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Report No.: SHEM180200097102

Page: 1 of 27

**1 Cover Page**

**FCC REPORT**

<b>Application No.:</b>	SHEM1802000971CR
<b>Applicant:</b>	Kohler Co.
<b>FCC ID:</b>	N82-KOHLER016
<b>IC:</b>	4554A-KOHLER016
<b>Equipment Under Test (EUT):</b>	
<b>NOTE:</b> The following sample(s) submitted was/were identified on behalf of the client as	
<b>Product Name:</b>	Veil intelligent toilet
<b>Model No.(EUT):</b>	K-5401-PA
<b>Standards:</b>	47 CFR Part 15, Subpart C 15.249 RSS-210 Issue 9 Annex B.10, RSS-Gen Issue 4
<b>Date of Receipt:</b>	2018-02-01
<b>Date of Test:</b>	2018-03-14 to 2018-03-15
<b>Date of Issue:</b>	2018-05-16
<b>Test Result:</b>	<b>Pass*</b>

\*In the configuration tested, the EUT detailed in this report complied with the standards specified above.




Parlam Zhan  
E&E Section 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	Description	Date	Remark
00	Original	2018-05-16	/

<b>Authorized for issue by:</b>			
			
		<b>Vincent Zhu / Project Engineer</b>	
			
		<b>Parlam Zhan / Reviewer</b>	



## 2 Test Summary

Test Item	FCC Requirement	IC Requirement	Test method	Result
Antenna Requirement	FCC Part 15, Subpart C Section 15.203	RSS-Gen Issue 94Section 8.1.3	---	Note1
AC Power Line Conducted Emission	FCC Part 15, Subpart C Section 15.207	RSS-Gen Issue 4 Section 8.8	ANSI C63.10 (2013) Section 6.2	Pass
Field Strength of the Fundamental Signal	FCC Part 15, Subpart C Section 15.249 (a)	RSS-210 Issue 9 Annex 2.9 (a)	ANSI C63.10 (2013) Section 6.10.2	PASS
Radiated Spurious Emissions and Band-edge	FCC Part 15, Subpart C Section 15.249 (a) &15.209&15.205	RSS-Gen Issue 4 Section 8.9 & 8.10	ANSI C63.10 (2013) Section 6.5&6.6&6.7	PASS
20dB Bandwidth	FCC Part 15, Subpart C Section 15.215 (c)	RSS-210 Issue 9 Annex 8	ANSI C63.10 (2013) Section 6.9.1	Note1
99% Occupied bandwidth	---	RSS-Gen Issue 4 Section 6.6	RSS-Gen Issue 4 Section 6.6	Note1

Note1: Refer to original report SHEM140900245602, and not perform this test item in C2PC.



### 3 Contents

	Page
<b>1 COVER PAGE .....</b>	<b>1</b>
<b>2 TEST SUMMARY .....</b>	<b>3</b>
<b>3 CONTENTS .....</b>	<b>4</b>
<b>4 GENERAL INFORMATION .....</b>	<b>5</b>
4.1 CLIENT INFORMATION.....	5
4.2 GENERAL DESCRIPTION OF E.U.T. ....	5
4.3 TECHNICAL SPECIFICATIONS:.....	5
4.4 E.U.T OPERATION MODE .....	5
4.5 DESCRIPTION OF SUPPORT UNITS .....	5
4.6 TEST LOCATION .....	5
4.7 TEST FACILITY .....	6
4.8 MEASUREMENT UNCERTAINTY .....	6
<b>5 EQUIPMENTS LIST .....</b>	<b>7</b>
<b>6 TEST RESULTS AND MEASUREMENT DATA .....</b>	<b>8</b>
6.1 E.U.T. TEST CONDITIONS .....	8
6.2 CONDUCTED EMISSIONS AT AC POWER LINE (150kHz-30MHz) .....	9
<b>6.2.1</b> E.U.T. Operation .....	9
<b>6.2.2</b> Test Setup Diagram.....	9
<b>6.2.3</b> Measurement Procedure and Data .....	10
6.3 FIELD STRENGTH OF THE FUNDAMENTAL SIGNAL .....	13
6.4 RADIATED EMISSIONS AND BAND EDGE .....	15
<b>7 TEST SETUP PHOTOGRAPHS .....</b>	<b>27</b>
<b>8 EUT CONSTRUCTIONAL DETAILS .....</b>	<b>27</b>



## 4 General Information

### 4.1 Client Information

Applicant:	Kohler Co.
Address of Applicant:	444 Highland Drive Kohler, WI 53044 United States
Manufacturer:	Shanghai Kohler Electronics., Ltd.
Address of Manufacturer:	No.1955, Fengxiang Road, Baoshan Area, Shanghai, PRC Post code: 200444
Factory:	Shanghai Kohler Electronics., Ltd.
Address of Factory:	No.1955, Fengxiang Road, Baoshan Area, Shanghai, PRC Post code: 200444

### 4.2 General Description of E.U.T.

Product Description:	Fixed Product
Power Supply:	AC 120V 60Hz
Trade mark:	KOHLER

### 4.3 Technical Specifications:

Operation Frequency:	10.525GHz
Antenna Type:	Integral
Antenna Gain:	8 dBi

### 4.4 E.U.T Operation Mode

Test Mode	Description of Test Mode
Transmitting mode	Keep EUT working continuous transmitting mode.

### 4.5 Description of Support Units

The EUT has been tested independently.

### 4.6 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. E&E Lab

588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China

Tel: +86 21 6191 5666

Fax: +86 21 6191 5678

No tests were sub-contracted.

#### 4.7 Test Facility

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

- **CNAS (No. CNAS L0599)**

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **NVLAP (Certificate No. 201034-0)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. is accredited by the National Voluntary Laboratory Accreditation Program(NVLAP). Certificate No. 201034-0.

