

FCC Test Report

Product Name	TUF GAMING H7 WIRELESS
Model No.	TUF Gaming H7 WL Yellow, TUF Gaming H7 WL Gun metal
FCC ID	BJM-TUFH7WL

Applicant	Tatung Company
Address	22 Chungshan N Road Sec 3 ,Taipei 10451 ,Taiwan

Date of Receipt	Mar. 11, 2019
Issued Date	Apr. 25, 2019
Report No.	1930134R-RFUSP15V00
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

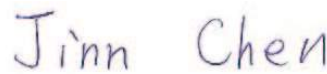
Issued Date: Apr. 25, 2019

Report No.: 1930134R-RFUSP15V00



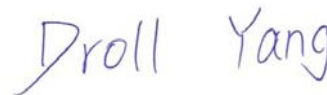
Product Name	TUF GAMING H7 WIRELESS
Applicant	Tatung Company
Address	22 Chungshan N Road Sec 3 ,Taipei 10451 ,Taiwan
Manufacturer	Tatung Company
Model No.	TUF Gaming H7 WL Yellow, TUF Gaming H7 WL Gun metal
FCC ID	BJM-TUFH7WL
EUT Rated Voltage	DC 5V (Power by USB) or DC 3.7V (Power by Battery)
EUT Test Voltage	DC 5V (Power by USB)
Trade Name	ASUS
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2018 ANSI C63.4: 2014, ANSI C63.10: 2013
Test Result	Complied

Documented By :



(Senior Adm. Specialist / Jinn Chen)

Tested By :



(Assistant Engineer / Droll Yang)

Approved By :



(Director / Vincent Lin)

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Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	TUF GAMING H7 WIRELESS
Trade Name	ASUS
Model No.	TUF Gaming H7 WL Yellow, TUF Gaming H7 WL Gun metal
FCC ID	BJM-TUFH7WL
Frequency Range	2405.35~2477.35MHz
Channel Number	37CH
Type of Modulation	Pi/4 DQPSK
Antenna Type	PCB Antenna
Channel Control	Refer to the table "Antenna List"
Antenna Gain	Auto
USB Cable	Shielded, 2.0m

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	Tatung	051-044R,048-056R(Ant 1) 051-044R,048-056R(Ant 2)	PCB Antenna	5.48dBi for 2.4GHz

Note: The antenna of EUT is conform to FCC 15.203

Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 1:	2405.35 MHz	Channel 11:	2425.35 MHz	Channel 21:	2445.35 MHz	Channel 31:	2465.35 MHz
Channel 2:	2407.35 MHz	Channel 12:	2427.35 MHz	Channel 22:	2447.35 MHz	Channel 32:	2467.35 MHz
Channel 3:	2409.35 MHz	Channel 13:	2429.35 MHz	Channel 23:	2449.35 MHz	Channel 33:	2469.35 MHz
Channel 4:	2411.35 MHz	Channel 14:	2431.35 MHz	Channel 24:	2451.35 MHz	Channel 34:	2471.35 MHz
Channel 5:	2413.35 MHz	Channel 15:	2433.35 MHz	Channel 25:	2453.35 MHz	Channel 35:	2473.35 MHz
Channel 6:	2415.35 MHz	Channel 16:	2435.35 MHz	Channel 26:	2455.35 MHz	Channel 36:	2475.35 MHz
Channel 7:	2417.35 MHz	Channel 17:	2437.35 MHz	Channel 27:	2457.35 MHz	Channel 37:	2477.35 MHz
Channel 8:	2419.35 MHz	Channel 18:	2439.35 MHz	Channel 28:	2459.35 MHz		
Channel 9:	2421.35 MHz	Channel 19:	2441.35 MHz	Channel 29:	2461.35 MHz		
Channel 10:	2423.35 MHz	Channel 20:	2443.35 MHz	Channel 30:	2463.35 MHz		

Note:

1. The EUT is a TUF GAMING H7 WIRELESS with a built-in 2.4GHz wireless transceiver.
2. The EUT support diversity function. The worst case(ANT 1 and ANT 2) is shown in the report.
3. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
4. These tests are conducted on a sample of the equipment for the purpose of demonstrating compliance of transmitter with Part 15 Subpart C Paragraph 15.249 for spread spectrum devices.
5. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.
6. The different of each model is shown as below:

Model Number	Wireless	Colour	Description
TUF Gaming H7 WL Yellow	V	Yellow	The serial product only has the different color of the enclosure, and the product functions, brand, design and the external appearance are all the same.
TUF Gaming H7 WL Gun metal	V	Gun Metal	

Test Mode	Mode 1: Transmit
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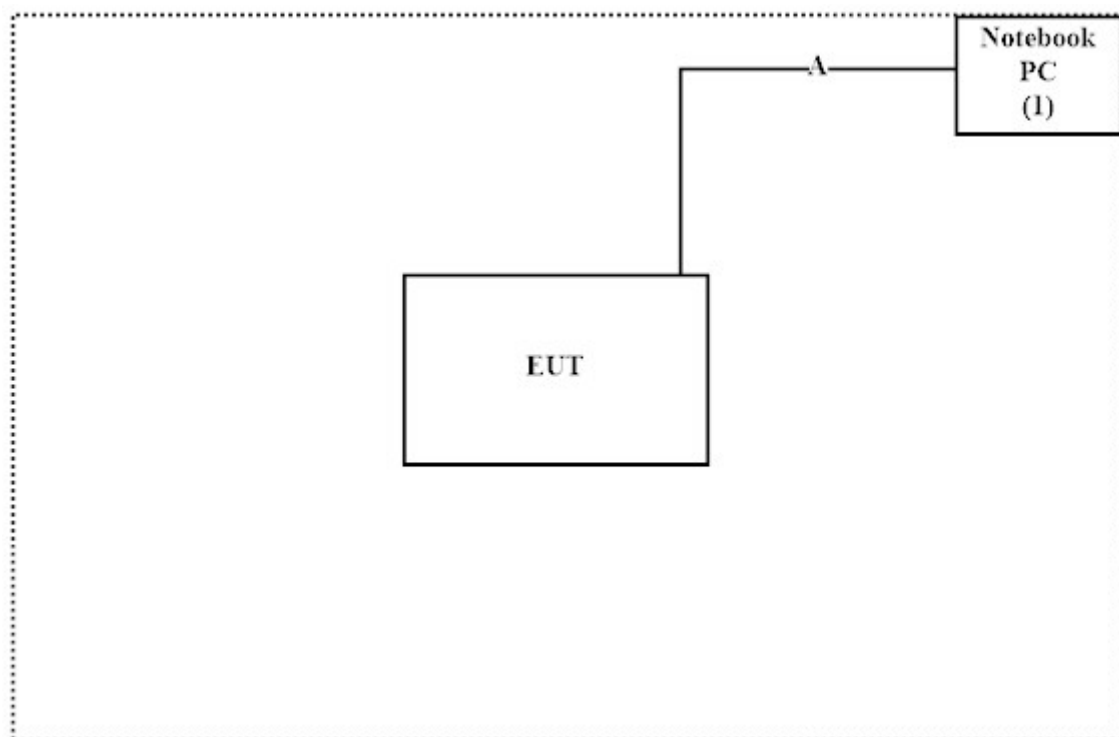
1.3. Tested System Details

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	P62G	CY9FJC2	N/A

Signal Cable Type		Signal cable Description
A	USB Cable	Shielded, 2.0m

1.4. Configuration of Test System



1.5. EUT Exercise Software

- (1) Setup the EUT as shown in Section 1.4.
- (2) Execute “Avnera-Continue power V2018.5.18.1” program on the Notebook.
- (3) Configure the test mode and the test channel
- (4) 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	50-65
Barometric pressure (mbar)	860-1060	950-1000

The related certificate for our laboratories about the test site and management system can be downloaded from 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

Site Description: Accredited by TAF
Accredited Number: 3023

Site Name: DEKRA Testing and Certification Co., Ltd.
Site Address: No.159, Sec. 2, Wenhua 1st Rd., Linkou Dist.,
New Taipei City 24457, Taiwan.
TEL: 886-2-2602-7968 / FAX : 866-2-2602-3286
E-Mail : info.tw@dekra.com

FCC Accreditation Number: TW0023

1.7. List of Test Equipment

For Conduction measurements /ASR1

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	EMI Test Receiver	R&S	ESR7	101602	2018.12.17	2019.12.16
X	Two-Line V-Network	R&S	ENV216	101306	2019.03.11	2020.03.10
X	Two-Line V-Network	R&S	ENV216	101307	2019.04.03	2020.04.02
X	Coaxial Cable	Quietek	RG400_BNC	RF001	2018.05.24	2019.05.23

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked with "X" are used to measure the final test results.
3. Test Software version : QuieTek EMI System V2.1.113

For Conducted measurements /ASR2

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	Spectrum Analyzer	R&S	FSV30	103464	2019.01.25	2020.01.24
	Power Meter	Anritsu	ML2496A	1548003	2018.12.19	2019.12.18
	Power Sensor	Anritsu	MA2411B	1531024	2018.12.19	2019.12.18
	Power Sensor	Anritsu	MA2411B	1531025	2018.12.19	2019.12.18
	Bluetooth Tester	R&S	CBT	101238	2019.01.21	2020.01.20

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked with "X" are used to measure the final test results.
3. Test Software version : DEKRA Conduction Test System V9.0.5

For Radiated measurements /ACB1

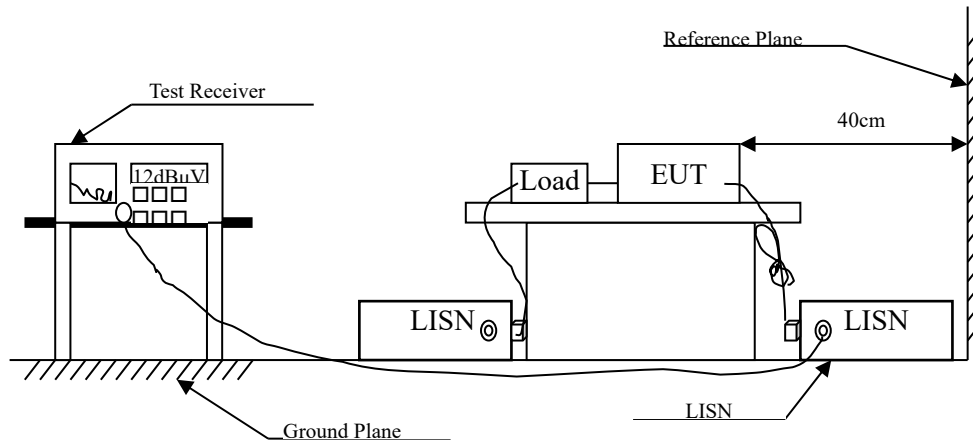
	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	Loop Antenna	AMETEK	HLA6121	49611	2019.02.22	2020.02.21
X	Bi-Log Antenna	SCHWARZBECK	VULB9168	9168-675	2018.06.05	2019.06.04
X	Horn Antenna	ETS-Lindgren	3117	00203800	2018.12.11	2019.12.10
X	Horn Antenna	Com-Power	AH-840	101087	2018.06.01	2019.05.31
X	Pre-Amplifier	EMCI	EMC001330	980316	2018.06.01	2019.05.31
X	Pre-Amplifier	EMCI	EMC051835SE	980311	2018.06.04	2019.06.03
X	Pre-Amplifier	EMCI	EMC05820SE	980310	2018.06.04	2019.06.03
X	Pre-Amplifier	EMCI	EMC184045SE	980314	2018.05.16	2019.05.15
X	Filter	MICRO TRONICS	BRM50702	G251	2018.09.04	2019.09.03
	Filter	MICRO TRONICS	BRM50716	G188	2018.09.04	2019.09.03
X	EMI Test Receiver	R&S	ESR7	101602	2018.12.17	2019.12.16
X	Spectrum Analyzer	R&S	FSV40	101148	2019.02.20	2020.02.19
X	Coaxial Cable	SUHNER	SUCOFLEX 106	RF002	2018.05.25	2019.05.24
X	Mircoflex Cable	HUBER SUHNER	SUCOFLEX 102	MY3381/2	2018.05.16	2019.05.15

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked with "X" are used to measure the final test results.
3. Test Software version : QuieTek EMI System V2.1.113

2. Conducted Emission

2.1. Test Setup



2.2. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dB μ V) 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.

2.3. 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.

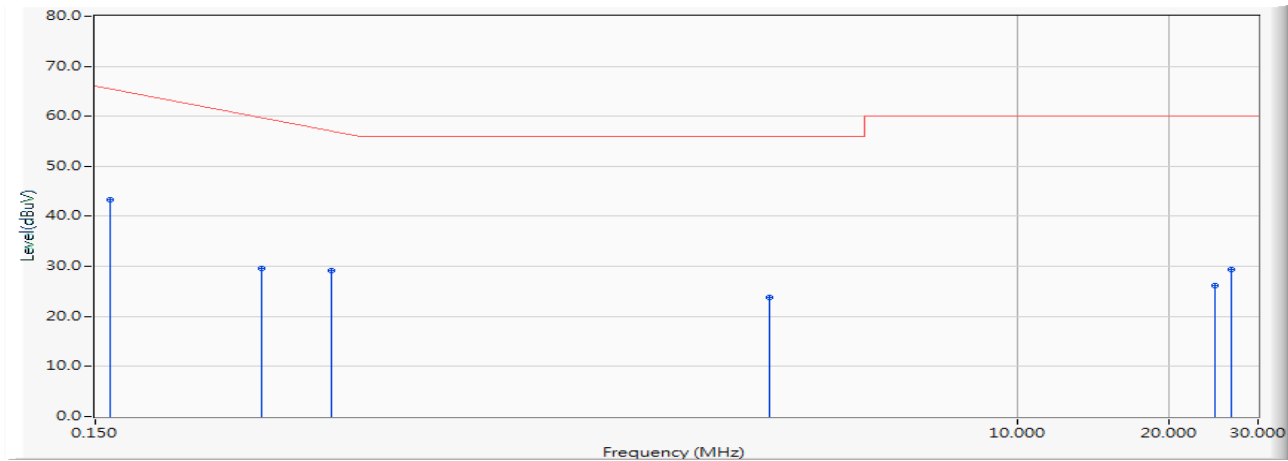
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

2.4. Uncertainty

± 2.35 dB

2.5. Test Result of Conducted Emission

Product : TUF GAMING H7 WIRELESS
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Date : 2019/04/12
 Test Mode : Mode 1: Transmit (2441.35MHz) _ANT1

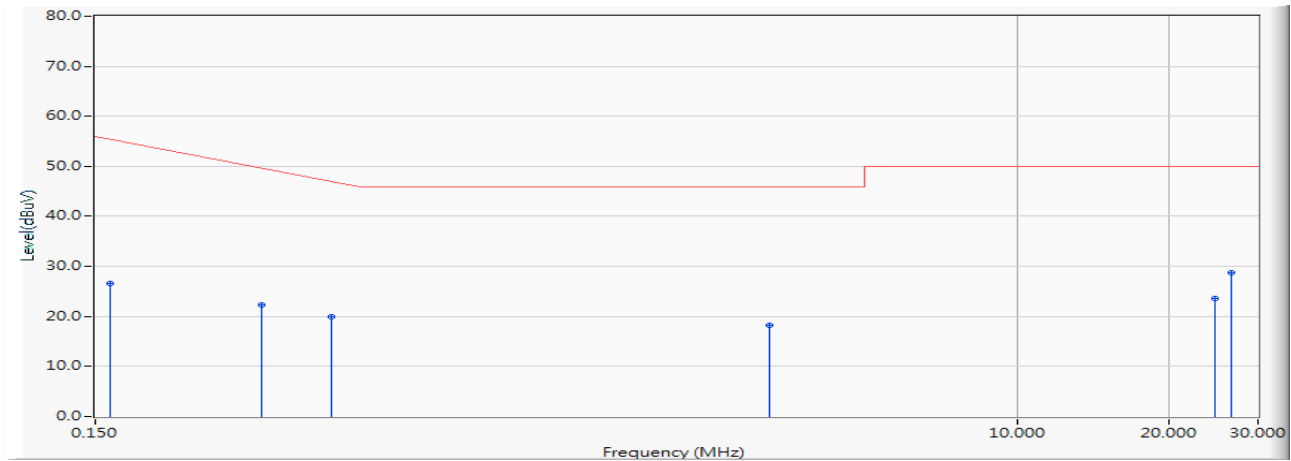


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.161	9.610	33.678	43.288	-22.398	65.686	QUASIPeAK
2		0.319	9.618	20.039	29.657	-31.514	61.171	QUASIPeAK
3		0.440	9.626	19.578	29.203	-28.511	57.714	QUASIPeAK
4		3.235	9.692	14.178	23.870	-32.130	56.000	QUASIPeAK
5		24.576	10.010	16.109	26.119	-33.881	60.000	QUASIPeAK
6		26.623	10.020	19.422	29.442	-30.558	60.000	QUASIPeAK

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 : TUF GAMING H7 WIRELESS
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Date : 2019/04/12
 Test Mode : Mode 1: Transmit (2441.35MHz) _ANT1

