

# FCC Test Report

## (Class II Permissive Change)

|              |                                   |
|--------------|-----------------------------------|
| Product Name | Intel® Dual Band Wireless-AC 3165 |
| Model No.    | 3165NGW                           |
| FCC ID.      | PD93165NG, PD93165NGU             |

\*FCC ID: PD93165NG (for OEM factory install)

\*FCC ID: PD93165NGU (for User Installation w/bios lock feature.)

|           |   |
|-----------|---|
| Applicant | Intel Mobile Communications   |
| Address   | 100 Center Point Circle, Suite 200 Columbia, South Carolina 29210 USA |

|                 |                     |
|-----------------|---------------------|
| Date of Receipt | Apr. 14, 2015       |
| Issued Date     | May. 15, 2015       |
| Report No.      | 1540304R-RFUSP01V00 |
| Report Version  | V1.0                |



The test results relate only to the samples tested.

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

This report must not be used to claim product endorsement by TAF or any agency of the government.

The test report shall not be reproduced without the written approval of Quietek Corporation.

# Test Report

Issued Date: May. 15, 2015

Report No.: 1540304R-RFUSP01V00



|                     |   |
|---------------------|---|
| Product Name        | Intel® Dual Band Wireless-AC 3165   |
| Applicant           | Intel Mobile Communications   |
| Address             | 100 Center Point Circle, Suite 200 Columbia, South Carolina 29210 USA           |
| Manufacturer        | Intel Mobile Communications   |
| Model No.           | 3165NGW   |
| FCC ID.             | PD93165NG, PD93165NGU   |
| EUT Rated Voltage   | DC 3.3V (via Mini-PCI Express slot)   |
| EUT Test Voltage    | AC 120V/ 60Hz   |
| Trade Name          | Intel   |
| Applicable Standard | FCC CFR Title 47 Part 15 Subpart C: 2013<br>ANSI C63.4: 2009, ANSI C63.10: 2009 |
| Test Result         | Complied  |

Documented By

:

*Leven Huang*

(Senior Adm. Specialist / Leven Huang )

Tested By

:

*Andy Lin*

( Engineer / Andy Lin )

Approved By

:

*Vincent Lin*

( Director / Vincent Lin )

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**1. GENERAL INFORMATION**

**1.1. EUT Description**

|                    |   |
|--------------------|---|
| Product Name       | Intel® Dual Band Wireless-AC 3165                       |
| Trade Name         | Intel   |
| Model No.          | 3165NGW   |
| FCC ID.            | PD93165NG, PD93165NGU                                   |
| Frequency Range    | 2402 – 2480MHz  |
| Channel Number     | 79  |
| Type of Modulation | FHSS: GFSK(1Mbps) / $\pi$ /4DQPSK(2Mbps) / 8DPSK(3Mbps) |
| Antenna Type       | Dipole /PIFA Antenna                                    |
| Channel Control    | Auto  |
| Antenna Gain       | Refer to the table “Antenna List”                       |
| Contain Module     | Intel / 3165NGW   |

**Antenna List**

| No. | Manufacturer                     | Part No.  | Antenna Type | Peak Gain           |
|-----|----------------------------------|---|--------------|---------------------|
| 1   | ACON                             | ACC6M-200000 (HP: 814177-001) (Tx1/Rx1)<br>ACC6M-200000 (HP: 814177-001) (Tx2/ Rx2)                     | Dipole       | 2.8dBi for 2.4GHz   |
| 2   | INPAQ                            | DAM-A8-H-M1-290-02-24 (HP: 814177-001) (Tx1/Rx1)<br>DAM-A8-H-M1-290-02-24 (HP: 814177-001) (Tx2/ Rx2)   | Dipole       | 2.37dBi for 2.4GHz  |
| 3   | ACON                             | ADM6Y-200000 (HP: 814176-001) (Tx1/Rx1)<br>ADM6Y-200000 (HP: 814176-001) (Tx2/ Rx2)                     | PIFA         | -0.03dBi for 2.4GHz |
| 4   | INPAQ                            | WA-M-LBLB-04-012 (main) (HP: 814176-001) (Tx1/Rx1)<br>WA-M-LBLB-04-012 (aux) (HP: 814176-001) (Tx/ Rx2) | PIFA         | 0.99dBi for 2.4GHz  |
| 5   | WIESON Technologies<br>co ., ltd | GY121HT0321-003-H (External) (WIFI)   | Dipole       | 2.89dBi for 2.4GHz  |
| 6   | LinkingCorporation               | 13-130-002404/ T-543-9291078-1(Tx1/Rx1)<br>13-130-002403 / T-543-9291078-2(Tx2/ Rx2)                    | PIFA         | 0.4dBi for 2.4GHz   |

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

2. Only the higher gain antenna was tested and recorded in this report.

Center Frequency of Each Channel:

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

Note:

1. The EUT is an Intel® Dual Band Wireless-AC 3165 with a built-in WLAN and Bluetooth V4.0 V3.0, V2.1+EDR transceiver, this report for Bluetooth V3.0, V2.1+EDR.
2. These tests were conducted on a sample for the purpose of demonstrating compliance of Bluetooth transmitter with Part 15 Subpart C Paragraph 15.247 for spread spectrum devices.
3. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
4. Bluetooth operation was evaluated at both 1Mb/s and 3Mb/s data rates. 2Mb/s data rate was found, through pre-testing, to produce emissions similar to those for 3Mb/s.
5. This is to request a Class II permissive change for FCC ID: PD93165NG (originally granted on 01/23/2015) and PD93165NGU (originally granted on 01/26/2015).

The major change filed under this application is:

Change #1: This change is to request approval for a dipole type antenna **Wieson Technologies** part number **GY121HT0321-003-H**. This dipole antenna will be restricted to mobile category or desktop host systems.

|           |   |
|-----------|---|
| Test Mode | Mode 1: Transmit - 1Mbps (GFSK)<br>Mode 2: Transmit - 3Mbps (8DPSK) |
|-----------|---|

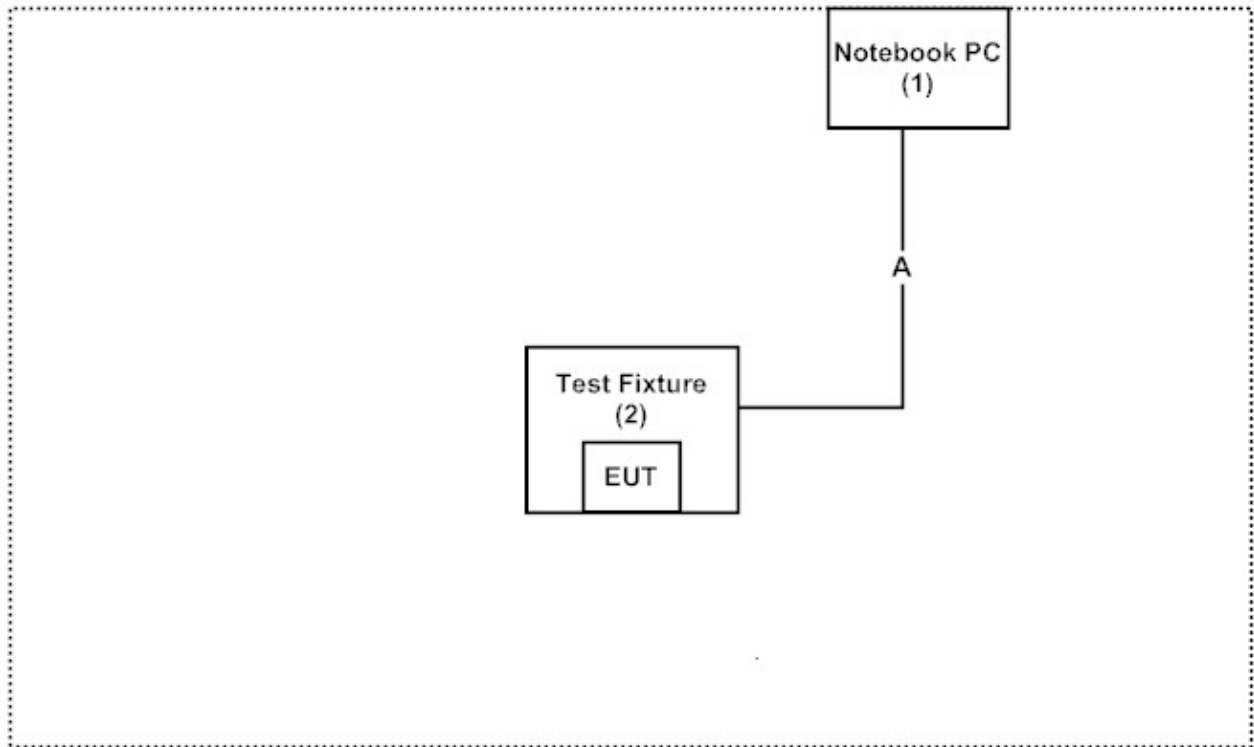
### 1.3. Tested System Details

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      | N/A        | N/A        | Non-Shielded, 1.8m |
| 2       | Test Fixture | Intel     | N/A        | N/A        | N/A                |

| Signal Cable Type | Signal cable Description |                    |
|-------------------|--------------------------|--------------------|
| A                 | Test Fixture Line        | Non-Shielded, 1.0m |

### 1.4. Configuration of Tested System



### 1.5. EUT Exercise Software

- (1) Setup the EUT as shown in Section 1.4
- (2) Execute "DRTU Ver 1.7.0-1084" program on the Notebook PC.
- (3) Configure the test mode, the test channel, and the data rate.
- (4) Start transmits continually.
- (5) Verify that the EUT works properly.

