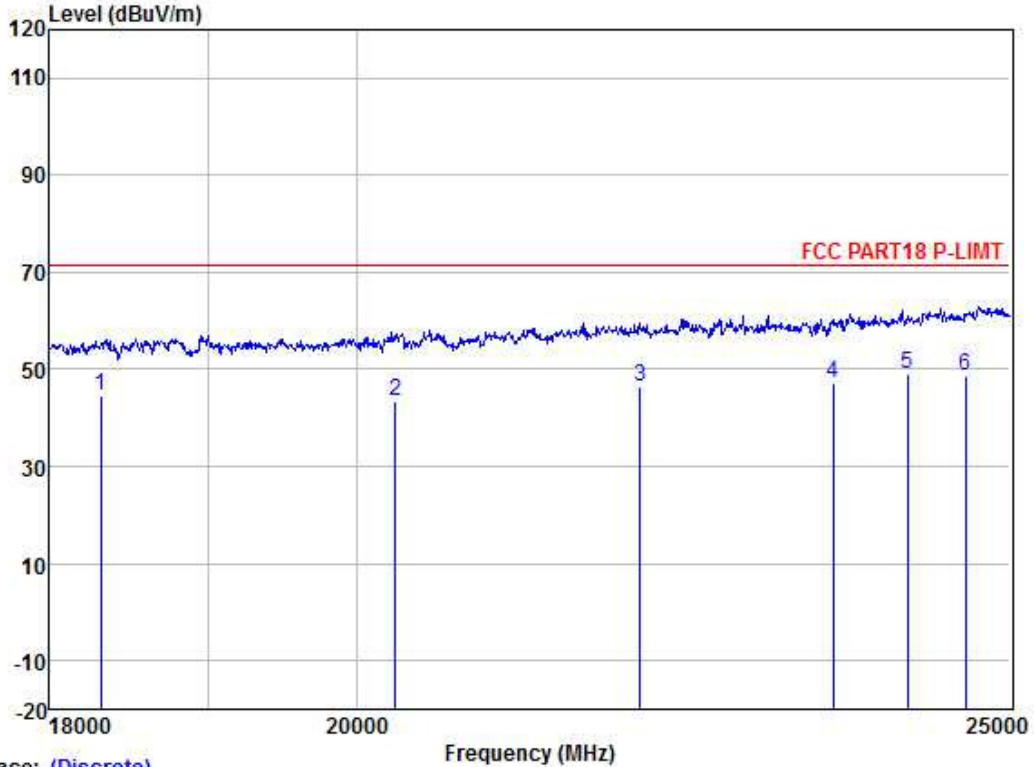
Trace: (Discrete)

	ReadAntenna	Cable	Preamp	Limit	Over				
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2060.665	40.35	25.30	10.13	37.49	38.29	71.62	-33.33	VERTICAL Average
2	4933.260	60.11	31.01	7.49	36.95	61.66	71.62	-9.96	VERTICAL Average
3	7413.855	51.24	35.89	7.42	36.92	57.63	71.62	-13.99	VERTICAL Average
4	9866.789	49.13	37.86	8.52	37.09	58.42	71.62	-13.20	VERTICAL Average
5	12361.950	36.47	38.98	11.13	36.93	49.65	71.62	-21.97	VERTICAL Average
6	14745.470	40.91	41.15	13.26	35.55	59.77	71.62	-11.85	VERTICAL Average
7	17236.280	39.01	42.20	17.49	35.78	62.92	71.62	-8.70	VERTICAL Average



