

## ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

### INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART C REQUIREMENT

OF

**Applicant:** Wacom Co., Ltd.  
2-510-1 Toyonodai, Kazo-shi, Saitama 349-1148 Japan

**Product Name:** LCD Tablet

**Brand Name:** Wacom

**Model No.:** DTH-2420, DTK-2420

**Model Difference:** N/A

**Report Number:** ER/2017/C0105

**FCC ID** HV4DTH2420

**IC ID** 6888A-DTH2420, 6888A-DTK2420

**FCC Rule Part** Part 15C

**IC Rule** RSS-Gen Issue 4 November 2014  
RSS-210 RSS-210 Annex B.2 Issue 9 August 2016

**Issue Date:** Jan. 08, 2018

**Date of Test:** Dec. 26, 2017

**Date of EUT Received:** Dec. 19, 2017

**We hereby certify that:**

The above equipment was tested by SGS Taiwan Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10:2013 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15C, RSS-Gen and RSS-210.

The test results of this report relate only to the tested sample identified in this report.

**Prepared By:**

*Allen Tsai*

**Allen Tsai / Engineer**

**Approved By:**

*Jim Chang*

**Jim Chang / Asst. Manager**



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## Revision History

Report Number	Revision	Description	Issue Date
ER/2017/C0105	Rev.00	Initial creation of document	Jan. 08, 2018

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## 1 GENERAL INFORMATION

### 1.1 Product Description

General:

Product Name:	LCD Tablet	
Brand Name:	Wacom	
Model No.:	DTH-2420, DTK-2420	
Model Difference:	N/A	
Hardware Version:	R1.03	
Software Version:	N/A	
Power Supply:	19.5V DC from Adapter	
	Adpater:	Model No.: ADP-180MB K, Supplier: DELTA

667kHz:

Operating Frequency	667 kHz
Transmit Power	66.15 BuV/m at 3m.
Number of Channels	1
Modulation Type	ASK

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## 1.2 Test Methodology

FCC Part 15, Subpart C

RSS-Gen Issue 4 November 2014

RSS-210 RSS-210 Annex B.2 Issue 9 August 2016

ANSI C63.10:2013

Note: All test items have been performed and record as per the above standards..

## 1.3 Test Facility

SGS Taiwan Ltd. Electronics & Communication Laboratory No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803 (TAF code 0513)

FCC Registration Number and Designation number are: 509634 / TW0001

Canada Registration Number: 4620A-5

## 1.4 Special Accessories

There is no special accessory used while test was conducted.

## 1.5 Equipment Modifications

There was no modification incorporated into the EUT.

## 1.6 Radiated Emission Test Sites For Measurements From 9 kHz To 30 MHz

Radiated emission below 30MHz is measured in a 9m\*9m\*6m semi-anechoic chamber, the measurements correspond to those obtained at an open-field test site.

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## 2 SYSTEM TEST CONFIGURATION

### 2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

### 2.2 EUT Exercise

The Transmitter was operated in the normal operating mode. the Tx frequency was fixed which was for the purpose of the measurements.

### 2.3 Test Procedure

#### 2.3.1 Conducted Emissions (Not apply in the report)

The EUT is a placed on as turn table which is 0.8m above ground plane. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz,. The CISPR Quasi-Peak and Average detector mode is employed according to §15.107. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

#### 2.3.2 Radiated Emissions

The EUT is a placed on as turn table. For emissions testing at or below 1 GHz, the table height shall be 0.8 m above the reference ground plane. For emission measurements above 1 GHz, the table height shall be 1.5 m above the reference ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made “while keeping the antenna in the ‘cone of radiation’ from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response.” is still within the 3dB illumination BW of the measurement antenna.

Remark 1. Emission level in dBuV/m= $20 \log(\mu\text{V}/\text{m})$

- : 2. Measurement was performed at an antenna to the closed point of EUT distance of 3 meters.
- 3. Distance extrapolation factor =  $40 \log(\text{required distance}/\text{test distance})$  (dB);
- 4. The measurement was undertaken in closer distance at 3m, where extrapolation factor is offset to convert the limit of the measurement.  $\text{Ex. } 20 * \log(30) + 40 * \log(30/3) = 69.54 \text{ dBuV}/\text{m}$
- 5. Only spurious frequency is permitted to locate within the Restricted Bands specified in provision of §15.205.
- 6. The general radiated emission limits in §15.209 apply for the spurious emission generate from UE, except for the fundamental emission where the respective section specifies otherwise.

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## 2.4 Configuration of Tested System

Fig. 2-1 Emission test set up configuration



Fig. 2-2 Conduction test set up configuration

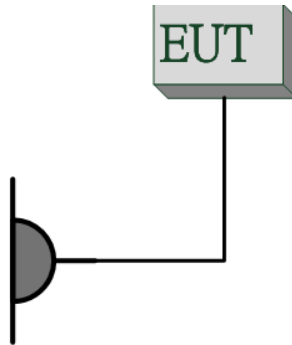


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Data Cable	Power Cord
1.	Notebook	Lenovo	L420	LR-7HXZA	N/A	unshielded

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### 3 SUMMARY OF TEST RESULTS

FCC Rules	IC Rules	Description Of Test	Result
§15.207	RSS-Gen § 8.8	AC Power Line Conducted Emission	Compliant
§15.221(a)	RSS-Gen § 8.9 RSS-210 Annex B.2	Radiated Emission Limits, general requirement	Compliant
§15.215 (c)	RSS-Gen § 6.6	99% & 20 dB OCCUPIED BANDWIDTH	Compliant
§15.203	RSS-Gen § 8.3	Antenna Requirement	Compliant

### 4 DESCRIPTION OF TEST MODES

The EUT stay in continuous transmitting mode. The frequency 667 kHz is the default channel to test, where it is the only manipulative channel as this application supports.

The field strength of spurious radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode), the worst case E2 position was reported.