**1.6. Test Facility**

Ambient conditions in the laboratory:

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

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

Quietek Corporation's Web Site: <http://www.quietek.com/chinese/about/certificates.aspx?bval=5>

The address and introduction of Quietek Corporation's laboratories can be founded in our Web site:

<http://www.quietek.com/>

Site Description: File on  
Federal Communications Commission  
FCC Engineering Laboratory  
7435 Oakland Mills Road  
Columbia, MD 21046  
Registration Number: 92195

Site Name: Quietek Corporation  
Site Address: No.5-22, Ruishukeng,  
Linkou Dist. New Taipei City 24451,  
Taiwan, R.O.C.  
TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789  
E-Mail : [service@quietek.com](mailto:service@quietek.com)

FCC Accreditation Number: TW1014

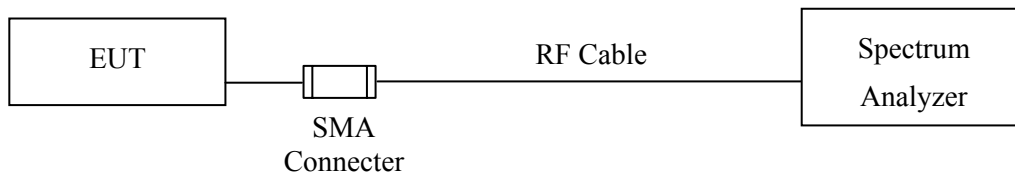
## 2. Peak Power Output

### 2.1. Test Equipment

| Equipment           | Manufacturer | Model No./Serial No. | Last Cal.  |
|---------------------|--------------|----------------------|------------|
| Power Meter         | Anritsu      | ML2495A/6K00003357   | May, 2015  |
| Power Sensor        | Anritsu      | MA2411B/0738448      | Jun., 2014 |
| X Spectrum Analyzer | Agilent      | N9010A / MY48030495  | Apr., 2015 |

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

### 2.2. Test Setup



### 2.3. Limit

The maximum peak power shall be less 1Watt.

### 2.4. Test Procedure

The EUT was setup to ANSI C63.10: 2009; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

### 2.5. Uncertainty

± 1.27 dB



**2.6. Test Result of Peak Power Output**

Product : Intel® Dual Band Wireless-AC 3165  
Test Item : Peak Power Output  
Test Site : No.3 OATS  
Test Mode : Mode 1: Transmit - 1Mbps (GFSK)

| Channel No. | Frequency (MHz) | Measurement (dBm) | Required Limit | Result |
|-------------|-----------------|-------------------|----------------|--------|
| Channel 00  | 2402.00         | 5.44              | 1 Watt= 30 dBm | Pass   |
| Channel 38  | 2440.00         | 5.52              | 1 Watt= 30 dBm | Pass   |
| Channel 78  | 2480.00         | 5.65              | 1 Watt= 30 dBm | Pass   |

Product : Intel® Dual Band Wireless-AC 3165  
Test Item : Peak Power Output  
Test Site : No.3 OATS  
Test Mode : Mode 2: Transmit - 3Mbps (8DPSK)

| Channel No. | Frequency<br>(MHz) | Measurement<br>(dBm) | Required Limit | Result |
|-------------|--------------------|----------------------|----------------|--------|
| Channel 00  | 2402.00            | 3.67                 | 1 Watt= 30 dBm | Pass   |
| Channel 38  | 2440.00            | 3.95                 | 1 Watt= 30 dBm | Pass   |
| Channel 78  | 2480.00            | 3.82                 | 1 Watt= 30 dBm | Pass   |

### 3. Radiated Emission

#### 3.1. Test Equipment

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

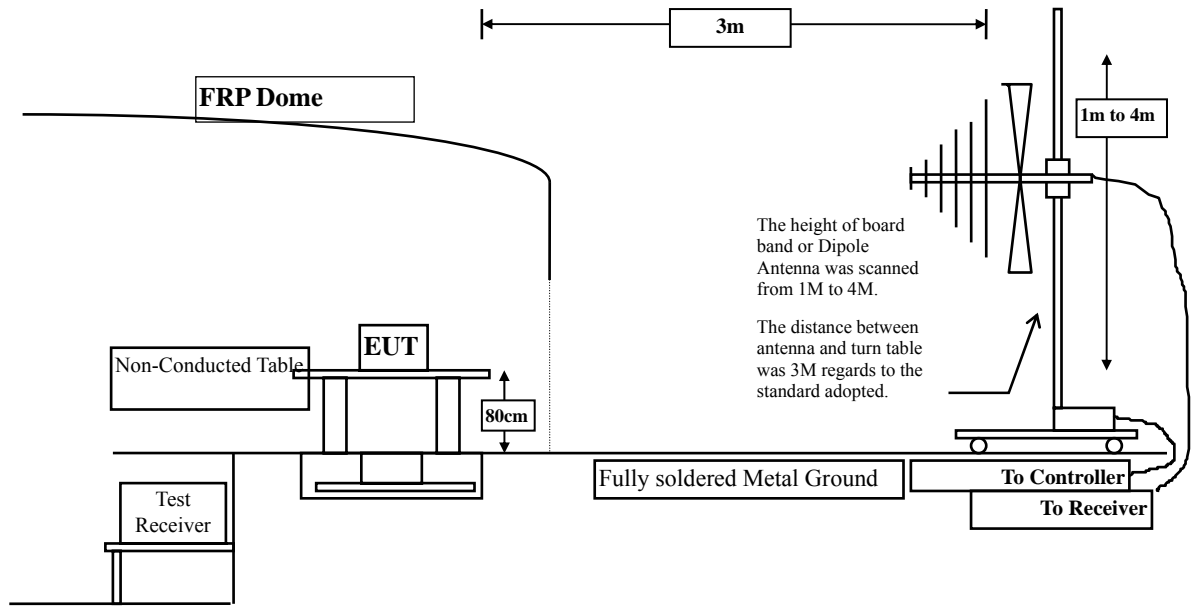
| Test Site  |                | Equipment         | Manufacturer     | Model No./Serial No.  | Last Cal.  |
|------------|----------------|-------------------|------------------|-----------------------|------------|
| ☒ Site # 3 | X              | Loop Antenna      | Teseq            | HLA6120 / 26739       | Jul., 2014 |
|            | X              | Bilog Antenna     | Schaffner Chase  | CBL6112B/2673         | Sep., 2014 |
|            | X              | Horn Antenna      | Schwarzbeck      | BBHA9120D/D305        | Sep., 2014 |
|            | X              | Horn Antenna      | Schwarzbeck      | BBHA9170/208          | Jul., 2014 |
|            | X              | Pre-Amplifier     | Agilent          | 8447D/2944A09549      | Sep., 2014 |
|            | X              | Spectrum Analyzer | Agilent          | E4407B / US39440758   | May, 2015  |
|            | X              | Test Receiver     | R & S            | ESCS 30/ 825442/018   | Sep., 2014 |
|            | X              | Coaxial Cable     | Quietek          | QTK-CABLE/ CAB5       | Feb., 2015 |
|            | X              | Controller        | Quietek          | QTK-CONTROLLER/ CTRL3 | N/A        |
| X          | Coaxial Switch | Anritsu           | MP59B/6200265729 | N/A                   |            |

| Test Site |   | Equipment         | Manufacturer | Model No./Serial No.        | Last Cal. |
|-----------|---|-------------------|--------------|-----------------------------|-----------|
| ☒ CB # 8  | X | Spectrum Analyzer | R&S          | FSP40/ 100339               | Oct, 2014 |
|           | X | Horn Antenna      | ETS-Lindgren | 3117/ 35205                 | Mar, 2015 |
|           | X | Horn Antenna      | Schwarzbeck  | BBHA9170/209                | Jan, 2015 |
|           | X | Horn Antenna      | TRC          | AH-0801/95051               | Aug, 2014 |
|           | X | Pre-Amplifier     | EMCI         | EMC012630SE/980210          | Jan, 2015 |
|           | X | Pre-Amplifier     | MITEQ        | JS41-001040000-58-5P/153945 | Jul, 2014 |
|           | X | Pre-Amplifier     | NARDA        | DBL-1840N506/013            | Jul, 2014 |

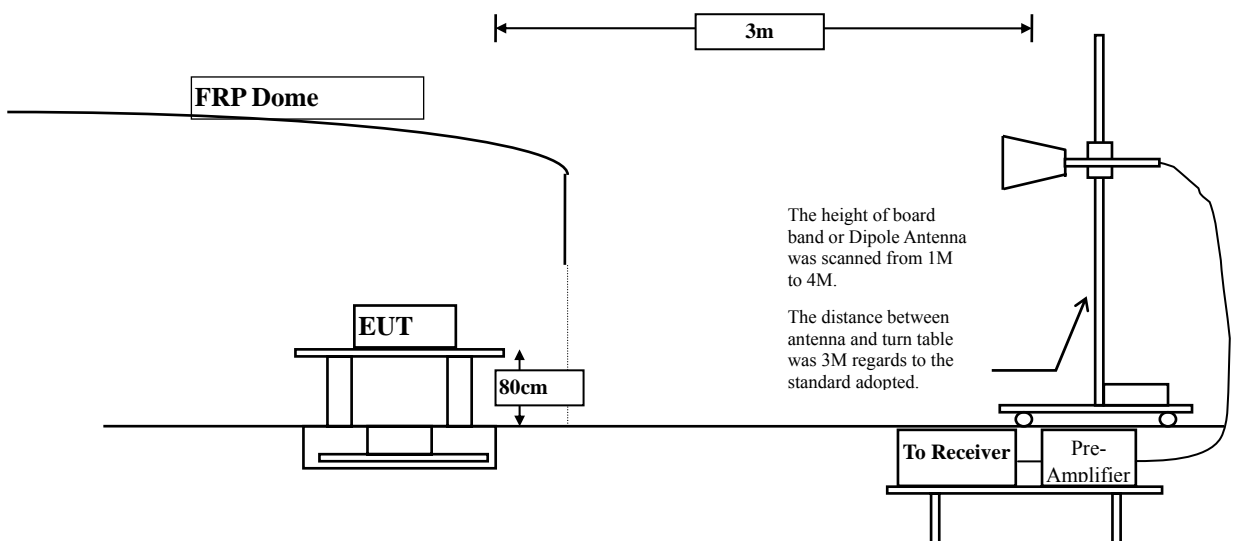
- Note:
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
  2. The test instruments marked with "X" are used to measure the final test results.

