

FCC Test Report

Product Name	Triton
Model No.	Triton Connect
FCC ID.	2AGFF-BC118TC

Applicant	TritonWear
Address	45 Water Street South, Kitchener, Ontario, N2G 1J4

Date of Receipt	Sep. 18, 2015
Issued Date	Nov. 27, 2015
Report No.	1590563R-RFUSP01V00
Report Version	V1.0



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.

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Test Report

Issued Date: Nov. 27, 2015

Report No.: 1590563R-RFUSP01V00



Product Name	Triton
Applicant	TritonWear
Address	45 Water Street South, Kitchener, Ontario, N2G 1J4
Manufacturer	TritonWear
Model No.	Triton Connect
FCC ID.	2AGFF-BC118TC
EUT Rated Voltage	DC 5V by USB or DC 3.7V By Battery
EUT Test Voltage	DC 5V by USB
Trade Name	TritonWear
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2014 ANSI C63.4: 2014, ANSI C63.10: 2013 KDB 558074 D01 DTS Meas Guidance v03r04
Test Result	Complied

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Triton
Trade Name	TritonWear
Model No.	Triton Connect
FCC ID.	2AGFF-BC118TC
Frequency Range	2402 – 2480MHz
Channel Number	V4.0: 40CH
Type of Modulation	V4.0: GFSK(1Mbps)
Antenna Type	Printed Antenna
Channel Control	Auto
Antenna Gain	Refer to the table “Antenna List”

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	TritonWear	N/A	Printed Antenna	2.0 dBi for 2.4 GHz

Note:

1. The antenna of EUT is conform to FCC 15.203.

Center Frequency of Each Channel: (For V4.0)

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 00:	2402 MHz	Channel 01:	2404 MHz	Channel 02:	2406 MHz	Channel 03:	2408 MHz
Channel 04:	2410 MHz	Channel 05:	2412 MHz	Channel 06:	2414 MHz	Channel 07:	2416 MHz
Channel 08:	2418 MHz	Channel 09:	2420 MHz	Channel 10:	2422 MHz	Channel 11:	2424 MHz
Channel 12:	2426 MHz	Channel 13:	2428 MHz	Channel 14:	2430 MHz	Channel 15:	2432 MHz
Channel 16:	2434 MHz	Channel 17:	2436 MHz	Channel 18:	2438 MHz	Channel 19:	2440 MHz
Channel 20:	2442 MHz	Channel 21:	2444 MHz	Channel 22:	2446 MHz	Channel 23:	2448 MHz
Channel 24:	2450 MHz	Channel 25:	2452 MHz	Channel 26:	2454 MHz	Channel 27:	2456 MHz
Channel 28:	2458 MHz	Channel 29:	2460 MHz	Channel 30:	2462 MHz	Channel 31:	2464 MHz
Channel 32:	2466 MHz	Channel 33:	2468 MHz	Channel 34:	2470 MHz	Channel 35:	2472 MHz
Channel 36:	2474 MHz	Channel 37:	2476 MHz	Channel 38:	2478 MHz	Channel 39:	2480 MHz

Note:

1. The EUT is a Triton Contains functions and so on Bluetooth V4.0 and 902-928 MHz RF ID transceiver, this report for Bluetooth V4.0.
2. These tests were conducted on a sample for the purpose of demonstrating compliance of Bluetooth transmitter with Part 15 Subpart C Paragraph 15.247 for spread spectrum devices.
3. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.

Test Mode	Mode 1: Transmit
-----------	------------------

1.2. Operational Description

The EUT is a Triton contains functions and so on Bluetooth V4.0 and 902-928 MHz RF ID transceiver.

For 902-928MHz RF ID transceiver. The number of the channels is 3 in DSSS mode. This device were measured for the 2FSK modulation . The antenna is Monopole Antenna and provides Sdiversity function to improve the receiving function.

For 2.4GHz Bluetooth V4.0. The number of the channels is 40 in Bluetooth V4.0 mode the channel number is 40. This device provides three kinds of transmitting speed and modulation, respectively GFSK(1Mbps) . The antenna is Printed Antenna and provides diversity function to improve the receiving function. The system receivers have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies in synchronization with the transmitted signals.Frequency hopping spread spectrum systems are not required to employ all available hopping channels during each transmission. The transmitter is presented with a continuous data stream. In addition, a system employing short transmission bursts must comply with the definition of a frequency hopping system and must distribute its 40 channels.

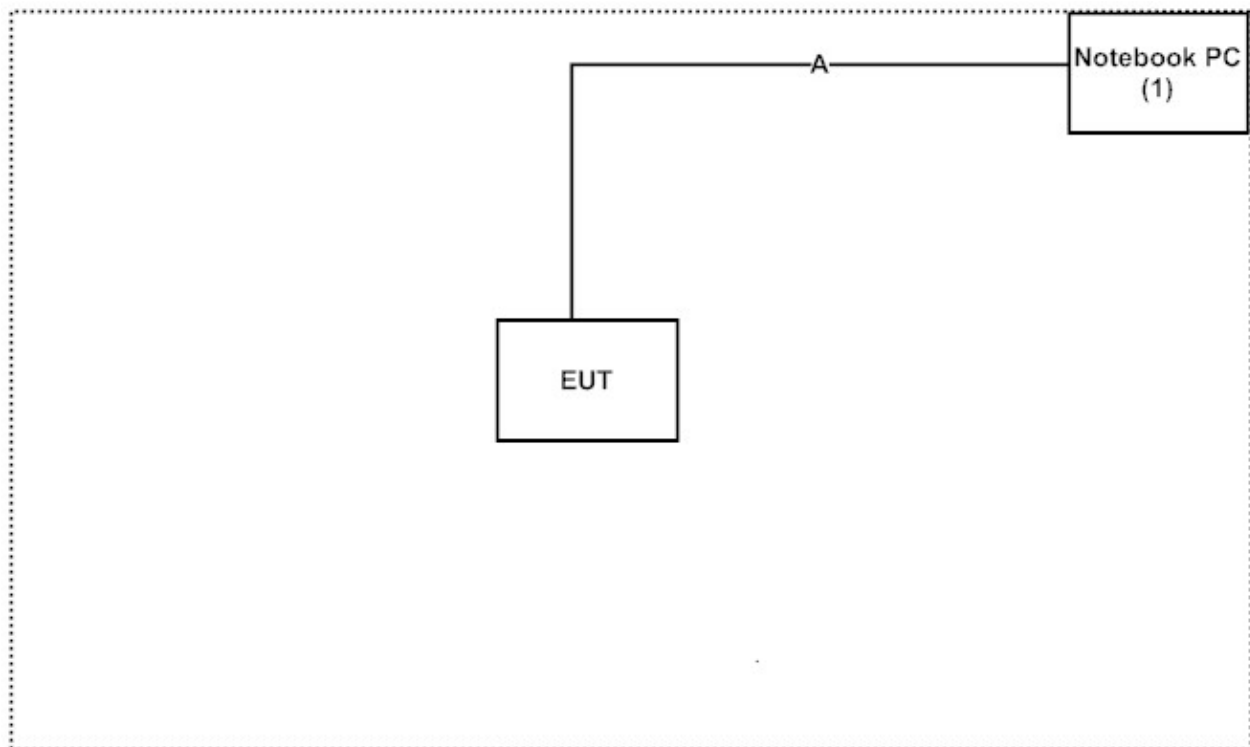
1.3. Tested System Details

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

Product	Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook PC	DELL	Latitude E5440	HG26TZ1
				Non-Shielded, 0.8m

Signal Cable Type	Signal cable Description
A	USB Cable
	Non-Shielded, 1.0m

1.4. Configuration of Tested System



1.5. EUT Exercise Software

1. Setup the EUT as shown in Section 1.4.
2. Execute software “Cool Term V1.4.5 ” on the EUT.
3. Configure the test mode, the test channel, and the data rate.
4. Press “OK” to start the continuous Transmit.
5. Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	30-65
Barometric pressure (mbar)	860-1060	950-1000

The related certificate for our laboratories about the test site and management system can be downloaded from Quietek Corporation's Web Site: <http://www.quietek.com/chinese/about/certificates.aspx?bval=5>

The address and introduction of Quietek Corporation's laboratories can be founded in our Web site: <http://www.quietek.com/>

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FCC Accreditation Number: TW1014

2. Conducted Emission

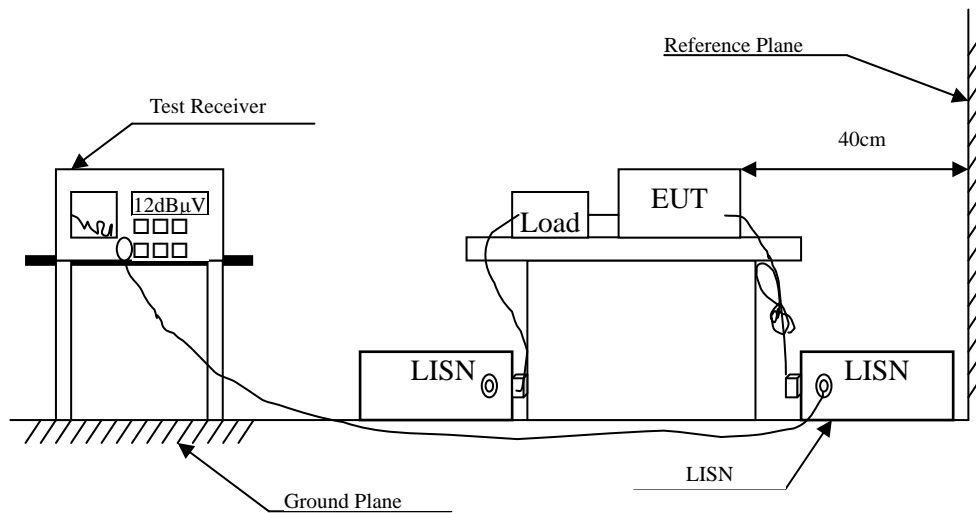
2.1. Test Equipment

	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.	Remark
X	Test Receiver	R & S	ESCI / 100648	Sep., 2015	
X	LISN	R & S	ESH3-Z5 / 836679/020	Feb., 2015	EUT
X	LISN	R & S	ENV216/ 100086	Feb., 2015	Peripherals
X	Coaxial Cable	QTK(Arnist)	RG 400 / LC017-RG	Mar., 2015	EUT
	No.2 Shielded Room				

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked by "X" are used to measure the final test results.

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBμV) Limit		
Frequency MHz	Limits	
	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 Peripherals 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 refer 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 the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement.

Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

The EUT was setup to ANSI C63.4: 2014; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

2.5. Uncertainty

± 2.26 dB

2.6. Test Result of Conducted Emission

Product : Triton
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 1: Transmit - BLE(2440MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV	Margin dB	Limit dBμV
LINE 1					
Quasi-Peak					
0.162	9.667	37.660	47.327	-18.330	65.657
0.193	9.660	36.660	46.320	-18.451	64.771
0.216	9.661	29.810	39.471	-24.643	64.114
0.298	9.666	22.070	31.736	-30.035	61.771
0.650	9.685	23.170	32.855	-23.145	56.000
12.759	9.986	15.550	25.536	-34.464	60.000
Average					
0.162	9.667	28.940	38.607	-17.050	55.657
0.193	9.660	28.890	38.550	-16.221	54.771
0.216	9.661	24.550	34.211	-19.903	54.114
0.298	9.666	14.930	24.596	-27.175	51.771
0.650	9.685	22.150	31.835	-14.165	46.000
12.759	9.986	9.330	19.316	-30.684	50.000

Note:

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

Product : Triton
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 1: Transmit - BLE (2440MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level	dB	dBμV
	dB	dBμV	dBμV		
LINE 2					
Quasi-Peak					
0.162	9.667	40.540	50.207	-15.450	65.657
0.189	9.660	36.880	46.540	-18.346	64.886
0.216	9.661	33.590	43.251	-20.863	64.114
0.244	9.663	30.460	40.123	-23.191	63.314
0.646	9.685	17.800	27.485	-28.515	56.000
3.595	9.822	11.640	21.462	-34.538	56.000
Average					
0.162	9.667	25.910	35.577	-20.080	55.657
0.189	9.660	28.460	38.120	-16.766	54.886
0.216	9.661	14.100	23.761	-30.353	54.114
0.244	9.663	23.350	33.013	-20.301	53.314
0.646	9.685	-2.390	7.295	-38.705	46.000
3.595	9.822	10.880	20.702	-25.298	46.000

Note:

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

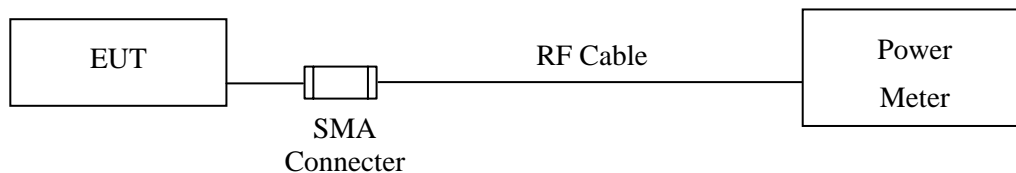
3. Peak Power Output

3.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2015
X	Power Sensor	Anritsu	MA2411B/0738448	Jun., 2015

Note: 1. All equipments are calibrated every one year.
2. The test instruments marked by “X” are used to measure the final test results.

3.2. Test Setup



3.3. Limit

The maximum peak power shall be less 1Watt.

3.4. Test Procedure

Tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements. The maximum peak conducted output power using KDB 558074 section 9.1.2 PKPM1 Peak power meter method.

3.5. Uncertainty

± 1.27 dB

3.6. Test Result of Peak Power Output

Product : Triton
Test Item : Peak Power Output
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit	Result
Channel 00	2402.00	3.55	1 Watt= 30 dBm	Pass
Channel 19	2440.00	3.61	1 Watt= 30 dBm	Pass
Channel 39	2480.00	3.49	1 Watt= 30 dBm	Pass

4. Radiated Emission

4.1. Test Equipment

The following test equipments are used during the radiated emission test:

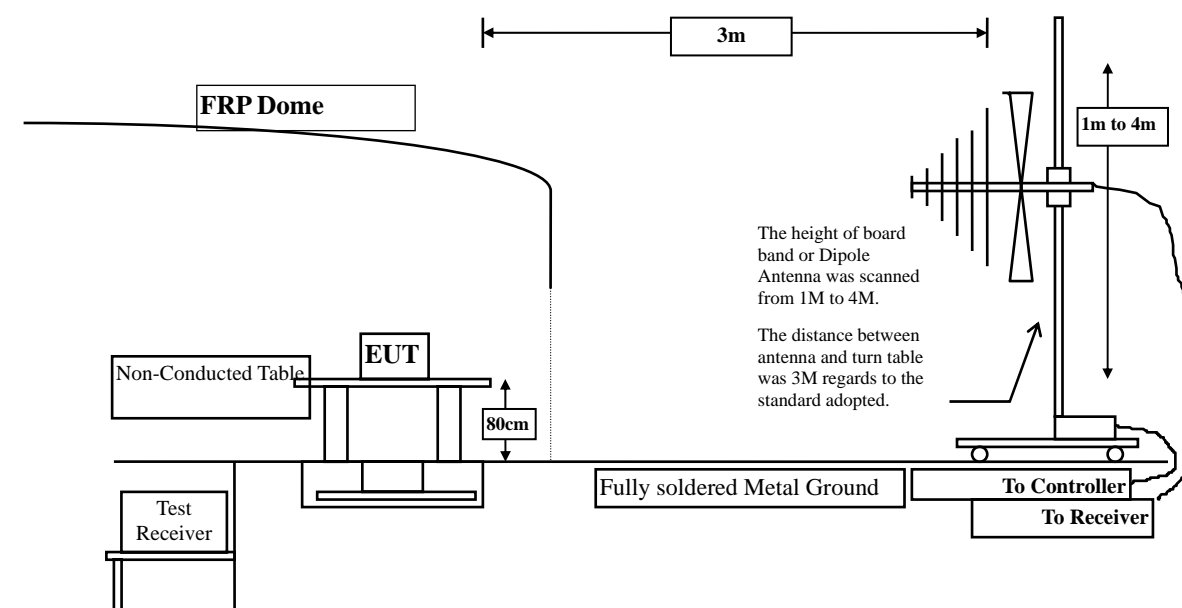
Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ Site # 3	X	Magnetic Loop Antenna	Teseq	HLA6121/ 37133	Sep., 2015
	X	Bilog Antenna	Schaffner Chase	CBL6112B/ 2707	Jun., 2015
	X	EMI Test Receiver	R&S	ESCS 30/838251/ 001	Jun., 2015
	X	Coaxial Cable	QTK(Arnist)	RG 214/ LC003-RG	Jun., 2015
	X	Coaxial signal switch	Arnist	MP59B/ 6200798682	Jun., 2015

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ CB # 8	X	Spectrum Analyzer	R&S	FSP40/ 100339	Oct., 2015
	X	Horn Antenna	ETS-Lindgren	3117/ 35205	Mar., 2015
	X	Horn Antenna	Schwarzbeck	BBHA9170/209	Jan., 2015
	X	Horn Antenna	TRC	AH-0801/95051	Aug., 2015
	X	Pre-Amplifier	EMCI	EMC012630SE/980210	Jan., 2015
	X	Pre-Amplifier	MITEQ	JS41-001040000-58-5P/153945	Jul., 2015
	X	Pre-Amplifier	NARDA	DBL-1840N506/013	Jul., 2015

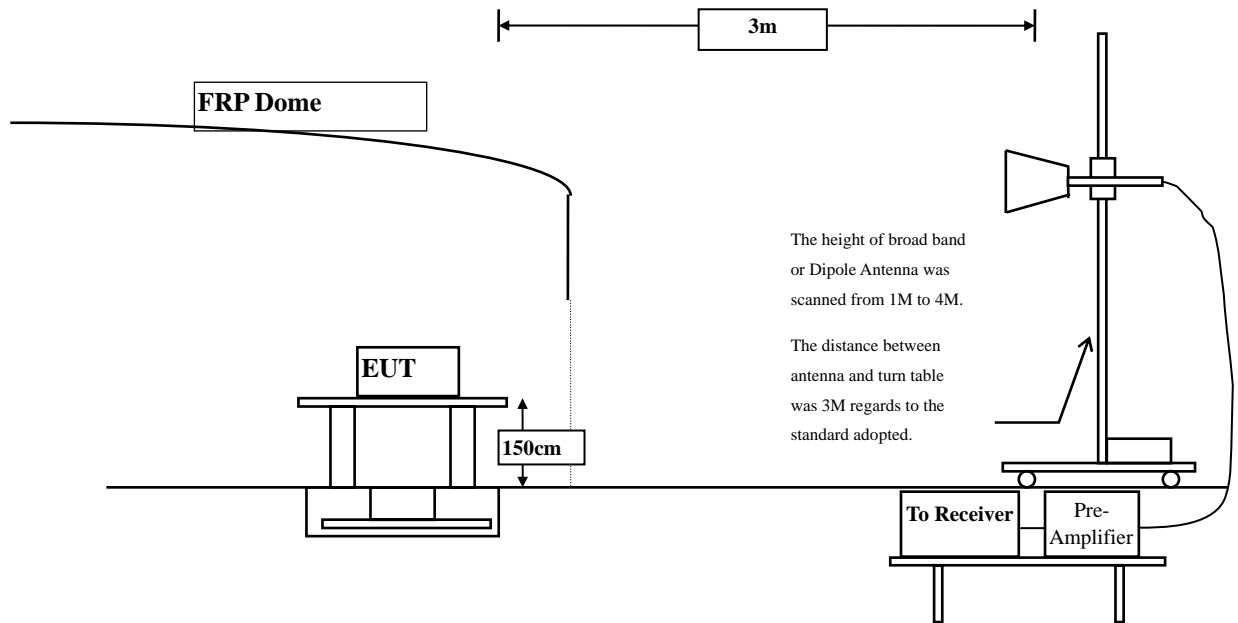
- Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

4.2. Test Setup

Below 1GHz



Above 1GHz



4.3. Limits

➤ General Radiated Emission Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	Field strength (microvolts/meter)	Measurement distance (meter)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

- Remarks:
1. RF Voltage (dBμV) = 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 was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Measuring the frequency range below 1GHz, the EUT is placed on a turn table which is 0.8 meter above ground, when measuring the frequency range above 1GHz, the EUT is placed on a turn table which is 1.5 meter above ground.

The turn table is rotated 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 is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10: 2013 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz.

Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

The worst radiated emission is measured in the Open Area Test Site on the Final Measurement.

The measurement frequency range from 9kHz - 10th Harmonic of fundamental was investigated.