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## 5 MEASUREMENT UNCERTAINTY

Test Items	Uncertainty
AC Power Line Conducted Emission	+/- 2.586 dB
Frequency Stability	+/- 123.36 Hz
20 dB OCCUPIED BANDWIDTH	+/- 123.36 Hz
Temperature	+/- 0.8 °C
Humidity	+/- 4.7 %
DC / AC Power Source	DC= +/- 1%, AC= +/- 0.2%

### Radiated Spurious Emission:

Measurement uncertainty	9kHz - 30MHz: +/- 2.3dB
-------------------------	-------------------------

Measurement uncertainty (Polarization : <b>Vertical</b> )	30MHz - 180MHz: +/- 3.37dB
	180MHz -417MHz: +/- 3.19dB
	0.417GHz-1GHz: +/- 3.19dB

Measurement uncertainty (Polarization : <b>Horizontal</b> )	30MHz - 167MHz: +/- 4.22dB
	167MHz -500MHz: +/- 3.44dB
	0.5GHz-1GHz: +/- 3.39dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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## 6 CONDUCTED EMISSIONS TEST

### 6.1 Limitation

#### Conducted Emission

According to section 15.207(a) Conducted Emission Limits is as following.

Frequency range MHz	Limits dB (uV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

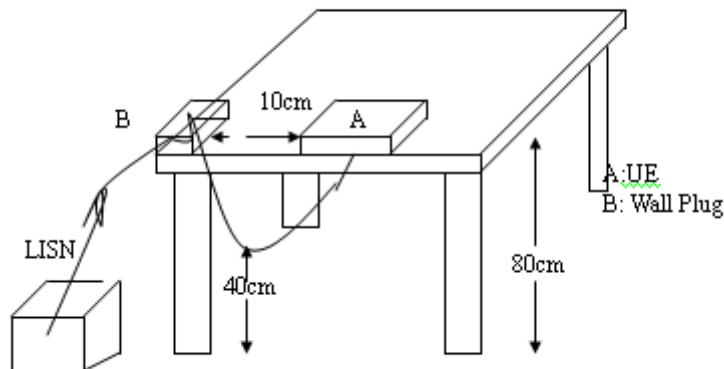
Note

- 1.The lower limit shall apply at the transition frequencies
- 2.The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

### 6.2 Measurement Procedure:

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Sweep frequency starting from 150 kHz to 30 MHz for phase L1.
4. Repeating the measurement as lists above for phase neutral.

### 6.3 Test SET-UP (Block Diagram of Configuration)



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#### 6.4 Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EMI Test Receiver	R&S	ESCI7	100760	05/11/2017	05/10/2018
LISN	SCHWARZBECK	NSLK 8127	8127-649	05/22/2017	05/21/2018
LISN	MESS TEC	FCC-LISN-50/25 0-25-2-01	4034	03/19/2017	03/18/2018
Coaxial Cables	N/A	WK CE Cable	N/A	11/26/2017	11/25/2018

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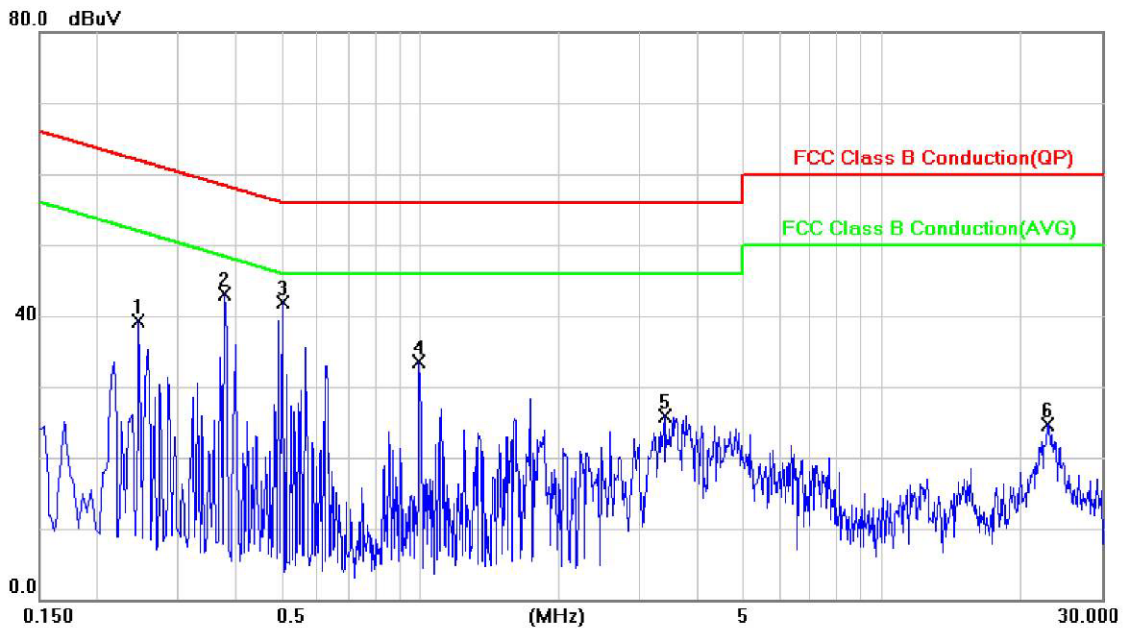
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### 6.5 Measurement Result:

Site: Conduction Room	Phase: <b>L1</b>	Temperature: 20 °C
Limit: FCC Class B Conduction(QP)	Power: AC 120V/60Hz	Humidity: 58 %
Mode:		
Note: ADP-180MB K		

#### Conducted Emission

File :和碩 Data :#1 Date: 2017/12/27 Time: 上午 11:02:41



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.2460	39.09	0.12	39.21	61.89	-22.68	peak	
2		0.3780	43.05	0.11	43.16	58.32	-15.16	peak	
3	*	0.5060	41.88	0.11	41.99	56.00	-14.01	peak	
4		0.9980	33.37	0.12	33.49	56.00	-22.51	peak	
5		3.3900	25.73	0.21	25.94	56.00	-30.06	peak	
6		22.8460	24.03	0.69	24.72	60.00	-35.28	peak	

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Site Conduction Room	Phase: <b>N</b>	Temperature: 20 °C
Limit: FCC Class B Conduction(QP)	Power: AC 120V/60Hz	Humidity: 58 %
Mode:		
Note: ADP-180MB K		

