

FCC TEST REPORT

Product : 2018 XPS CONTROLLER
Trade mark : N/A
Model/Type reference : 2018 XPS CONTROLLER
Serial Number : N/A
Report Number : EED32K00129402
FCC ID : XRZ2018XPS
Date of Issue : Jun. 08, 2018
Test Standards : 47 CFR Part 15 Subpart C
Test result : PASS

Prepared for:

KidsRock Limited

**Unit 08A, 25/F Gammon House, 12 Harcourt Road, Admiralty
Hong Kong, China**

Prepared by:

**Centre Testing International Group Co., Ltd.
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Check No.:3096311087



2 Version

Version No.	Date	Description
00	Jun. 08, 2018	Original

3 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15 Subpart C Section 15.203	ANSI C63.10-2013	PASS
AC Power Line Conducted Emission	47 CFR Part 15 Subpart C Section 15.207	ANSI C63.10-2013	N/A
Field Strength of the Fundamental Signal	47 CFR Part 15 Subpart C Section 15.249 (a)	ANSI C63.10-2013	PASS
Spurious Emissions	47 CFR Part 15 Subpart C Section 15.249 (a)/15.209	ANSI C63.10-2013	PASS
Restricted bands around fundamental frequency (Radiated Emission)	47 CFR Part 15 Subpart C Section 15.249(a)/15.205	ANSI C63.10-2013	PASS
20dB Occupied Bandwidth	47 CFR Part 15 Subpart C Section 15.215 (c)	ANSI C63.10-2013	PASS

Remark:

The tested sample(s) and the sample information are provided by the client.

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5 General Information

5.1 Client Information

Applicant:	KidsRock Limited
Address of Applicant:	Unit 08A, 25/F Gammon House, 12 Harcourt Road, Admiralty Hong Kong, China
Manufacturer:	KidsRock Limited
Address of Manufacturer:	Unit 08A, 25/F Gammon House, 12 Harcourt Road, Admiralty Hong Kong, China
Factory:	Dongguan City Haichuang Toys Co. Ltd
Address of Factory:	Huangcao Industrial Area, Caole Village, Xiegang Town, Dongguan City

5.2 General Description of EUT

Product Name:	2018 XPS CONTROLLER
Model No.(EUT):	2018 XPS CONTROLLER
Trade Mark:	N/A
EUT Supports Radios application:	2410 MHz~2475 MHz
Power Supply:	DC 6V (4xAA alkaline battery)

5.3 Product Specification subjective to this standard

Frequency Range:	2410 MHz~2475 MHz
Modulation Type:	GFSK
Number of Channels:	25(declared by the client)
Sample Type:	Portable production
Test Power Grade:	N/A(manufacturer declare)
Test Software of EUT:	N/A(manufacturer declare)
Antenna Type:	integral antenna
Antenna Gain:	2.54dBi
Test voltage:	DC 6V
Sample Received Date:	May 25, 2018
Sample tested Date:	May 25, 2018 to Jun. 05, 2018

5.4 Test Environment and Mode

Operating Environment:	
Temperature:	23 °C
Humidity:	51 % RH
Atmospheric Pressure:	1010 mbar
Test mode:	
TX mode:	The EUT transmitted the continuous modulation test signal at the specific channel(s)

5.5 Description of Support Units

The EUT has been tested independently.

5.6 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd.

Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China 518101

Telephone: +86 (0) 755 3368 3668 Fax:+86 (0) 755 3368 3385

No tests were sub-contracted.

FCC Designation No.: CN1164

IC-Registration No.: 7408A

5.7 Deviation from Standards

None.

5.8 Abnormalities from Standard Conditions

None.

5.9 Other Information Requested by the Customer

None.

5.10 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Radio Frequency	7.9×10^{-8}
2	RF power, conducted	0.31dB (30MHz-1GHz)
		0.57dB (1GHz-18GHz)
3	Radiated Spurious emission test	4.5dB (30MHz-1GHz)
		4.8dB (1GHz-12.75GHz)
4	Conduction emission	3.6dB (9kHz to 150kHz)
		3.2dB (150kHz to 30MHz)
5	Temperature test	0.64°C
6	Humidity test	2.8%
7	DC power voltages	0.025%

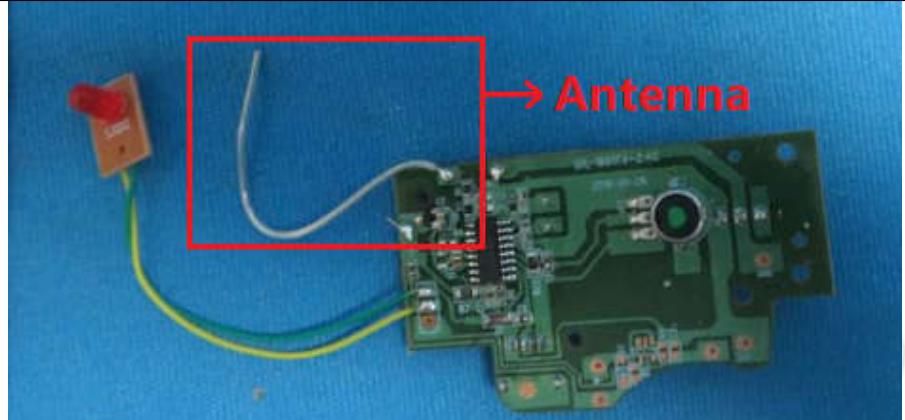
6 Equipment List

RF Conducted test					
Equipment	Manufacturer	Mode No.	Serial Number	Cal. date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
Spectrum Analyzer	R&S	FSP40	100416	05-11-2018	05-10-2019

