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Report No.: SZEMO10120750503

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FCC REPORT

Application No.: SZEMO101207505RF
Applicant: Bensussen Deutsch & Associates, Inc. (BDA)
Product Name: PS3 WIRELESS MINI CONTROLLER
Operation Frequency: 2403MHz to 2480MHz
FCC ID: YFK-22004202
Standards: FCC CFR Title 47 Part 15 Subpart C Section 15.249: 2009
Date of Receipt 2011-01-20
Date of Test 2011-01-21 to 2011-05-18
Date of Issue 2011-06-15

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

Authorized Signature:

Jack Zhang
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.

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. All test results in this report can be traceable to National or International Standards.

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3 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	Pass
AC Power Line Conducted Emission	15.207	Pass
Field strength of the fundamental signal	15.249 (a)	Pass
Spurious emissions	15.249 (a)/15.209	Pass
Band edge (Radiated Emission)	15.249(a)/15.205	Pass
20dB Occupied Bandwidth	15.215 (c)	Pass

Remark: Pass: The EUT complies with the essential requirements in the standard.

Fail: The EUT does not comply with the essential requirements in the standard.



4 General Information

4.1 Client Information

Applicant:	Bensussen Deutsch & Associates, Inc. (BDA)
Address of Applicant:	15525 Woodinville-Redmond Road NE Woodinville, WA 98072 USA

4.2 General Description of E.U.T.

Product Name:	PS3 WIRELESS MINI CONTROLLER
Model No.:	220214-89
Trade Name:	POWER A
Operation Frequency:	2403MHz~2480MHz
Channel numbers:	78
Channel separation:	1MHz
Modulation type:	GFSK
Antenna Type:	PCB Antenna
Antenna gain:	-1dBi
Power supply:	DC 5V from PS3



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Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2403MHz	21	2423MHz	41	2443MHz	61	2463MHz
2	2404MHz	22	2424MHz	42	2444MHz	62	2464MHz
3	2405MHz	23	2425MHz	43	2445MHz	63	2465MHz
4	2406MHz	24	2426MHz	44	2446MHz	64	2466MHz
5	2407MHz	25	2427MHz	45	2447MHz	65	2467MHz
6	2408MHz	26	2428MHz	46	2448MHz	66	2468MHz
7	2409MHz	27	2429MHz	47	2449MHz	67	2469MHz
8	2410MHz	28	2430MHz	48	2450MHz	68	2470MHz
9	2411MHz	29	2431MHz	49	2451MHz	69	2471MHz
10	2412MHz	30	2432MHz	50	2452MHz	70	2472MHz
11	2413MHz	31	2433MHz	51	2453MHz	71	2473MHz
12	2414MHz	32	2434MHz	52	2454MHz	72	2474MHz
13	2415MHz	33	2435MHz	53	2455MHz	73	2475MHz
14	2416MHz	34	2436MHz	54	2456MHz	74	2476MHz
15	2417MHz	35	2437MHz	55	2457MHz	75	2477MHz
16	2418MHz	36	2438MHz	56	2458MHz	76	2478MHz
17	2419MHz	37	2439MHz	57	2459MHz	77	2479MHz
18	2420MHz	38	2440MHz	58	2460MHz	78	2480MHz
19	2421MHz	39	2441MHz	59	2461MHz		
20	2422MHz	40	2442MHz	60	2462MHz		

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The lowest channel	2403MHz
The middle channel	2441MHz
The Highest channel	2480MHz

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4.3 E.U.T Operation mode

Operating Environment:

Temperature: 24.0 °C
Humidity: 52 % RH
Atmospheric Pressure: 1009 mbar

Test mode:

Transmitting mode: Keep the EUT in transmitting mode.

4.4 Description of Support Units

The EUT has been tested with associated equipment below.

Description	Manufacturer	Model No.
Play Station 3	Sony Computer Entertainment Inc.	CECHP12
Samsung Television	Samsung	2232MW



4.5 Test Facility

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

- **CNAS (No. CNAS L2929)**
CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab 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.
- **VCCI**
The 3m Semi-anechoic chamber and Shielded Room (7.5m x 4.0m x 3.0m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2197 and C-2383 respectively.
Date of Registration: September 29, 2008. Valid until September 28, 2011.
- **FCC – Registration No.: 556682**
SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen 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 556682, June 27, 2008.
- **Industry Canada (IC)**
The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1.

4.6 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch E&E Lab

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China
518057

Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594

No tests were sub-contracted.

4.7 Other Information Requested by the Customer

None.



4.8 Test Instruments list:


RE in Chamber						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (yyyy-mm-dd)	Cal.Due date (yyyy-mm-dd)
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEL0017	2010-06-17	2011-06-17
2	EMI Test Receiver	Rohde & Schwarz	ESIB26	SEL0023	2010-11-05	2011-11-05
3	EMI Test software	AUDIX	E3	SEL0050	N/A	N/A
4	Coaxial cable	SGS	N/A	SEL0028	2008-06-18	2011-06-18
5	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEL0015	2010-11-09	2011-11-09
6	Double-ridged horn (1-18GHz)	ETS-LINDGREN	3117	SEL0006	2010-11-09	2011-11-09
7	Horn Antenna (18-26GHz)	ETS-LINDGREN	3160	SEL0076	2010-11-09	2011-11-09
8	Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEL0053	2010-06-02	2011-06-02
9	Pre-Amplifier (0.1-26.5GHz)	Compliance Directions Systems Inc.	PAP-0126	SEL0168	2010-10-27	2011-10-27
10	Pre-amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	SEL0080	2010-06-04	2011-06-04
11	Band filter	Amindeon	82346	SEL0094	2010-06-02	2011-06-02

Conducted Emission						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (yyyy-mm-dd)	Cal.Due date (yyyy-mm-dd)
1	Shielding Room	ZhongYu Electron	GB-88	SEL0042	N/A	N/A
2	LISN	ETS-LINDGREN	3816/2	SEL0021	2010-06-02	2011-06-02
3	Two-Line V-Network	Rohde & Schwarz	ENV216	SEL0152	2010-10-27	2011-10-27
4	EMI Test Receiver	Rohde & Schwarz	ESCI	SEL0022	2010-06-02	2011-06-02
5	Coaxial Cable	SGS	N/A	SEL0024	2008-06-18	2011-06-18

