

FCC Test Report

(Class II Permissive Change)

Product Name	Intel® Wi-Fi 6 AX201
Model No.	AX201NGW
FCC ID.	PD9AX201NG

Applicant	Intel Corporation
Address	100 Center Point Circle Suite 200 Columbia, South Carolina 29210, United States

Date of Receipt	Mar. 30, 2019
Issued Date	Aug. 28, 2019
Report No.	1930504R-RFUSP23V00-A
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

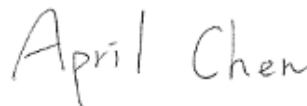
Issued Date: Aug. 28, 2019

Report No.: 1930504R-RFUSP23V00-A



Product Name	Intel® Wi-Fi 6 AX201
Applicant	Intel Corporation
Address	100 Center Point Circle Suite 200 Columbia, South Carolina 29210, United States
Manufacturer	INTEL MOBILE COMMUNICATIONS
Model No.	AX201NGW
FCC ID.	PD9AX201NG
EUT Rated Voltage	DC 3.3V
EUT Test Voltage	DC 3.3V (Power By Test Fixture)
Trade Name	Intel
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2018 ANSI C63.4: 2014, ANSI C63.10: 2013 KDB 558074 D01 15.247 Meas Guidance v05r02
Test Result	Complied

Documented By :



(Senior Adm. Specialist / April Chen)

Tested By :



(Engineer / Sam Hsu)

Approved By :



(Director / Vincent Lin)

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Intel® Wi-Fi 6 AX201
Trade Name	Intel
Model No.	AX201NGW
FCC ID.	PD9AX201NG
Frequency Range	2402 – 2480MHz
Channel Number	V5.0: 40CH
Type of Modulation	V5.0: GFSK(2Mbps)
Antenna Type	Dipole Antenna
Channel Control	Auto
Antenna Gain	Refer to the table “Antenna List”

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	WIESON Technologies co.,Ltd.	GY121HT0321-003-H / GY121C888-001-H	Dipole Antenna	2.89dBi for 2.4GHz

Note: The antenna of EUT is conforming to FCC 15.203.

Center Frequency of Each Channel: (For V5.0)

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 an Intel® Wi-Fi 6 AX201 with built-in WLAN (802.11a/b/g/n/ac/ax) with Bluetooth (5.0 and V3.0+HS, V2.1+EDR) transceiver, this report for Bluetooth V5.0.
2. These tests were conducted on a sample for the purpose of demonstrating compliance of 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.
4. This is to request a Class II permissive change for FCC ID: PD9AX201NG, originally granted on 01/28/2019. The major change filed under this application is:
Change #1: Addition an Dipole Antenna, the antenna type is different with the original application, All other hardware is identical with original granted.

Test Mode	Mode 1: Transmit - BLE
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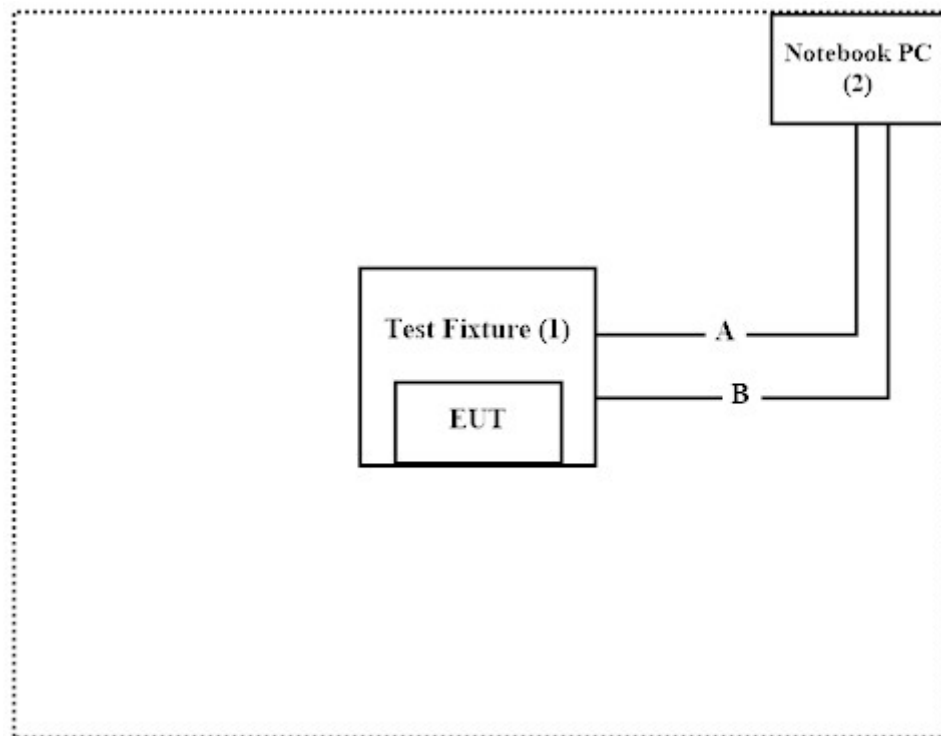
1.3. Tested System Details

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	Test Fixture	Intel	N/A	N/A
2	Notebook PC	DELL	PP01L	96FFC A00
				Non-Shielded, 1.8m

Signal Cable Type	Signal cable Description
A	USB Cable
B	Signal Cable

1.4. Configuration of Tested System



1.5. EUT Exercise Software

- (1) Setup the EUT as shown in Section 1.4.
- (2) Execute software “DRTU (Ver. 11.1832.0-08048)” on the Notebook PC.
- (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	50-65
Barometric pressure (mbar)	860-1060	950-1000

USA : FCC Registration Number: TW3023

Canada : IC Registration Number: 4075A

Site Description: Accredited by TAF
Accredited Number: 3023

Test Laboratory: DEKRA Testing and Certification Co., Ltd
Address: No.5-22, Ruishukeng, Linkou Dist., New Taipei City 24451,
Taiwan, R.O.C.
Phone number: 886-2-8601-3788
Fax number: 886-2-8601-3789
Email address: info.tw@dekra.com
Website: <http://www.dekra.com.tw>

1.7. List of Test Equipment

For Conducted measurements /CB3/SR8

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Date	Due. Date
	Temperature Chamber	WIT GROUP	TH-1S-B	EQ-201-00146	2019/02/26	2020/02/25
X	Spectrum Analyzer	Agilent	N9010A	MY53470892	2018/09/27	2019/09/26
X	Peak Power Analyzer	Keysight	8990B	MY51000410	2019/07/30	2020/07/29
X	Wideband Power Sensor	Keysight	N1923A	MY56080003	2019/07/30	2020/07/29
X	Wideband Power Sensor	Keysight	N1923A	MY56080004	2019/07/30	2020/07/29
X	EMI Test Receiver	R&S	ESCS 30	100369	2018/11/19	2019/11/18
X	LISN	R&S	ENV216	101105	2019/04/10	2020/04/09
X	LISN	R&S	ESH3-Z5	836679/014	2019/04/10	2020/04/09
X	Coaxial Cable	DEKRA	RG 400	LC018-RG	2019/06/21	2020/06/20

For Radiated measurements /Site3/CB8

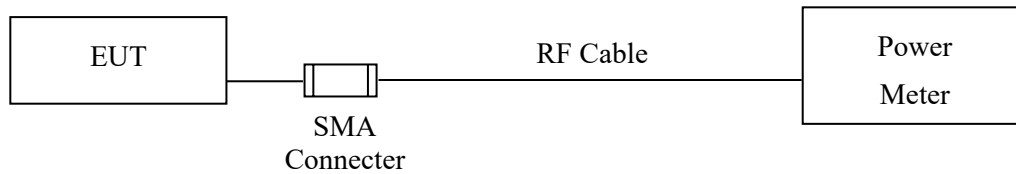
	Equipment	Manufacturer	Model No.	Serial No.	Cali. Date	Due. Date
X	Spectrum Analyzer	R&S	FSP40	100170	2019/03/11	2020/03/10
X	Loop Antenna	Teseq	HLA6121	37133	2018/10/13	2019/10/12
X	Bilog Antenna	Schaffner Chase	CBL6112B	2707	2019/06/23	2020/06/22
X	Coaxial Cable	DEKRA	RG 214	LC003-RG	2019/06/13	2020/06/12
X	Pre-Amplifier	Jet-Power	JPA-10M1G33	170101000330010	2019/06/13	2020/06/12
X	Horn Antenna	ETS-Lindgren	3117	00135205	2019/04/30	2020/04/29
X	Horn Antenna	SCHWARZBECK	9120D	576	2018/12/18	2019/12/17
X	Pre-Amplifier	EMCI	EMC012630SE	980210	2019/04/16	2020/04/15
X	Horn Antenna	Com-Power	AH-840	101043	2019/01/19	2020/01/18
X	Amplifier + Cable	EMCI	EMC184045SE	980370	2019/03/27	2020/03/26
X	Filter	MICRO-TRONICS	BRM50702	G270	2019/08/08	2020/08/07
X	Filter	MICRO-TRONICS	BRM50716	G196	2019/08/08	2020/08/07

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 2.0 V2.1.113.