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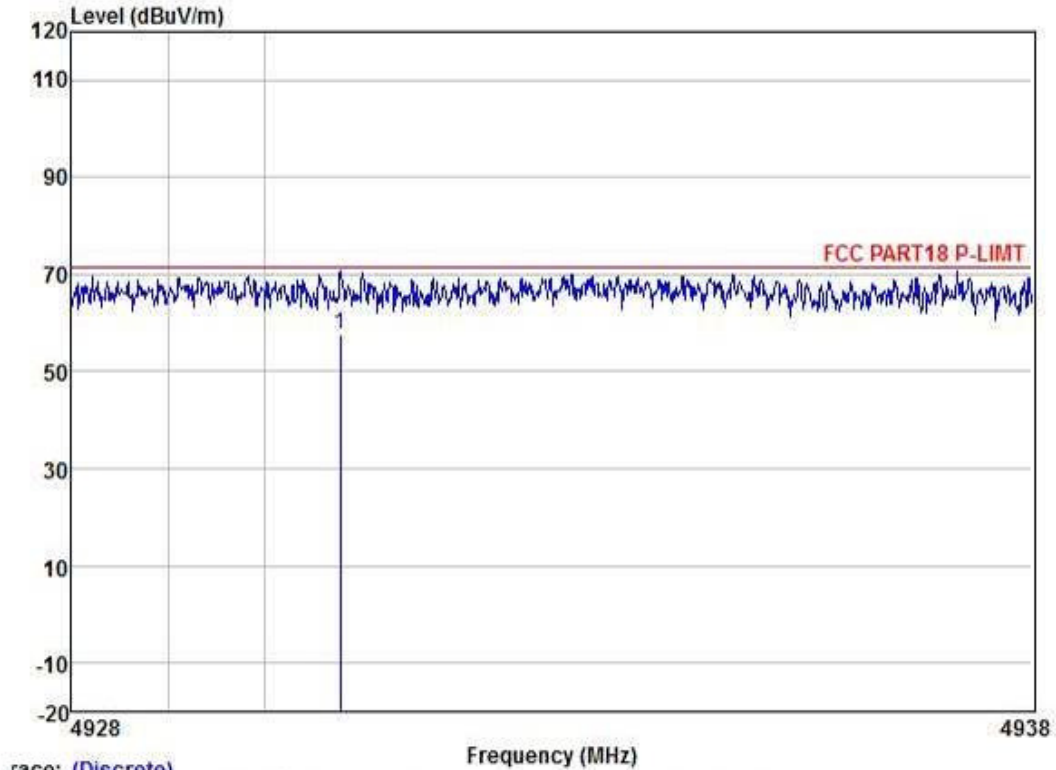
Trace: (Discrete)

	ReadAntenna	Cable	Preamp	Limit	Over				
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	18316.140	25.52	37.92	16.59	35.60	44.43	71.62	-27.19	VERTICAL Average
2	20259.690	23.76	37.98	17.43	35.57	43.60	71.62	-28.02	VERTICAL Average
3	22029.930	24.79	38.24	18.61	35.30	46.34	71.62	-25.28	VERTICAL Average
4	23533.640	23.82	39.60	19.89	35.95	47.36	71.62	-24.26	VERTICAL Average
5	24136.520	24.97	39.57	20.47	36.11	48.90	71.62	-22.72	VERTICAL Average
6	24616.970	24.29	39.40	20.95	36.13	48.51	71.62	-23.11	VERTICAL Average