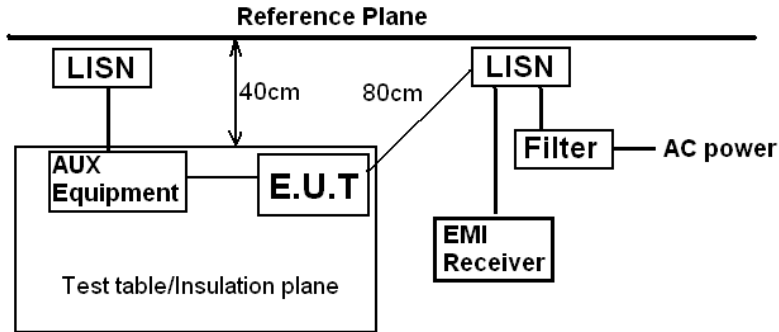
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5 Test results and Measurement Data

5.1 Antenna requirement:

Standard requirement:	FCC Part15 C Section 15.203
<p>15.203 requirement: <i>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, 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.</i></p>	
E.U.T Antenna:	
<p>The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is -1dBi.</p> 	

5.2 Conducted Emissions

Test Requirement:	FCC Part15 C Section 15.207														
Test Method:	ANSI C63.10: 2009														
Test Frequency Range:	150KHz to 30MHz														
Class / Severity:	Class B														
Receiver setup:	RBW=9KHz, VBW=30KHz														
Limit:	<table border="1"> <thead> <tr> <th rowspan="2">Frequency range (MHz)</th> <th colspan="2">Limit (dBuV)</th> </tr> <tr> <th>Quasi-peak</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>0.15-0.5</td> <td>66 to 56*</td> <td>56 to 46*</td> </tr> <tr> <td>0.5-5</td> <td>56</td> <td>46</td> </tr> <tr> <td>5-30</td> <td>60</td> <td>50</td> </tr> </tbody> </table> <p>* Decreases with the logarithm of the frequency.</p>	Frequency range (MHz)	Limit (dBuV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50
Frequency range (MHz)	Limit (dBuV)														
	Quasi-peak	Average													
0.15-0.5	66 to 56*	56 to 46*													
0.5-5	56	46													
5-30	60	50													
Test procedure	The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs). Both sides of A.C. line are checked for maximum conducted interference. 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: 2009 on conducted measurement.														
Test setup:	 <p><i>Remark</i> <i>E.U.T: Equipment Under Test</i> <i>LISN: Line Impedance Stabilization Network</i> <i>Test table height=0.8m</i></p>														
Test Instruments:	Refer to section 4.8 for details														
Test mode	Transmitting mode														
Test results:	Pass														

Measurement Data

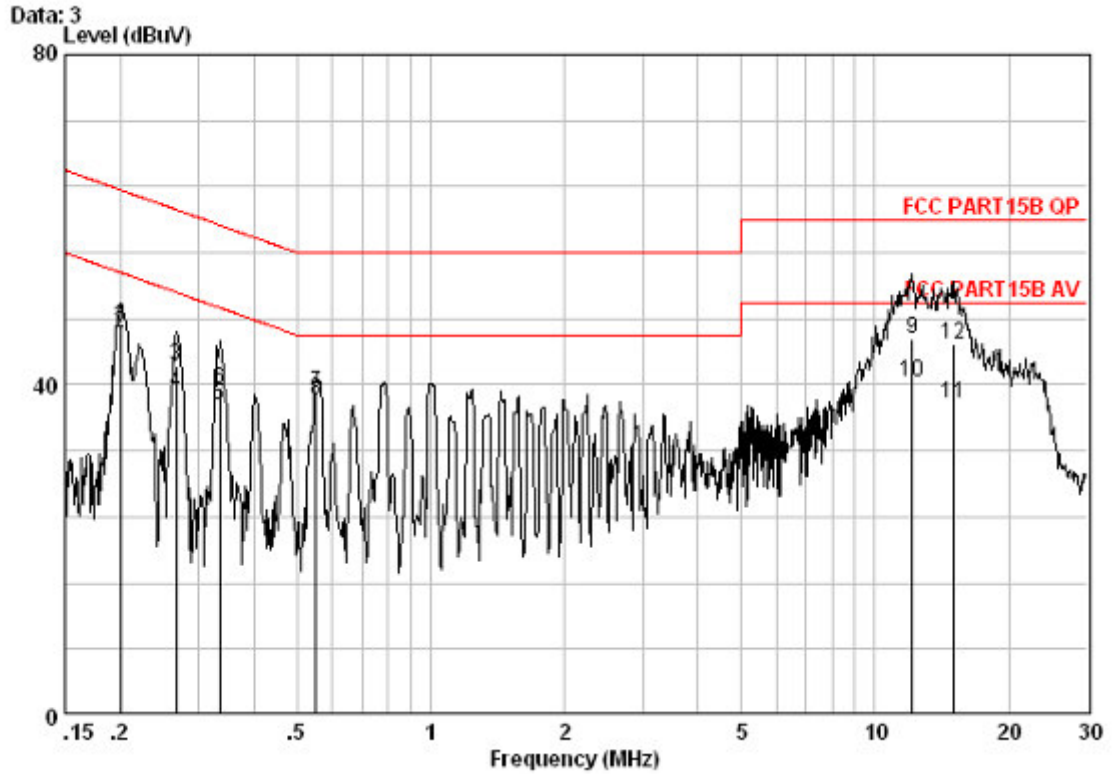
An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

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Live Line:



	Freq	Cable Loss	LISN Factor	Read Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dB	
1	0.20000	0.04	9.60	37.50	47.14	63.61	-16.47 QP
2 @	0.20000	0.04	9.60	36.50	46.14	53.61	-7.47 Average
3	0.26700	0.05	9.60	32.60	42.25	61.21	-18.96 QP
4	0.26700	0.05	9.60	29.30	38.95	51.21	-12.26 Average
5	0.33500	0.05	9.60	27.90	37.55	49.33	-11.77 Average
6	0.33500	0.05	9.60	29.70	39.35	59.33	-19.97 QP
7	0.55200	0.06	9.63	29.30	38.99	56.00	-17.01 QP
8 @	0.55200	0.06	9.63	28.40	38.09	46.00	-7.91 Average
9	12.120	0.23	9.89	35.40	45.53	60.00	-14.47 QP
10	12.120	0.23	9.89	30.20	40.33	50.00	-9.67 Average
11	14.980	0.25	10.00	27.50	37.75	50.00	-12.25 Average
12	14.980	0.25	10.00	34.60	44.85	60.00	-15.15 QP

