

FCC Test Report

Product Name : Beta+

Trade Name : Raptor

Model No. : EV1000A-00

FCC ID. : 2AH97-EVG1

Applicant : Everysight Ltd.

Address : Andrei Sakharov 9, Advance Technology Center,

Building 3, Haifa 3508409, Israel

Date of Receipt : May 08, 2017

Issued Date : Aug. 23, 2017

Report No. : 1750190R-RFUSP25V00-A

Report Version : V1.0





The test results relate only to the samples tested.

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Test Report Certification

Issued Date: Aug. 23, 2017

Report No. :1750190R-RFUSP25V00-A



Product Name : Beta+

Applicant : Everysight Ltd.

Address : Andrei Sakharov 9, Advance Technology Center , Building 3,

Haifa 3508409, Israel

Manufacturer : Everysight Ltd.
Model No. : EV1000A-00

Trade Name : Raptor

FCC ID. : 2AH97-EVG1 EUT Voltage : Mode 1: DC 5V

Mode 2: AC 120V/60Hz

Testing Voltage : Mode 1: DC 5V

Mode 2: AC 120V/60Hz

Applicable Standard : FCC CFR Title 47 Part 15 Subpart C Section 15.249: 2015

Laboratory Name : Hsin Chu Laboratory

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County 310, Taiwan, R.O.C.

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Test Result : Complied

Documented By

f .

(Demi Chang / Engineering Adm. Specialist)

Tested By : Elwin Lin

(Elwin Lin / Assistant Engineer)

Approved By :

(Roy Wang / Director)



Revision History

Report No.	Version	Description	Issued Date
1750190R-RFUSP25V00-A	V1.0	Initial issue of report	Aug. 23, 2017



Laboratory Information

We, **DEKRA Testing and Certification Co., Ltd.**, are an independent RF consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted (audited or listed) by the following related bodies in compliance with ISO 17025 specified testing scopes:

Taiwan R.O.C. : TAF, Accreditation Number: 3024

USA : FCC, Registration Number: TW3024

Canada : IC, Submission No: 181665 /

IC Registration Number: 22397-1 / 22397-2 / 22397-3

The related certificate for our laboratories about the test site and management system can be downloaded from DEKRA Testing and Certification Co., Ltd. Web Site:

http://www.dekra.com.tw/english/about/certificates.aspx?bval=5

The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site: http://www.dekra.com.tw/index_en.aspx

If you have any comments, Please don't hesitate to contact us. Our test sites as below:

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1. General Information

1.1. EUT Description

Product Name	Beta+
Trade Name	Raptor
Model No.	EV1000A-00
Frequency Range/Channel Number	2402~2480MHz / 79 Channels
Type of Modulation	GFSK

Antenna Information	
Antenna Type	PCB Antenna
Antenna Gain	2.32dBi

Accessories Information				
Power Adapter PHIHONG, PSA05A-050QL6				
I/P : 100-240V~0.2A 50-60Hz				
	O/P : 5V ====1A			
USB Cable	Shielded, 1m			



Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 00	2402 MHz	Channel 20	2422 MHz	Channel 40	2442 MHz	Channel 60	2462 MHz
Channel 01	2403 MHz	Channel 21	2423 MHz	Channel 41	2443 MHz	Channel 61	2463 MHz
Channel 02	2404 MHz	Channel 22	2424 MHz	Channel 42	2444 MHz	Channel 62	2464 MHz
Channel 03	2405 MHz	Channel 23	2425 MHz	Channel 43	2445 MHz	Channel 63	2465 MHz
Channel 04	2406 MHz	Channel 24	2426 MHz	Channel 44	2446 MHz	Channel 64	2466 MHz
Channel 05	2407 MHz	Channel 25	2427 MHz	Channel 45	2447 MHz	Channel 65	2467 MHz
Channel 06	2408 MHz	Channel 26	2428 MHz	Channel 46	2448 MHz	Channel 66	2468 MHz
Channel 07	2409 MHz	Channel 27	2429 MHz	Channel 47	2449 MHz	Channel 67	2469 MHz
Channel 08	2410 MHz	Channel 28	2430 MHz	Channel 48	2450 MHz	Channel 68	2470 MHz
Channel 09	2411 MHz	Channel 29	2431 MHz	Channel 49	2451 MHz	Channel 69	2471 MHz
Channel 10	2412 MHz	Channel 30	2432 MHz	Channel 50	2452 MHz	Channel 70	2472 MHz
Channel 11	2413 MHz	Channel 31	2433 MHz	Channel 51	2453 MHz	Channel 71	2473 MHz
Channel 12	2414 MHz	Channel 32	2434 MHz	Channel 52	2454 MHz	Channel 72	2474 MHz
Channel 13	2415 MHz	Channel 33	2435 MHz	Channel 53	2455 MHz	Channel 73	2475 MHz
Channel 14	2416 MHz	Channel 34	2436 MHz	Channel 54	2456 MHz	Channel 74	2476 MHz
Channel 15	2417 MHz	Channel 35	2437 MHz	Channel 55	2457 MHz	Channel 75	2477 MHz
Channel 16	2418 MHz	Channel 36	2438 MHz	Channel 56	2458 MHz	Channel 76	2478 MHz
Channel 17	2419 MHz	Channel 37	2439 MHz	Channel 57	2459 MHz	Channel 77	2479 MHz
Channel 18	2420 MHz	Channel 38	2440 MHz	Channel 58	2460 MHz	Channel 78	2480 MHz
Channel 19	2421 MHz	Channel 39	2441 MHz	Channel 59	2461 MHz		

- 1. This device is a Beta+ including 2.4GHz b/g/n (1x1), BT2.0, BT4.0 and ANT+ transmitting and receiving function
- 2. Regards to the frequency band operation; the lowest \ middle and highest frequency of channel were selected to perform the test, and then shown on this report.
- 3. This report has evaluated three axis of X, Y, and Z



1.2. Test Mode

DEKRA has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Final Test Mode	
тх	Mode 1: Transmit-Power by PC
	Mode 2: Transmit-Power by Adapter

Emission				
Performed Item Mode 1 Mode 2				
Conducted Emission	Yes	Yes		
Fundamental Power	Yes	No		
Radiated Emission	Yes	Yes		
Band Edge	Yes	No		

Report No: 1750190R-RFUSP25V00-A



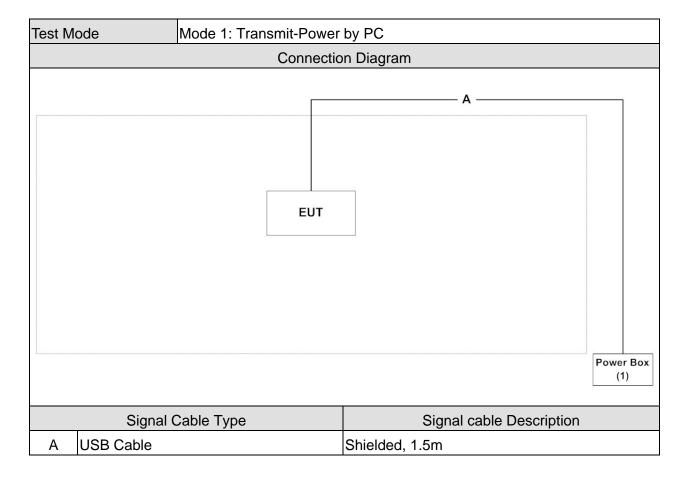
1.3. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Tes	Test Mode Mode 1: Transmit-Power by PC					
Product		Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1	Notebook PC	book PC Lenovo B590 WB1529782 DoC		DoC	Non-Shielded, 1.8m,	
						one ferrite core bonded
Tes	Test Mode Mode 2: Transmit-Power by Adapter					
Product Manufacture		Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
N/A	N/A					



1.4. Configuration of tested System





Test Mode	Mode 2: Transmit-Power by Adapter					
	Connection Diagram					
	EUT					
4						

1.5. EUT Exercise Software

1	Setup the EUT as shown in Section 1.4.	
2	Execute the test program "QRCT".	
3	3 Configure the test mode, the test channel, and the data rate.	
4	Press "Start TX" to start the continuous transmitting.	
5	Verify that the EUT works properly.	



1.6. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required	Actual	Test Site
		(IEC 68-1)		
Temperature (°C)	500 DADT 45 0 45 000	15 - 35	25	
Humidity (%RH)	FCC PART 15 C 15.209	25 - 75	65	3
Barometric pressure (mbar)	Conducted Emission	860 - 1060	950-1000	
Temperature (°C)		15 - 35	25	
Humidity (%RH)	FCC PART 15 C 15.209	25 - 75	65	2
Barometric pressure (mbar)	Fundamental Power	860 - 1060	950-1000	
Temperature (°C)		15 - 35	25	
Humidity (%RH)	FCC PART 15 C 15.209	25 - 75	65	2
Barometric pressure (mbar)	Radiated Emission	860 - 1060	950-1000	
Temperature (°C)		15 - 35	25	
Humidity (%RH)	FCC PART 15 C 15.249	25 - 75	65	2
Barometric pressure (mbar)	Band Edge	860 - 1060	950-1000	

Note: Test Site information refers to Laboratory Information.



2. Conducted Emission

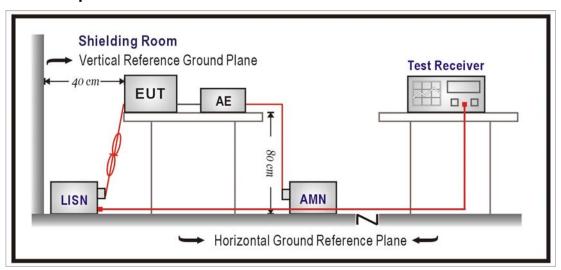
2.1. Test Equipment

The following test equipments are used during the test:

Conducted Emission / SR2-H							
Instrument Manufacturer Model No. Serial No. Cal. Date Next Cal.							
Artificial Mains	R&S	ENV4200	848411/010	2017/02/06	2018/02/05		
Network							
Test Receiver	R&S	ESCS 30	836858/022	2017/04/12	2018/04/11		
LISN	R&S	ENV216	100092	2017/07/31	2018/07/30		

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

2.2. Test Setup





2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 Limits (dBuV)						
Frequency MHz	QP	AV				
0.15 - 0.50	66-56	56-46				
0.50 - 5.0	56	46				
5.0 - 30	60	50				

Remarks: In the above table, the tighter limit applies at the band edges.