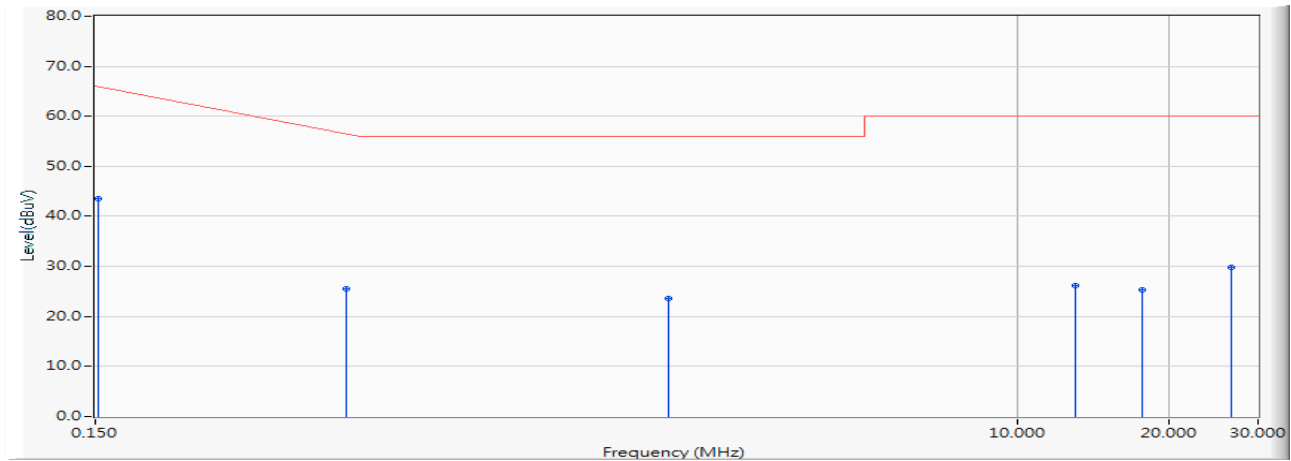


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.161	9.610	16.967	26.577	-29.109	55.686	AVERAGE
2		0.319	9.618	12.781	22.398	-28.773	51.171	AVERAGE
3		0.440	9.626	10.268	19.893	-27.821	47.714	AVERAGE
4		3.235	9.692	8.638	18.330	-27.670	46.000	AVERAGE
5		24.576	10.010	13.570	23.580	-26.420	50.000	AVERAGE
6	*	26.623	10.020	18.667	28.687	-21.313	50.000	AVERAGE

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 : TUF GAMING H7 WIRELESS
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Date : 2019/04/12
 Test Mode : Mode 1: Transmit (2441.35MHz) _ANT1

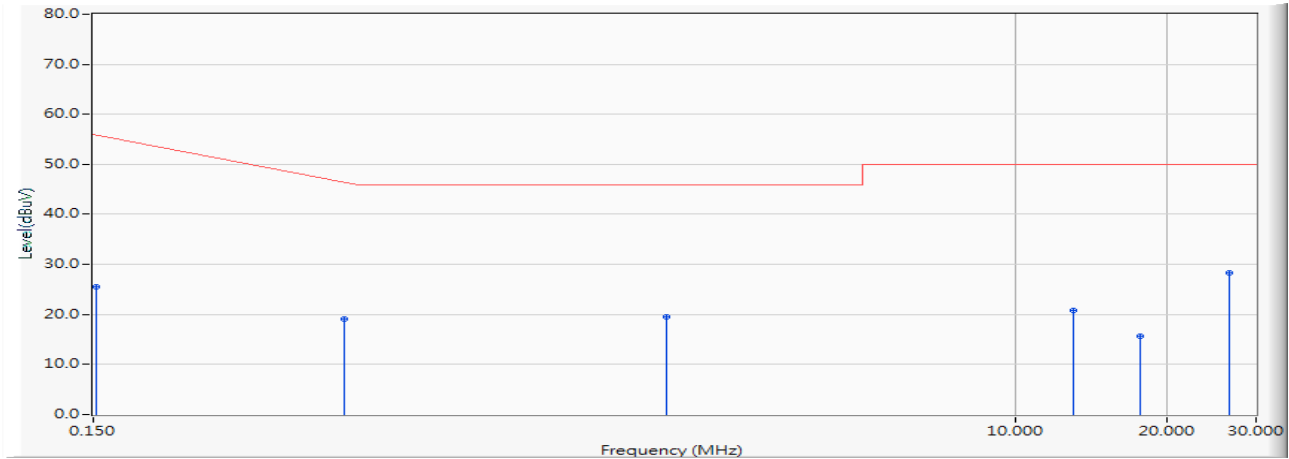


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.152	9.602	34.033	43.634	-22.309	65.943	QUASIPeAK
2		0.472	9.619	15.818	25.437	-31.363	56.800	QUASIPeAK
3		2.049	9.660	13.974	23.634	-32.366	56.000	QUASIPeAK
4		13.031	9.893	16.263	26.156	-33.844	60.000	QUASIPeAK
5		17.677	9.970	15.374	25.344	-34.656	60.000	QUASIPeAK
6		26.623	10.068	19.822	29.890	-30.110	60.000	QUASIPeAK

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 : TUF GAMING H7 WIRELESS
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Date : 2019/04/12
 Test Mode : Mode 1: Transmit (2441.35MHz) _ANT1

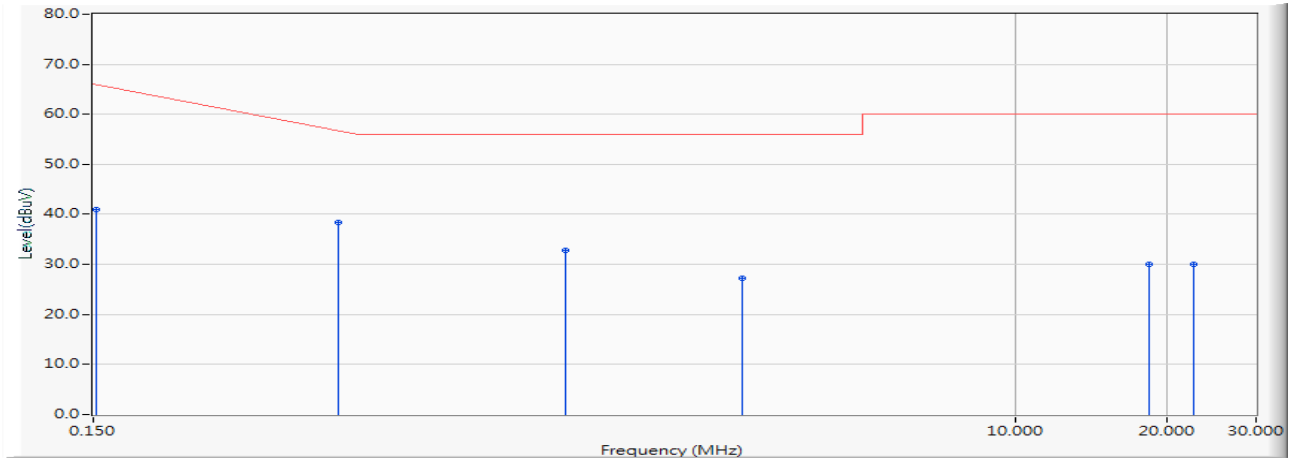


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.152	9.602	15.912	25.514	-30.429	55.943	AVERAGE
2		0.472	9.619	9.384	19.003	-27.797	46.800	AVERAGE
3		2.049	9.660	9.783	19.443	-26.557	46.000	AVERAGE
4		13.031	9.893	10.805	20.698	-29.302	50.000	AVERAGE
5		17.677	9.970	5.651	15.621	-34.379	50.000	AVERAGE
6	*	26.623	10.068	18.278	28.346	-21.654	50.000	AVERAGE

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 : TUF GAMING H7 WIRELESS
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Date : 2019/03/25
 Test Mode : Mode 1: Transmit (2441.35MHz) _ANT2

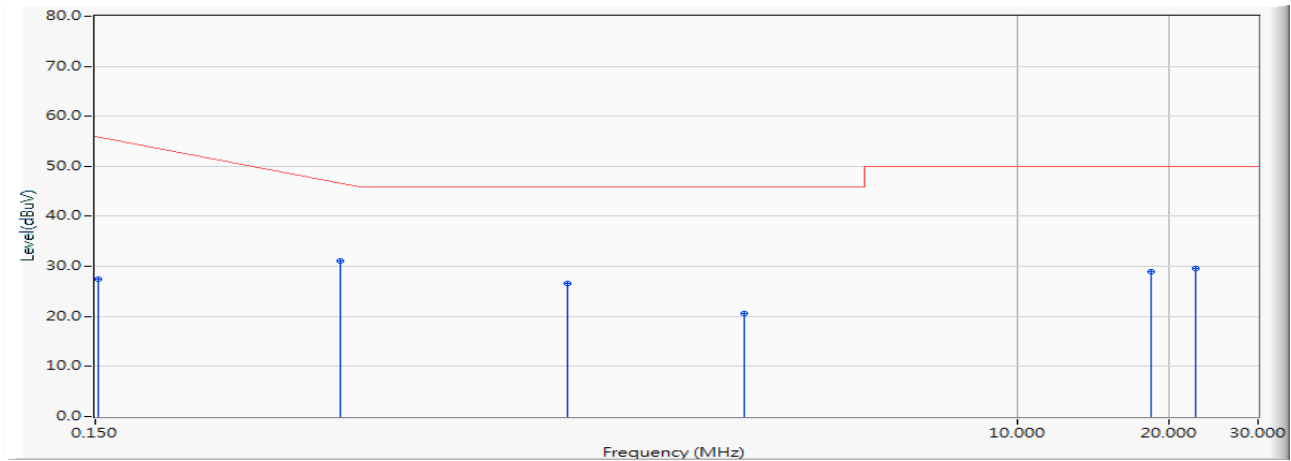


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.152	9.611	31.314	40.925	-25.018	65.943	QUASIPeAK
2	*	0.458	9.627	28.807	38.434	-18.766	57.200	QUASIPeAK
3		1.293	9.650	23.111	32.761	-23.239	56.000	QUASIPeAK
4		2.895	9.679	17.546	27.225	-28.775	56.000	QUASIPeAK
5		18.431	9.965	20.146	30.111	-29.889	60.000	QUASIPeAK
6		22.529	9.990	20.093	30.083	-29.917	60.000	QUASIPeAK

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 : TUF GAMING H7 WIRELESS
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Date : 2019/03/25
 Test Mode : Mode 1: Transmit (2441.35MHz) _ANT2

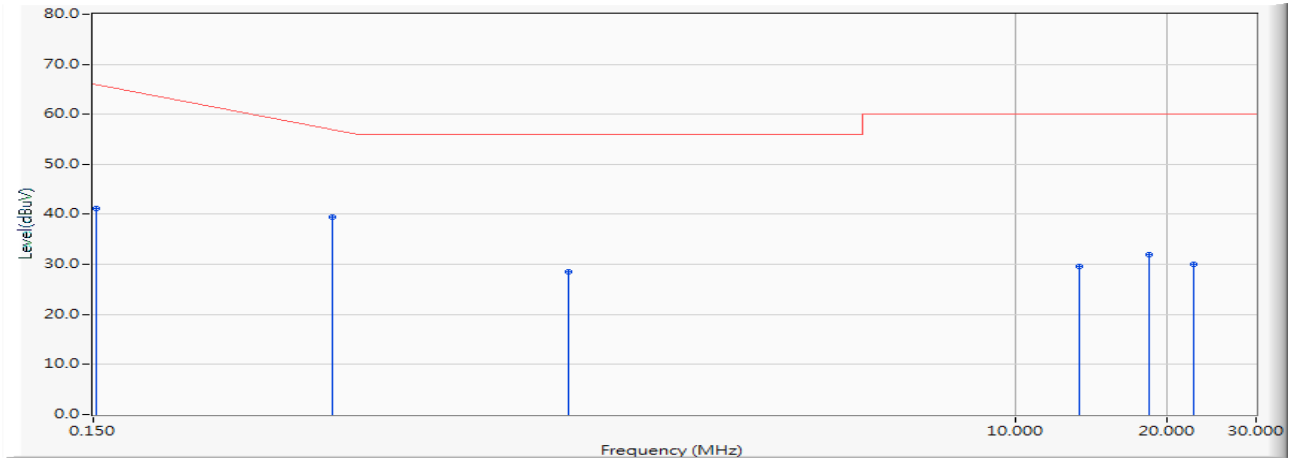


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.152	9.611	17.845	27.456	-28.487	55.943	AVERAGE
2	*	0.458	9.627	21.430	31.057	-16.143	47.200	AVERAGE
3		1.293	9.650	16.847	26.497	-19.503	46.000	AVERAGE
4		2.895	9.679	10.818	20.497	-25.503	46.000	AVERAGE
5		18.431	9.965	18.967	28.932	-21.068	50.000	AVERAGE
6		22.529	9.990	19.625	29.615	-20.385	50.000	AVERAGE

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 : TUF GAMING H7 WIRELESS
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Date : 2019/03/25
 Test Mode : Mode 1: Transmit (2441.35MHz) _ANT2

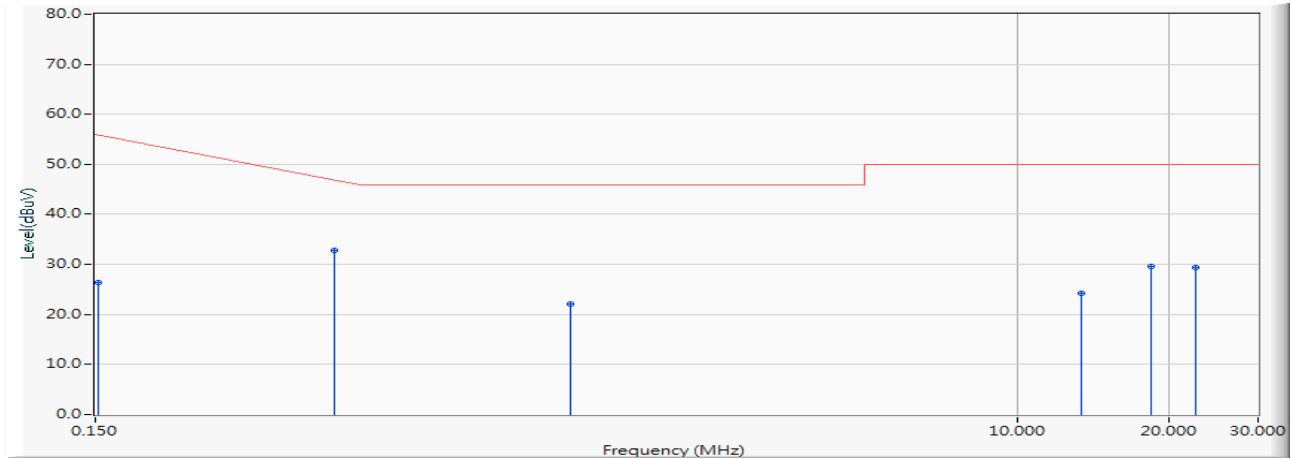


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.152	9.602	31.632	41.233	-24.710	65.943	QUASIPeAK
2	*	0.447	9.619	29.855	39.474	-18.040	57.514	QUASIPeAK
3		1.304	9.650	18.827	28.477	-27.523	56.000	QUASIPeAK
4		13.418	9.895	19.694	29.589	-30.411	60.000	QUASIPeAK
5		18.431	9.980	21.902	31.882	-28.118	60.000	QUASIPeAK
6		22.529	10.030	20.096	30.126	-29.874	60.000	QUASIPeAK

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 : TUF GAMING H7 WIRELESS
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Date : 2019/03/25
 Test Mode : Mode 1: Transmit (2441.35MHz) _ANT2



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.152	9.602	16.778	26.379	-29.564	55.943	AVERAGE
2	*	0.447	9.619	23.169	32.787	-14.727	47.514	AVERAGE
3		1.304	9.650	12.395	22.045	-23.955	46.000	AVERAGE
4		13.418	9.895	14.334	24.229	-25.771	50.000	AVERAGE
5		18.431	9.980	19.709	29.689	-20.311	50.000	AVERAGE
6		22.529	10.030	19.369	29.399	-20.601	50.000	AVERAGE

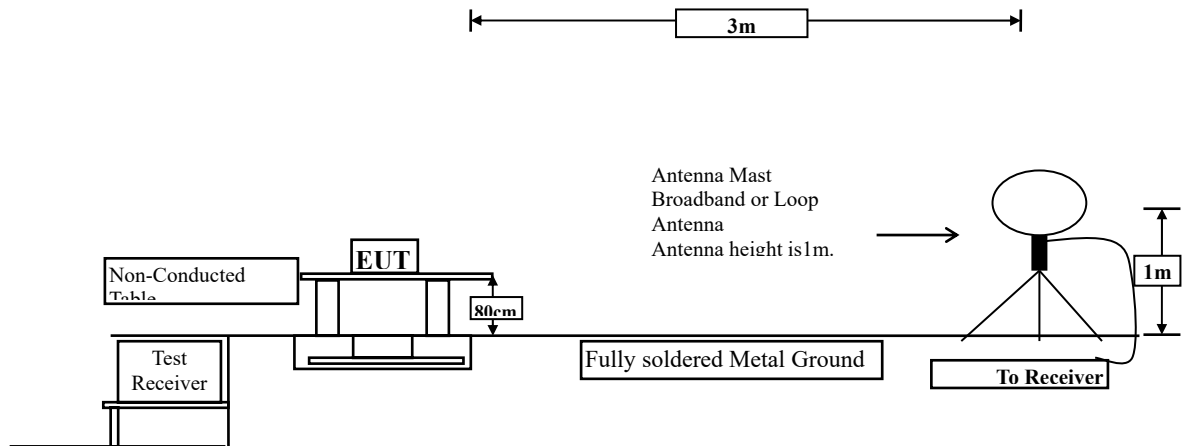
Note:

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

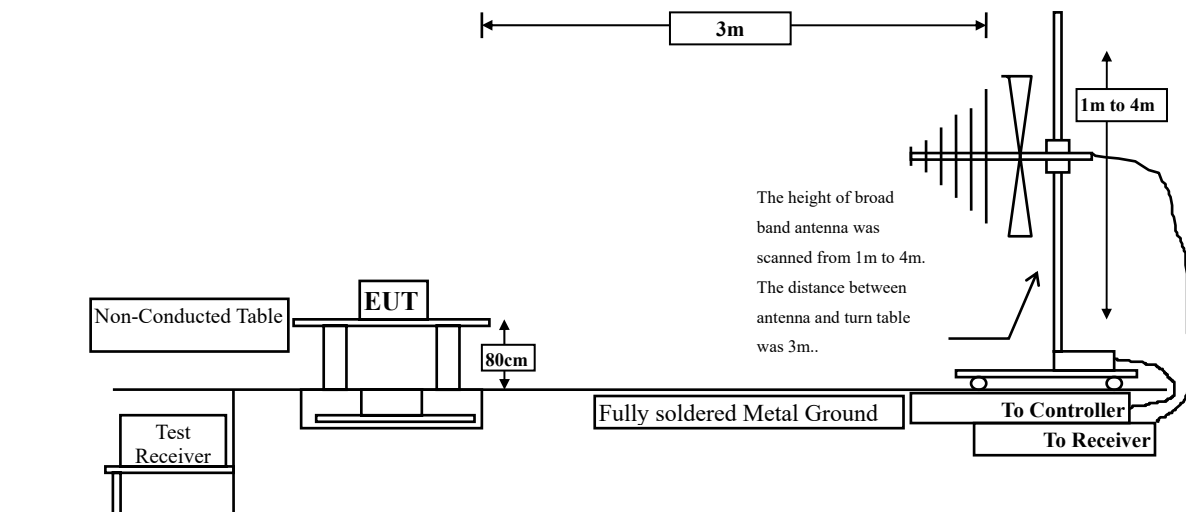
3. Radiated Emission

3.1. Test Setup

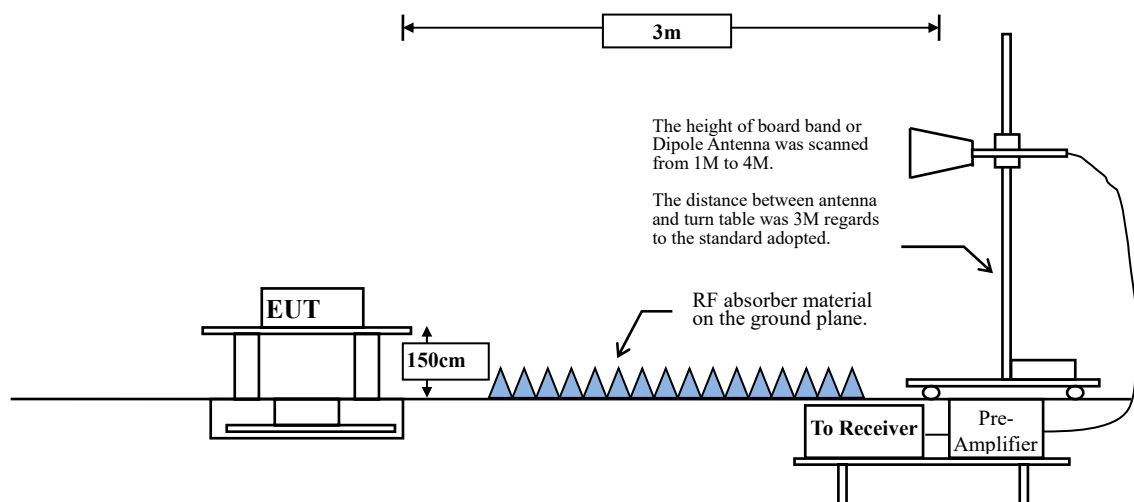
Radiated Emission Under 30MHz



Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



3.2. Limits

➤ Fundamental and Harmonics Emission Limits

FCC Part 15 Subpart C Paragraph 15.249 Limits				
Frequency MHz	Field Strength of Fundamental		Field Strength of Harmonics	
	(mV/m @3m)	(dBμV /m @3m)	(uV/m @3m)	(dBμV /m @3m)
902-928	50	94	500	54
2400-2483.5	50	94	500	54
5725-5875	50	94	500	54

Remarks : 1. RF Voltage (dBμV /m) = 20 log RF Voltage (uV/m)
 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.

➤ General Radiated Emission Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB 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(a) 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: E field strength (dBμV /m) = 20 log E field strength (uV/m)

3.3. Test Procedure

The EUT was setup according to ANSI C63.10, 2013 and tested compliance to FCC 47CFR 15.249 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 measurement frequency range from 9kHz - 10th Harmonic of fundamental was investigated.

3.4. Uncertainty

Horizontal :

30-300MHz: $\pm 4.08\text{dB}$; 300M-1GHz: $\pm 3.86\text{dB}$; 1-18GHz: $\pm 3.77\text{dB}$; 18-40GHz: $\pm 3.98\text{dB}$ °

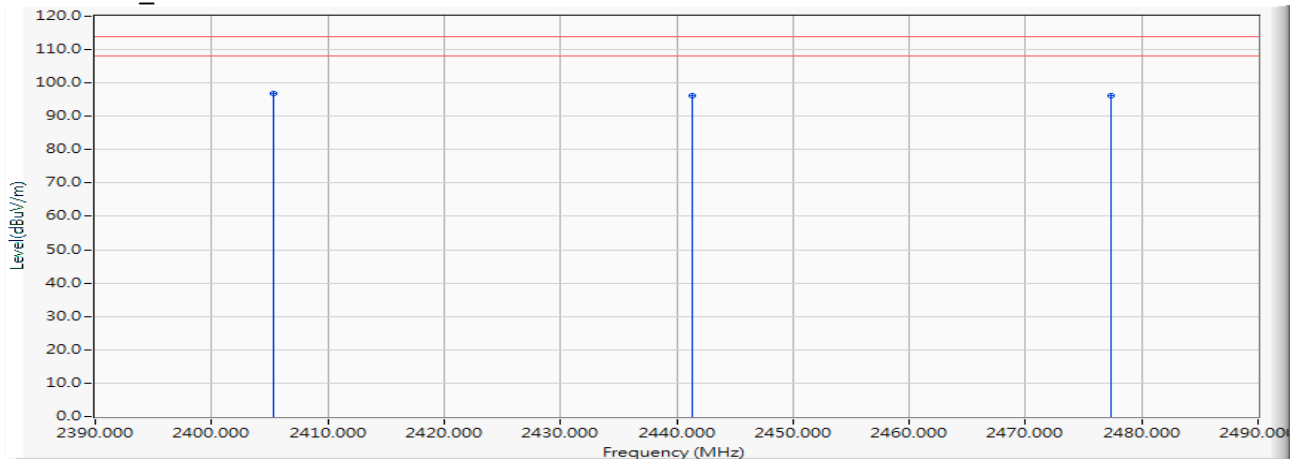
Vertical :

30-300MHz: $\pm 4.81\text{dB}$; 300M-1GHz: $\pm 3.87\text{dB}$; 1-18GHz: $\pm 3.83\text{dB}$; 18-40GHz: $\pm 3.98\text{dB}$ °

3.5. Test Result of Radiated Emission

Product : TUF GAMING H7 WIRELESS
 Test Item : Fundamental Radiated Emission
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (X-Axis) _ANT1

Horizontal_X-Axis



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2405.350	-8.894	105.580	96.686	-17.314	114.000	PEAK
2		2441.350	-8.760	104.850	96.091	-17.909	114.000	PEAK
3		2477.350	-8.626	104.670	96.044	-17.956	114.000	PEAK

Note:

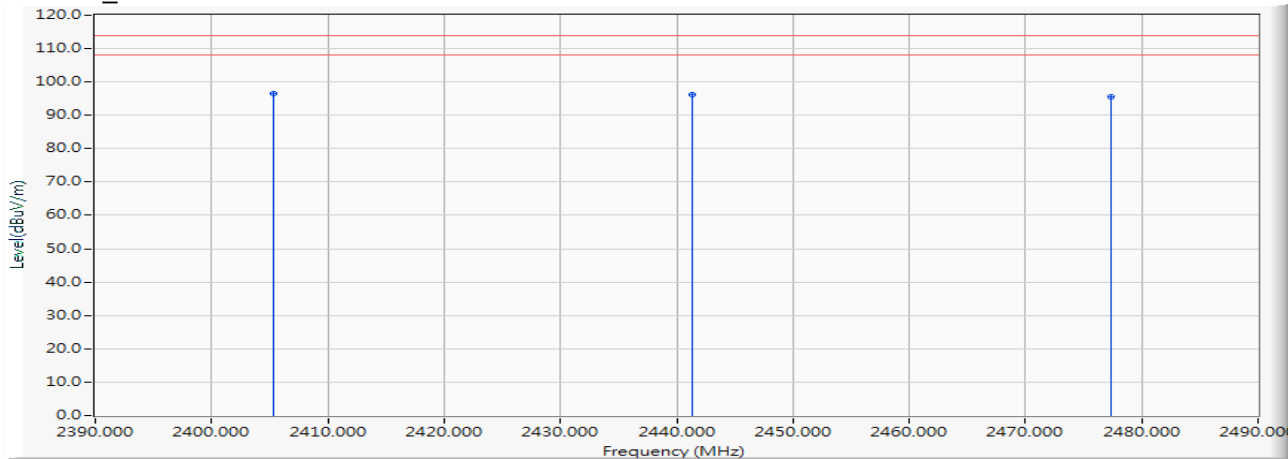
1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.

Channel No.	Frequency (MHz)	Peak Measurement (dB μ V/m)	Duty Cycle Factor (dB)	Average Measurement (dB μ V/m)	Margin (dB)	Average Limit (dB μ V/m)
Horizontal_X-Axis						
01 (Average)	2405.350	96.686	-35.124	61.562	-32.438	94.000
19 (Average)	2441.350	96.091	-35.124	60.967	-33.033	94.000
37 (Average)	2477.350	96.044	-35.124	60.920	-33.080	94.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Fundamental Radiated Emission
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (X-Axis) _ANT1

Vertical_X-Axis

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2405.350	-8.894	105.430	96.536	-17.464	114.000	PEAK
2		2441.350	-8.760	104.850	96.091	-17.909	114.000	PEAK
3		2477.350	-8.626	104.140	95.514	-18.486	114.000	PEAK

Note:

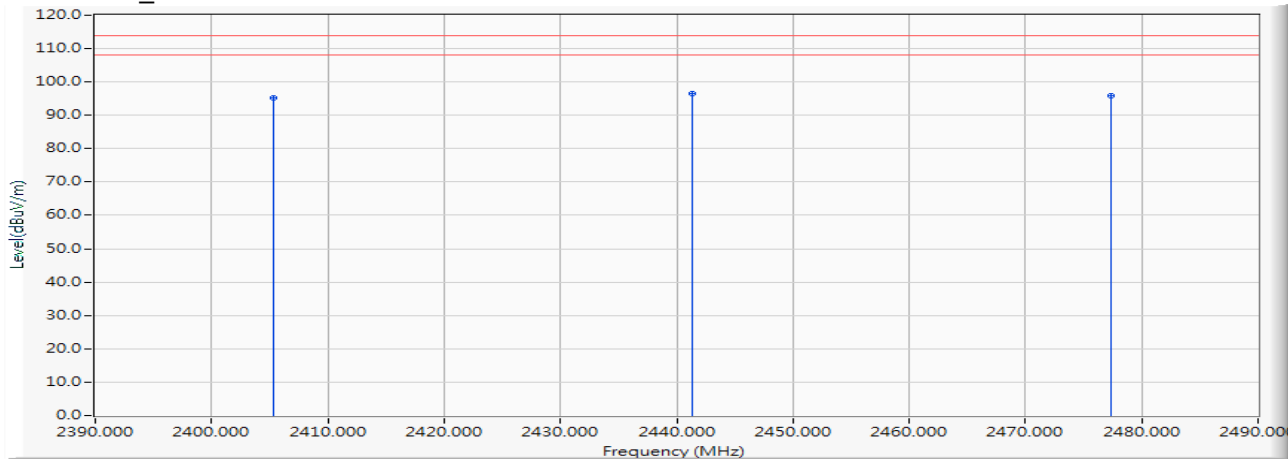
1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.

Channel No.	Frequency (MHz)	Peak Measurement (dBμV/m)	Duty Cycle Factor (dB)	Average Measurement (dBμV/m)	Margin (dB)	Average Limit (dBμV/m)
Vertical_X-Axis						
01 (Average)	2405.350	96.536	-35.124	61.412	-32.588	94.000
19 (Average)	2441.350	96.091	-35.124	60.967	-33.033	94.000
37 (Average)	2477.350	95.514	-35.124	60.390	-33.610	94.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Fundamental Radiated Emission
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (Y-Axis) _ANT1

Horizontal_Y-Axis

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2405.350	-8.894	104.230	95.336	-18.664	114.000	PEAK
2	*	2441.350	-8.760	105.340	96.581	-17.419	114.000	PEAK
3		2477.350	-8.626	104.380	95.754	-18.246	114.000	PEAK

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. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.

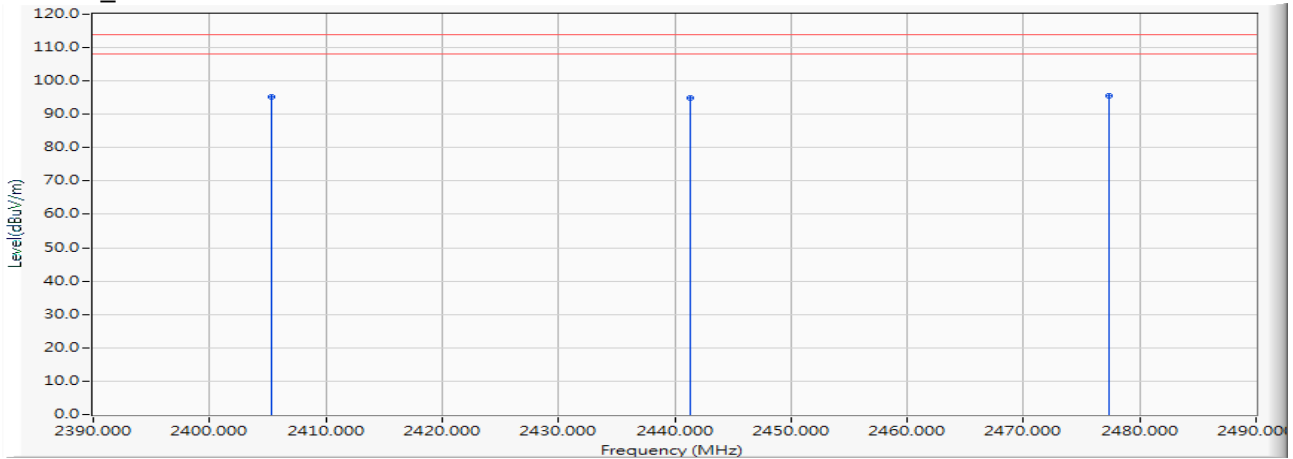
Channel No.	Frequency (MHz)	Peak Measurement (dBμV/m)	Duty Cycle Factor (dB)	Average Measurement (dBμV/m)	Margin (dB)	Average Limit (dBμV/m)
Horizontal_Y-Axis						
01 (Average)	2405.350	95.336	-35.124	60.212	-33.788	94.000
19 (Average)	2441.350	96.581	-35.124	61.457	-32.543	94.000
37 (Average)	2477.350	95.754	-35.124	60.630	-33.370	94.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Fundamental Radiated Emission
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (Y-Axis) _ANT1

Vertical_Y-Axis



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2405.350	-8.894	104.270	95.376	-18.624	114.000	PEAK
2		2441.350	-8.760	103.750	94.991	-19.009	114.000	PEAK
3	*	2477.350	-8.626	104.060	95.434	-18.566	114.000	PEAK

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. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.

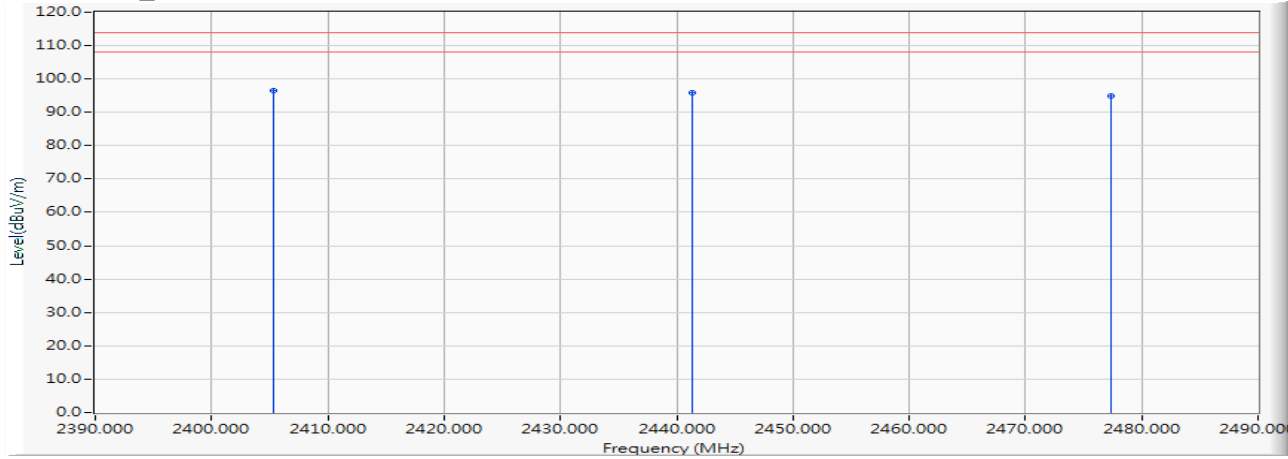
Channel No.	Frequency (MHz)	Peak Measurement (dBμV/m)	Duty Cycle Factor (dB)	Average Measurement (dBμV/m)	Margin (dB)	Average Limit (dBμV/m)
Vertical_Y-Axis						
01 (Average)	2405.350	95.376	-35.124	60.252	-33.748	94.000
19 (Average)	2441.350	94.991	-35.124	59.867	-34.133	94.000
37 (Average)	2477.350	95.434	-35.124	60.310	-33.690	94.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Fundamental Radiated Emission
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (Z-Axis) _ANT1

Horizontal_Z-Axis



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2405.350	-8.894	105.490	96.596	-17.404	114.000	PEAK
2		2441.350	-8.760	104.670	95.911	-18.089	114.000	PEAK
3		2477.350	-8.626	103.530	94.904	-19.096	114.000	PEAK

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. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.