2. Peak Power Output

2.1. Test Setup



2.2. Limit

The maximum peak power shall be less 1Watt.

2.3. 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 8.3.1.3 PKPM1 Peak power meter method.

2.4. Uncertainty

± 0.86 dB

2.5. Test Result of Peak Power Output

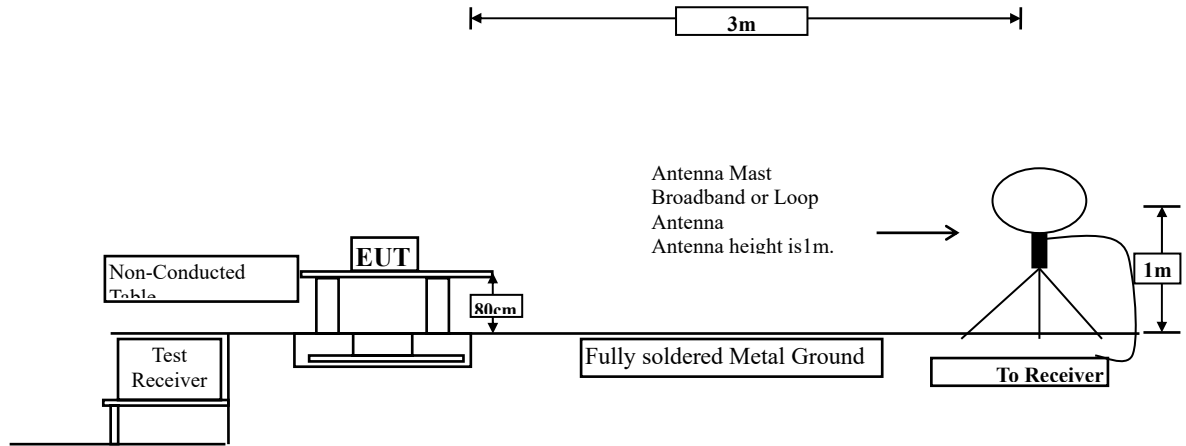
Product : Intel® Wi-Fi 6 AX201
Test Item : Peak Power Output
Test Mode : Mode 1: Transmit - BLE
Test Date : 2019/04/01

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit	Result
Channel 00	2402.00	6.72	1 Watt= 30 dBm	Pass
Channel 19	2440.00	6.98	1 Watt= 30 dBm	Pass
Channel 39	2480.00	6.69	1 Watt= 30 dBm	Pass

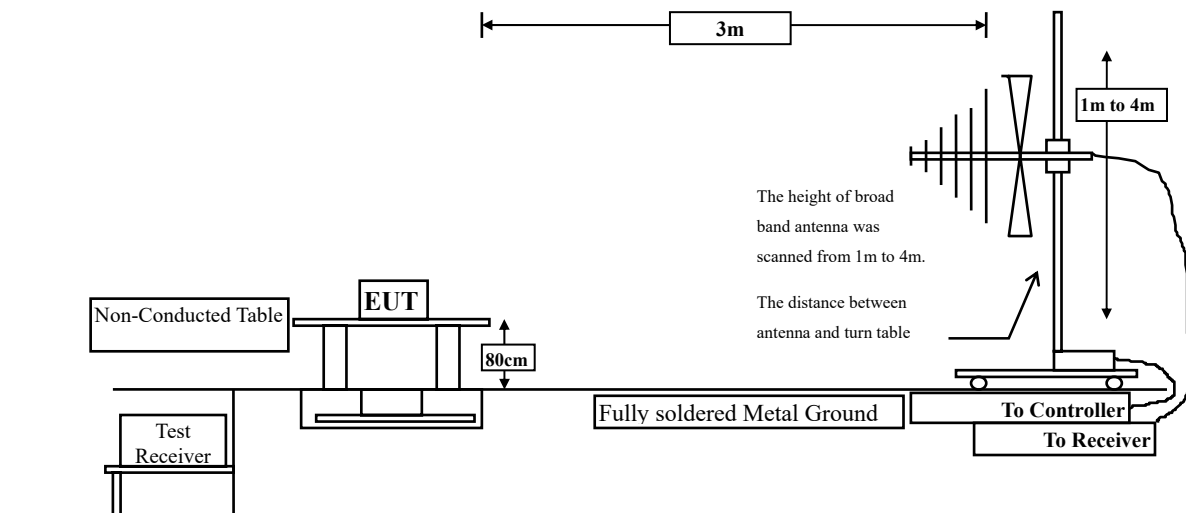
3. Radiated Emission

3.1. Test Setup

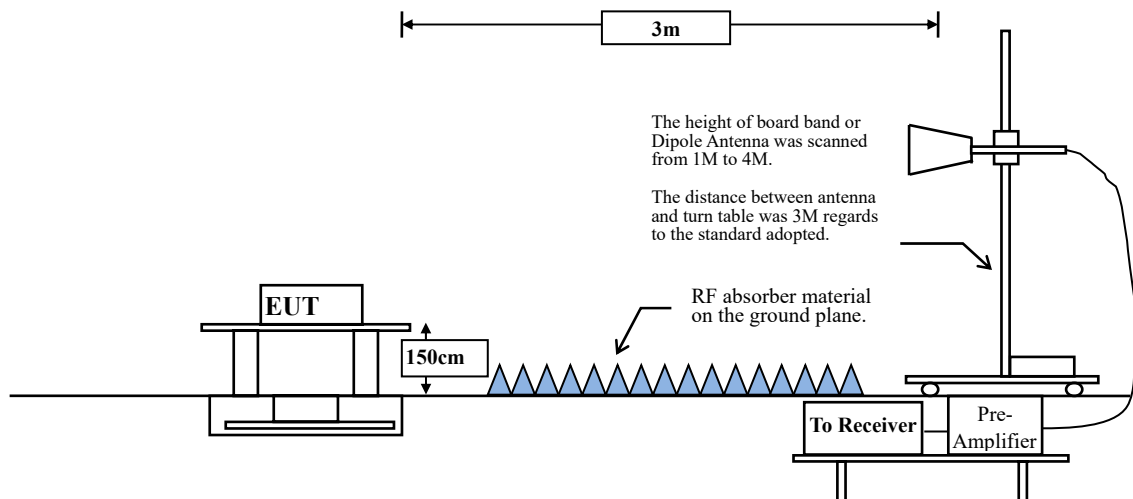
Radiated Emission Under 30MHz



Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



3.2. 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 (dBuV) = 20 log RF Voltage (uV)
 2. In the Above Table, the tighter limit applies at the band edges.
 3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

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

RBW and VBW Parameter setting:

According to KDB 558074 Peak power measurement procedure

RBW = as specified in Table 1.

$VBW \geq 3 \times RBW$.