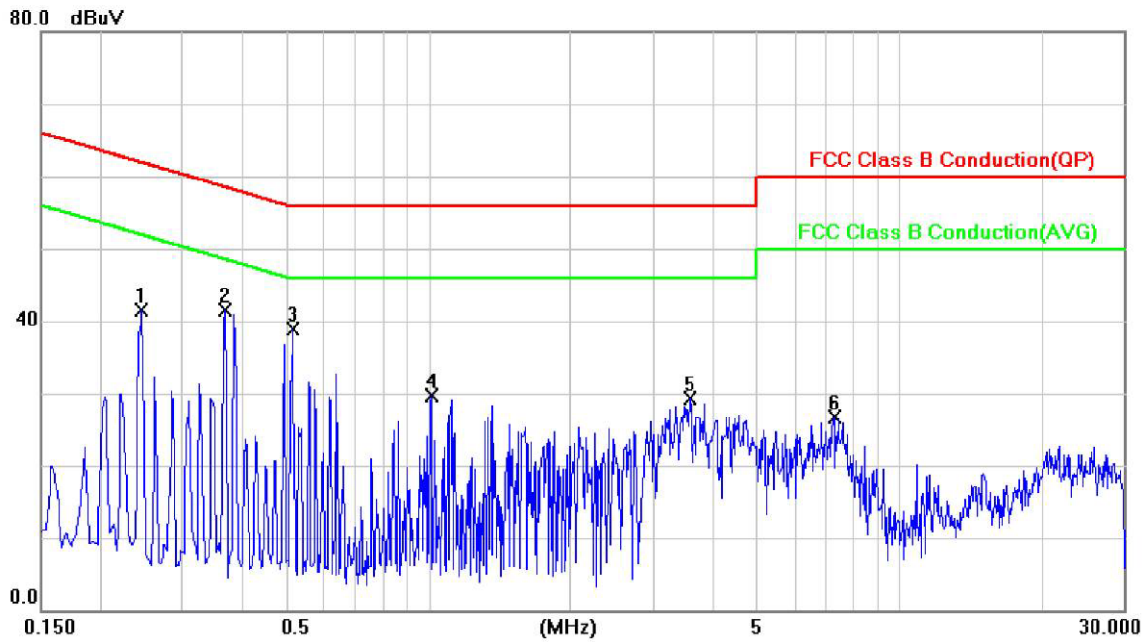
### Conducted Emission

File : 和碩

Data :#2

Date: 2017/12/27

Time: 上午 11:03:58



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.2460	41.44	0.07	41.51	61.89	-20.38	peak	
2		0.3700	41.40	0.08	41.48	58.50	-17.02	peak	
3	*	0.5140	38.92	0.08	39.00	56.00	-17.00	peak	
4		1.0140	29.59	0.09	29.68	56.00	-26.32	peak	
5		3.6020	29.05	0.18	29.23	56.00	-26.77	peak	
6		7.2900	26.37	0.30	26.67	60.00	-33.33	peak	

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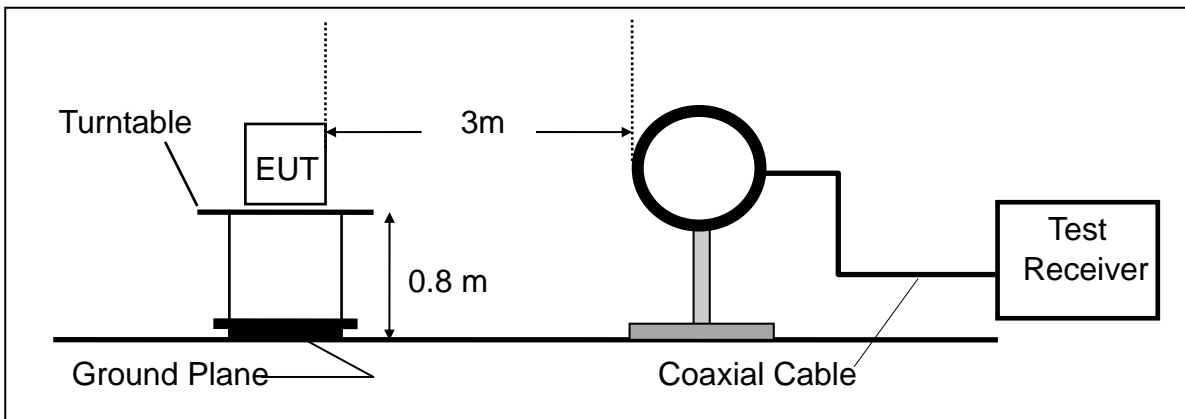
## 7 RADIATED EMISSION TEST

### 7.1 Measurement Procedure

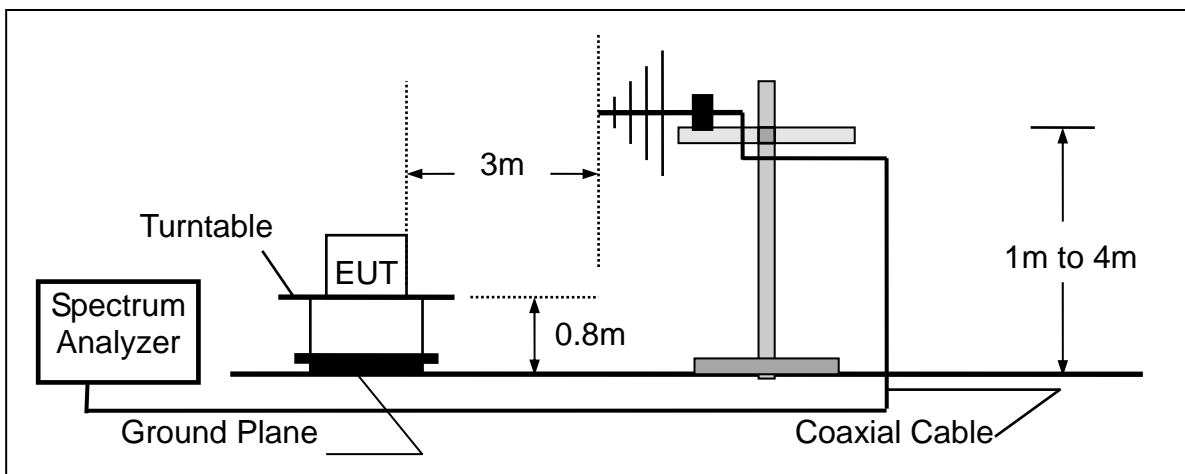
1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

### 7.2 Test SET-UP (Block Diagram of Configuration)

#### (A) Radiated Emission Test Set-Up, Frequency Below 30MHz



#### (B) Radiated Emission Test Set-Up, Frequency Below 1000MHz



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### 7.3 Measurement Equipment Used:

SGS 966 Chamber No.C

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
EMI Test Receiver	R&S	ESC17	100760	05/11/2017	05/10/2018
Spectrum Analyzer	Agilent	E4446A	MY51100003	04/25/2017	04/24/2018
Loop Antenna	ETS-Lindgren	6502	148045	09/20/2017	09/19/2018
Bilog Antenna	SCHWAZBECK	VULB9168	378	12/29/2017	12/30/2018
Horn Antenna	Schwarzbeck	BBHA9120D	1441	08/04/2017	08/03/2018
Pre-Amplifier	Agilent	8447D	2944A07676	01/02/2018	01/01/2019
Pre-Amplifier	EMC Instruments Corp.	EMC0126530	980038	01/02/2018	01/01/2019
Turn Table	HD	DT420	N/A	N.C.R	N.C.R
Antenna Tower	ChamPro	AM-BS-4500-B	060776-ABS	N.C.R	N.C.R
Controller	ChamPro	EM1000	60776	N.C.R	N.C.R
Low Loss Cable	Huber Suhner	966_RX	9	01/02/2018	01/01/2019
3m Site NSA	SGS	966 chamber	N/A	01/02/2018	01/01/2019
Low Loss Cable	Huber Suhner	966 TX	1	01/02/2018	01/01/2019
Horn Antenna	Schwarzbeck	BBHA9170	184	01/02/2018	01/01/2019
Pre-Amplifier	EMC Instruments Corp.	EMC184045	980135	01/02/2018	01/01/2019

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## 7.4 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL - AG$$

Where	FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

## 7.5 Field Strength of Fundamental Emission

### 7.5.1 Limit

#### Carrier 667kHz

15uV/m @ 47715 / 667(m) = 23.52 dBuV/m @71.54m = 78.61 dBuV/m @3m

#### Below 30MHz

Frequency (MHz)	Limit (μV/m)	Measurement distance (meters)	Remark
0.009-0.490	2400/F(kHz)	300	Quasi-Peak Value
0.490-1.705	24000/F(kHz)	30	Quasi-Peak Value
1.705-30.0	30	30	Quasi-Peak Value

#### Above 30MHz

Frequency (MHz)	Limit (dBμV/m @3m)	Remark
30-88	40	Quasi-Peak Value
88-216	43.5	Quasi-Peak Value
216-960	46	Quasi-Peak Value
Above 960	54	Quasi-Peak Value
Above 1GHz	54	Average Value
	74	Peak Value

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**Note:**

1. The measurement was undertaken in closer distance at 3m, where extrapolation factor is offset to convert the limit of the measurement.  $Ex. 20 \cdot \log(30) + 40 \cdot \log(30/3) = 69.54 \text{dB}\mu\text{V/m}$
2. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
3.  $Actual \text{FS}(\text{dB}\mu\text{V/m}) = \text{Spectrum. Reading level}(\text{dB}\mu\text{V}) + \text{Factor}(\text{dB})$   
 $\text{Factor}(\text{dB}) = \text{Antenna Factor}(\text{dB}\mu\text{V/m}) + \text{Cable Loss}(\text{dB}) - \text{Pre\_Amplifier Gain}(\text{dB})$   
 “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.  
 “E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.

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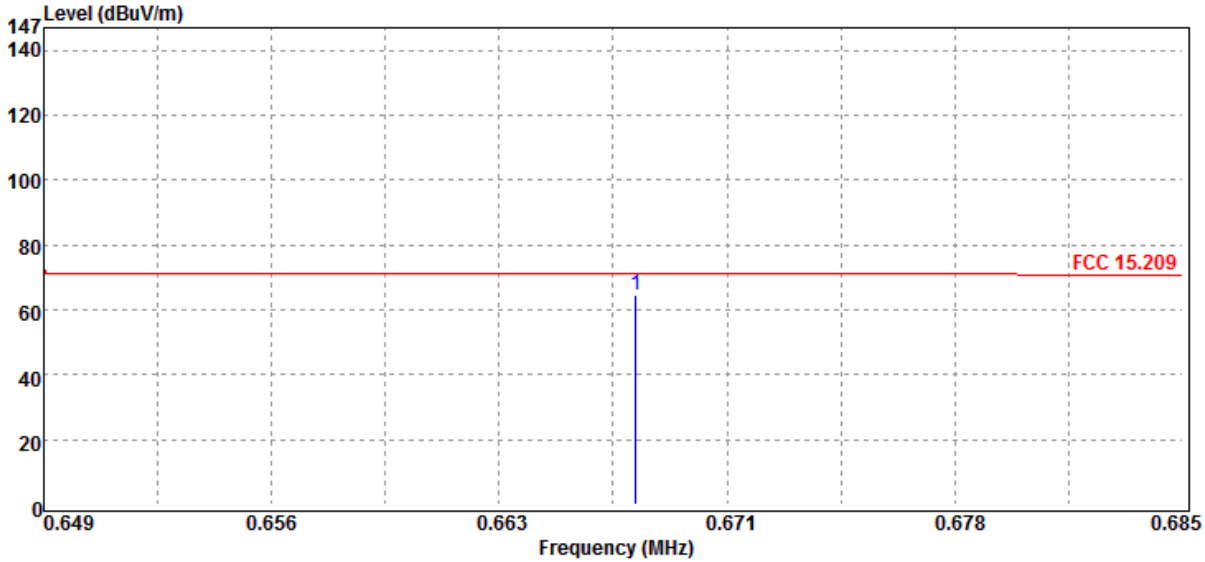
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### 7.5.2 Main

Operation Band	:667KHz	Test Date	:2017-12-26
Fundamental Frequency	:667 KHz	Temp./Humi.	:22 deg_C / 54 RH
Operation Mode	:Main	Engineer	:Kane
EUT Pol.	:E2 Plane	Measurement Antenna Pol.	:VERTICAL