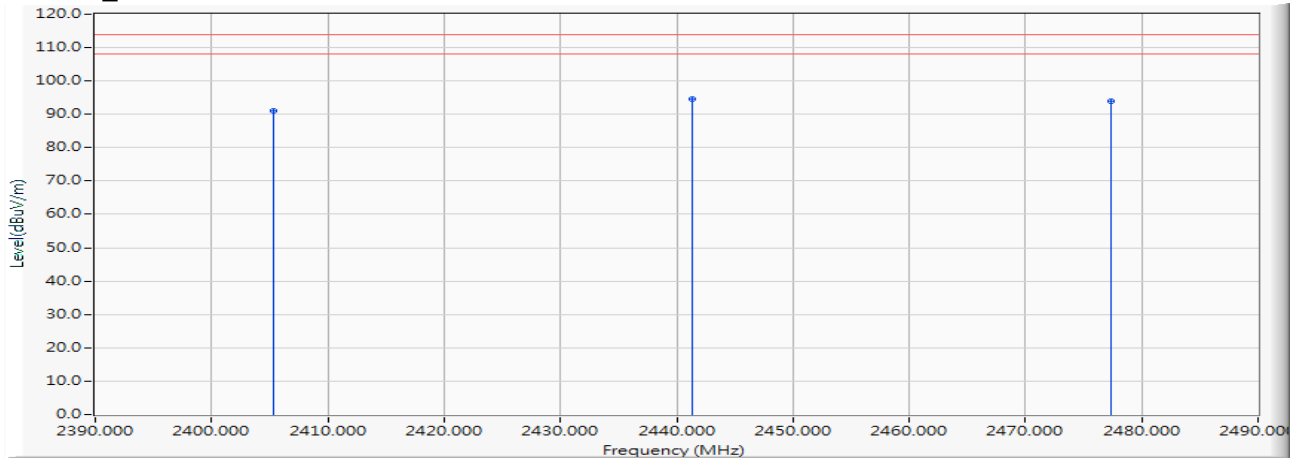
Channel No.	Frequency (MHz)	Peak Measurement (dBμV/m)	Duty Cycle Factor (dB)	Average Measurement (dBμV/m)	Margin (dB)	Average Limit (dBμV/m)
Horizontal_Z-Axis						
01 (Average)	2405.350	96.596	-35.124	61.472	-32.528	94.000
19 (Average)	2441.350	95.911	-35.124	60.787	-33.213	94.000
37 (Average)	2477.350	94.904	-35.124	59.780	-34.220	94.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Fundamental Radiated Emission
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (Z-Axis) _ANT1

Vertical_Z-Axis



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2405.350	-8.894	99.820	90.926	-23.074	114.000	PEAK
2	*	2441.350	-8.760	103.400	94.641	-19.359	114.000	PEAK
3		2477.350	-8.626	102.660	94.034	-19.966	114.000	PEAK

Note:

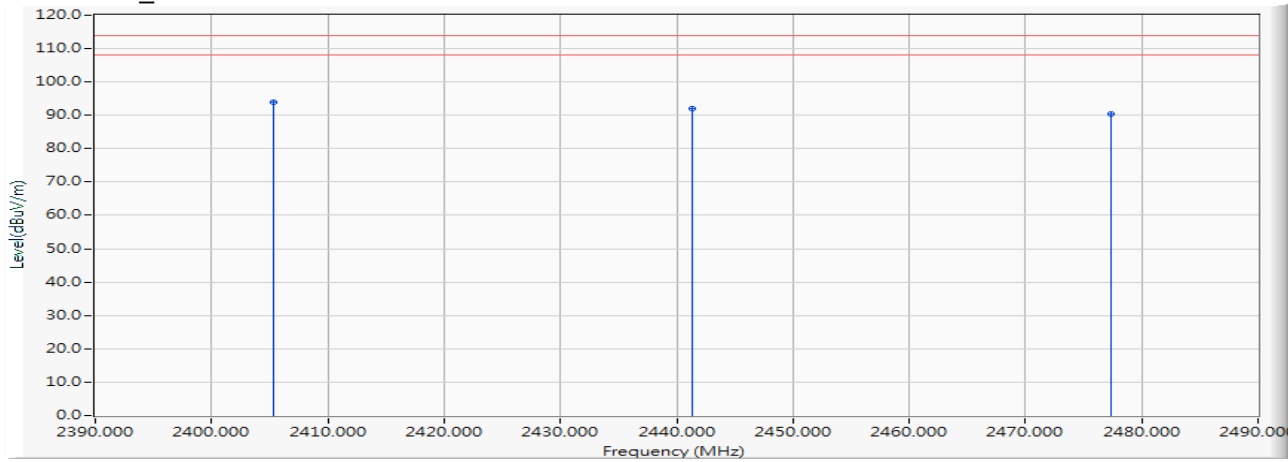
1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.

Channel No.	Frequency (MHz)	Peak Measurement (dBμV/m)	Duty Cycle Factor (dB)	Average Measurement (dBμV/m)	Margin (dB)	Average Limit (dBμV/m)
Vertical_Z-Axis						
01 (Average)	2405.350	90.926	-35.124	55.802	-38.198	94.000
19 (Average)	2441.350	94.641	-35.124	59.517	-34.483	94.000
37 (Average)	2477.350	94.034	-35.124	58.910	-35.090	94.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Fundamental Radiated Emission
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (X-Axis) _ANT2

Horizontal_X-Axis

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2405.350	-8.894	102.690	93.796	-20.204	114.000	PEAK
2		2441.350	-8.760	100.730	91.971	-22.029	114.000	PEAK
3		2477.350	-8.626	99.110	90.484	-23.516	114.000	PEAK

Note:

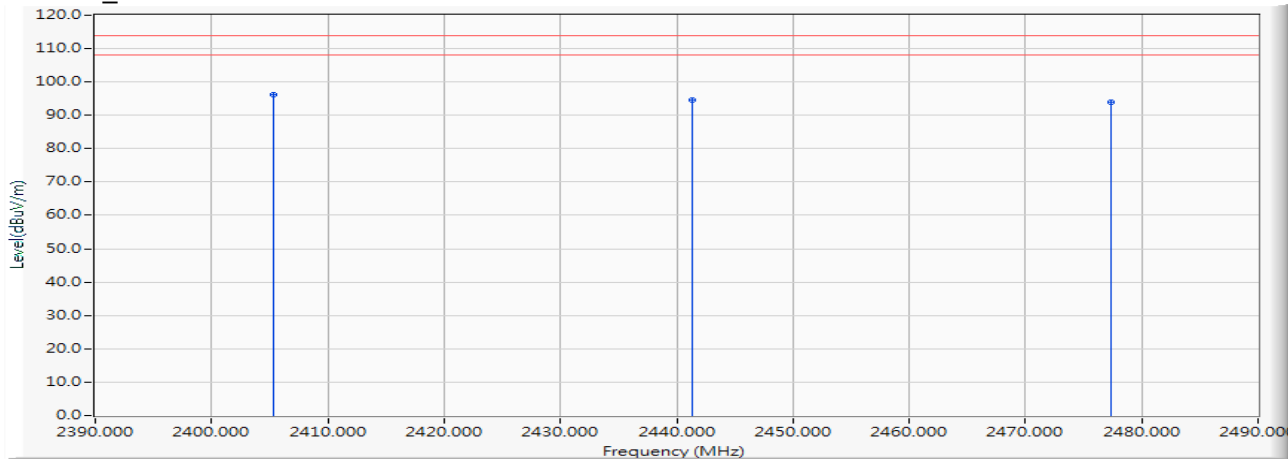
1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.

Channel No.	Frequency (MHz)	Peak Measurement (dBμV/m)	Duty Cycle Factor (dB)	Average Measurement (dBμV/m)	Margin (dB)	Average Limit (dBμV/m)
Horizontal_X-Axis						
01 (Average)	2405.350	93.796	-35.124	58.672	-35.328	94.000
19 (Average)	2441.350	91.971	-35.124	56.847	-37.153	94.000
37 (Average)	2477.350	90.484	-35.124	55.360	-38.640	94.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Fundamental Radiated Emission
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (X-Axis) _ANT2

Vertical_X-Axis

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2405.350	-8.894	105.220	96.326	-17.674	114.000	PEAK
2		2441.350	-8.760	103.290	94.531	-19.469	114.000	PEAK
3		2477.350	-8.626	102.600	93.974	-20.026	114.000	PEAK

Note:

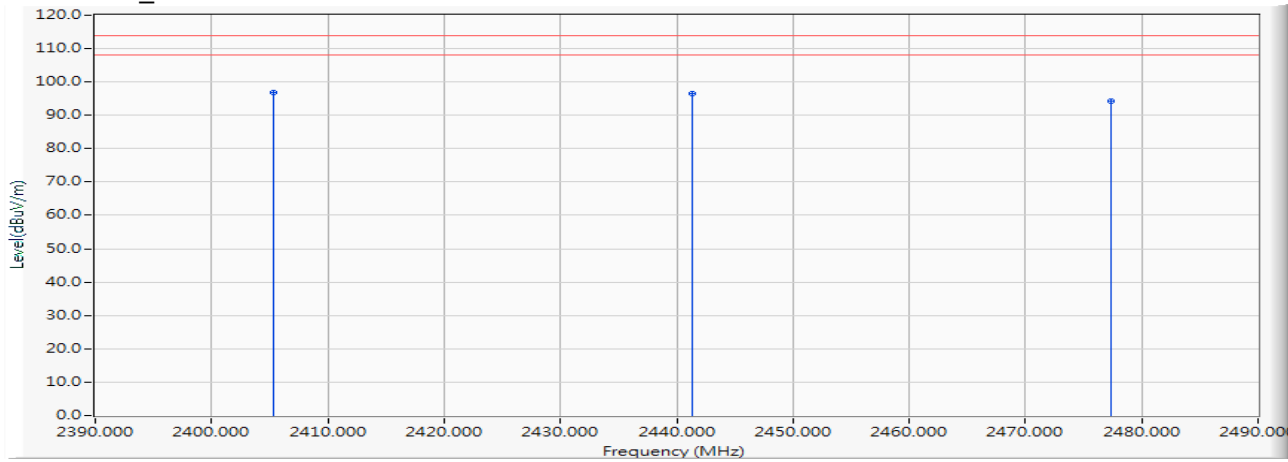
1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.

Channel No.	Frequency (MHz)	Peak Measurement (dBμV/m)	Duty Cycle Factor (dB)	Average Measurement (dBμV/m)	Margin (dB)	Average Limit (dBμV/m)
Vertical_X-Axis						
01 (Average)	2405.350	96.326	-35.124	61.202	-32.798	94.000
19 (Average)	2441.350	94.531	-35.124	59.407	-34.593	94.000
37 (Average)	2477.350	93.974	-35.124	58.850	-35.150	94.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Fundamental Radiated Emission
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (Y-Axis) _ANT2

Horizontal_Y-Axis

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2405.350	-8.894	105.690	96.796	-17.204	114.000	PEAK
2		2441.350	-8.760	105.430	96.671	-17.329	114.000	PEAK
3		2477.350	-8.626	102.860	94.234	-19.766	114.000	PEAK

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. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.

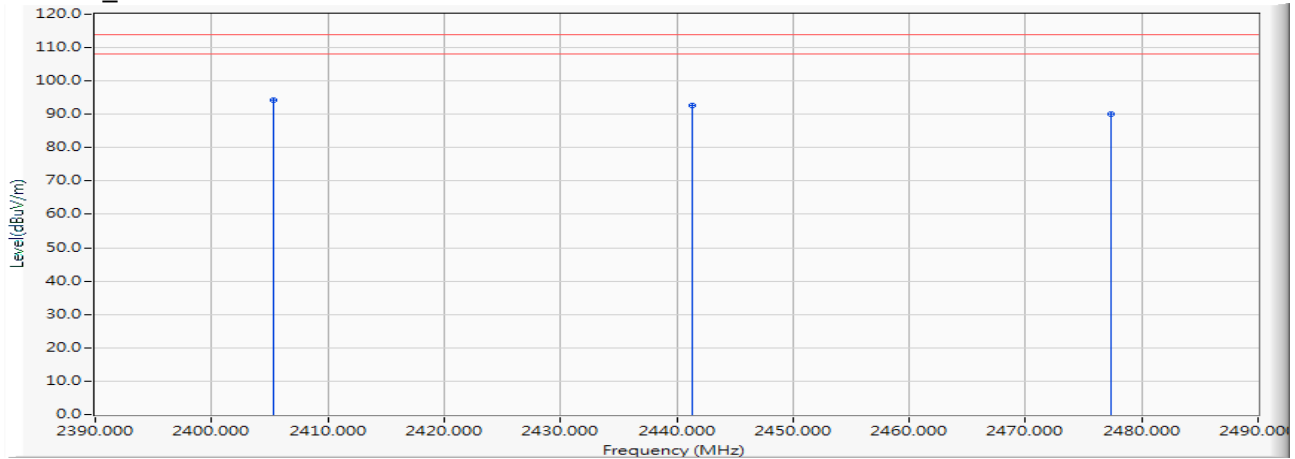
Channel No.	Frequency (MHz)	Peak Measurement (dBμV/m)	Duty Cycle Factor (dB)	Average Measurement (dBμV/m)	Margin (dB)	Average Limit (dBμV/m)
Horizontal_Y-Axis						
01 (Average)	2405.350	96.796	-35.124	61.672	-32.328	94.000
19 (Average)	2441.350	96.671	-35.124	61.547	-32.453	94.000
37 (Average)	2477.350	94.234	-35.124	59.110	-34.890	94.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Fundamental Radiated Emission
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (Y-Axis) _ANT2

Vertical_Y-Axis



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2405.350	-8.894	103.160	94.266	-19.734	114.000	PEAK
2		2441.350	-8.760	101.540	92.781	-21.219	114.000	PEAK
3		2477.350	-8.626	98.820	90.194	-23.806	114.000	PEAK

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. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.

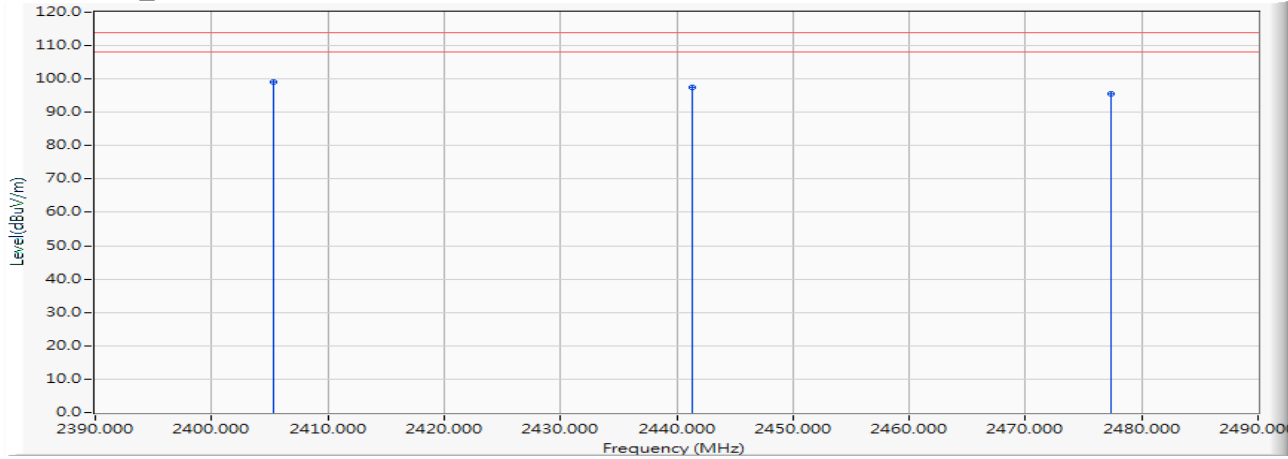
Channel No.	Frequency (MHz)	Peak Measurement (dBμV/m)	Duty Cycle Factor (dB)	Average Measurement (dBμV/m)	Margin (dB)	Average Limit (dBμV/m)
Vertical_Y-Axis						
01 (Average)	2405.350	94.266	-35.124	59.142	-34.858	94.000
19 (Average)	2441.350	92.781	-35.124	57.657	-36.343	94.000
37 (Average)	2477.350	90.194	-35.124	55.070	-38.930	94.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Fundamental Radiated Emission
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (Z-Axis) _ANT2

Horizontal_Z-Axis



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2405.350	-8.894	107.990	99.096	-14.904	114.000	PEAK
2		2441.350	-8.760	106.230	97.471	-16.529	114.000	PEAK
3		2477.350	-8.626	104.180	95.554	-18.446	114.000	PEAK

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. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.

