



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

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Report No.: GZEM180400212502  
FCC ID: UHW10050002  
Page: 1 of 38

## TEST REPORT

**Application No.:** GZEM1804002125HS  
**Applicant:** Guangdong Galanz Enterprises Co., Ltd.  
**Address of Applicant:** 25 Ronggui Nan Road, Shunde, Foshan, Guangdong, China  
**Manufacturer:** Guangdong Galanz Microwave Electrical Appliances Manufacturing Co., Ltd.  
**Address of Manufacturer:** 3 Xingpu Avenue, Huangpu, Zhongshan, Guangdong, China.  
**Factory:** Guangdong Galanz Microwave Electrical Appliances Manufacturing Co., Ltd.  
GUANGDONG GALANZ MICROWAVE OVEN AND ELECTRICAL  
APPLIANCES MANUFACTURING CO.,LTD.  
**Address of Factory:** 3 Xingpu Avenue, Huangpu, Zhongshan, Guangdong, China.  
**FCC ID:** UHW10050002  
**Equipment Under Test (EUT):**  
**EUT Name:** Microwave oven  
**Model No.:**  Please refer to page 2¤  
Please refer to section 2 of this report which indicates which model was  
actually tested and which were electrically identical.  
**Trade Mark:** Galanz  
**Standard(s) :** 47 CFR Part 18  
**Date of Receipt:** 2018-04-25  
**Date of Test:** 2018-04-28  
**Date of Issue:** 2018-05-03

<b>Test Result:</b>	Pass*
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\* In the configuration tested, the EUT complied with the standards specified above.



Kobe Jian

EMC Laboratory Manager

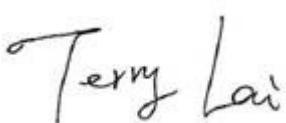
The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant 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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**Model No.:**

RED500JAH-SACH0A, RED500JAH-SAHH1A, RED500JAH-SAHH2A, RED500JAH-SAHH3A, RED500JAH-SA0H0A, RED500JAH-SA0H1A, RED500JAH-SA0H3A, RED500JAH-SA0H2A, RED500JBH-SAHH0A, RED500JBH-SAHH1A, RED500JBH-SAHH2A, RED500JBH-SAHH3A, RED500JBH-SA0H0A, RED500JBH-SA0H1A, RED500JBH-SA0H2A, RED500JBH-SA0H3A, RED500JCH-SAHH0A, RED500JCH-SAHH1A, RED500JCH-SA0H0A, RED500JCH-SA0H1A, RED(X)0(Y)H-(Z), Variable (X): for sale area, including a combination of numbers, may 48,50 or 56, Variable (Y):It represents the differences of the appearance, including combination of letters and/or numbers, Variable (Z): may compose by one to six characters from A to Z and/or numbers from 0 to 9, D100D50(X)RIIIH-(Y), Variable (X) may be L,P,SL,SP ,AL,AP,ASL,ASP ,EL,EP, ESL,ESP, Variable (Y) may compose by one to six characters from A to Z and/or numbers from 0 to 9¤

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2018-05-03		Original

Authorized for issue by:			
Tested By	 _____ Damon_Guan /Project Engineer	2018-04-28	Date
Checked By	 _____ Terry_Lai /Reviewer	2018-05-03	Date

## 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	Class B	Pass
Radiated Emissions (30MHz-1GHz)	47 CFR Part 18	FCC OST/MP-5:1986	Class B	Pass
Radiated Emissions (above 1GHz)	47 CFR Part 18	FCC OST/MP-5:1986	Class B	Pass
Radiated Emissions (Magnetic field Strength) (9kHz-30MHz)	47 CFR Part 18	FCC OST/MP-5:1986	Class B	Pass

¤ Declaration of EUT Family Grouping:

Model No.: RED500JAH-SACH0A, RED500JAH-SAHH1A, RED500JAH-SAHH2A, RED500JAH-SAHH3A, RED500JAH-SA0H0A, RED500JAH-SA0H1A, RED500JAH-SA0H3A, RED500JAH-SA0H2A, RED500JBH-SAHH0A, RED500JBH-SAHH1A, RED500JBH-SAHH2A, RED500JBH-SAHH3A, RED500JBH-SA0H0A, RED500JBH-SA0H1A, RED500JBH-SA0H2A, RED500JBH-SA0H3A, RED500JCH-SAHH0A, RED500JCH-SAHH1A, RED500JCH-SA0H0A, RED500JCH-SA0H1A, RED(X)0(Y)H-(Z), Variable (X): for sale area, including a combination of numbers, may 48,50 or 56, Variable (Y):It represents the differences of the appearance, including combination of letters and/or numbers, Variable (Z): may compose by one to six characters from A to Z and/or numbers from 0 to 9, D100D50(X)RIIIH-(Y), Variable (X) may be L,P,SL,SP ,AL,AP,ASL,ASP ,EL,EP, ESL,ESP, Variable (Y) may compose by one to six characters from A to Z and/or numbers from 0 to 9

According to the declaration from the applicant, the electrical circuit design, layout, components used and internal wiring were identical for all models, with only difference on the model name.

Therefore only one model RED500JAH-SACH0A was tested in this report.

### **3 Contents**

	Page
<b>1 Cover Page</b>	<b>1</b>
<b>2 Test Summary</b>	<b>4</b>
<b>3 Contents</b>	<b>5</b>
<b>4 General Information</b>	<b>6</b>
4.1 Details of E.U.T	6
4.2 Description of Support Units	6
4.3 Measurement Uncertainty	6
4.4 Test Location	6
4.5 Test Facility	7
4.6 Deviation from Standards	8
4.7 Abnormalities from Standard Conditions	8
<b>5 Equipment List</b>	<b>9</b>
<b>6 Emission Test Results</b>	<b>12</b>
6.1 Operating Frequency	12
6.1.1 E.U.T. Operation	12
6.1.2 Measurement Data	12
6.2 RF Output Power Measurement	15
6.2.1 E.U.T. Operation	15
6.2.2 Measurement Data	15
6.3 Conducted Emissions at Mains Terminals (150kHz-30MHz)	16
6.3.1 E.U.T. Operation	16
6.3.2 Test Setup Diagram	16
6.3.3 Measurement Data	16
6.4 Radiated Emissions (Magnetic field Strength) (9kHz-30MHz)	19
6.4.1 E.U.T. Operation	19
6.4.2 Test Setup Diagram	20
6.4.3 Measurement Data	20
6.5 Radiated Emissions (30MHz-1GHz)	25
6.5.1 E.U.T. Operation	25
6.5.2 Test Setup Diagram	26
6.5.3 Measurement Data	26
6.6 Radiated Emissions (above 1GHz)	29
6.6.1 E.U.T. Operation	29
6.6.2 Test Setup Diagram	30
6.6.3 Measurement Data	30

## 4 General Information

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

Power Supply: AC 120V 60Hz  
Test voltage: AC 120V  
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,  
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, IEC60068-2-27 and Rules of procedure IEC60068-2-27, and the relevant IEC60068-2-27 CB-Scheme Operational documents.

#### **4.6 Deviation from Standards**

None

#### **4.7 Abnormalities from Standard Conditions**

None

## 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	2018-01-19	2019-01-18
LISN	SCHAFFNER CHASE	MN2050D/1	EMC0102	2017-09-20	2018-09-19
EMI Test Receiver	Rohde & Schwarz	ESCS30	EMC0506	2017-11-27	2018-11-26
Coaxial Cable	HangTianXing	2m	EMC0107	2016-07-24	2018-07-23
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

Radiated Emissions (30MHz-1GHz)					
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
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	2017-06-19	2018-06-18
Pre-Amplifier MH648A	ANRITSU CORP	MH648A	EMC2086	2017-11-20	2018-11-19
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	2017-11-29	2018-11-28
MXE EMI Receiver	Keysight	N9038A	EMC2139	2017-11-15	2018-11-14
EXA Signal Analyzer	Keysight	N9010A	EMC2138	2017-11-15	2018-11-14

<b>Radiated Emissions (above 1GHz)</b>					
<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No</b>	<b>Inventory No</b>	<b>Cal Date</b>	<b>Cal Due Date</b>
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	SCHWARZBECKMESS-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	2018-01-08	2019-01-07
Amplifier	HP	8447F	EMC2065	2017-06-19	2018-06-18
Pre-Amplifier MH648A	ANRITSU CORP	MH648A	EMC2086	2017-11-20	2018-11-19
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	2016-04-30	2018-04-29
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2017-11-29	2018-11-28
MXE EMI Receiver	Keysight	N9038A	EMC2139	2017-11-15	2018-11-14
EXA Signal Analyzer	Keysight	N9010A	EMC2138	2017-11-15	2018-11-14

<b>Radiated Emissions (Magnetic field Strength) (9kHz-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>
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	SCHWARZBECKMESS-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	2018-01-08	2019-01-07
Amplifier	HP	8447F	EMC2065	2017-06-19	2018-06-18
Pre-Amplifier MH648A	ANRITSU CORP	MH648A	EMC2086	2017-11-20	2018-11-19
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	2017-11-29	2018-11-28
MXE EMI Receiver	Keysight	N9038A	EMC2139	2017-11-15	2018-11-14
EXA Signal Analyzer	Keysight	N9010A	EMC2138	2017-11-15	2018-11-14

<b>General used equipment</b>					
<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No</b>	<b>Inventory No</b>	<b>Cal Date</b>	<b>Cal Due Date</b>
DMM	Fluke	73	EMC0006	2017-07-26	2018-07-25
DMM	Fluke	73	EMC0007	2017-07-26	2018-07-25

## 6 Emission Test Results

### 6.1 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
6.78 MHz .....	±15.0 kHz
13.56 MHz .....	±7.0 kHz
27.12 MHz .....	±163.0 kHz
40.68 MHz .....	±20.0 kHz
915 MHz .....	±13.0 MHz
2,450 MHz .....	±50.0 MHz
5,800 MHz .....	±75.0 MHz
24,125 MHz .....	±125.0 MHz
61.25 GHz .....	±250.0 MHz
122.50 GHz .....	±500.0 MHz
245.00 GHz .....	±1.0 GHz