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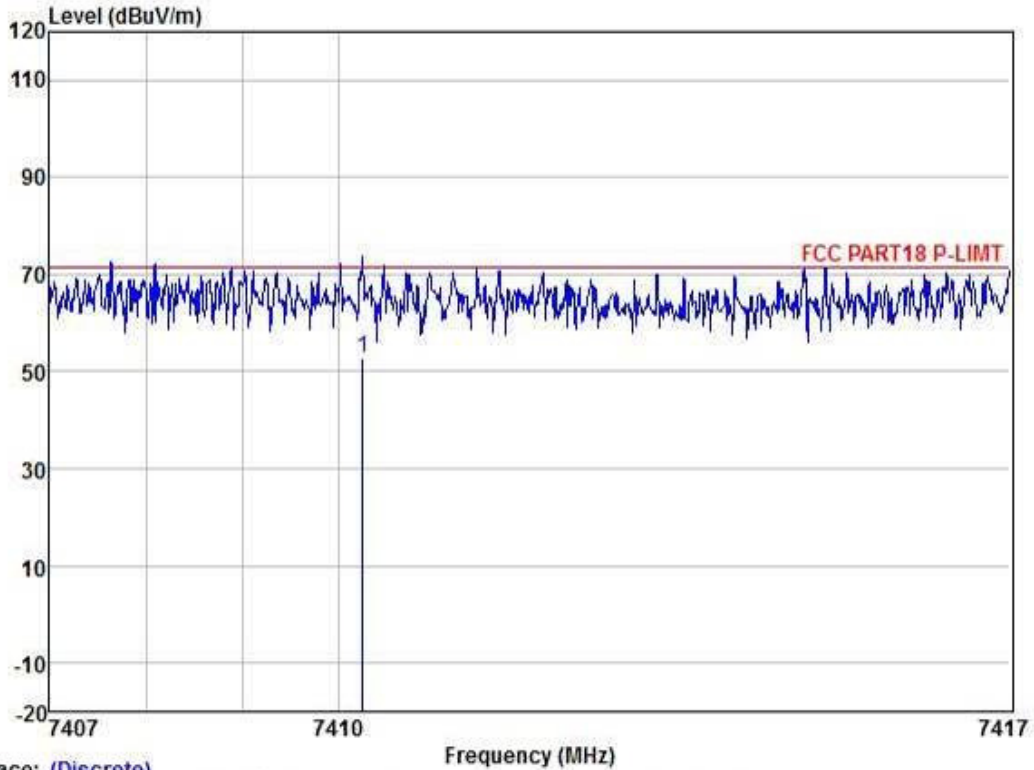


race: (Discrete)									
	Frequency (MHz)								
ReadAntenna	Cable	Preamp	Limit	Over					
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	4930.798	60.26	31.01	7.49	36.95	61.81	71.62	-9.81	VERTICAL Average



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Mode:a; Polarization:Vertical



Trace: (Discrete)

	ReadAntenna	Cable	Preamp	Limit	Over				
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1 7410.258	51.29	35.89	7.42	36.92	57.68	71.62	-13.94	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
 (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 =1160.7 W according to clause 6.3.2

Limit=20lg(25*SQRT(power/500))+20lg(300/10)=31.62+29.54=61.16dBuV/m @ 10m distance.