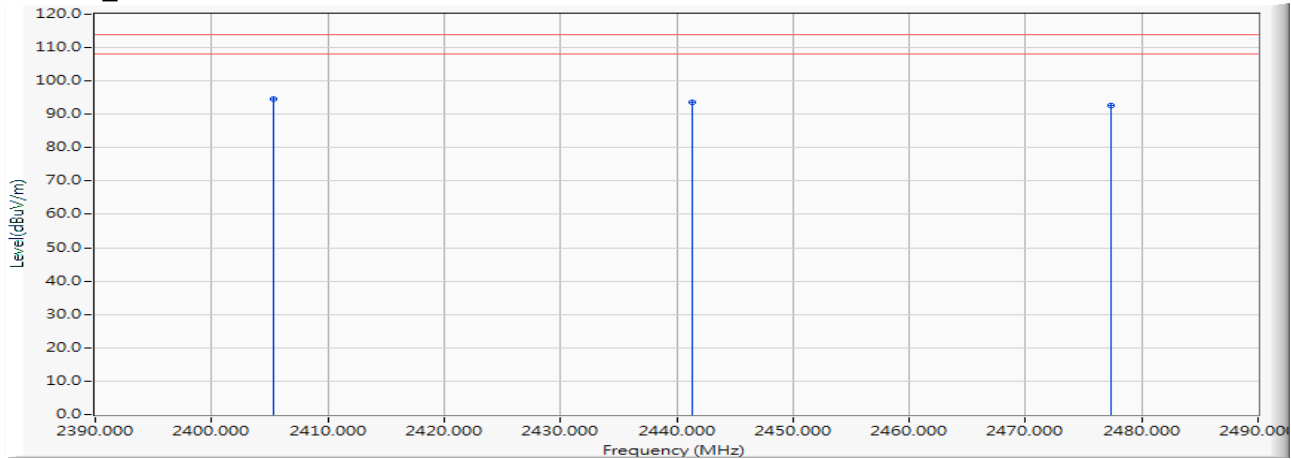
Channel No.	Frequency (MHz)	Peak Measurement (dBμV/m)	Duty Cycle Factor (dB)	Average Measurement (dBμV/m)	Margin (dB)	Average Limit (dBμV/m)
Horizontal_Z-Axis						
01 (Average)	2405.350	99.096	-35.124	63.972	-30.028	94.000
19 (Average)	2441.350	97.471	-35.124	62.347	-31.653	94.000
37 (Average)	2477.350	95.554	-35.124	60.430	-33.570	94.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Fundamental Radiated Emission
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (Z-Axis) _ANT2

Vertical_Z-Axis



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2405.350	-8.894	103.420	94.526	-19.474	114.000	PEAK
2		2441.350	-8.760	102.440	93.681	-20.319	114.000	PEAK
3		2477.350	-8.626	101.190	92.564	-21.436	114.000	PEAK

Note:

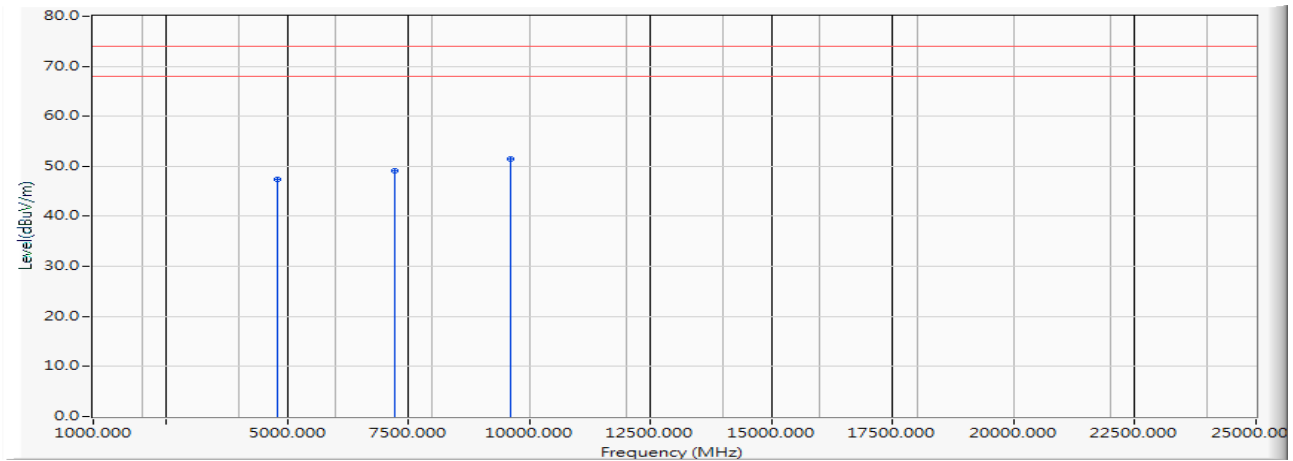
1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.

Channel No.	Frequency (MHz)	Peak Measurement (dBμV/m)	Duty Cycle Factor (dB)	Average Measurement (dBμV/m)	Margin (dB)	Average Limit (dBμV/m)
Vertical_Z-Axis						
01 (Average)	2405.350	94.526	-35.124	59.402	-34.598	94.000
19 (Average)	2441.350	93.681	-35.124	58.557	-35.443	94.000
37 (Average)	2477.350	92.564	-35.124	57.440	-36.560	94.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Harmonic Radiated Emission Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2405.35MHz) _ANT1

Horizontal

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4810.700	-6.083	53.460	47.376	-26.624	74.000	PEAK
2		7216.050	-3.024	52.230	49.206	-24.794	74.000	PEAK
3	*	9621.400	-0.670	52.190	51.519	-22.481	74.000	PEAK

Note:

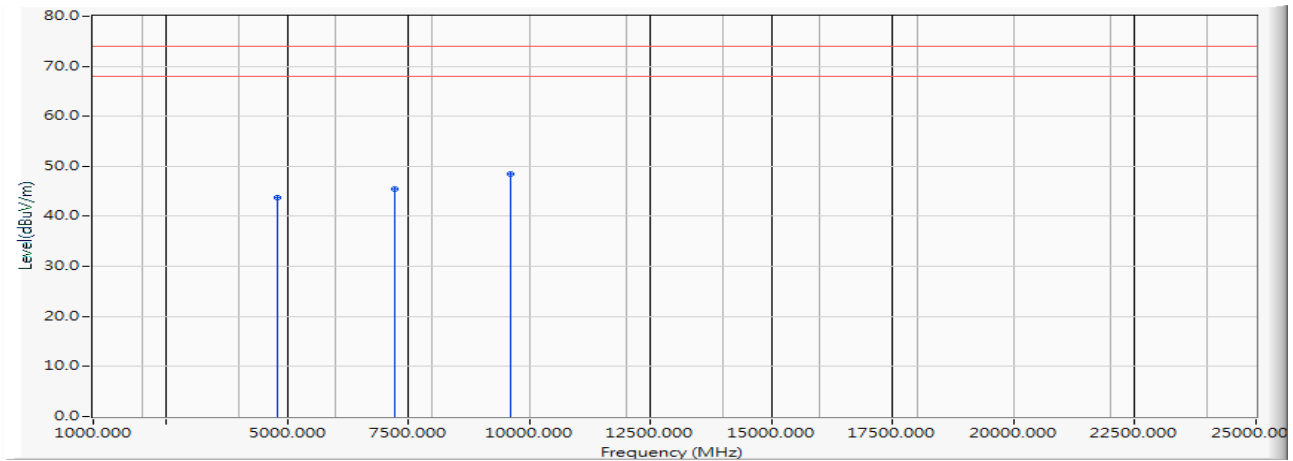
1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.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

Frequency MHz	Peak Measurement dB μ V/m	Duty Cycle Factor dB	Average Measurement dB μ V/m	Margin dB	Peak Limit dB μ V/m	Average Limit dB μ V/m
Average Detector:						
--	--	--	--	--	74.000	54.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Harmonic Radiated Emission Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2405.35MHz) _ANT1

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4810.700	-6.083	49.910	43.826	-30.174	74.000	PEAK
2		7216.050	-3.024	48.550	45.526	-28.474	74.000	PEAK
3	*	9621.400	-0.670	49.050	48.379	-25.621	74.000	PEAK

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. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
5. The average measurement was not performed when the peak measured data under the limit of average detection.
6. The emission levels of other frequencies are very lower than the limit and not show in test report.

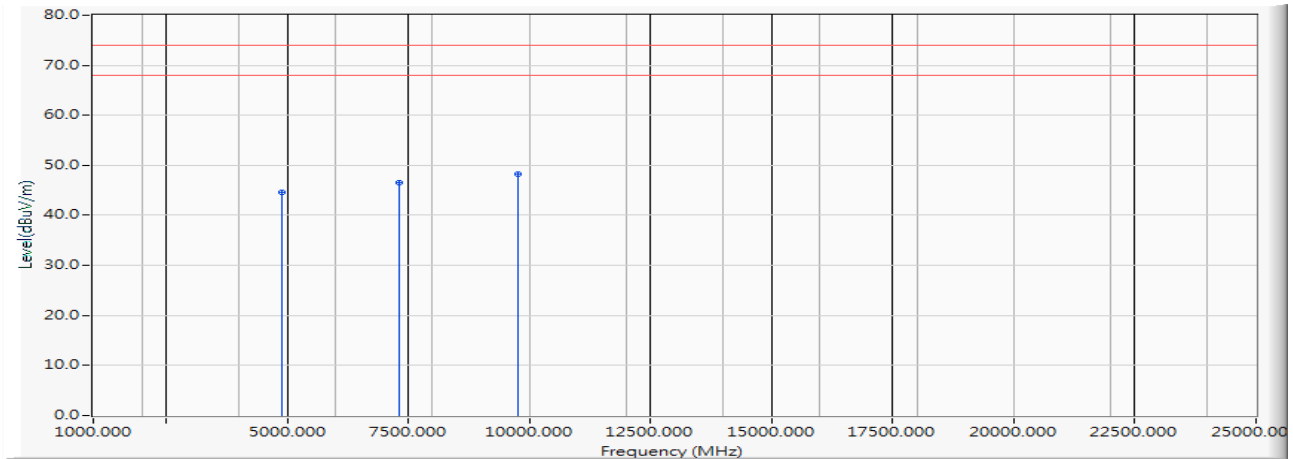
Frequency MHz	Peak Measurement dB μ V/m	Duty Cycle Factor dB	Average Measurement dB μ V/m	Margin dB	Peak Limit dB μ V/m	Average Limit dB μ V/m
Average Detector:						
--	--	--	--	--	74.000	54.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Harmonic Radiated Emission Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2441.35MHz) _ANT1

Horizontal



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4882.700	-6.043	50.680	44.637	-29.363	74.000	PEAK
2		7324.050	-2.952	49.500	46.548	-27.452	74.000	PEAK
3	*	9765.400	-0.486	48.780	48.295	-25.705	74.000	PEAK

Note:

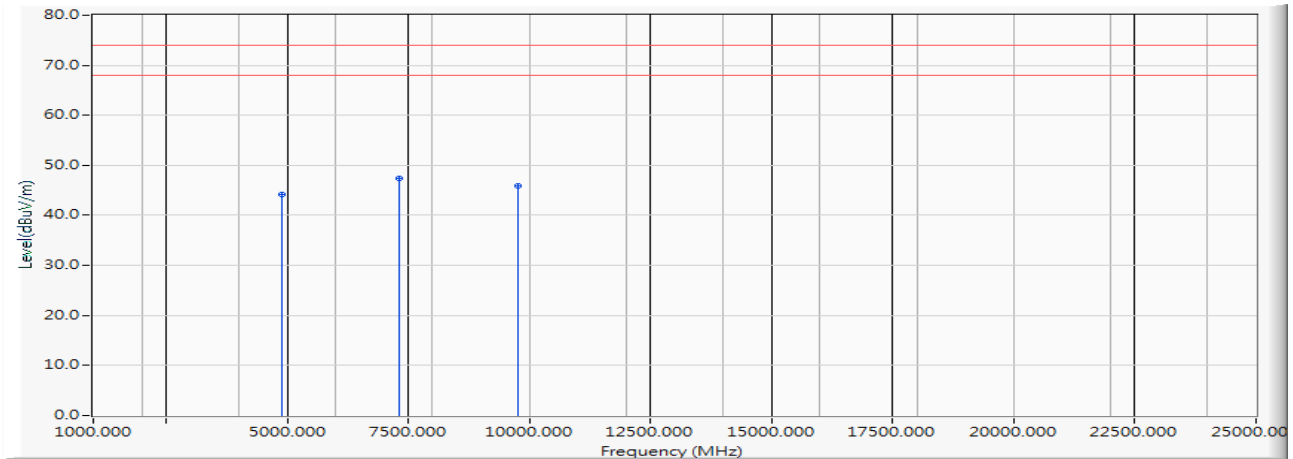
- All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- Measurement Level = Reading Level + Correct Factor.
- Correct Factor = Antenna factor + Cable loss – Amplifier gain.
- The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

Frequency MHz	Peak Measurement dBμV/m	Duty Cycle Factor dB	Average Measurement dBμV/m	Margin dB	Peak Limit dBμV/m	Average Limit dBμV/m
Average Detector:					74.000	54.000
--	--	--	--	--		

Note:

- AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
- The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Harmonic Radiated Emission Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2441.35MHz) _ANT1

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4882.700	-6.043	50.260	44.217	-29.783	74.000	PEAK
2	*	7324.050	-2.952	50.360	47.408	-26.592	74.000	PEAK
3		9765.400	-0.486	46.400	45.915	-28.085	74.000	PEAK

Note:

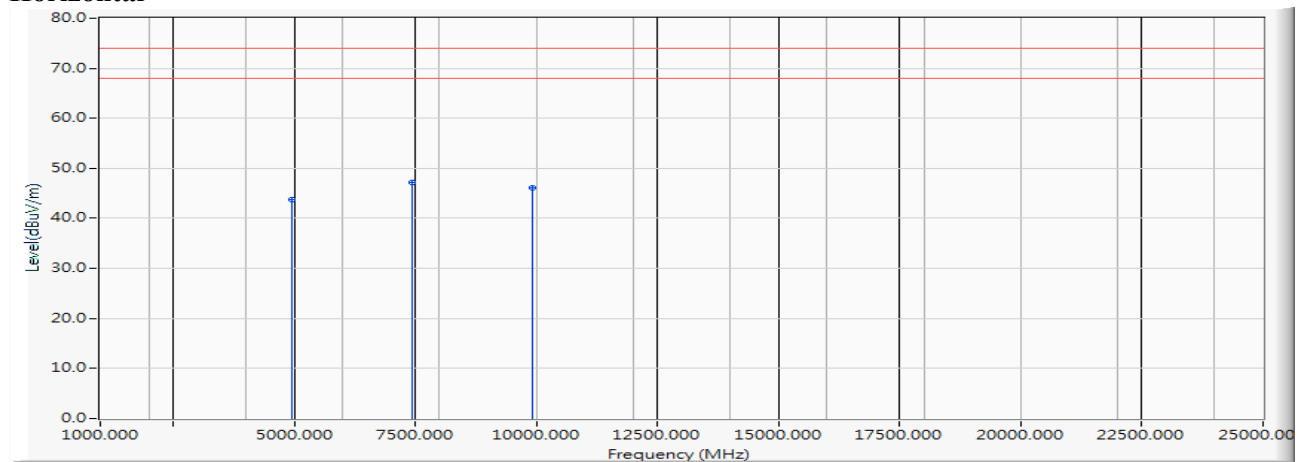
1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.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

Frequency MHz	Peak Measurement dBμV/m	Duty Cycle Factor dB	Average Measurement dBμV/m	Margin dB	Peak Limit dBμV/m	Average Limit dBμV/m
Average Detector:						
--	--	--	--	--	74.000	54.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Harmonic Radiated Emission Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2477.35MHz) _ANT1

Horizontal

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4954.700	-6.042	49.790	43.748	-30.252	74.000	PEAK
2	*	7432.050	-2.825	49.970	47.145	-26.855	74.000	PEAK
3		9909.400	-0.276	46.300	46.024	-27.976	74.000	PEAK

Note:

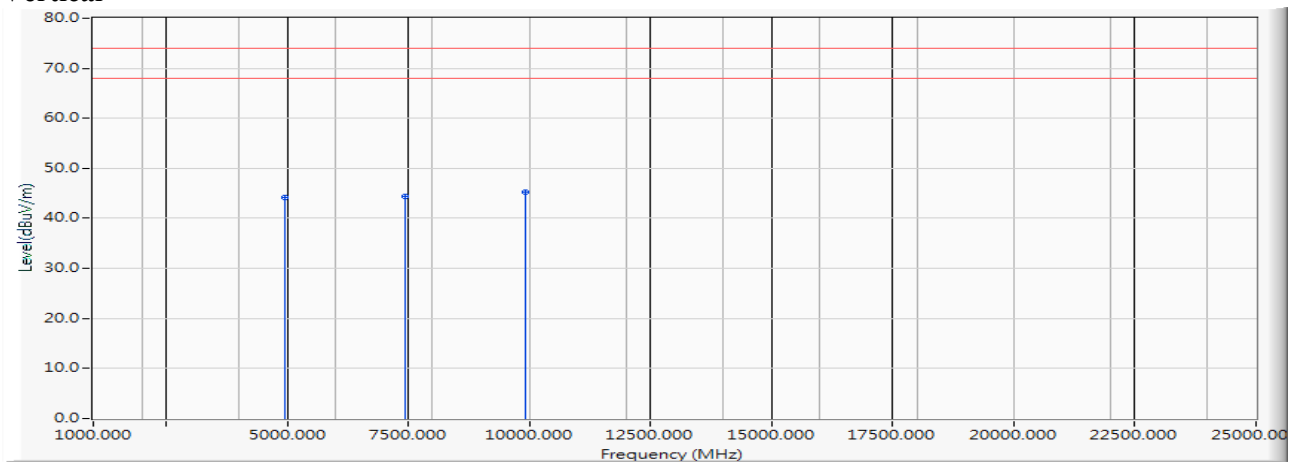
1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.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

Frequency MHz	Peak Measurement dBμV/m	Duty Cycle Factor dB	Average Measurement dBμV/m	Margin dB	Peak Limit dBμV/m	Average Limit dBμV/m
Average Detector:						
--	--	--	--	--	74.000	54.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Harmonic Radiated Emission Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2477.35MHz) _ANT1

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4954.700	-6.042	50.160	44.118	-29.882	74.000	PEAK
2		7432.050	-2.825	47.240	44.415	-29.585	74.000	PEAK
3	*	9909.400	-0.276	45.560	45.284	-28.716	74.000	PEAK

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. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
5. The average measurement was not performed when the peak measured data under the limit of average detection.
6. The emission levels of other frequencies are very lower than the limit and not show in test report.