- **FCC –Designation Number: CN5033**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been recognized as an accredited testing laboratory.

Designation Number: CN5033. Test Firm Registration Number: 479755.

- **Industry Canada (IC) – IC Assigned Code: 8617A**

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 8617A-1.

- **VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-3868, C-4336, T-12221, G-10830 respectively.

#### 4.8 Measurement Uncertainty

No.	Parameter	Measurement Uncertainty
1	Radio Frequency	$< \pm 1 \times 10^{-5}$
2	Total RF power, conducted	$< \pm 1.5 \text{ dB}$
3	RF power density, conducted	$< \pm 3 \text{ dB}$
4	Spurious emissions, conducted	$< \pm 3 \text{ dB}$
5	All emissions, radiated	$< \pm 6 \text{ dB (30MHz – 1GHz)}$ $< \pm 6 \text{ dB (above 1GHz)}$
6	Temperature	$< \pm 1^\circ\text{C}$
7	Humidity	$< \pm 5 \%$
8	DC and low frequency voltages	$< \pm 3 \%$

## 5 Equipments List

<b>Conducted Emission at AC Power Line</b>					
EMI test receiver	R&S	ESR7	SHEM162-1	2017-12-20	2018-12-19
LISN	Schwarzbeck	NSLK8127	SHEM061-1	2017-12-20	2018-12-19
LISN	EMCO	3816/2	SHEM019-1	2017-12-20	2018-12-19
Pulse limiter	R&S	ESH3-Z2	SHEM029-1	2017-12-20	2018-12-19
CE test Cable	/	CE01	/	2017-12-26	2018-12-25
<b>Conducted Test</b>					
Spectrum Analyzer	R&S	FSP-30	SHEM002-1	2017-12-20	2018-12-19
Spectrum Analyzer	Agilent	N9020A	SHEM181-1	2017-09-26	2018-09-25
Power meter	R&S	NRP	SHEM057-1	2017-12-26	2018-12-25
Power Sensor	R&S	NRP-Z22	SHEM136-1	2017-07-22	2018-07-21
Power Sensor	R&S	NRP-Z91	SHEM057-2	2017-12-26	2018-12-25
Signal Generator	R&S	SMR40	SHEM058-1	2017-07-03	2018-07-02
Signal Generator	Agilent	N5182A	SHEM182-1	2017-09-26	2018-09-25
Communication Tester	R&S	CMW270	SHEM183-1	2017-10-22	2018-10-21
Switcher	Tonscend	JS0806	SHEM184-1	2017-09-26	2018-09-25
Splitter	Anritsu	MA1612A	SHEM185-1	/	/
Coupler	e-meca	803-S-1	SHEM186-1	/	/
High-low Temp Cabinet	Suzhou Zhihe	TL-40	SHEM087-1	2017-09-26	2018-09-25
AC Power Stabilizer	WOCEN	6100	SHEM045-1	2017-12-26	2018-12-25
DC Power Supply	QJE	QJ30003SII	SHEM046-1	2017-12-26	2018-12-25
Conducted test Cable	/	RF01, RF 02	/	2017-12-26	2018-12-25
<b>Radiated Test</b>					
EMI test receiver	R&S	ESU40	SHEM051-1	2017-12-20	2018-12-19
Spectrum Analyzer	R&S	FSP-30	SHEM002-1	2017-12-20	2018-12-19
Loop Antenna (9kHz-30MHz)	Schwarzbeck	FMZB1519	SHEM135-1	2017-04-10	2020-04-09
Antenna (25MHz-2GHz)	Schwarzbeck	VULB9168	SHEM048-1	2017-02-28	2020-02-27
Antenna (25MHz-3GHz)	Schwarzbeck	HL562	SHEM010-1	2017-02-28	2020-02-27
Horn Antenna (1-8GHz)	Schwarzbeck	HF906	SHEM009-1	2017-10-24	2020-10-23
Horn Antenna (1-18GHz)	Schwarzbeck	BBHA9120D	SHEM050-1	2017-01-14	2020-01-13
Horn Antenna (14-40GHz)	Schwarzbeck	BBHA 9170	SHEM049-1	2017-12-03	2020-12-02
Pre-amplifier (9kHz-2GHz)	CLAVIO	BDLNA-0001-412010	SHEM164-1	2017-08-22	2018-08-21
Pre-amplifier (1-18GHz)	CLAVIO	BDLNA-0118-352810	SHEM050-2	2017-08-22	2018-08-21
High-amplifier (14-40GHz)	Schwarzbeck	10001	SHEM049-2	2017-12-20	2018-12-19
Band filter	LORCH	9BRX-875/X150-SR	SHEM156-1	/	/
Band filter	LORCH	13BRX-1950/X500-SR	SHEM083-2	/	/
Band filter	LORCH	5BRX-2400/X200-SR	SHEM155-1	/	/
Band filter	LORCH	5BRX-5500/X1000-SR	SHEM157-2	/	/
High pass Filter	Wainwright	WHK3.0/18G-100SS	SHEM157-1	/	/
High pass Filter	Wainwright	WHKS1700-3SS	SHEM157-3	/	/
Semi/Fully Anechoic	ST	11*6*6M	SHEM078-2	2017-07-22	2020-07-21
RE test Cable	/	RE01, RE02, RE06	/	2017-12-26	2018-12-25

## 6 Test results and Measurement Data

### 6.1 E.U.T. test conditions

**Test Power:** AC 120V 60Hz

**Requirements:** 15.31(e) For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery operated equipment, the equipment tests shall be performed using a new battery.