4.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

4.6. Test Result of Radiated Emission

Product : Triton
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - BLE(2402MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector:					
4804.000	3.327	36.320	39.647	-34.353	74.000
7206.000	10.136	30.700	40.836	-33.164	74.000
9608.000	13.706	32.120	45.826	-28.174	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4804.000	6.638	36.950	43.587	-30.413	74.000
7206.000	11.005	31.540	42.545	-31.455	74.000
9608.000	14.103	32.460	46.563	-27.437	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Triton
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - BLE(2440MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dB μ V	dB μ V/m	dB	dB μ V/m
Horizontal					
Peak Detector:					
4880.000	3.010	35.740	38.750	-35.250	74.000
7320.000	11.833	31.720	43.554	-30.446	74.000
9760.000	12.580	32.160	44.741	-29.259	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4880.000	5.738	36.120	41.858	-32.142	74.000
7320.000	12.703	31.290	43.993	-30.007	74.000
9704.000	13.394	31.740	45.134	-28.866	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Triton
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - BLE(2480MHz)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V/m	Margin dB	Limit dB μ V/m
Horizontal					
Peak Detector:					
4960.000	2.760	35.110	37.870	-36.130	74.000
7440.000	12.567	32.750	45.316	-28.684	74.000
9920.000	13.456	33.730	47.186	-26.814	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4960.000	5.557	35.660	41.217	-32.783	74.000
7440.000	13.426	32.850	46.275	-27.725	74.000
9920.000	13.958	33.810	47.768	-26.232	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Triton
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - BLE(2440MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
122.783	-9.884	44.232	34.348	-9.152	43.500
212.754	-10.863	46.615	35.753	-7.747	43.500
312.565	-4.081	42.351	38.270	-7.730	46.000
336.464	-3.859	36.859	33.000	-13.000	46.000
664.014	2.066	34.590	36.656	-9.344	46.000
803.188	5.066	35.060	40.125	-5.875	46.000
Vertical					
98.884	-0.706	29.753	29.047	-14.453	43.500
371.609	-2.706	29.283	26.578	-19.422	46.000
541.710	-0.172	22.834	22.662	-23.338	46.000
687.913	2.458	27.266	29.724	-16.276	46.000
768.043	2.727	29.896	32.622	-13.378	46.000
888.942	2.528	33.180	35.708	-10.292	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Triton
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (BLE -2402MHz + RF ID-902.7MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector:					
1805.000	0.900	33.995	34.895	-39.105	74.000
2708.000	-3.125	43.313	40.188	-33.812	74.000
3610.000	-1.079	43.962	42.883	-31.117	74.000
4804.000	2.511	46.111	48.621	-25.379	74.000
7206.000	9.511	42.788	52.299	-21.701	74.000
9608.000	10.394	43.494	53.888	-20.112	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
1805.000	1.374	34.116	35.489	-38.511	74.000
2708.000	2.100	36.397	38.496	-35.504	74.000
3610.000	-0.736	43.618	42.882	-31.118	74.000
4804.000	2.923	45.800	48.722	-25.278	74.000
7206.000	9.988	42.859	52.848	-21.152	74.000
9608.000	10.847	43.146	53.993	-20.007	74.000
Average					
Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Triton
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (BLE-2440MHz + RF ID-914.988MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dB μ V	dB μ V/m	dB	dB μ V/m
Horizontal					
Peak Detector:					
1829.000	-0.612	36.940	36.328	-37.672	74.000
2744.000	0.823	35.370	36.192	-37.808	74.000
3659.000	-1.466	40.437	38.971	-35.029	74.000
4880.000	2.038	48.712	50.750	-23.250	74.000
7320.000	9.699	42.473	52.172	-21.828	74.000
9760.000	9.665	44.175	53.840	-20.160	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
1829.000	0.049	39.404	39.453	-34.547	74.000
2744.000	-0.049	34.949	34.899	-39.101	74.000
3659.000	-1.265	41.081	39.817	-34.183	74.000
4880.000	2.499	48.138	50.637	-23.363	74.000
7320.000	10.303	42.789	53.092	-20.908	74.000
9760.000	10.299	44.505	54.805	-19.195	74.000
Average					
Detector:					
9760.000	10.299	29.884	40.184	-13.816	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Triton
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (BLE-2480MHz + RF ID-927.377MHz)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V/m	Margin dB	Limit dB μ V/m
Horizontal					
Peak Detector:					
1854.000	-1.771	38.060	36.288	-37.712	74.000
2781.000	0.150	37.289	37.439	-36.561	74.000
3708.000	-2.045	42.603	40.557	-33.443	74.000
4960.000	2.582	49.962	52.544	-21.456	74.000
7440.000	10.555	42.315	52.870	-21.130	74.000
9920.000	10.206	43.509	53.715	-20.285	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
1854.000	-1.401	39.515	38.114	-35.886	74.000
2781.000	-0.769	40.124	39.355	-34.645	74.000
3708.000	-1.687	40.963	39.275	-34.725	74.000
4960.000	3.398	49.316	52.715	-21.285	74.000
7440.000	11.214	42.446	53.660	-20.340	74.000
9920.000	11.245	43.252	54.497	-19.503	74.000
Average					
Detector:					
9920.000	11.245	29.368	40.613	-13.387	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Triton
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (BLE-2402MHz + RF ID-902.7MHz)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V/m	Margin dB	Limit dB μ V/m
Horizontal					
62.980	-12.319	42.583	30.264	-9.736	40.000
224.000	-10.069	50.308	40.239	-5.761	46.000
352.040	-1.282	37.508	36.226	-9.774	46.000
547.980	4.028	23.187	27.215	-18.785	46.000
786.600	5.824	24.763	30.588	-15.412	46.000
974.780	7.039	23.581	30.620	-23.380	54.000
Vertical					
61.040	-11.587	47.246	35.659	-4.341	40.000
224.000	-6.379	42.702	36.323	-9.677	46.000
352.040	-1.292	32.025	30.733	-15.267	46.000
596.480	0.907	27.128	28.035	-17.965	46.000
823.460	3.081	23.598	26.679	-19.321	46.000
965.080	3.832	21.472	25.304	-28.696	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Triton
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (BLE-2440MHz + RF ID-914.988MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dB μ V	dB μ V/m	dB	dB μ V/m
Horizontal					
120.210	-7.275	33.198	25.923	-17.577	43.500
281.230	-6.210	37.868	31.658	-14.342	46.000
351.070	-1.296	40.397	39.101	-6.899	46.000
420.910	-0.262	38.667	38.405	-7.595	46.000
631.400	1.266	33.986	35.252	-10.748	46.000
842.860	6.248	31.003	37.251	-8.749	46.000
Vertical					
164.830	-4.737	31.260	26.523	-16.977	43.500
281.230	-5.940	34.247	28.307	-17.693	46.000
350.100	-1.278	30.025	28.747	-17.253	46.000
599.390	1.198	29.715	30.913	-15.087	46.000
686.690	2.277	29.036	31.313	-14.687	46.000
794.360	2.657	34.961	37.618	-8.382	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Triton
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (BLE-2480MHz + RF ID-927.377MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
82.380	-13.063	42.300	29.237	-10.763	40.000
303.540	-4.068	37.912	33.844	-12.156	46.000
462.620	3.589	24.636	28.225	-17.775	46.000
604.240	4.289	24.635	28.925	-17.075	46.000
825.400	7.346	24.616	31.962	-14.038	46.000
903.000	5.938	26.015	31.953	-14.047	46.000
Vertical					
70.740	-11.568	47.506	35.938	-4.062	40.000
239.520	-6.138	33.249	27.111	-18.889	46.000
375.320	0.388	25.648	26.036	-19.964	46.000
596.480	0.907	27.293	28.200	-17.800	46.000
757.500	2.487	24.413	26.900	-19.100	46.000
903.000	1.418	26.774	28.192	-17.808	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

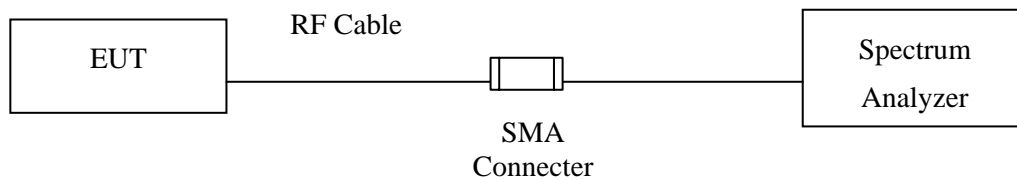
5. RF Antenna Conducted Test

5.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2015
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2015
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2015

Note: 1. All equipments are calibrated every one year.
2. The test instruments Marked "X" are used to measure the final test results.

5.2. Test Setup



5.3. Limits

According to FCC Section 15.247(d). In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 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 measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

5.4. Test Procedure

The EUT was tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.

5.5. Uncertainty

± 150Hz

5.6. Test Result of RF Antenna Conducted Test

Product : Triton
Test Item : RF Antenna Conducted Test
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit

Figure Channel 00:

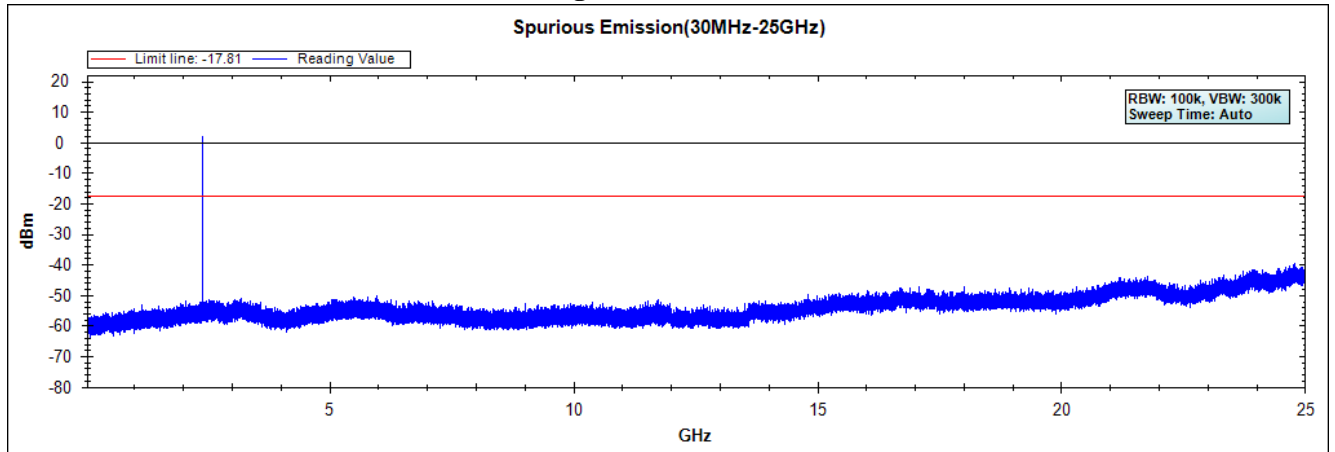


Figure Channel 19:

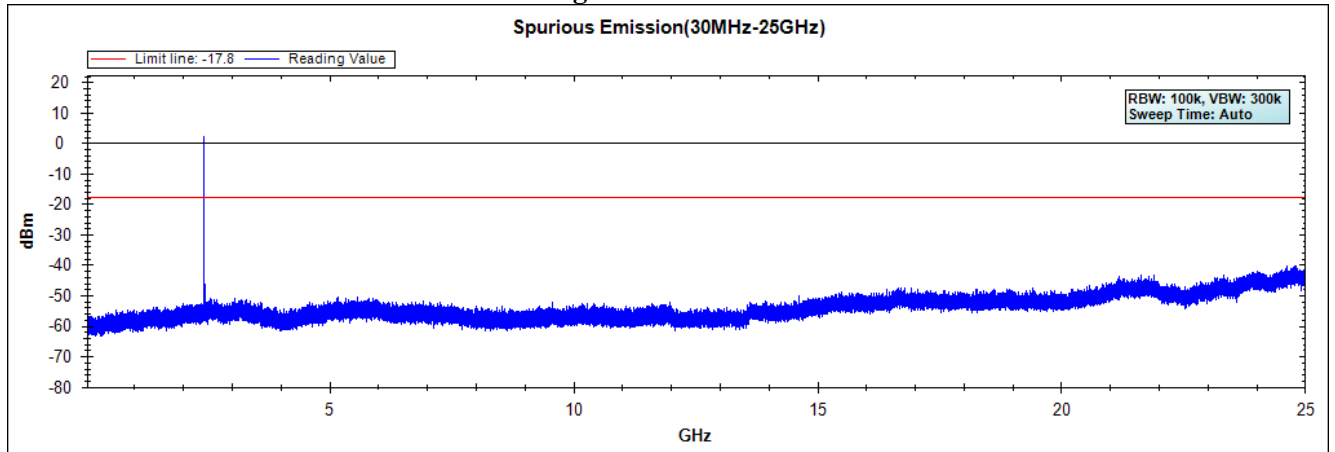
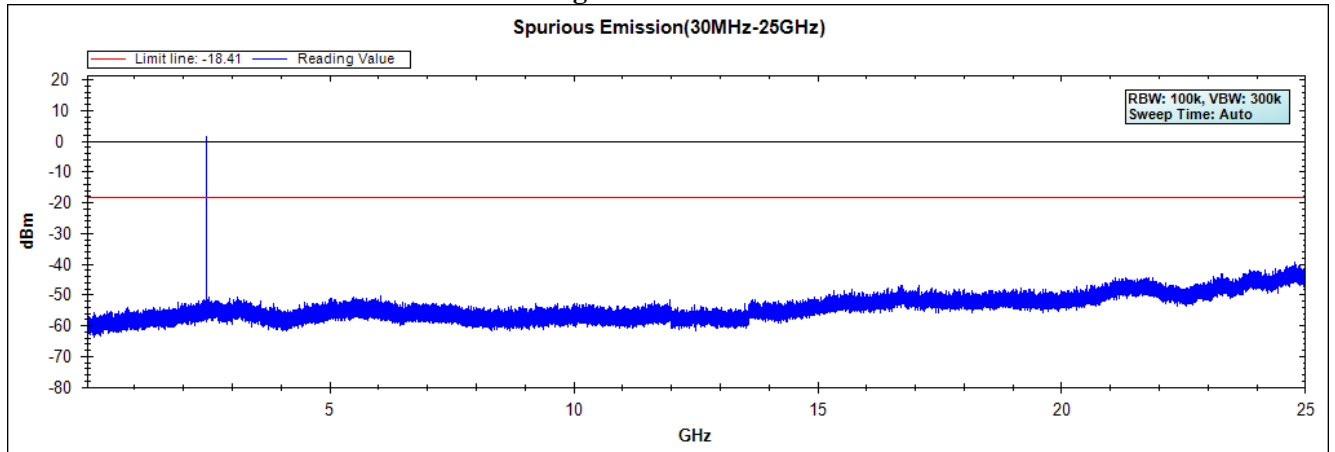