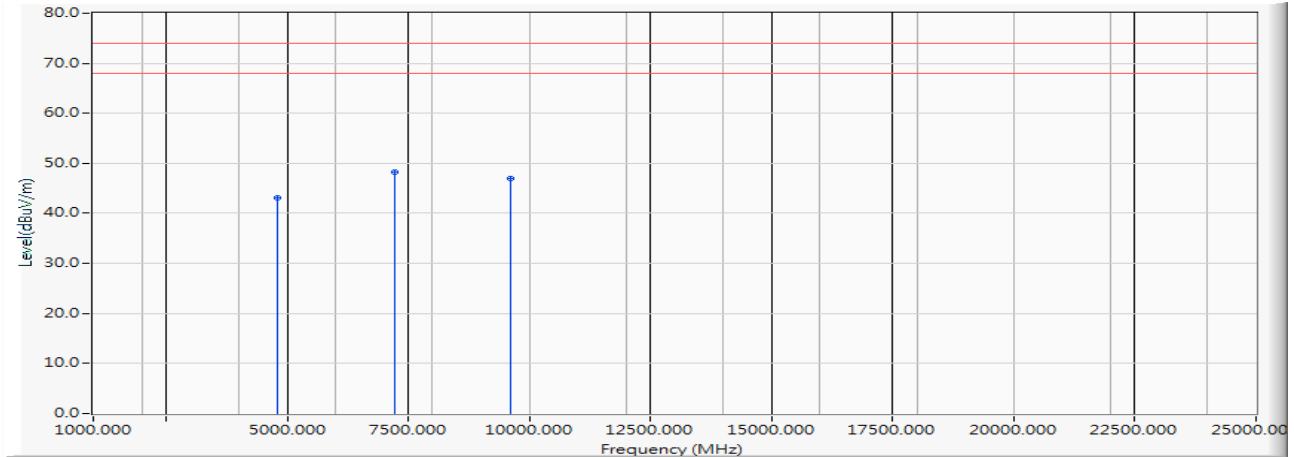
Frequency MHz	Peak Measurement dBμV/m	Duty Cycle Factor dB	Average Measurement dBμV/m	Margin dB	Peak Limit dBμV/m	Average Limit dBμV/m
Average Detector:						
--	--	--	--	--	74.000	54.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Harmonic Radiated Emission Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2405.35MHz) _ANT2

Horizontal



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4810.700	-6.083	49.120	43.036	-30.964	74.000	PEAK
2	*	7216.050	-3.024	51.380	48.356	-25.644	74.000	PEAK
3		9621.400	-0.670	47.550	46.879	-27.121	74.000	PEAK

Note:

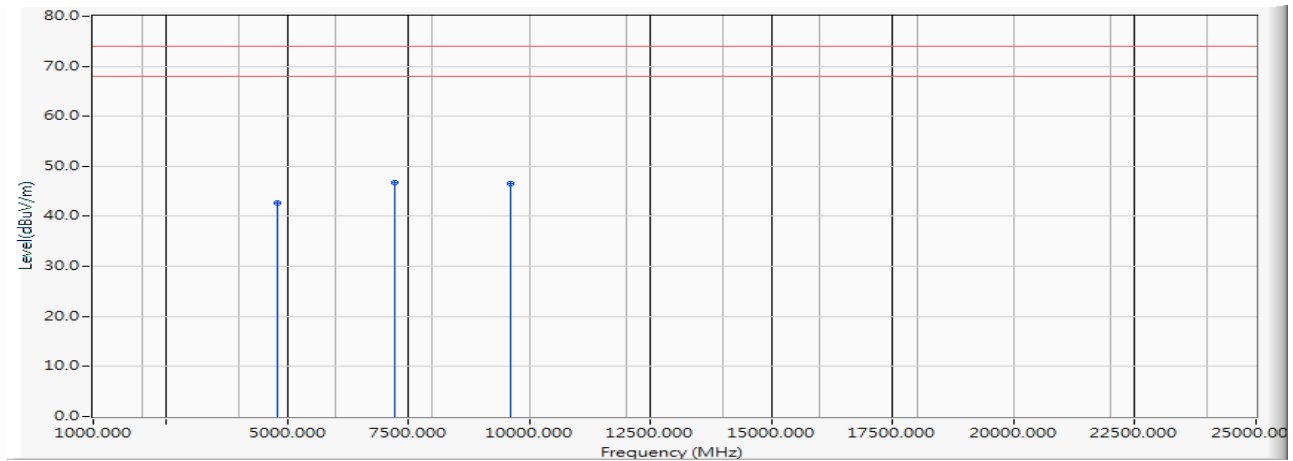
1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.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

Frequency MHz	Peak Measurement dBμV/m	Duty Cycle Factor dB	Average Measurement dBμV/m	Margin dB	Peak Limit dBμV/m	Average Limit dBμV/m
Average Detector:						
--	--	--	--	--	74.000	54.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Harmonic Radiated Emission Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2405.35MHz) _ANT2

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4810.700	-6.083	48.830	42.746	-31.254	74.000	PEAK
2	*	7216.050	-3.024	49.790	46.766	-27.234	74.000	PEAK
3		9621.400	-0.670	47.280	46.609	-27.391	74.000	PEAK

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. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
5. The average measurement was not performed when the peak measured data under the limit of average detection.
6. The emission levels of other frequencies are very lower than the limit and not show in test report.

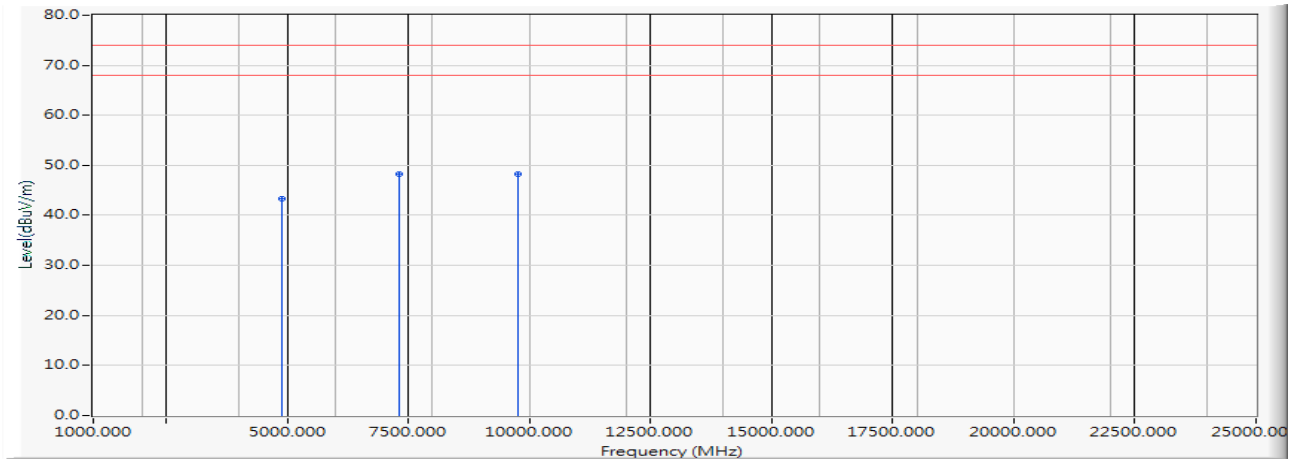
Frequency MHz	Peak Measurement dB μ V/m	Duty Cycle Factor dB	Average Measurement dB μ V/m	Margin dB	Peak Limit dB μ V/m	Average Limit dB μ V/m
Average Detector:						
--	--	--	--	--	74.000	54.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Harmonic Radiated Emission Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2441.35MHz) _ANT2

Horizontal



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4882.700	-6.043	49.330	43.287	-30.713	74.000	PEAK
2	*	7324.050	-2.952	51.310	48.358	-25.642	74.000	PEAK
3		9765.400	-0.486	48.730	48.245	-25.755	74.000	PEAK

Note:

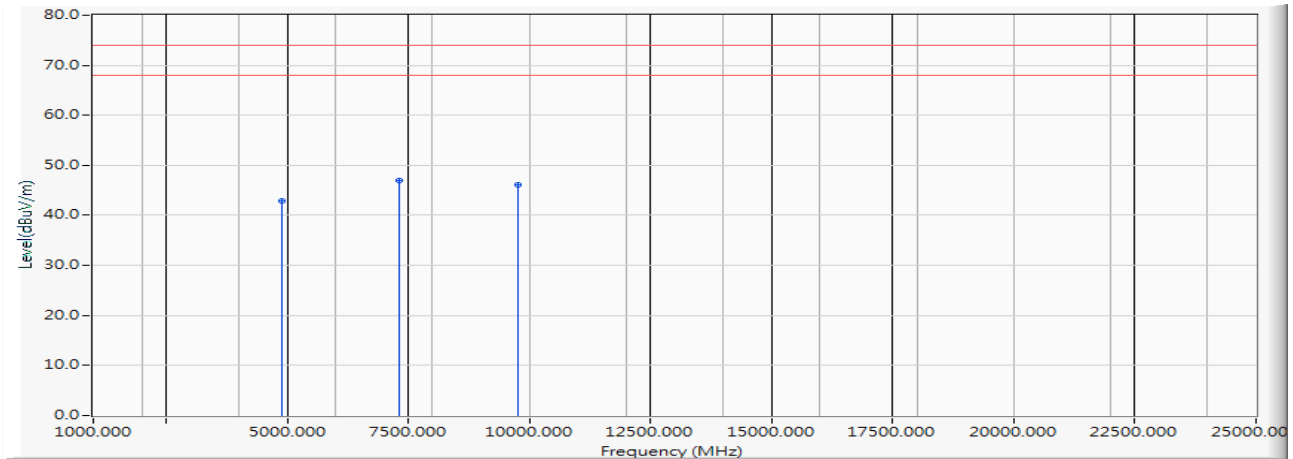
1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.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

Frequency MHz	Peak Measurement dBμV/m	Duty Cycle Factor dB	Average Measurement dBμV/m	Margin dB	Peak Limit dBμV/m	Average Limit dBμV/m
Average Detector:					74.000	54.000
--	--	--	--	--		

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Harmonic Radiated Emission Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2441.35MHz) _ANT2

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4882.700	-6.043	48.960	42.917	-31.083	74.000	PEAK
2	*	7324.050	-2.952	50.010	47.058	-26.942	74.000	PEAK
3		9765.400	-0.486	46.640	46.155	-27.845	74.000	PEAK

Note:

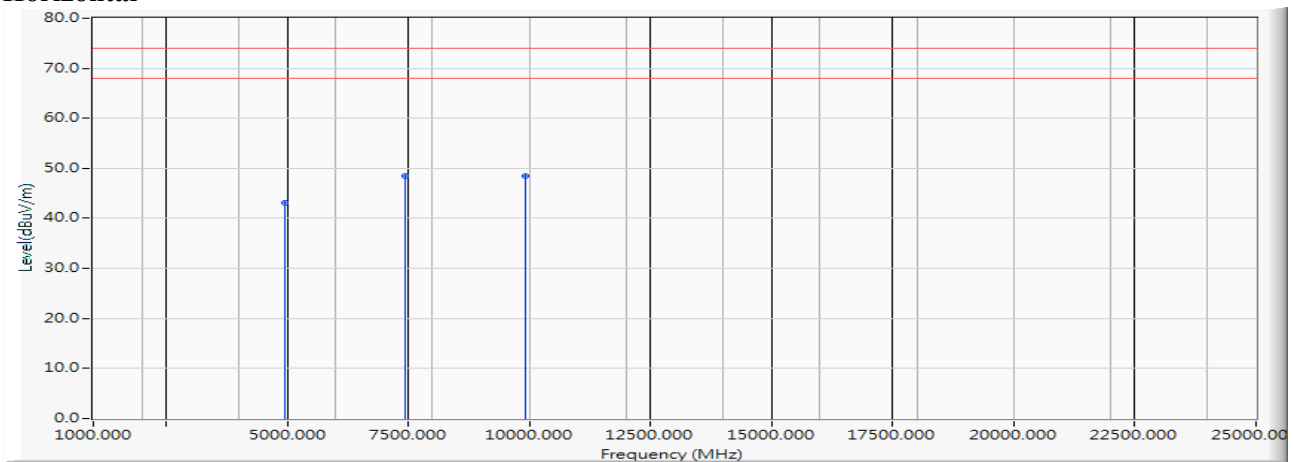
1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.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

Frequency MHz	Peak Measurement dBμV/m	Duty Cycle Factor dB	Average Measurement dBμV/m	Margin dB	Peak Limit dBμV/m	Average Limit dBμV/m
Average Detector:						
--	--	--	--	--	74.000	54.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Harmonic Radiated Emission Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2477.35MHz) _ANT2

Horizontal

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4954.700	-6.042	49.240	43.198	-30.802	74.000	PEAK
2	*	7432.050	-2.825	51.400	48.575	-25.425	74.000	PEAK
3		9909.400	-0.276	48.800	48.524	-25.476	74.000	PEAK

Note:

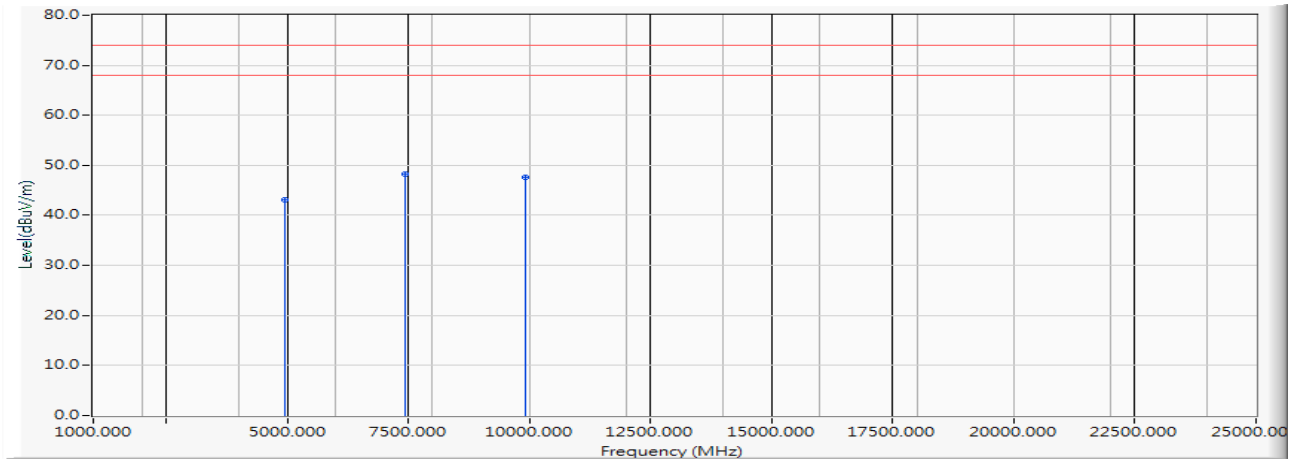
1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.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

Frequency MHz	Peak Measurement dBμV/m	Duty Cycle Factor dB	Average Measurement dBμV/m	Margin dB	Peak Limit dBμV/m	Average Limit dBμV/m
Average Detector:						
--	--	--	--	--	74.000	54.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Harmonic Radiated Emission Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2477.35MHz) _ANT2

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4954.700	-6.042	49.160	43.118	-30.882	74.000	PEAK
2	*	7432.050	-2.825	51.140	48.315	-25.685	74.000	PEAK
3		9909.400	-0.276	47.870	47.594	-26.406	74.000	PEAK

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. Measurement Level = Reading Level + Correct Factor.
4. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
5. The average measurement was not performed when the peak measured data under the limit of average detection.
6. The emission levels of other frequencies are very lower than the limit and not show in test report.

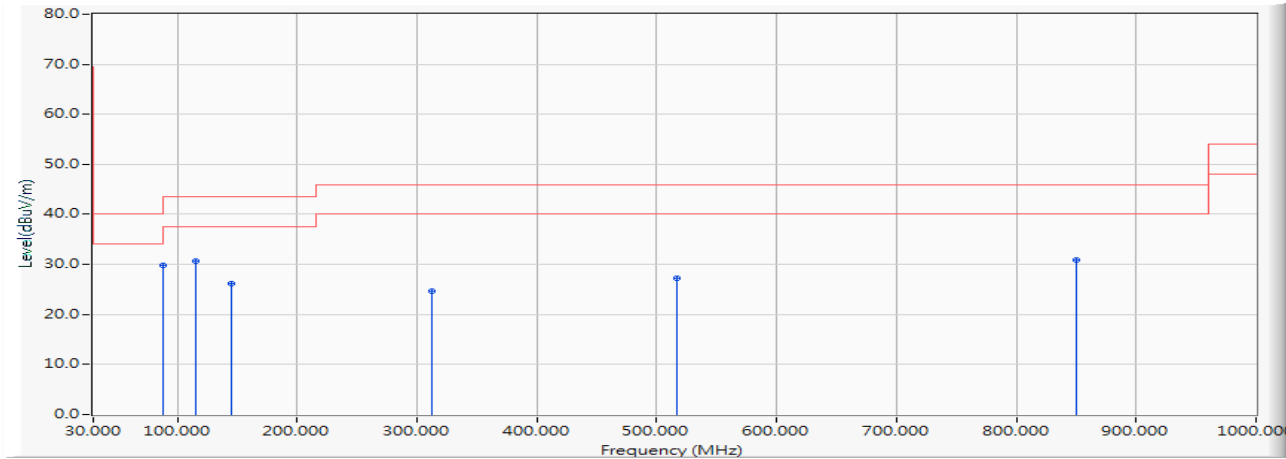
Frequency MHz	Peak Measurement dBμV/m	Duty Cycle Factor dB	Average Measurement dBμV/m	Margin dB	Peak Limit dBμV/m	Average Limit dBμV/m
Average Detector:						
--	--	--	--	--	74.000	54.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : General Radiated Emission Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2441.35MHz) _ANT1