<b>Operating Environment:</b>	Temperature:	24.0 °C
	Humidity:	52 % RH
	Atmospheric Pressure:	100.8 kPa

**Test frequencies:** According to the 15.31(m) Measurements on intentional radiators or receivers, other than TV broadcast receivers, shall be performed and, if required, reported for each band in which the device can be operated with the device operating at the number of frequencies in each band specified in the following table:

Frequency range over which device operates	Number of frequencies	Location in the range of operation
1 MHz or less	1	Middle
1 to 10 MHz	2	1 near top and 1 near bottom
More than 10 MHz	3	1 near top, 1 near middle and 1 near bottom

Pursuant to Part 15.31(c) For swept frequency equipment, measurements shall be made with the frequency sweep stopped at those frequencies chosen for the measurements to be reported.

Test frequency is 10.525GHz at one and only channel.



## 6.2 Conducted Emissions at AC Power Line (150kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.207

Test Method: ANSI C63.10 (2013) Section 6.2

Limit:

Frequency of emission(MHz)	Conducted limit(dB $\mu$ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

\*Decreases with the logarithm of the frequency.

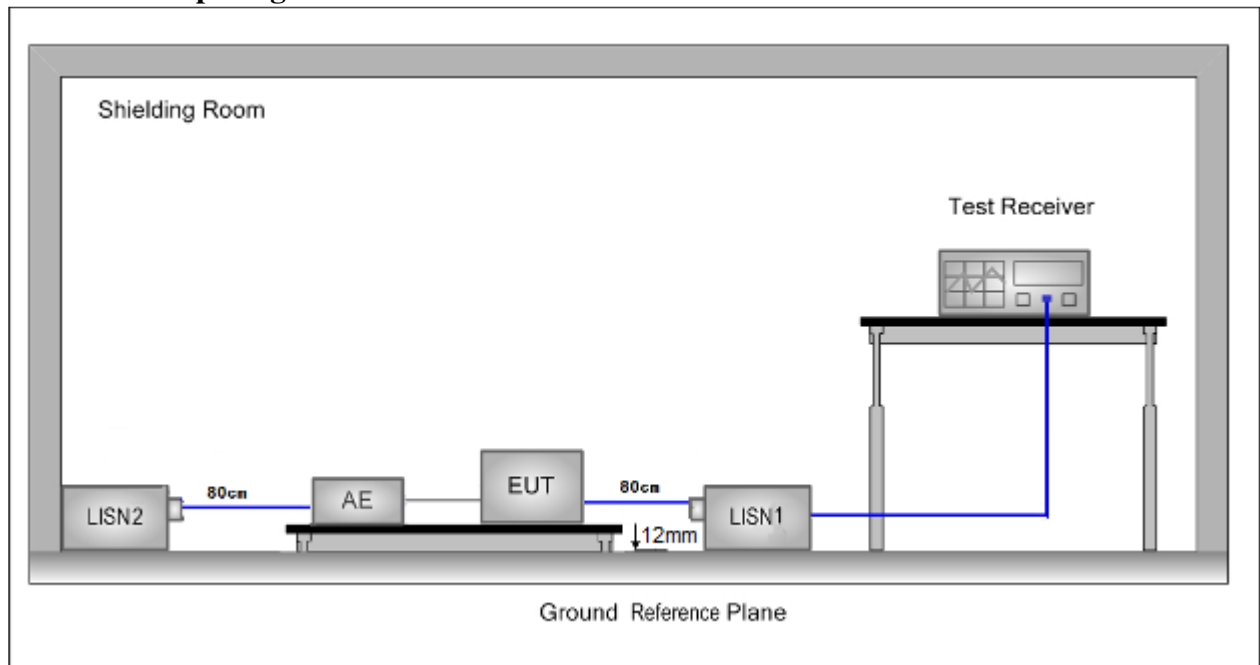
### 6.2.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1002 mbar

Test mode a:TX mode\_Keep the EUT in continuously transmitting mode with modulation types.

### 6.2.2 Test Setup Diagram

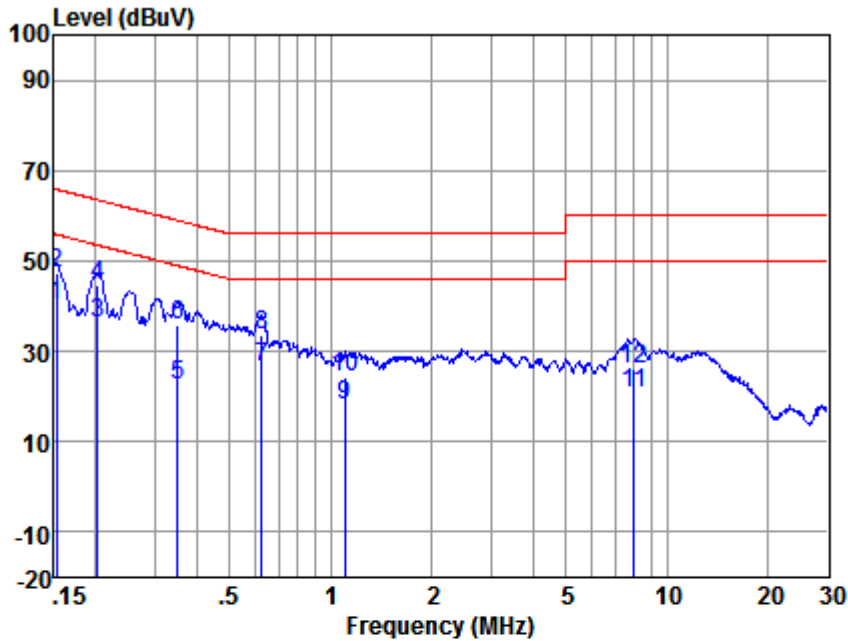




### 6.2.3 Measurement Procedure and Data

- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50μH + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
- 3) The tabletop EUT was placed upon a non-metallic table 12cm above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
- 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
- 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