Figure Channel 39:



Note: The above test pattern is synthesized by multiple of the frequency range.

6. Band Edge

6.1. Test Equipment

RF Radiated Measurement:

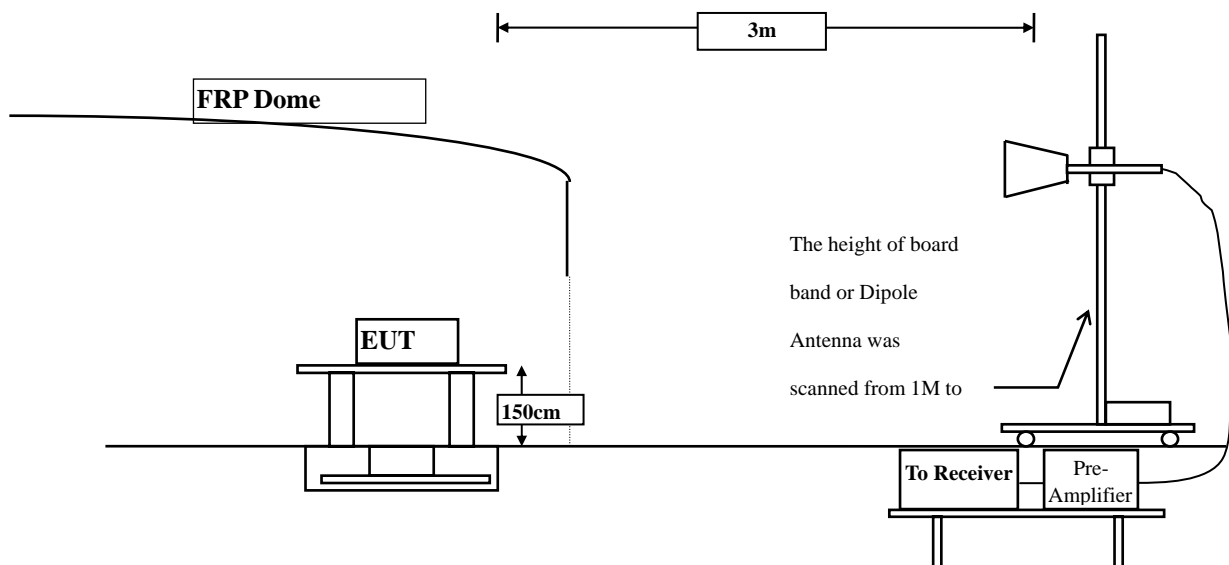
Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ CB # 8	X	Spectrum Analyzer	R&S	FSP40/ 100339	Oct., 2015
	X	Horn Antenna	ETS-Lindgren	3117/ 35205	Mar., 2015
	X	Horn Antenna	Schwarzbeck	BBHA9170/209	Jan., 2015
	X	Horn Antenna	TRC	AH-0801/95051	Aug., 2015
	X	Pre-Amplifier	EMCI	EMC012630SE/980210	Jan., 2015
	X	Pre-Amplifier	MITEQ	JS41-001040000-58-5P/153945	Jul., 2015
	X	Pre-Amplifier	NARDA	DBL-1840N506/013	Jul., 2015

- Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

6.2. Test Setup

RF Radiated Measurement:

Above 1GHz



6.3. Limit

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 20 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)).

6.4. Test Procedure

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

The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 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 is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.

6.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

6.6. Test Result of Band Edge

Product : Triton
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (2402MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
00 (Peak)	2385.551	31.492	26.959	58.451	74.00	54.00	Pass
00 (Peak)	2390.000	31.509	25.098	56.607	74.00	54.00	Pass
00 (Peak)	2400.000	31.561	29.718	61.279	--	--	--
00 (Peak)	2402.290	31.575	67.930	99.505	--	--	--
00 (Average)	2390.000	31.509	14.368	45.877	74.00	54.00	Pass
00 (Average)	2400.000	31.561	20.420	51.981	--	--	--
00 (Average)	2401.986	31.573	61.378	92.952	--	--	--

Figure Channel 00:

Horizontal (Peak)

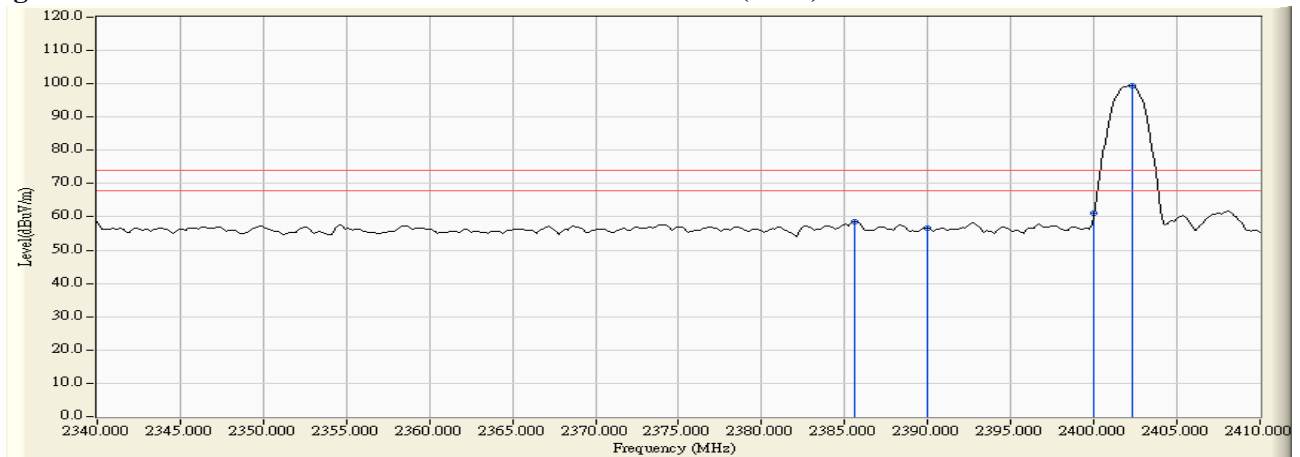
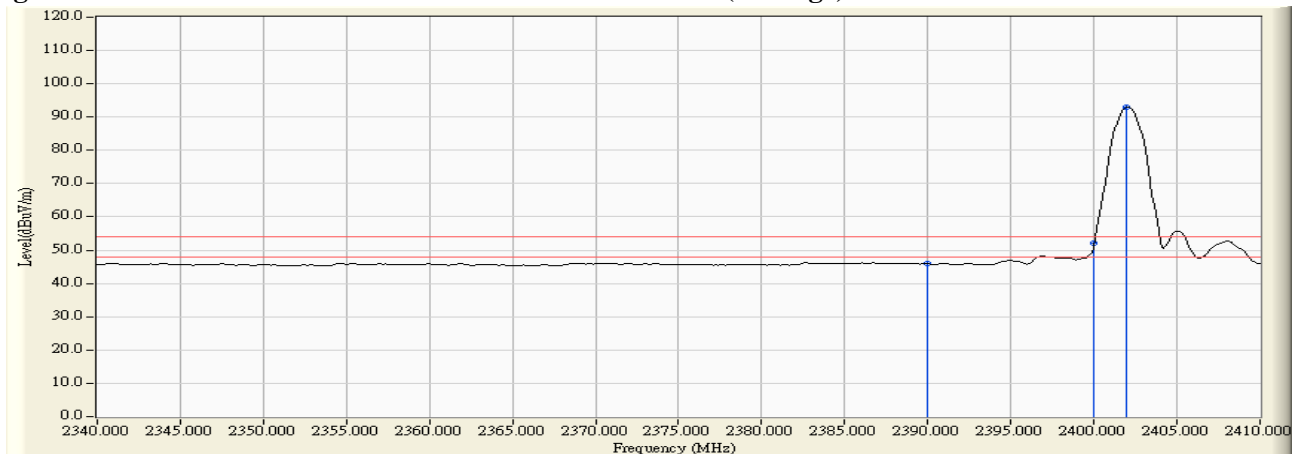


Figure Channel 00:

Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Triton
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (2402MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
00 (Peak)	2358.362	31.062	26.835	57.897	74.00	54.00	Pass
00 (Peak)	2390.000	30.915	26.295	57.210	74.00	54.00	Pass
00 (Peak)	2400.000	30.912	25.421	56.333	--	--	--
00 (Peak)	2402.188	30.917	61.232	92.150	--	--	--
00 (Average)	2390.000	30.915	14.361	45.276	74.00	54.00	Pass
00 (Average)	2400.000	30.912	16.916	47.828	--	--	--
00 (Average)	2402.087	30.917	60.763	91.681	--	--	--

Figure Channel 00: Vertical (Peak)