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

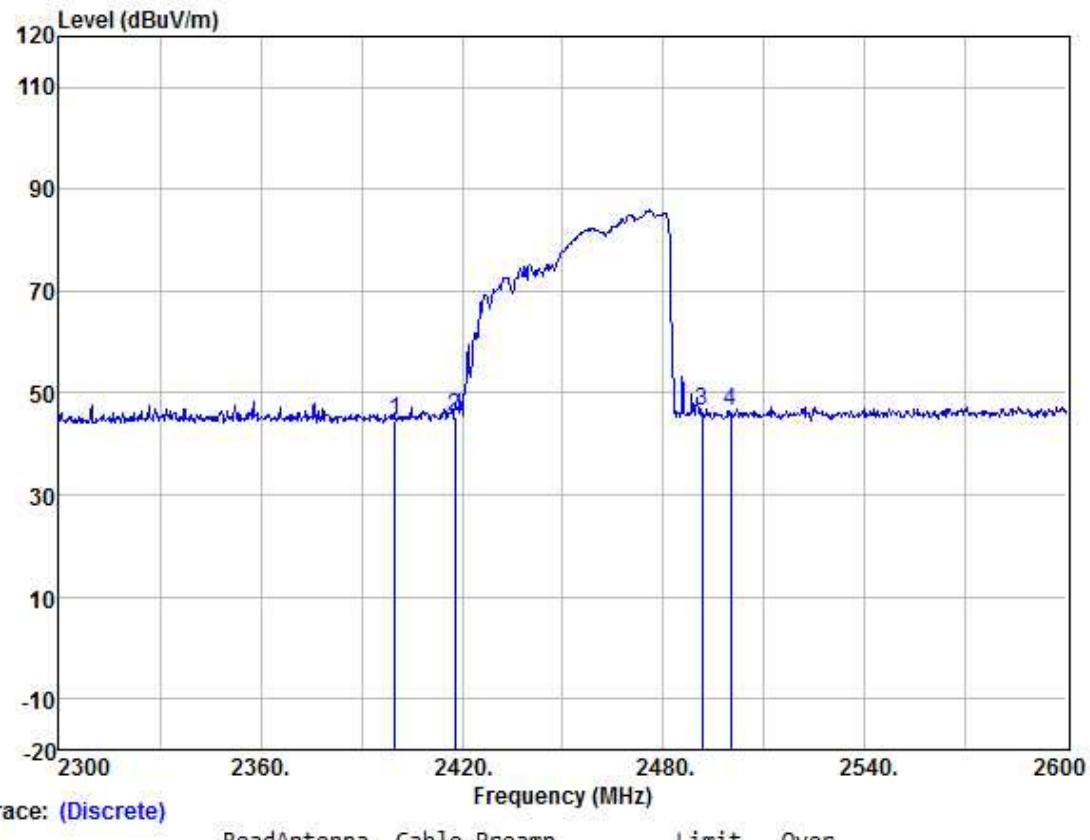
Operating Environment:

Temperature: 23.7 °C      Humidity: 54.9 % RH      Atmospheric Pressure: 1020 mbar  
Test mode      a: Test the EUT in microwave mode with maximum power.

#### 6.1.2 Measurement Data

Polarization	ISM frequency(MHz)	Tolerance(MHz)	Measurement Data(MHz)
Horizontal	2450	±50	2418-2491
Vertical	2450	±50	2416-2488

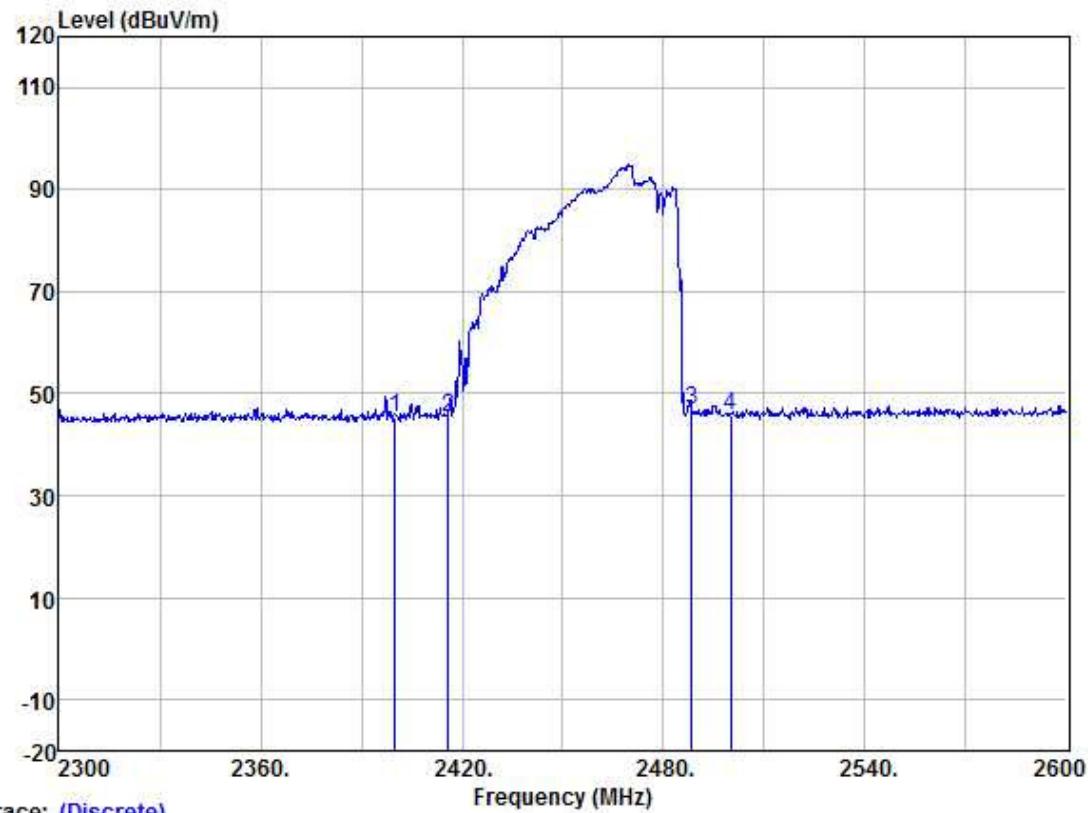
Mode:a; Polarization:Horizontal



Trace: (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	2400.000	13.37	26.45	4.86	0.00	44.68	-----	HORIZONTAL Peak
2	2417.976	14.06	26.48	4.95	0.00	45.49	-----	HORIZONTAL Peak
3	2491.403	14.92	26.59	5.09	0.00	46.60	-----	HORIZONTAL Peak
4	2500.000	14.87	26.60	4.95	0.00	46.42	-----	HORIZONTAL Peak

Mode:a; Polarization:Vertical



Race: (Discrete)	ReadAntenna		Cable		Preamp		Limit	Over	Pol/Phase	Remark
	Freq	Level	Factor	Loss	Factor	Level				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	2400.000	13.99	26.45	4.86	0.00	45.30	-----	-----	VERTICAL	Peak
2	2415.800	13.79	26.48	4.95	0.00	45.22	-----	-----	VERTICAL	Peak
3	2488.400	14.92	26.58	5.23	0.00	46.73	-----	-----	VERTICAL	Peak
4	2500.000	14.20	26.60	4.95	0.00	45.75	-----	-----	VERTICAL	Peak

## 6.2 RF Output Power Measurement

Test Requirement: 47 CFR Part 18

Test Method: FCC OST/MP-5:1986

### 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

Mass of water (g)	Mass of the container (g)	Ambient temperature (°C)	Initial temperature (°C)	Final temperature (°C)	Heating time(S)	Power output (watts)
1000	368	21.1	19.2	45.8	125	933.8

**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

$T_0$  is the ambient temperature, in degrees Celsius

$T_1$  is the initial temperature of the water, in degrees Celsius

$T_2$  is the final temperature of the water, in degrees Celsius

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

### 6.3 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

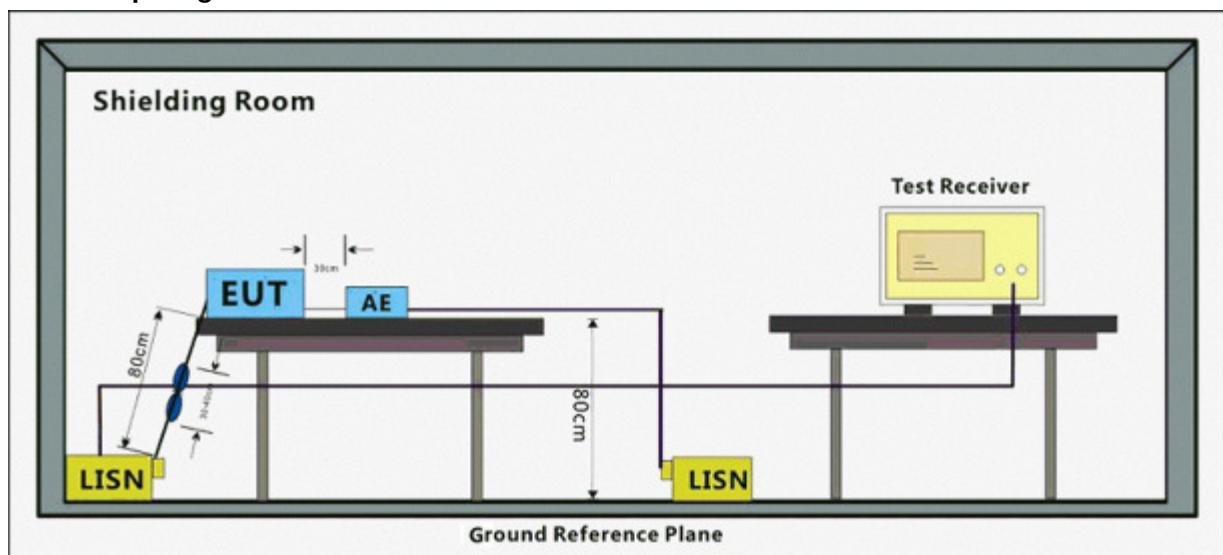
#### 6.3.1 E.U.T. Operation

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.