Table 1 —RBW as a function of frequency

Frequency	RBW
9-150 kHz	200-300 Hz
0.15-30 MHz	9-10 kHz
30-1000 MHz	100-120 kHz
> 1000 MHz	1 MHz

According to KDB 558074 Average power measurement procedure

RBW = 1MHz.

$VBW = 10\text{Hz}$, when duty cycle $\geq 98\%$

$VBW \geq 1/T$, when duty cycle $< 98\%$

(T refers to the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.)

2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
BLE	62.27	0.3899	2565	3000

Note: Duty Cycle Refer to Section 5

3.4. Uncertainty

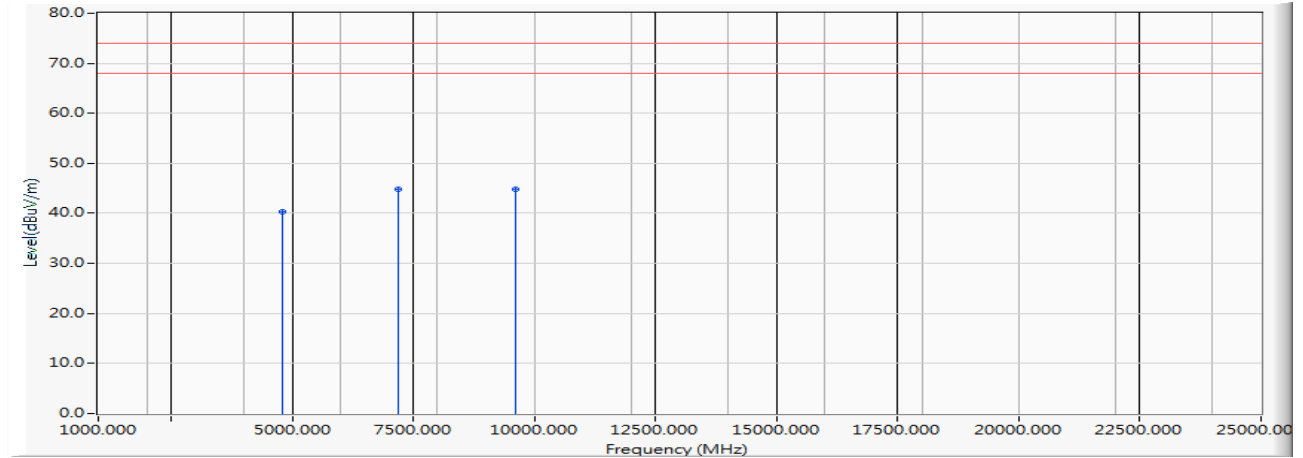
$\pm 4.08\text{ dB}$ below 1GHz

$\pm 4.22\text{ dB}$ above 1GHz

3.5. Test Result of Radiated Emission

Product : Intel® Wi-Fi 6 AX201
 Test Item : Harmonic Radiated Emission
 Test Mode : Mode 1: Transmit - BLE (2402MHz)
 Test Date : 2019/06/20

Horizontal

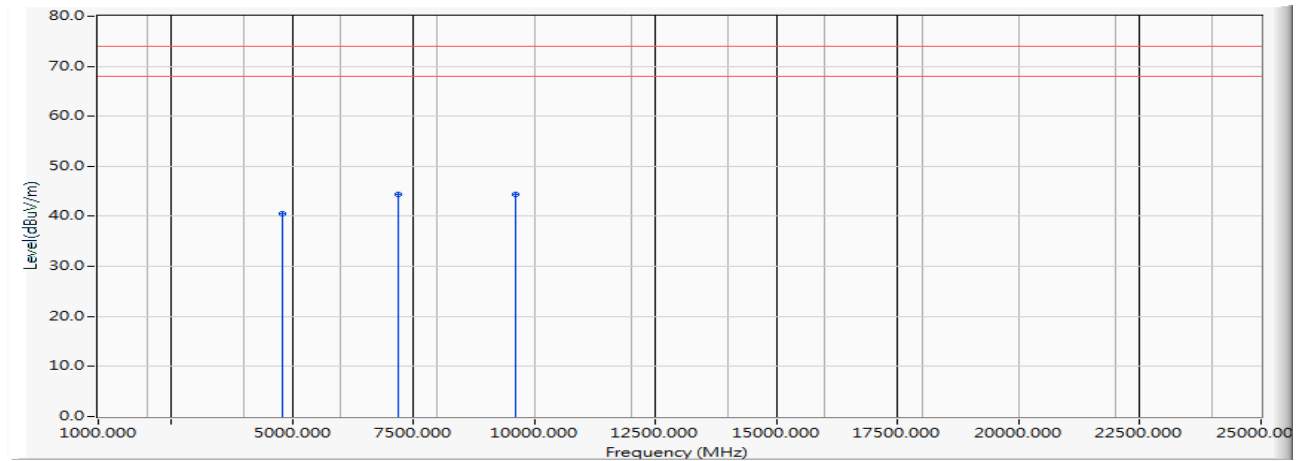


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4804.000	-15.895	56.240	40.345	-33.655	74.000	PEAK
2		7206.000	-12.632	57.510	44.879	-29.121	74.000	PEAK
3	*	9608.000	-11.950	56.880	44.930	-29.070	74.000	PEAK

Note:

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

Product : Intel® Wi-Fi 6 AX201
 Test Item : Harmonic Radiated Emission
 Test Mode : Mode 1: Transmit - BLE (2402MHz)
 Test Date : 2019/06/20

Vertical

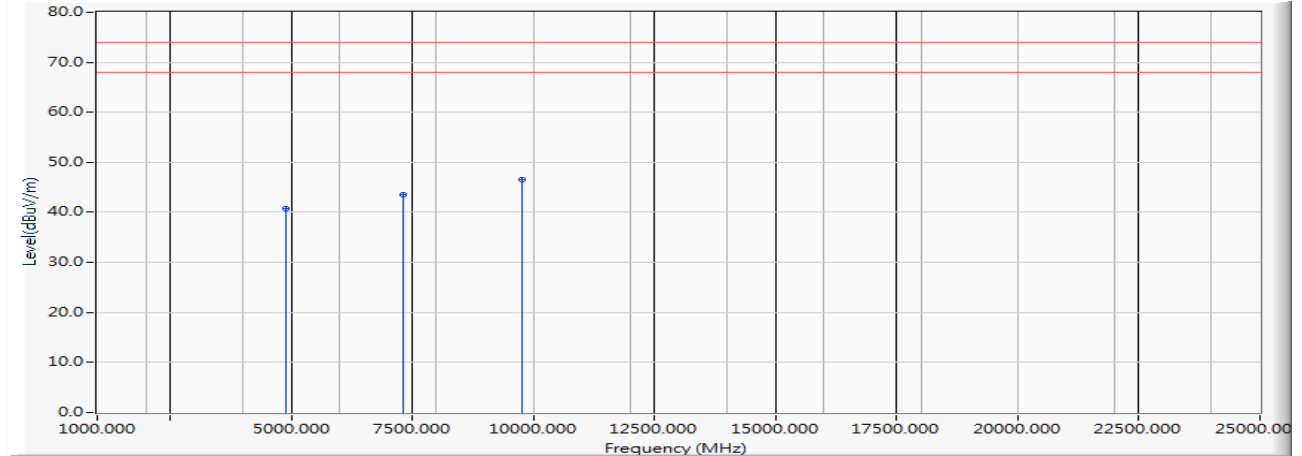
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4804.000	-15.895	56.430	40.535	-33.465	74.000	PEAK
2	*	7206.000	-12.632	57.040	44.409	-29.591	74.000	PEAK
3		9608.000	-11.950	56.350	44.400	-29.600	74.000	PEAK

Note:

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

Product : Intel® Wi-Fi 6 AX201
 Test Item : Harmonic Radiated Emission
 Test Mode : Mode 1: Transmit - BLE (2440MHz)
 Test Date : 2019/06/20

Horizontal

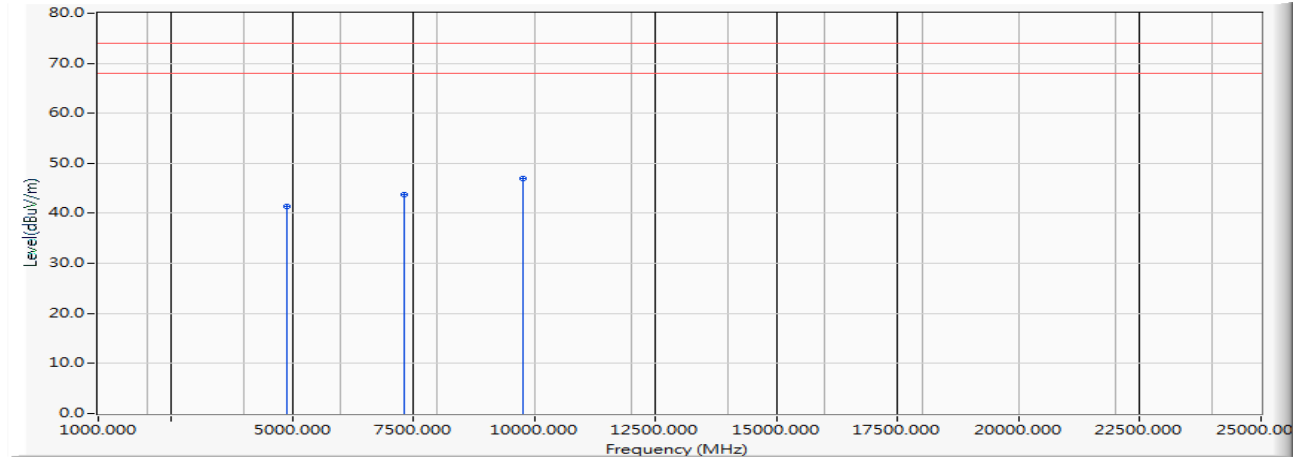


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4880.000	-15.053	55.860	40.807	-33.193	74.000	PEAK
2		7320.000	-13.083	56.580	43.497	-30.503	74.000	PEAK
3	*	9760.000	-10.892	57.340	46.448	-27.552	74.000	PEAK

Note:

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

Product : Intel® Wi-Fi 6 AX201
 Test Item : Harmonic Radiated Emission
 Test Mode : Mode 1: Transmit - BLE (2440MHz)
 Test Date : 2019/06/20

Vertical

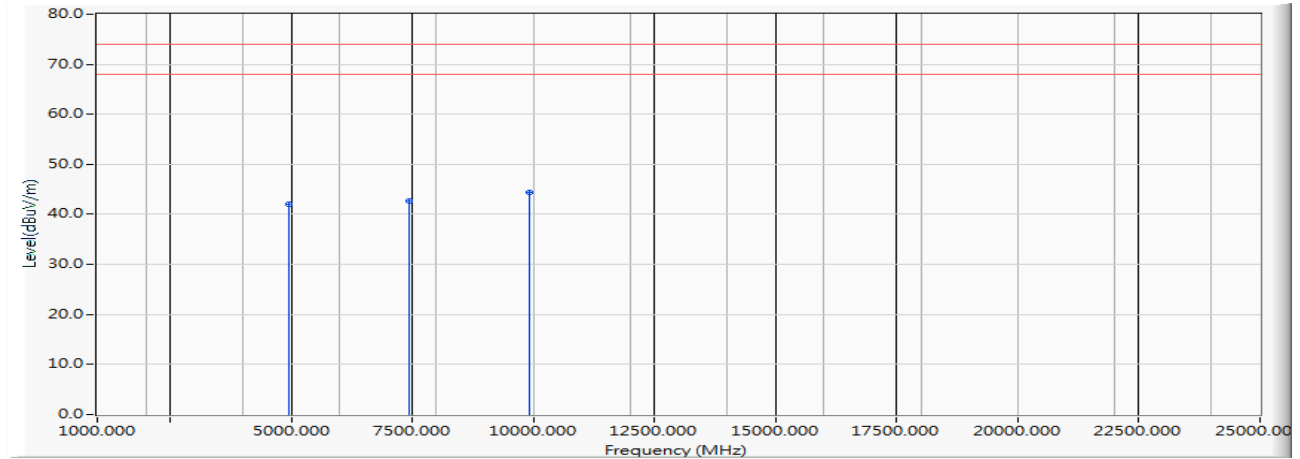
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4880.000	-15.053	56.480	41.427	-32.573	74.000	PEAK
2		7320.000	-13.083	56.860	43.777	-30.223	74.000	PEAK
3	*	9760.000	-10.892	57.830	46.938	-27.062	74.000	PEAK

Note:

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

Product : Intel® Wi-Fi 6 AX201
 Test Item : Harmonic Radiated Emission
 Test Mode : Mode 1: Transmit - BLE (2480MHz)
 Test Date : 2019/06/20

Horizontal

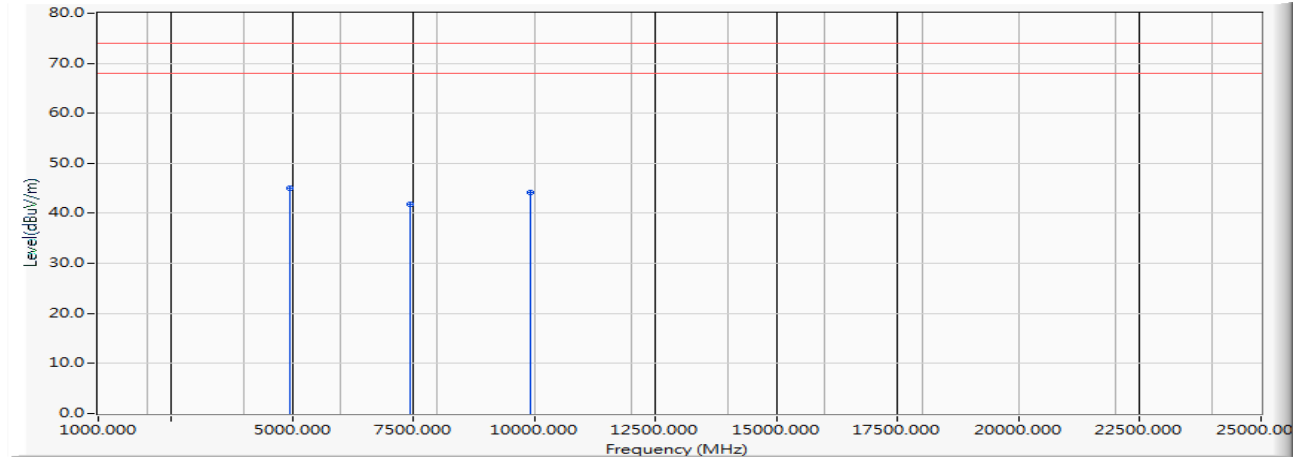


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4960.000	-14.106	56.060	41.955	-32.045	74.000	PEAK
2		7440.000	-14.374	57.080	42.705	-31.295	74.000	PEAK
3	*	9920.000	-12.781	57.250	44.469	-29.531	74.000	PEAK

Note:

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

Product : Intel® Wi-Fi 6 AX201
 Test Item : Harmonic Radiated Emission
 Test Mode : Mode 1: Transmit - BLE (2480MHz)
 Test Date : 2019/06/20

Vertical

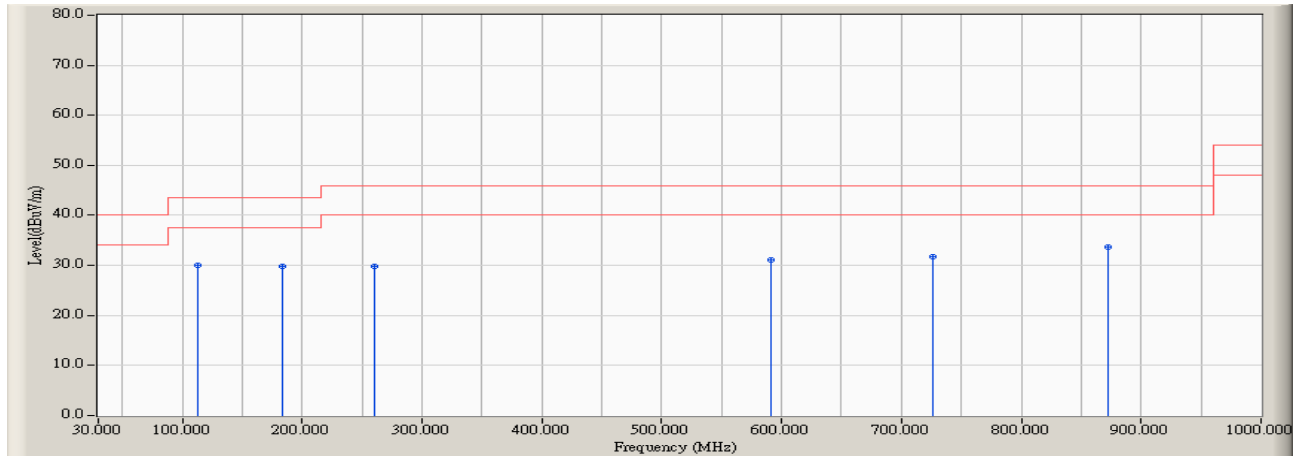
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4960.000	-14.106	59.180	45.075	-28.925	74.000	PEAK
2		7440.000	-14.374	56.240	41.865	-32.135	74.000	PEAK
3		9920.000	-12.781	56.900	44.119	-29.881	74.000	PEAK

Note:

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

Product : Intel® Wi-Fi 6 AX201
 Test Item : General Radiated Emission
 Test Mode : Mode 1: Transmit - BLE (2440MHz)
 Test Date : 2019/06/19

Horizontal



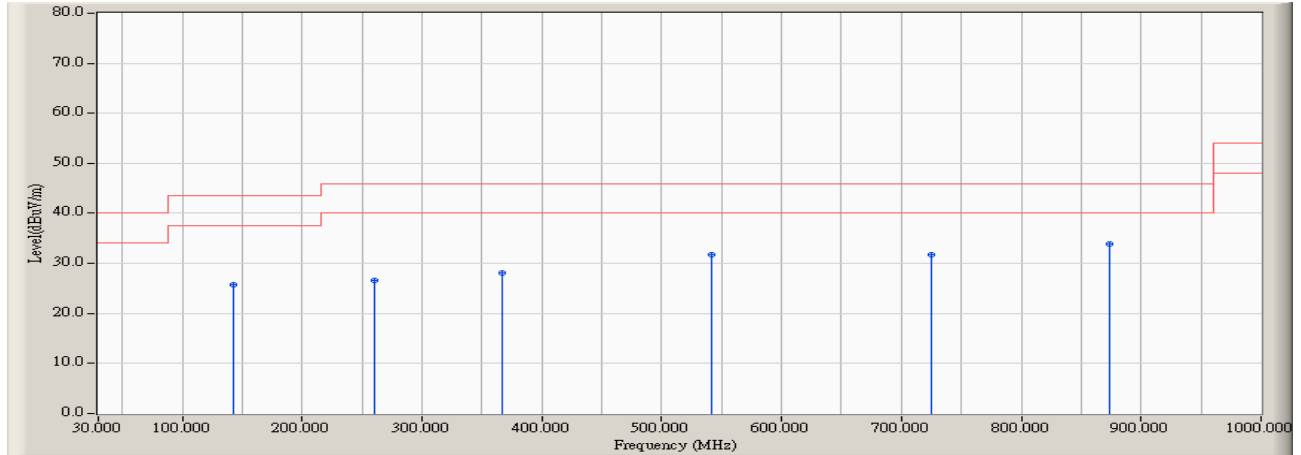
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		113.420	-0.879	30.825	29.946	-13.554	43.500	QUASIPeAK
2		183.260	-3.134	33.020	29.886	-13.614	43.500	QUASIPeAK
3		260.860	1.594	28.296	29.890	-16.110	46.000	QUASIPeAK
4		590.660	8.236	22.842	31.078	-14.922	46.000	QUASIPeAK
5		726.460	9.810	21.982	31.792	-14.208	46.000	QUASIPeAK
6	*	871.960	11.909	21.760	33.669	-12.331	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 : Intel® Wi-Fi 6 AX201
 Test Item : General Radiated Emission
 Test Mode : Mode 1: Transmit - BLE (2440MHz)
 Test Date : 2019/06/19

Vertical



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		142.520	-1.332	27.165	25.833	-17.667	43.500	QUASIPeAK
2		260.860	1.594	24.941	26.535	-19.465	46.000	QUASIPeAK
3		367.560	3.977	24.071	28.048	-17.952	46.000	QUASIPeAK
4		542.160	7.585	24.089	31.674	-14.326	46.000	QUASIPeAK
5		724.520	9.776	22.037	31.813	-14.187	46.000	QUASIPeAK
6	*	873.900	11.920	22.046	33.966	-12.034	46.000	QUASIPeAK

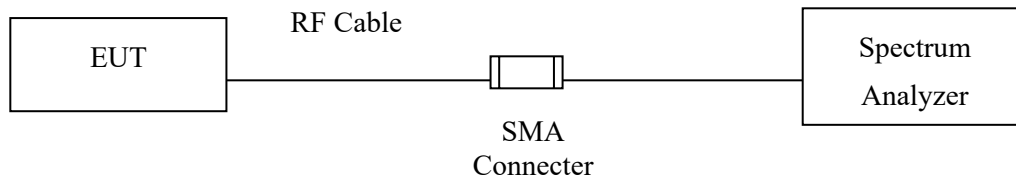
Note:

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.

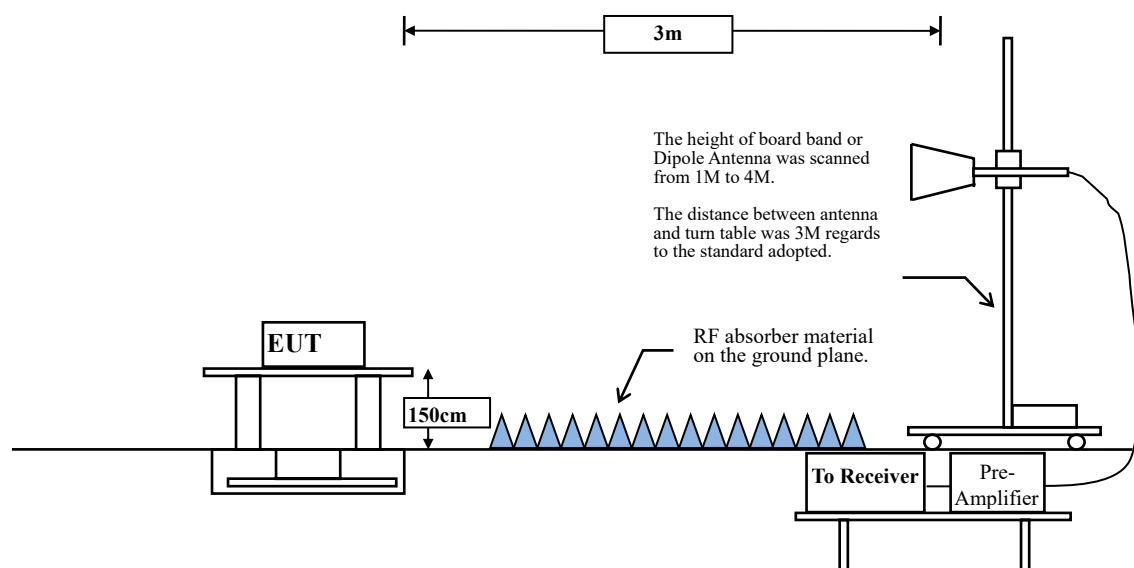
4. Band Edge

4.1. Test Setup

RF Conducted Measurement



RF Radiated Measurement:



4.2. Limit

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. 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)).

4.3. 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.

RBW and VBW Parameter setting:

According to KDB 558074 Peak power measurement procedure

RBW = as specified in Table 1.