2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /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 C63.4: 2014 on conducted measurement. Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

2.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.207: 2012

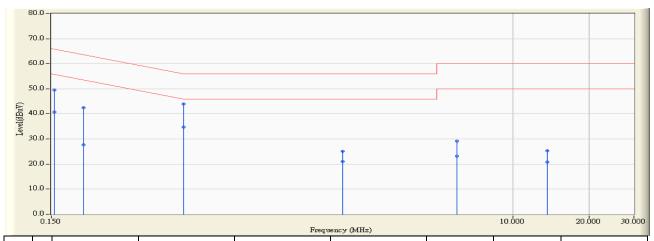
2.6. Uncertainty

The measurement uncertainty is defined as \pm 2.26 dB.



2.7. Test Result

Site : SR2-H	Time : 2017/08/17
Limit : CISPR_B_00M_QP	Margin : 10
Probe : SR2_LISN(16A)-6_0712 - Line1	Power : DC 5V
EUT : Beta+	Note : Mode 1: Transmit-Power by PC

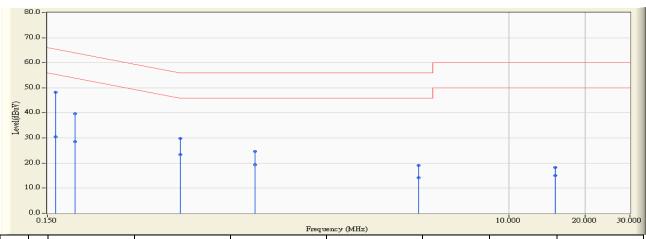


	Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
	(MHz)	(dB)	(dBuV)	(dBuV)	(dB)	(dBuV)	
1	0.154	9.747	39.750	49.496	-16.290	65.786	QUASIPEAK
2	0.154	9.747	31.050	40.796	-14.990	55.786	AVERAGE
3	0.201	9.750	32.640	42.390	-21.188	63.578	QUASIPEAK
4	0.201	9.750	17.870	27.620	-25.958	53.578	AVERAGE
5	0.498	9.729	34.250	43.979	-12.060	56.039	QUASIPEAK
6	* 0.498	9.729	25.100	34.829	-11.210	46.039	AVERAGE
7	2.127	9.864	15.220	25.084	-30.916	56.000	QUASIPEAK
8	2.127	9.864	11.160	21.024	-24.976	46.000	AVERAGE
9	5.982	9.962	19.270	29.233	-30.767	60.000	QUASIPEAK
10	5.982	9.962	13.240	23.203	-26.797	50.000	AVERAGE
11	13.654	10.196	15.020	25.216	-34.784	60.000	QUASIPEAK
12	13.654	10.196	10.680	20.876	-29.124	50.000	AVERAGE

- 1. All Reading Levels are Quasi-Peak and average value.
- 2. " * ", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor.



Site : SR2-H	Time : 2017/08/17
Limit : CISPR_B_00M_QP	Margin : 10
Probe : SR2_LISN(16A)-6_0712 - Line2	Power : DC 5V
EUT : Beta+	Note : Mode 1: Transmit-Power by PC

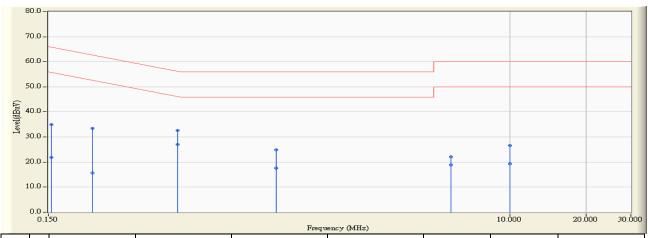


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV)	(dB)	(dBuV)	
1	*	0.162	9.754	38.430	48.184	-17.191	65.375	QUASIPEAK
2		0.162	9.754	20.620	30.374	-25.001	55.375	AVERAGE
3		0.193	9.751	29.960	39.711	-24.197	63.908	QUASIPEAK
4		0.193	9.751	18.870	28.621	-25.287	53.908	AVERAGE
5		0.502	9.746	20.010	29.756	-26.244	56.000	QUASIPEAK
6		0.502	9.746	13.670	23.416	-22.584	46.000	AVERAGE
7		0.990	9.818	14.860	24.678	-31.322	56.000	QUASIPEAK
8		0.990	9.818	9.550	19.368	-26.632	46.000	AVERAGE
9		4.392	9.847	9.140	18.987	-37.013	56.000	QUASIPEAK
10		4.392	9.847	4.260	14.107	-31.893	46.000	AVERAGE
11		15.224	10.318	7.970	18.289	-41.711	60.000	QUASIPEAK
12		15.224	10.318	4.650	14.969	-35.031	50.000	AVERAGE

- 1. All Reading Levels are Quasi-Peak and average value.
- 2. " * ", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor.



Site : SR2-H	Time : 2017/08/17
Limit : CISPR_B_00M_QP	Margin : 10
Probe : SR2_LISN(16A)-6_0712 - Line1	Power : AC 120V/60Hz
EUT : Beta+	Note : Mode 2: Transmit-Power by Adapter

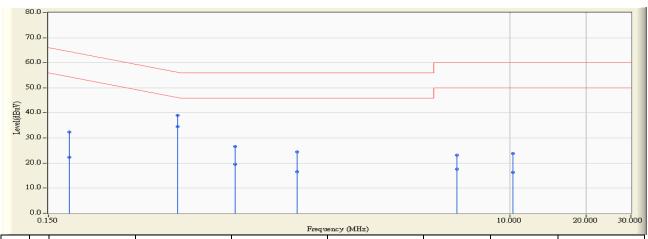


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV)	(dB)	(dBuV)	
1		0.154	9.747	25.260	35.006	-30.780	65.786	QUASIPEAK
2		0.154	9.747	12.160	21.906	-33.880	55.786	AVERAGE
3		0.224	9.748	23.750	33.498	-29.164	62.661	QUASIPEAK
4		0.224	9.748	5.820	15.568	-37.094	52.661	AVERAGE
5		0.486	9.729	22.940	32.669	-23.568	56.237	QUASIPEAK
6	*	0.486	9.729	17.230	26.959	-19.278	46.237	AVERAGE
7		1.193	9.828	15.150	24.978	-31.022	56.000	QUASIPEAK
8		1.193	9.828	7.810	17.638	-28.362	46.000	AVERAGE
9		5.849	9.957	12.110	22.067	-37.933	60.000	QUASIPEAK
10		5.849	9.957	9.000	18.957	-31.043	50.000	AVERAGE
11		9.966	10.129	16.520	26.648	-33.352	60.000	QUASIPEAK
12		9.966	10.129	9.080	19.208	-30.792	50.000	AVERAGE

- 1. All Reading Levels are Quasi-Peak and average value.
- 2. " * ", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor.



Site : SR2-H	Time : 2017/08/17
Limit : CISPR_B_00M_QP	Margin : 10
Probe : SR2_LISN(16A)-6_0712 - Line2	Power : AC 120V/60Hz
EUT : Beta+	Note : Mode 2: Transmit-Power by Adapter



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV)	(dB)	(dBuV)	
1		0.181	9.752	22.720	32.472	-31.956	64.428	QUASIPEAK
2		0.181	9.752	12.550	22.302	-32.126	54.428	AVERAGE
3		0.486	9.746	29.320	39.066	-17.171	56.237	QUASIPEAK
4	*	0.486	9.746	24.790	34.536	-11.701	46.237	AVERAGE
5		0.822	9.793	16.770	26.563	-29.437	56.000	QUASIPEAK
6		0.822	9.793	9.620	19.413	-26.587	46.000	AVERAGE
7		1.439	9.833	14.710	24.543	-31.457	56.000	QUASIPEAK
8		1.439	9.833	6.720	16.553	-29.447	46.000	AVERAGE
9		6.146	9.925	13.160	23.085	-36.915	60.000	QUASIPEAK
10		6.146	9.925	7.650	17.575	-32.425	50.000	AVERAGE
11		10.263	10.158	13.620	23.778	-36.222	60.000	QUASIPEAK
12		10.263	10.158	6.060	16.218	-33.782	50.000	AVERAGE

- 1. All Reading Levels are Quasi-Peak and average value.
- 2. " * ", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor.



3. Fundamental Power

3.1. Test Equipment

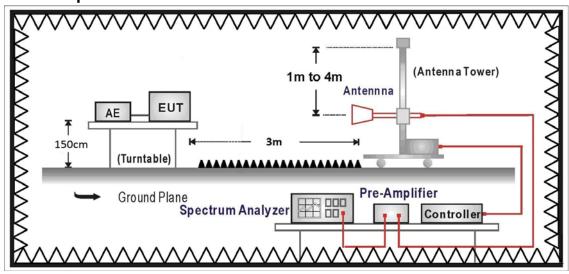
The following test equipments are used during the test:

Fundamental Power / CB2-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2016/11/28	2017/11/27
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/23	2018/01/22
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2017/03/13	2018/03/12
Bilog Antenna	Teseq	CBL6112D	23191	2017/06/28	2018/06/27
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2017/06/14	2018/06/13
Horn Antenna	Schwarzbeck	BBHA 9170	203	2016/08/29	2017/08/28
Pre-Amplifier	RF Bay Inc.	LNA-1330	12162511	2017/03/09	2018/03/08
Pre-Amplifier	EMCI	EMCI 1830I	980366	2017/01/23	2018/01/22
Pre-Amplifier	MITEQ	JS44-45-8P	2014754	2016/12/26	2017/12/25

Note: All equipments that need to calibrate are with calibration period of 1 year.

3.2. Test Setup





3.3. Limits

> Fundamental and Harmonics Emission Limits

FCC Part 15 Subpart C Paragraph 15.249 Limits						
Fundamental Frequency		ength of mental	Field Strength of Harmonics			
MHz	mV/m	dBuV/m	uV/m	dBuV/m		
902-928	50	94	500	54		
2400-2483.5	50	94	500	54		
5725-5875	50	94	500	54		

Remarks: 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)

- 2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
- 3. The emission limit in this paragraph is based on measurement instrumentation employing an average detector.

3.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 1.5 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4: 2014 on radiated measurement.

On any frequency or frequencies below or equal to 1000 MHz, the limits shown are based on measuring equipment employing a quasi-peak detector function and on any frequency or frequencies above 1000 MHz the radiated limits shown are based upon the use of measurement instrumentation employing an average detector function. When average radiated emission measurement are included emission measurement below 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit. The bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.