### 3.2. Test Setup

Below 1GHz



Above 1GHz



### 3.3. Limits

#### ➤ General Radiated Emission Limits

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

| <b>FCC Part 15 Subpart C Paragraph 15.209 Limits</b> |                                      |                                 |
|--|--------------------------------------|---------------------------------|
| Frequency<br>MHz                                     | Field strength<br>(microvolts/meter) | Measurement distance<br>(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.

### 3.4. Test Procedure

The EUT was setup according to ANSI C63.10, 2009 and tested according to FHSS test procedure of FCC Public Notice DA 00-705 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 0.8 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, 2009 on radiated measurement.

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

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

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

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

The worst radiated emission is measured on the Final Measurement.

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

### 3.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

### 3.6. Test Result of Radiated Emission

Product : Intel® Dual Band Wireless-AC 3165  
 Test Item : Harmonic Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK)(2402MHz)

| Frequency<br>MHz             | Correct<br>Factor<br>dB | Reading<br>Level<br>dBuV | Measurement<br>Level<br>dBuV/m | Margin<br>dB | Limit<br>dBuV/m |
|------------------------------|-------------------------|--------------------------|--------------------------------|--------------|-----------------|
| <b>Horizontal</b>            |                         |                          |                                |              |                 |
| <b>Peak Detector:</b>        |                         |                          |                                |              |                 |
| 4804.000                     | 6.224                   | 43.419                   | 49.643                         | -24.357      | 74.000          |
| 7206.000                     | 10.033                  | 38.167                   | 48.200                         | -25.800      | 74.000          |
| 9608.000                     | 12.438                  | 38.300                   | 50.738                         | -23.262      | 74.000          |
| <b>Average<br/>Detector:</b> |                         |                          |                                |              |                 |
| --                           |                         |                          |                                |              |                 |
| <b>Vertical</b>              |                         |                          |                                |              |                 |
| <b>Peak Detector:</b>        |                         |                          |                                |              |                 |
| 4804.000                     | 6.224                   | 41.100                   | 47.324                         | -26.676      | 74.000          |
| 7206.000                     | 10.033                  | 36.820                   | 46.853                         | -27.147      | 74.000          |
| 9608.000                     | 12.438                  | 37.530                   | 49.968                         | -24.032      | 74.000          |
| <b>Average<br/>Detector:</b> |                         |                          |                                |              |                 |
| --                           |                         |                          |                                |              |                 |

Note:

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

Product : Intel® Dual Band Wireless-AC 3165  
Test Item : Harmonic Radiated Emission  
Test Site : No.3 OATS  
Test Mode : Mode 1: Transmit - 1Mbps (GFSK)(2441MHz)

| Frequency<br>MHz             | Correct<br>Factor<br>dB | Reading<br>Level<br>dBuV | Measurement<br>Level<br>dBuV/m | Margin<br>dB | Limit<br>dBuV/m |
|------------------------------|-------------------------|--------------------------|--------------------------------|--------------|-----------------|
| <b>Horizontal</b>            |                         |                          |                                |              |                 |
| <b>Peak Detector:</b>        |                         |                          |                                |              |                 |
| 4882.000                     | 6.265                   | 42.400                   | 48.666                         | -25.334      | 74.000          |
| 7323.000                     | 10.231                  | 39.100                   | 49.331                         | -24.669      | 74.000          |
| 9764.000                     | 12.916                  | 36.610                   | 49.525                         | -24.475      | 74.000          |
| <b>Average<br/>Detector:</b> |                         |                          |                                |              |                 |
| --                           |                         |                          |                                |              |                 |
| <b>Vertical</b>              |                         |                          |                                |              |                 |
| <b>Peak Detector:</b>        |                         |                          |                                |              |                 |
| 4882.000                     | 6.265                   | 42.400                   | 48.666                         | -25.334      | 74.000          |
| 7323.000                     | 10.231                  | 38.810                   | 49.041                         | -24.959      | 74.000          |
| 9764.000                     | 12.916                  | 36.000                   | 48.915                         | -25.085      | 74.000          |
| <b>Average<br/>Detector:</b> |                         |                          |                                |              |                 |
| --                           |                         |                          |                                |              |                 |

Note:

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



Product : Intel® Dual Band Wireless-AC 3165  
 Test Item : Harmonic Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK)(2480MHz)

| Frequency<br>MHz             | Correct<br>Factor<br>dB | Reading<br>Level<br>dBuV | Measurement<br>Level<br>dBuV/m | Margin<br>dB | Limit<br>dBuV/m |
|------------------------------|-------------------------|--------------------------|--------------------------------|--------------|-----------------|
| <b>Horizontal</b>            |                         |                          |                                |              |                 |
| <b>Peak Detector:</b>        |                         |                          |                                |              |                 |
| 4960.000                     | 6.397                   | 45.200                   | 51.597                         | -22.403      | 74.000          |
| 7440.000                     | 10.245                  | 38.500                   | 48.744                         | -25.256      | 74.000          |
| 9920.000                     | 13.219                  | 38.500                   | 51.719                         | -22.281      | 74.000          |
| <b>Average<br/>Detector:</b> |                         |                          |                                |              |                 |
| --                           |                         |                          |                                |              |                 |
| <b>Vertical</b>              |                         |                          |                                |              |                 |
| <b>Peak Detector:</b>        |                         |                          |                                |              |                 |
| 4960.000                     | 6.397                   | 44.800                   | 51.197                         | -22.803      | 74.000          |
| 7440.000                     | 10.245                  | 39.200                   | 49.444                         | -24.556      | 74.000          |
| 9920.000                     | 13.219                  | 36.400                   | 49.619                         | -24.381      | 74.000          |
| <b>Average<br/>Detector:</b> |                         |                          |                                |              |                 |
| --                           |                         |                          |                                |              |                 |

Note:

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

Product : Intel® Dual Band Wireless-AC 3165  
 Test Item : Harmonic Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK)(2402MHz)

| Frequency<br>MHz             | Correct<br>Factor<br>dB | Reading<br>Level<br>dBuV | Measurement<br>Level<br>dBuV/m | Margin<br>dB | Limit<br>dBuV/m |
|------------------------------|-------------------------|--------------------------|--------------------------------|--------------|-----------------|
| <b>Horizontal</b>            |                         |                          |                                |              |                 |
| <b>Peak Detector:</b>        |                         |                          |                                |              |                 |
| 4804.000                     | 6.224                   | 44.500                   | 50.724                         | -23.276      | 74.000          |
| 7206.000                     | 10.033                  | 38.200                   | 48.233                         | -25.767      | 74.000          |
| 9608.000                     | 12.438                  | 38.500                   | 50.938                         | -23.062      | 74.000          |
| <b>Average<br/>Detector:</b> |                         |                          |                                |              |                 |
| --                           |                         |                          |                                |              |                 |
| <b>Vertical</b>              |                         |                          |                                |              |                 |
| <b>Peak Detector:</b>        |                         |                          |                                |              |                 |
| 4804.000                     | 6.224                   | 44.800                   | 51.024                         | -22.976      | 74.000          |
| 7206.000                     | 10.033                  | 38.500                   | 48.533                         | -25.467      | 74.000          |
| 9608.000                     | 12.438                  | 38.560                   | 50.998                         | -23.002      | 74.000          |
| <b>Average<br/>Detector:</b> |                         |                          |                                |              |                 |
| --                           |                         |                          |                                |              |                 |

Note:

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

Product : Intel® Dual Band Wireless-AC 3165  
 Test Item : Harmonic Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2441MHz)

| Frequency<br>MHz             | Correct<br>Factor<br>dB | Reading<br>Level<br>dBuV | Measurement<br>Level<br>dBuV/m | Margin<br>dB | Limit<br>dBuV/m |
|------------------------------|-------------------------|--------------------------|--------------------------------|--------------|-----------------|
| <b>Horizontal</b>            |                         |                          |                                |              |                 |
| <b>Peak Detector:</b>        |                         |                          |                                |              |                 |
| 4882.000                     | 6.265                   | 43.500                   | 49.766                         | -24.234      | 74.000          |
| 7323.000                     | 10.231                  | 38.600                   | 48.831                         | -25.169      | 74.000          |
| 9764.000                     | 12.916                  | 36.900                   | 49.815                         | -24.185      | 74.000          |
| <b>Average<br/>Detector:</b> |                         |                          |                                |              |                 |
| --                           |                         |                          |                                |              |                 |
| <b>Vertical</b>              |                         |                          |                                |              |                 |
| <b>Peak Detector:</b>        |                         |                          |                                |              |                 |
| 4882.000                     | 6.265                   | 42.800                   | 49.066                         | -24.934      | 74.000          |
| 7323.000                     | 10.231                  | 39.000                   | 49.231                         | -24.769      | 74.000          |
| 9764.000                     | 12.916                  | 36.100                   | 49.015                         | -24.985      | 74.000          |
| <b>Average<br/>Detector:</b> |                         |                          |                                |              |                 |
| --                           |                         |                          |                                |              |                 |