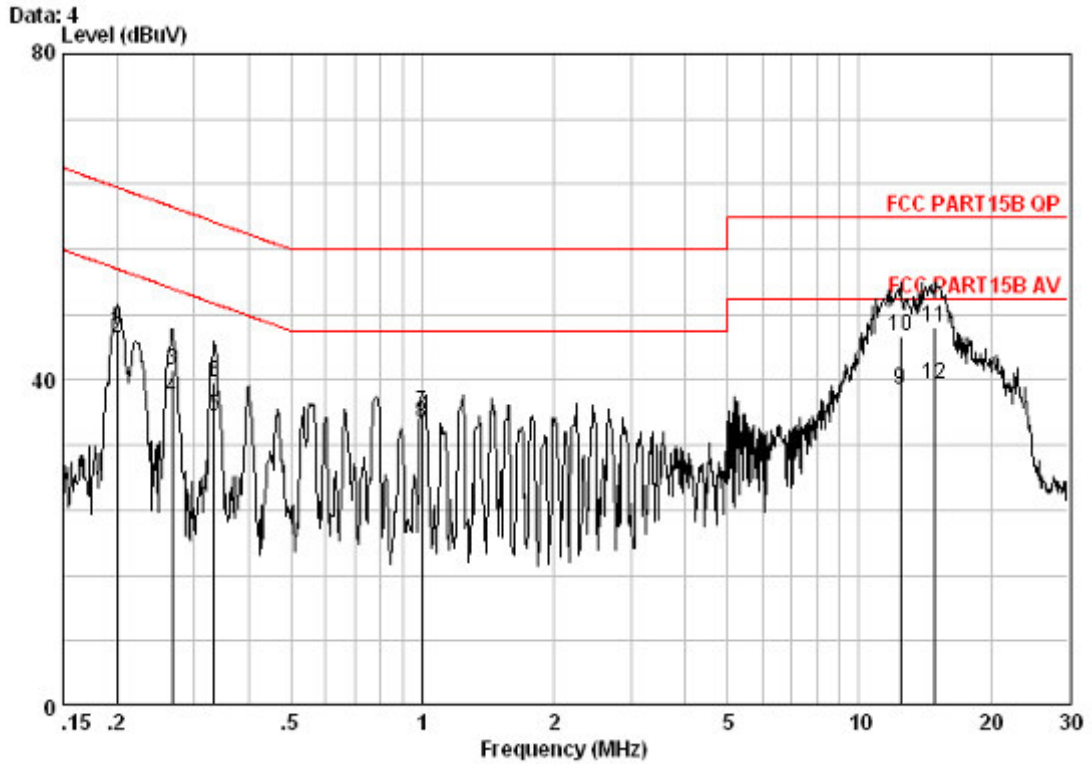
Notes:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level = Receiver Reading + LISN Factor + Cable Loss.

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Neutral Line:



	Freq	Cable Loss	LISN Factor	Read Level	Limit Level	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dB	
1	0.20000	0.04	9.60	36.30	63.61	-17.67	QP
2	0.20000	0.04	9.60	35.40	53.61	-8.57	Average
3	0.26700	0.05	9.60	31.50	61.21	-20.06	QP
4	0.26700	0.05	9.60	28.00	51.21	-13.56	Average
5	0.33200	0.05	9.60	25.90	49.40	-13.85	Average
6	0.33200	0.05	9.60	30.10	59.40	-19.65	QP
7	0.99900	0.08	9.70	26.10	56.00	-20.12	QP
8	0.99900	0.08	9.70	24.80	46.00	-11.42	Average
9	12.440	0.24	9.90	28.70	50.00	-11.16	Average
10	12.440	0.24	9.90	35.20	60.00	-14.66	QP
11	14.900	0.25	10.00	36.20	60.00	-13.55	QP
12	14.900	0.25	10.00	29.30	50.00	-10.45	Average

Notes:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level = Receiver Reading + LISN Factor + Cable Loss.

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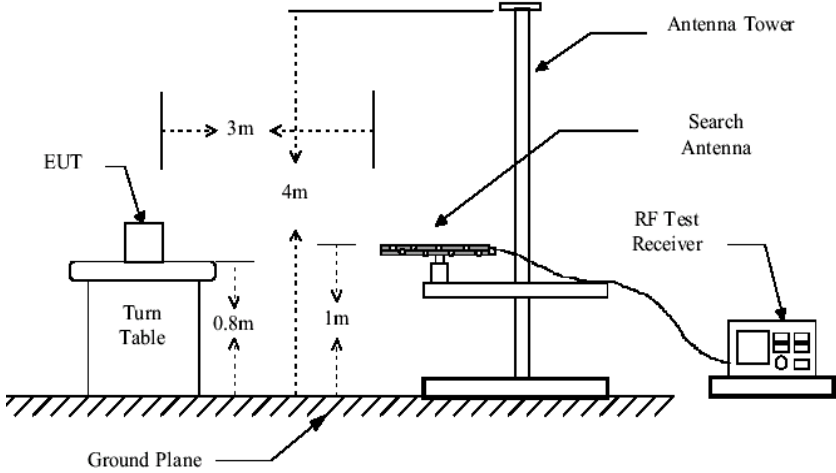
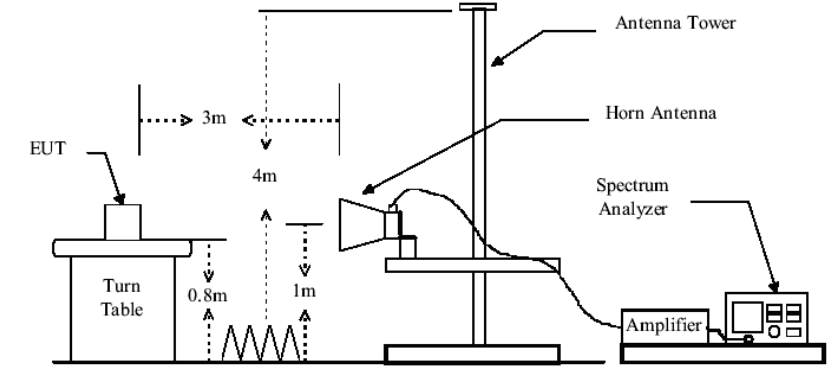
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5.3 Radiated Emission

Test Requirement:	FCC Part15 C Section 15.249 and 15.209				
Test Method:	ANSI C63.10: 2009				
Test Frequency Range:	30MHz to 25000MHz				
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		Peak	1MHz	10Hz	Average Value
Limit: (Field strength of the fundamental signal)	Frequency	Limit (dBuV/m @3m)		Remark	
	2400MHz-2483.5MHz	94.0		Average Value	
		114.0		Peak Value	
Limit: (Spurious Emissions)	Frequency	Limit (dBuV/m @3m)		Remark	
	30MHz-88MHz	40.0		Quasi-peak Value	
	88MHz-216MHz	43.5		Quasi-peak Value	
	216MHz-960MHz	46.0		Quasi-peak Value	
	960MHz-1GHz	54.0		Quasi-peak Value	
	Above 1GHz	54.0		Average Value	
74.0		Peak Value			
Limit: (band edge)	Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.				
Test Procedure:	<p>a. The EUT was placed on the top of a rotating table 0.8 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.</p> <p>b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</p> <p>c. 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.</p> <p>d. 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 and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.</p> <p>e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</p> <p>f. 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.</p> <p>g. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.</p>				