Horizontal

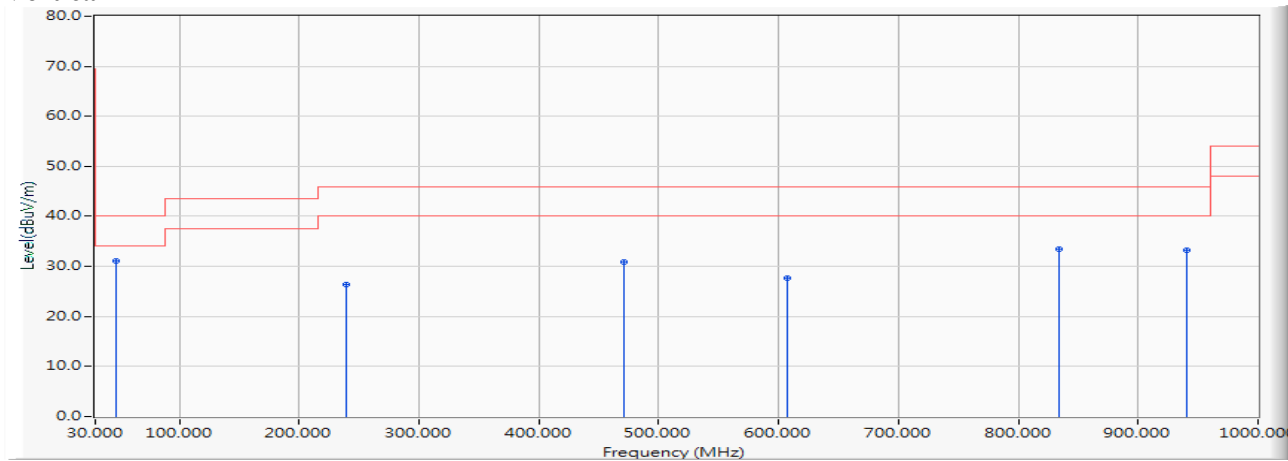


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	87.638	-17.137	46.889	29.753	-10.247	40.000	QUASIPeAK
2		115.754	-13.838	44.481	30.642	-12.858	43.500	QUASIPeAK
3		145.275	-11.246	37.400	26.155	-17.345	43.500	QUASIPeAK
4		312.565	-10.044	34.619	24.576	-21.424	46.000	QUASIPeAK
5		516.406	-5.700	32.900	27.199	-18.801	46.000	QUASIPeAK
6		849.580	-0.884	31.662	30.779	-15.221	46.000	QUASIPeAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

Product : TUF GAMING H7 WIRELESS
 Test Item : General Radiated Emission Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2441.35MHz) _ANT1

Vertical

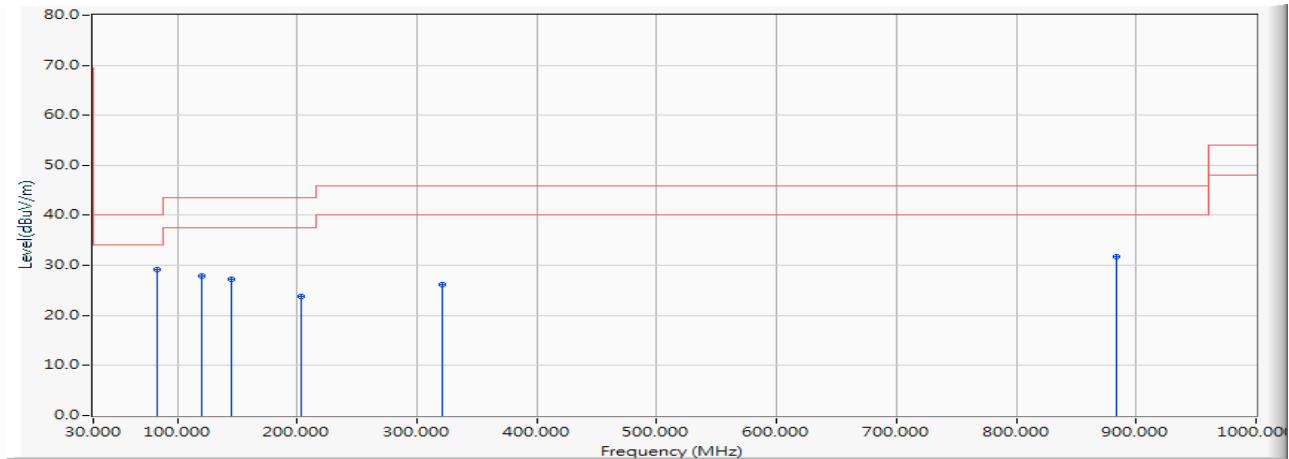
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	46.870	-10.852	41.939	31.086	-8.914	40.000	QUASIPeAK
2		239.464	-12.250	38.634	26.383	-19.617	46.000	QUASIPeAK
3		471.420	-6.433	37.364	30.930	-15.070	46.000	QUASIPeAK
4		607.783	-3.956	31.723	27.766	-18.234	46.000	QUASIPeAK
5		834.116	-1.124	34.688	33.564	-12.436	46.000	QUASIPeAK
6		940.957	0.249	32.972	33.221	-12.779	46.000	QUASIPeAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

Product : TUF GAMING H7 WIRELESS
 Test Item : General Radiated Emission Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2441.35MHz) _ANT2

Horizontal

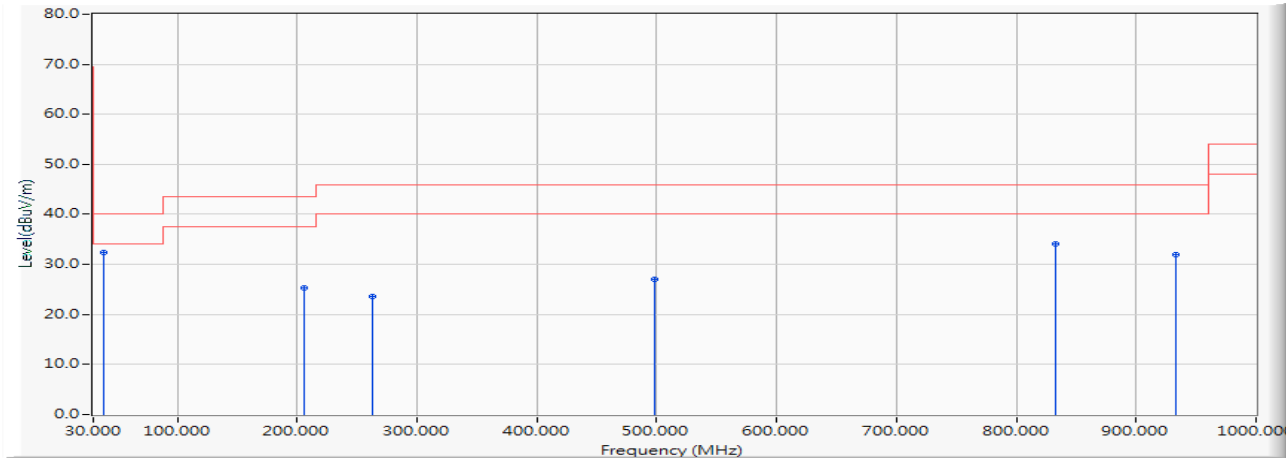


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	83.420	-16.312	45.431	29.119	-10.881	40.000	QUASIPeAK
2		119.971	-13.432	41.212	27.780	-15.720	43.500	QUASIPeAK
3		145.275	-11.246	38.537	27.292	-16.208	43.500	QUASIPeAK
4		202.913	-13.664	37.485	23.822	-19.678	43.500	QUASIPeAK
5		321.000	-9.847	35.906	26.059	-19.941	46.000	QUASIPeAK
6		883.319	-0.426	32.182	31.756	-14.244	46.000	QUASIPeAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

Product : TUF GAMING H7 WIRELESS
 Test Item : General Radiated Emission Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2441.35MHz) _ANT2

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	38.435	-11.346	43.711	32.364	-7.636	40.000	QUASIPeAK
2		205.725	-13.599	38.897	25.299	-18.201	43.500	QUASIPeAK
3		263.362	-11.738	35.432	23.693	-22.307	46.000	QUASIPeAK
4		498.130	-5.984	32.945	26.962	-19.038	46.000	QUASIPeAK
5		832.710	-1.146	35.314	34.167	-11.833	46.000	QUASIPeAK
6		932.522	0.158	31.703	31.862	-14.138	46.000	QUASIPeAK

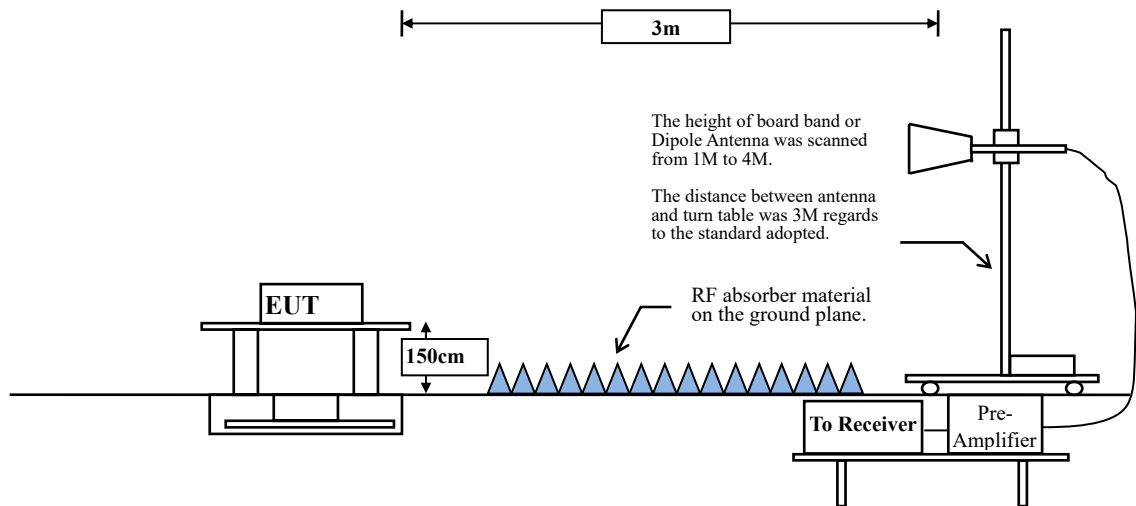
Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor.
3. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. No emission found between lowest internal used/generated frequency to 30MHz.

4. Band Edge

4.1. Test Setup

RF Radiated Measurement:



4.2. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB 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(a) 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: E field strength (dBμV /m) = 20 log E field strength (uV/m)

4.3. Test Procedure

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 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 C63.10: 2013 on radiated measurement.

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

4.4. Uncertainty

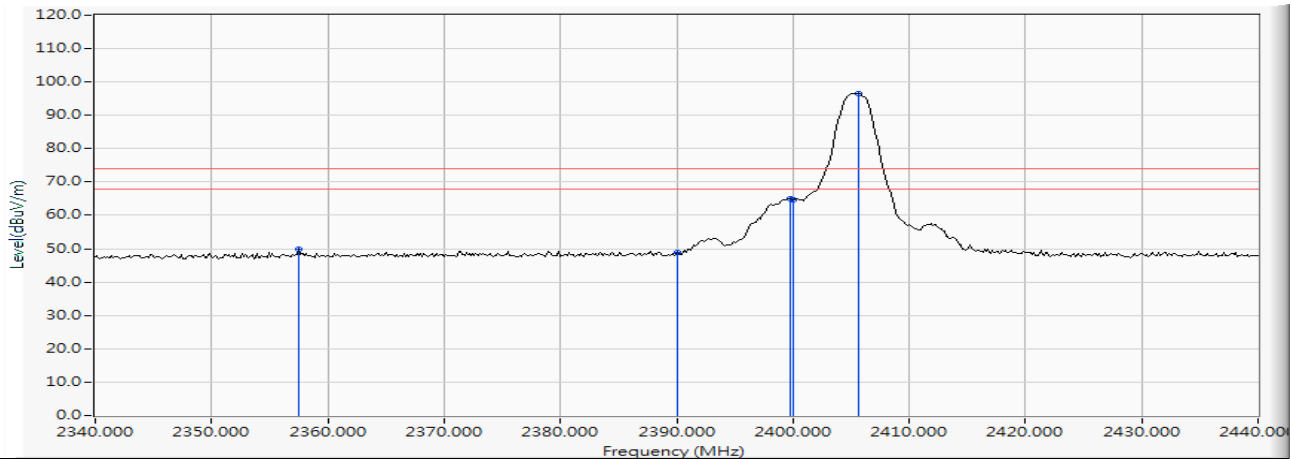
Horizontal polarization : 1-18GHz: ± 3.77 dB

Vertical polarization : 1-18GHz : ± 3.83 dB

4.5. Test Result of Band Edge

Product : TUF GAMING H7 WIRELESS
 Test Item : Band Edge Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2405.35MHz) _ANT1

Horizontal



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2357.536	10.129	39.680	49.809	-24.191	74.000	PEAK
2		2390.000	10.262	38.676	48.938	-25.062	74.000	PEAK
3		2399.710	10.302	54.751	65.053	-8.947	74.000	PEAK
4		2400.000	10.304	54.424	64.727	-9.273	74.000	PEAK
5	*	2405.652	10.326	86.202	96.528	--	--	PEAK

Note:

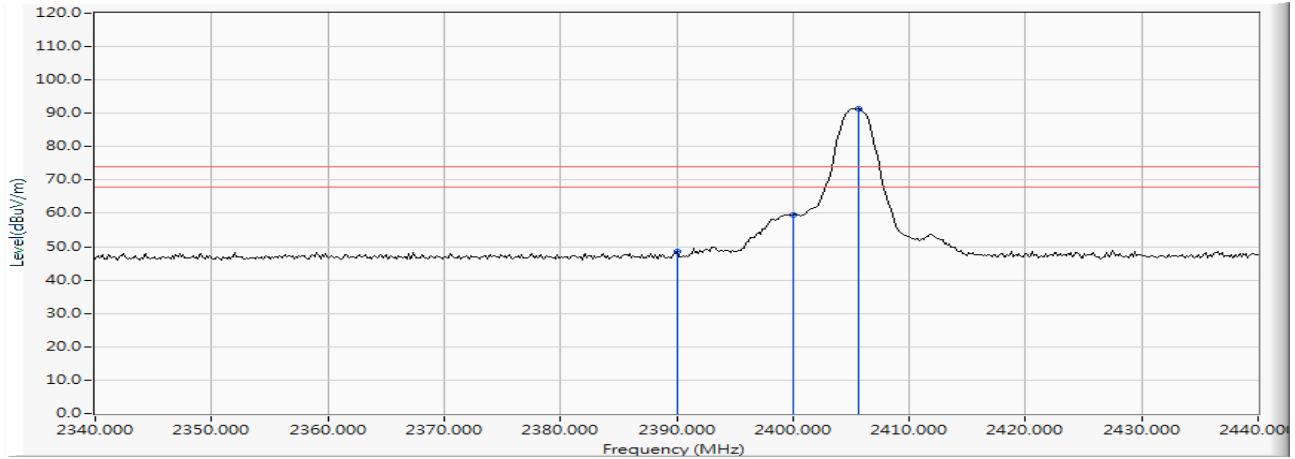
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.

Channel No.	Frequency (MHz)	Peak Measurement (dBμV/m)	Duty Cycle Factor (dB)	Average Measurement (dBμV/m)	Margin (dB)	Average Limit (dBμV/m)	Result
01 (Average)	2357.536	49.809	-35.124	14.685	-39.315	54.000	Pass
01 (Average)	2390.000	48.938	-35.124	13.814	-40.186	54.000	Pass
01 (Average)	2399.710	65.053	-35.124	29.929	-24.071	54.000	Pass
01 (Average)	2400.000	64.727	-35.124	29.603	-24.397	54.000	Pass

Note:

1. Average Measurement=Peak Measurement + Duty Cycle Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Band Edge Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2405.35MHz) _ANT1

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	10.262	38.177	48.439	-25.561	74.000	PEAK
2		2400.000	10.304	49.093	59.396	-14.604	74.000	PEAK
3	*	2405.652	10.326	80.969	91.295	--	--	PEAK

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. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.

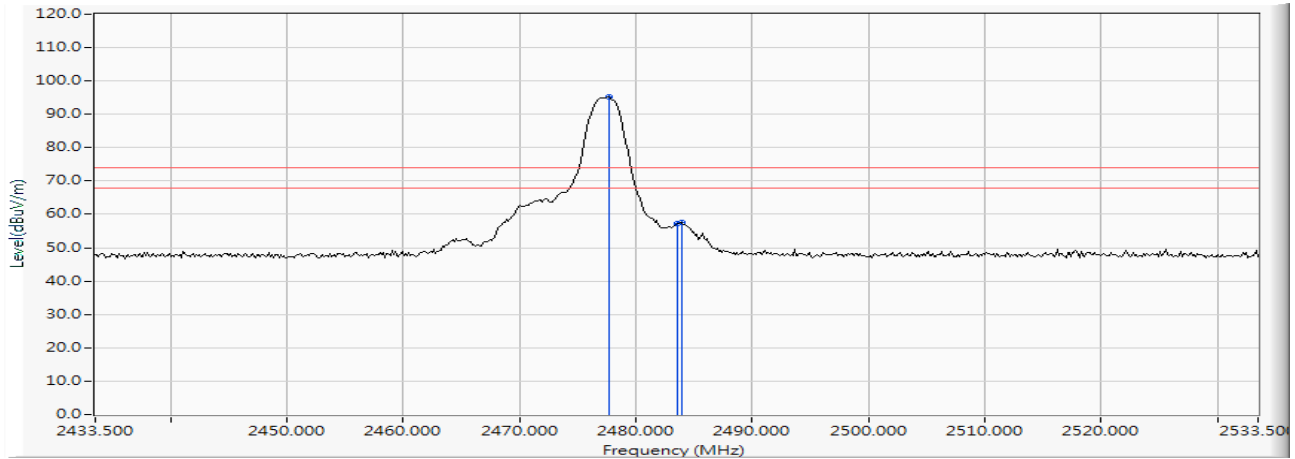
Channel No.	Frequency (MHz)	Peak Measurement (dB μ V/m)	Duty Cycle Factor (dB)	Average Measurement (dB μ V/m)	Margin (dB)	Average Limit (dB μ V/m)	Result
01 (Average)	2390.000	48.439	-35.124	13.315	-40.685	54.000	Pass
01 (Average)	2400.000	59.396	-35.124	24.272	-29.728	54.000	Pass

Note:

1. Average Measurement=Peak Measurement + Duty Cycle Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Band Edge Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2477.35MHz) _ANT1

Horizontal



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2477.703	10.619	84.461	95.080	--	--	PEAK
2		2483.500	10.640	46.581	57.222	-16.778	74.000	PEAK
3		2483.935	10.644	46.933	57.576	-16.424	74.000	PEAK

Note:

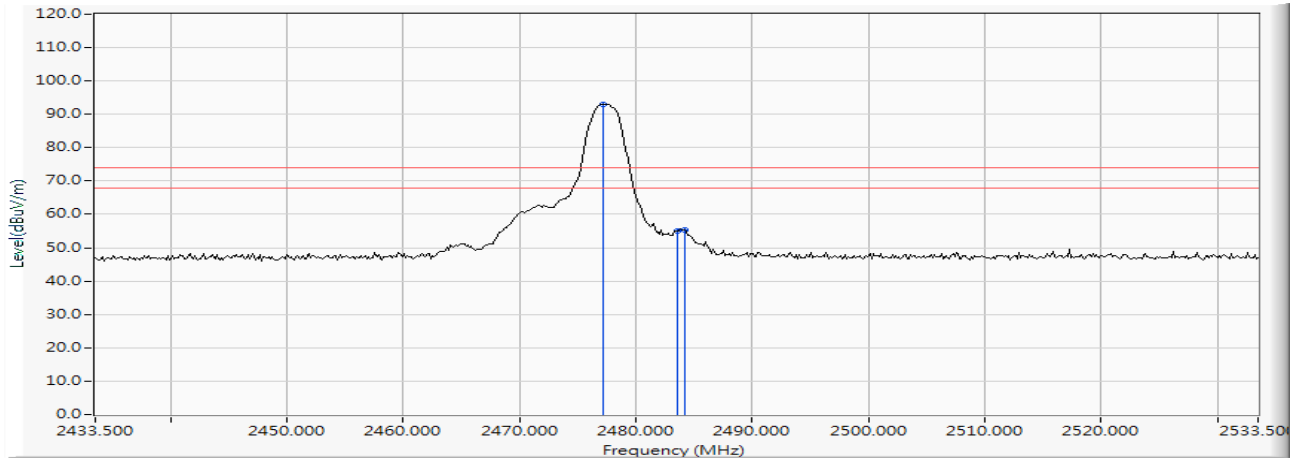
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.