3.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.249: 2015

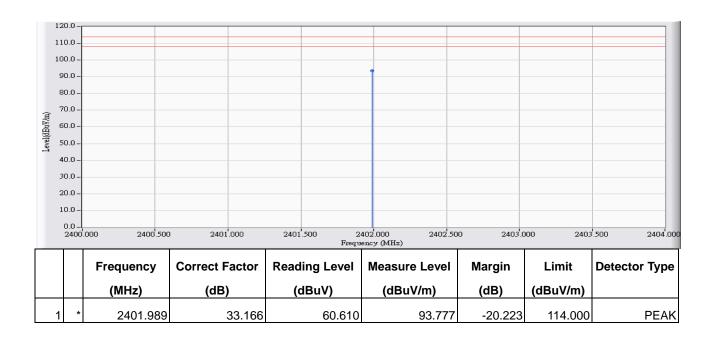
3.6. Uncertainty

The measurement uncertainty: 1GHz \sim 26.5GHz as \pm 3.65dB



3.7. Test Result

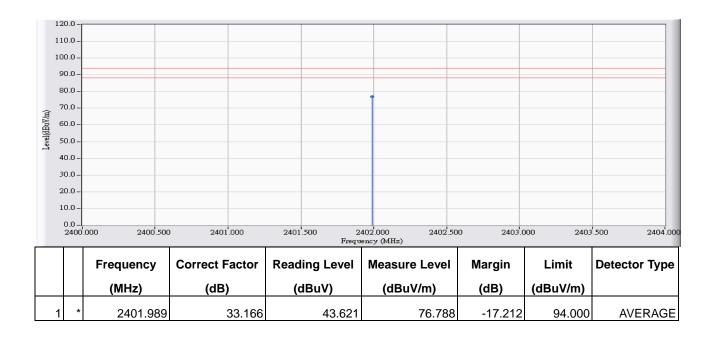
Site : CB2-H	Time : 2017/08/15
Limit : FCC_SpartC_15.249_F_03M_PK	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
HORIZONTAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_
	2402MHz_Fundamental_X axis



- All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
- 2. "*", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor



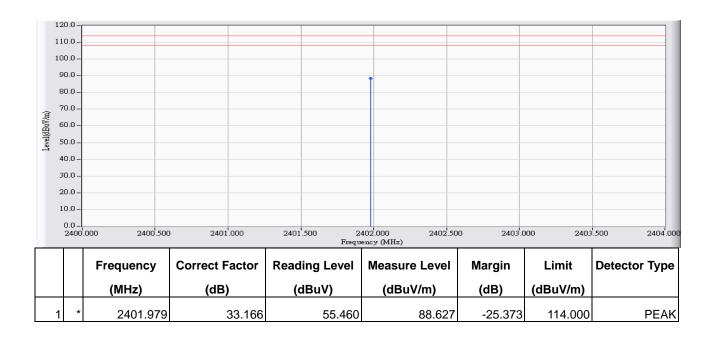
Site : CB2-H	Time : 2017/08/15
Limit : FCC_SpartC_15.249_F_03M_AV	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
HORIZONTAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_
	2402MHz_Fundamental_X axis



- 1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
- 2. "*", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor



Site : CB2-H	Time : 2017/08/15
Limit : FCC_SpartC_15.249_F_03M_PK	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
VERTICAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_
	2402MHz_Fundamental_X axis



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- 3. Measurement Level = Reading Level + Correct Factor



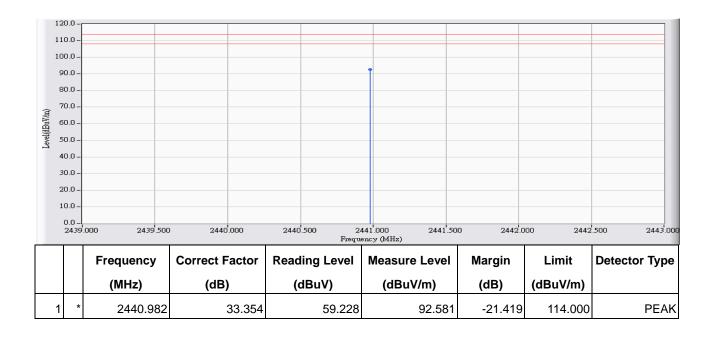
Site : CB2-H	Time : 2017/08/15
Limit : FCC_SpartC_15.249_F_03M_AV	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
VERTICAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_
	2402MHz_Fundamental_X axis



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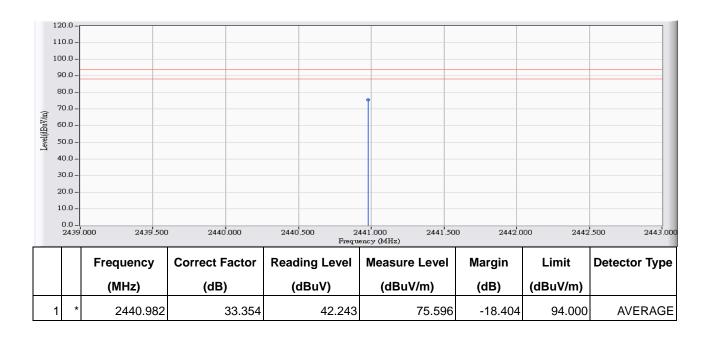
Site : CB2-H	Time : 2017/08/17
Limit : FCC_SpartC_15.249_F_03M_PK	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
HORIZONTAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_
	2441MHz_Fundamental_X axis



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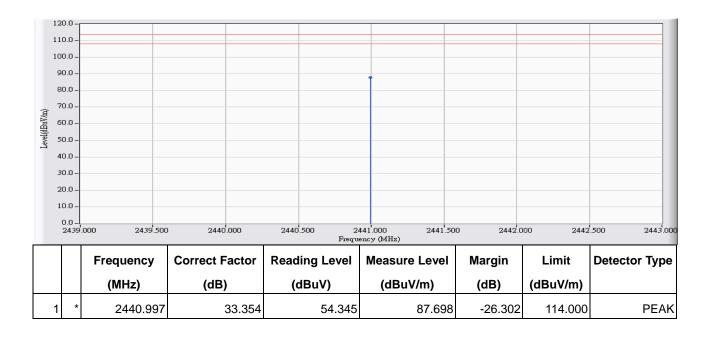
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Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
HORIZONTAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_
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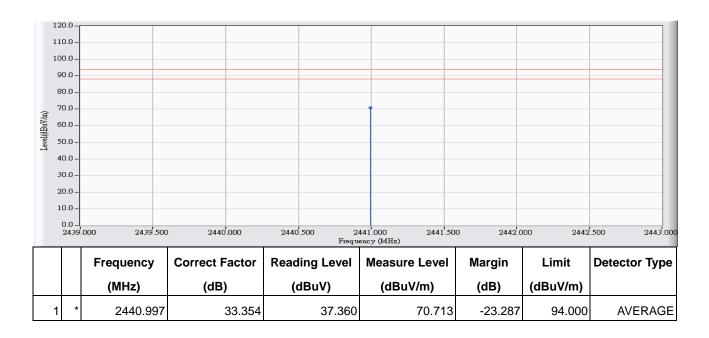
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Limit : FCC_SpartC_15.249_F_03M_PK	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
VERTICAL	
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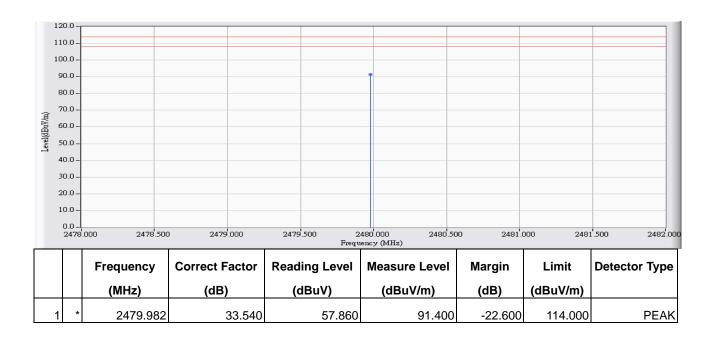
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Limit : FCC_SpartC_15.249_F_03M_AV	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
VERTICAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_
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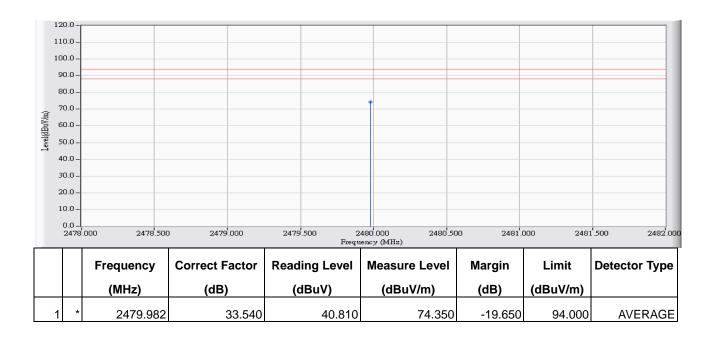
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Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
HORIZONTAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_
	2480MHz_Fundamental_X axis



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Site : CB2-H	Time : 2017/08/15
Limit : FCC_SpartC_15.249_F_03M_AV	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
HORIZONTAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_
	2480MHz_Fundamental_X axis



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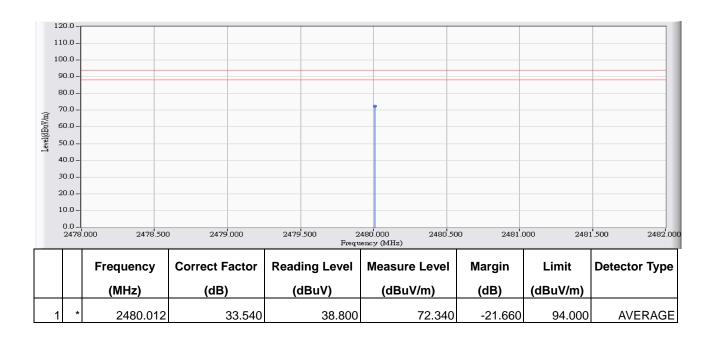
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Limit : FCC_SpartC_15.249_F_03M_PK	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
VERTICAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_
	2480MHz_Fundamental_X axis