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Test Instruments:	Refer to section 4.8 for details
Test setup:	<p>Below 1GHz</p>  <p>Above 1GHz</p> 
Test mode:	Transmitting mode
Test results:	Pass

Note:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

$$\text{Final Test Level} = \text{Receiver Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Preamplifier Factor}$$



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Measurement Data

5.3.1 Field Strength Of The Fundamental Signal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Peak Level (dBuV/m)	Average Limit Line (dBuV/m)	Over Limit (dB)	polarization
2403	2.98	32.54	39.86	97.89	93.55	94.00	-0.45	Horizontal
2403	2.98	32.54	39.86	97.37	93.03	94.00	-0.97	Vertical
2441	3.01	32.61	39.89	97.91	93.64	94.00	-0.36	Horizontal
2441	3.01	32.61	39.89	96.45	92.18	94.00	-1.82	Vertical
2480	3.03	32.67	39.92	97.12	92.90	94.00	-1.10	Horizontal
2480	3.03	32.67	39.92	96.00	91.78	94.00	-2.22	Vertical

Note:

Peak Level (Final Level)= Reading Level + Antenna Factor + Cable Loss - Preamp Factor

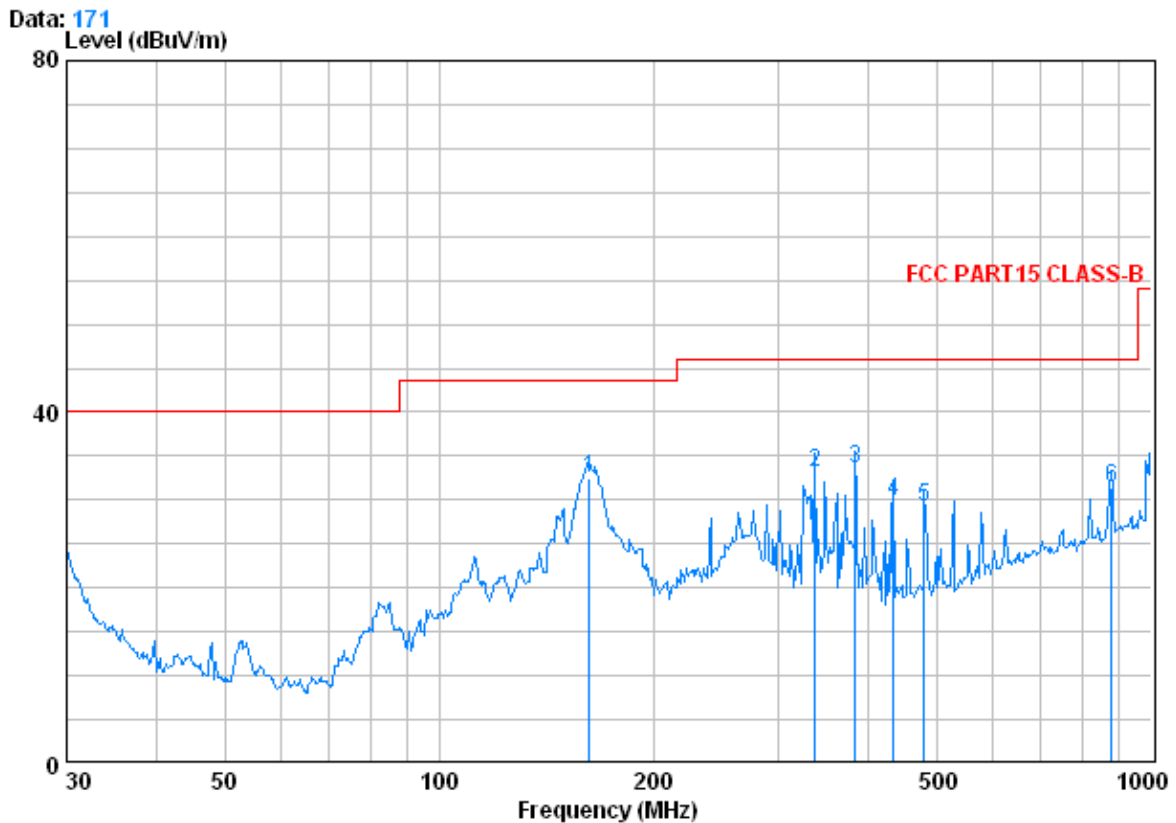
Remark:

As shown in this section, for field strength of the fundamental signal measurements, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above. So, only the peak measurements were shown in the report.

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5.3.2 Spurious Emissions		
30MHz~1GHz		
Test mode:	Transmitting	Horizontal



	Freq	CableAntenna Loss	Preamp Factor	Read Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m
1 @	162.611	1.34	9.57	26.85	48.43	32.49
2 @	337.216	2.02	15.10	26.68	42.79	33.22
3 @	383.932	2.16	16.10	27.03	42.35	33.58
4	434.065	2.35	16.59	27.35	38.24	29.82
5	480.528	2.53	17.80	27.60	36.46	29.19
6	878.322	3.52	23.03	26.89	31.71	31.37