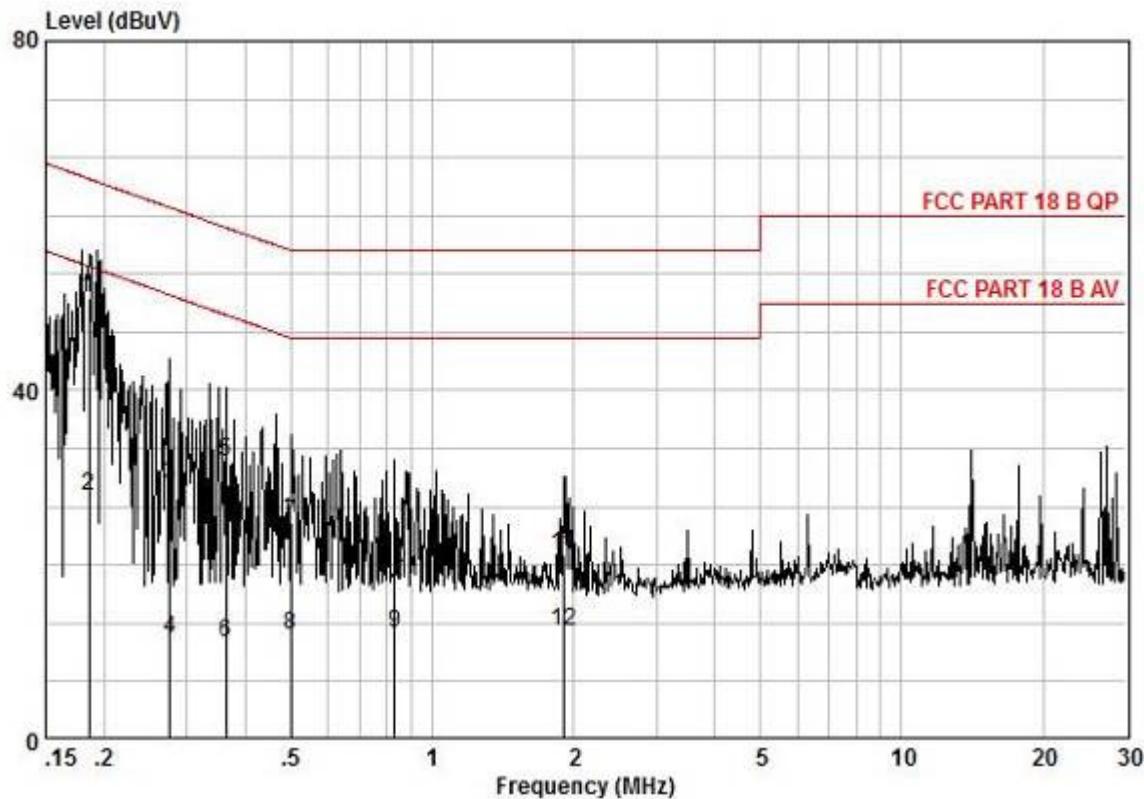
#### 6.3.2 Test Setup Diagram



#### 6.3.3 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.

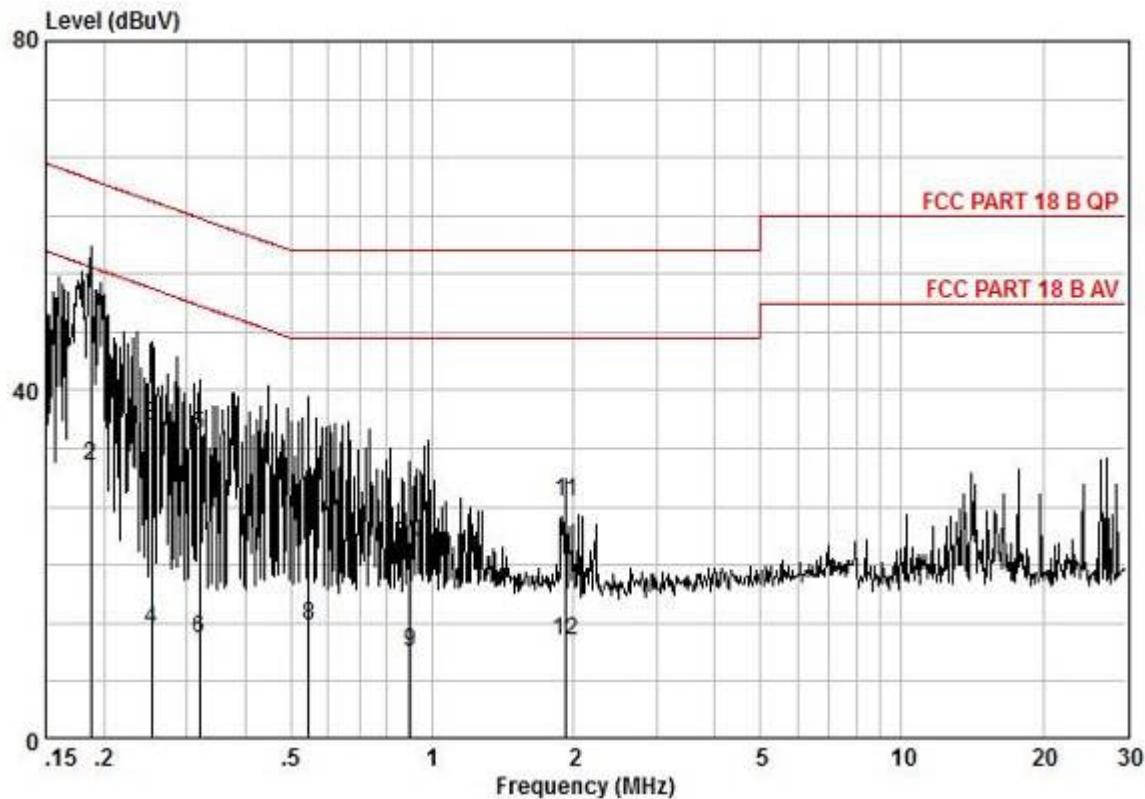
Mode:a; Line:Live Line



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
0.19	40.85	0.10	9.58	50.53	64.24	-13.71	QP
0.19	18.29	0.10	9.58	27.97	54.24	-26.27	AVERAGE
0.28	19.48	0.14	9.63	29.25	60.94	-31.69	QP
0.28	1.89	0.14	9.63	11.66	50.94	-39.28	AVERAGE
0.36	21.99	0.17	9.64	31.80	58.65	-26.86	QP
0.36	1.31	0.17	9.64	11.12	48.65	-37.54	AVERAGE
0.50	15.06	0.20	9.65	24.91	56.01	-31.10	QP
0.50	2.10	0.20	9.65	11.95	46.01	-34.06	AVERAGE
0.83	2.24	0.27	9.62	12.13	46.00	-33.87	AVERAGE
0.83	9.73	0.27	9.62	19.62	56.00	-36.38	QP
1.90	11.20	0.38	9.61	21.19	56.00	-34.81	QP
1.90	2.41	0.38	9.61	12.40	46.00	-33.60	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
0.19	41.41	0.10	9.54	51.05	64.15	-13.10	QP
0.19	21.76	0.10	9.54	31.40	54.15	-22.75	AVERAGE
0.25	26.34	0.13	9.58	36.05	61.69	-25.64	QP
0.25	2.95	0.13	9.58	12.66	51.69	-39.03	AVERAGE
0.32	25.12	0.15	9.57	34.84	59.75	-24.91	QP
0.32	1.84	0.15	9.57	11.56	49.75	-38.19	AVERAGE
0.55	17.63	0.21	9.56	27.40	56.00	-28.60	QP
0.55	3.41	0.21	9.56	13.18	46.00	-32.82	AVERAGE
0.89	0.19	0.28	9.59	10.06	46.00	-35.94	AVERAGE
0.89	12.87	0.28	9.59	22.74	56.00	-33.26	QP
1.93	17.23	0.39	9.52	27.14	56.00	-28.86	QP
1.93	1.40	0.39	9.52	11.31	46.00	-34.69	AVERAGE

## **6.4 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: 3m  
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)

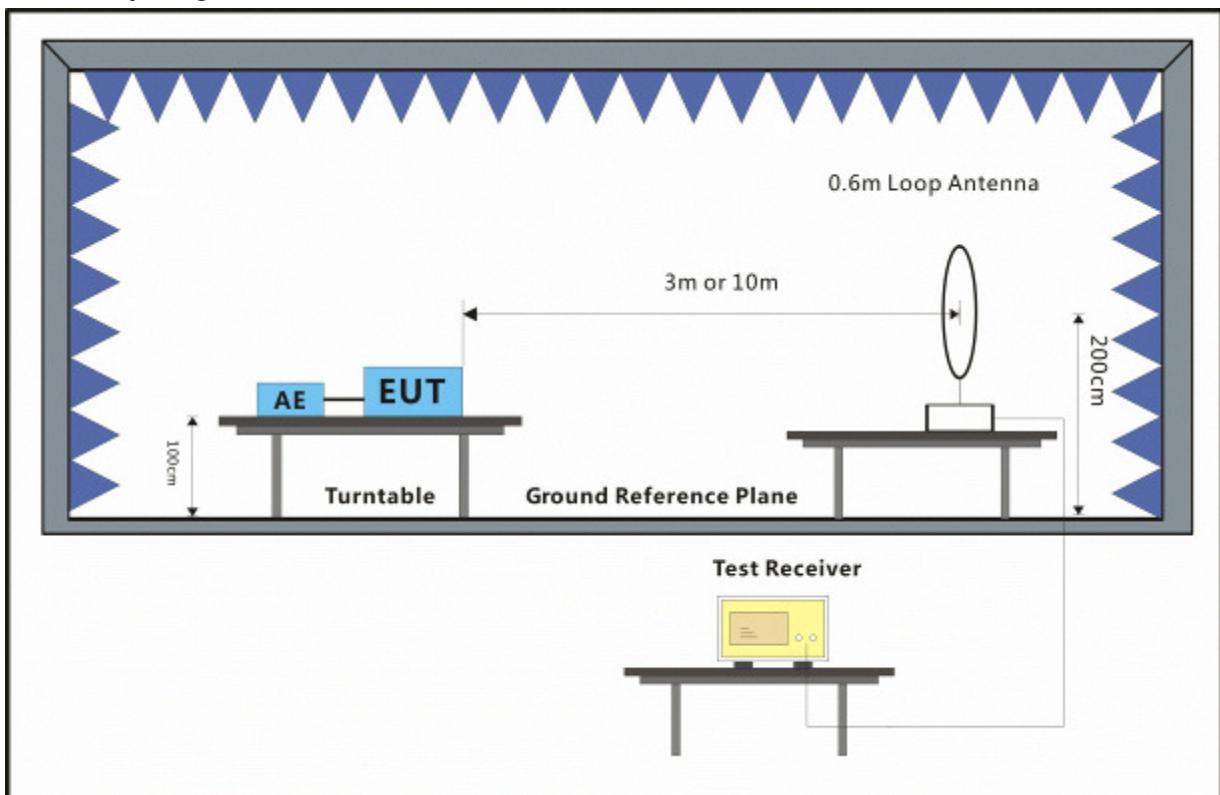
Power =933.8 W according to clause6.2.2

Limit=20lg(25\*SQRT(power/500))+20lg(300/3)=30.67+40=70.67dBuV/m  
@ 3m distance.

### **6.4.1 E.U.T. Operation**

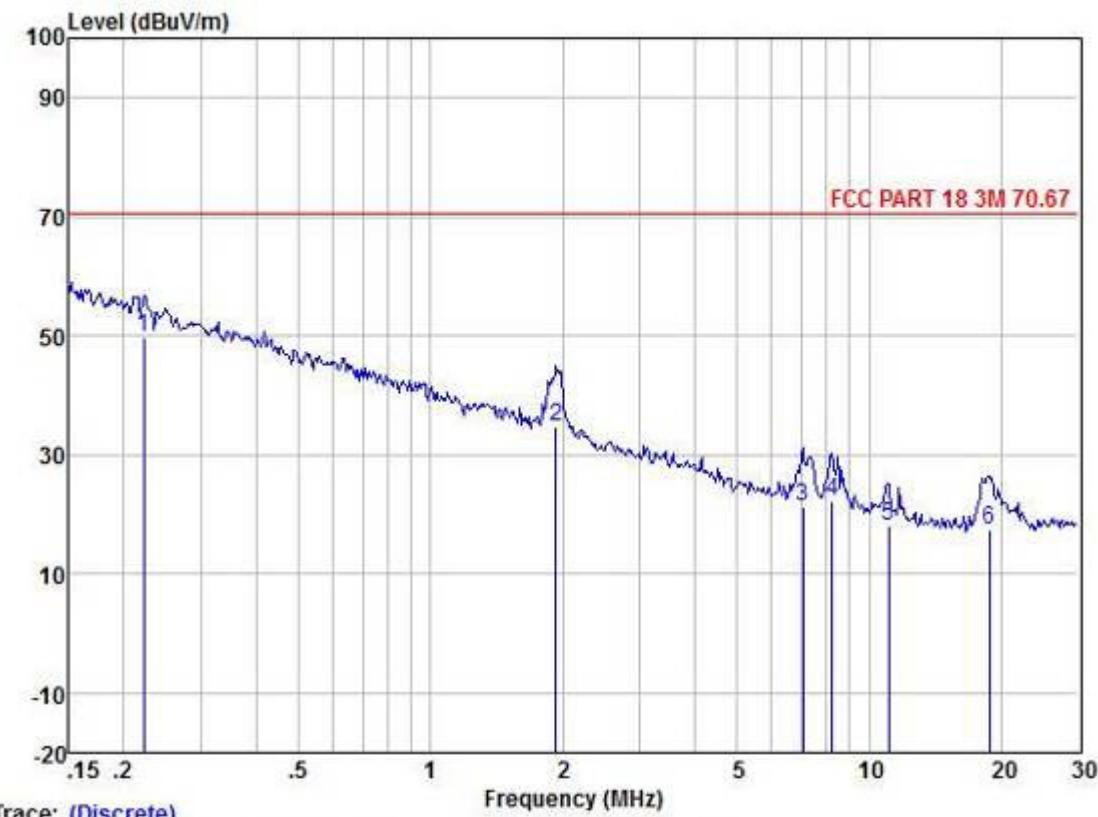
Operating Environment:

Temperature: 23 °C      Humidity: 55 % 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.

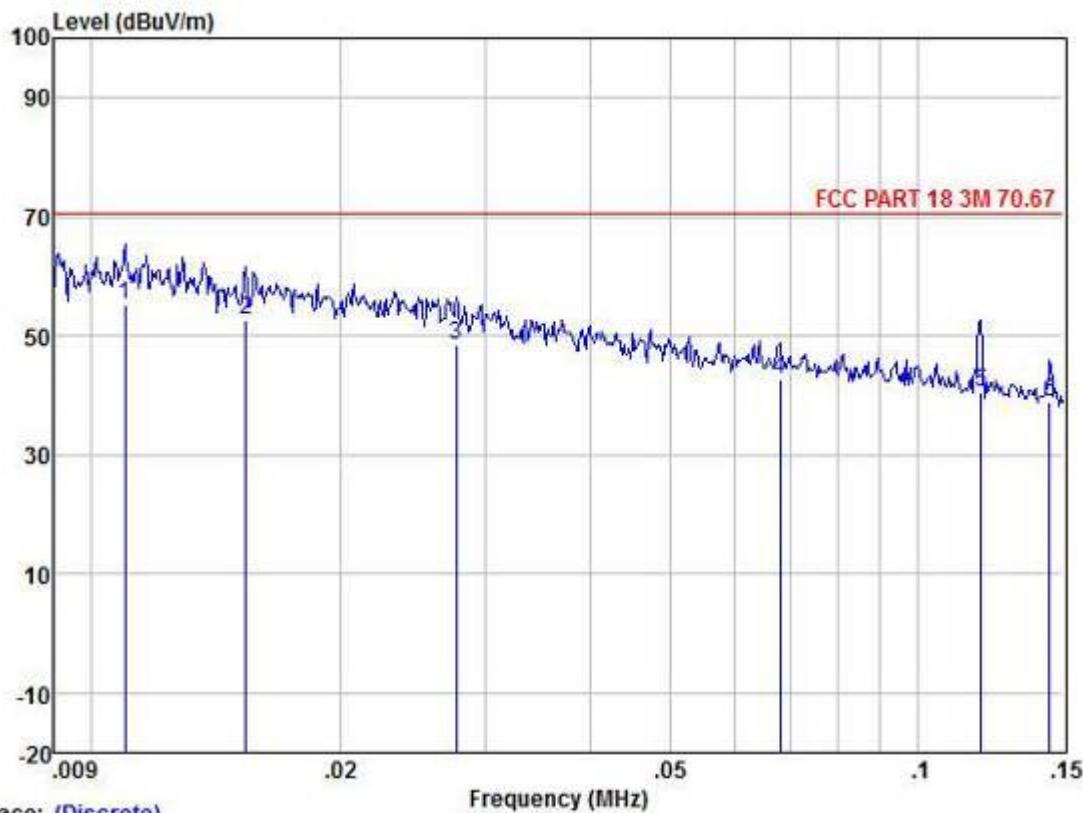
Mode:a; Polarization:Horizontal



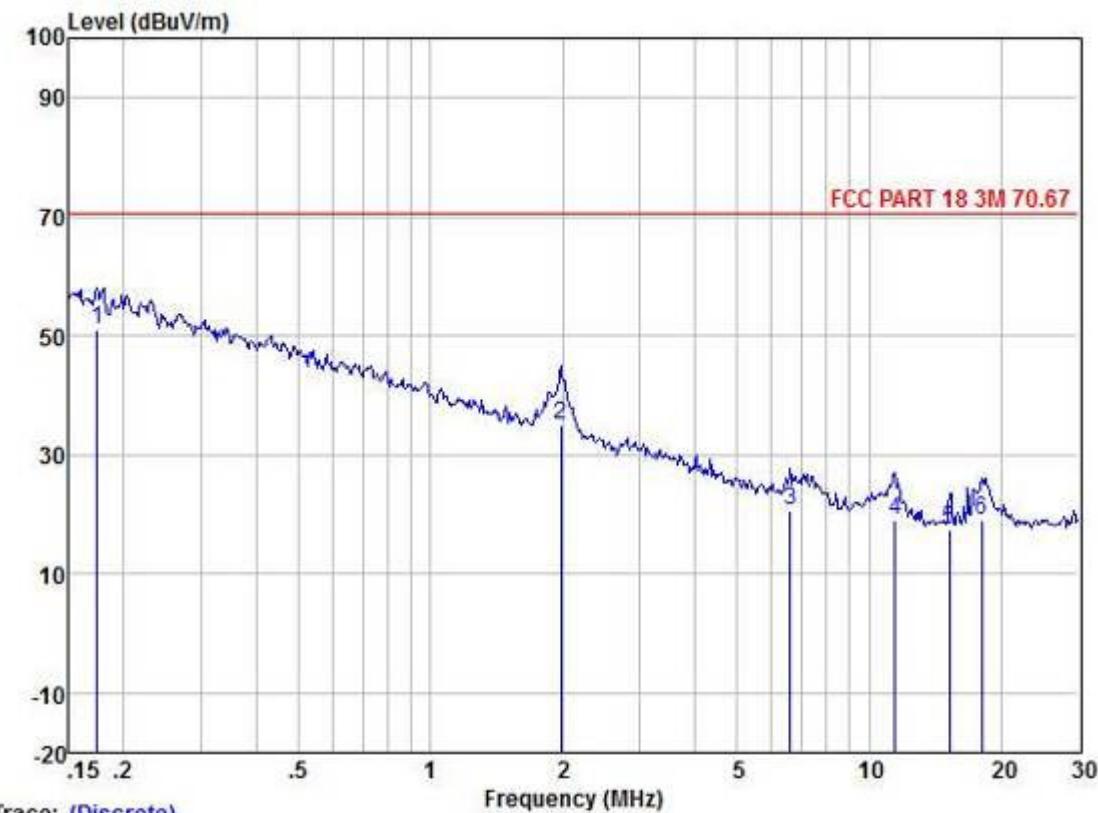
Trace: (Discrete)

Freq	ReadAntenna		Cable		Preamp Loss Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB						
1	0.222	66.12	12.82	0.05	29.30	49.69	70.67	-20.98	HORIZONTAL	Average
2	1.939	51.54	12.41	0.10	29.20	34.85	70.67	-35.82	HORIZONTAL	Average
3	7.062	39.34	10.75	0.30	29.20	21.19	70.67	-49.48	HORIZONTAL	Average
4	8.235	40.52	10.65	0.30	29.20	22.27	70.67	-48.40	HORIZONTAL	Average
5	11.080	36.58	10.55	0.30	29.20	18.23	70.67	-52.44	HORIZONTAL	Average
6	18.820	35.30	10.64	0.48	29.10	17.32	70.67	-53.35	HORIZONTAL	Average

Mode:a; Polarization:Horizontal

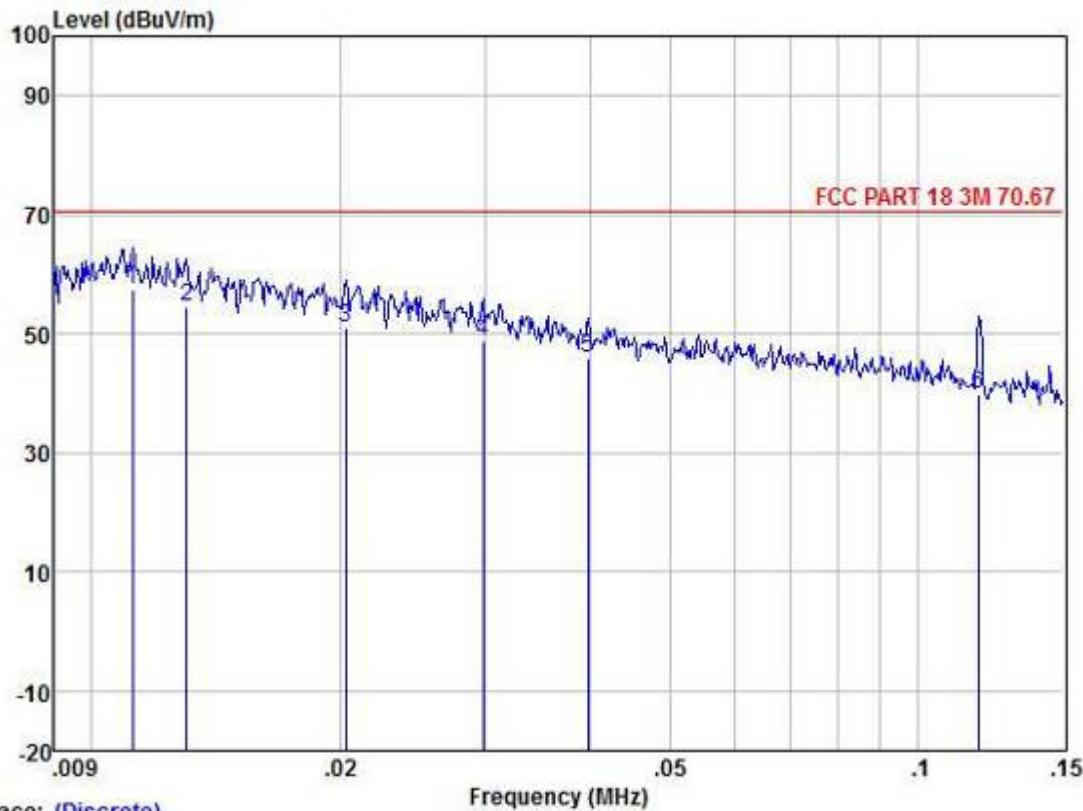


Mode:a; Polarization:Vertical



Freq	ReadAntenna		Cable		Preamp	Limit	Over	Limit Pol/Phase	Remark
	Freq	Level	Factor	Loss					
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	0.174	67.45	12.88	0.00	29.30	51.03	70.67	-19.64	VERTICAL
2	1.980	51.75	12.40	0.10	29.20	35.05	70.67	-35.62	VERTICAL
3	6.627	38.86	10.80	0.30	29.20	20.76	70.67	-49.91	VERTICAL
4	11.438	37.50	10.53	0.34	29.20	19.17	70.67	-51.50	VERTICAL
5	15.226	35.96	10.31	0.40	29.14	17.53	70.67	-53.14	VERTICAL
6	18.039	37.19	10.58	0.40	29.10	19.07	70.67	-51.60	VERTICAL

Mode:a; Polarization:Vertical



Trace: (Discrete)

Freq	ReadAntenna		Cable		Preamp	Limit	Over	Limit Pol/Phase	Remark
	Level	Factor	Loss	Factor					
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	0.011	64.31	21.45	0.00	28.37	57.39	70.67	-13.28	VERTICAL
2	0.013	62.80	20.47	0.00	28.64	54.63	70.67	-16.04	VERTICAL
3	0.020	63.31	16.96	0.00	29.10	51.17	70.67	-19.50	VERTICAL
4	0.030	62.63	15.45	0.00	29.22	48.86	70.67	-21.81	VERTICAL
5	0.040	61.75	13.31	0.00	29.28	45.78	70.67	-24.89	VERTICAL
6	0.118	56.25	12.96	0.00	29.30	39.91	70.67	-30.76	VERTICAL

## **6.5 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)

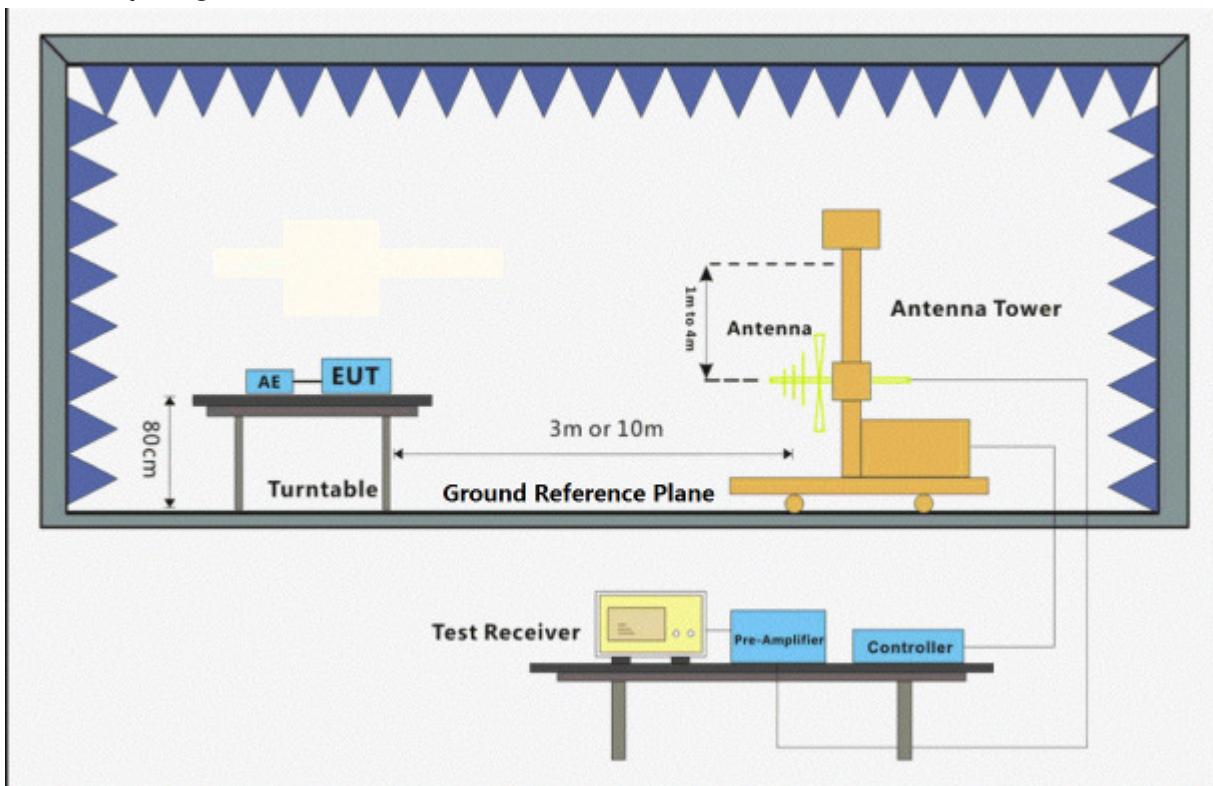
Power =933.8 W according to clause6.2.2

Limit=20lg(25\*SQRT(power/500))+20lg(300/3)=30.67+40=70.67dBuV/m  
@ 3m distance.

### **6.5.1 E.U.T. Operation**

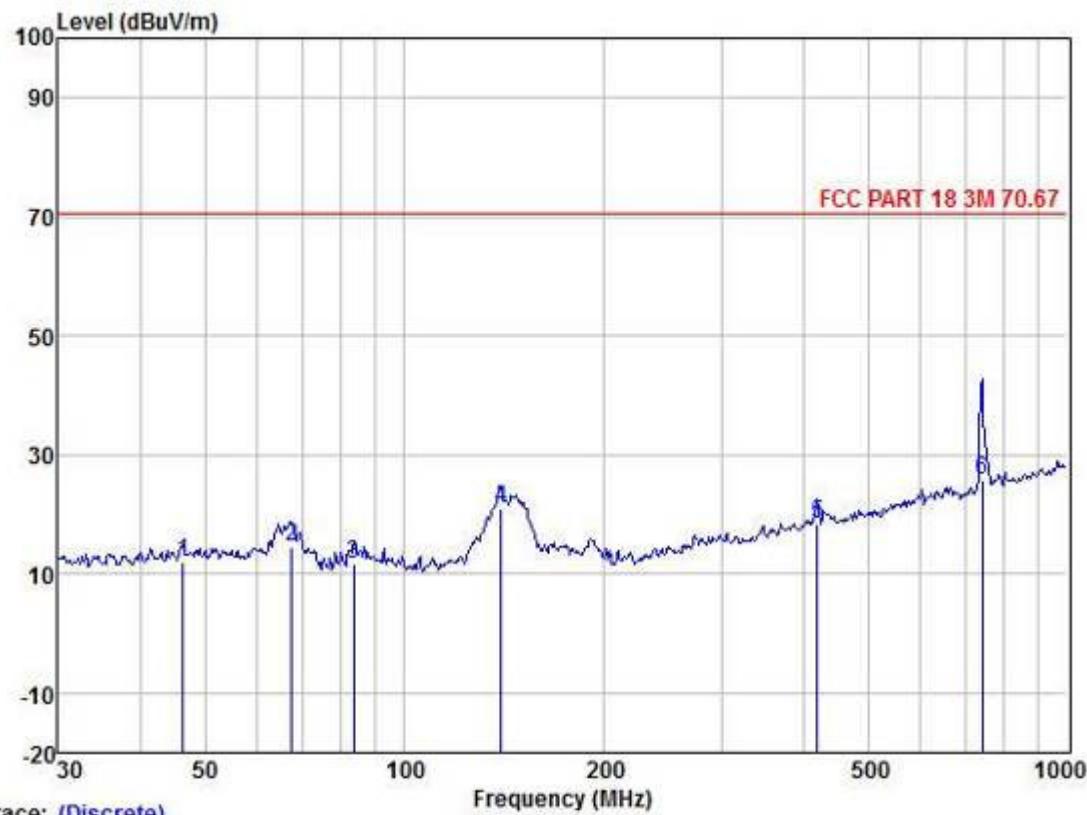
Operating Environment:

Temperature: 23 °C      Humidity: 55 % 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**

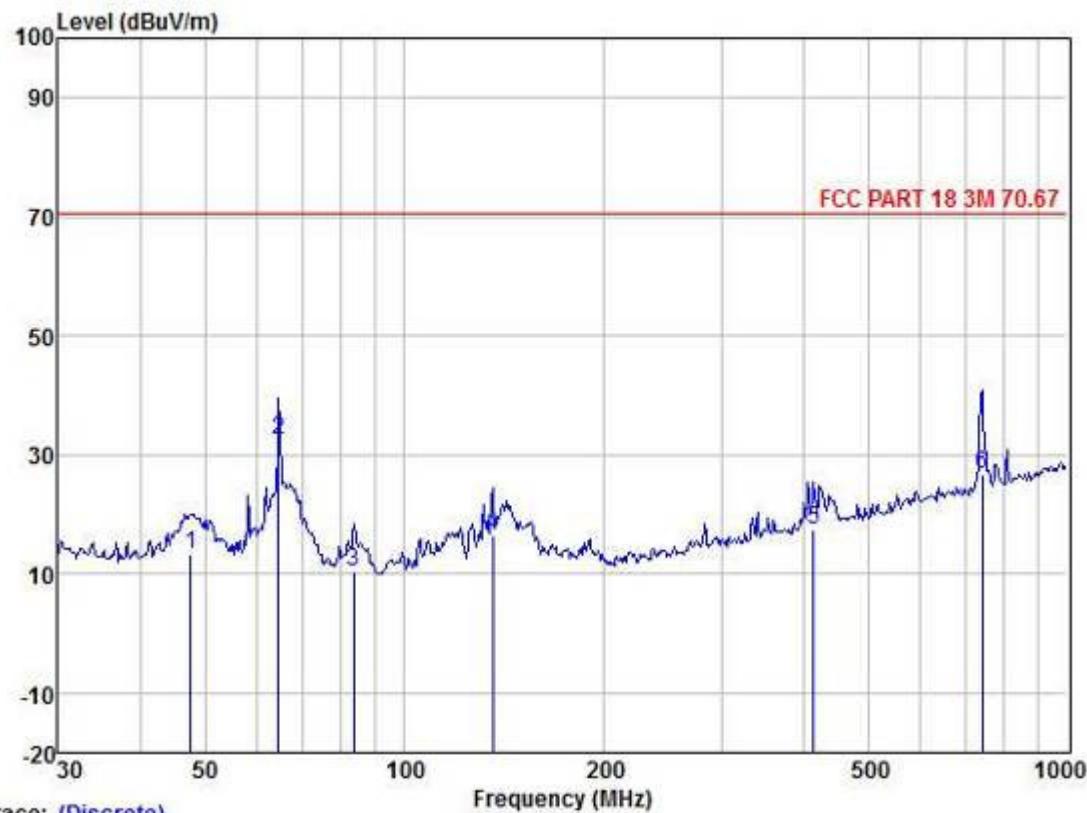
An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.