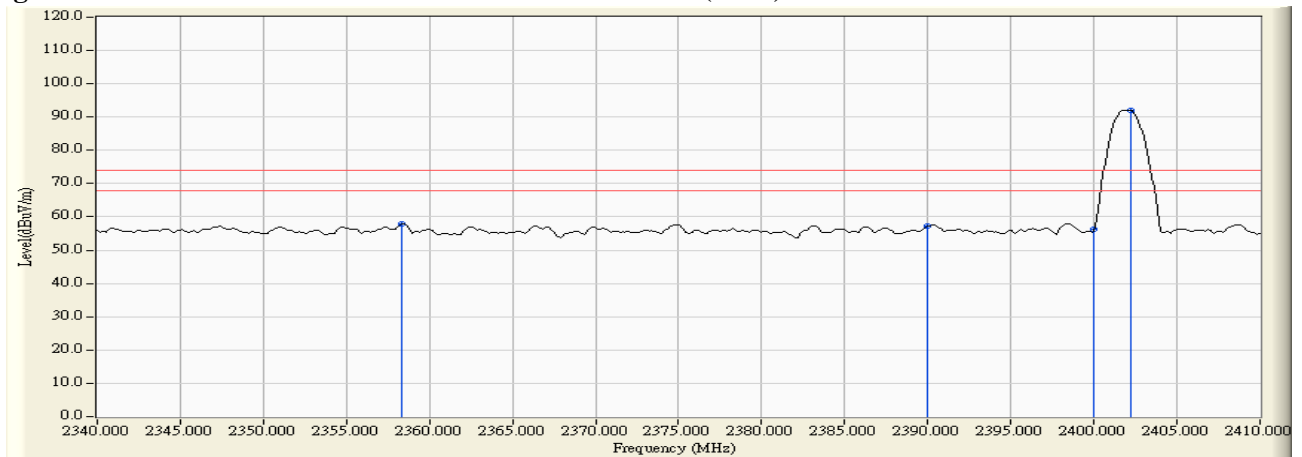
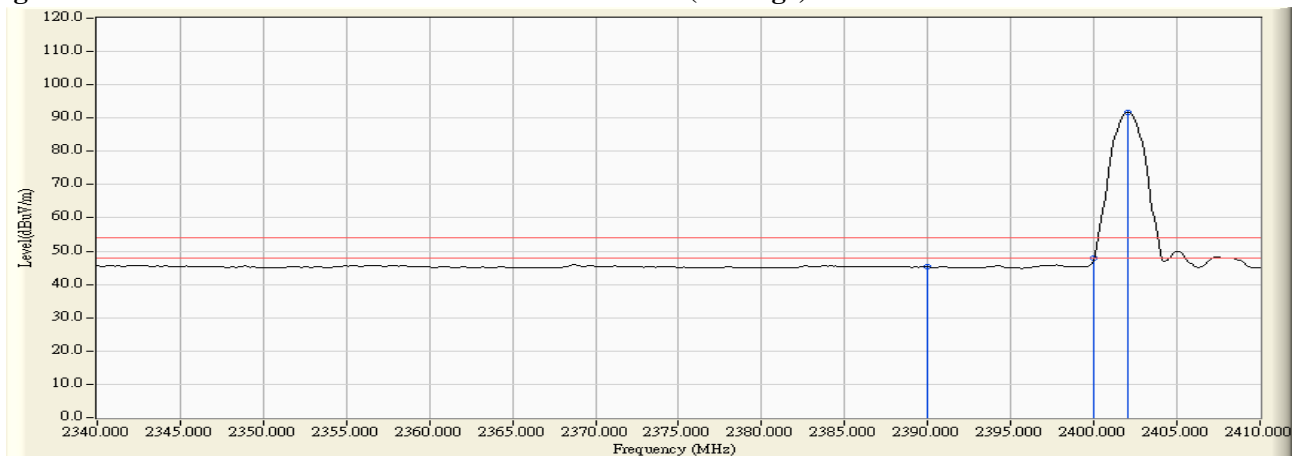


Figure Channel 00: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Triton
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (2480MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
39 (Peak)	2480.138	32.142	67.848	99.990	--	--	--
39 (Peak)	2483.500	32.182	26.342	58.524	74.00	54.00	Pass
39 (Average)	2480.428	32.144	67.230	99.374	--	--	--
39 (Average)	2483.500	32.182	15.969	48.151	74.00	54.00	Pass

Figure Channel 39: Horizontal (Peak)

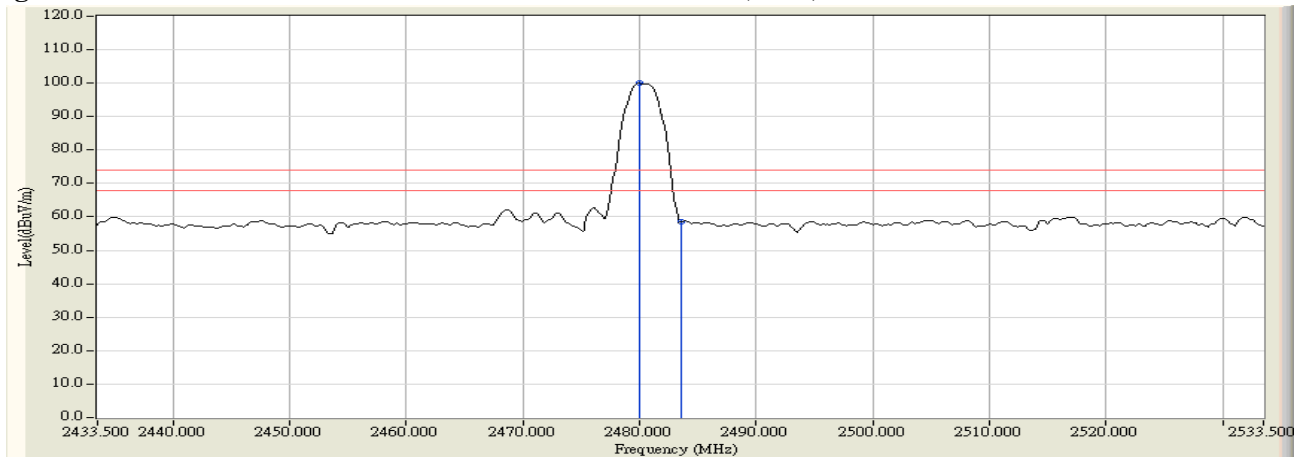
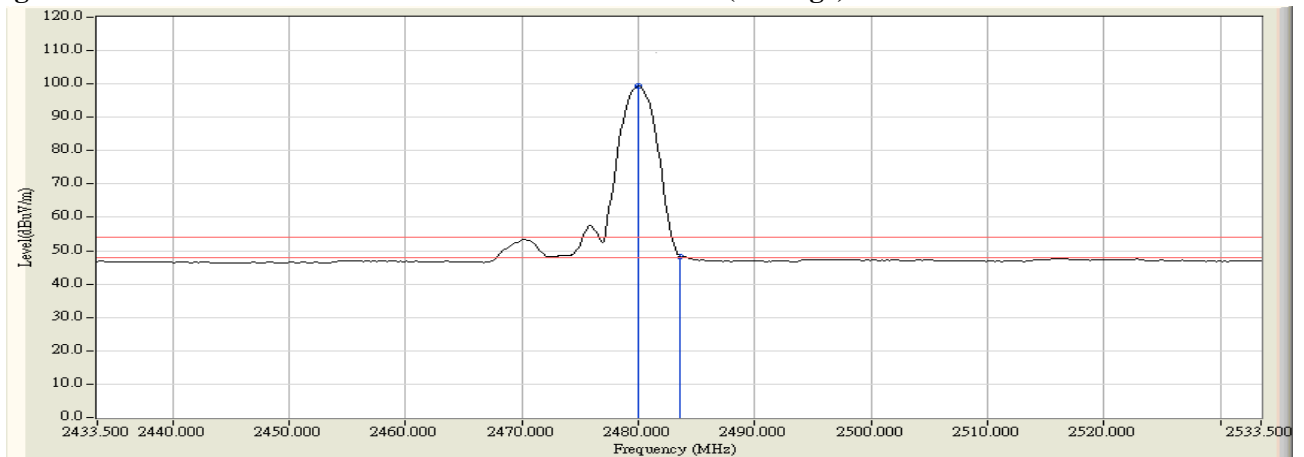


Figure Channel 39: Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Triton
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (2480MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
39 (Peak)	2480.138	31.400	60.358	91.757	--	--	--
39 (Peak)	2483.500	31.435	25.185	56.620	74.00	54.00	Pass
39 (Average)	2480.428	31.402	55.941	87.342	--	--	--
39 (Average)	2483.500	31.435	14.706	46.141	74.00	54.00	Pass

Figure Channel 39: Vertical (Peak)

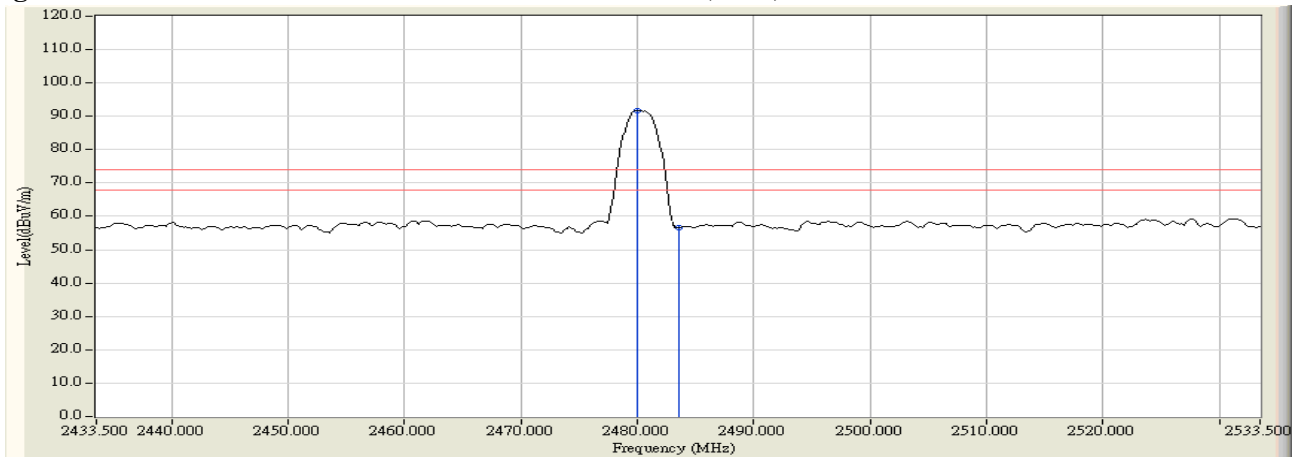
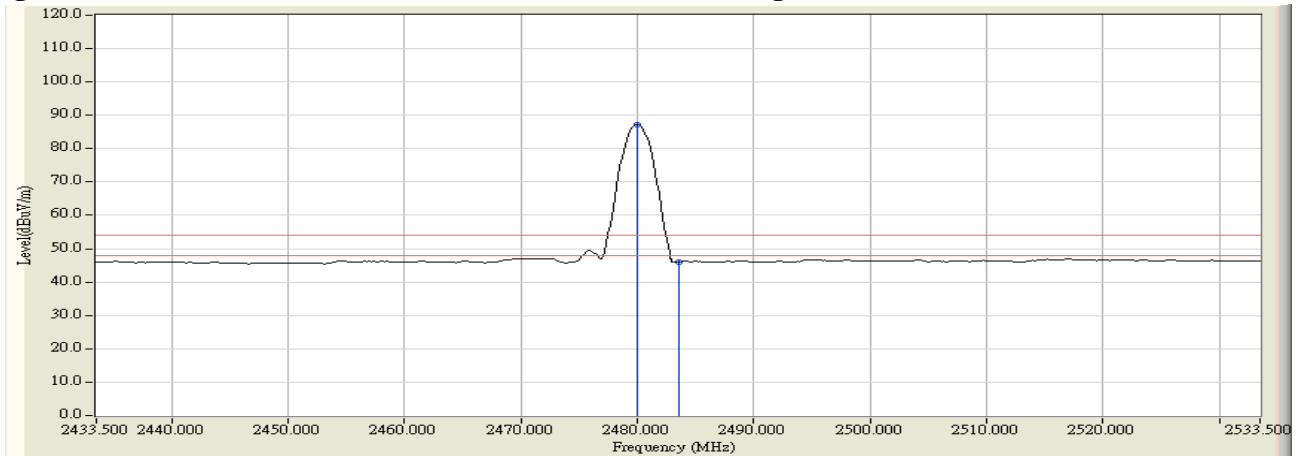