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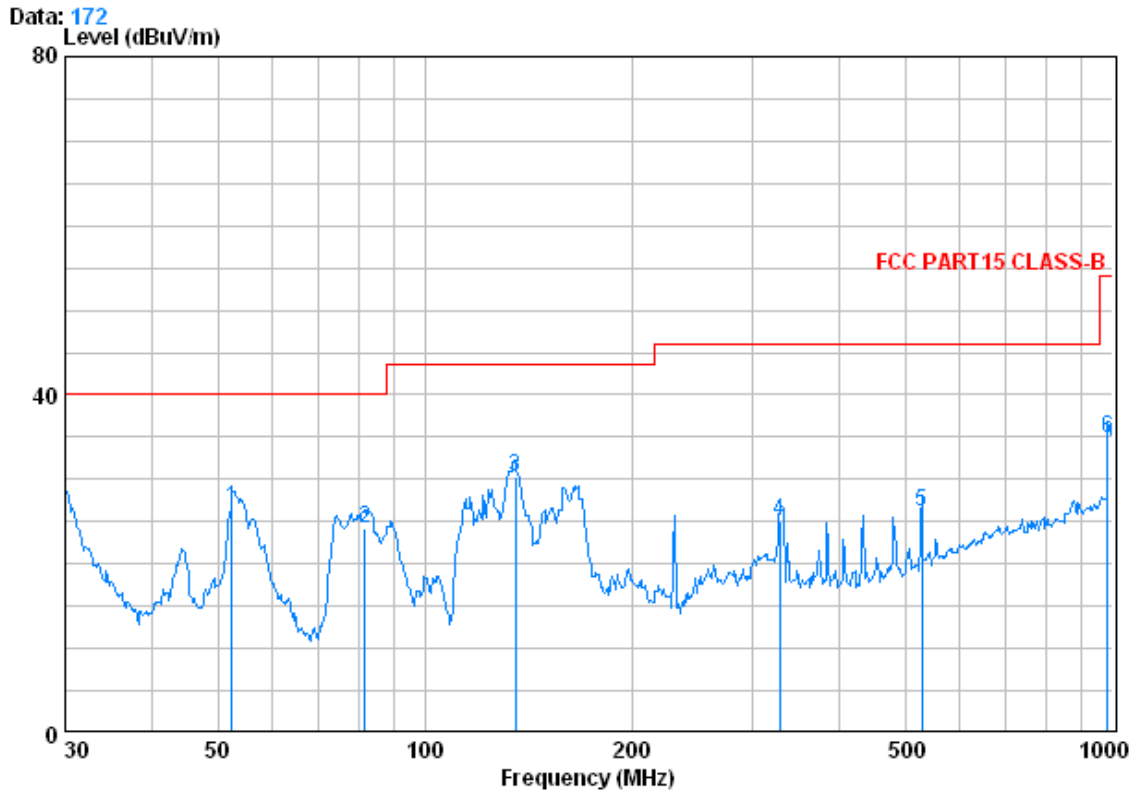


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Test mode:	Transmitting	Vertical
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	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	52.391	0.80	7.79	27.28	45.39	26.69	40.00	-13.31
2	81.783	1.10	7.89	27.23	42.52	24.28	40.00	-15.72
3	135.506	1.29	7.92	26.98	48.04	30.26	43.50	-13.24
4	327.887	1.99	14.89	26.62	34.81	25.07	46.00	-20.93
5	528.246	2.63	18.56	27.65	32.67	26.21	46.00	-19.79
6	982.620	3.68	24.09	26.40	33.44	34.80	54.00	-19.20

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Above 1GHz					
Test mode:	Transmitting	Test channel:	Lowest	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
3843.500	4.04	33.61	40.93	49.24	45.96	74.00	-28.04	Vertical
4783.500	4.68	34.73	41.61	51.74	49.54	74.00	-24.46	Vertical
6663.500	5.30	36.14	40.35	50.35	51.44	74.00	-22.56	Vertical
8179.250	6.20	36.07	39.03	50.09	53.33	74.00	-20.67	Vertical
10623.250	6.13	38.35	37.70	46.13	52.91	74.00	-21.09	Vertical
11904.000	6.44	38.80	38.24	45.80	52.80	74.00	-21.20	Vertical
3514.500	3.75	33.22	40.67	48.71	45.01	74.00	-28.99	Horizontal
4783.500	4.68	34.73	41.61	56.16	53.96	74.00	-20.04	Horizontal
6205.250	5.18	35.94	40.74	50.27	50.65	74.00	-23.35	Horizontal
7192.250	5.77	35.88	39.89	50.12	51.88	74.00	-22.12	Horizontal
8872.500	6.16	36.49	38.44	47.58	51.79	74.00	-22.21	Horizontal
11739.500	6.40	38.64	38.17	46.98	53.85	74.00	-20.15	Horizontal

Test mode:	Transmitting	Test channel:	Middle	Remark:	Peak
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Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4877.500	4.72	34.59	41.68	51.11	48.74	74.00	-25.26	Vertical
6346.250	5.22	36.10	40.63	50.19	50.88	74.00	-23.12	Vertical
7885.500	6.21	36.00	39.29	49.15	52.07	74.00	-21.93	Vertical
8872.500	6.16	36.49	38.44	47.75	51.96	74.00	-22.04	Vertical
10376.500	6.06	38.16	37.61	45.88	52.49	74.00	-21.51	Vertical
11739.500	6.40	38.64	38.17	46.76	53.63	74.00	-20.37	Vertical
4219.500	4.30	34.41	41.19	49.54	47.06	74.00	-26.94	Horizontal
4877.500	4.72	34.59	41.68	55.94	53.57	74.00	-20.43	Horizontal
5911.500	5.09	35.56	41.01	50.00	49.64	74.00	-24.36	Horizontal
7380.250	5.98	35.95	39.72	49.60	51.81	74.00	-22.19	Horizontal
9718.500	5.98	37.42	37.70	46.39	52.09	74.00	-21.91	Horizontal
11351.750	6.31	38.43	38.01	45.97	52.70	74.00	-21.30	Horizontal

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Test mode:	Transmitting	Test channel:	Highest	Remark:	Peak
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Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4936.250	4.75	34.48	41.72	49.66	47.17	74.00	-26.83	Vertical
6522.500	5.26	36.28	40.46	49.41	50.49	74.00	-23.51	Vertical
7568.250	6.19	36.00	39.56	49.14	51.77	74.00	-22.23	Vertical
8837.250	6.16	36.47	38.47	47.12	51.28	74.00	-22.72	Vertical
9906.500	5.98	37.61	37.53	45.56	51.62	74.00	-22.38	Vertical
11892.250	6.44	38.80	38.23	46.24	53.25	74.00	-20.75	Vertical
3338.250	3.59	33.26	40.55	48.26	44.56	74.00	-29.44	Horizontal
4936.250	4.75	34.48	41.72	55.50	53.01	74.00	-20.99	Horizontal
6099.500	5.15	35.82	40.84	49.87	50.00	74.00	-24.00	Horizontal
7944.250	6.21	36.00	39.24	49.67	52.64	74.00	-21.36	Horizontal
10106.250	6.00	37.84	37.49	45.95	52.30	74.00	-21.70	Horizontal
11939.250	6.45	38.83	38.25	46.64	53.67	74.00	-20.33	Horizontal