Mode:a; Polarization:Horizontal



Freq	ReadAntenna		Cable		Preamp	Limit	Over	Limit Pol/Phase	Remark
	Level	Factor	Loss	Factor					
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m			
1	46.340	23.97	14.29	0.70	27.00	11.96	70.67	-58.71	HORIZONTAL Average
2	67.675	27.90	12.93	0.85	27.00	14.68	70.67	-55.99	HORIZONTAL Average
3	83.816	28.83	8.84	1.00	26.99	11.68	70.67	-58.99	HORIZONTAL Average
4	139.851	33.47	13.00	1.27	26.84	20.90	70.67	-49.77	HORIZONTAL Average
5	419.108	26.91	16.54	2.30	27.33	18.42	70.67	-52.25	HORIZONTAL Average
6	744.866	29.02	21.80	2.90	27.93	25.79	70.67	-44.88	HORIZONTAL Average

Mode:a; Polarization:Vertical



Freq	ReadAntenna		Cable		Preamp	Limit	Over	Pol/Phase	Remark
	Level	Factor	Loss	Factor					
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	47.659	25.07	14.39	0.70	27.00	13.16	70.67	-57.51	VERTICAL
2	64.433	45.30	13.51	0.80	27.00	32.61	70.67	-38.06	VERTICAL
3	83.816	27.50	8.84	1.00	26.99	10.35	70.67	-60.32	VERTICAL
4	135.982	29.47	12.75	1.25	26.86	16.61	70.67	-54.06	VERTICAL
5	414.722	26.04	16.48	2.28	27.29	17.51	70.67	-53.16	VERTICAL
6	744.866	29.98	21.80	2.90	27.93	26.75	70.67	-43.92	VERTICAL

## **6.6 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)

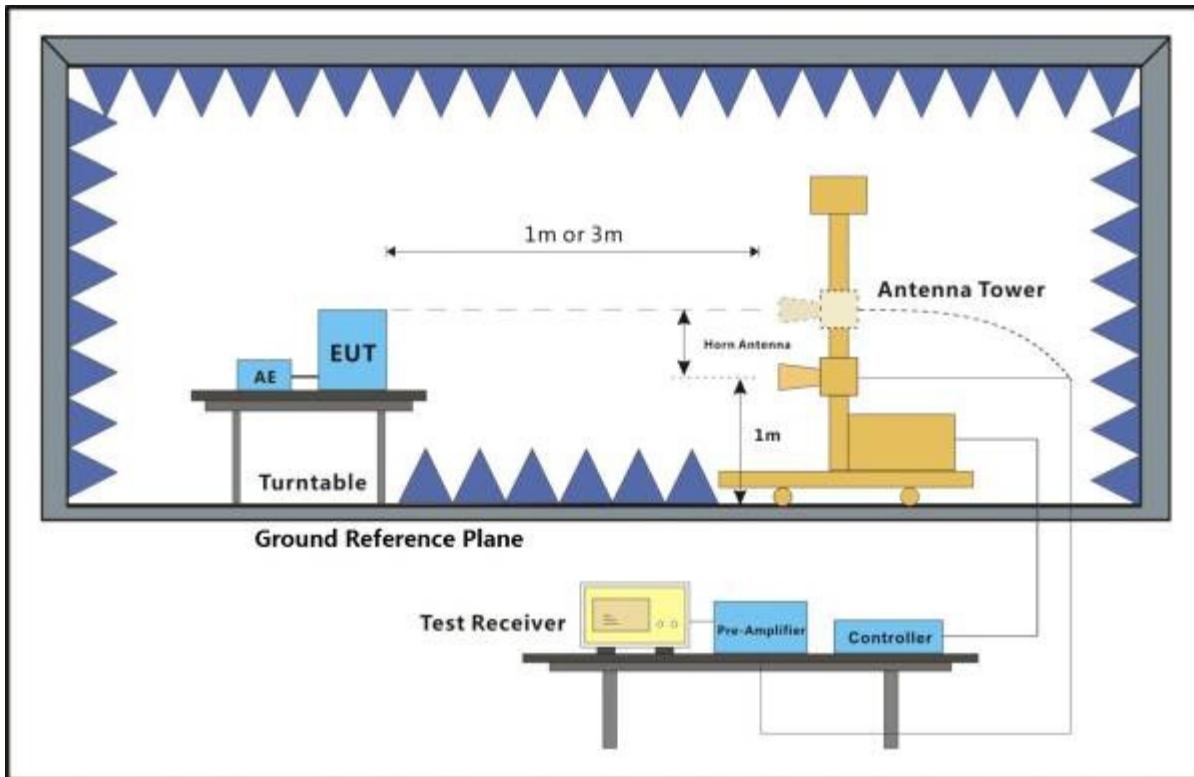
Power =933.8 W according to clause 6.2.2

Limit=20lg(25\*SQRT(power/500))+20lg(300/3)=30.67+40=70.67dBuV/m  
@ 3m distance.

### **6.6.1 E.U.T. Operation**

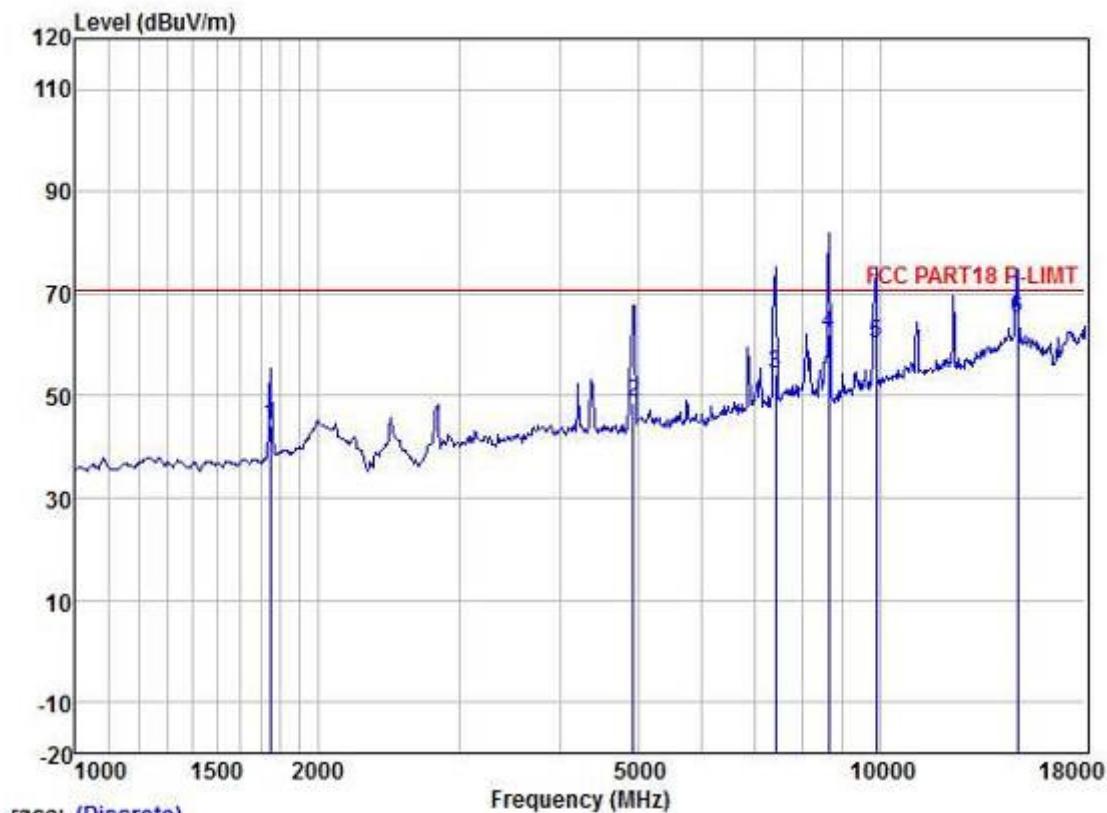
Operating Environment:

Temperature: 23 °C      Humidity: 55 % 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**

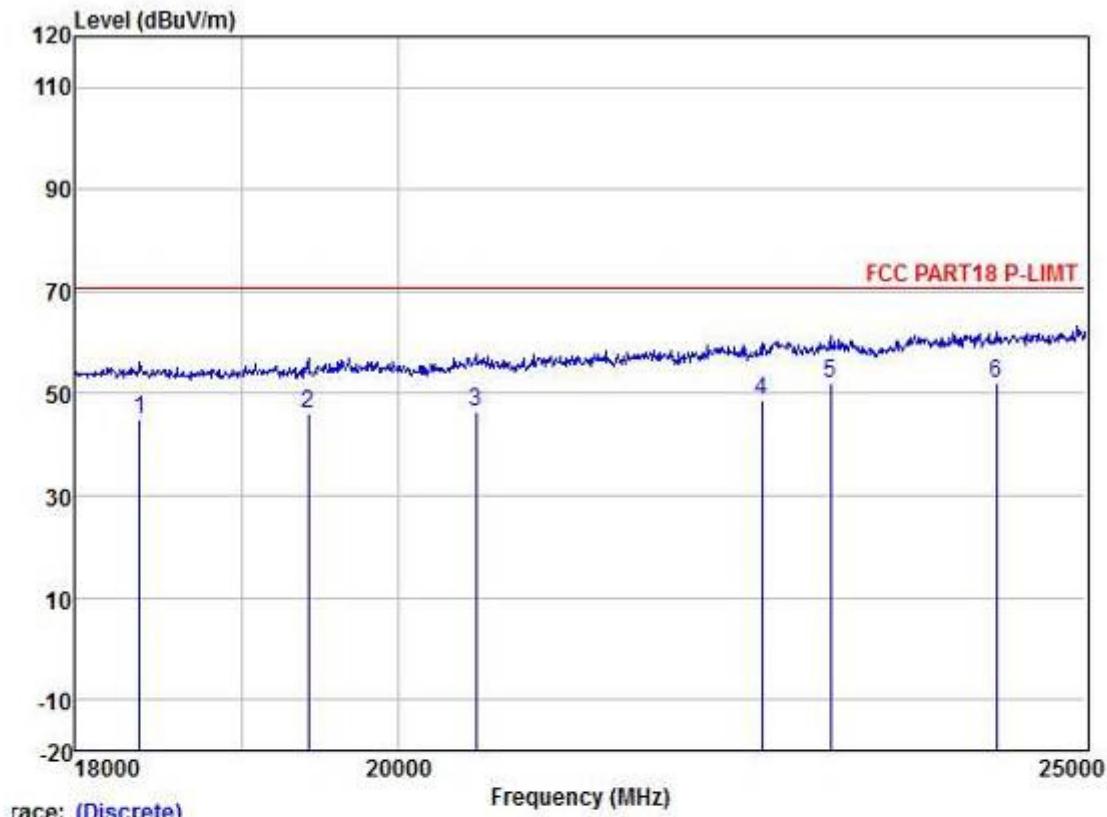
An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.