$VBW \geq 3 \times RBW$.

Table 1 —RBW as a function of frequency

Frequency	RBW
9-150 kHz	200-300 Hz
0.15-30 MHz	9-10 kHz
30-1000 MHz	100-120 kHz
> 1000 MHz	1 MHz

According to KDB 558074 Average power measurement procedure

RBW = 1MHz.

VBW = 10Hz, when duty cycle $\geq 98\%$

$VBW \geq 1/T$, when duty cycle $< 98\%$

(T refers to the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.)

2.4GHz band	Duty Cycle (%)	T (ms)	1/T (Hz)	VBW (Hz)
BLE	62.27	0.3899	2565	3000

Note: Duty Cycle Refer to Section 5

4.4. Uncertainty

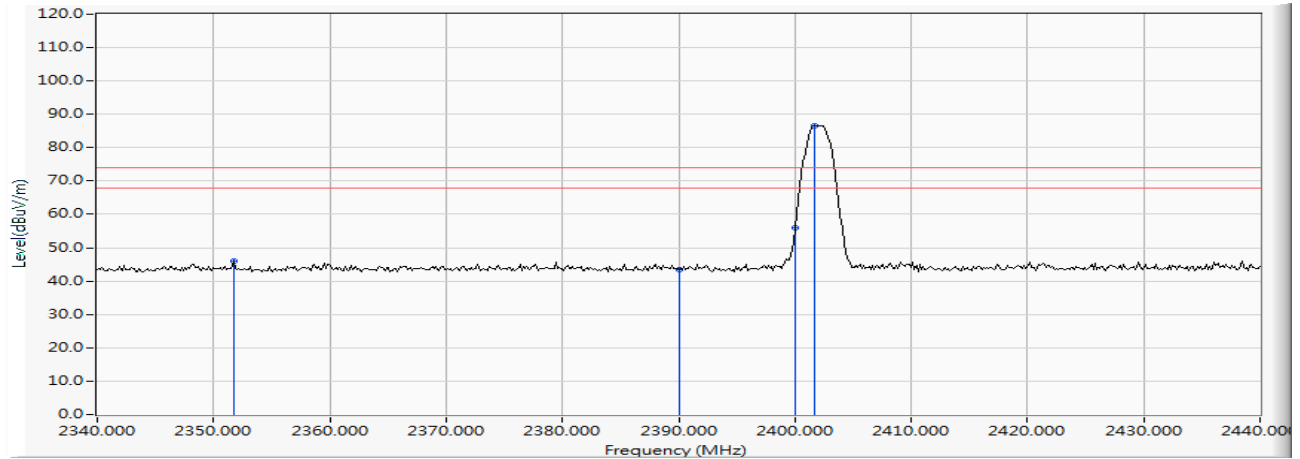
± 4.08 dB below 1GHz

± 4.22 dB above 1GHz

4.5. Test Result of Band Edge

Product : Intel® Wi-Fi 6 AX201
 Test Item : Band Edge
 Test Mode : Mode 1: Transmit - BLE (2402MHz)
 Test Date : 2019/06/12

Horizontal



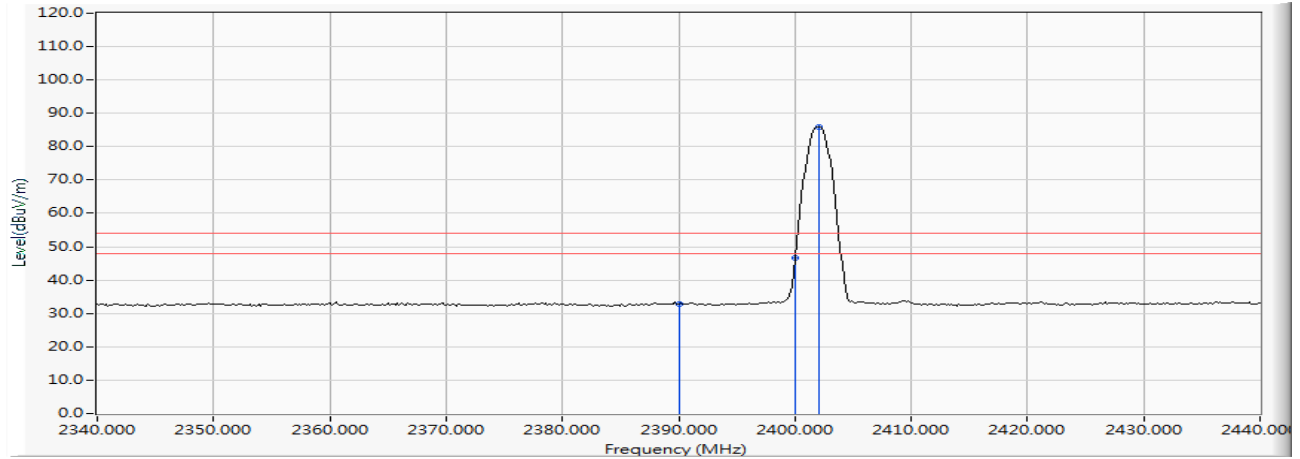
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2351.739	8.625	37.266	45.891	-28.109	74.000	PEAK
2		2390.000	8.763	34.733	43.496	-30.504	74.000	PEAK
3		2400.000	8.799	47.078	55.877	--	--	PEAK
4	*	2401.739	8.806	77.888	86.693	--	--	PEAK

Note:

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

Product : Intel® Wi-Fi 6 AX201
 Test Item : Band Edge
 Test Mode : Mode 1: Transmit - BLE (2402MHz)
 Test Date : 2019/06/12

Horizontal



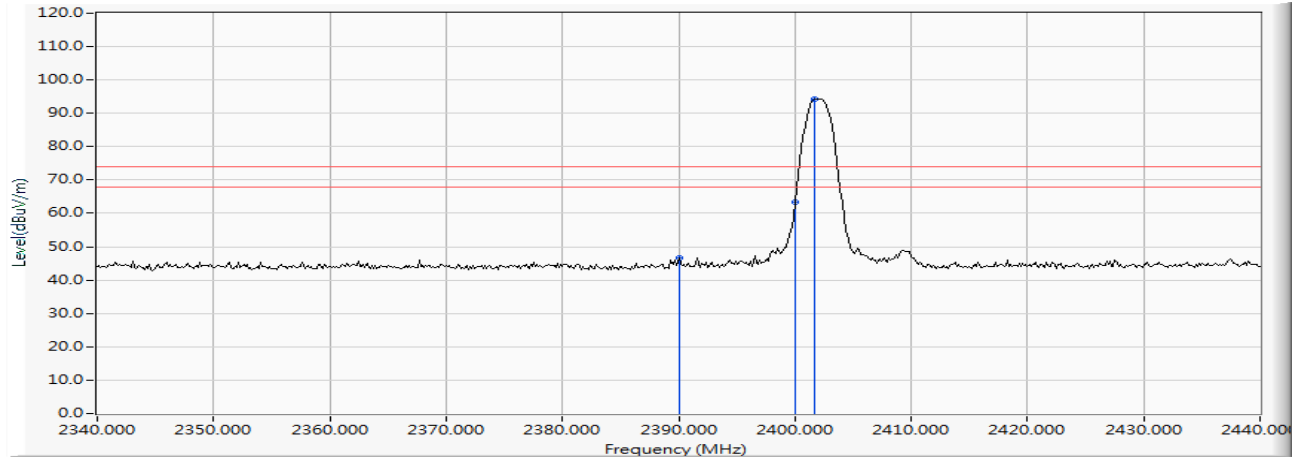
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	8.763	23.993	32.756	-21.244	54.000	AVERAGE
2		2400.000	8.799	37.818	46.617	--	--	AVERAGE
3	*	2402.029	8.807	77.247	86.053	--	--	AVERAGE

Note:

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

Product : Intel® Wi-Fi 6 AX201
 Test Item : Band Edge
 Test Mode : Mode 1: Transmit - BLE (2402MHz)
 Test Date : 2019/06/12