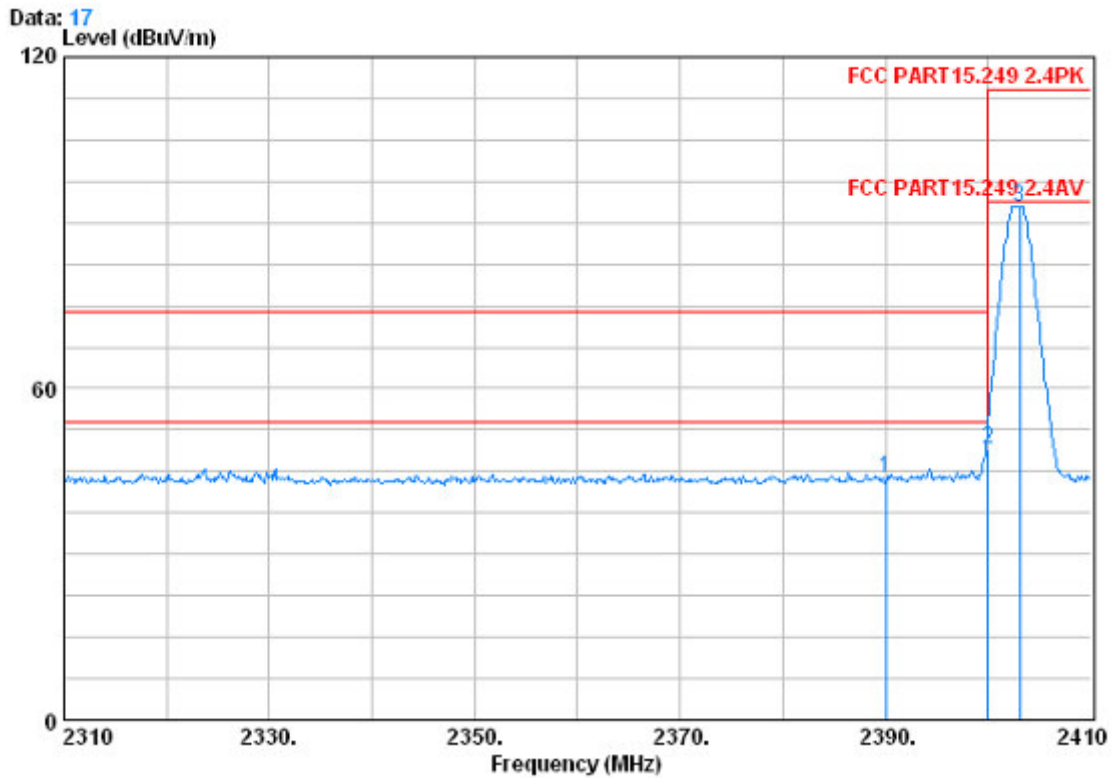
Remark:

As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. So, only the peak measurements were shown in the report.

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5.3.3 Band edge (Radiated Emission)					
Test mode:	Transmitting	Test channel:	Lowest	Remark:	Horizontal



	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	
1	2390.000	2.98	32.51	39.85	48.18	43.83	74.00	-30.17 Peak
2	2400.000	2.98	32.51	39.86	53.38	49.01	74.00	-24.99 Peak
3	2403.100	2.99	32.54	39.86	97.24	92.91	114.00	-21.09 Peak

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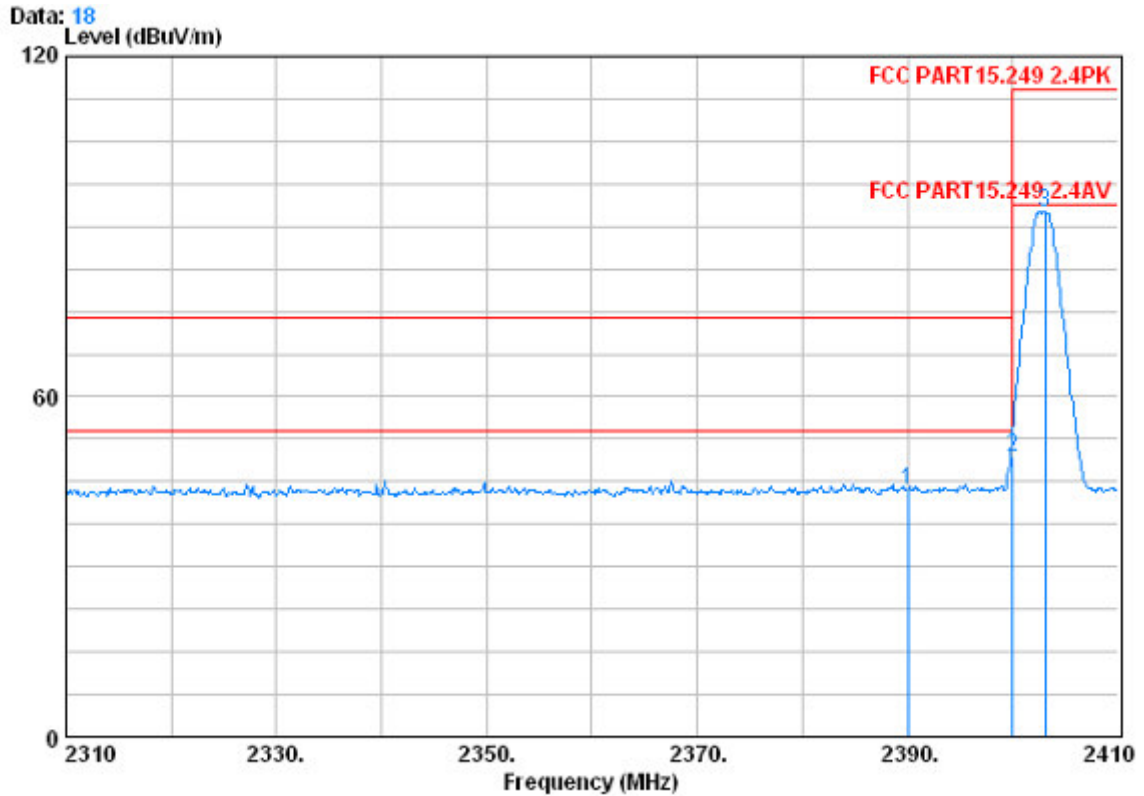


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Test mode:	Transmitting	Test channel:	Lowest	Remark:	Vertical
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	Freq	CableAntenna Loss	Preamp Factor	Read Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dBuV	dBuV/m	dBuV/m	dB
1	2390.000	2.98	32.51	39.85	47.76	43.41	74.00 -30.59 Peak
2	2400.000	2.98	32.51	39.86	53.61	49.24	74.00 -24.76 Peak
3 @	2403.100	2.99	32.54	39.86	96.81	92.48	114.00 -21.52 Peak