3M Semi/full-anechoic Chamber					
Equipment	Manufacturer	Model No.	Serial Number	Cal. date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
3M Chamber & Accessory Equipment	TDK	SAC-3	---	06-04-2016	06-03-2019
TRILOG Broadband Antenna	SCHWARZBECK	VULB9163	9163-484	06-05-2018	06-04-2019
Preamplifier	JS Tonscend	EMC051845SE	980380	01-19-2018	01-18-2019
Horn Antenna	ETS-LINDGREN	3117	00057407	07-20-2015	07-18-2018
Loop Antenna	ETS	6502	00071730	06-22-2017	06-21-2019
Spectrum Analyzer	R&S	FSP40	100416	06-13-2017	06-12-2018
Receiver	R&S	ESCI	100435	06-14-2017	06-13-2018
LISN	schwarzbeck	NNBM8125	81251547	05-11-2018	05-10-2019
LISN	schwarzbeck	NNBM8125	81251548	05-11-2018	05-10-2019
Signal Generator	Agilent	E4438C	MY45095744	03-13-2018	03-12-2019
Signal Generator	Keysight	E8257D	MY53401106	03-13-2018	03-12-2019
Temperature/ Humidity Indicator	TAYLOR	1451	1905	05-02-2018	05-01-2019
Communication test set	Agilent	E5515C	GB47050534	03-16-2018	03-15-2019
Cable line	Fulai(7M)	SF106	5219/6A	01-10-2018	01-09-2019
Cable line	Fulai(6M)	SF106	5220/6A	01-10-2018	01-09-2019
Cable line	Fulai(3M)	SF106	5216/6A	01-10-2018	01-09-2019
Cable line	Fulai(3M)	SF106	5217/6A	01-10-2018	01-09-2019
Communication test set	R&S	CMW500	152394	03-16-2018	03-15-2019
High-pass filter	Sinoscite	FL3CX03WG18NM12-0398-002	---	01-10-2018	01-09-2019
band rejection filter	Sinoscite	FL5CX01CA09CL12-0395-001	---	01-10-2018	01-09-2019
band rejection filter	Sinoscite	FL5CX01CA08CL12-0393-001	---	01-10-2018	01-09-2019
band rejection filter	Sinoscite	FL5CX02CA04CL12-0396-002	---	01-10-2018	01-09-2019
band rejection filter	Sinoscite	FL5CX02CA03CL12-0394-001	---	01-10-2018	01-09-2019

7 Test results and Measurement Data

7.1 Antenna Requirement

Standard requirement:	47 CFR Part 15C Section 15.203
15.203 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, 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.	
EUT Antenna:	
The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 2.54dBi	

7.2 Radiated Spurious Emissions

Test Requirement: 47 CFR Part 15C Section 15.249 and 15.209

Test Method: ANSI C63.10

Test Site: Measurement Distance: 3m (Semi-Anechoic Chamber)

Receiver Setup:

Frequency	Detector	RBW	VBW	Remark
0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

Test Setup:

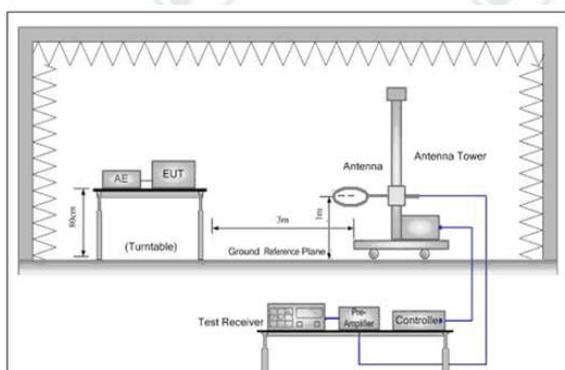


Figure 1. Below 30MHz

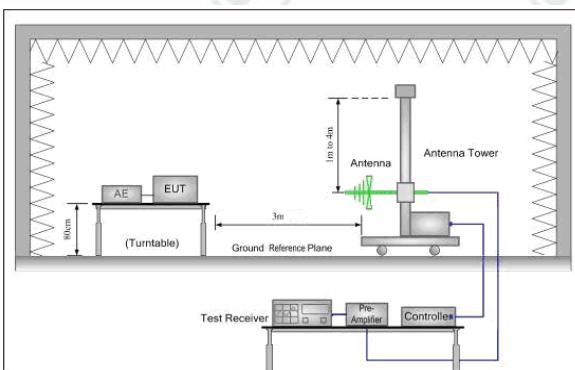


Figure 2. 30MHz to 1GHz

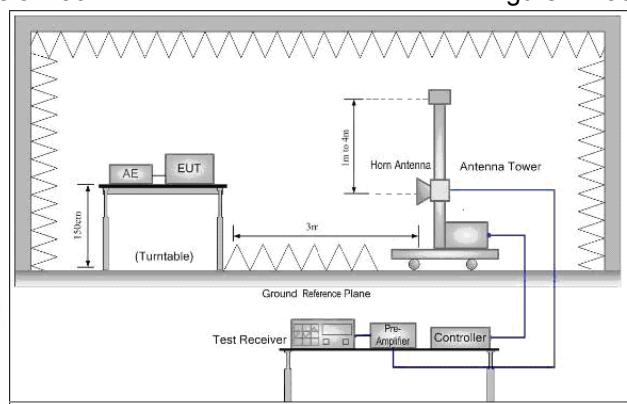


Figure 3. Above 1GHz

Test Procedure:**Below 1GHz test procedure as below:**

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.

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 rota table 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.

Above 1GHz test procedure as below:

Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 metre to 1.5 metre(Above 18GHz the distance is 1 meter and table is 1.5 metre).

Test the EUT in the lowest channel ,middle channel, the Highest channel

The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is worse case.

Repeat above procedures until all frequencies measured was complete.

Limit:
(Spurious Emissions)

Frequency	Field strength (microvolt/meter)	Limit (dB μ V/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
960MHz-1GHz	500	54.0	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.