Vertical

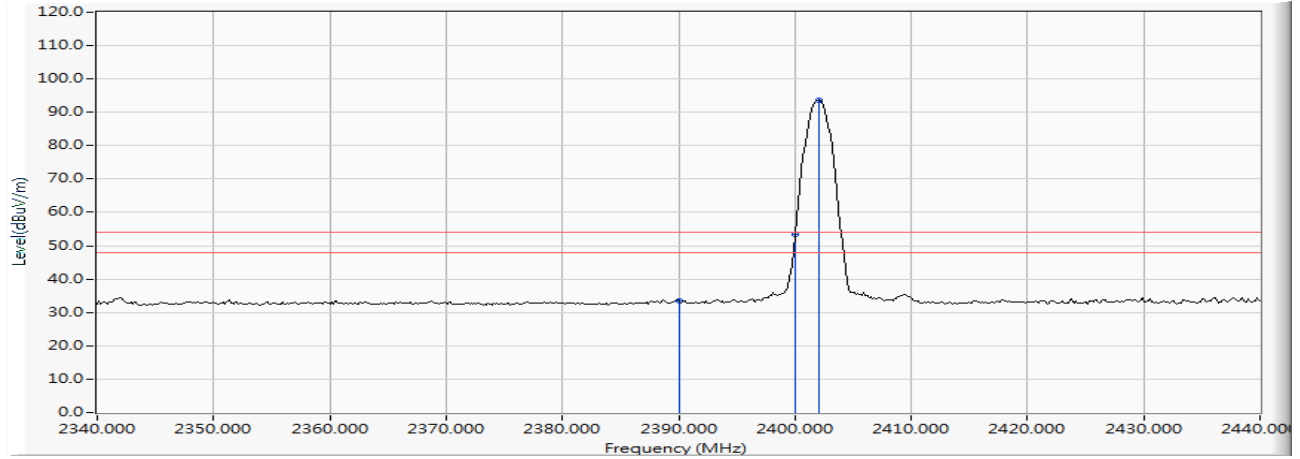


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	8.763	37.826	46.589	-27.411	74.000	PEAK
2		2400.000	8.799	54.637	63.436	--	--	PEAK
3	*	2401.739	8.806	85.398	94.203	--	--	PEAK

Note:

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

Product : Intel® Wi-Fi 6 AX201
 Test Item : Band Edge
 Test Mode : Mode 1: Transmit - BLE (2402MHz)
 Test Date : 2019/06/12

Vertical

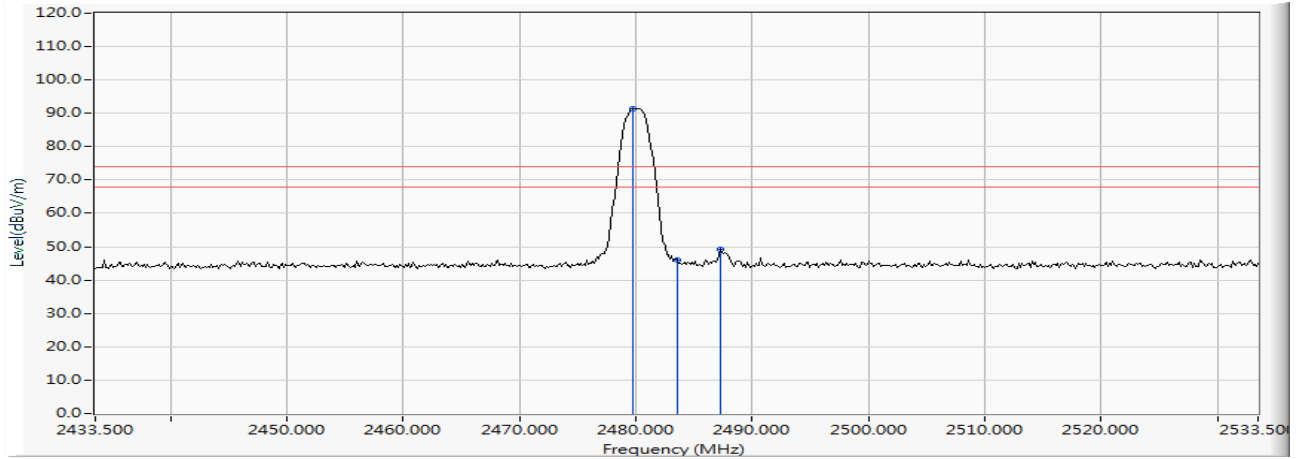
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	8.763	24.766	33.529	-20.471	54.000	AVERAGE
2		2400.000	8.799	44.579	53.378	--	--	AVERAGE
3	*	2402.029	8.807	84.769	93.575	--	--	AVERAGE

Note:

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

Product : Intel® Wi-Fi 6 AX201
 Test Item : Band Edge
 Test Mode : Mode 1: Transmit - BLE (2480MHz)
 Test Date : 2019/06/12

Horizontal



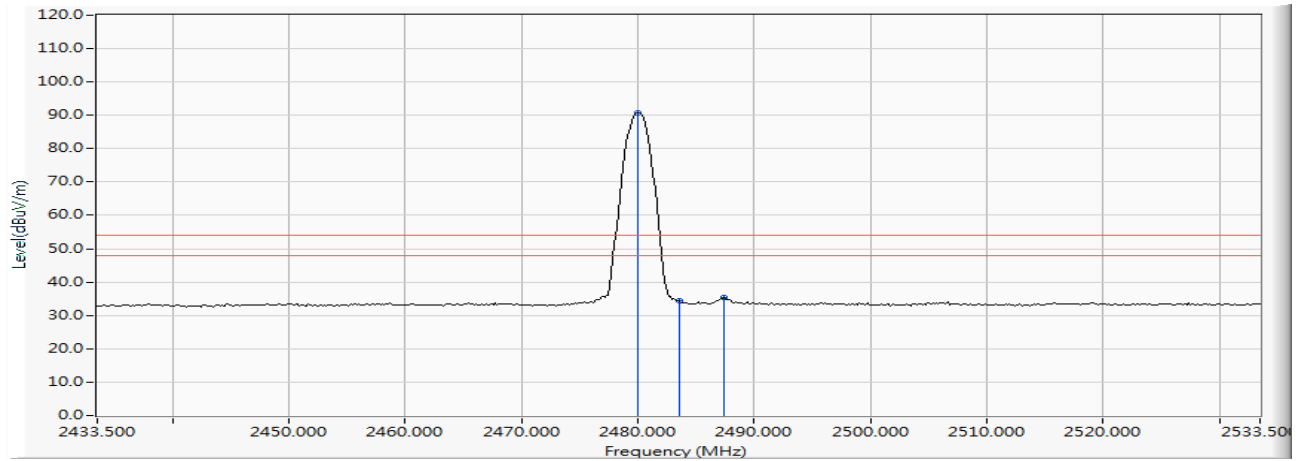
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2479.732	9.086	82.397	91.483	17.483	74.000	PEAK
2		2483.500	9.100	36.892	45.991	-28.009	74.000	PEAK
3		2487.268	9.112	39.973	49.086	-24.914	74.000	PEAK

Note:

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

Product : Intel® Wi-Fi 6 AX201
 Test Item : Band Edge
 Test Mode : Mode 1: Transmit - BLE (2480MHz)
 Test Date : 2019/06/12