Note:

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

Product : Intel® Dual Band Wireless-AC 3165  
 Test Item : Harmonic Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2480MHz)

| Frequency<br>MHz             | Correct<br>Factor<br>dB | Reading<br>Level<br>dBuV | Measurement<br>Level<br>dBuV/m | Margin<br>dB | Limit<br>dBuV/m |
|------------------------------|-------------------------|--------------------------|--------------------------------|--------------|-----------------|
| <b>Horizontal</b>            |                         |                          |                                |              |                 |
| <b>Peak Detector:</b>        |                         |                          |                                |              |                 |
| 4960.000                     | 6.397                   | 41.900                   | 48.297                         | -25.703      | 74.000          |
| 7440.000                     | 10.245                  | 38.500                   | 48.744                         | -25.256      | 74.000          |
| 9920.000                     | 13.219                  | 35.500                   | 48.719                         | -25.281      | 74.000          |
| <b>Average<br/>Detector:</b> |                         |                          |                                |              |                 |
| --                           |                         |                          |                                |              |                 |
| <b>Vertical</b>              |                         |                          |                                |              |                 |
| <b>Peak Detector:</b>        |                         |                          |                                |              |                 |
| 4960.000                     | 6.397                   | 42.200                   | 48.597                         | -25.403      | 74.000          |
| 7440.000                     | 10.245                  | 38.200                   | 48.444                         | -25.556      | 74.000          |
| 9920.000                     | 13.219                  | 38.230                   | 51.449                         | -22.551      | 74.000          |
| <b>Average<br/>Detector:</b> |                         |                          |                                |              |                 |
| --                           |                         |                          |                                |              |                 |

Note:

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

Product : Intel® Dual Band Wireless-AC 3165  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK) (2441MHz)

| Frequency<br>MHz  | Correct<br>Factor<br>dB | Reading<br>Level<br>dBuV | Measurement<br>Level<br>dBuV/m | Margin<br>dB | Limit<br>dBuV/m |
|-------------------|-------------------------|--------------------------|--------------------------------|--------------|-----------------|
| <b>Horizontal</b> |                         |                          |                                |              |                 |
| 105.660           | -3.862                  | 29.402                   | 25.540                         | -48.460      | 74.000          |
| 336.520           | -3.440                  | 31.785                   | 28.345                         | -45.655      | 74.000          |
| 431.580           | -3.291                  | 33.294                   | 30.003                         | -43.997      | 74.000          |
| 606.180           | -3.084                  | 33.041                   | 29.957                         | -44.043      | 74.000          |
| 720.640           | -2.949                  | 39.002                   | 36.053                         | -37.947      | 74.000          |
| 961.200           | -2.710                  | 40.328                   | 37.618                         | -36.382      | 74.000          |
| <b>Vertical</b>   |                         |                          |                                |              |                 |
| 227.880           | -8.519                  | 28.032                   | 19.514                         | -26.486      | 46.000          |
| 373.380           | -2.373                  | 28.749                   | 26.376                         | -19.624      | 46.000          |
| 528.580           | -0.462                  | 29.329                   | 28.867                         | -17.133      | 46.000          |
| 623.640           | -2.631                  | 31.731                   | 29.100                         | -16.900      | 46.000          |
| 817.640           | 3.272                   | 27.903                   | 31.175                         | -14.825      | 46.000          |
| 961.200           | 7.260                   | 31.111                   | 38.371                         | -15.629      | 54.000          |

Note:

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

Product : Intel® Dual Band Wireless-AC 3165  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2441MHz)

| Frequency<br>MHz  | Correct<br>Factor<br>dB | Reading<br>Level<br>dBuV | Measurement<br>Level<br>dBuV/m | Margin<br>dB | Limit<br>dBuV/m |
|-------------------|-------------------------|--------------------------|--------------------------------|--------------|-----------------|
| <b>Horizontal</b> |                         |                          |                                |              |                 |
| 103.720           | -6.751                  | 33.624                   | 26.872                         | -16.628      | 43.500          |
| 239.520           | -6.851                  | 29.391                   | 22.541                         | -23.459      | 46.000          |
| 431.580           | -2.099                  | 32.011                   | 29.912                         | -16.088      | 46.000          |
| 573.200           | 2.537                   | 26.764                   | 29.301                         | -16.699      | 46.000          |
| 745.860           | 3.308                   | 27.359                   | 30.667                         | -15.333      | 46.000          |
| 912.700           | 6.132                   | 26.953                   | 33.085                         | -12.915      | 46.000          |
| <b>Vertical</b>   |                         |                          |                                |              |                 |
| 57.160            | -4.403                  | 27.549                   | 23.146                         | -16.854      | 40.000          |
| 161.920           | -6.696                  | 29.884                   | 23.189                         | -20.311      | 43.500          |
| 386.960           | -3.064                  | 29.633                   | 26.569                         | -19.431      | 46.000          |
| 623.640           | -2.631                  | 32.656                   | 30.025                         | -15.975      | 46.000          |
| 817.640           | 3.272                   | 28.057                   | 31.329                         | -14.671      | 46.000          |
| 912.700           | 1.762                   | 27.251                   | 29.013                         | -16.987      | 46.000          |

Note:

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

#### 4. Band Edge

##### 4.1. Test Equipment

###### RF Conducted Measurement

The following test equipments are used during the band edge tests:

|   | Equipment         | Manufacturer | Model No./Serial No. | Last Cal.  |
|---|-------------------|--------------|----------------------|------------|
|   | Spectrum Analyzer | R&S          | FSP40 / 100170       | Jun., 2014 |
|   | Spectrum Analyzer | Agilent      | E4407B / US39440758  | Jun., 2014 |
| X | Spectrum Analyzer | Agilent      | N9010A / MY48030495  | Apr., 2015 |

###### RF Radiated Measurement:

The following test equipments are used during the band edge tests:

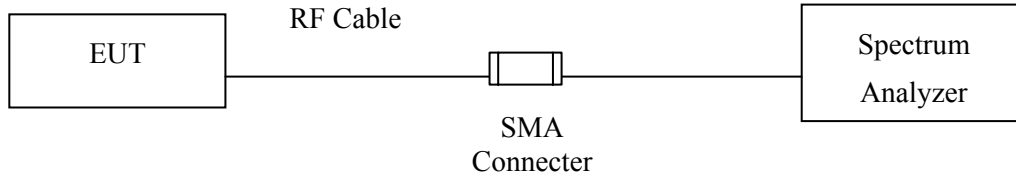
| Test Site  |   | Equipment         | Manufacturer    | Model No./Serial No.  | Last Cal.  |
|------------|---|-------------------|-----------------|-----------------------|------------|
| ☒ Site # 3 |   | Bilog Antenna     | Schaffner Chase | CBL6112B/2673         | Sep., 2014 |
|            | X | Horn Antenna      | Schwarzbeck     | BBHA9120D/D305        | Sep., 2014 |
|            |   | Horn Antenna      | Schwarzbeck     | BBHA9170/208          | Jul., 2014 |
|            | X | Pre-Amplifier     | Agilent         | 8447D/2944A09549      | Sep., 2014 |
|            | X | Spectrum Analyzer | Agilent         | E4407B / US39440758   | May, 2015  |
|            |   | Test Receiver     | R & S           | ESCS 30/ 825442/018   | Sep., 2014 |
|            | X | Coaxial Cable     | QuieTek         | QTK-CABLE/ CAB5       | Feb., 2015 |
|            | X | Controller        | QuieTek         | QTK-CONTROLLER/ CTRL3 | N/A        |
|            | X | Coaxial Switch    | Anritsu         | MP59B/6200265729      | N/A        |

| Test Site |   | Equipment         | Manufacturer | Model No./Serial No.        | Last Cal. |
|-----------|---|-------------------|--------------|-----------------------------|-----------|
| ☒ CB # 8  | X | Spectrum Analyzer | R&S          | FSP40/ 100339               | Oct, 2014 |
|           | X | Horn Antenna      | ETS-Lindgren | 3117/ 35205                 | Mar, 2015 |
|           | X | Horn Antenna      | Schwarzbeck  | BBHA9170/209                | Jan, 2015 |
|           | X | Horn Antenna      | TRC          | AH-0801/95051               | Aug, 2014 |
|           | X | Pre-Amplifier     | EMCI         | EMC012630SE/980210          | Jan, 2015 |
|           | X | Pre-Amplifier     | MITEQ        | JS41-001040000-58-5P/153945 | Jul, 2014 |
|           | X | Pre-Amplifier     | NARDA        | DBL-1840N506/013            | Jul, 2014 |

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

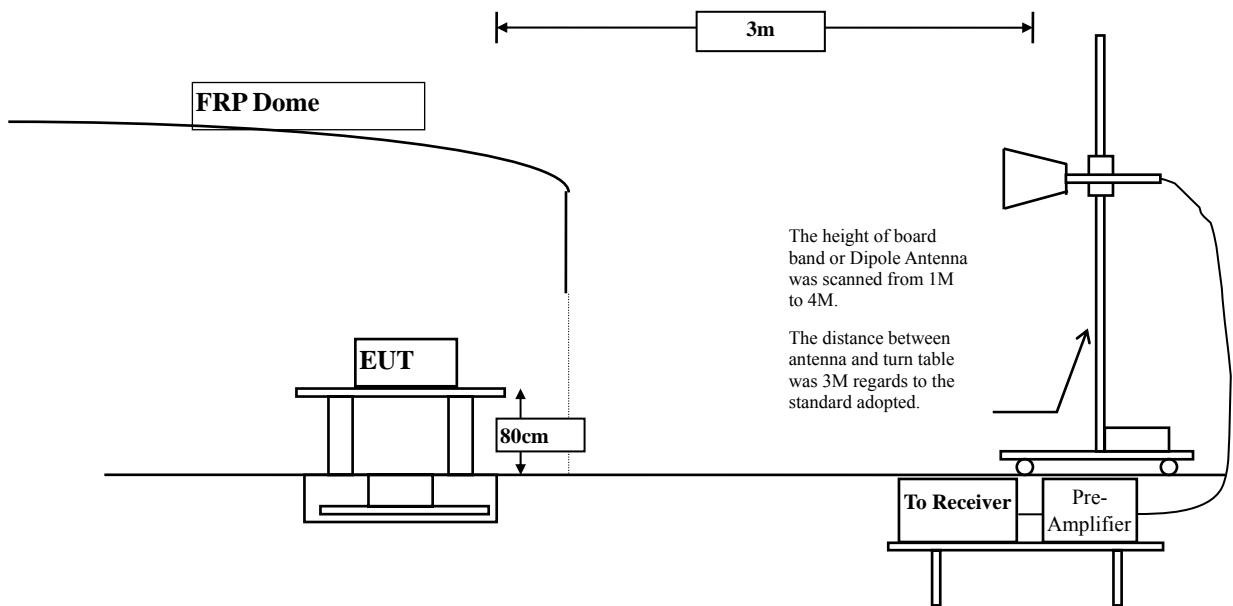
## 4.2. Test Setup

### RF Conducted Measurement



### RF Radiated Measurement:

Above 1GHz





#### **4.3. Limit**

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

#### **4.4. Test Procedure**

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 0.8 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: 2009 on radiated measurement.

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

The EUT was setup to ANSI C63.10: 2009; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

#### **4.5. Uncertainty**

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

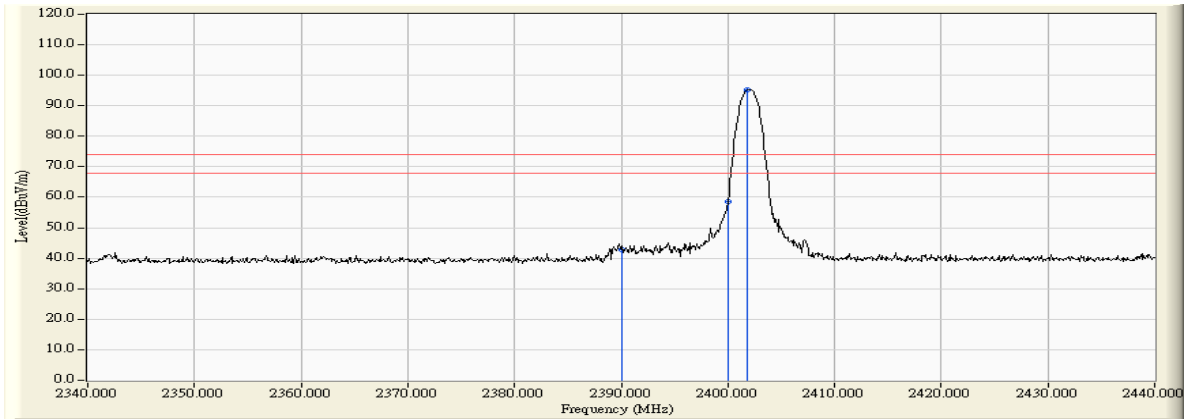
#### 4.6. Test Result of Band Edge

Product : Intel® Dual Band Wireless-AC 3165  
 Test Item : Band Edge  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK)

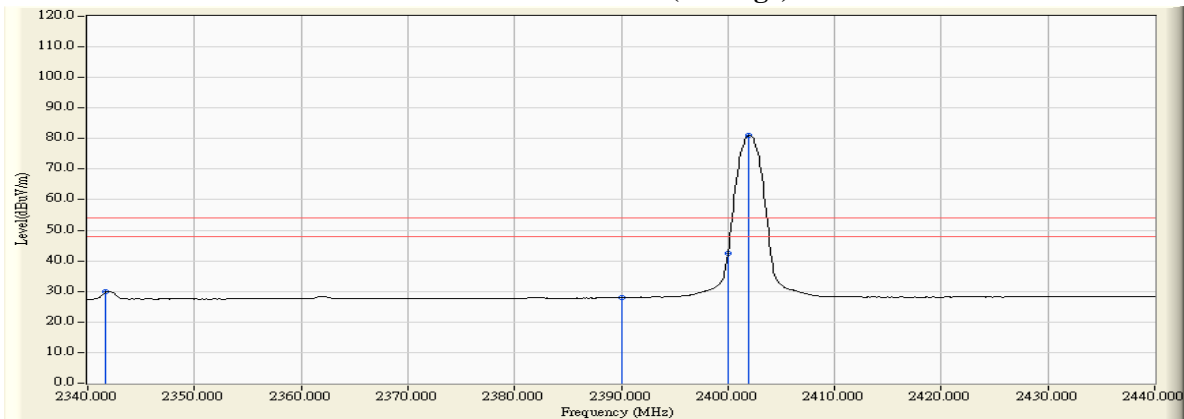
##### RF Radiated Measurement (Horizontal):

| Channel No.  | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|--------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 00 (Peak)    | 2390.000        | -1.131              | 44.070               | 42.939                  | 74.00               | 54.00                  | Pass   |
| 00 (Peak)    | 2400.000        | -1.084              | 59.542               | 58.459                  | --                  | --                     | --     |
| 00 (Peak)    | 2401.800        | -1.074              | 96.232               | 95.158                  | --                  | --                     | --     |
| 00 (Average) | 2341.700        | -1.319              | 31.083               | 29.763                  | 74.00               | 54.00                  | Pass   |
| 00 (Average) | 2390.000        | -1.131              | 29.116               | 27.985                  | 74.00               | 54.00                  | Pass   |
| 00 (Average) | 2400.000        | -1.084              | 43.581               | 42.498                  | --                  | --                     | --     |
| 00 (Average) | 2402.000        | -1.073              | 82.079               | 81.007                  | --                  | --                     | --     |

**Figure Channel 00: Horizontal (Peak)**



**Figure Channel 00: Horizontal (Average)**



Note:

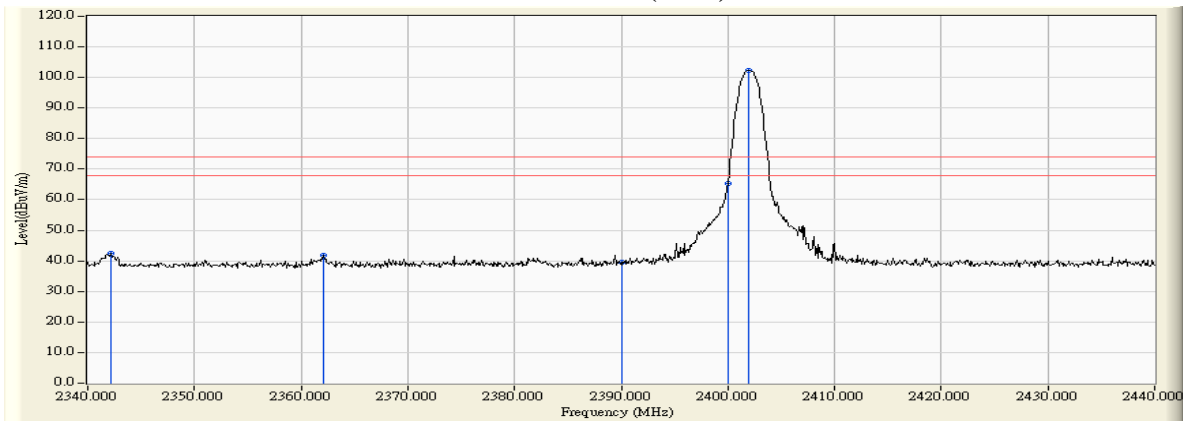
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading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

Product : Intel® Dual Band Wireless-AC 3165  
 Test Item : Band Edge  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK)