Mode:a; Polarization:Horizontal



Index	Freq	ReadAntenna		Cable		Preamp		Limit Line	Over Limit	Pol/Phase	Remark
		Level	Factor	Loss	Factor	Level	dBuV/m				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB			
1	1746.898	52.20	25.11	4.56	37.57	44.30	70.67	-26.37	HORIZONTAL	Average	
2	4938.900	47.09	31.03	7.67	36.95	48.84	70.67	-21.83	HORIZONTAL	Average	
3	7412.400	47.75	35.89	7.42	36.92	54.14	70.67	-16.53	HORIZONTAL	Average	
4	8638.399	54.86	36.20	7.96	36.95	62.07	70.67	-8.60	HORIZONTAL	Average	
5	9895.349	50.91	37.89	8.57	37.09	60.28	70.67	-10.39	HORIZONTAL	Average	
6	14830.960	46.45	40.78	13.35	35.62	64.96	70.67	-5.71	HORIZONTAL	Average	

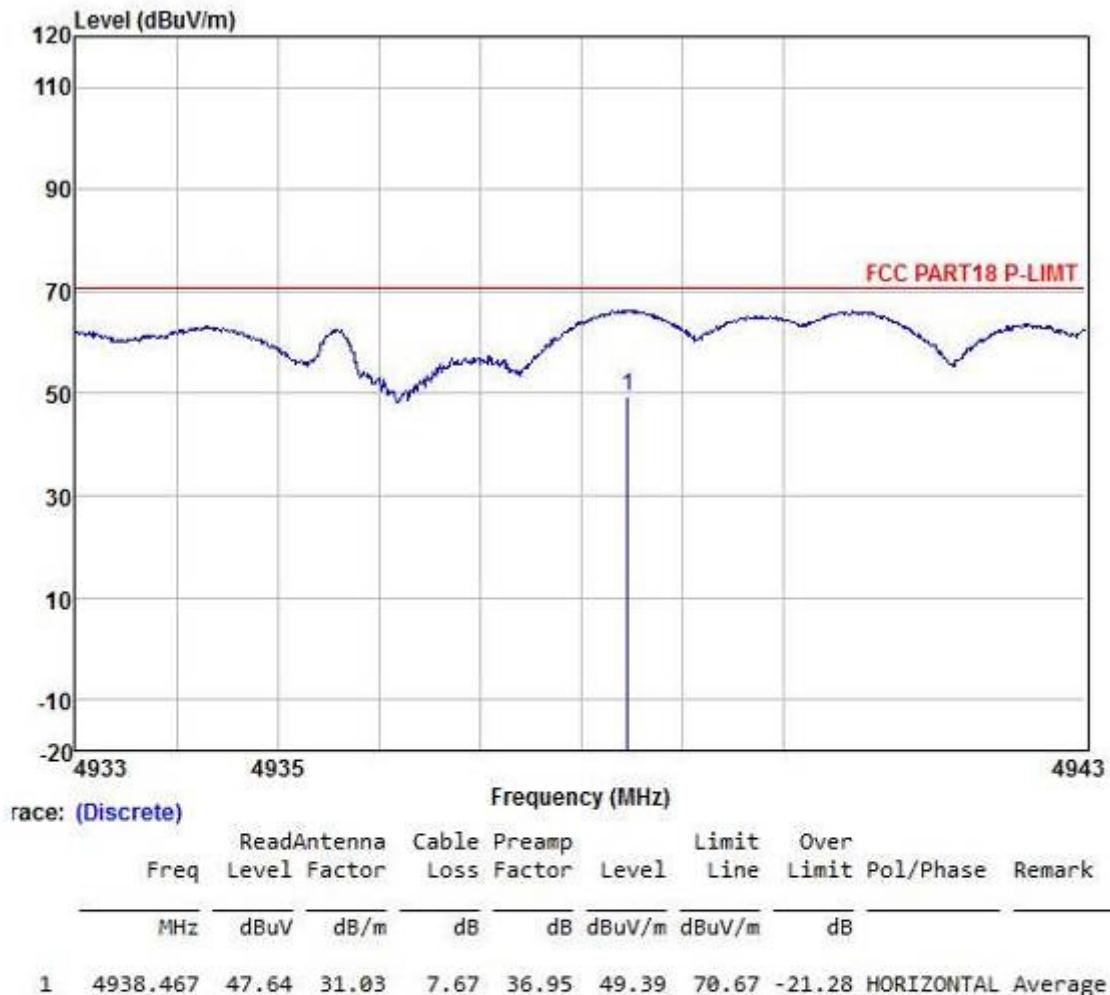
Mode:a; Polarization:Horizontal



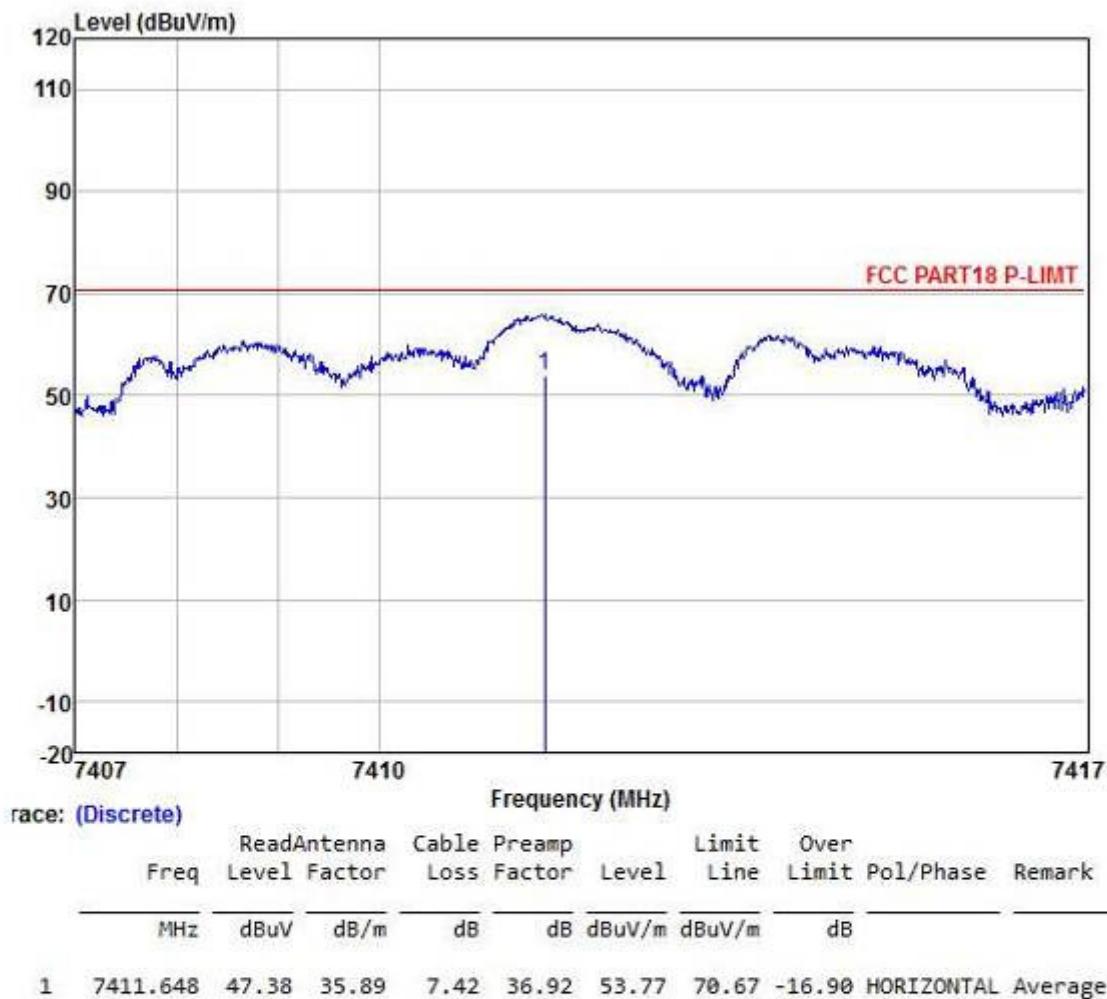
Trace: (Discrete)

Freq	Read	Antenna	Cable	Preamp	Limit	Over	Limit	Pol/Phase	Remark
	Level	Factor	Loss	Factor					
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1 18382.440	26.14	37.93	16.62	35.60	45.09	70.67	-25.58	HORIZONTAL	Average
2 19419.080	26.46	38.00	17.04	35.60	45.90	70.67	-24.77	HORIZONTAL	Average
3 20507.440	26.40	37.95	17.67	35.54	46.48	70.67	-24.19	HORIZONTAL	Average
4 22505.380	26.42	38.96	18.92	35.47	48.83	70.67	-21.84	HORIZONTAL	Average
5 23013.770	29.14	39.60	19.21	35.75	52.20	70.67	-18.47	HORIZONTAL	Average
6 24287.640	27.97	39.54	20.57	36.11	51.97	70.67	-18.70	HORIZONTAL	Average

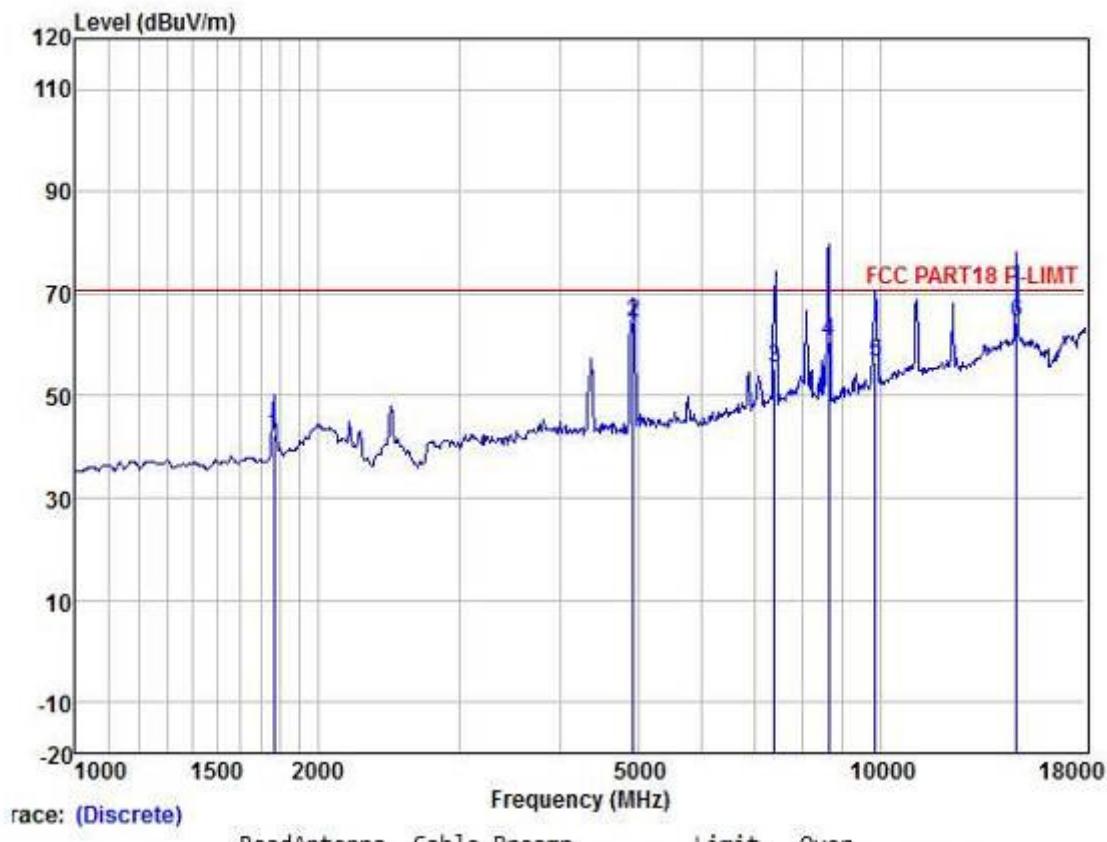
Mode:a; Polarization:Horizontal(for second harmonic)



Mode:a; Polarization:Horizontal(for third harmonic)