Horizontal



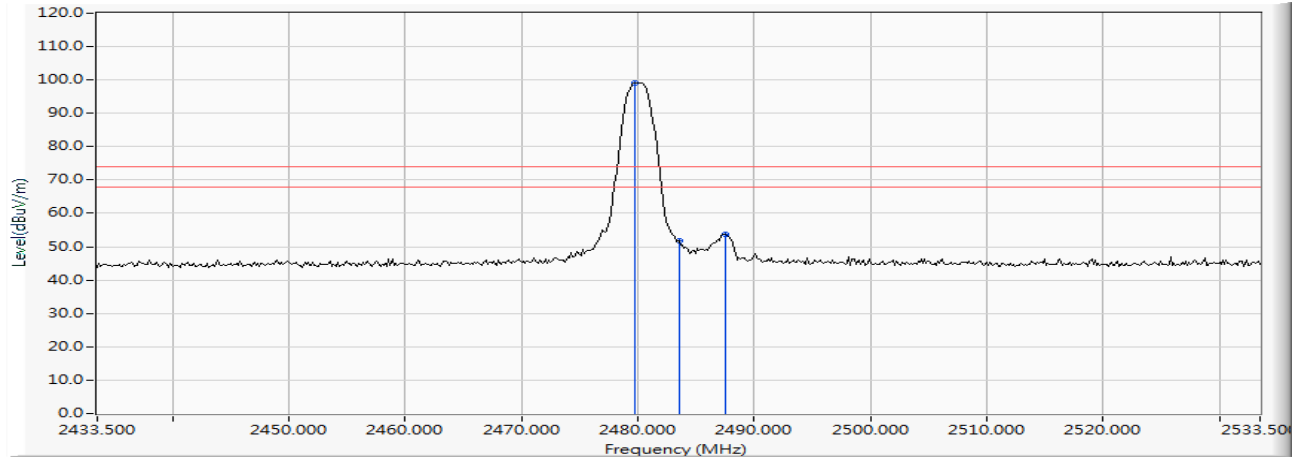
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2480.022	9.086	81.779	90.866	36.866	54.000	AVERAGE
2		2483.500	9.100	25.185	34.284	-19.716	54.000	AVERAGE
3		2487.413	9.113	26.186	35.300	-18.700	54.000	AVERAGE

Note:

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

Product : Intel® Wi-Fi 6 AX201
 Test Item : Band Edge
 Test Mode : Mode 1: Transmit - BLE (2480MHz)
 Test Date : 2019/06/12

Vertical

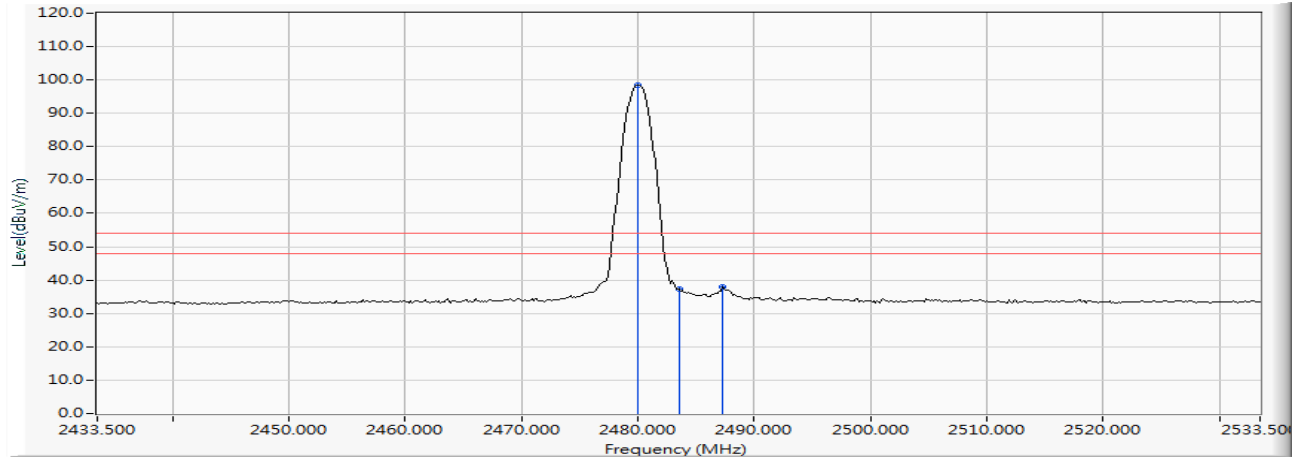


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2479.732	9.086	90.040	99.126	25.126	74.000	PEAK
2		2483.500	9.100	42.588	51.687	-22.313	74.000	PEAK
3		2487.558	9.115	44.642	53.756	-20.244	74.000	PEAK

Note:

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

Product : Intel® Wi-Fi 6 AX201
 Test Item : Band Edge
 Test Mode : Mode 1: Transmit - BLE (2480MHz)
 Test Date : 2019/06/12

Vertical

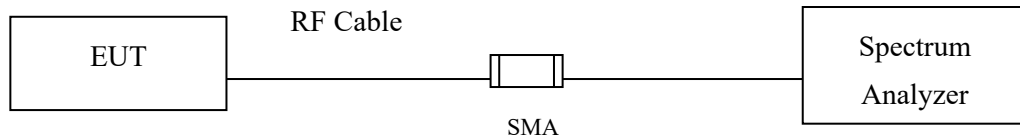
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2480.022	9.086	89.404	98.491	44.491	54.000	AVERAGE
2		2483.500	9.100	28.363	37.462	-16.538	54.000	AVERAGE
3		2487.268	9.112	28.800	37.913	-16.087	54.000	AVERAGE

Note:

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

5. Duty Cycle

5.1. Test Setup



5.2. 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.

5.3. Uncertainty

$\pm 2.31\text{msec}$

5.4. Test Result of Duty Cycle

Product : Intel® Wi-Fi 6 AX201
 Test Item : Duty Cycle
 Test Mode : Mode 1: Transmit - BLE

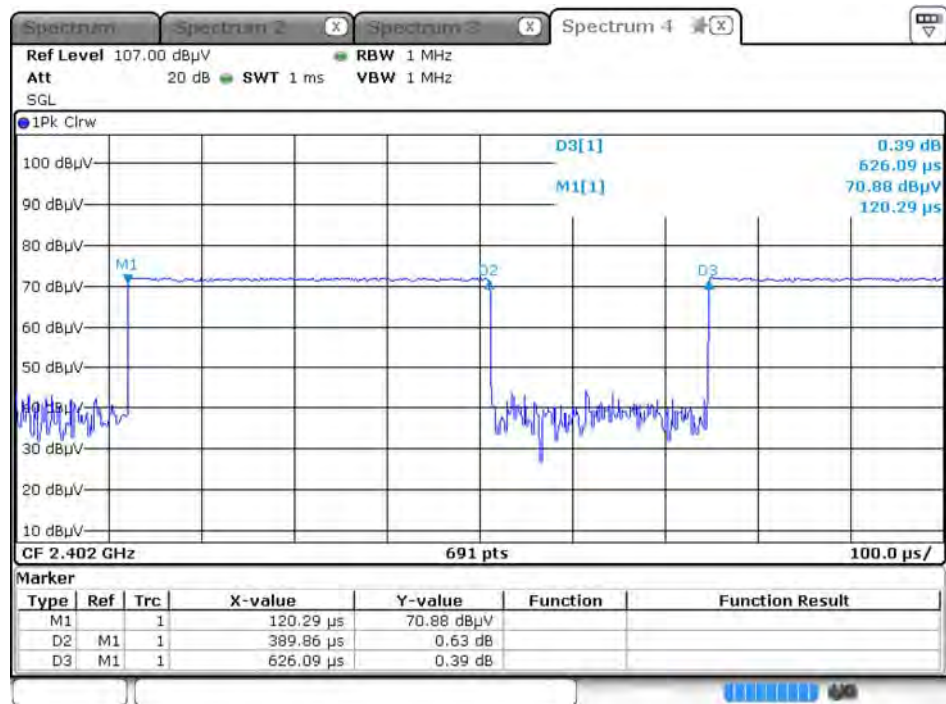
Duty Cycle Formula:

Duty Cycle = $Ton / (Ton + Toff)$

Duty Factor = $10 \text{ Log } (1/\text{Duty Cycle})$

Results:

2.4GHz band	Ton (ms)	Ton + Toff (ms)	Duty Cycle (%)	Duty Factor (dB)
BLE	0.3899	0.6261	62.27	2.06



Date: 12 JUN 2019 14:27:39

6. EMI Reduction Method During Compliance Testing

No modification was made during testing.