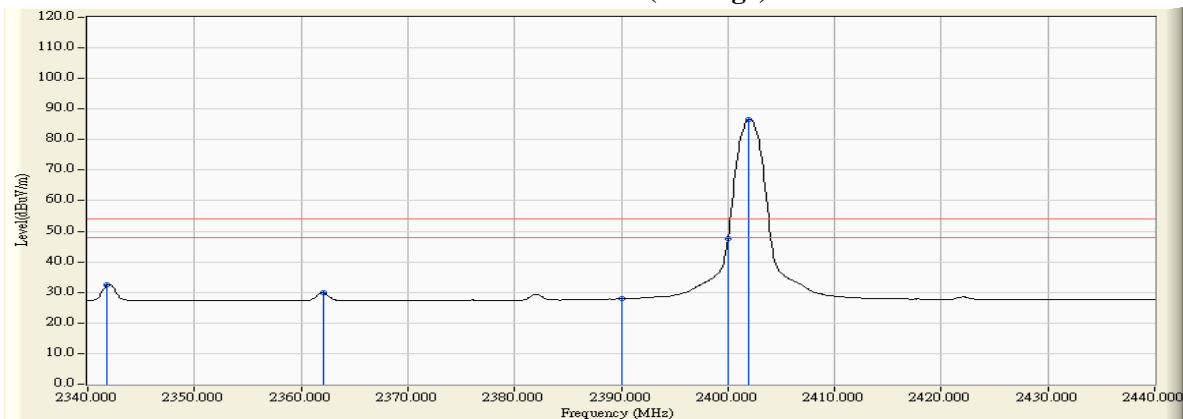
**RF Radiated Measurement (Vertical):**

| Channel No.  | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|--------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 00 (Peak)    | 2342.200        | -1.503              | 43.966               | 42.463                  | 74.00               | 54.00                  | Pass   |
| 00 (Peak)    | 2362.100        | -1.596              | 43.335               | 41.739                  | 74.00               | 54.00                  | Pass   |
| 00 (Peak)    | 2390.000        | -1.725              | 41.248               | 39.523                  | 74.00               | 54.00                  | Pass   |
| 00 (Peak)    | 2400.000        | -1.733              | 67.132               | 65.400                  | --                  | --                     | --     |
| 00 (Peak)    | 2402.000        | -1.729              | 103.927              | 102.198                 | --                  | --                     | --     |
| 00 (Average) | 2341.800        | -1.502              | 33.865               | 32.364                  | 74.00               | 54.00                  | Pass   |
| 00 (Average) | 2362.100        | -1.596              | 31.402               | 29.806                  | 74.00               | 54.00                  | Pass   |
| 00 (Average) | 2390.000        | -1.725              | 29.621               | 27.896                  | 74.00               | 54.00                  | Pass   |
| 00 (Average) | 2400.000        | -1.733              | 49.292               | 47.560                  | --                  | --                     | --     |
| 00 (Average) | 2402.000        | -1.729              | 88.278               | 86.549                  | --                  | --                     | --     |

**Figure Channel 00: Vertical (Peak)**



**Figure Channel 00: Vertical (Average)**



Note:

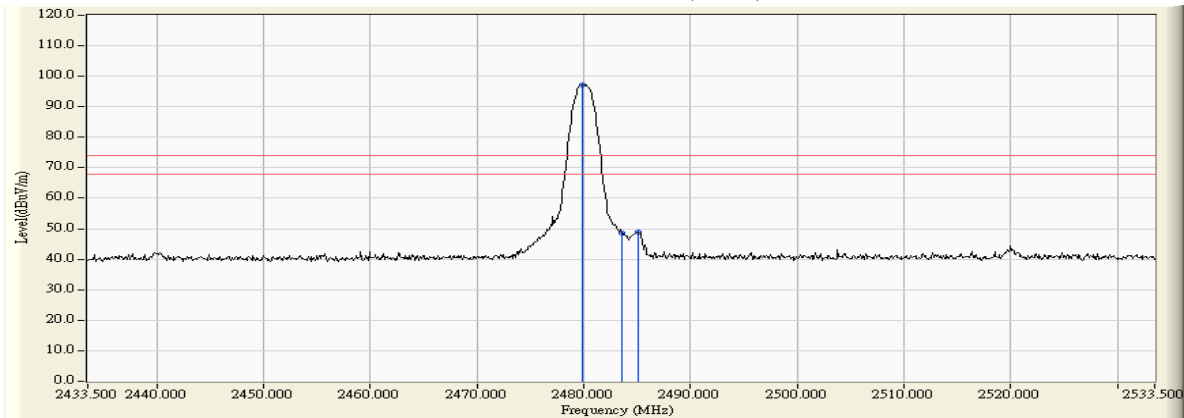
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading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

Product : Intel® Dual Band Wireless-AC 3165  
 Test Item : Band Edge  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK)

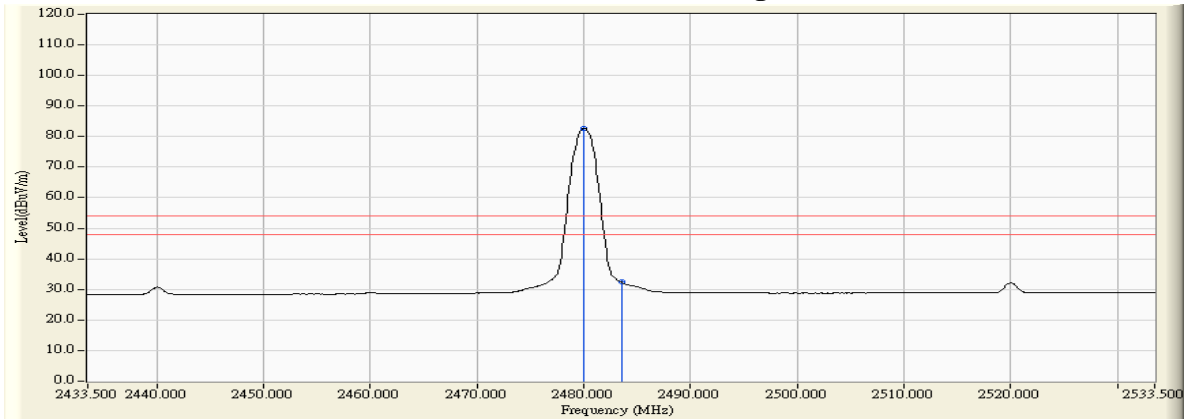
**RF Radiated Measurement (Horizontal):**

| Channel No.  | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|--------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 78 (Peak)    | 2479.800        | -0.582              | 97.827               | 97.245                  | --                  | --                     | --     |
| 78 (Peak)    | 2483.500        | -0.558              | 49.216               | 48.658                  | 74.00               | 54.00                  | Pass   |
| 78 (Peak)    | 2485.100        | -0.548              | 49.307               | 48.759                  | 74.00               | 54.00                  | Pass   |
| 78 (Average) | 2480.000        | -0.581              | 83.403               | 82.822                  | --                  | --                     | --     |
| 78 (Average) | 2483.500        | -0.558              | 32.911               | 32.353                  | 74.00               | 54.00                  | Pass   |

**Figure Channel 78: Horizontal (Peak)**



**Figure Channel 78: Horizontal (Average)**



Note:

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

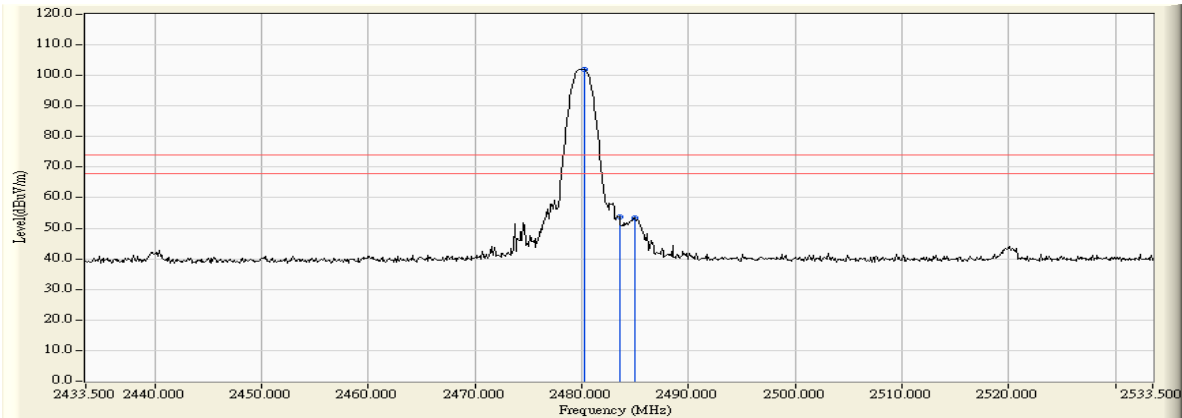
Product : Intel® Dual Band Wireless-AC 3165  
 Test Item : Band Edge  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit - 1Mbps (GFSK)

**RF Radiated Measurement (Vertical):**

| Channel No.  | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|--------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 78 (Peak)    | 2480.200        | -1.323              | 103.400              | 102.077                 | --                  | --                     | --     |
| 78 (Peak)    | 2483.500        | -1.305              | 54.984               | 53.679                  | 74.00               | 54.00                  | Pass   |
| 78 (Peak)    | 2485.000        | -1.296              | 54.547               | 53.250                  | 74.00               | 54.00                  | Pass   |
| 78 (Average) | 2480.000        | -1.324              | 87.933               | 86.609                  | --                  | --                     | --     |
| 78 (Average) | 2483.500        | -1.305              | 34.426               | 33.121                  | 74.00               | 54.00                  | Pass   |
| 78 (Average) | 2520.100        | -1.229              | 35.565               | 34.336                  | 74.00               | 54.00                  | Pass   |