Channel No.	Frequency (MHz)	Peak Measurement (dBuV/m)	Duty Cycle Factor (dB)	Average Measurement (dBuV/m)	Margin (dB)	Average Limit (dBuV/m)	Result
37 (Average)	2483.500	57.222	-35.124	22.098	-31.902	54.000	Pass
37 (Average)	2483.935	57.576	-35.124	22.452	-31.548	54.000	Pass

Note:

1. Average Measurement=Peak Measurement + Duty Cycle Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Band Edge Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2477.35MHz) _ANT1

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2477.123	10.616	82.434	93.050	--	--	PEAK
2		2483.500	10.640	44.494	55.135	-18.865	74.000	PEAK
3		2484.225	10.645	44.646	55.290	-18.710	74.000	PEAK

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. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.

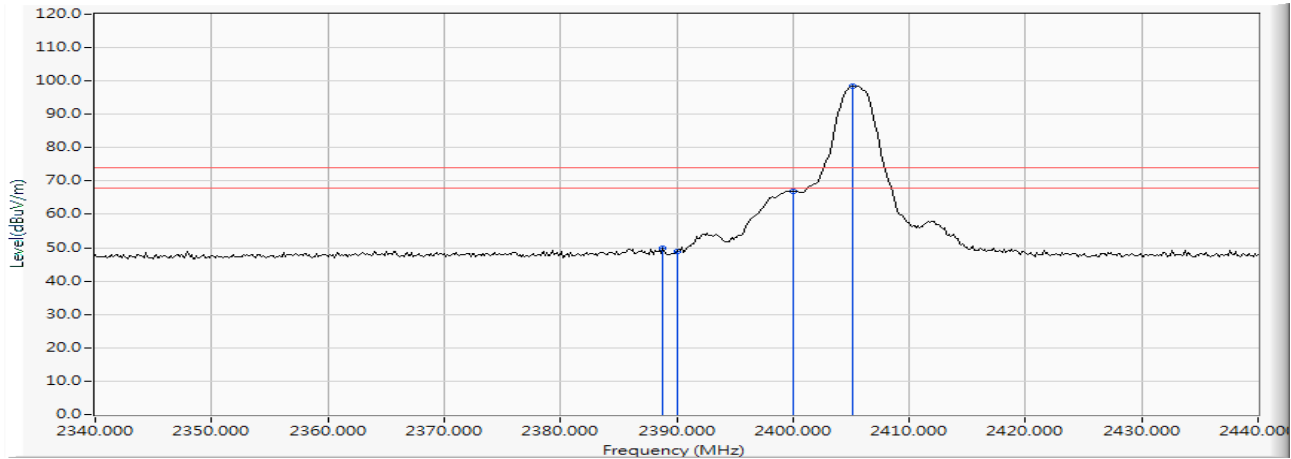
Channel No.	Frequency (MHz)	Peak Measurement (dBμV/m)	Duty Cycle Factor (dB)	Average Measurement (dBμV/m)	Margin (dB)	Average Limit (dBμV/m)	Result
37 (Average)	2483.500	55.135	-35.124	20.011	-33.989	54.000	Pass
37 (Average)	2484.225	55.290	-35.124	20.166	-33.834	54.000	Pass

Note:

1. Average Measurement=Peak Measurement + Duty Cycle Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Band Edge Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2405.35MHz) _ANT2

Horizontal



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2388.841	10.257	39.460	49.717	-24.283	74.000	PEAK
2		2390.000	10.262	38.479	48.741	-25.259	74.000	PEAK
3		2400.000	10.304	56.461	66.764	-7.236	74.000	PEAK
4	*	2405.072	10.324	88.011	98.335	--	--	PEAK

Note:

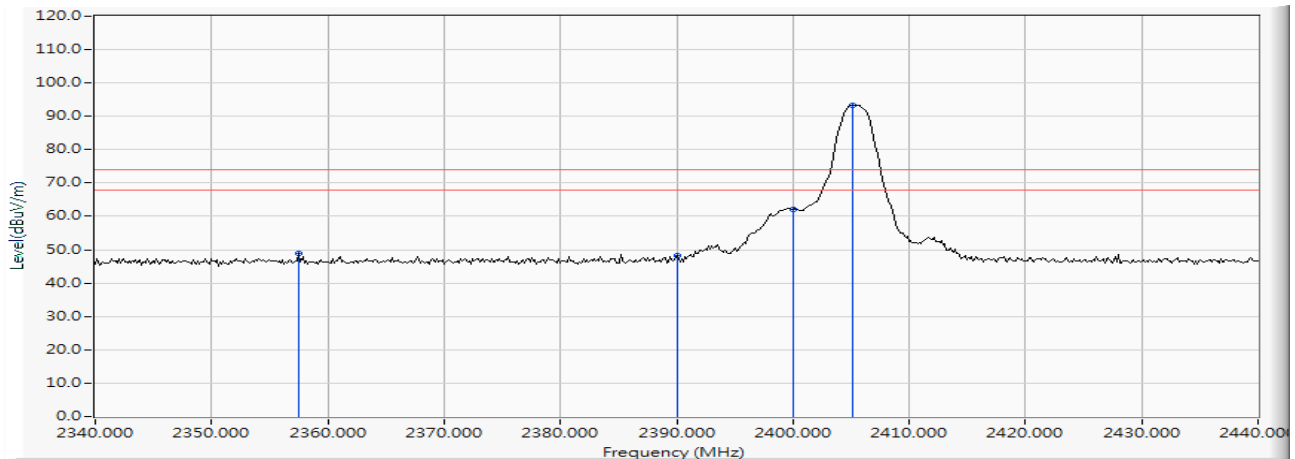
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.

Channel No.	Frequency (MHz)	Peak Measurement (dBμV/m)	Duty Cycle Factor (dB)	Average Measurement (dBμV/m)	Margin (dB)	Average Limit (dBμV/m)	Result
01 (Average)	2388.841	49.717	-35.124	14.593	-39.407	54.000	Pass
01 (Average)	2390.000	48.741	-35.124	13.617	-40.383	54.000	Pass
01 (Average)	2400.000	66.764	-35.124	31.640	-22.360	54.000	Pass

Note:

1. Average Measurement=Peak Measurement + Duty Cycle Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Band Edge Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2405.35MHz) _ANT2

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2357.536	10.129	38.917	49.046	-24.954	74.000	PEAK
2		2390.000	10.262	37.880	48.142	-25.858	74.000	PEAK
3		2400.000	10.304	51.673	61.976	-12.024	74.000	PEAK
4	*	2405.072	10.324	83.039	93.363	--	--	PEAK

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. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.

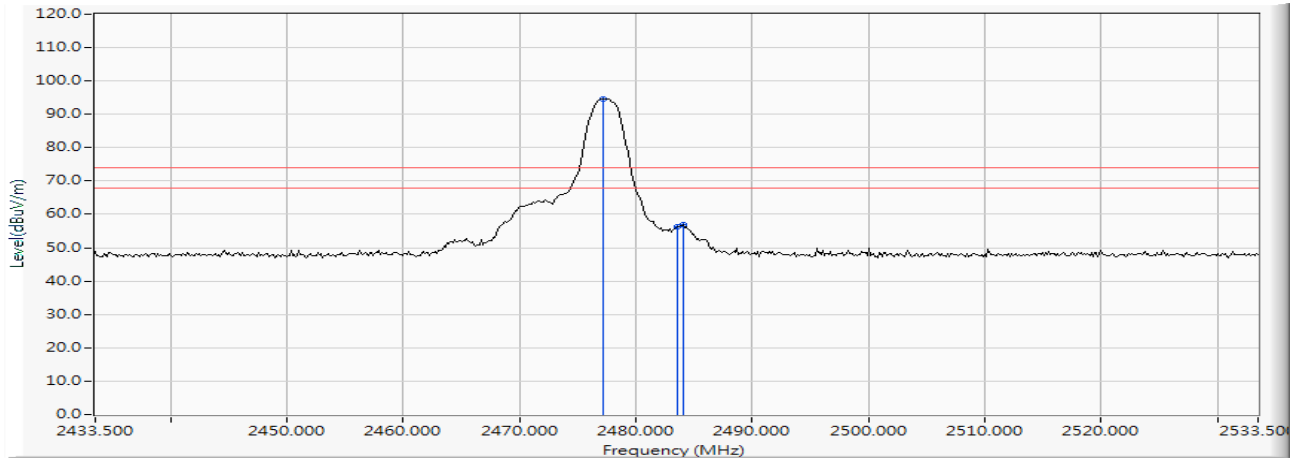
Channel No.	Frequency (MHz)	Peak Measurement (dBμV/m)	Duty Cycle Factor (dB)	Average Measurement (dBμV/m)	Margin (dB)	Average Limit (dBμV/m)	Result
01 (Average)	2357.536	49.046	-35.124	13.922	-40.078	54.000	Pass
01 (Average)	2390.000	48.142	-35.124	13.018	-40.982	54.000	Pass
01 (Average)	2400.000	61.976	-35.124	26.852	-27.148	54.000	Pass

Note:

1. Average Measurement=Peak Measurement + Duty Cycle Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Band Edge Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2477.35MHz) _ANT2

Horizontal



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2477.123	10.616	83.964	94.580	--	--	PEAK
2		2483.500	10.640	45.651	56.292	-17.708	74.000	PEAK
3		2484.080	10.644	46.316	56.959	-17.041	74.000	PEAK

Note:

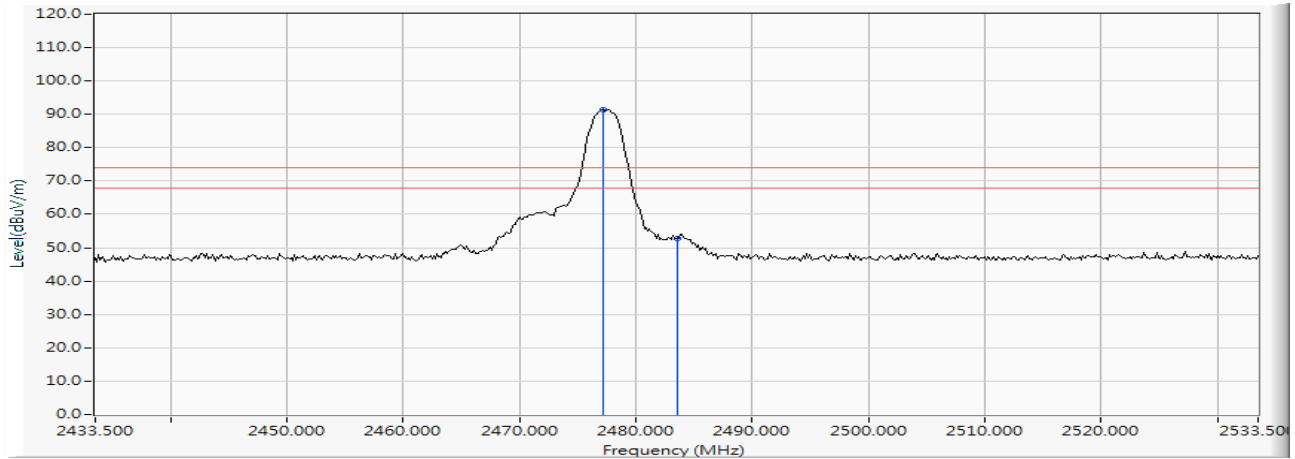
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.

Channel No.	Frequency (MHz)	Peak Measurement (dBμV/m)	Duty Cycle Factor (dB)	Average Measurement (dBμV/m)	Margin (dB)	Average Limit (dBμV/m)	Result
37 (Average)	2483.500	56.292	-35.124	21.168	-32.832	54.000	Pass
37 (Average)	2484.080	56.959	-35.124	21.835	-32.165	54.000	Pass

Note:

1. Average Measurement=Peak Measurement + Duty Cycle Factor
2. The Duty Cycle is refer to section 5.

Product : TUF GAMING H7 WIRELESS
 Test Item : Band Edge Data
 Test Date : 2019/03/28
 Test Mode : Mode 1: Transmit (2477.35MHz) _ANT2

Vertical

		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2477.123	10.616	80.646	91.262	--	--	PEAK
2		2483.500	10.640	42.161	52.802	-21.198	74.000	PEAK

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. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.

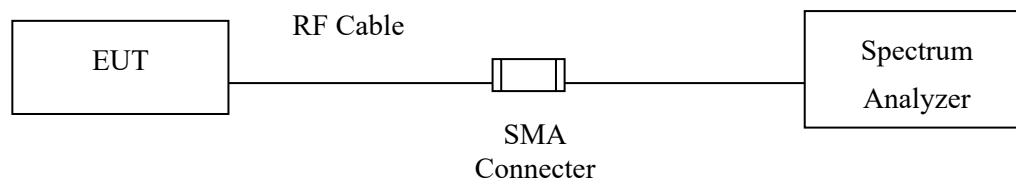
Channel No.	Frequency (MHz)	Peak Measurement (dBμV/m)	Duty Cycle Factor (dB)	Average Measurement (dBμV/m)	Margin (dB)	Average Limit (dBμV/m)	Result
37 (Average)	2483.500	52.802	-35.124	17.678	-36.322	54.000	Pass

Note:

1. Average Measurement=Peak Measurement + Duty Cycle Factor
2. The Duty Cycle is refer to section 5.

5. Duty Cycle

5.1. Test Setup

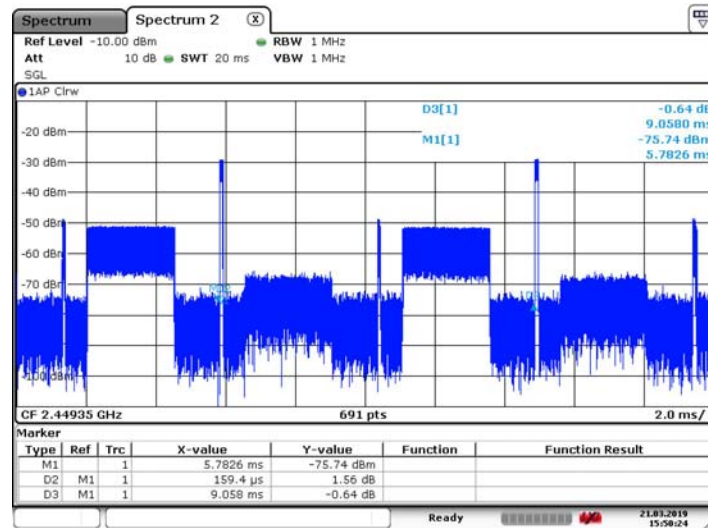


5.2. Uncertainty

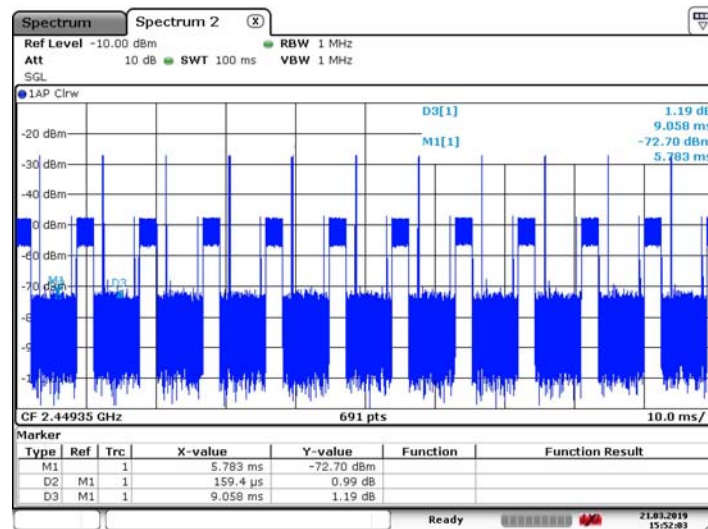
$\pm 2.31\text{ms}$

5.3. Test Result of Duty Cycle

Product : TUF GAMING H7 WIRELESS
 Test Item : Duty Cycle Data
 Test Mode : Normal mode



Date: 21.MAR.2019 15:50:25



Date: 21.MAR.2019 15:52:03

Time on of 100ms= 159.4us*11= 1.753ms

Duty Cycle=1.753ms / 100ms= 0.01753

Duty Cycle correction factor= 20 LOG 0.01753= -35.124 dB

Duty Cycle correction factor	-35.124	dB
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6. EMI Reduction Method During Compliance Testing

No modification was made during testing.