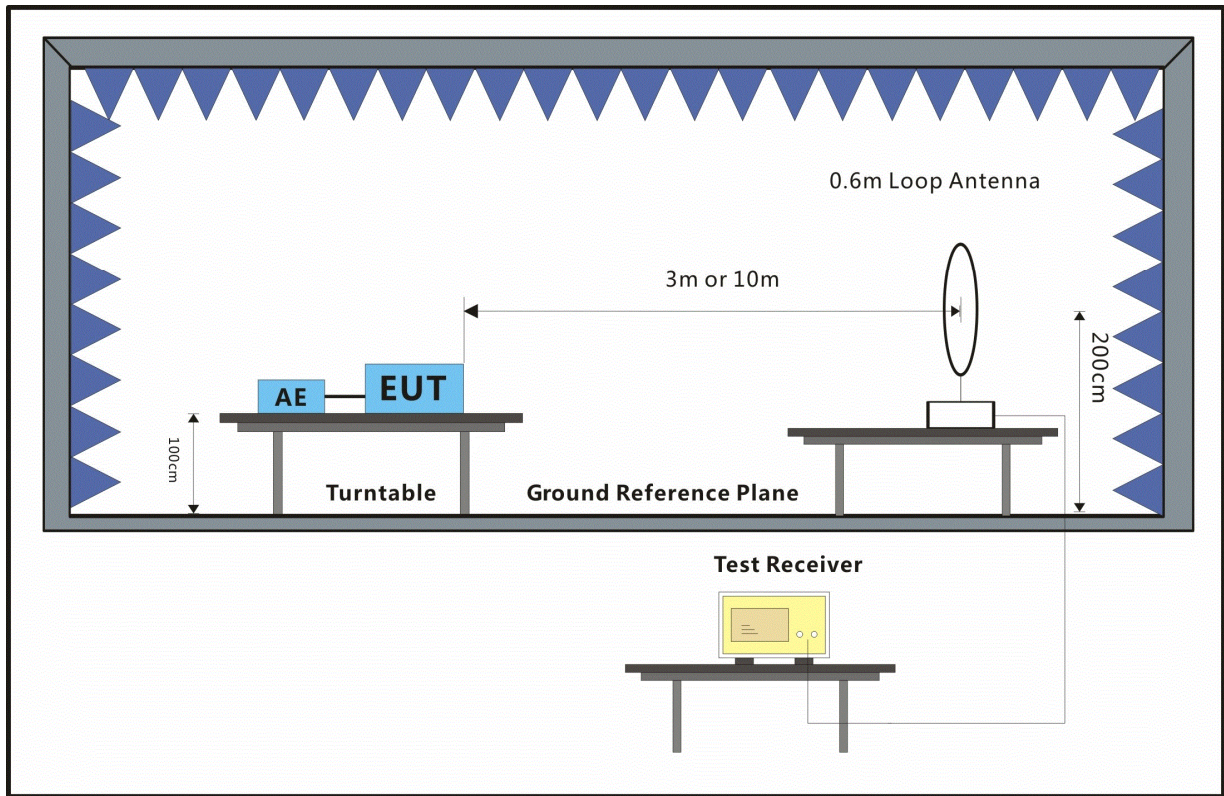
6.6.1 E.U.T. Operation

Operating Environment:

Temperature: 21 °C Humidity: 52 % RH Atmospheric Pressure: 1020 mbar

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

6.6.2 Test Setup Diagram



6.6.3 Measurement Data

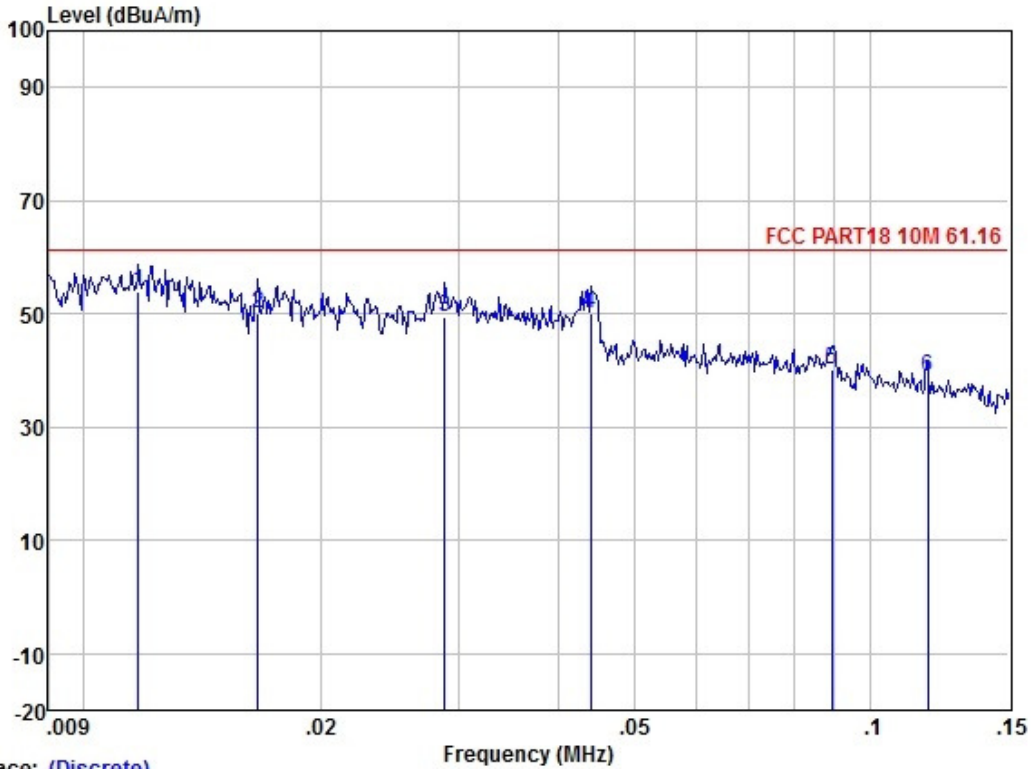
An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.