Limit:
(Field strength of the fundamental signal)

Frequency	Limit (dB μ V/m @3m)	Remark
2400MHz-2483.5MHz	94.0	Average Value
	114.0	Peak Value

Test Setup:

Test Mode: TX mode

Instruments Used: Refer to section 6 for details

Test Results: Pass

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Measurement Data
Field Strength Of The Fundamental Signal

Peak value:

Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Result	Antenna Polaxis
2410	32.58	3.08	44.05	90.99	82.60	114	-31.40	Pass	H
2410	32.58	3.08	44.05	90.99	82.60	114	-31.40	Pass	V
2442	32.64	3.10	44.05	92.99	84.60	114	-31.40	Pass	H
2442	32.64	3.10	44.05	91.99	83.60	114	-31.40	Pass	V
2475	32.7	3.11	44.13	98.00	89.68	114	-24.32	Pass	H
2475	32.7	3.11	44.13	101.00	92.68	114	-21.32	Pass	V

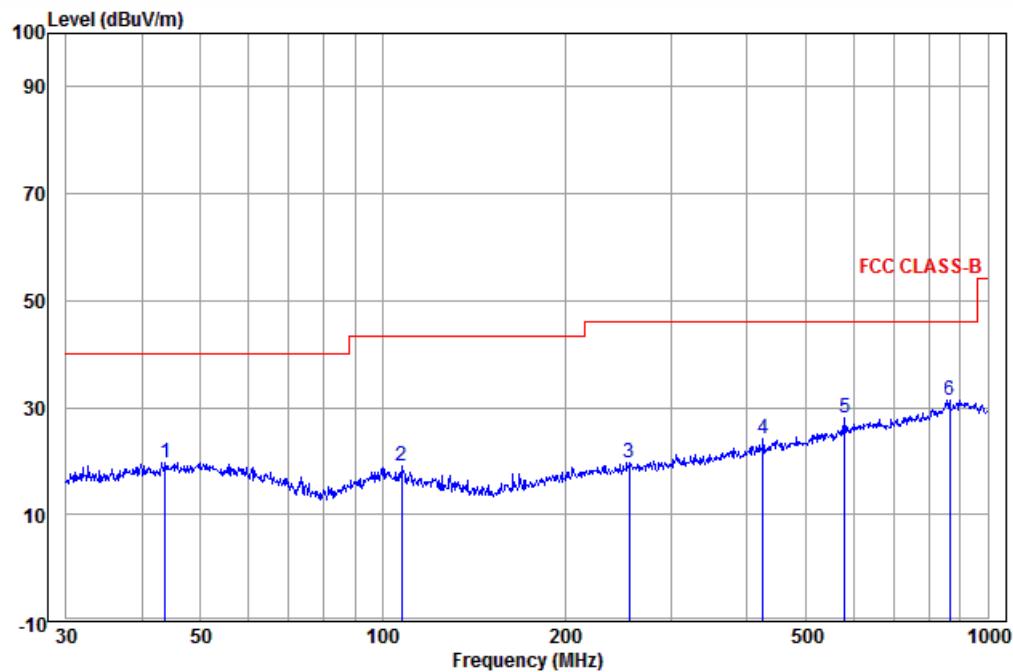
Remark: As shown in this section, for field strength of the fundamental signal measurements, RBW and VBW set 10MHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above. So, only the peak measurements were shown in the report.

Spurious Emissions

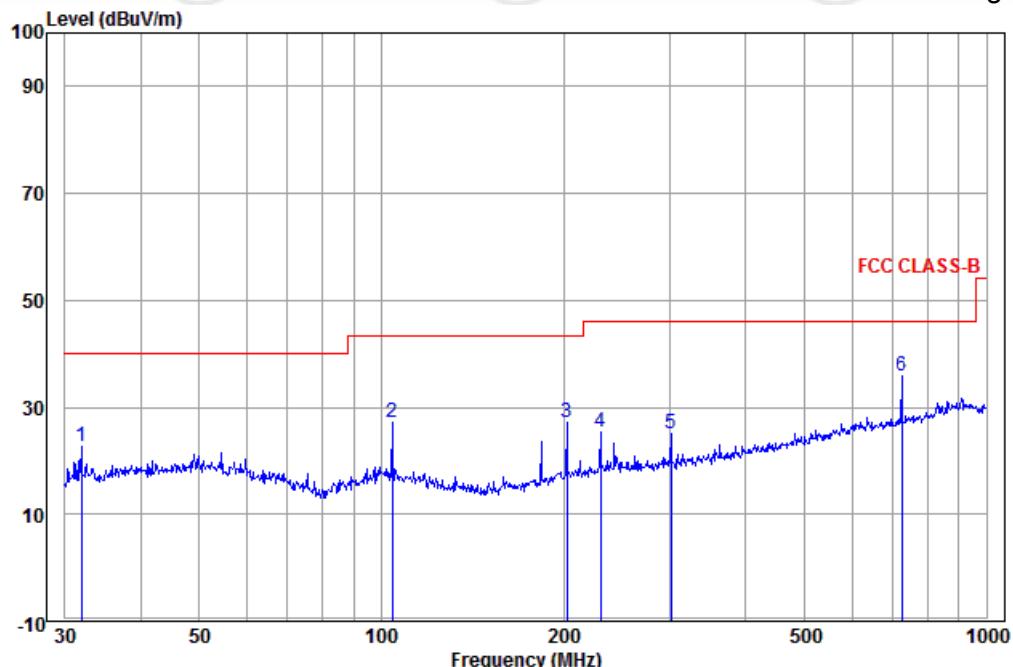
30MHz~1GHz

Test mode:	Transmitting
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QP value:



Freq	Ant Factor	Cable Loss	Read Level		Limit Line	Over Limit	Over Line Pol/Phase	Remark
			MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m
1	43.659	14.11	0.07	5.64	19.82	40.00	-20.18	Horizontal QP
2	107.510	11.84	0.59	6.60	19.03	43.50	-24.47	Horizontal QP
3	255.623	12.70	1.31	5.68	19.69	46.00	-26.31	Horizontal QP
4	425.028	15.72	1.40	7.14	24.26	46.00	-21.74	Horizontal QP
5	580.703	18.36	1.72	8.03	28.11	46.00	-17.89	Horizontal QP
6 pp	866.088	21.56	2.46	7.49	31.51	46.00	-14.49	Horizontal QP