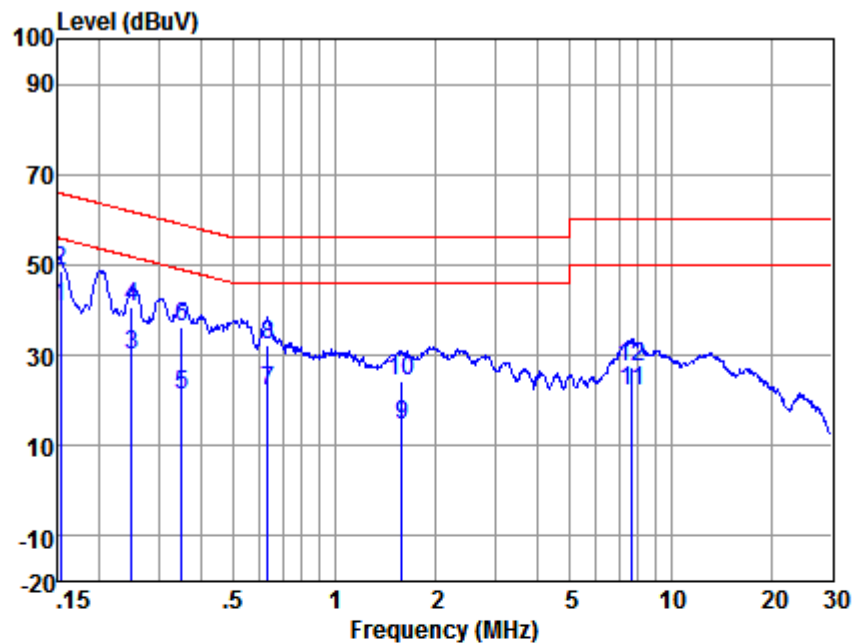
Remark: LISN=Read Level+ Cable Loss+ LISN Factor



**LISN : LINE**

	Freq (MHz)	Read level (dBUV)	LISN Factor (dB)	Cable Loss (dB)	Emission Level (dBUV)	Limit (dBUV)	Over Limit (dB)	Remark
1	0.15	30.16	0.11	9.81	40.08	55.87	-15.79	Average
2	0.15	37.54	0.11	9.81	47.46	65.87	-18.41	QP
3	0.20	26.18	0.11	9.81	36.10	53.54	-17.44	Average
4	0.20	34.81	0.11	9.81	44.73	63.54	-18.81	QP
5	0.35	12.75	0.11	9.81	22.67	48.96	-26.29	Average
6	0.35	25.97	0.11	9.81	35.89	58.96	-23.07	QP
7	0.62	16.42	0.11	9.82	26.35	46.00	-19.65	Average
8	0.62	23.48	0.11	9.82	33.41	56.00	-22.59	QP
9	1.11	8.21	0.11	9.84	18.16	46.00	-27.84	Average
10	1.11	14.20	0.11	9.84	24.15	56.00	-31.85	QP
11	7.98	10.65	0.10	9.86	20.61	50.00	-29.39	Average
12	7.98	16.10	0.10	9.86	26.06	60.00	-33.94	QP

Notes: Emission Level = Read Level + LISN Factor + Cable loss



LISN : NEUTRAL

	Freq (MHz)	Read level (dBuV)	LISN Factor (dB)	Cable Loss (dB)	Emission Level (dBuV)	Limit (dBuV)	Over Limit (dB)	Remark
1	0.15	30.55	0.12	9.81	40.48	55.87	-15.39	Average
2	0.15	38.74	0.12	9.81	48.67	65.87	-17.20	QP
3	0.25	19.96	0.11	9.81	29.88	51.78	-21.90	Average
4	0.25	30.92	0.11	9.81	40.84	61.78	-20.94	QP
5	0.35	11.37	0.11	9.81	21.29	48.96	-27.67	Average
6	0.35	26.28	0.11	9.81	36.20	58.96	-22.76	QP
7	0.63	11.94	0.11	9.82	21.87	46.00	-24.13	Average
8	0.63	22.48	0.11	9.82	32.41	56.00	-23.59	QP
9	1.59	4.38	0.12	9.84	14.34	46.00	-31.66	Average
10	1.59	14.38	0.12	9.84	24.34	56.00	-31.66	QP
11	7.69	12.22	0.13	9.86	22.21	50.00	-27.79	Average
12	7.69	17.58	0.13	9.86	27.57	60.00	-32.43	QP

Notes: Emission Level = Read Level + LISN Factor + Cable loss

### 6.3 Field Strength of the Fundamental Signal

**Test Site:** Measurement Distance: 3m

**Receiver Setup:**

Frequency	Detector	RBW	VBW	Remark
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