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



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Mode:a; Polarization:Horizontal



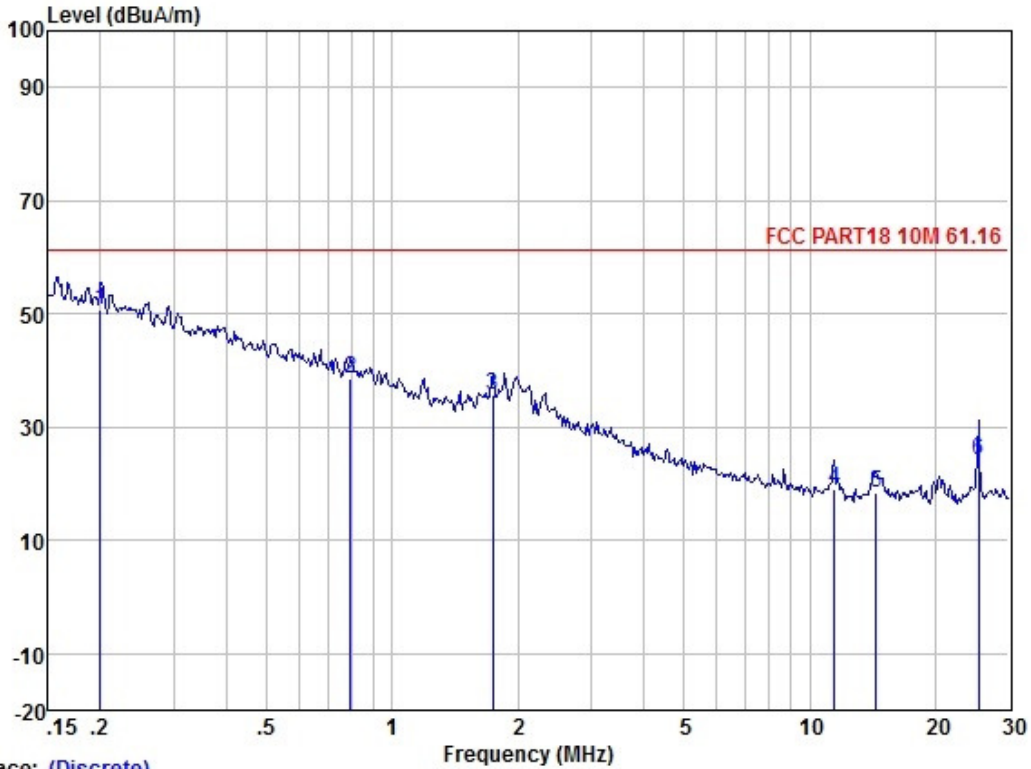
Trace: (Discrete)

	ReadAntenna	Cable	Preamp	Limit	Over				
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
MHz	dBuA	dB/m	dB	dB	dBuA/m	dBuA/m	dB		
1	0.012	62.54	20.83	0.00	29.50	53.87	61.16	-7.29	HORIZONTAL Average
2	0.017	62.59	17.10	0.00	29.49	50.20	61.16	-10.96	HORIZONTAL Average
3	0.029	63.81	15.08	0.00	29.47	49.42	61.16	-11.74	HORIZONTAL Average
4	0.044	66.63	12.75	0.00	29.43	49.95	61.16	-11.21	HORIZONTAL Average
5	0.089	57.31	12.40	0.00	29.42	40.29	61.16	-20.87	HORIZONTAL Average
6	0.118	55.88	12.40	0.00	29.43	38.85	61.16	-22.31	HORIZONTAL Average



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Mode:a; Polarization:Horizontal