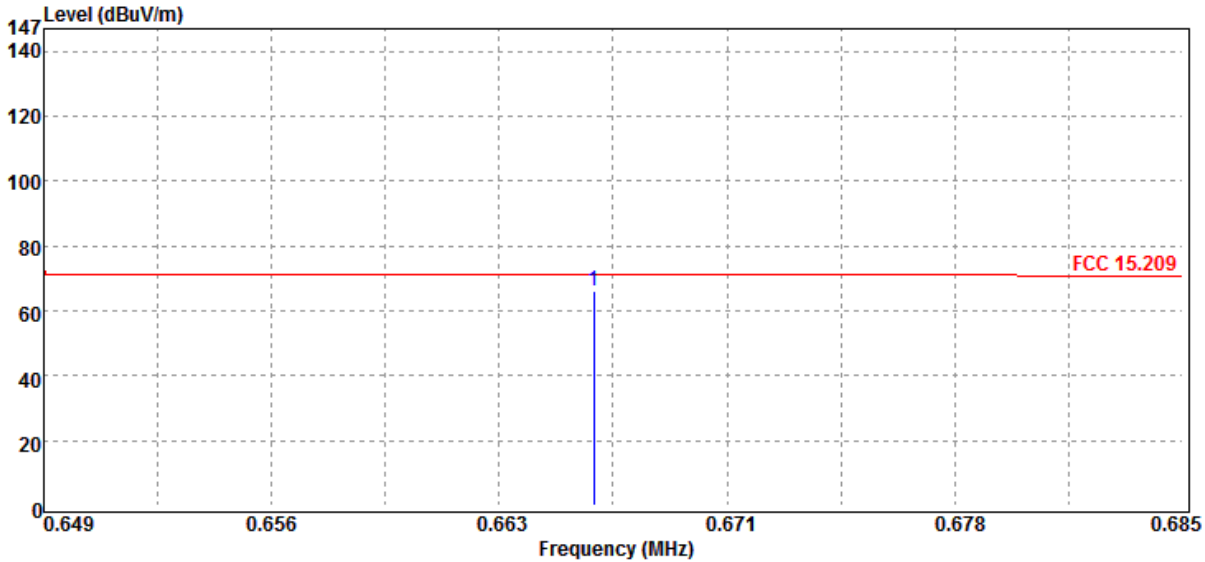


Freq. MHz	Note F/H/E/S	Detector Mode PK/QP/AV	Spectrum Reading Level dB $\mu$ V	Factor dB	Actual FS dB $\mu$ V/m	Limit @3m dB $\mu$ V/m	Safe Margin dB
0.667	F	Peak	53.26	11.53	64.79	78.61	-13.82

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Operation Band :667KHz  
Fundamental Frequency :667 KHz  
Operation Mode :Main  
EUT Pol. :E2 Plane

Test Date :2017-12-26  
Temp./Humi. :22 deg\_C / 54 RH  
Engineer :Kane  
Measurement Antenna Pol. :HORIZONTAL



Freq. MHz	Note F/H/E/S	Detector Mode PK/QP/AV	Spectrum Reading Level dB $\mu$ V	Factor dB	Actual FS dB $\mu$ V/m	Limit @3m dB $\mu$ V/m	Safe Margin dB
0.667	F	Peak	54.62	11.53	66.15	78.61	-12.46

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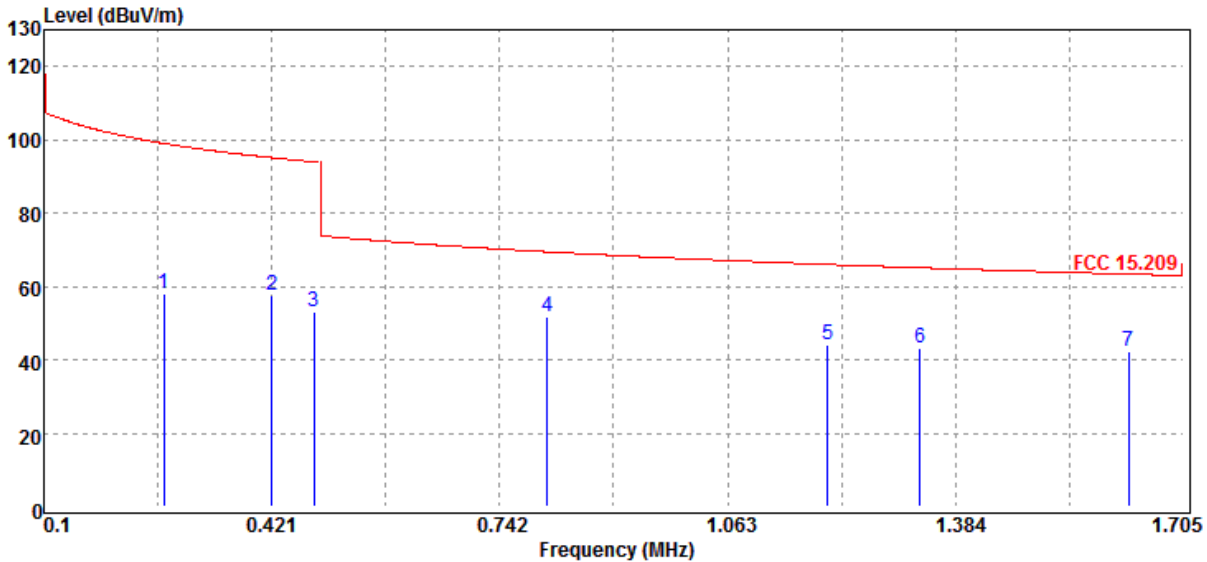
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**7.5.3 100kHz~1.705MHz**

Operation Band	:667KHz	Test Date	:2017-12-26
Fundamental Frequency	:667 KHz	Temp./Humi.	:22 deg_C / 54 RH
Operation Mode	:Tx	Engineer	:Kane
EUT Pol.	:E2 Plane	Measurement Antenna Pol.	:VERTICAL