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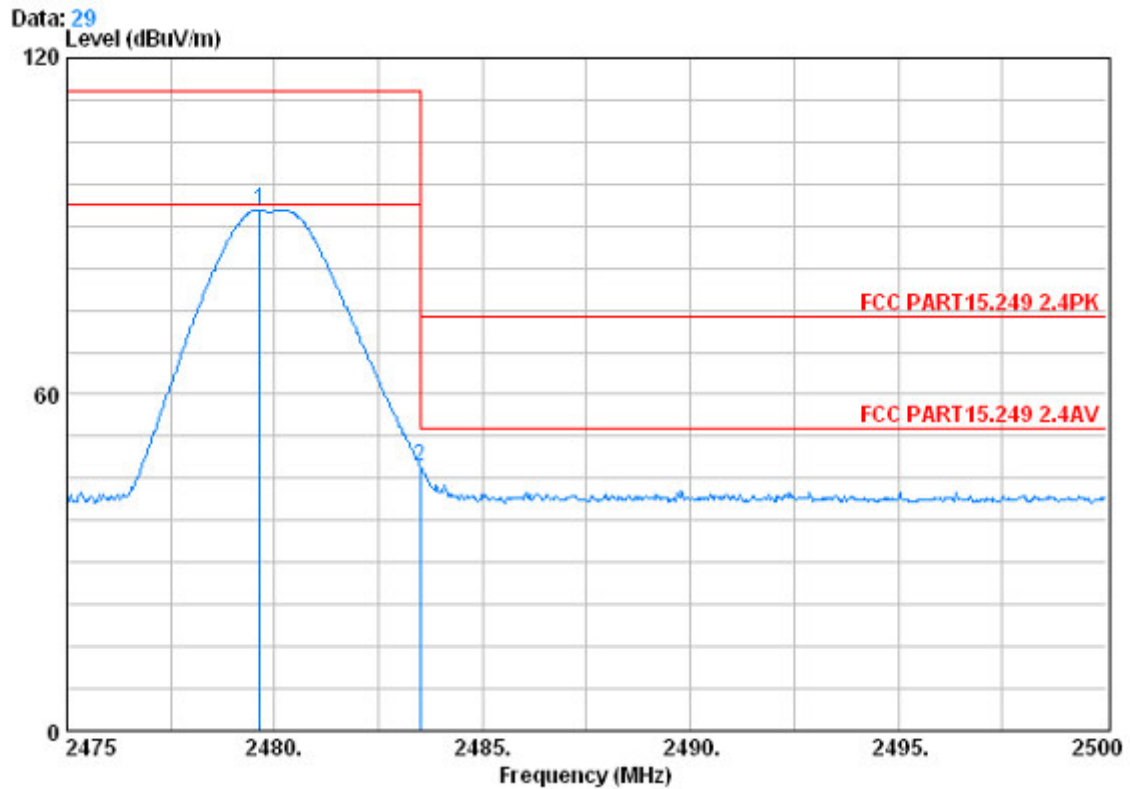


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Test mode:	Transmitting	Test channel:	Highest	Remark:	Horizontal
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	Freq	Cable Loss	Antenna Factor	Preamplifier	Read Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	
1	2479.650	3.03	32.67	39.92	97.07	92.85	114.00	-21.15 Peak
2	2483.500	3.03	32.67	39.92	51.42	47.20	74.00	-26.80 Peak

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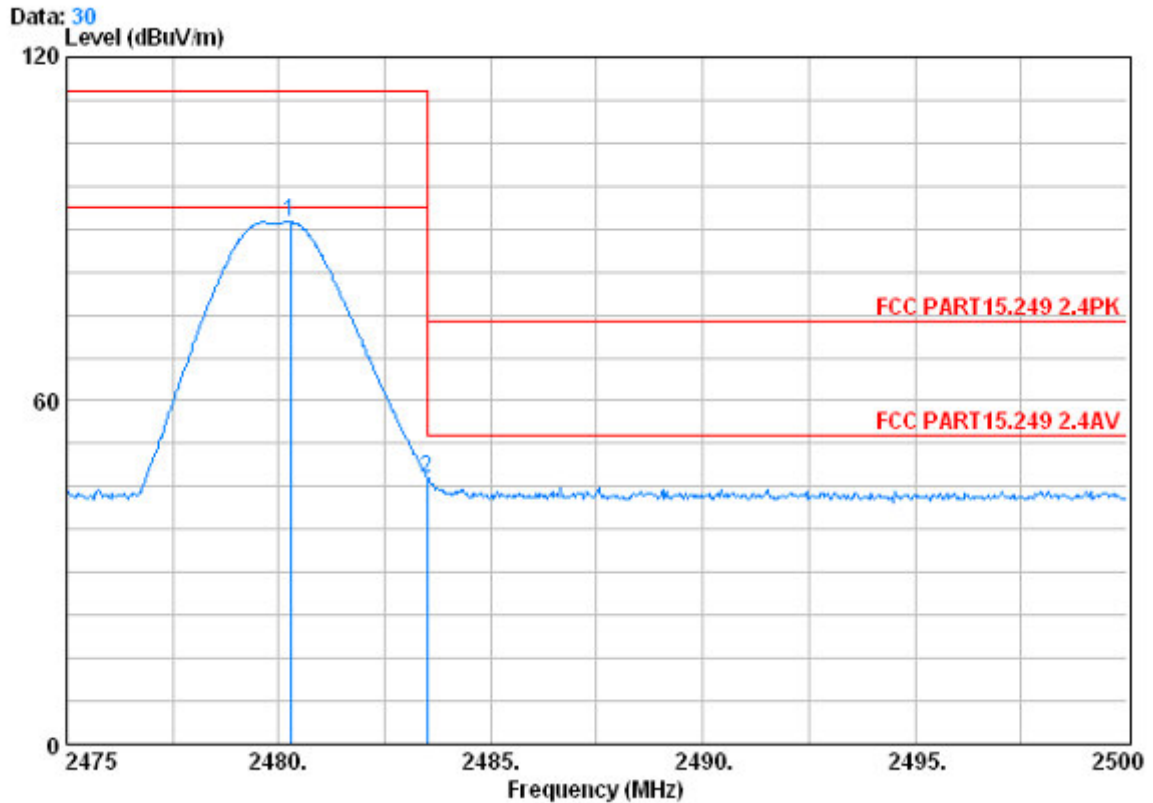