Figure Channel 39: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Triton
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (BLE -2402MHz + RF ID-902.7MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
00 (Peak)	2390.000	31.509	27.124	58.633	74.00	54.00	Pass
00 (Peak)	2400.000	31.561	34.598	66.159	--	--	--
00 (Peak)	2402.174	31.574	65.770	97.345	--	--	--
00 (Average)	2340.000	31.313	14.804	46.118	74.00	54.00	Pass
00 (Average)	2390.000	31.509	13.589	45.098	74.00	54.00	Pass
00 (Average)	2400.000	31.561	19.498	51.059	--	--	--
00 (Average)	2402.029	31.573	46.598	78.172	--	--	--

Figure Channel 00:

Horizontal (Peak)

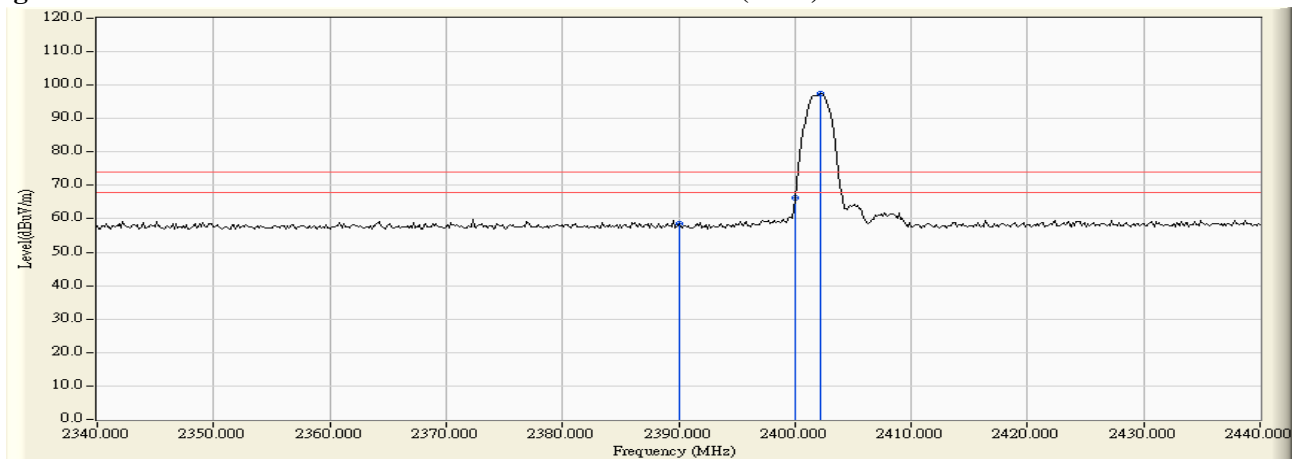
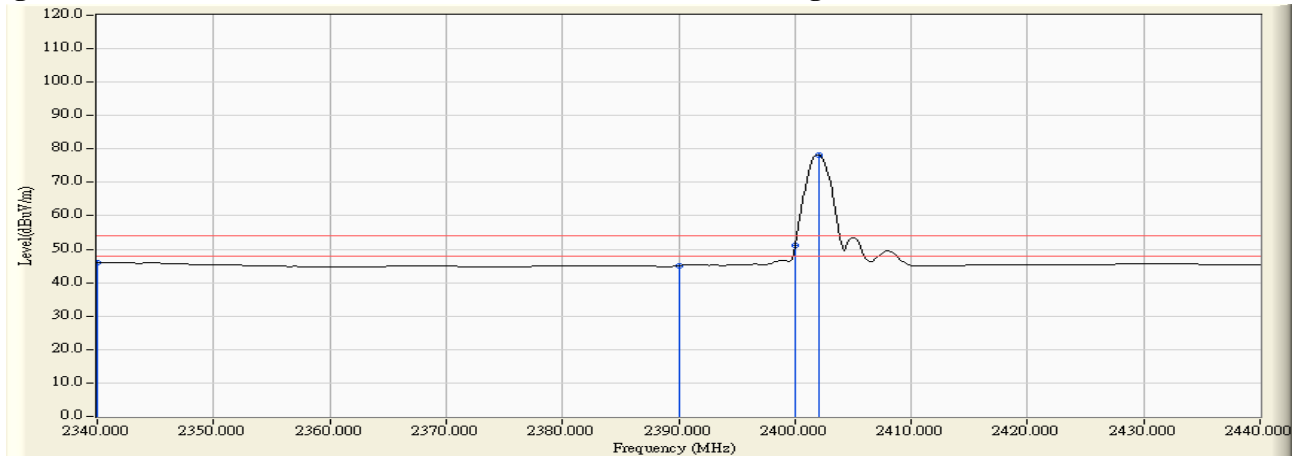


Figure Channel 00:

Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Triton
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (BLE -2402MHz + RF ID-902.7MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dB μ V)	Emission Level (dB μ V/m)	Peak Limit (dB μ V/m)	Average Limit (dB μ V/m)	Result
00 (Peak)	2374.783	30.986	28.966	59.952	74.00	54.00	Pass
00 (Peak)	2390.000	30.915	25.992	56.907	74.00	54.00	Pass
00 (Peak)	2400.000	30.912	30.923	61.835	--	--	--
00 (Peak)	2402.319	30.918	61.419	92.337	--	--	--
00 (Average)	2340.000	31.147	14.810	45.957	74.00	54.00	Pass
00 (Average)	2390.000	30.915	13.558	44.473	74.00	54.00	Pass
00 (Average)	2400.000	30.912	17.271	48.183	--	--	--
00 (Average)	2402.029	30.917	43.672	74.589	--	--	--

Figure Channel 00: Vertical (Peak)

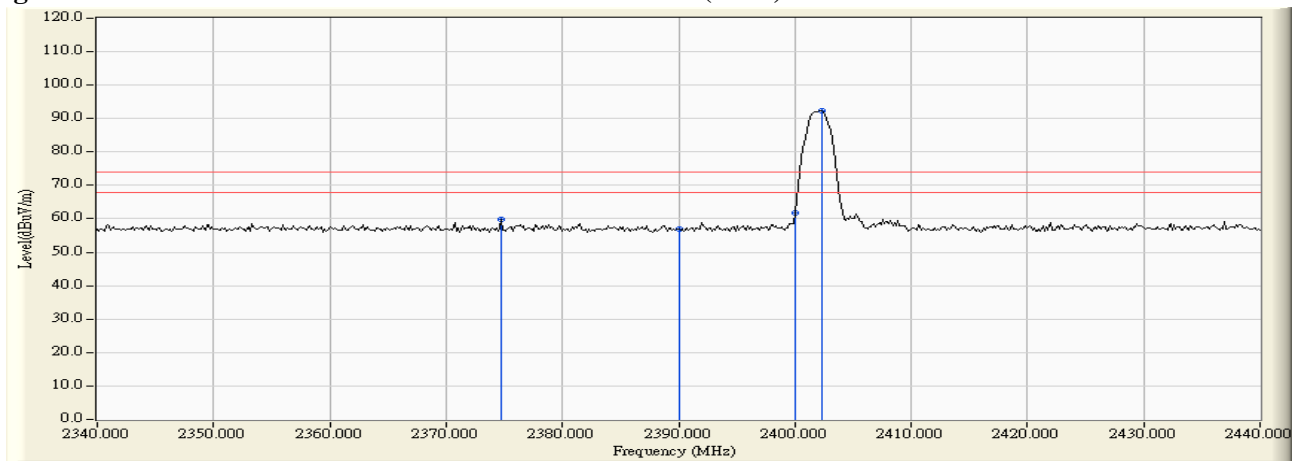
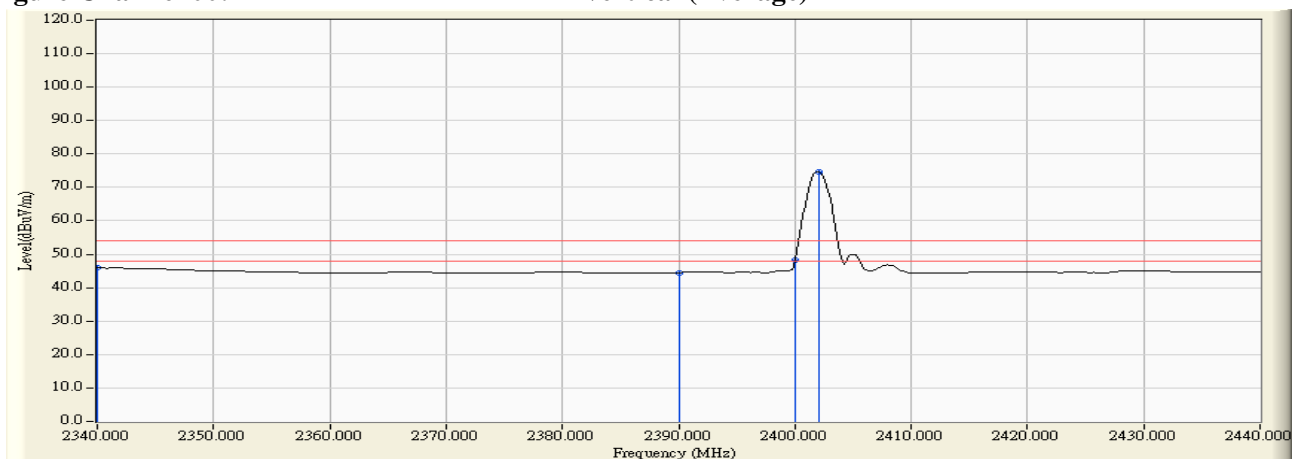


Figure Channel 00: Vertical (Average)



- Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Triton
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (BLE-2480MHz + RF ID-927.377MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dB μ V)	Emission Level (dB μ V/m)	Peak Limit (dB μ V/m)	Average Limit (dB μ V/m)	Result
39 (Peak)	2479.732	32.154	66.058	98.212	--	--	--
39 (Peak)	2483.500	32.182	27.556	59.738	74.00	54.00	Pass
39 (Peak)	2517.703	32.225	29.235	61.460	74.00	54.00	Pass
39 (Average)	2480.022	32.156	46.845	79.001	--	--	--
39 (Average)	2483.500	32.182	15.062	47.244	74.00	54.00	Pass
39 (Average)	2509.442	32.253	15.465	47.718	74.00	54.00	Pass

Figure Channel 39: Horizontal (Peak)