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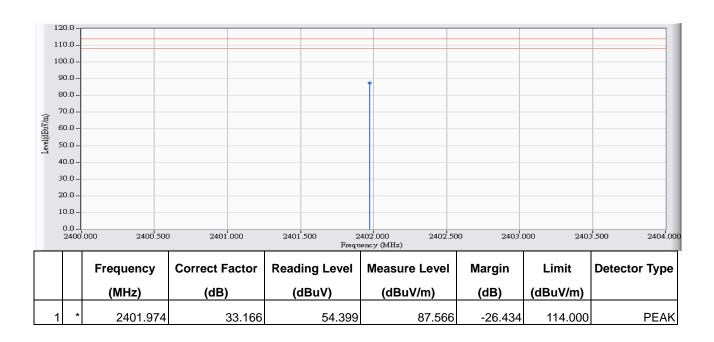
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Limit : FCC_SpartC_15.249_F_03M_AV	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
VERTICAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_
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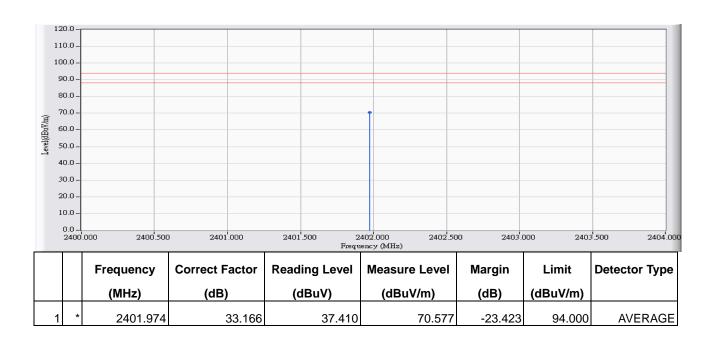
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Limit : FCC_SpartC_15.249_F_03M_PK	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
HORIZONTAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_
	2402MHz_Fundamental_Y axis



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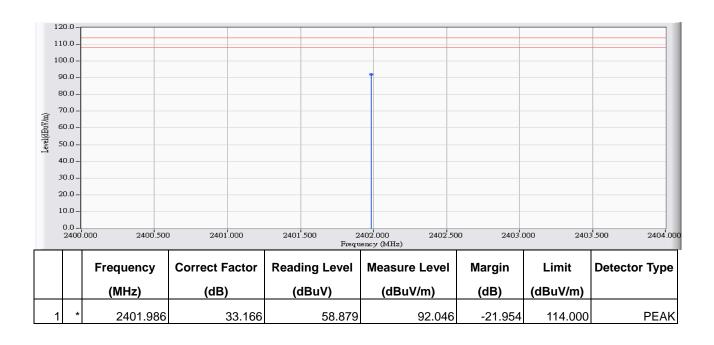
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Limit : FCC_SpartC_15.249_F_03M_AV	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
HORIZONTAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_
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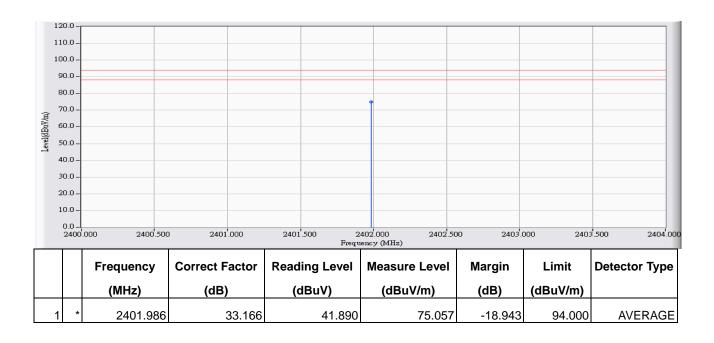
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Limit : FCC_SpartC_15.249_F_03M_PK	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
VERTICAL	
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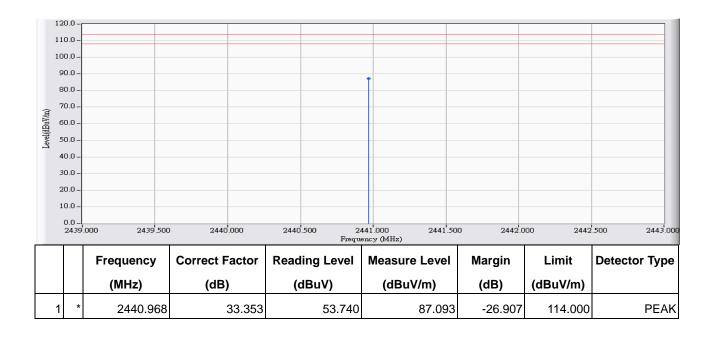
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Limit : FCC_SpartC_15.249_F_03M_AV	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
VERTICAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_
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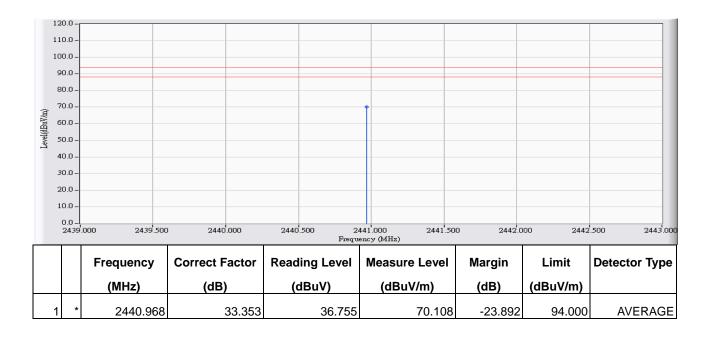
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Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
HORIZONTAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_
	2441MHz_Fundamental_Y axis