Freq	Ant Factor	Cable Loss	Read Level	Limit		Over Limit	Pol/Phase	Remark	
				MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m
1	31.955	12.32	0.08	10.29	22.69	40.00	-17.31	Vertical	QP
2	104.170	12.13	0.59	14.49	27.21	43.50	-16.29	Vertical	QP
3	202.810	11.57	1.12	14.34	27.03	43.50	-16.47	Vertical	QP
4	230.099	12.19	1.25	12.03	25.47	46.00	-20.53	Vertical	QP
5	301.422	13.43	1.08	10.44	24.95	46.00	-21.05	Vertical	QP
6 pp	724.261	19.30	2.26	14.44	36.00	46.00	-10.00	Vertical	QP

Above 1GHz

Test mode:		Transmitting		Test channel:		Lowest(2413MHz)			
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dB μ V)	Level (dB μ V/m)	Limit Line (dB μ V/m)	Over Limit (dB)	Result	Antenna Polaxis
1273.572	30.40	1.97	44.28	48.10	36.19	74.00	-37.81	Pass	H
1823.477	31.43	2.66	43.66	47.44	37.87	74.00	-36.13	Pass	H
4820.000	34.72	6.01	44.60	48.28	44.41	74.00	-29.59	Pass	H
5821.207	35.77	7.26	44.52	48.69	47.20	74.00	-26.80	Pass	H
7230.000	36.42	6.95	44.79	52.04	50.62	74.00	-23.38	Pass	H
9640.000	37.92	7.01	45.57	46.54	45.90	74.00	-28.10	Pass	H
1273.572	30.40	1.97	44.28	47.74	35.83	74.00	-38.17	Pass	V
1768.619	31.35	2.60	43.71	47.59	37.83	74.00	-36.17	Pass	V
4820.000	34.72	6.01	44.60	51.71	47.84	74.00	-26.16	Pass	V
6001.768	35.90	7.44	44.50	48.79	47.63	74.00	-26.37	Pass	V
7230.000	36.42	6.95	44.79	50.05	48.63	74.00	-25.37	Pass	V
9640.000	37.92	7.01	45.57	46.08	45.44	74.00	-28.56	Pass	V

Test mode:		Transmitting		Test channel:		Middle (2443MHz)			
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dB μ V)	Level (dB μ V/m)	Limit Line (dB μ V/m)	Over Limit (dB)	Result	Antenna Polaxis
1267.104	30.38	1.96	44.29	48.48	36.53	74.00	-37.47	Pass	H
1557.252	30.98	2.36	43.93	48.15	37.56	74.00	-36.44	Pass	H
4884.000	34.86	6.14	44.60	51.39	47.79	74.00	-26.21	Pass	H
5850.919	35.79	7.29	44.51	49.09	47.66	74.00	-26.34	Pass	H
7326.000	36.43	6.85	44.87	46.95	45.36	74.00	-28.64	Pass	H
9768.000	38.05	7.12	45.54	46.88	46.51	74.00	-27.49	Pass	H
1286.606	30.43	1.99	44.26	48.23	36.39	74.00	-37.61	Pass	V
1565.200	30.99	2.37	43.92	47.60	37.04	74.00	-36.96	Pass	V
4884.000	34.86	6.14	44.60	49.06	45.46	74.00	-28.54	Pass	V
6764.538	36.29	7.25	44.58	48.28	47.24	74.00	-26.76	Pass	V
7326.000	36.43	6.85	44.87	48.16	46.57	74.00	-27.43	Pass	V
9768.000	38.05	7.12	45.54	51.04	50.67	74.00	-23.33	Pass	V

Test mode:		Transmitting		Test channel:		Highest(2470MHz)			
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dB μ V)	Level (dB μ V/m)	Limit Line (dB μ V/m)	Over Limit (dB)	Result	Antenna Polaxis
1270.334	30.39	1.97	44.29	47.57	35.64	74.00	-38.36	Pass	H
1805.005	31.40	2.64	43.68	47.61	37.97	74.00	-36.03	Pass	H
4950.000	35.00	6.27	44.60	50.36	47.03	74.00	-26.97	Pass	H
6032.401	35.92	7.43	44.50	48.94	47.79	74.00	-26.21	Pass	H
7425.000	36.44	6.74	44.95	46.89	45.12	74.00	-28.88	Pass	H
9900.000	38.20	7.24	45.52	49.21	49.13	74.00	-24.87	Pass	H
1296.469	30.45	2.01	44.25	47.76	35.97	74.00	-38.03	Pass	V
1800.416	31.40	2.64	43.68	47.73	38.09	74.00	-35.91	Pass	V
4950.000	35.00	6.27	44.60	50.73	47.40	74.00	-26.60	Pass	V
6764.538	36.29	7.25	44.58	48.48	47.44	74.00	-26.56	Pass	V
7425.000	36.44	6.74	44.95	47.94	46.17	74.00	-27.83	Pass	V
9900.000	38.20	7.24	45.52	47.71	47.63	74.00	-26.37	Pass	V

Remark:

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

$$\text{Final Test Level} = \text{Receiver Reading} - \text{Correct Factor}$$

$$\text{Correct Factor} = \text{Preamplifier Factor} - \text{Antenna Factor} - \text{Cable Factor}$$
- 2) Scan from the test data, The average value is lower than limit, and The below the limit need not be reported, so only the peak value had been displayed. the disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

7.3 Restricted bands around fundamental frequency

Test Requirement: 47 CFR Part 15C Section 15.209 and 15.205

Test Method: ANSI C63.10

Test Site:

Measurement Distance: 3m (Semi-Anechoic Chamber)

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.