**Limit:**

Frequency	Limit (dBuV/m)	Remark
10.5 to 10.55GHz	148	Peak
	128	Average

**Test Setup:**

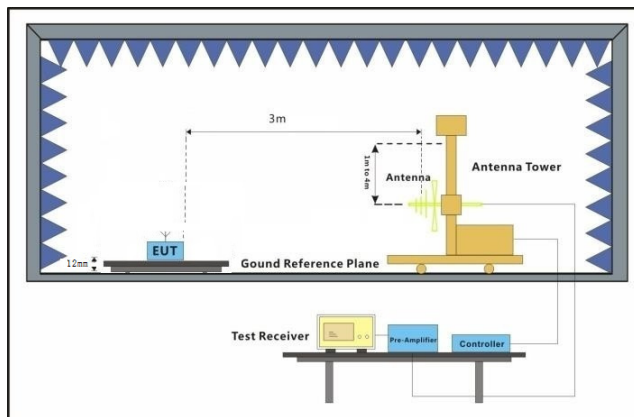


Figure 1. 30MHz to 1GHz

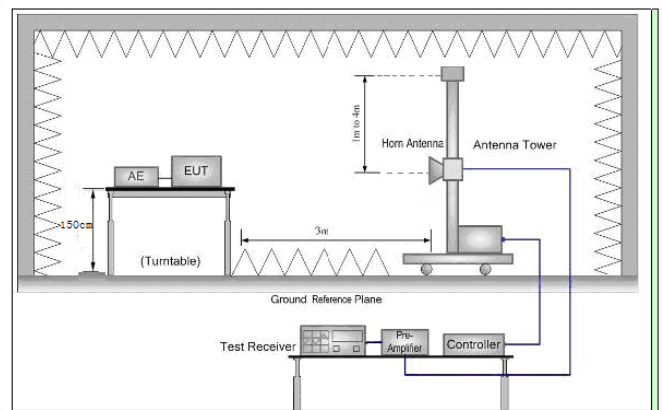


Figure 2. Above 1 GHz

**Test Procedure:**

- The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter full-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- Repeat above procedures until all frequencies measured was complete.

**Test Results:**

Pass



**Measurement Data:**

Frequency (GHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Detector	Polarization
10.525	83	14.05	97.05	128	-30.95	Peak	Horizontal
10.525	85.87	14.05	99.92	128	-28.08	Peak	Vertical

**Remark:**

- 1) The basic equation with a sample calculation is as follows:  $Level = Read\ Level + Factor$ .  
(The Factor is calculated by adding the Antenna Factor, Cable Loss and Preamp Factor)
- 2) If the Peak value below the AV Limit, the AV test doesn't perform for this submission.

### 6.4 Radiated Emissions and band edge

Test frequency range: 9KHz – 40GHz

Test Site: Measurement Distance: 3m

Receiver Setup:

Frequency	Detector	RBW	VBW
0.009MHz-0.090MHz	Peak	10kHz	30KHz
0.009MHz-0.090MHz	Average	10kHz	30KHz
0.090MHz-0.110MHz	Quasi-peak	10kHz	30KHz
0.110MHz-0.490MHz	Peak	10kHz	30KHz
0.110MHz-0.490MHz	Average	10kHz	30KHz
0.490MHz -30MHz	Quasi-peak	10kHz	30kHz
30MHz-1GHz	Quasi-peak	100 kHz	300KHz
Above 1GHz	Peak	1MHz	3MHz
	Average	1MHz	10Hz

Limit:

Frequency	Field strength (uV/m)	Limit (dBuV/m )	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
1.705MHz-30MHz	30	-	-	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
Above 1GHz	500	54.0	Average	3

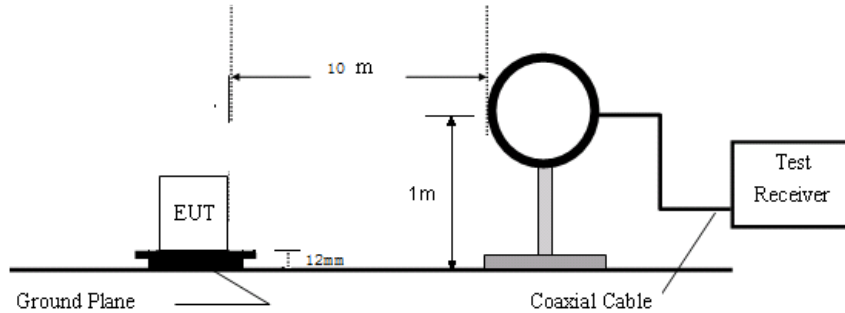
Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

Test Procedure:

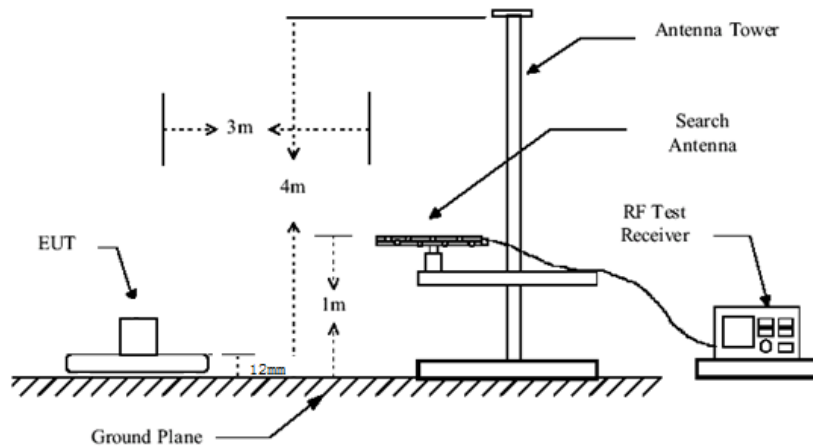
- The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
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limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