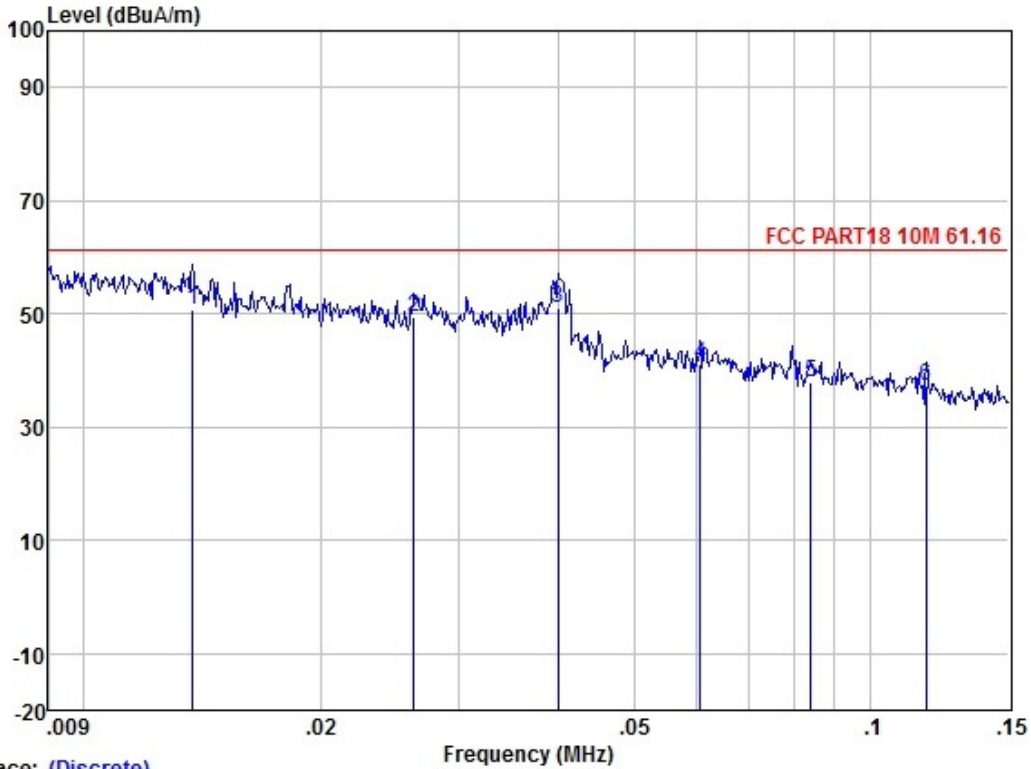
Trace: (Discrete)

	ReadAntenna	Cable	Preamp	Limit	Over				
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
MHz	dBuA	dB/m	dB	dB	dBuA/m	dBuA/m	dB		
1	0.200	67.75	12.34	0.00	29.50	50.59	61.16	-10.57	HORIZONTAL Average
2	0.796	55.40	12.22	0.10	29.31	38.41	61.16	-22.75	HORIZONTAL Average
3	1.744	52.23	12.56	0.10	29.29	35.60	61.16	-25.56	HORIZONTAL Average
4	11.438	37.19	10.65	0.34	29.06	19.12	61.16	-42.04	HORIZONTAL Average
5	14.440	36.45	10.51	0.40	29.01	18.35	61.16	-42.81	HORIZONTAL Average
6	25.321	41.94	10.56	0.50	28.84	24.16	61.16	-37.00	HORIZONTAL Average



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Mode:a; Polarization:Vertical