Frequency	Limit (dB μ V/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

Test Setup:

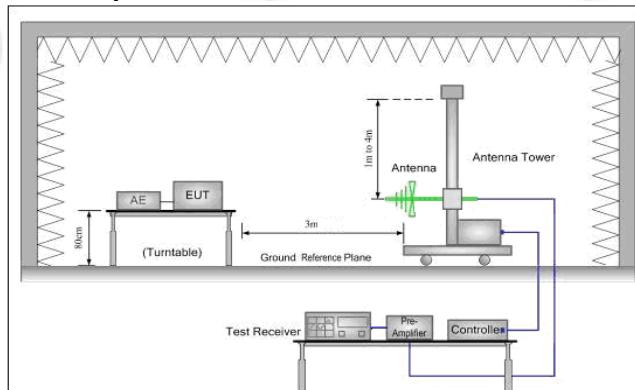


Figure 1. 30MHz to 1GHz

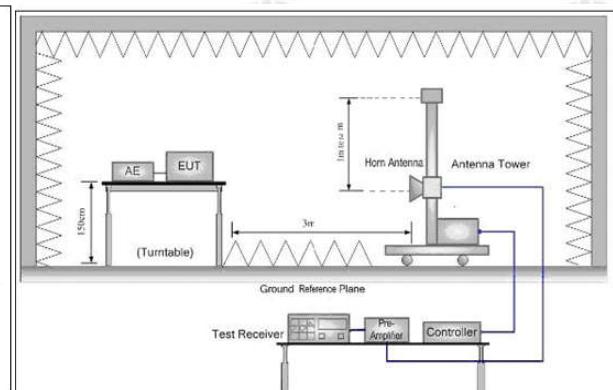


Figure 2. Above 1 GHz

Test Procedure:

Below 1GHz test procedure as below:

- 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.
- 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.

Above 1GHz test procedure as below:

- Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 meter to 1.5 meter(Above 18GHz the distance is 1 meter and table is 1.5 meter).
- Test the EUT in the lowest channel, the Highest channel
- The radiation measurements are performed in X, Y, Z axis positioning for

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Transmitting mode, and found the X axis positioning which it is worse case.
j. Repeat above procedures until all frequencies measured was complete.

Test Mode:

TX mode

Instruments Used:

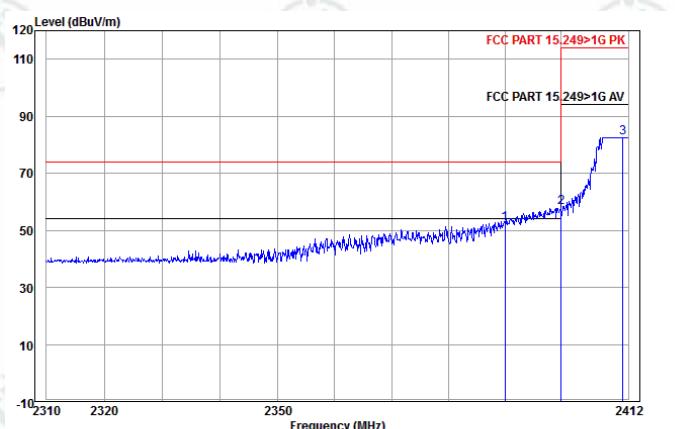
Refer to section 6 for details

Test Results:

Pass

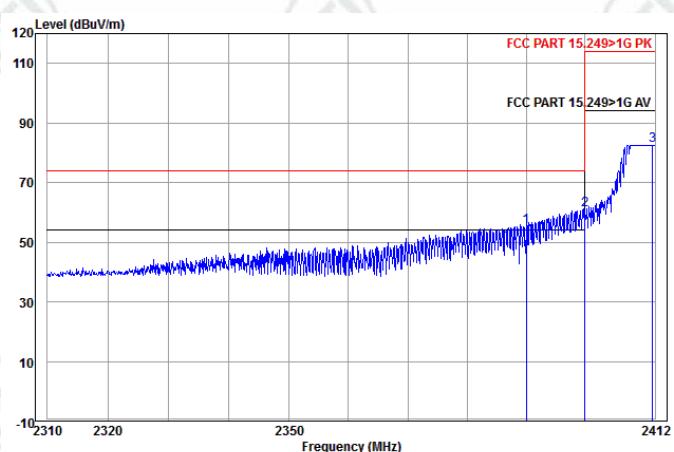
Test plot as follows:

Test mode:	Transmitting	Test channel:	Lowest	Remark:	Peak	Vertical
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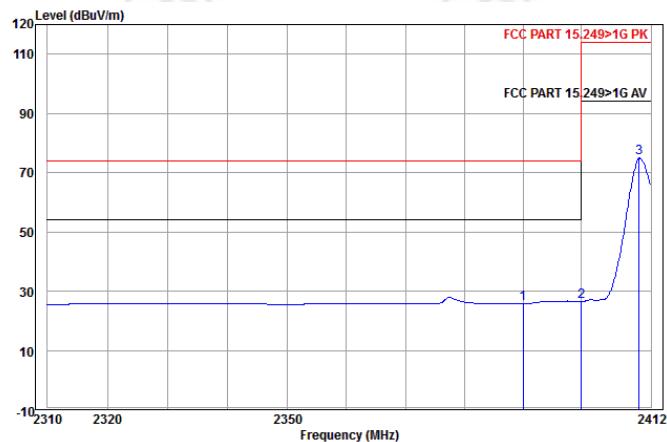
	Ant Freq	Cable Factor	Preamp Loss	Read Factor	Level Level	Limit Line	Over Limit	Over Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2390.000	32.53	3.07	44.03	60.84	52.41	74.00	-21.59	Vertical Peak
2 pp	2400.000	32.55	3.07	44.04	66.36	57.94	74.00	-16.06	Vertical Peak
3	2411.062	32.58	3.08	44.05	90.99	82.60	114.00	-31.40	Vertical Peak

Test mode:	Transmitting	Test channel:	Lowest	Remark:	Peak	Horizontal
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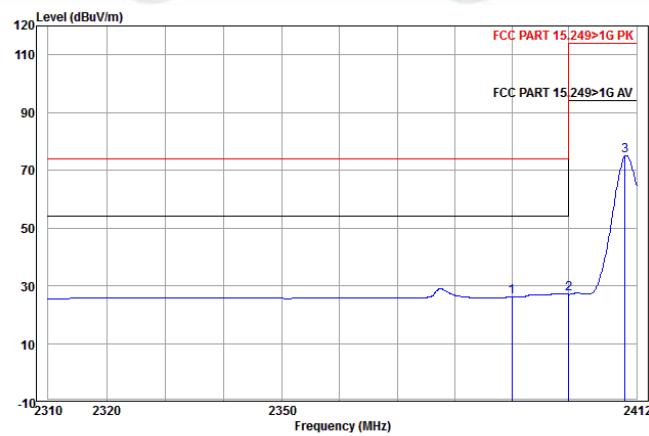
	Ant Freq	Cable Factor	Preamp Loss	Read Factor	Level Level	Limit Line	Over Limit	Over Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2390.000	32.53	3.07	44.03	63.77	55.34	74.00	-18.66	Horizontal Peak
2 pp	2400.000	32.55	3.07	44.04	69.38	68.96	74.00	-13.04	Horizontal Peak
3	2411.583	32.58	3.08	44.05	90.99	82.60	114.00	-31.40	Horizontal Peak