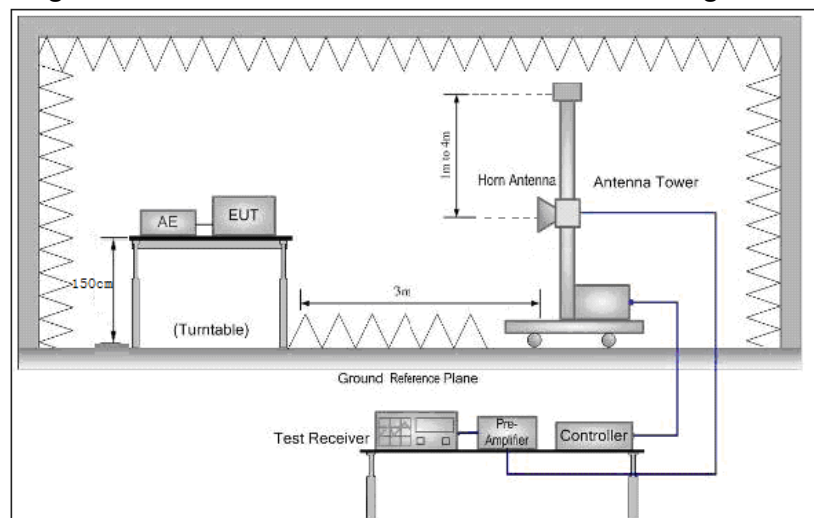
**Test Setup:**



**Figure1. 30MHz to 1GHz radiated emissions test configuration**



**Figure2. 30MHz to 1GHz radiated emissions test configuration**



**Figure3. Above 1GHz radiated emissions test configuration**



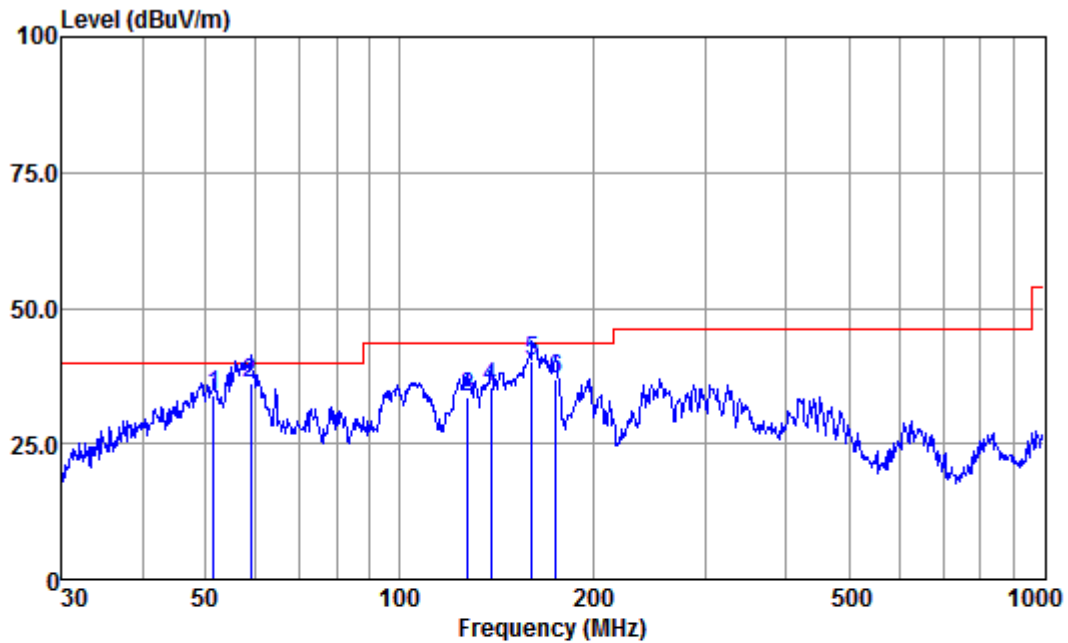


**Test Results:** Pass

**Radiated Emissions:**

30MHz-1GHz:

Vertical:



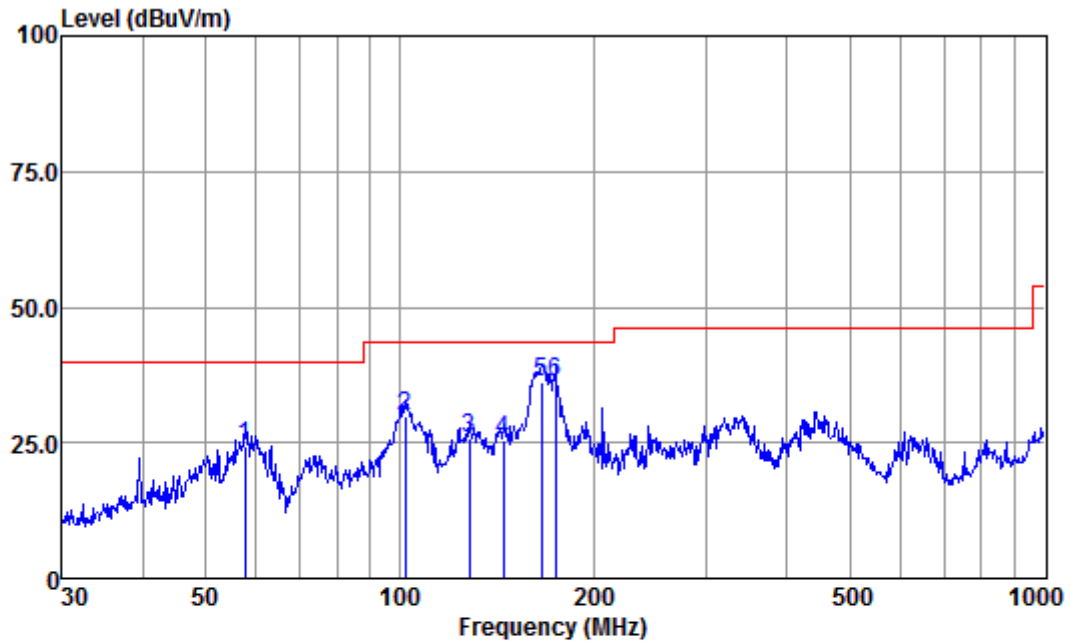
Antenna Polarity :VERTICAL

	Read	Antenna	Cable	Preamp	Emission	Limit	Over	
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
1	51.66	65.50	10.95	0.27	42.64	34.08	40.00	-5.92 QP
2	58.82	66.17	12.37	0.29	42.65	36.18	40.00	-3.82 QP
3	128.11	63.28	12.31	0.57	42.66	33.50	43.50	-10.00 QP
4	138.87	65.88	11.44	0.60	42.64	35.28	43.50	-8.22 QP
5	160.91	69.11	12.93	0.64	42.59	40.09	43.50	-3.41 QP
6	175.65	67.00	11.77	0.66	42.56	36.87	43.50	-6.63 QP