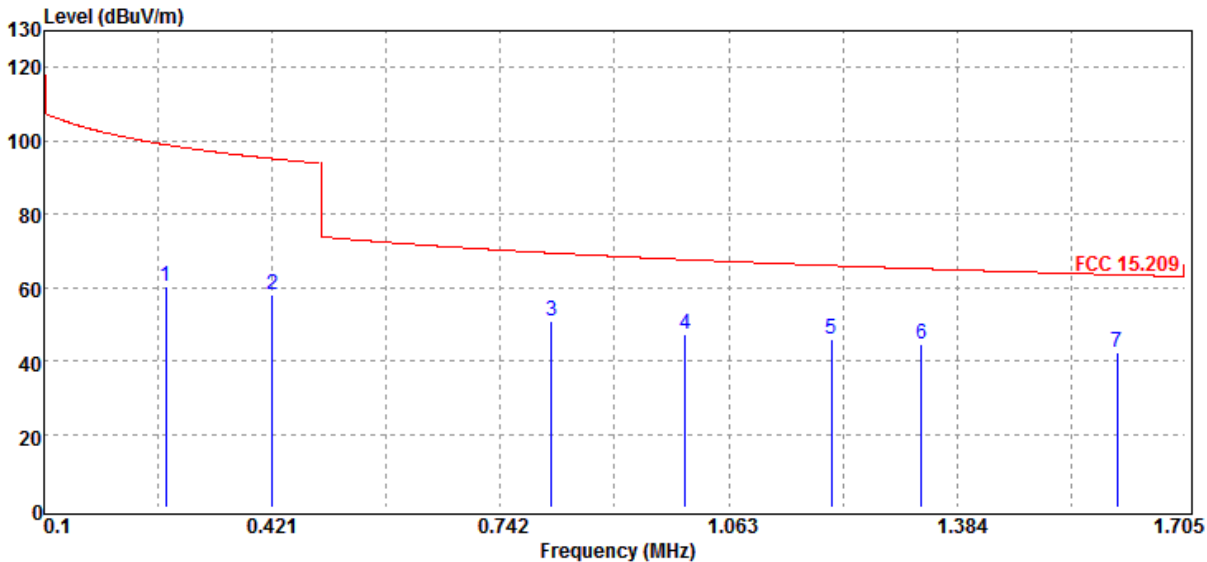


Freq. MHz	Note F/H/E/S	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
0.27	S	Peak	46.64	11.40	58.04	99.02	-40.98
0.42	S	Peak	45.98	11.47	57.45	95.12	-37.67
0.48	S	Peak	41.78	11.47	53.25	93.97	-40.72
0.81	S	Peak	40.11	11.57	51.68	69.44	-17.76
1.20	S	Peak	32.72	11.51	44.23	65.99	-21.76
1.33	H	Peak	31.65	11.45	43.10	65.10	-22.00
1.63	S	Peak	30.86	11.33	42.19	63.37	-21.18

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Operation Band :667KHz  
Fundamental Frequency :667 KHz  
Operation Mode :Tx  
EUT Pol. :E2 Plane

Test Date :2017-12-26  
Temp./Humi. :22 deg\_C / 54 RH  
Engineer :Kane  
Measurement Antenna Pol. :HORIZONTAL



Freq. MHz	Note F/H/E/S	Detector Mode PK/QP/AV	Spectrum Reading Level dB $\mu$ V	Factor dB	Actual FS dB $\mu$ V/m	Limit @3m dB $\mu$ V/m	Margin dB
0.27	S	Peak	49.09	11.40	60.49	98.92	-38.43
0.42	S	Peak	46.58	11.47	58.05	95.12	-37.07
0.81	S	Peak	39.37	11.57	50.94	69.39	-18.45
1.00	S	Peak	35.46	11.62	47.08	67.59	-20.51
1.21	S	Peak	34.29	11.51	45.80	65.97	-20.17
1.33	H	Peak	32.98	11.45	44.43	65.10	-20.67
1.61	S	Peak	30.74	11.34	42.08	63.47	-21.39

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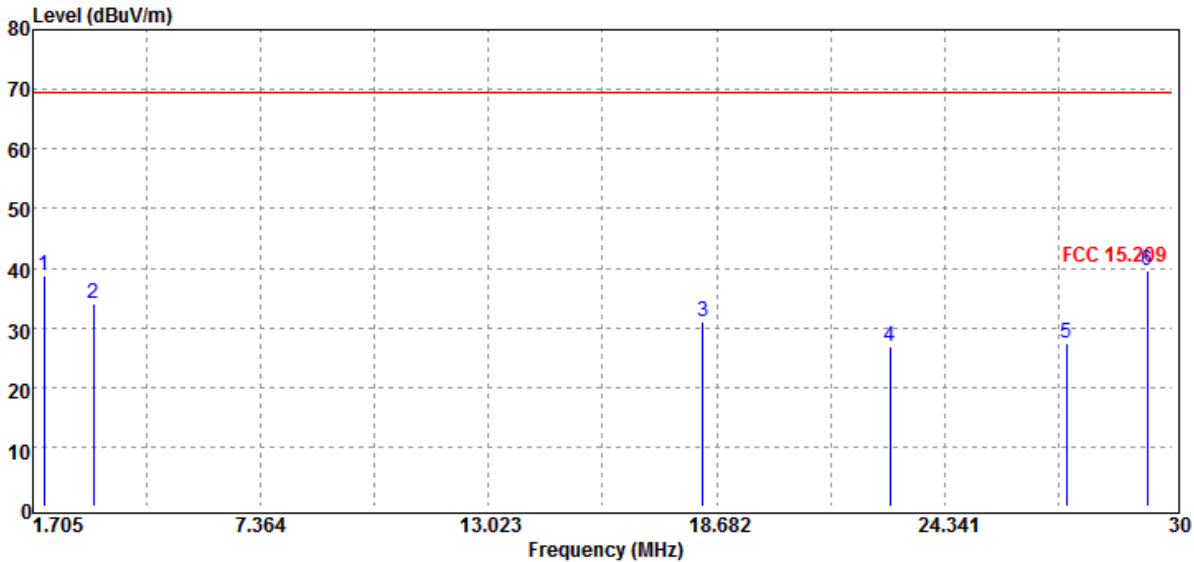
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**7.5.4 1.705MHz~30MHz**

Operation Band	:667KHz	Test Date	:2017-12-26
Fundamental Frequency	:667 KHz	Temp./Humi.	:22 deg_C / 54 RH
Operation Mode	:Tx	Engineer	:Kane
EUT Pol.	:E2 Plane	Measurement Antenna Pol.	:VERTICAL