Test mode:	Transmitting	Test channel:	Lowest	Remark:	Average	Vertical
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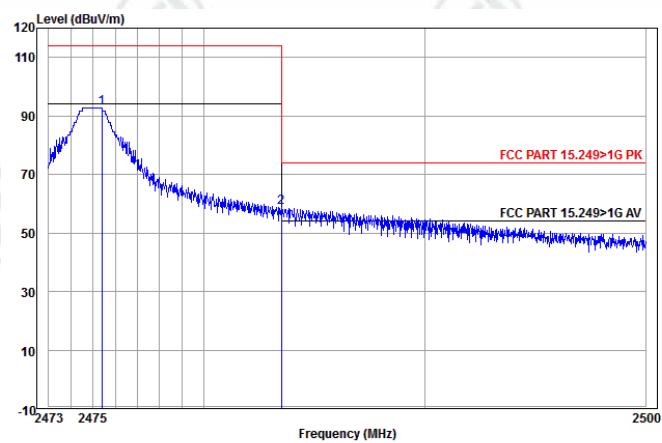
	Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Limit Level	Line Limit	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2390.000	32.53	3.07	44.03	34.32	25.89	54.00	-28.11	Vertical	Average
2	2400.000	32.55	3.07	44.04	34.92	26.50	54.00	-27.50	Vertical	Average
3 pp	2409.917	32.57	3.08	44.05	83.43	75.03	94.00	-18.97	Vertical	Average

Test mode:	Transmitting	Test channel:	Lowest	Remark:	Average	Horizontal
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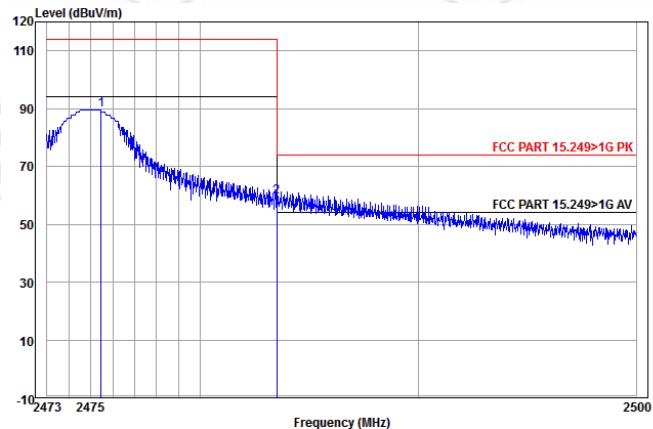
	Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Limit Level	Line Limit	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2390.000	32.53	3.07	44.03	34.43	26.00	54.00	-28.00	Horizontal	Average
2	2400.000	32.55	3.07	44.04	35.48	27.06	54.00	-26.94	Horizontal	Average
3 pp	2409.917	32.57	3.08	44.05	83.58	75.18	94.00	-18.82	Horizontal	Average

Test mode:	Transmitting	Test channel:	Highest	Remark:	Peak	Vertical
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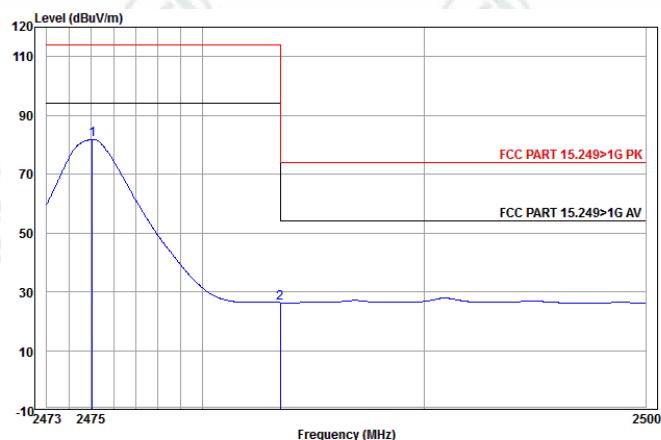
Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Limit Level	Line Limit	Over Limit	Pol/Phase	Remark
MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2475.391	32.70	3.11	44.13	101.00	92.68	114.00	-21.32	Vertical Peak
2 pp	2483.500	32.71	3.12	44.14	66.97	58.66	74.00	-15.34	Vertical Peak

Test mode:	Transmitting	Test channel:	Highest	Remark:	Peak	Horizontal
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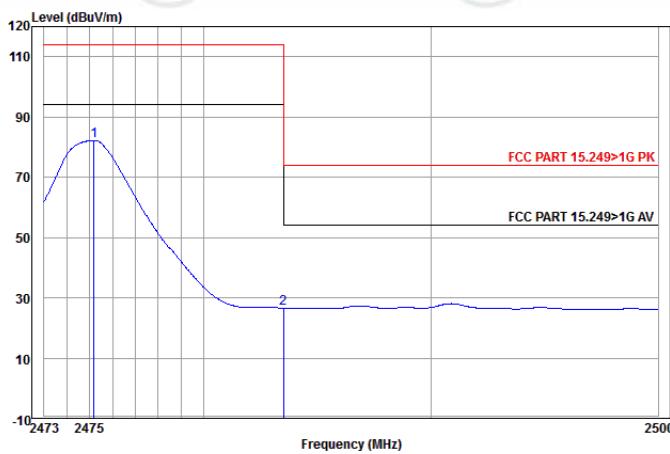
Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Limit Level	Line Limit	Over Limit	Pol/Phase	Remark
MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2475.472	32.70	3.11	44.13	98.00	89.68	114.00	-24.32	Horizontal Peak
2 pp	2483.500	32.71	3.12	44.14	67.57	59.26	74.00	-14.74	Horizontal Peak