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Test mode:	Transmitting	Test channel:	Highest	Remark:	Vertical
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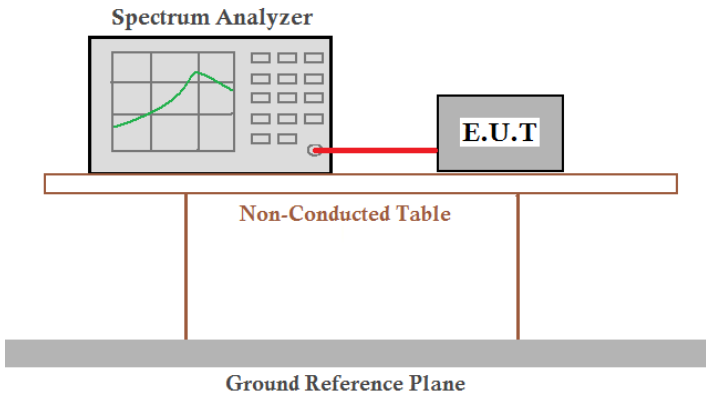
	Freq	CableAntenna Loss	Preamplifier Factor	Read Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1	2480.275	3.03	32.67	39.92	95.36	91.14	114.00 -22.86 Peak
2	2483.500	3.03	32.67	39.92	50.79	46.57	74.00 -27.43 Peak

Remark:

As shown in this section, for radiated Band-edge measurements, the limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. So, only the peak measurements were shown in the report.

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5.4 20dB Bandwidth

Test Requirement:	FCC Part15 C Section 15.249/15.215
Test Method:	ANSI C63.10:2009
Receiver setup:	RBW=100KHz, VBW=300KHz, detector: Peak
Limit:	Operation Frequency range 2400MHz-2483.5MHz
Test Procedure:	<ol style="list-style-type: none"> 1. According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT. 2. Set the EUT to proper test channel. 3. Max hold the radiated emissions, mark the peak power frequency point and the -20dB upper and lower frequency points. 4. Read 20dB bandwidth.
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected via a red cable to an E.U.T. (Equipment Under Test). Both are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.</p>
Test Instruments:	Refer to section 4.8 for details
Test mode:	Transmitting mode

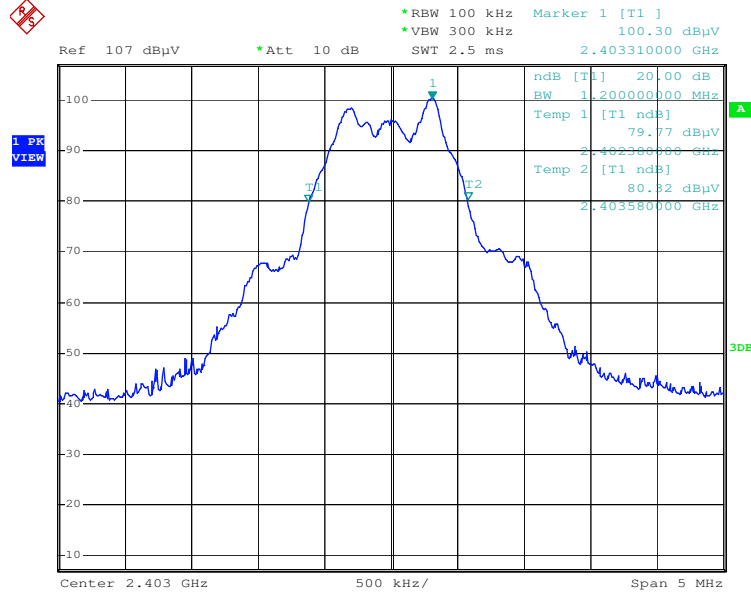
Measurement Data

Test channel	20dB bandwidth (MHz)	Results
Lowest	1.20	---
Middle	1.20	---
Highest	1.22	---

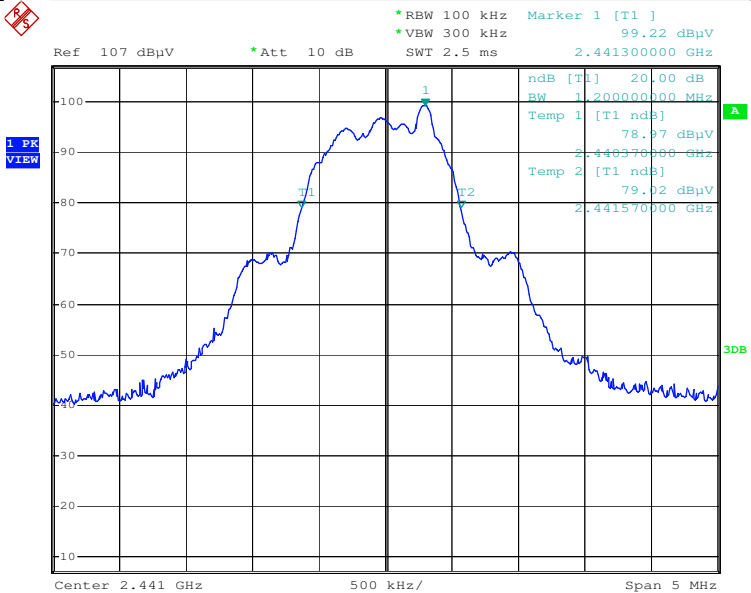


Test plot as follows:

Test channel:	Lowest	
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Test channel:	Middle	
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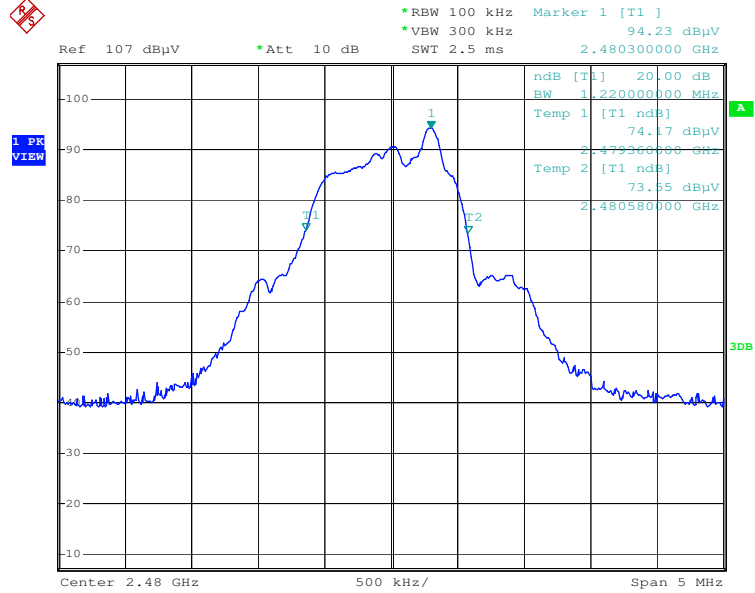


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Test channel:	Highest
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