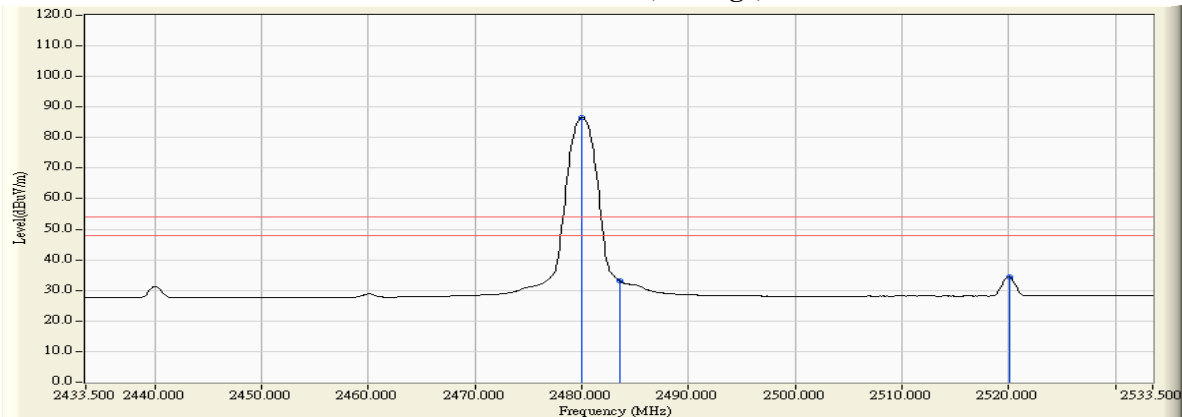
**Figure Channel 78:**

**Vertical (Peak)**



**Figure Channel 78:**

**Vertical (Average)**



**Note:**

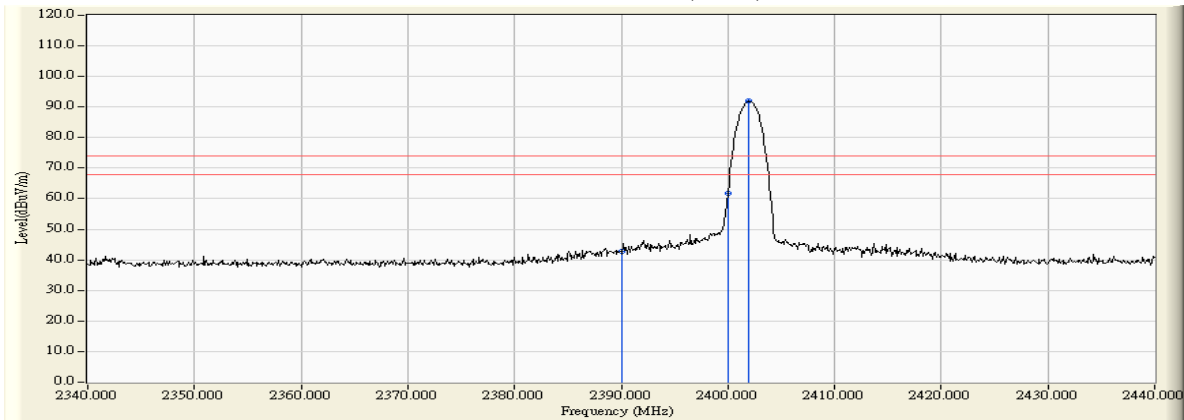
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading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

Product : Intel® Dual Band Wireless-AC 3165  
 Test Item : Band Edge  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK)

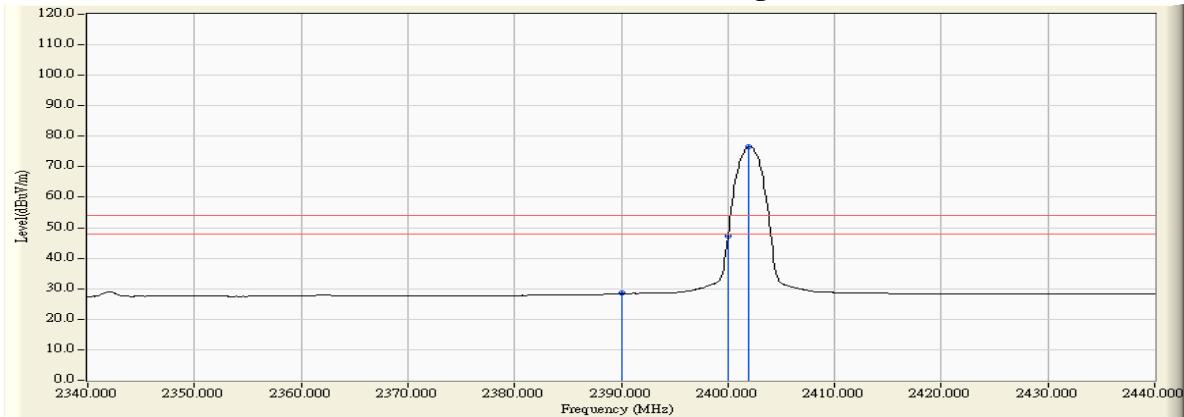
**RF Radiated Measurement (Horizontal):**

| Channel No.  | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|--------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 00 (Peak)    | 2390.000        | -1.131              | 43.868               | 42.737                  | 74.00               | 54.00                  | Pass   |
| 00 (Peak)    | 2400.000        | -1.084              | 62.819               | 61.736                  | --                  | --                     | --     |
| 00 (Peak)    | 2402.000        | -1.073              | 92.932               | 91.860                  | --                  | --                     | --     |
| 00 (Average) | 2390.000        | -1.131              | 29.610               | 28.479                  | 74.00               | 54.00                  | Pass   |
| 00 (Average) | 2400.000        | -1.084              | 48.253               | 47.170                  | --                  | --                     | --     |
| 00 (Average) | 2402.000        | -1.073              | 77.690               | 76.618                  | --                  | --                     | --     |

**Figure Channel 00: Horizontal (Peak)**



**Figure Channel 00: Horizontal (Average)**



Note:

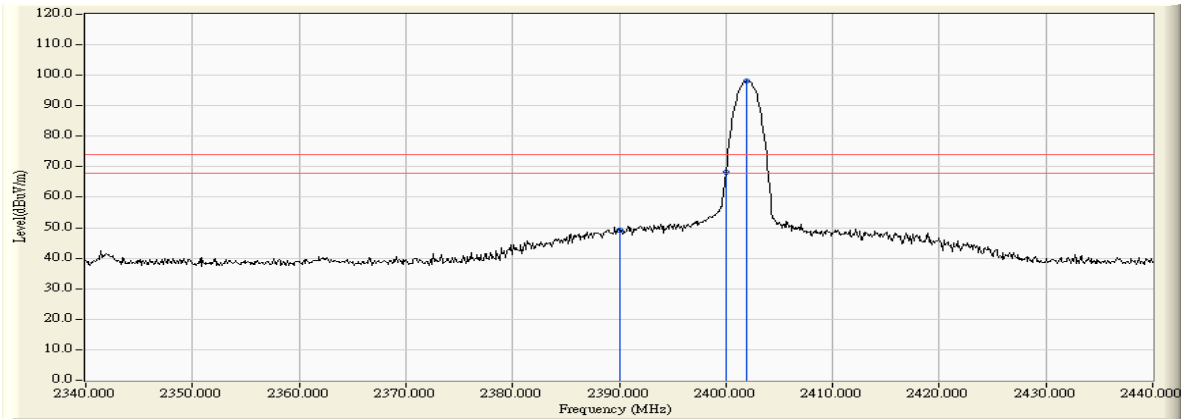
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading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

Product : Intel® Dual Band Wireless-AC 3165  
 Test Item : Band Edge  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK)

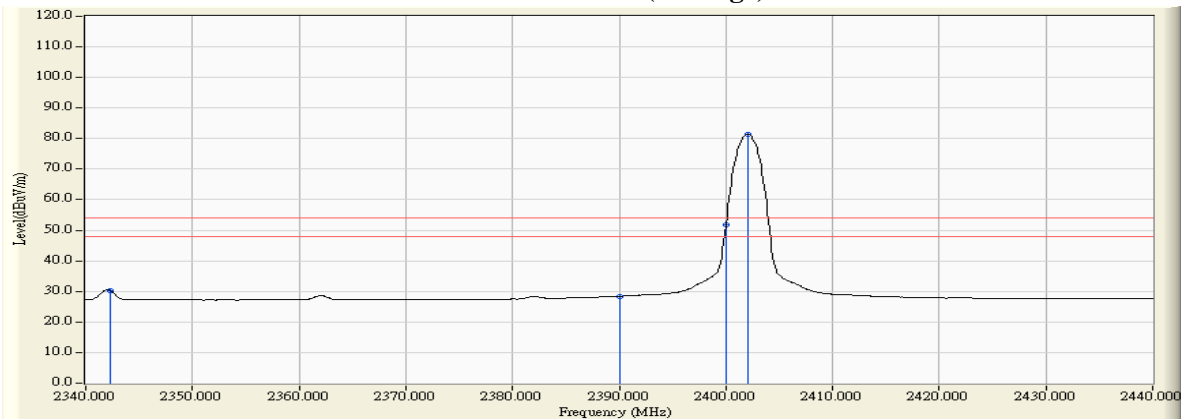
**RF Radiated Measurement (Vertical):**

| Channel No.  | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|--------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 00 (Peak)    | 2390.000        | -1.725              | 50.790               | 49.065                  | 74.00               | 54.00                  | Pass   |
| 00 (Peak)    | 2400.000        | -1.733              | 69.945               | 68.213                  | --                  | --                     | --     |
| 00 (Peak)    | 2402.000        | -1.729              | 99.896               | 98.167                  | --                  | --                     | --     |
| 00 (Average) | 2342.300        | -1.504              | 31.765               | 30.262                  | 74.00               | 54.00                  | Pass   |
| 00 (Average) | 2390.000        | -1.725              | 30.158               | 28.433                  | 74.00               | 54.00                  | Pass   |
| 00 (Average) | 2400.000        | -1.733              | 53.673               | 51.941                  | --                  | --                     | --     |
| 00 (Average) | 2402.100        | -1.729              | 83.224               | 81.495                  | --                  | --                     | --     |