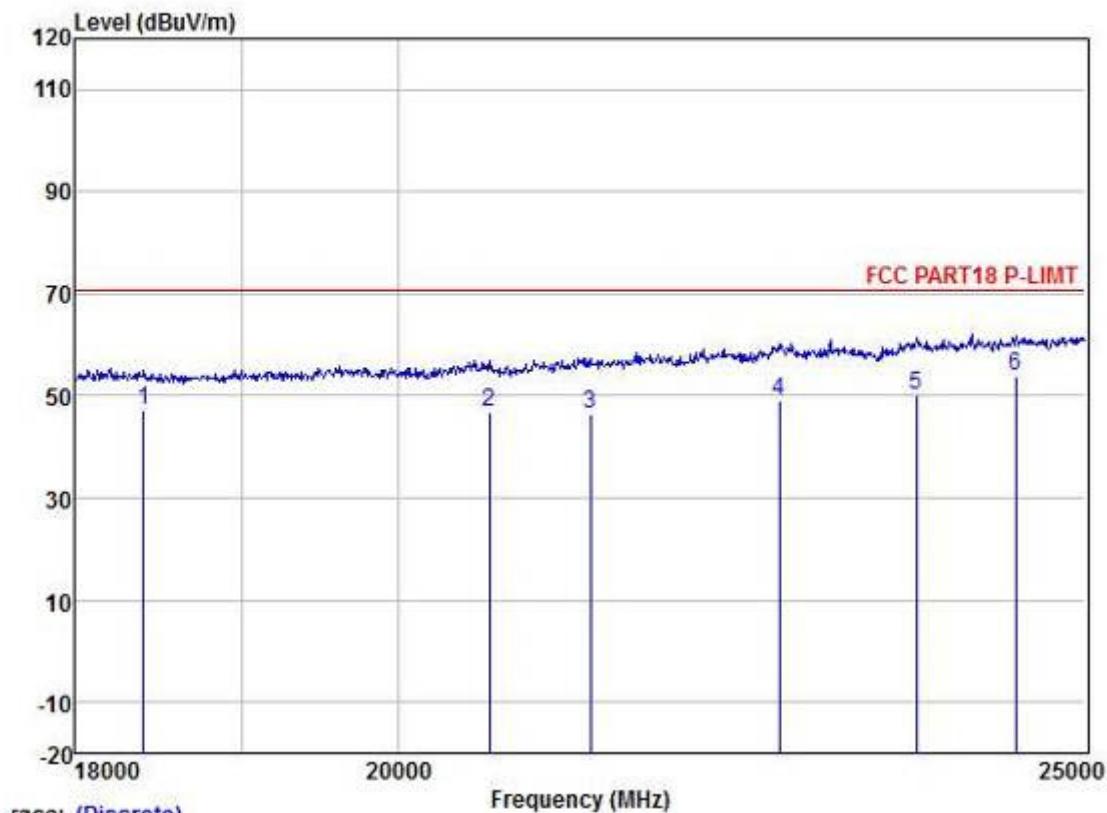
Mode:a; Polarization:Vertical



Rate: (Discrete)

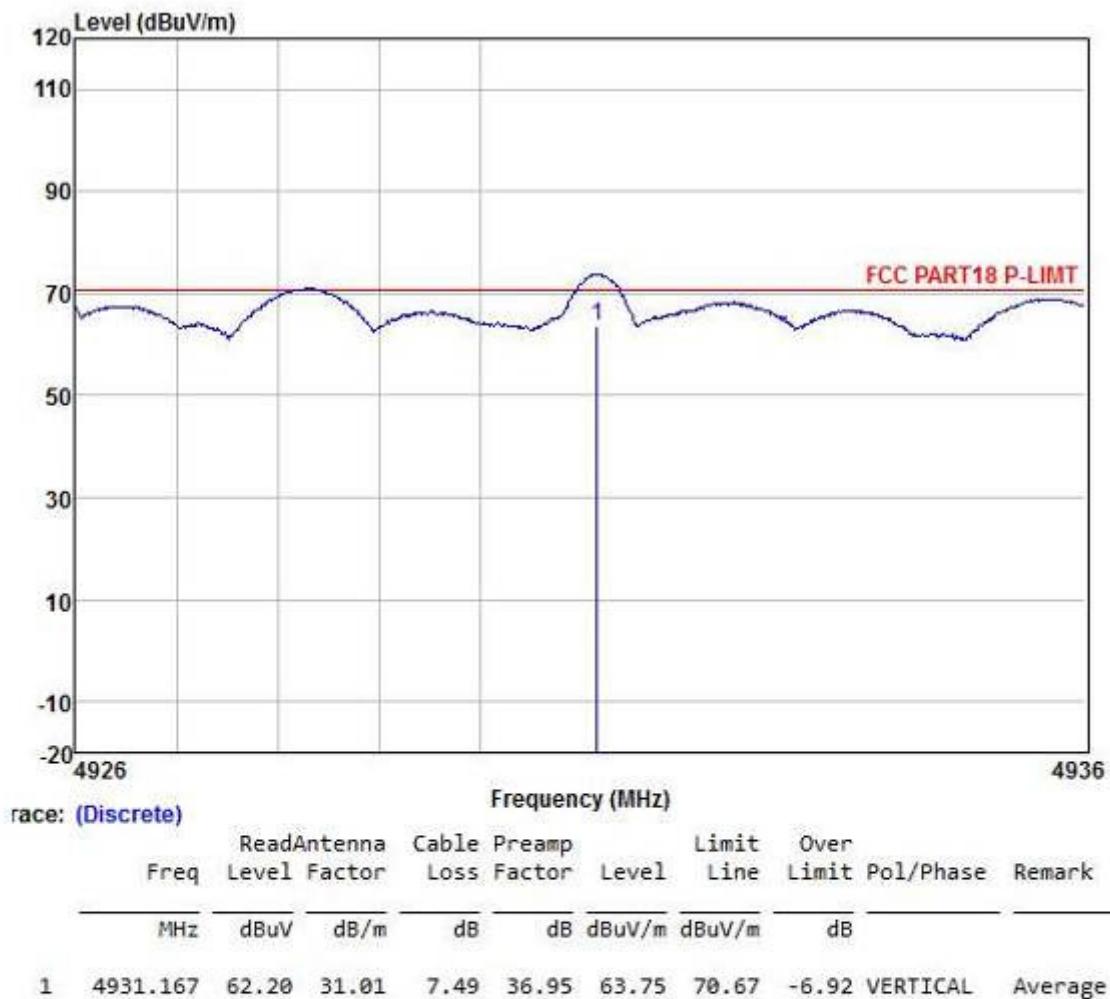
Freq	ReadAntenna		Cable		Preamp		Limit	Over	Over	Pol/Phase	Remark
	Level	Factor	Loss	Factor	Level	Line					
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB			
1	1767.212	49.66	25.13	4.95	37.56	42.18	70.67	-28.49	VERTICAL	Average	
2	4931.500	62.65	31.01	7.49	36.95	64.20	70.67	-6.47	VERTICAL	Average	
3	7384.100	49.09	35.85	7.42	36.92	55.44	70.67	-15.23	VERTICAL	Average	
4	8638.399	53.53	36.20	7.96	36.95	60.74	70.67	-9.93	VERTICAL	Average	
5	9866.789	47.26	37.86	8.52	37.09	56.55	70.67	-14.12	VERTICAL	Average	
6	14788.150	45.38	40.96	13.45	35.58	64.21	70.67	-6.46	VERTICAL	Average	

Mode:a; Polarization:Vertical

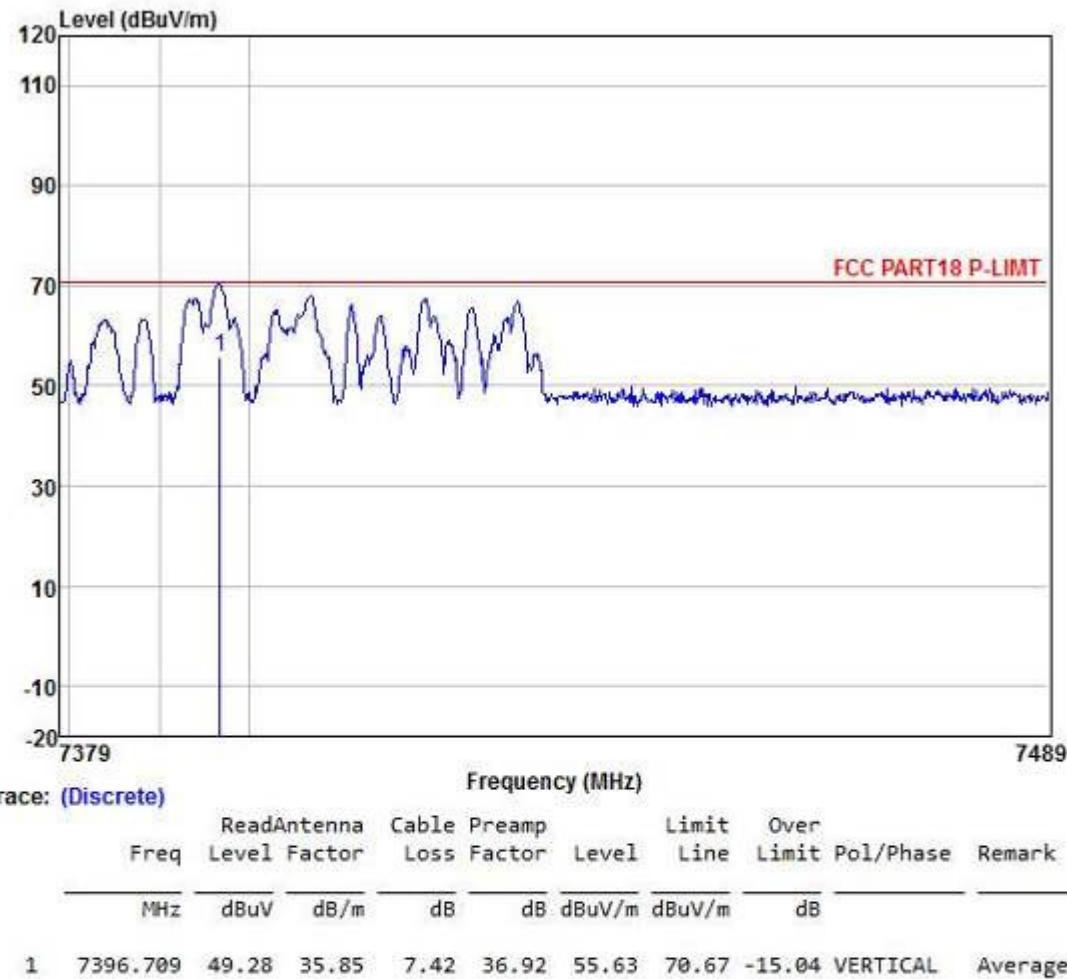


Race: (Discrete)	ReadAntenna		Cable		Preamp		Limit	Over	Over	Pol/Phase	Remark
	Freq	Level	Factor	Loss	Factor	Level					
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB			
1	18400.570	28.05	37.93	16.64	35.60	47.02	70.67	-23.65	VERTICAL	Average	
2	20595.210	26.71	37.93	17.78	35.53	46.89	70.67	-23.78	VERTICAL	Average	
3	21283.000	25.61	37.97	18.13	35.38	46.33	70.67	-24.34	VERTICAL	Average	
4	22631.420	26.49	39.18	19.03	35.51	49.19	70.67	-21.48	VERTICAL	Average	
5	23665.440	26.60	39.60	20.10	36.01	50.29	70.67	-20.38	VERTICAL	Average	
6	24439.710	29.80	39.47	20.72	36.12	53.87	70.67	-16.80	VERTICAL	Average	

Mode:a; Polarization:Vertical(for second harmonic)



Mode:a; Polarization:Vertical(for third harmonic)

**--End of Report—**