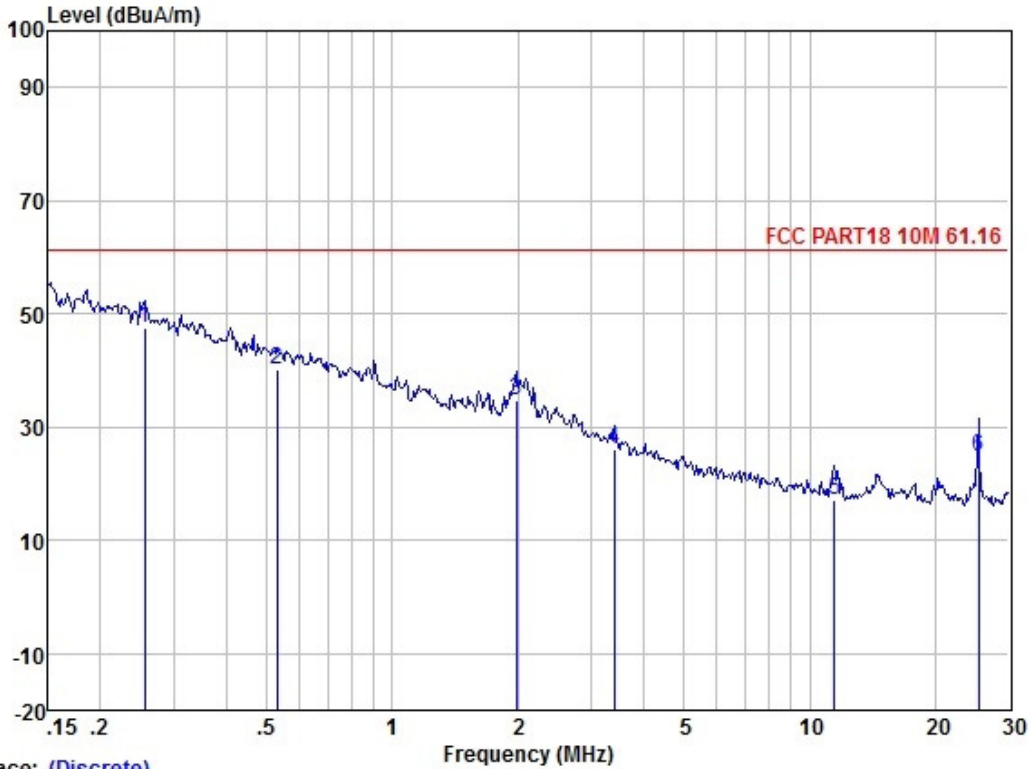
Trace: (Discrete)

	ReadAntenna	Cable	Preamp	Limit	Over				
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
MHz	dBuA	dB/m	dB	dB	dBuA/m	dBuA/m	dB		
1	0.014	60.84	19.44	0.00	29.49	50.79	61.16	-10.37	VERTICAL Average
2	0.026	63.53	15.49	0.00	29.47	49.55	61.16	-11.61	VERTICAL Average
3	0.040	67.46	13.00	0.00	29.44	51.02	61.16	-10.14	VERTICAL Average
4	0.061	58.13	12.45	0.00	29.43	41.15	61.16	-20.01	VERTICAL Average
5	0.084	54.83	12.40	0.00	29.42	37.81	61.16	-23.35	VERTICAL Average
6	0.118	54.43	12.40	0.00	29.43	37.40	61.16	-23.76	VERTICAL Average



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Mode:a; Polarization:Vertical



Trace: (Discrete)

	ReadAntenna	Cable	Preamp		Limit	Over			
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark
MHz	dBuA	dB/m	dB	dB	dBuA/m	dBuA/m	dB		
1	0.255	64.51	12.30	0.10	29.48	47.43	61.16	-13.73	VERTICAL Average
2	0.529	57.16	12.11	0.10	29.35	40.02	61.16	-21.14	VERTICAL Average
3	1.980	51.29	12.60	0.10	29.29	34.70	61.16	-26.46	VERTICAL Average
4	3.399	43.26	11.88	0.20	29.25	26.09	61.16	-35.07	VERTICAL Average
5	11.438	35.24	10.65	0.34	29.06	17.17	61.16	-43.99	VERTICAL Average
6	25.321	42.43	10.56	0.50	28.84	24.65	61.16	-36.51	VERTICAL Average

--End of Report--



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