Test mode:	Transmitting	Test channel:	Highest	Remark:	Average	Vertical
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Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Limit Level	Line Limit	Over Limit	Pol/Phase	Remark
MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dBuV/m	dB	
1 pp	2475.042	32.70	3.11	44.13	90.24	81.92	94.00	-12.08	Vertical Average
2	2483.500	32.71	3.12	44.14	34.61	26.30	54.00	-27.70	Vertical Average

Test mode:	Transmitting	Test channel:	Highest	Remark:	Average	Horizontal
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Freq	Ant Factor	Cable Loss	Preamp Factor	Read Level	Limit Level	Line Limit	Over Limit	Pol/Phase	Remark
MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dBuV/m	dB	
1 pp	2475.176	32.70	3.11	44.13	90.52	82.20	94.00	-11.80	Horizontal Average
2	2483.500	32.71	3.12	44.14	34.82	26.51	54.00	-27.49	Horizontal Average

Note:

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

Final Test Level = Receiver Reading - Correct Factor

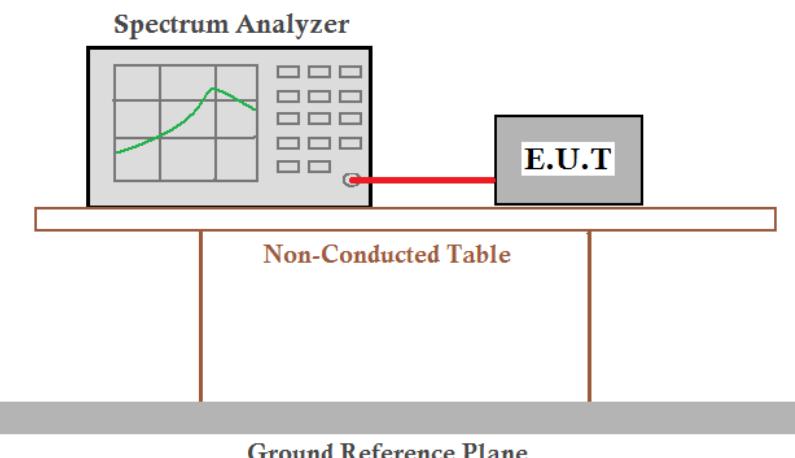
Correct Factor = Preamplifier Factor - Antenna Factor - Cable Factor

7.4 20dB Bandwidth

Test Requirement: 47 CFR Part 15C Section 15.215

Test Method: ANSI C63.10

Test Setup:



Limit:

N/A

Test Mode:

TX mode

Instruments Used:

Refer to section 6 for details

Test Results:

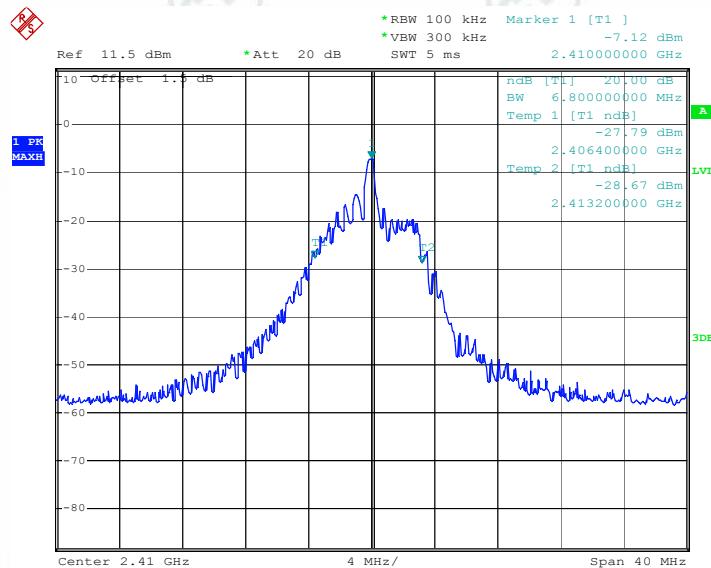
Pass

Measurement Data

Test Channel	20dB bandwidth (MHz)	Results
Lowest	6.80	Pass
Middle	5.92	Pass
Highest	4.32	Pass

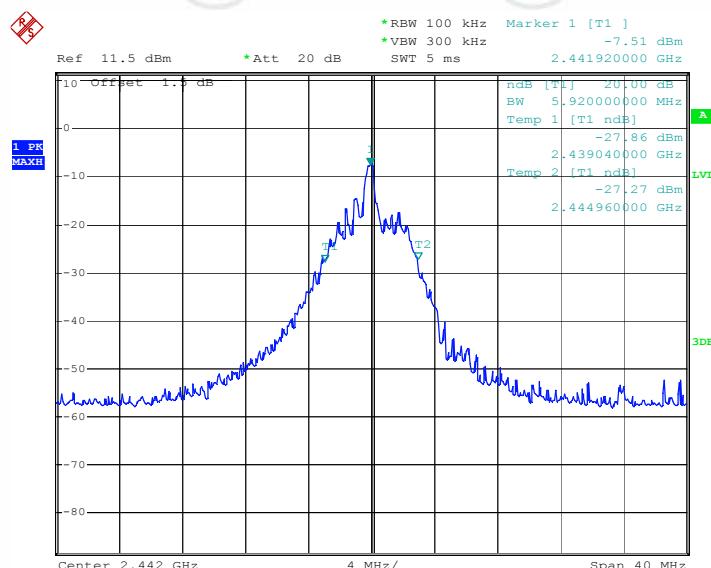
Test plot as follows:

Test channel:	Lowest
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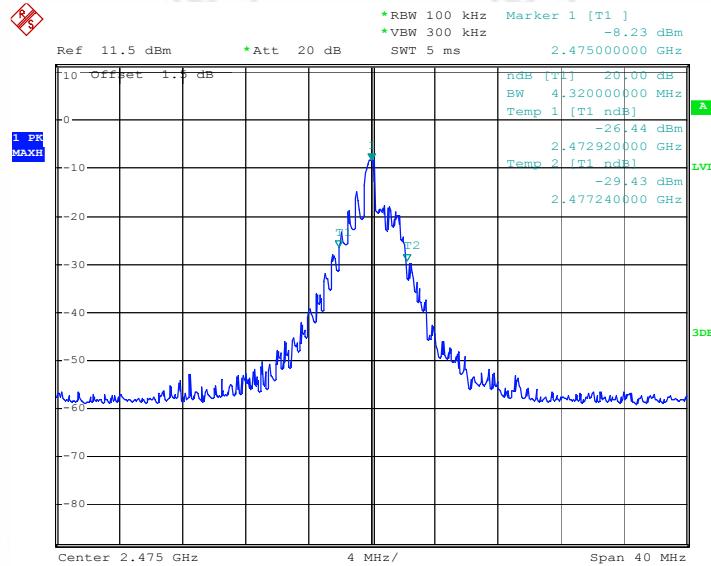
Date: 5.JUN.2018 10:57:07

Test channel:	Middle
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Date: 5.JUN.2018 11:04:46

Test channel:	Highest
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Date: 5.JUN.2018 11:18:47

APPENDIX 1 PHOTOGRAPHS OF TEST SETUP

Test Model No.: 2018 XPS Controller



Radiated spurious emission Test Setup-1(Below 1GHz)



Radiated spurious emission Test Setup-1(Below 30M)



Radiated spurious emission Test Setup-2(Above 1GHz)



APPENDIX 2 PHOTOGRAPHS OF EUT

Test Model No.: 2018 XPS Controller



View of Product-1



View of Product-2



View of Product-3



View of Product-4



View of Product-5



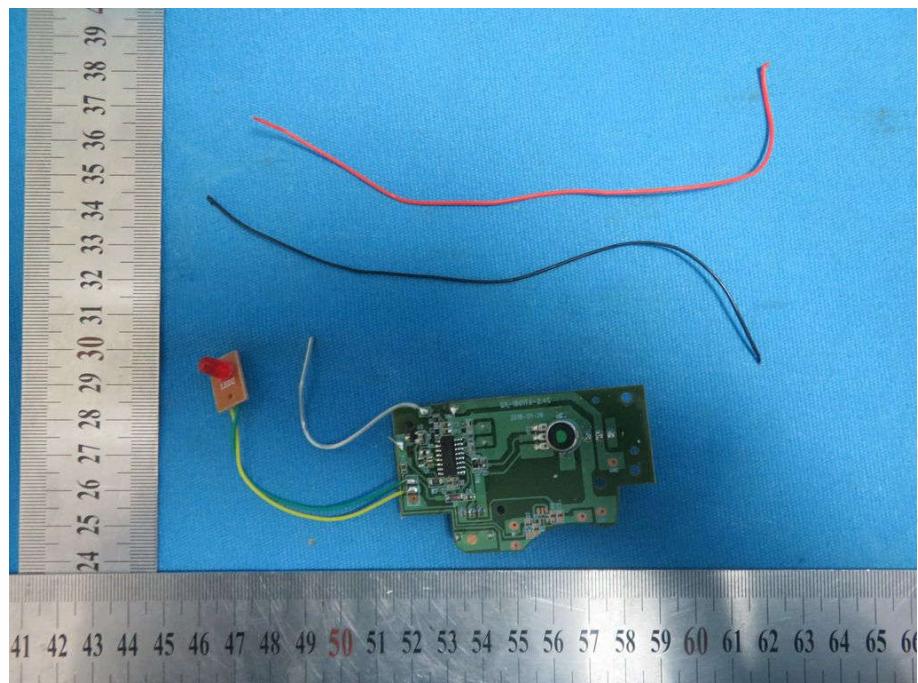
View of Product-6



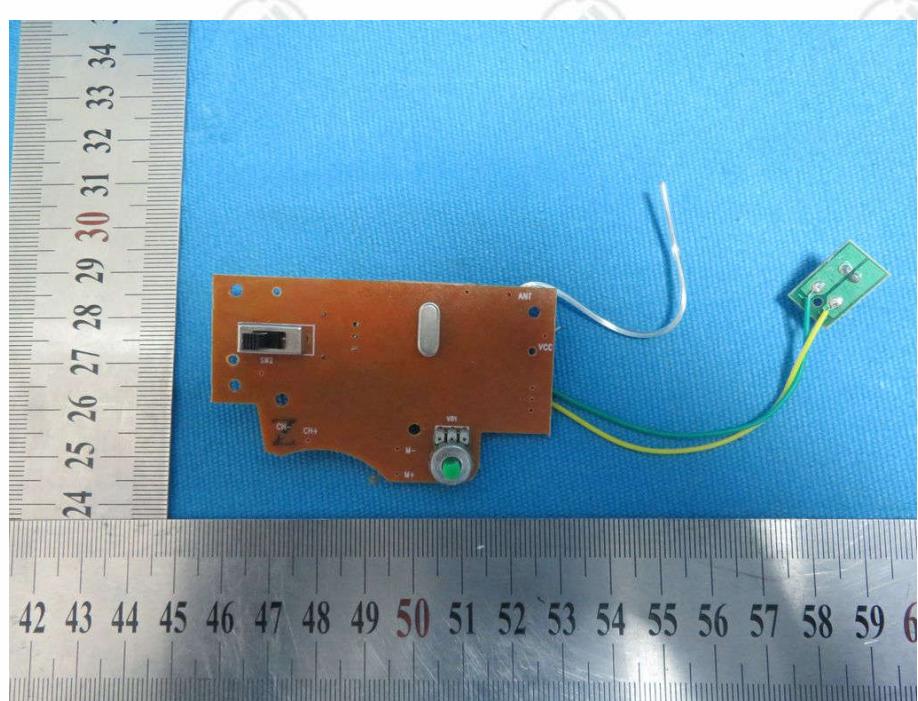
View of Product-7



View of Product-8



View of Product-9



View of Product-10

*** End of Report ***

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