**Figure Channel 00: Vertical (Peak)**



**Figure Channel 00: Vertical (Average)**



Note:

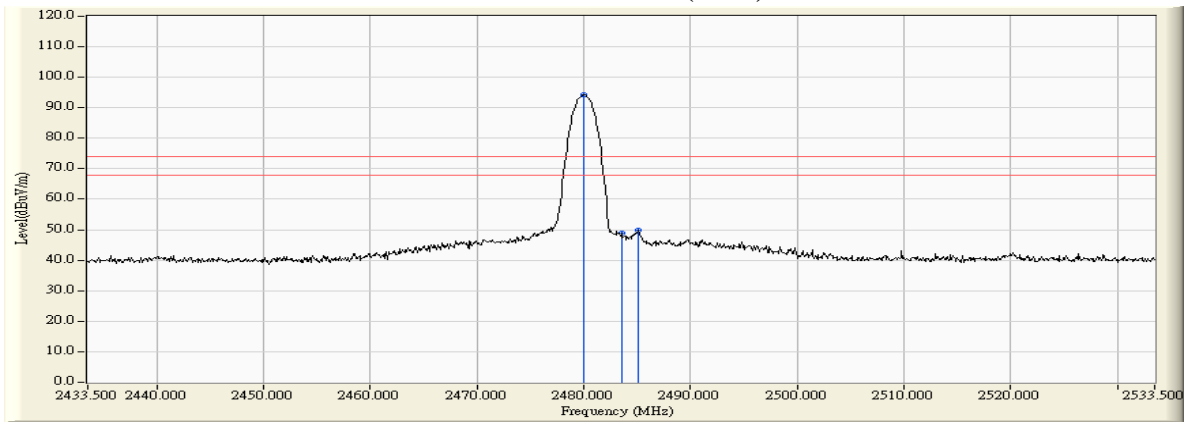
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading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

Product : Intel® Dual Band Wireless-AC 3165  
 Test Item : Band Edge  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK)

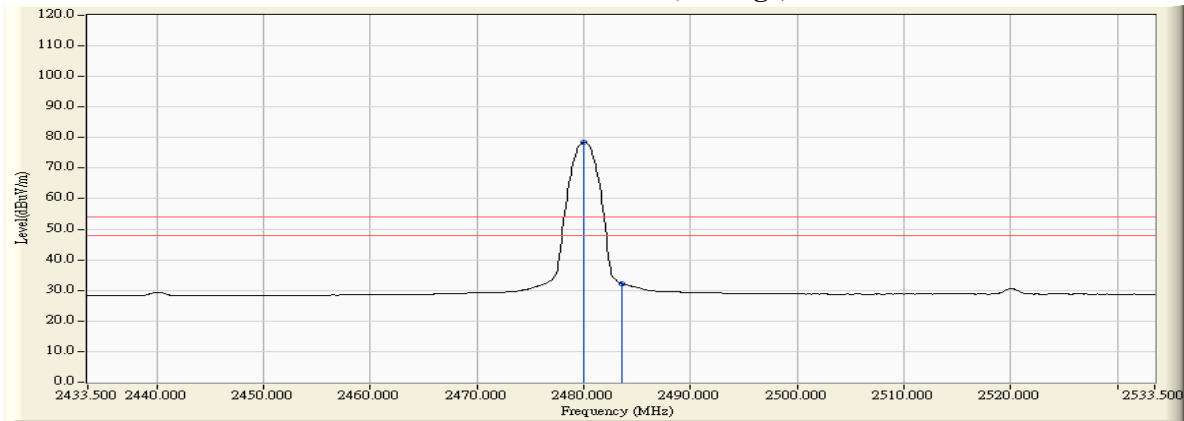
**RF Radiated Measurement (Horizontal):**

| Channel No.  | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|--------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 78 (Peak)    | 2480.000        | -0.581              | 94.766               | 94.185                  | --                  | --                     | --     |
| 78 (Peak)    | 2483.500        | -0.558              | 49.379               | 48.821                  | 74.00               | 54.00                  | Pass   |
| 78 (Peak)    | 2485.100        | -0.548              | 50.367               | 49.819                  | 74.00               | 54.00                  | Pass   |
| 78 (Average) | 2480.000        | -0.581              | 79.107               | 78.526                  | --                  | --                     | --     |
| 78 (Average) | 2483.500        | -0.558              | 32.753               | 32.195                  | 74.00               | 54.00                  | Pass   |

**Figure Channel 78: Horizontal (Peak)**



**Figure Channel 78: Horizontal (Average)**



Note:

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



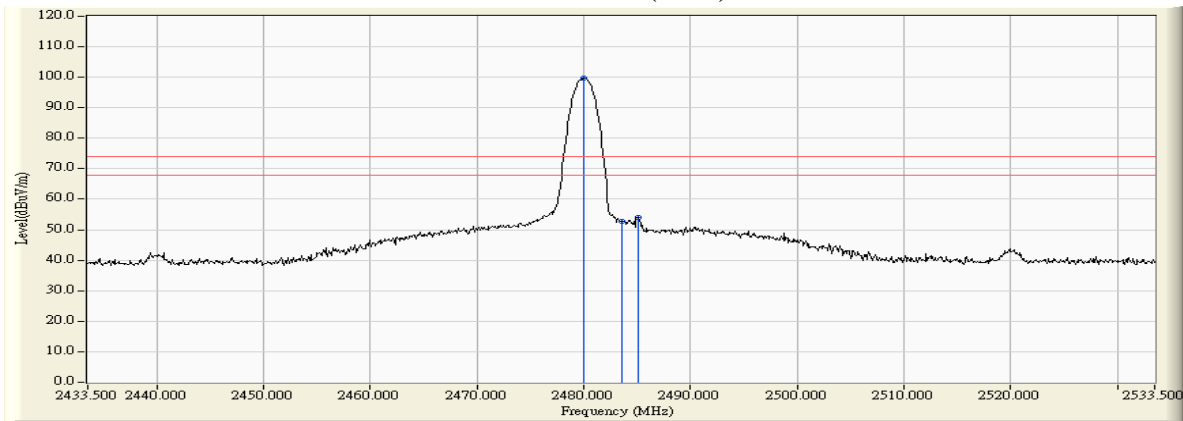
Product : Intel® Dual Band Wireless-AC 3165  
 Test Item : Band Edge  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit - 3Mbps (8DPSK)

**RF Radiated Measurement (Vertical):**

| Channel No.  | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|--------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 78 (Peak)    | 2480.000        | -1.324              | 101.006              | 99.682                  | --                  | --                     | --     |
| 78 (Peak)    | 2483.500        | -1.305              | 54.025               | 52.720                  | 74.00               | 54.00                  | Pass   |
| 78 (Peak)    | 2485.100        | -1.296              | 55.205               | 53.909                  | 74.00               | 54.00                  | Pass   |
| 78 (Average) | 2480.100        | -1.324              | 84.133               | 82.809                  | --                  | --                     | --     |
| 78 (Average) | 2483.500        | -1.305              | 36.350               | 35.045                  | 74.00               | 54.00                  | Pass   |

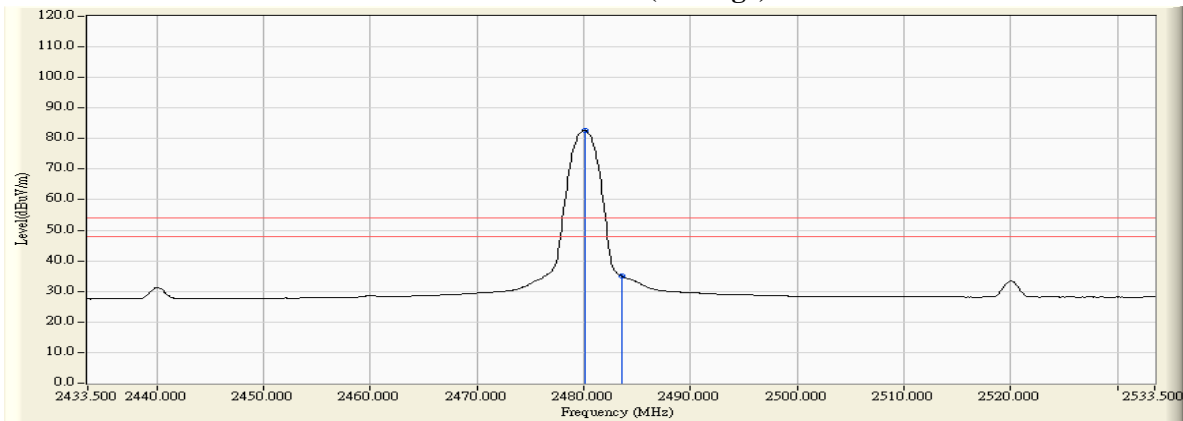
**Figure Channel 78:**

**Vertical (Peak)**



**Figure Channel 78:**

**Vertical (Average)**



**Note:**

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

**5. EMI Reduction Method During Compliance Testing**

No modification was made during testing.