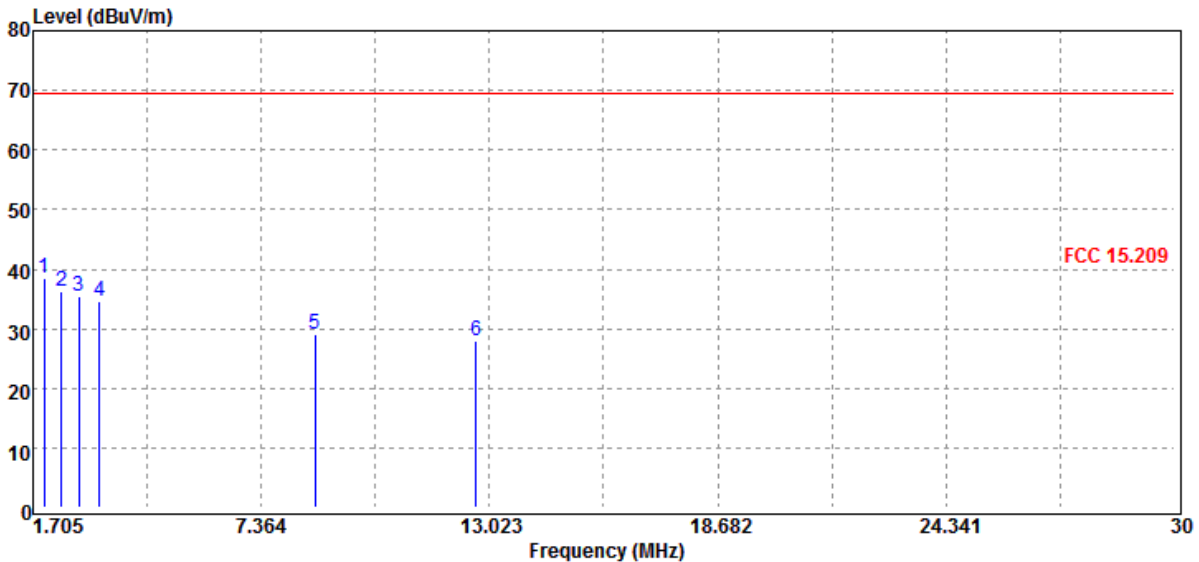


Freq. MHz	Note F/H/E/S	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
1.99	S	Peak	27.53	11.22	38.75	69.54	-30.79
3.21	S	Peak	23.06	11.09	34.15	69.54	-35.39
18.34	S	Peak	19.47	11.55	31.02	69.54	-38.52
22.98	S	Peak	16.19	10.71	26.90	69.54	-42.64
27.37	S	Peak	17.90	9.64	27.54	69.54	-42.00
29.38	S	Peak	30.37	9.20	39.57	69.54	-29.97

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Operation Band :667KHz  
Fundamental Frequency :667 KHz  
Operation Mode :Tx  
EUT Pol. :E2 Plane

Test Date :2017-12-26  
Temp./Humi. :22 deg\_C / 54 RH  
Engineer :Kane  
Measurement Antenna Pol. :HORIZONTAL



Freq. MHz	Note F/H/E/S	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
1.99	S	Peak	27.31	11.22	38.53	69.54	-31.01
2.41	S	Peak	25.16	11.11	36.27	69.54	-33.27
2.84	S	Peak	24.29	11.02	35.31	69.54	-34.23
3.35	S	Peak	23.40	11.17	34.57	69.54	-34.97
8.69	S	Peak	17.53	11.43	28.96	69.54	-40.58
12.68	S	Peak	16.65	11.41	28.06	69.54	-41.48

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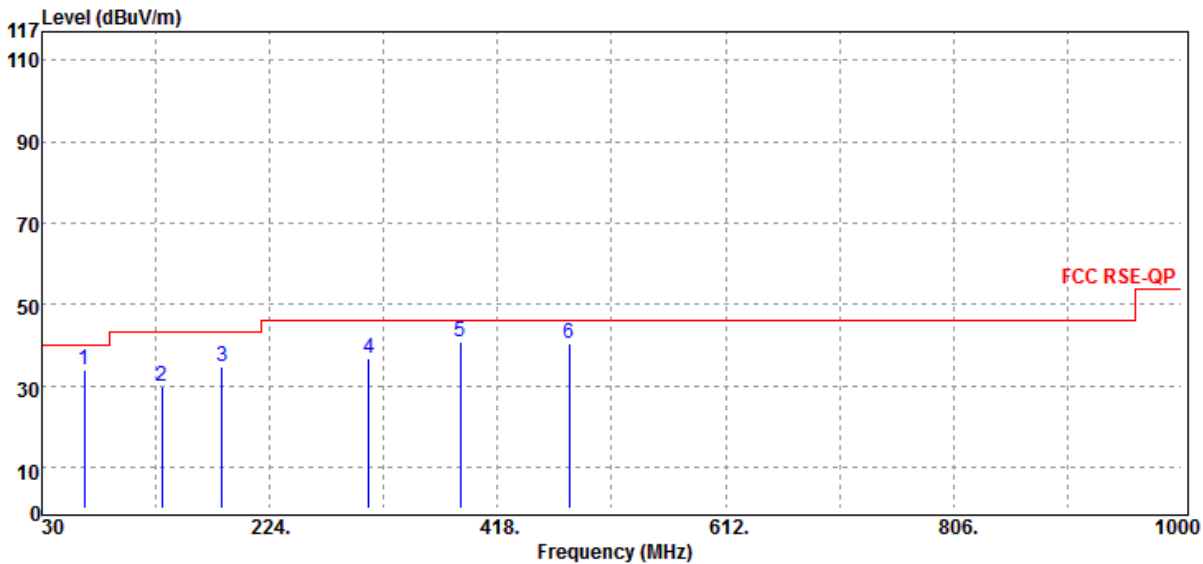
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### 7.5.5 Above 30MHz test result

Operation Band :667KHz  
Fundamental Frequency :667 KHz  
Operation Mode :Tx  
EUT Pol. :E2 Plane

Test Date :2017-12-26  
Temp./Humi. :24.5 deg\_C / 57RH  
Engineer :Kane  
Measurement Antenna Pol. :VERTICAL



Freq. MHz	Note F/H/E/S	Detector Mode PK/QP/AV	Spectrum Reading Level d $\mu$ V	Factor dB	Actual FS d $\mu$ V/m	Limit @3m d $\mu$ V/m	Margin dB
65.89	S	Peak	43.57	-9.38	34.19	40.00	-5.81
131.85	S	Peak	39.10	-9.26	29.84	43.50	-13.66
183.26	S	Peak	43.74	-8.90	34.84	43.50	-8.66
308.39	S	Peak	42.26	-5.57	36.69	46.00	-9.31
385.99	S	Peak	45.11	-4.31	40.80	46.00	-5.20
479.11	S	Peak	43.07	-2.39	40.68	46.00	-5.32

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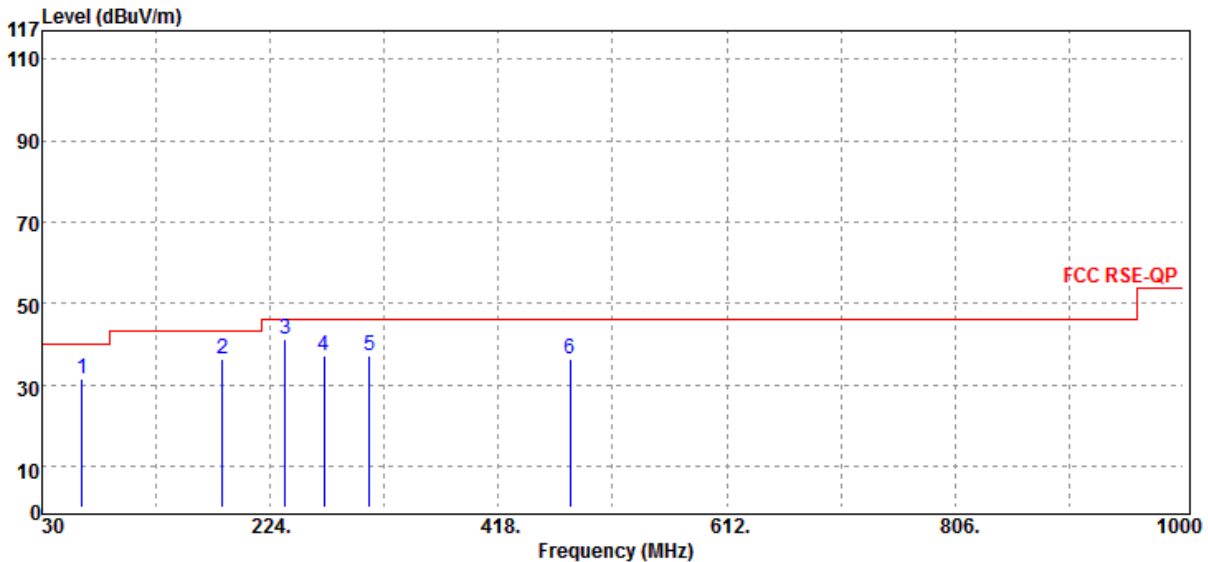
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Operation Band :667KHz  
Fundamental Frequency :667 KHz  
Operation Mode :Tx  
EUT Pol. :E2 Plane

Test Date :2017-12-26  
Temp./Humi. :24.5 deg\_C / 57RH  
Engineer :Kane  
Measurement Antenna Pol. :HORIZONTAL



Freq. MHz	Note F/H/E/S	Detector Mode PK/QP/AV	Spectrum Reading Level dB $\mu$ V	Factor dB	Actual FS dB $\mu$ V/m	Limit @3m dB $\mu$ V/m	Margin dB
63.95	S	Peak	40.31	-8.93	31.38	40.00	-8.62
183.26	S	Peak	45.16	-8.90	36.26	43.50	-7.24
236.61	S	Peak	49.51	-8.37	41.14	46.00	-4.86
269.59	S	Peak	44.29	-6.93	37.36	46.00	-8.64
308.39	S	Peak	42.82	-5.57	37.25	46.00	-8.75
479.11	S	Peak	38.68	-2.39	36.29	46.00	-9.71

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## 8 20 dB & 99% OCCUPIED BANDWIDTH MEASUREMENT

### 8.1 Standard Applicable:

§2.1049, & §15.215 (c)  
RSS-Gen §6.6, RSS-210 Annex B.2

### 8.2 Limit:

None

### 8.3 Test Set-up

Refer to section 6.2 in this report

### 8.4 Measurement Procedure

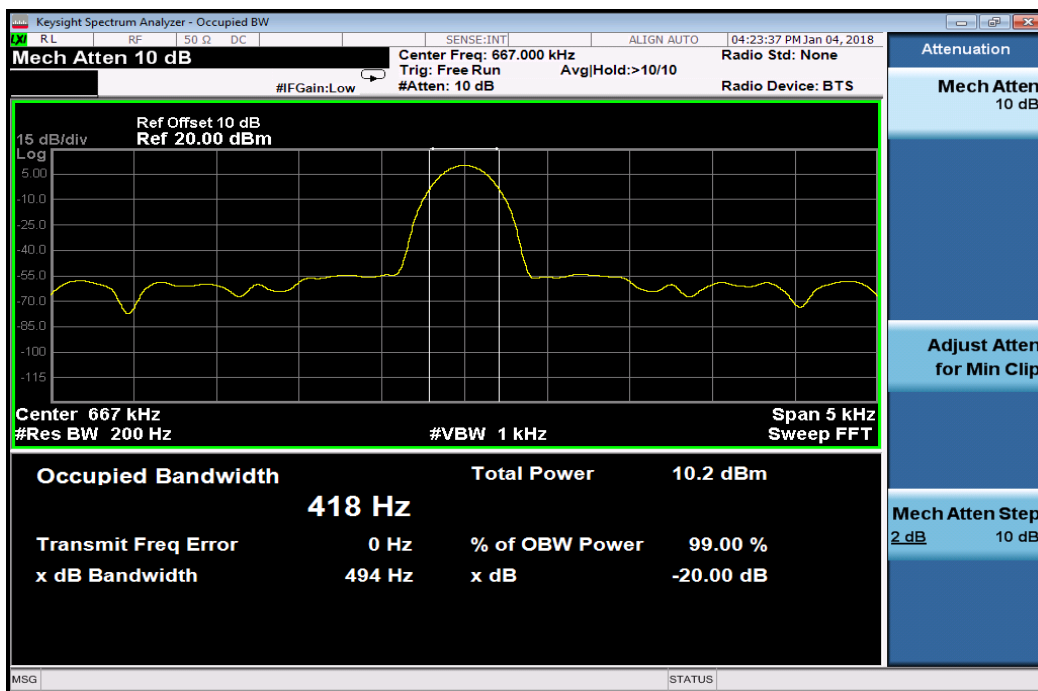
1. The transmitter output (antenna port) was connected to the spectrum analyzer in peak mode.
2. The resolution bandwidth of 200 Hz and the video bandwidth of 1 kHz were used.
3. Measured the spectrum width with power higher than 20dB below carrier and Turn on the 99% bandwidth function, max reading.

### 8.5 Measurement Equipment Used:

Refer to section 8.3 in this report

### 8.6 Measurement Result

20dB Bandwidth (Hz)	99% Bandwidth (Hz)
494	418



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## 9 ANTENNA REQUIREMENT

### 9.1 Standard Applicable:

According to §15.203, Antenna requirement.

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Section 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this Part are not exceeded.

### 9.2 Antenna Connected Construction:

The antenna is designed as permanently attached and no consideration of replacement. Please see EUT photo and antenna spec. for details.

*~ End of Report ~*

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