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Site : CB2-H	Time : 2017/08/17
Limit : FCC_SpartC_15.249_F_03M_AV	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
HORIZONTAL	
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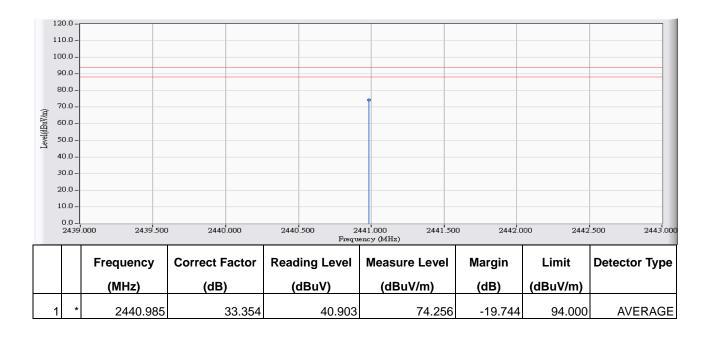
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Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
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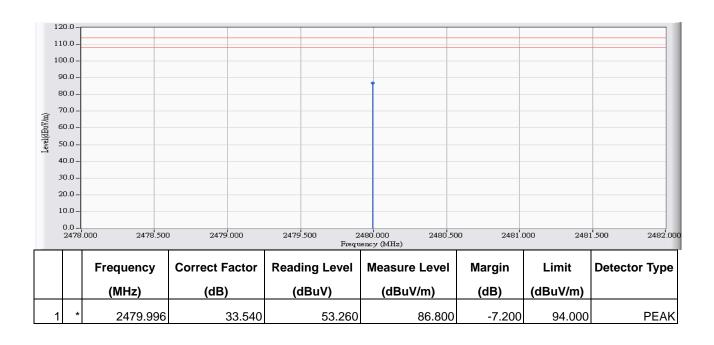
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Limit : FCC_SpartC_15.249_F_03M_AV	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
VERTICAL	
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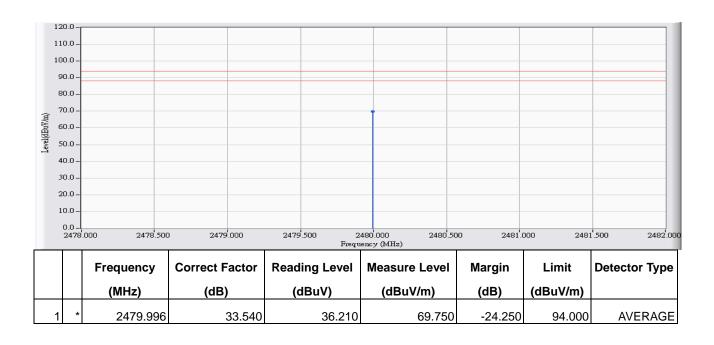
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Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
HORIZONTAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_
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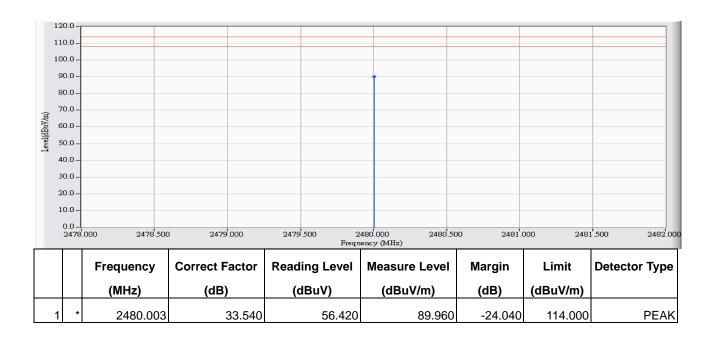
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Limit : FCC_SpartC_15.249_F_03M_AV	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
HORIZONTAL	
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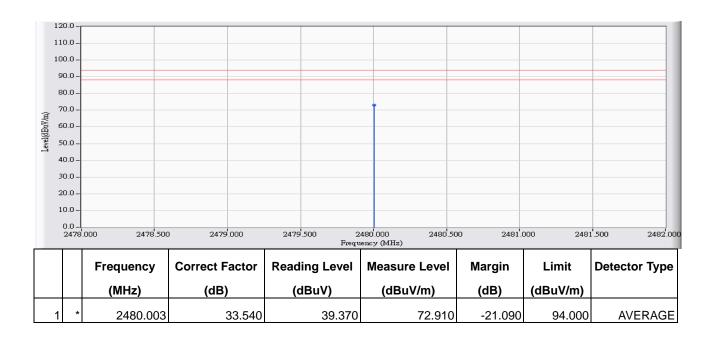
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Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
VERTICAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_
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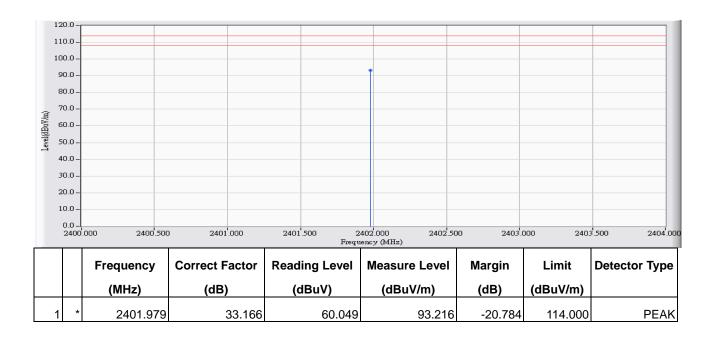
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Limit : FCC_SpartC_15.249_F_03M_AV	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
VERTICAL	
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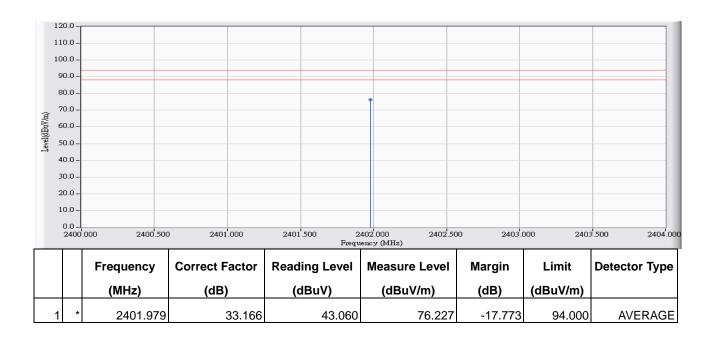
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Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
HORIZONTAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_
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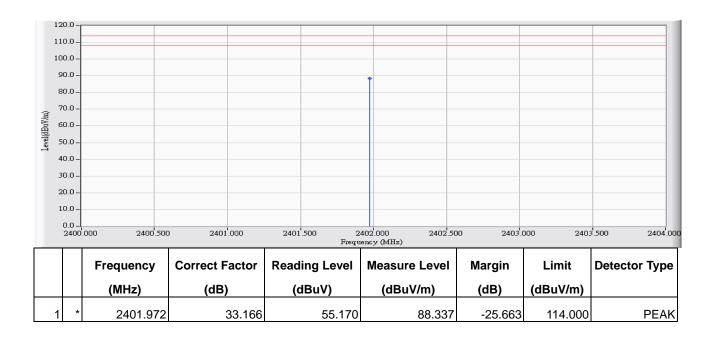
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Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
HORIZONTAL	
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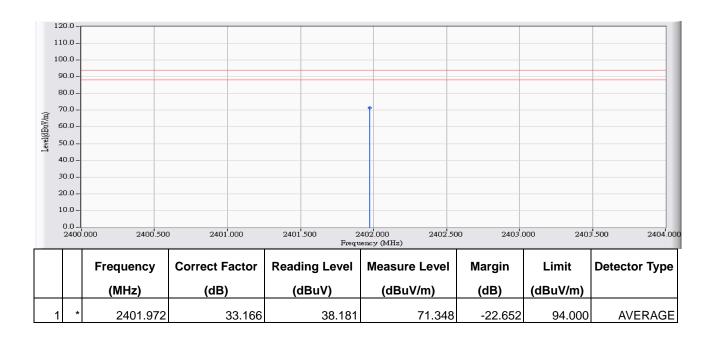
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Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
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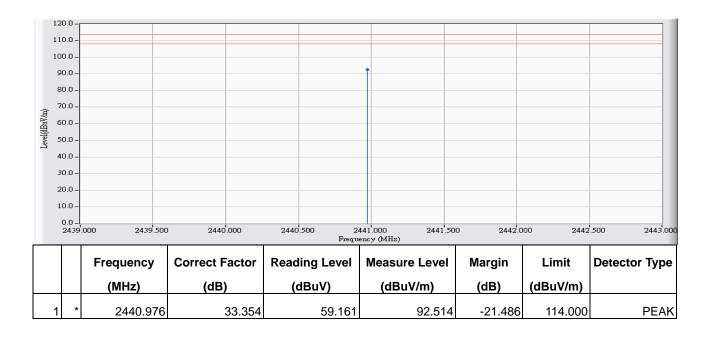
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Limit : FCC_SpartC_15.249_F_03M_AV	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
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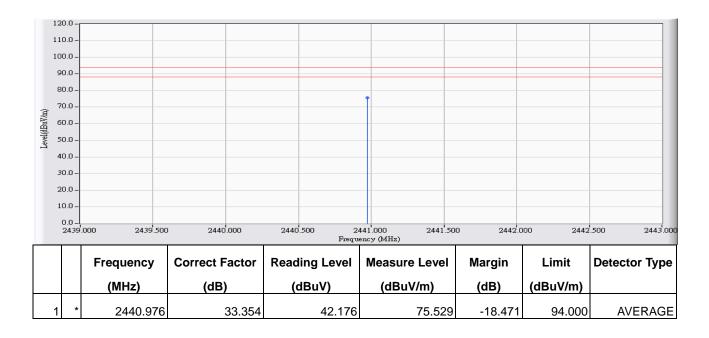
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Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
HORIZONTAL	
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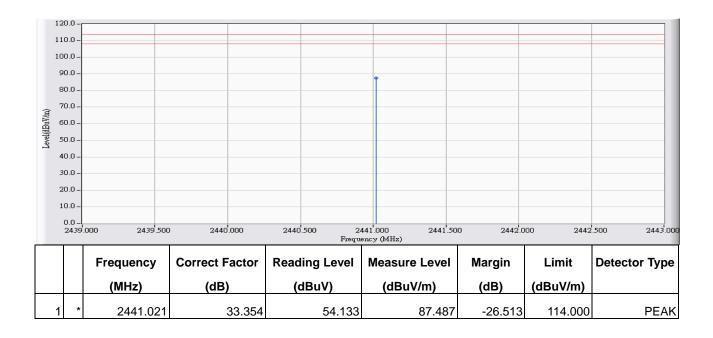
Site : CB2-H	Time : 2017/08/17
Limit : FCC_SpartC_15.249_F_03M_AV	Margin: 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
HORIZONTAL	
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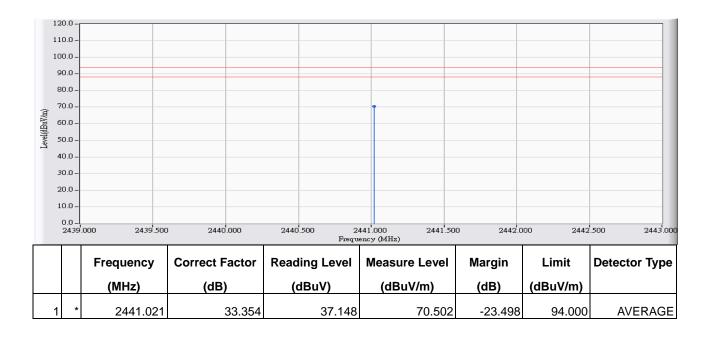
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Limit : FCC_SpartC_15.249_F_03M_PK	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
VERTICAL	
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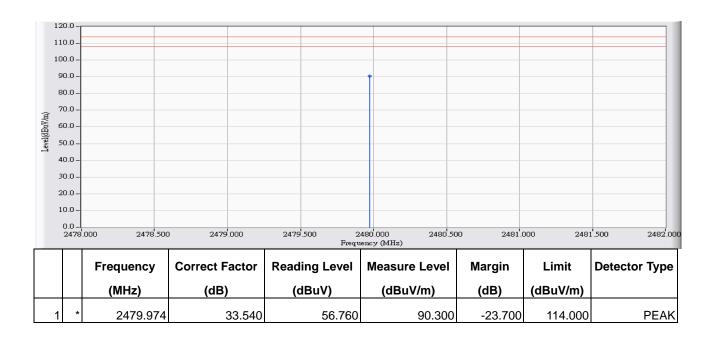
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Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
VERTICAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_
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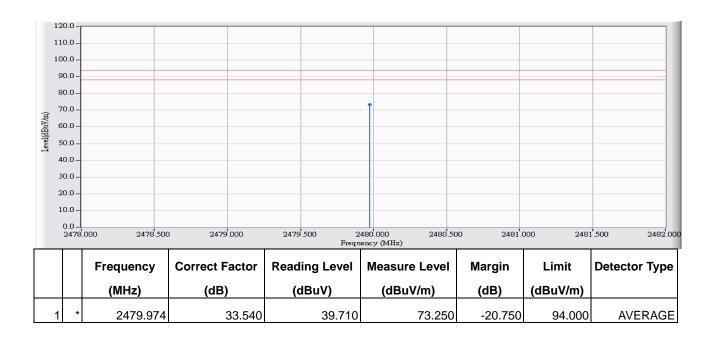
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Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
HORIZONTAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_
	2480MHz_Fundamental_Z axis



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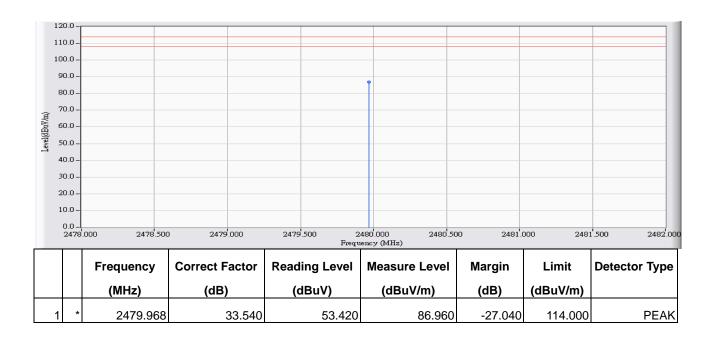
Site : CB2-H	Time : 2017/08/15
Limit : FCC_SpartC_15.249_F_03M_AV	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
HORIZONTAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_
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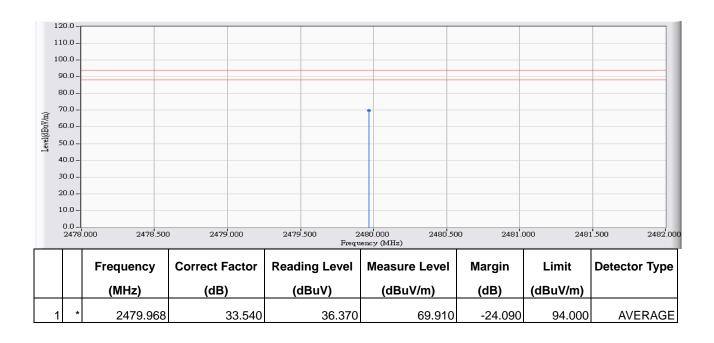
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Limit : FCC_SpartC_15.249_F_03M_PK	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
VERTICAL	
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Site : CB2-H	Time : 2017/08/15
Limit : FCC_SpartC_15.249_F_03M_AV	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
VERTICAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_
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- 2. " * ", means this data is the worst emission level.
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4. Radiated Emission

4.1. Test Equipment

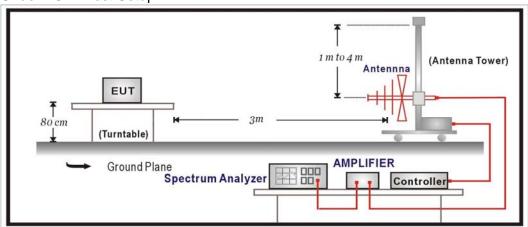
The following test equipment are used during the test:

Radiated Emission	/ CB4-H				
Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2016/11/28	2017/11/27
Signal & Spectrum	R&S	FSV40	101049	2017/01/23	2018/01/22
Analyzer					
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2017/03/13	2018/03/12
Bilog Antenna	Teseq	CBL6112D	23191	2017/06/28	2018/06/27
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2017/06/14	2018/06/13
Horn Antenna	Schwarzbeck	BBHA 9170	203	2016/08/29	2017/08/28
Pre-Amplifier	RF Bay Inc.	LNA-1330	12162511	2017/03/09	2018/03/08
Pre-Amplifier	EMCI	EMCI 1830I	980366	2017/01/23	2018/01/22
Pre-Amplifier	MITEQ	JS44-45-8P	2014754	2016/12/26	2017/12/25

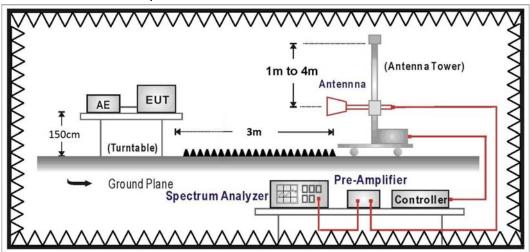
Note: All equipments that need to calibrate are with calibration period of 1 year.

4.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



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4.3. Limits

> Fundamental and Harmonics Emission Limits

FCC Part 15 Subpart C Paragraph 15.249 Limits				
Fundamental Frequency	Field Strength of Fundamental		Field Strength of Harmonics	
MHz	mV/m	dBuV/m	uV/m	dBuV/m
902-928	50	94	500	54
2400-2483.5	50	94	500	54
5725-5875	50	94	500	54

Remarks: 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)

- 2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
- 3. The emission limit in this paragraph is based on measurement instrumentation employing an average detector.

> Spurious electric field strength limits

FCC Part 15 Subpart C Paragraph 15.209 Limits					
Frequency MHz	uV/m	uV/m dBuV/m			
1.705-30	30	29.5	30		
30-88	100	40	3		
88-216	150	43.5	3		
216-960	200	46	3		
Above 960	500	54	3		

Remarks: 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)

- 2. In the Above Table, the tighter limit applies at the band edges.
- 3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.



4.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 1.5meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:2014 on radiated measurement.

On any frequency or frequencies below or equal to 1000 MHz, the limits shown are based on measuring equipment employing a quasi-peak detector function and on any frequency or frequencies above 1000 MHz the radiated limits shown are based upon the use of measurement instrumentation employing an average detector function. When average radiated emission measurement are included emission measurement below 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit. The bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

4.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.209 and Paragraph 15.249: 2015

4.6. Uncertainty

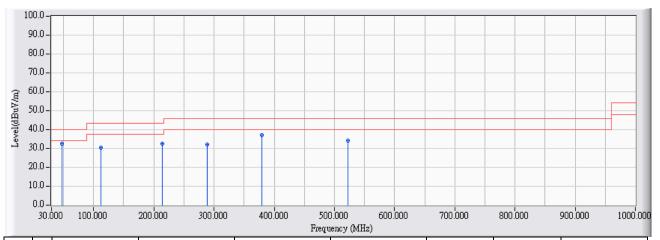
The measurement uncertainty 30MHz~1GHz as ±3.43dB 1GHz~26.5GHz as ±3.65dB



4.7. Test Result

30 MHz-1 GHz Spurious:

Site : CB4-H	Time : 2017/08/17
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4_CE_Sub_30-1GHz_3M_0117 - HORIZONTAL	Power : DC 5V
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_2441MHz

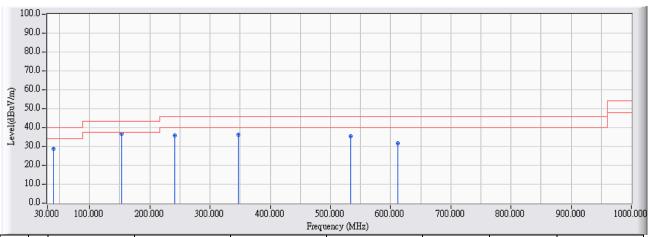


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	47.167	-30.142	62.754	32.611	-7.389	40.000	QUASIPEAK
2		112.636	-28.053	58.478	30.426	-13.074	43.500	QUASIPEAK
3		213.894	-29.368	61.842	32.475	-11.025	43.500	QUASIPEAK
4		288.576	-24.863	56.912	32.049	-13.951	46.000	QUASIPEAK
5		379.359	-22.793	59.800	37.007	-8.993	46.000	QUASIPEAK
6		522.323	-19.238	53.546	34.309	-11.691	46.000	QUASIPEAK

- 1. All Reading Levels are Quasi-Peak value.
- 2. "*", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor



Site : CB4-H	Time : 2017/08/17
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4_CE_Sub_30-1GHz_3M_0117 - VERTICAL	Power : DC 5V
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_2441MHz

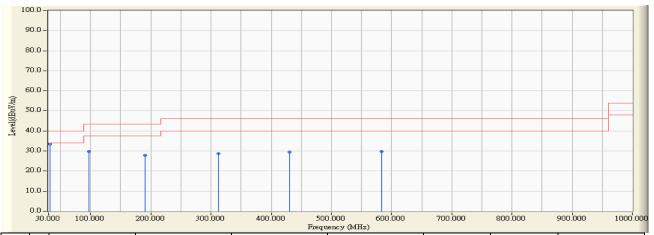


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		40.281	-38.151	66.809	28.658	-11.342	40.000	QUASIPEAK
2	*	153.275	-25.235	62.092	36.857	-6.643	43.500	QUASIPEAK
3		241.342	-25.464	61.353	35.889	-10.111	46.000	QUASIPEAK
4		346.576	-22.078	58.120	36.043	-9.957	46.000	QUASIPEAK
5		534.156	-17.135	52.399	35.264	-10.736	46.000	QUASIPEAK
6		612.039	-16.237	47.781	31.544	-14.456	46.000	QUASIPEAK

- 1. All Reading Levels are Quasi-Peak value.
- 2. " * ", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor



Site : CB4-H	Time : 2017/08/19
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4_FCC_EFS_S2_30M-1GHz_1116 -	Power : AC 120V / 60Hz
HORIZONTAL	
EUT : Beta+	Note : Mode 2: Transmit-Power by Adapter_2441MHz

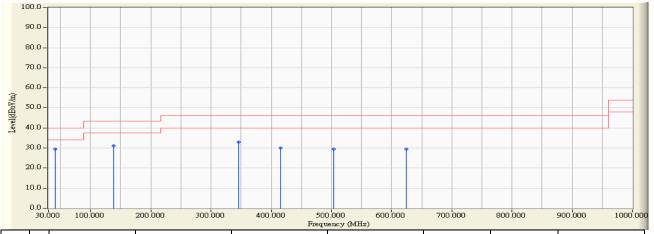


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	32.425	-16.709	50.197	33.489	-6.511	40.000	QUASIPEAK
2		97.415	-23.931	53.662	29.731	-13.769	43.500	QUASIPEAK
3		190.050	-23.590	51.473	27.884	-15.616	43.500	QUASIPEAK
4		311.785	-19.181	47.926	28.745	-17.255	46.000	QUASIPEAK
5		430.125	-15.486	44.925	29.439	-16.561	46.000	QUASIPEAK
6		583.870	-13.372	43.257	29.885	-16.115	46.000	QUASIPEAK

- 1. All Reading Levels are Quasi-Peak value.
- 2. " * ", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor



Site : CB4-H	Time : 2017/08/19
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB4_FCC_EFS_S2_30M-1GHz_1116 - VERTICAL	Power : AC 120V / 60Hz
EUT : Beta+	Note : Mode 2: Transmit-Power by Adapter_2441MHz



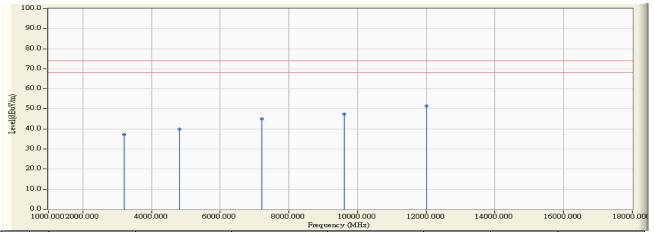
		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1	*	40.670	-17.178	46.608	29.430	-10.570	40.000	QUASIPEAK
2		138.155	-21.532	52.623	31.092	-12.408	43.500	QUASIPEAK
3		345.250	-17.468	50.415	32.948	-13.052	46.000	QUASIPEAK
4		415.090	-15.685	45.720	30.035	-15.965	46.000	QUASIPEAK
5		503.845	-13.870	43.362	29.491	-16.509	46.000	QUASIPEAK
6		624.125	-11.947	41.525	29.578	-16.422	46.000	QUASIPEAK

- 1. All Reading Levels are Quasi-Peak value.
- 2. "*", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor



Above 1GHz Spurious:

Site : CB4-H	Time : 2017/08/08
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B432_1-18GHz_3M_1116 -	Power : DC 5V
HORIZONTAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_2402MHz

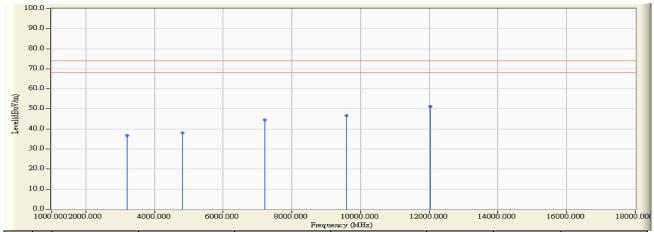


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		3202.055	-5.260	42.500	37.240	-36.760	74.000	PEAK
2		4803.800	0.492	39.410	39.902	-34.098	74.000	PEAK
3		7205.780	8.661	36.390	45.050	-28.950	74.000	PEAK
4		9602.712	13.326	34.150	47.477	-26.523	74.000	PEAK
5	*	12009.799	18.255	33.150	51.405	-22.595	74.000	PEAK

- 1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
- 2. " * ", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor
- 4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.



Site : CB4-H	Time : 2017/08/08
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B432_1-18GHz_3M_1116 -	Power : DC 5V
VERTICAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_2402MHz

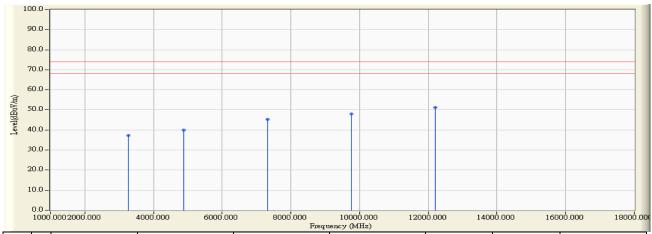


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		3202.412	-5.260	42.120	36.861	-37.139	74.000	PEAK
2		4803.741	0.491	37.630	38.122	-35.878	74.000	PEAK
3		7205.620	8.658	35.780	44.438	-29.562	74.000	PEAK
4		9591.520	13.292	33.240	46.532	-27.468	74.000	PEAK
5	*	12024.840	18.226	32.890	51.116	-22.884	74.000	PEAK

- 1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
- 2. " * ", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor
- 4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.



Site : CB4-H	Time : 2017/08/17
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B432_1-18GHz_3M_1116 -	Power : DC 5V
HORIZONTAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_ 2441MHz

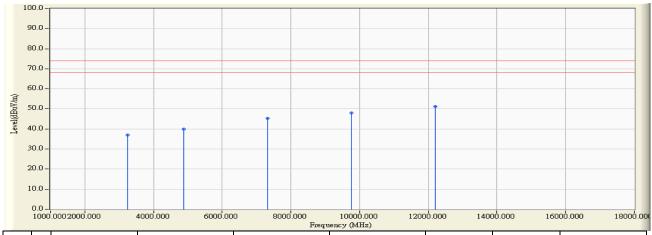


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		3257.618	-5.165	42.440	37.275	-36.725	74.000	PEAK
2		4881.941	0.716	39.130	39.847	-34.153	74.000	PEAK
3		7322.981	9.244	35.970	45.214	-28.786	74.000	PEAK
4		9765.684	13.711	34.260	47.971	-26.029	74.000	PEAK
5	*	12211.515	17.908	33.210	51.117	-22.883	74.000	PEAK

- All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
- 2. " * ", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor
- 4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.



Site : CB4-H	Time : 2017/08/17
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B432_1-18GHz_3M_1116 -	Power : DC 5V
VERTICAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_2441MHz

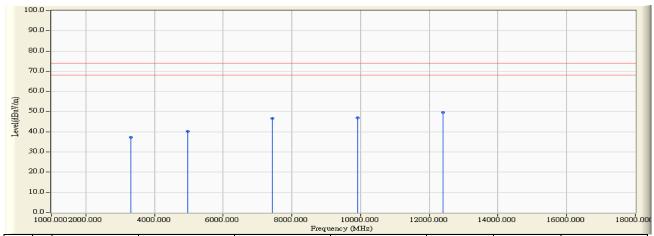


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		3252.638	-5.173	42.170	36.997	-37.003	74.000	PEAK
2		4881.879	0.716	39.250	39.966	-34.034	74.000	PEAK
3		7322.874	9.244	36.070	45.313	-28.687	74.000	PEAK
4		9766.452	13.712	34.172	47.884	-26.116	74.000	PEAK
5	*	12199.851	17.927	33.250	51.177	-22.823	74.000	PEAK

- All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
- 2. " * ", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor
- 4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.



Site : CB4-H	Time : 2017/08/08
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B432_1-18GHz_3M_1116 -	Power : DC 5V
HORIZONTAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_2480MHz

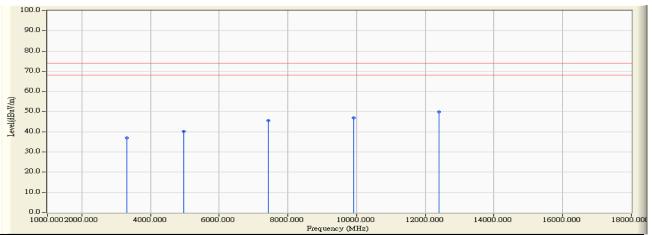


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		3308.851	-5.089	42.310	37.221	-36.779	74.000	PEAK
2		4960.158	0.945	39.265	40.210	-33.790	74.000	PEAK
3		7439.524	9.742	36.786	46.528	-27.472	74.000	PEAK
4		9916.208	13.858	33.129	46.987	-27.013	74.000	PEAK
5	*	12395.994	17.544	32.140	49.685	-24.315	74.000	PEAK

- All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
- 2. " * ", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor
- 4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.



Site : CB4-H	Time : 2017/08/08
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB4_FCC_EFS_B432_1-18GHz_3M_1116 -	Power : DC 5V
VERTICAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_2480MHz



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		3309.470	-5.088	42.190	37.102	-36.898	74.000	PEAK
2		4961.654	0.949	39.390	40.340	-33.660	74.000	PEAK
3		7438.675	9.738	35.750	45.489	-28.511	74.000	PEAK
4		9915.305	13.857	33.160	47.017	-26.983	74.000	PEAK
5	*	12396.215	17.545	32.190	49.735	-24.265	74.000	PEAK

- All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
- 2. " * ", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor
- 4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.



5. Band Edge

5.1. Test Equipment

The following test equipment are used during the test:

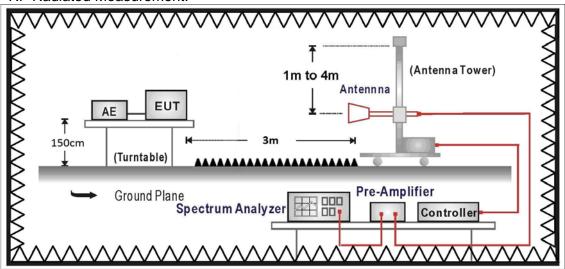
Band Edge / CB2-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2016/11/28	2017/11/27
Signal & Spectrum	R&S	FSV40	101049	2017/01/23	2018/01/22
Analyzer					
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2017/03/13	2018/03/12
Bilog Antenna	Teseq	CBL6112D	23191	2017/06/28	2018/06/27
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2017/06/14	2018/06/13
Horn Antenna	Schwarzbeck	BBHA 9170	203	2016/08/29	2017/08/28
Pre-Amplifier	RF Bay Inc.	LNA-1330	12162511	2017/03/09	2018/03/08
Pre-Amplifier	EMCI	EMCI 1830I	980366	2017/01/23	2018/01/22
Pre-Amplifier	MITEQ	JS44-45-8P	2014754	2016/12/26	2017/12/25

Note: All equipments that need to calibrate are with calibration period of 1 year.

5.2. Test Setup

RF Radiated Measurement:





5.3. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 50 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

5.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 1.5 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4: 2014 on radiated measurement.

The bandwidth below 1GHz setting on the field strength meter is 120 kHz, above 1GHz are 1 MHz.

5.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.249: 2015

5.6. Uncertainty

The measurement uncertainty

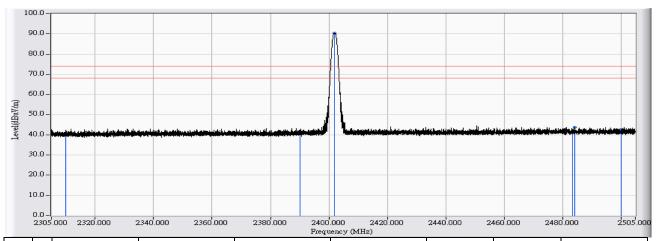
Conducted is defined as ± 1.27dB

Radiated is defined as ± 3.9dB



5.7. Test Result

Site : CB2-H	Time : 2017/08/15
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
HORIZONTAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_ 2402MHz

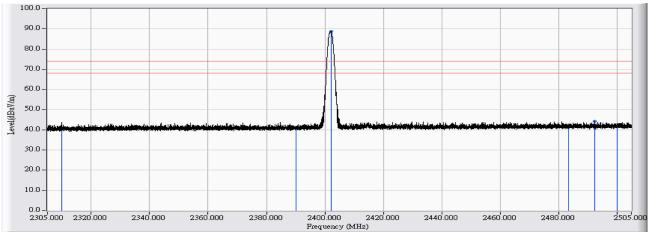


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	11.014	29.723	40.738	-33.262	74.000	PEAK
2		2390.000	11.544	29.045	40.589	-33.411	74.000	PEAK
3	*	2401.830	11.623	78.826	90.449	16.449	74.000	PEAK
4		2483.500	12.172	29.674	41.846	-32.154	74.000	PEAK
5		2484.282	12.177	31.443	43.620	-30.380	74.000	PEAK
6		2500.000	12.274	30.228	42.503	-31.497	74.000	PEAK

- 1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
- 2. " * ", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor.
- 4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.



Site : CB2-H	Time : 2017/08/15
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
VERTICAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_ 2402MHz

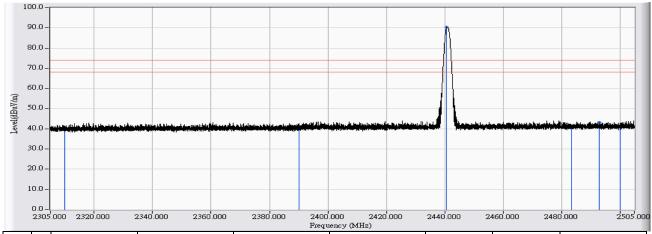


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	11.014	29.422	40.437	-33.563	74.000	PEAK
2		2390.000	11.544	29.164	40.708	-33.292	74.000	PEAK
3	*	2402.110	11.626	77.149	88.774	14.774	74.000	PEAK
4		2483.500	12.172	30.186	42.358	-31.642	74.000	PEAK
5		2492.421	12.232	31.950	44.181	-29.819	74.000	PEAK
6		2500.000	12.274	30.052	42.327	-31.673	74.000	PEAK

- 1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
- 2. " * ", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor.
- The average measurement was not performed when the peak measured data under the limit
 of average detection. If the readings given are average, peak measurement should also be
 supplied.