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor



Horizontal:



Antenna Polarity :HORIZONTAL

	Read	Antenna	Cable	Preamp	Emission	Limit	Over	
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	57.59	12.14	0.29	42.65	24.29	40.00	-15.71	QP
2	102.00	9.52	0.46	42.69	29.71	43.50	-13.79	QP
3	128.56	12.43	0.57	42.66	25.86	43.50	-17.64	QP
4	145.35	11.63	0.61	42.62	25.48	43.50	-18.02	QP
5	166.07	12.18	0.64	42.58	36.31	43.50	-7.19	QP
6	175.04	11.75	0.66	42.56	36.05	43.50	-7.45	QP

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor



Above 1GHz:

Item (Mark)	Freq. (MHz)	Read Level (dB $\mu$ V)	Factor (dB/m)	Result Level (dB)	Limit Line (dB)	Over Limit (dB $\mu$ V/m)	Detector	polarization
1	6535.9	39.58	7.87	47.45	54	-6.55	Peak	Horizontal
2	8534.4	38.94	11	49.94	54	-4.06	Peak	Horizontal
3	13022.2	39.81	10.18	49.99	54	-4.01	Peak	Horizontal
1	6536.4	41.31	7.58	48.89	54	-5.11	Peak	Vertical
2	8655.3	39.27	11.63	50.9	54	-3.1	Peak	Vertical
3	14136.2	29.93	18.94	48.87	54	-5.13	Peak	Vertical

Remark: 1. The basic equation with a sample calculation is as follows: Level = Read Level + Factor.

(The Factor is calculated by adding the Antenna Factor, Cable Loss and Preamp Factor)

2. No any other emissions level which are attenuated less than 20dB below the limit.

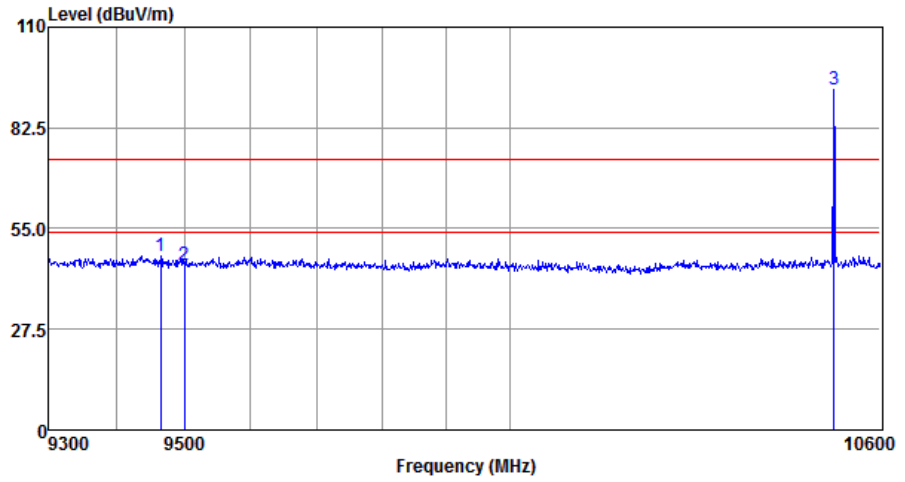
According to 15.31(o), the amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part. Hence there no other emissions have been reported.

3. If the Peak value below the AV Limit, the AV test doesn't perform for this submission.



Band-edge-Low:

Horizontal:



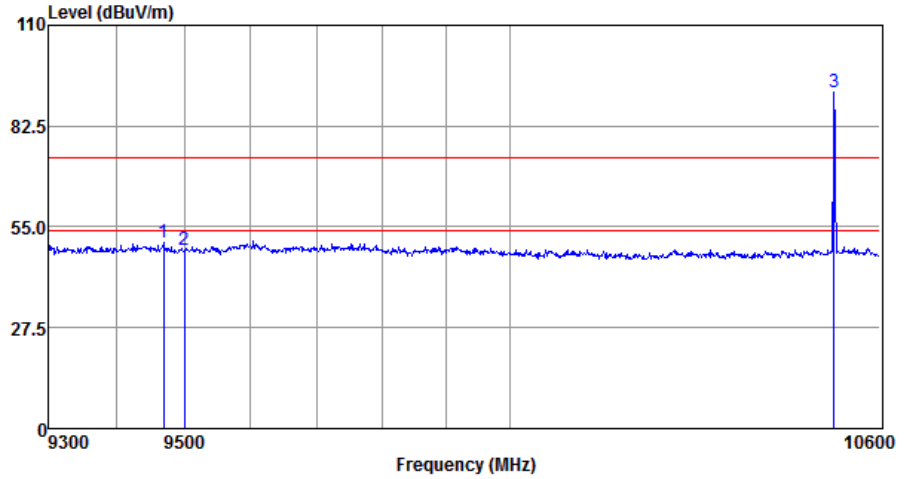
Antenna Polarity :HORIZONTAL

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
1 9464.49	35.96	35.18	10.67	34.19	47.62	74.00	-26.38	Peak
2 9500.00	33.14	35.20	10.67	34.16	44.85	74.00	-29.15	Peak
310522.62	82.85	34.90	9.99	34.59	93.15	74.00	19.15	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor



Vertical:



Antenna Polarity :VERTICAL

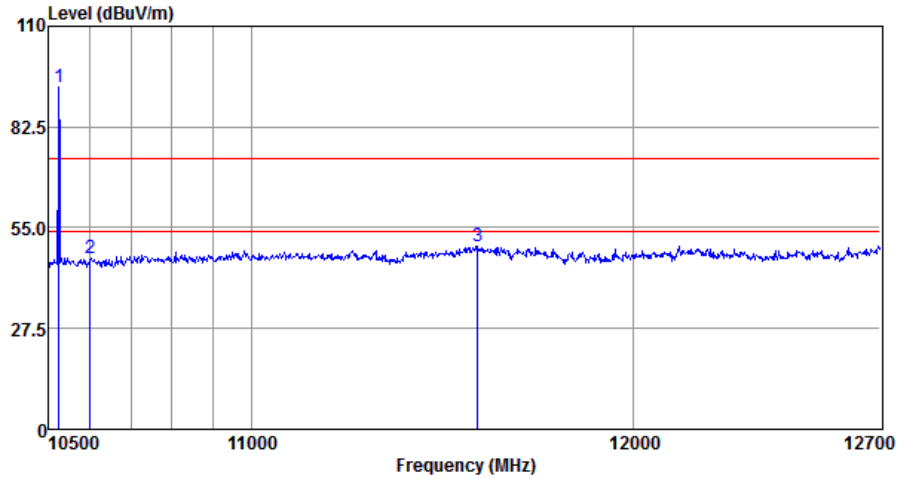
Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
1 9469.44	38.99	35.18	10.67	34.19	50.65	74.00	-23.35	Peak
2 9500.00	37.00	35.20	10.67	34.16	48.71	74.00	-25.29	Peak
310522.62	81.27	34.90	9.99	34.59	91.57	74.00	17.57	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor



Band-edge-Highest:

Horizontal:



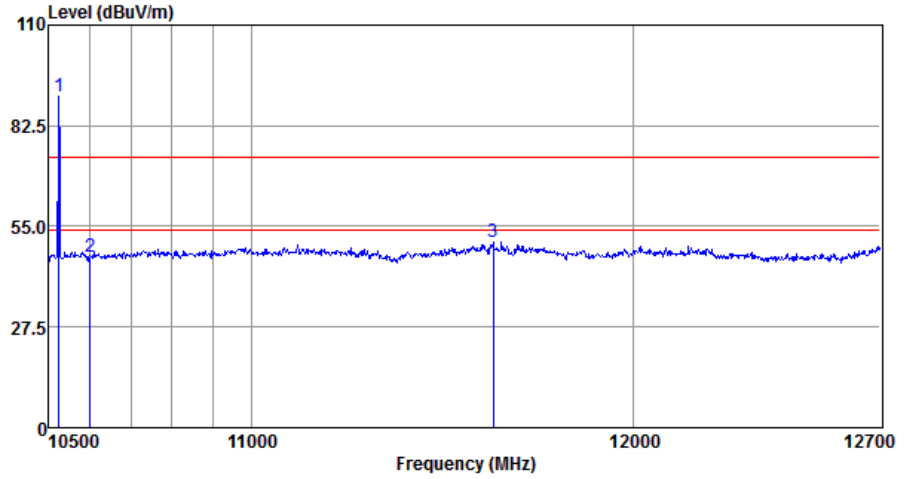
Antenna Polarity :HORIZONTAL

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
110524.00	82.95	34.90	9.99	34.59	93.25	74.00	19.25	Peak
210600.00	36.25	35.03	10.10	34.65	46.73	74.00	-27.27	Peak
311582.93	39.03	35.79	11.35	36.12	50.05	74.00	-23.95	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor



Vertical:



Antenna Polarity :VERTICAL

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
110524.00	80.08	34.90	9.99	34.59	90.38	74.00	16.38	Peak
210600.00	36.05	35.03	10.10	34.65	46.53	74.00	-27.47	Peak
311622.66	39.75	35.77	11.35	36.22	50.65	74.00	-23.35	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor





- Remark: 1. Result Level = Reading Level + Corrected factor
2. No any other emissions level which are attenuated less than 20dB below the limit. According to 15.31(o), the amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part. Hence there no other emissions have been reported.
3. If the Peak value below the AV Limit, the AV test doesn't perform for this submission.

All frequencies within the "Restricted bands" have been evaluated to compliance. only spurious emissions are permitted in any of the frequency bands listed below:

1). FCC Part 15, Subpart C Section 15.205 Restricted bands of operation.

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
10.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	
13.36 - 13.41			



2). RSS-Gen section 8.10 Restricted bands of operation

MHz	MHz	GHz
0.090-0.110	240-285	9.0-9.2
2.1735-2.1905	322-335.4	9.3-9.5
3.020-3.026	399.9-410	10.6-12.7
4.125-4.128	608-614	13.25-13.4
4.17725-4.17775	960-1427	14.47-14.5
4.20725-4.20775	1435-1626.5	15.35-16.2
5.677-5.683	1645.5-1646.5	17.7-21.4
6.215-6.218	1660-1710	22.01-23.12
6.26775-6.26825	1718.8-1722.2	23.6-24.0
6.31175-6.31225	2200-2300	31.2-31.8
8.291-8.294	2310-2390	36.43-36.5
8.362-8.366	2655-2900	Above 38.6
8.37625-8.38675	3260-3267	
8.41425-8.41475	3332-3339	
12.29-12.293	3345.8-3358	
12.51975-12.52025	3500-4400	
12.57675-12.57725	4500-5150	
13.36-13.41	5350-5460	
16.42-16.423	7250-7750	
16.69475-16.69525	8025-8500	
16.80425-16.80475		
25.5-25.67		
37.5-38.25		
73-74.6		
74.8-75.2		
108-138		
156.52475-156.52525		
156.7-156.9		



## 7 Test Setup Photographs

Refer to the < Test Setup Photos-FCC >

## 8 EUT Constructional Details

Refer to the < External Photos > & < Internal Photos >.

**--End of the Report--**