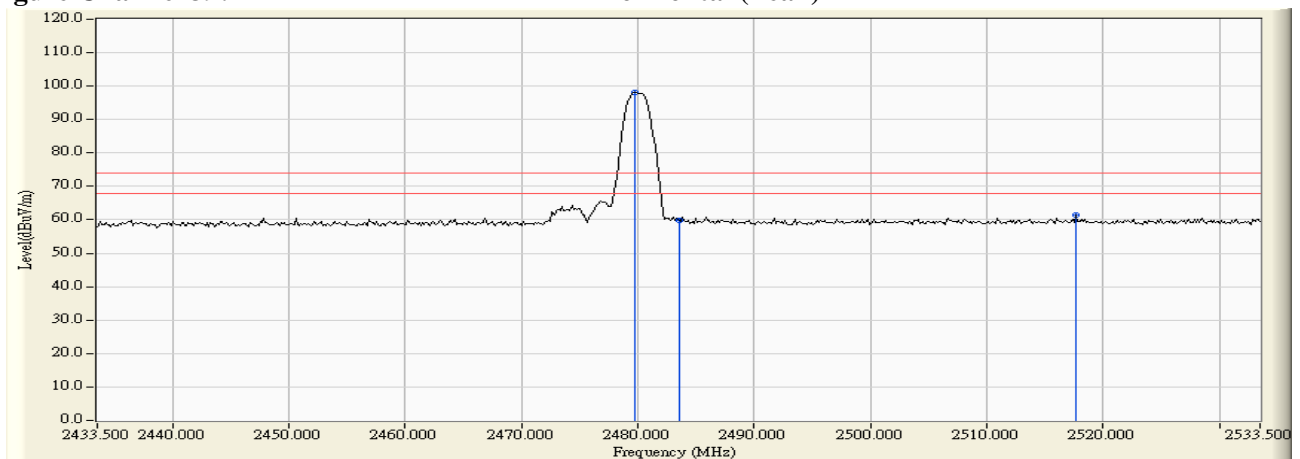
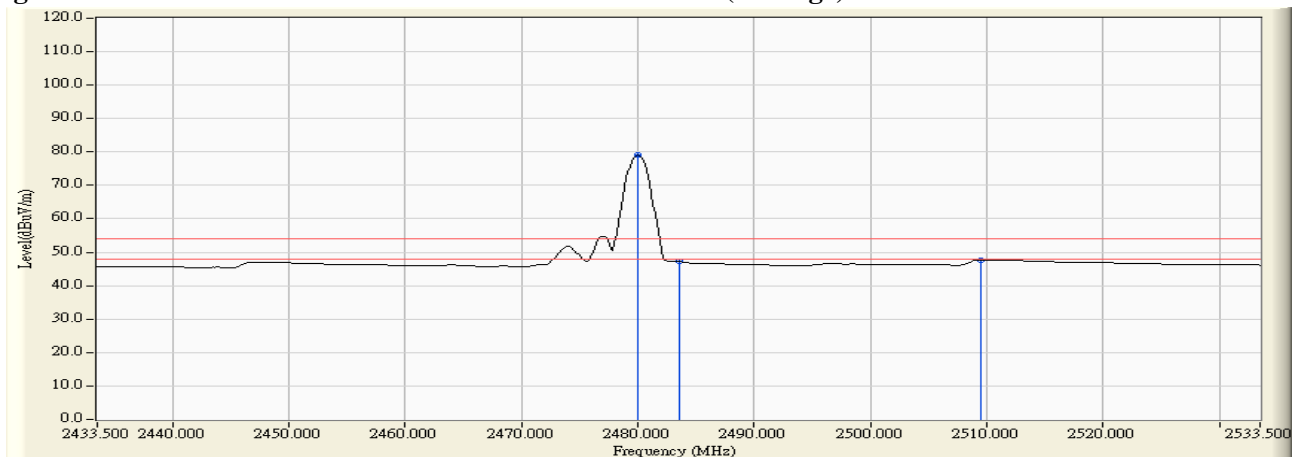


Figure Channel 39: Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Triton
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (BLE-2480MHz + RF ID-927.377MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
39 (Peak)	2479.732	31.410	56.729	88.139	--	--	--
39 (Peak)	2483.500	31.435	26.312	57.747	74.00	54.00	Pass
39 (Peak)	2485.674	31.450	28.891	60.341	74.00	54.00	Pass
39 (Average)	2480.022	31.412	40.546	71.958	--	--	--
39 (Average)	2483.500	31.435	14.116	45.551	74.00	54.00	Pass
39 (Average)	2509.877	31.547	15.409	46.956	74.00	54.00	Pass

Figure Channel 39: Vertical (Peak)

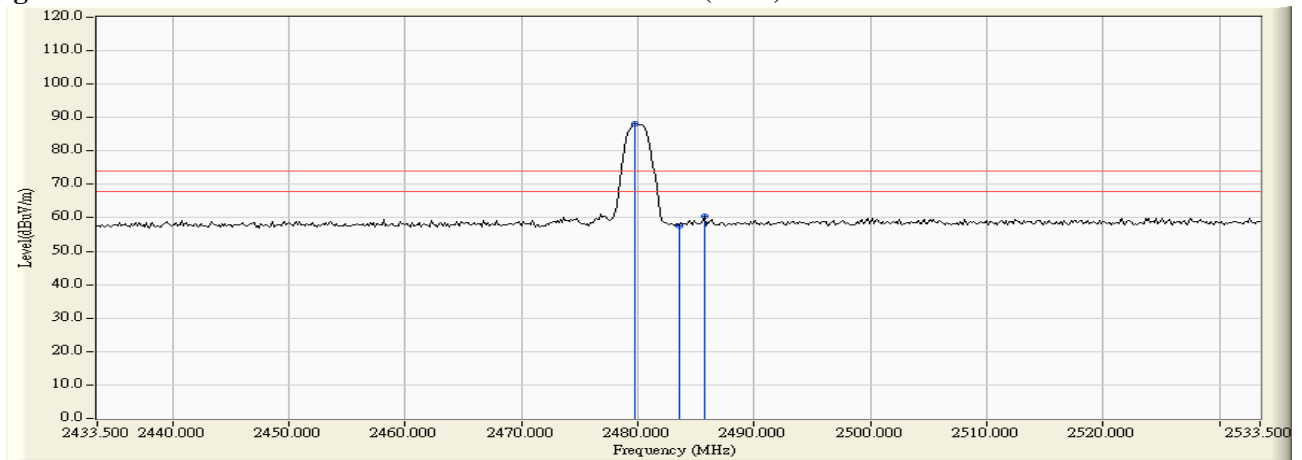
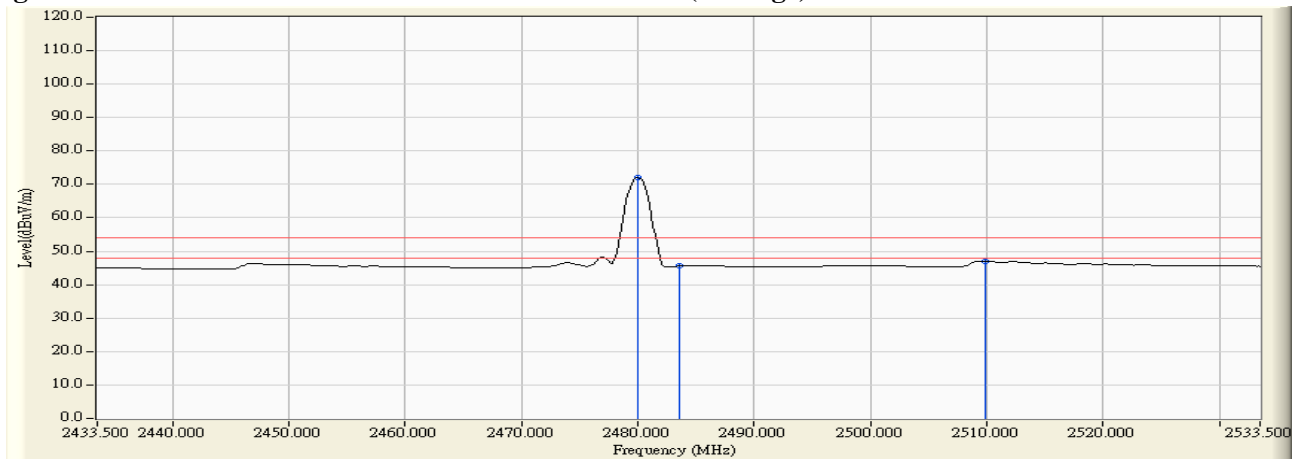


Figure Channel 39: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

7. Occupied Bandwidth (6dB BW)

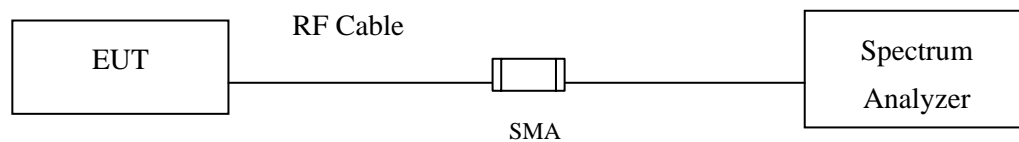
7.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2015
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2015
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2015

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

7.2. Test Setup



7.3. Limits

The minimum bandwidth shall be at least 500 kHz.

7.4. Test Procedure

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

Set RBW = 1-5% of the emission bandwidth, $VBW \geq 3 \cdot RBW$

7.5. Uncertainty

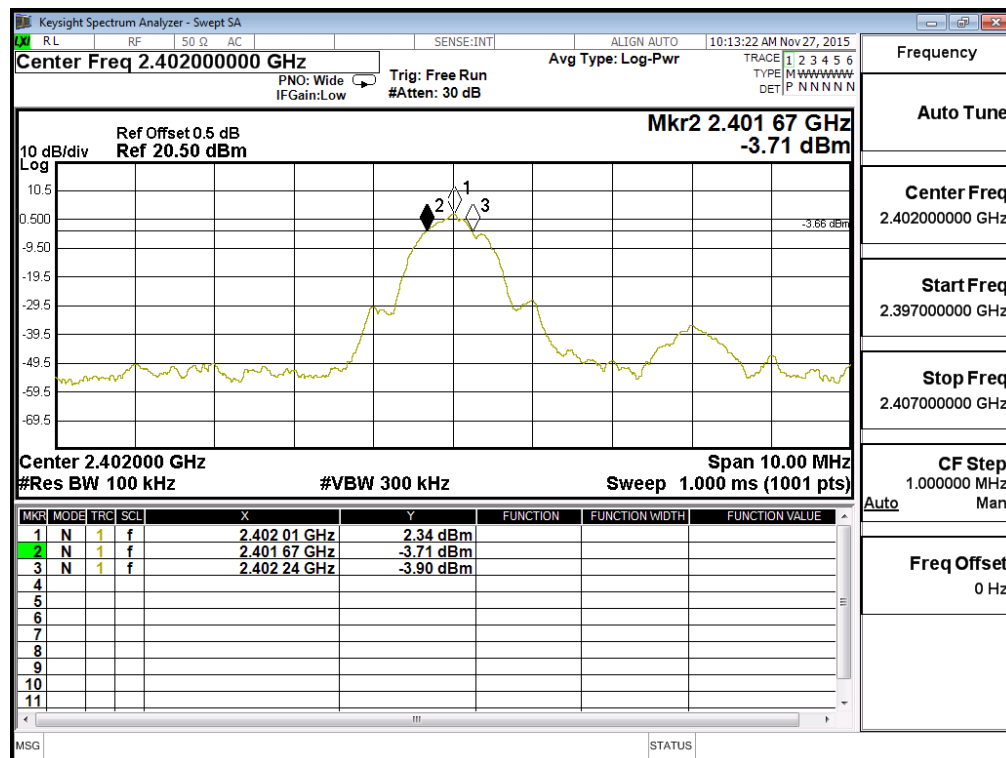
$\pm 150\text{Hz}$

7.6. Test Result of Occupied Bandwidth

Product : Triton
 Test Item : Occupied Bandwidth Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
00	2402	570	>500	Pass
19	2440	600	>500	Pass
39	2480	620	>500	Pass