Site : CB2-H	Time : 2017/08/17
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
HORIZONTAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_ 2441MHz

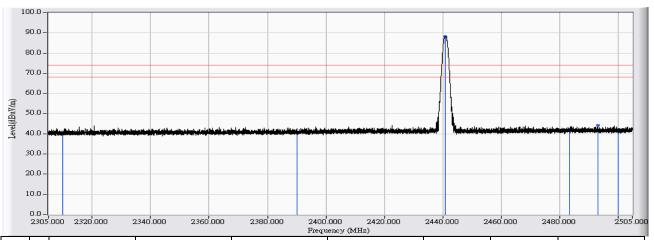


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	11.014	29.395	40.410	-33.590	74.000	PEAK
2		2390.000	11.544	29.135	40.679	-33.321	74.000	PEAK
3	*	2440.766	11.886	78.505	90.390	16.390	74.000	PEAK
4		2483.500	12.172	28.348	40.520	-33.480	74.000	PEAK
5		2493.061	12.236	30.918	43.153	-30.847	74.000	PEAK
6		2500.000	12.274	29.000	41.275	-32.725	74.000	PEAK

- 1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
- 2. " * ", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor.
- The average measurement was not performed when the peak measured data under the limit
 of average detection. If the readings given are average, peak measurement should also be
 supplied.



Site : CB2-H	Time : 2017/08/17 - 11:54
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
VERTICAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_ 2441MHz

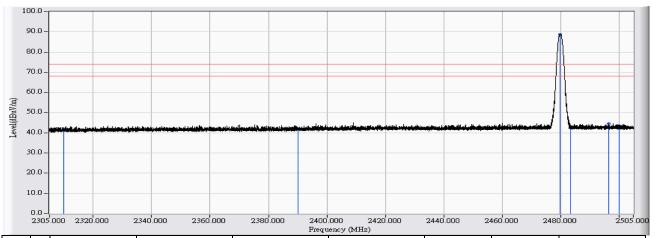


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	11.014	29.570	40.585	-33.415	74.000	PEAK
2		2390.000	11.544	29.035	40.579	-33.421	74.000	PEAK
3	*	2440.806	11.886	76.268	88.153	14.153	74.000	PEAK
4		2483.500	12.172	29.808	41.980	-32.020	74.000	PEAK
5		2493.221	12.237	31.894	44.131	-29.869	74.000	PEAK
6		2500.000	12.274	28.909	41.184	-32.816	74.000	PEAK

- 1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
- 2. " * ", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor.
- The average measurement was not performed when the peak measured data under the limit
 of average detection. If the readings given are average, peak measurement should also be
 supplied.



Site : CB2-H	Time : 2017/08/15
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
HORIZONTAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_ 2480MHz

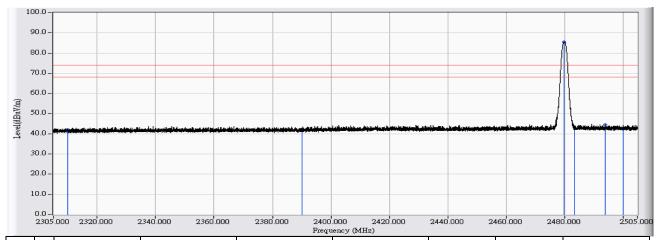


		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	11.014	30.214	41.229	-32.771	74.000	PEAK
2		2390.000	11.544	30.169	41.713	-32.287	74.000	PEAK
3	*	2479.802	12.147	76.721	88.869	14.869	74.000	PEAK
4		2483.500	12.172	30.666	42.838	-31.162	74.000	PEAK
5		2496.541	12.258	32.266	44.524	-29.476	74.000	PEAK
6		2500.000	12.274	31.086	43.361	-30.639	74.000	PEAK

- 1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
- 2. " * ", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor.
- 4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.



Site : CB2-H	Time : 2017/08/15
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB2_FCC_EFS_B091_1-18GHz_3M_0117 -	Power : DC 5V
VERTICAL	
EUT : Beta+	Note : Mode 1: Transmit-Power by PC_ 2480MHz



		Frequency	Correct Factor	Reading Level	Measure Level	Margin	Limit	Detector Type
		(MHz)	(dB)	(dBuV)	(dBuV/m)	(dB)	(dBuV/m)	
1		2310.000	11.014	30.965	41.980	-32.020	74.000	PEAK
2		2390.000	11.544	30.013	41.557	-32.443	74.000	PEAK
3	*	2479.802	12.147	73.302	85.450	11.450	74.000	PEAK
4		2483.500	12.172	30.913	43.085	-30.915	74.000	PEAK
5		2494.101	12.243	32.168	44.410	-29.590	74.000	PEAK
6		2500.000	12.274	30.214	42.489	-31.511	74.000	PEAK

- 1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
- 2. " * ", means this data is the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor.
- 4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.



6. Occupied Bandwidth

6.1. Test Equipment

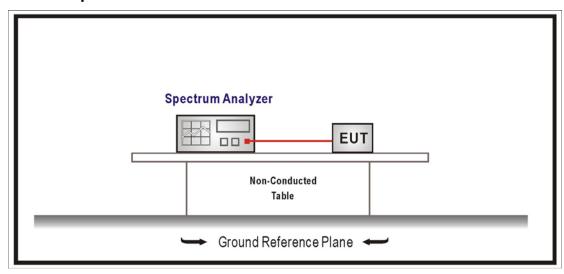
The following test equipments are used during the test:

Occupied E	Bandwidth /	SR10-H
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Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2017/03/13	2018/03/12
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/07/26	2018/07/25

Note: All equipments that need to calibrate are with calibration period of 1 year.

6.2. Test Setup



6.3. Test Procedures

The EUT was setup according to ANSI C63.10:2013; tested according to DTS test procedure of KDB558074 D01 V04 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 1-5% of the OBW, Set the VBW ≥ 3xRBW, Sweep Time=Auto.

6.4. Limits

NA

6.5. Uncertainty

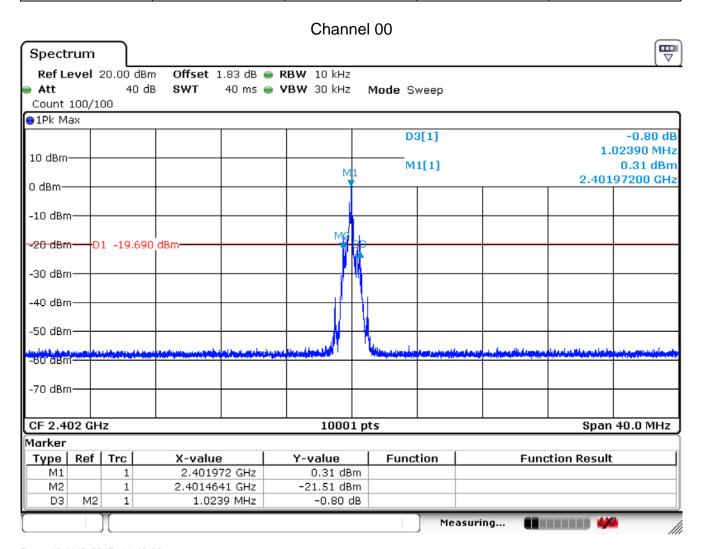
The measurement uncertainty is defined as ±150Hz



6.6. Test Result

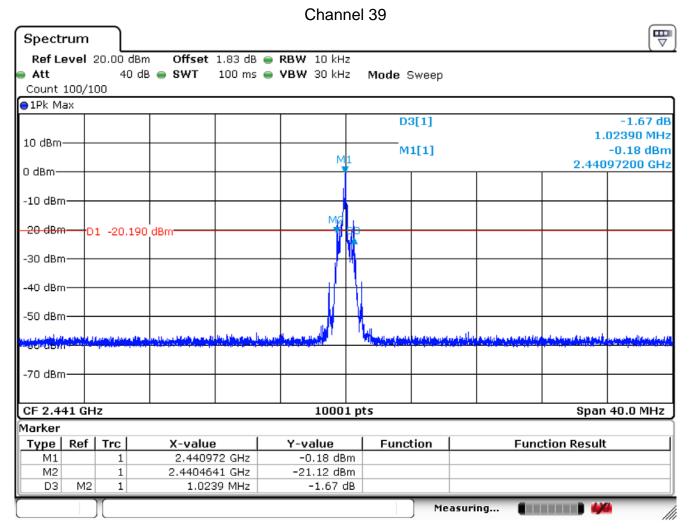
Product	Beta+				
Test Item	Test Item Occupied Bandwidth				
Test Mode	Mode 1: Transmit-Power by PC				
Date of Test	2017/08/14	Test Site	SR10-H		

Channel No.	Frequency (MHz)	Measure Level(MHz)	Limit (MHz)	Result
0	2402	1.024		Pass
39	2441	1.024		Pass
78	2480	1.020		Pass



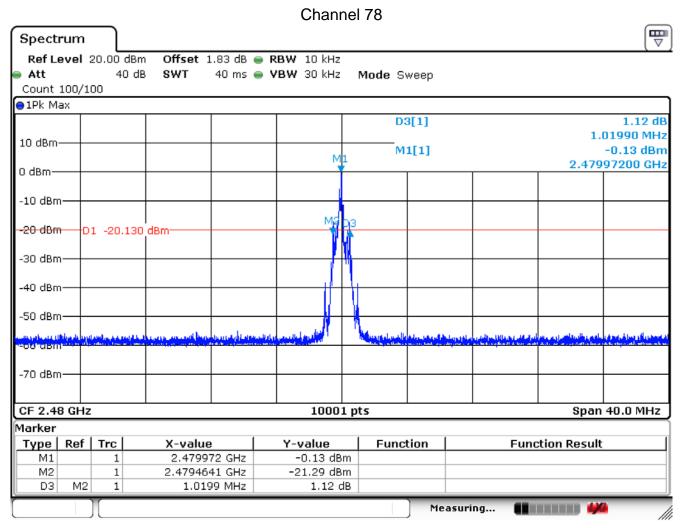
Date: 16.AUG.2017 11:42:06





Date: 17.AUG.2017 10:23:42





Date: 16.AUG.2017 11:56:59