Figure Channel 00:



Keysight Spectrum Analyzer - Sweep SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 10:15:43 AM Nov 27, 2015

Center Freq 2.44000000 GHz PNO: Wide Trg: Free Run Avg Type: Log-Pwr

IF Gain: Low #Atten: 30 dB

TRACE 1 2 3 4 5 6
TYPE M W W W W W W
DET P N N N N N

Ref Offset 0.5 dB
Ref 20.50 dBm

Mkr2 2.439 65 GHz
-3.74 dBm

10 dB/div
Log

Center 2.440000 GHz Span 10.00 MHz
#Res BW 100 kHz #VBW 300 kHz Sweep 1.000 ms (1001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.440 01 GHz	2.26 dBm			
2	N	1	f	2.439 65 GHz	-3.74 dBm			
3	N	1	f	2.440 25 GHz	-3.99 dBm			
4								
5								
6								
7								
8								
9								
10								
11								

Frequency

Auto Tune

Center Freq 2.44000000 GHz

Start Freq 2.435000000 GHz

Stop Freq 2.445000000 GHz

CF Step 1.000000 MHz

Auto Man

Freq Offset 0 Hz

STATUS

Keysight Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 10:18:00 AM Nov 27, 2015

Center Freq 2.48000000 GHz PNO: Wide IF Gain: Low Trig: Free Run #Atten: 30 dB Avg Type: Log-Pwr

TRACE 1 2 3 4 5 6 TYPE M W W W W W W W DET P N N N N N

Ref Offset 0.5 dB Ref 20.50 dBM Mkr2 2.479 63 GHz -4.40 dBm

10 dB/div Log

Center 2.480000 GHz Span 10.00 MHz
#Res BW 100 kHz #VBW 300 kHz Sweep 1.000 ms (1001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.480 01 GHz	1.67 dBm			
2	N	1	f	2.479 63 GHz	-4.40 dBm			
3	N	1	f	2.480 25 GHz	-4.35 dBm			
4								
5								
6								
7								
8								
9								
10								
11								

MSG STATUS

Frequency

Auto Tune

Center Freq 2.480000000 GHz

Start Freq 2.475000000 GHz

Stop Freq 2.485000000 GHz

CF Step 1.000000 MHz

Auto Man

Freq Offset 0 Hz

8. Power Density

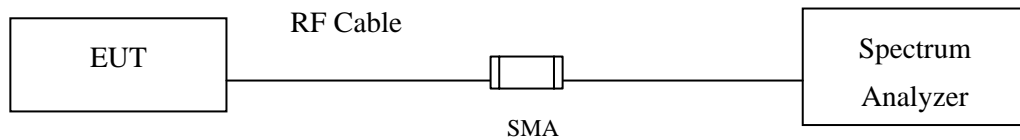
8.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2015
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2015
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2015

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

8.2. Test Setup



8.3. Limits

The transmitted power density averaged over any 1 second interval shall not be greater +8dBm in any 3kHz bandwidth.

8.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2013, the maximum power spectral density using KDB 558074 section 10.2 PKPSD (peak PSD) method.

8.5. Uncertainty

± 1.27 dB

8.6. Test Result of Power Density

Product : Triton
 Test Item : Power Density Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	2.190	< 8dBm	Pass
19	2440	2.200	< 8dBm	Pass
39	2480	1.590	< 8dBm	Pass

Figure Channel 00:

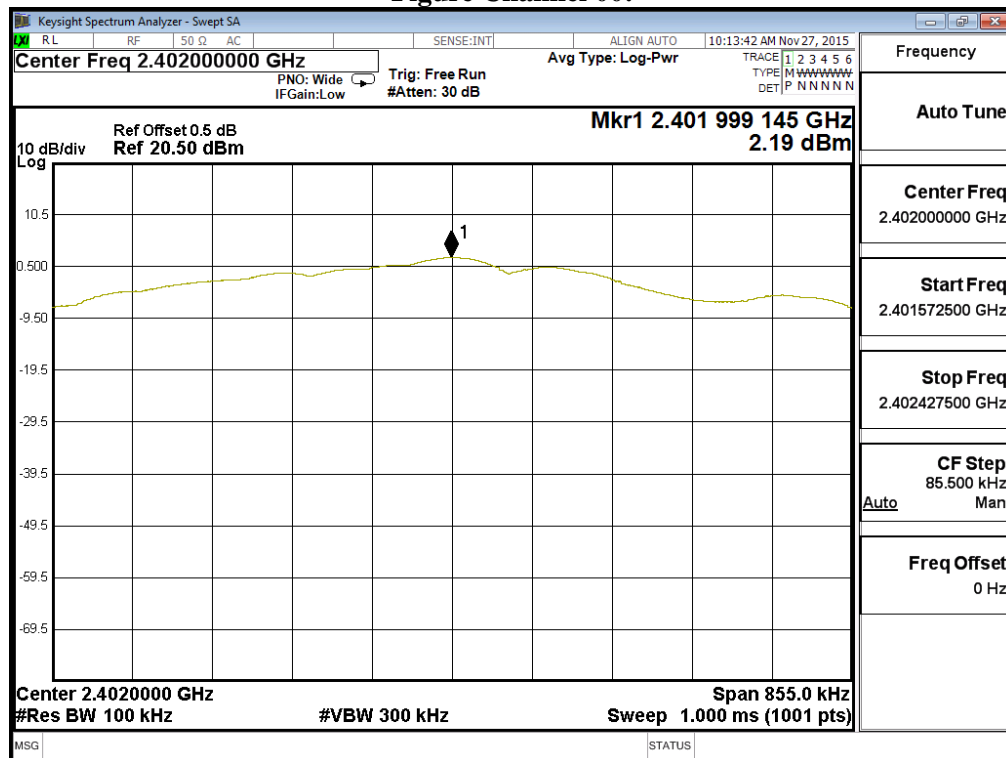


Figure Channel 19:

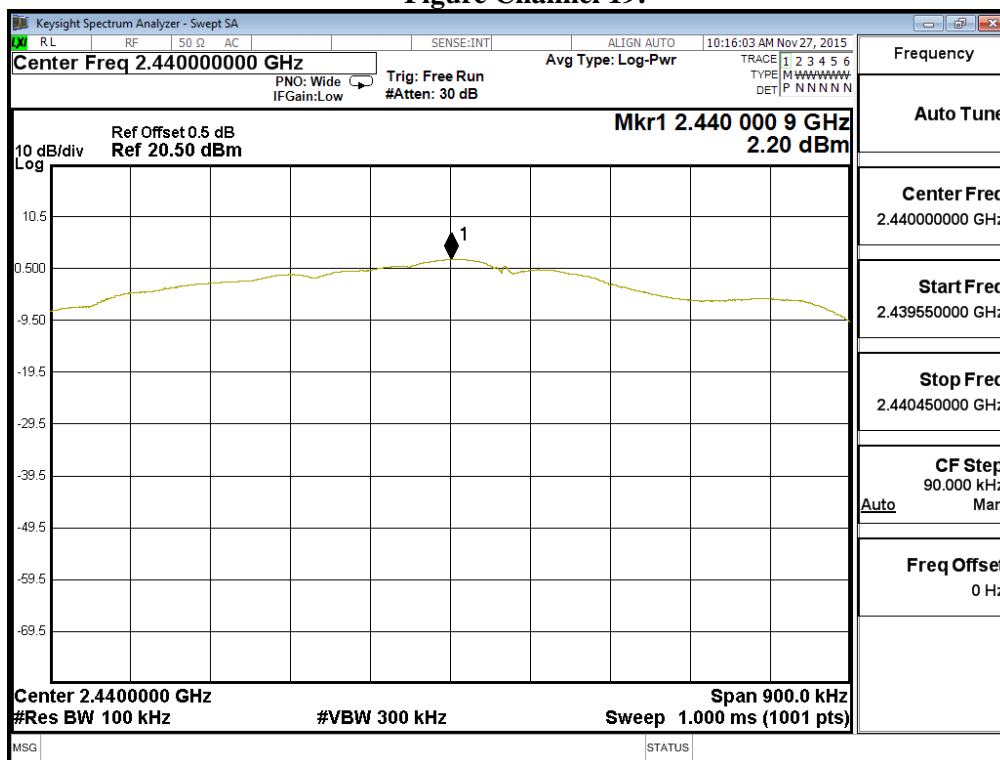
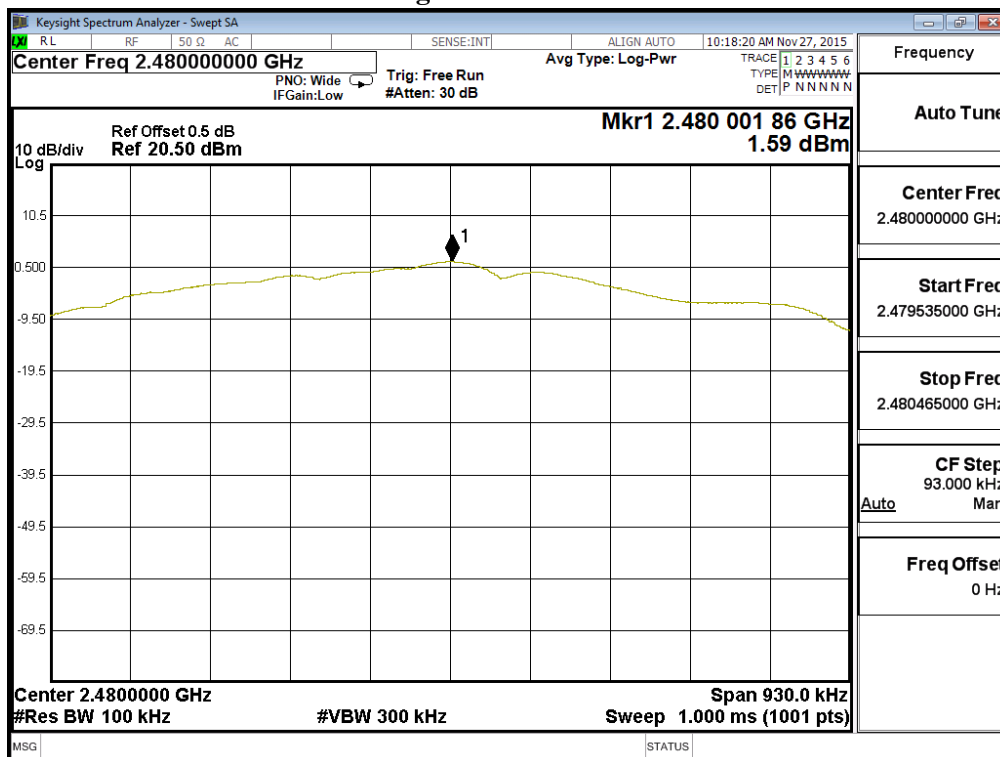


Figure Channel 39:



9. EMI Reduction Method During Compliance Testing

No modification was made during testing.

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs