

FCC TEST REPORT

For

Qingdao Hisense Intelligent Commercial System Co., Ltd.

Tablet POS

Test Model: HM518

Prepared for : Qingdao Hisense Intelligent Commercial System Co., Ltd.
Address : Bldg 3, 151 Zhuzhou Lu, Laoshan, Qingdao, China

Prepared by : Shenzhen LCS Compliance Testing Laboratory Ltd.
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Date of receipt of test sample : August 10, 2015
Number of tested samples : 1
Sample number : 15080632
Date of Test : September 16, 2015 - September 29, 2015
Date of Report : September 29, 2015

FCC TEST REPORT**FCC CFR 47 PART 15 C(15.247): 2014****Report Reference No. : LCS1509140629E**

Date of Issue..... : September 29, 2015

Testing Laboratory Name : Shenzhen LCS Compliance Testing Laboratory Ltd.Address..... : 1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue,
Bao'an District, Shenzhen, Guangdong, ChinaTesting Location/ Procedure : Full application of Harmonised standards ☒
Partial application of Harmonised standards ☐
Other standard testing method ☐**Applicant's Name : Qingdao Hisense Intelligent Commercial System Co., Ltd.**

Address..... : Bldg 3, 151 Zhuzhou Lu, Laoshan, Qingdao, China

Test Specification

Standard : FCC CFR 47 PART 15 C(15.247): 2014 / ANSI C63.10: 2013

Test Report Form No..... : LCSEMC-1.0

TRF Originator..... : Shenzhen LCS Compliance Testing Laboratory Ltd.

Master TRF : Dated 2011-03

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Test Item Description..... : Tablet POSTrade Mark..... : **Hisense**

Test Model : HM518

Ratings : DC 7.4V by li-ion polymer battery(4000mAh)

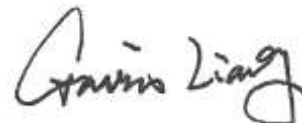
Recharged Voltage: DC 12V/3.33A

Result : **Positive****Compiled by:**

Leo Lee/ File administrators

Supervised by:

Glin Lu/ Technique principal

Approved by:

Gavin Liang/ Manager

FCC -- TEST REPORT**Test Report No. : LCS1509140629E**September 29, 2015

Date of issue

Test Model..... : HM518

EUT..... : Tablet POS

Applicant..... : Qingdao Hisense Intelligent Commercial System Co., Ltd.

Address..... : Bldg 3, 151 Zhuzhou Lu, Laoshan, Qingdao, China

Telephone..... : /

Fax..... : /

Manufacturer..... : Qingdao Hisense Intelligent Commercial System Co., Ltd.

Address..... : Bldg 3, 151 Zhuzhou Lu, Laoshan, Qingdao, China

Telephone..... : /

Fax..... : /

Factory..... : Qingdao Hisense Intelligent Commercial System Co., Ltd.

Address..... : Bldg 3, 151 Zhuzhou Lu, Laoshan, Qingdao, China

Telephone..... : /

Fax..... : /

Test Result**Positive**

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

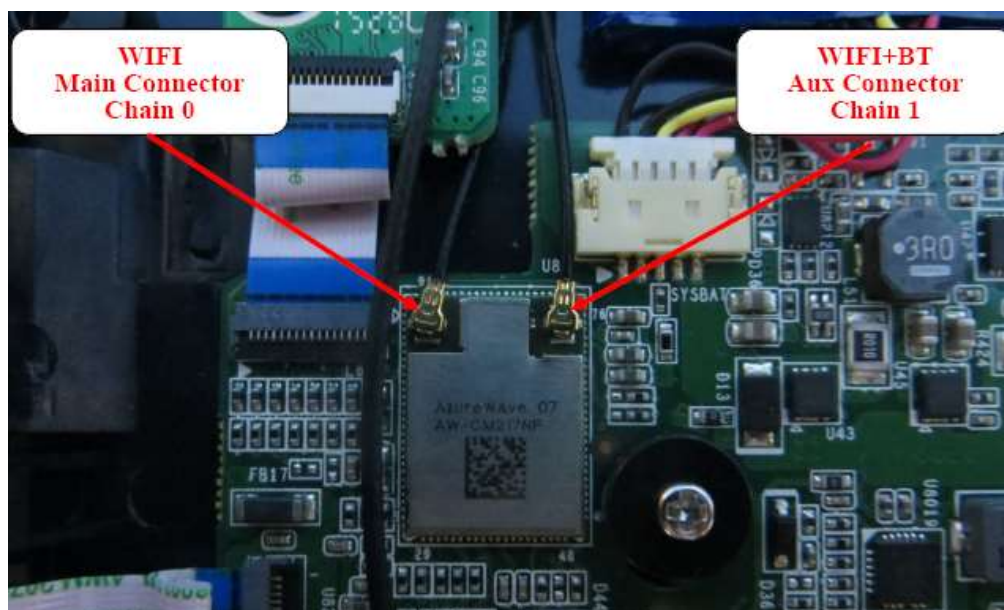
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1. GENERAL INFORMATION

1.1. Description of Device (EUT)

| | |
|----------------------|--|
| EUT | : Tablet POS |
| Test Model | : HM518 |
| Hardware Version | : I1170D0P3V1.0 |
| Software Version | : BIOS:BTPHS140.BIN |
| Power Supply | : DC 7.4V by li-ion polymer battery(4000mAh) Recharged Voltage: DC 12V/3.33A |
| EUT Support | : GSM/GPRS/EGPRS/WCDMA/HSUPA/HSDPA/WIFI/ |
| Radios Application | Bluetooth/NFC |
| Bluetooth Technology | : |
| Frequency Range | : 2402.00-2480.00MHz |
| Channel Spacing | : 2MHz |
| Channel Number | : 40 Channels |
| Modulation Type | : GFSK |
| Bluetooth Version | : This report is only for Bluetooth V4.1 BLE part. For Bluetooth V3.0 part, please see another separate report. |
| Antenna Description | : IFA Antenna(Chain 1), 2.0dBi(Max.) |
| 2.4G WIFI Technology | : |
| Operating Frequency | : 2412.00-2462.00MHz |
| Channel Spacing | : 5MHz |
| Channel Number | : 11 Channels for 20MHz Bandwidth 7 Channels for 40MHz Bandwidth |
| Modulation Type | : 802.11b: DSSS; 802.11g/n: OFDM |
| Antenna Description | : IFA Antenna(Chain 0), 2.2dBi(Max.) For 2.4G Band; IFA Antenna(Chain 1), 2.0dBi(Max.) For 2.4G Band |



1.2. Host System Configuration List and Details

| Manufacturer | Description | Model | Serial Number | Certificate |
|---|-------------------------|--------------|---------------|-------------|
| FSP GROUP INC. | Switching Power Adapter | FSP040-RHAN2 | -- | VOC |
| Qingdao Hisense Intelligent Commercial System Co., Ltd. | Docking Station | HM518 | -- | VOC |

1.3. External I/O

| I/O Port Description | Quantity | Cable |
|----------------------|----------|-------|
| Micro-SD Card Slot | 1 | N/A |
| SIM Card Slot | 1 | N/A |
| IC Card Slot | 1 | N/A |
| USB Port | 1 | N/A |
| Headset Jack | 1 | N/A |
| DC 12V IN Port | 1 | N/A |

1.4. Description of Test Facility

CNAS Registration Number. is L4595.

FCC Registration Number. is 899208.

Industry Canada Registration Number. is 9642A-1.

VCCI Registration Number. is C-4260 and R-3804.

ESMD Registration Number. is ARCB0108.

UL Registration Number. is 100571-492.

TUV SUD Registration Number. is SCN1081.

TUV RH Registration Number. is UA 50296516-001

1.5. List Of Measuring Equipment

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Cal Date | Due Date |
|--------------------------|----------------|----------------------------------|-------------|-----------------|---------------|---------------|
| EMC Receiver | R&S | ESCS 30 | 100174 | 9kHz – 2.75GHz | June 18,2015 | June 17,2016 |
| Signal analyzer | Agilent | E4448A(External mixers to 40GHz) | US44300469 | 9kHz~40GHz | July 16,2015 | July 15,2016 |
| LISN | MESS Tec | NNB-2/16Z | 99079 | 9KHz-30MHz | June 18,2015 | June 17,2016 |
| LISN (Support Unit) | EMCO | 3819/2NM | 9703-1839 | 9KHz-30MHz | June 18,2015 | June 17,2016 |
| RF Cable-CON | UTIFLEX | 3102-26886-4 | CB049 | 9KHz-30MHz | June 18,2015 | June 17,2016 |
| ISN | SCHAFFNER | ISN ST08 | 21653 | 9KHz-30MHz | June 18,2015 | June 17,2016 |
| 3m Semi Anechoic Chamber | SIDT FRANKONIA | SAC-3M | 03CH03-HY | 30M-1GHz 3m | June 18,2015 | June 17,2016 |
| Amplifier | SCHAFFNER | COA9231A | 18667 | 9kHz-2GHz | June 18,2015 | June 17,2016 |
| Amplifier | Agilent | 8449B | 3008A02120 | 1GHz-26.5GHz | July 16,2015 | July 15,2016 |
| Amplifier | MITEQ | AMF-6F-260400 | 9121372 | 26.5GHz-40GHz | July 16,2015 | July 15,2016 |
| Spectrum Analyzer | Agilent | E4407B | MY41440292 | 9k-26.5GHz | July 16,2015 | July 15,2016 |
| MAX Signal Analyzer | Agilent | N9020A | MY50510140 | 20Hz~26.5GHz | Oct. 27, 2014 | Oct. 26, 2015 |
| Loop Antenna | R&S | HFH2-Z2 | 860004/001 | 9k-30MHz | June 18,2015 | June 17,2016 |
| By-log Antenna | SCHWARZBECK | VULB9163 | 9163-470 | 30MHz-1GHz | June 10,2015 | June 09,2016 |
| Horn Antenna | EMCO | 3115 | 6741 | 1GHz-18GHz | June 10,2015 | June 09,2016 |
| Horn Antenna | SCHWARZBECK | BBHA9170 | BBHA9170154 | 15GHz-40GHz | June 10,2015 | June 09,2016 |
| RF Cable-R03m | Jye Bao | RG142 | CB021 | 30MHz-1GHz | June 18,2015 | June 17,2016 |
| RF Cable-HIGH | SUHNER | SUCOFLEX 106 | 03CH03-HY | 1GHz-40GHz | June 18,2015 | June 17,2016 |
| Spectrum Meter | R&S | FSP 30 | 100023 | 9kHz-30GHz | July 16,2015 | July 15,2016 |
| Power Meter | R&S | NRVS | 100444 | DC-40GHz | June 18,2015 | June 17,2016 |
| Power Sensor | R&S | NRV-Z51 | 100458 | DC-30GHz | June 18,2015 | June 17,2016 |
| Power Sensor | R&S | NRV-Z32 | 10057 | 30MHz-6GHz | June 18,2015 | June 17,2016 |
| RF CABLE-1m | JYE Bao | RG142 | CB034-1m | 20MHz-7GHz | June 18,2015 | June 17,2016 |
| RF CABLE-2m | JYE Bao | RG142 | CB035-2m | 20MHz-1GHz | June 18,2015 | June 17,2016 |

Note: All equipment through GRGT EST calibration

1.6. Statement of The Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

1.7. Measurement Uncertainty

| Test Item | | Frequency Range | Uncertainty | Note |
|------------------------|---|-----------------|-------------|------|
| Radiation Uncertainty | : | 9KHz~30MHz | 3.10dB | (1) |
| | | 30MHz~200MHz | 2.96dB | (1) |
| | | 200MHz~1000MHz | 3.10dB | (1) |
| | | 1GHz~26.5GHz | 3.80dB | (1) |
| | | 26.5GHz~40GHz | 3.90dB | (1) |
| Conduction Uncertainty | : | 150kHz~30MHz | 1.63dB | (1) |
| Power disturbance | : | 30MHz~300MHz | 1.60dB | (1) |

(1). This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

1.8. Description Of Test Modes

The EUT has been tested under operating condition.

The EUT was set to transmit at 100% duty cycle. This test was performed with EUT in X, Y, Z position and the worse case was found when EUT in Y position.

There are two test configurations for the pre-testing:

Configuration 1: Configured with Switching Power Adapter (Used For Charging)

Configuration 2: Configured with Switching Power Adapter and Docking Station (Used For Charging)

For pre-testing, the input Voltage/Frequency AC 120V/60Hz and AC 240V/60Hz were used. We found that the Configuration 2(Input AC 120V/60Hz) was the worst case and used for the full test and recorded in this report.

Worst-case mode and channel used for 150kHz-30 MHz power line conducted emissions was determined to be 802.11n(HT20) mode(Low Channel, Chain 0 + Chain 1).

Worst-case mode and channel used for 9kHz-1000 MHz radiated emissions was determined to be 802.11n(HT20) mode(Low Channel, Chain 0 + Chain 1).

Worst-Case data rates were utilized from preliminary testing of the Chipset, worst-case data rates used during the testing are as follows:

V4.1 BLE Part: 1Mbps, GFSK

802.11b Mode: 1 Mbps, DSSS.

802.11g Mode: 6 Mbps, OFDM.

802.11n(HT20) Mode: MCS0, OFDM.

802.11n(HT40) Mode: MCS0, OFDM.

Antenna & Bandwidth For 2.4G WIFI Part:

| Antenna | Chain 0 | | Chain 1 | |
|----------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Bandwidth Mode | 20MHz | 40MHz | 20MHz | 40MHz |
| 802.11b | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 802.11g | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 802.11n(HT20) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 802.11n(HT40) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Channel List & Frequency

V4.1 BLE Part

| Frequency Band | Channel No. | Frequency(MHz) | Channel No. | Frequency(MHz) |
|----------------|-------------|----------------|-------------|----------------|
| 2402~2480MHz | 1 | 2402 | 21 | 2442 |
| | 2 | 2404 | -- | -- |
| | 3 | 2406 | -- | -- |
| | -- | -- | 38 | 2476 |
| | -- | -- | 39 | 2478 |
| | 20 | 2440 | 40 | 2480 |

802.11b/g/n(HT20):

| Frequency Band | Channel No. | Frequency(MHz) | Channel No. | Frequency(MHz) |
|----------------|-------------|----------------|-------------|----------------|
| 2412~2462MHz | 1 | 2412 | 7 | 2442 |
| | 2 | 2417 | 8 | 2447 |
| | 3 | 2422 | 9 | 2452 |
| | 4 | 2427 | 10 | 2457 |
| | 5 | 2432 | 11 | 2462 |
| | 6 | 2437 | -- | -- |

802.11n(HT40):

| Frequency Band | Channel No. | Frequency(MHz) | Channel No. | Frequency(MHz) |
|----------------|-------------|----------------|-------------|----------------|
| 2422~2452MHz | 1 | -- | 7 | 2442 |
| | 2 | -- | 8 | 2447 |
| | 3 | 2422 | 9 | 2452 |
| | 4 | 2427 | 10 | -- |
| | 5 | 2432 | 11 | -- |
| | 6 | 2437 | -- | -- |

2. TEST METHODOLOGY

All measurements contained in this report were conducted with ANSI C63.10: 2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

The radiated testing was performed at an antenna-to-EUT distance of 3 meters. All radiated and conducted emissions measurement was performed at Shenzhen LCS Compliance Testing Laboratory Ltd..

2.1. EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

2.2. EUT Exercise

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

According to FCC's request, Test Procedure KDB558074 D01 DTS Meas Guidance v03r02 and KDB 6622911 are required to be used for this kind of FCC 15.247 digital modulation device.

According to its specifications, the EUT must comply with the requirements of the Section 15.203, 15.205, 15.207, 15.209 and 15.247 under the FCC Rules Part 15 Subpart C.

2.3. General Test Procedures

2.3.1 Conducted Emissions

According to the requirements in Section 6.2 of ANSI C63.10: 2013, AC power-line conducted emissions shall be measured in the frequency range between 0.15 MHz and 30MHz using Quasi-peak and average detector modes.

2.3.2 Radiated Emissions

The EUT is placed on a turn table and the turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 6.3 of ANSI C63.10: 2013

3. SYSTEM TEST CONFIGURATION

3.1. Justification

The system was configured for testing in a continuous transmit condition.

3.2. EUT Exercise Software

N/A

3.3. Special Accessories

N/A

3.4. Block Diagram/Schematics

Please refer to the related document

3.5. Equipment Modifications

Shenzhen LCS Compliance Testing Laboratory Ltd. has not done any modification on the EUT.

3.6. Test Setup

Please refer to the test setup photo.

4. SUMMARY OF TEST RESULTS

| Applied Standard: FCC Part 15 Subpart C | | |
|---|---|-----------|
| FCC Rules | Description of Test | Result |
| §15.247(b)(3) | Maximum Conducted Output Power | Compliant |
| §15.247(e) | Power Spectral Density | Compliant |
| §15.247(a)(2) | 6dB Bandwidth | Compliant |
| §15.209, §15.247(d) | Radiated and Conducted Spurious Emissions | Compliant |
| §15.205 | Emissions at Restricted Band | Compliant |
| §15.207(a) | Line Conducted Emissions | Compliant |
| §15.203 | Antenna Requirements | Compliant |

5. TEST RESULT

5.1. Maximum Conducted Output Power Measurement

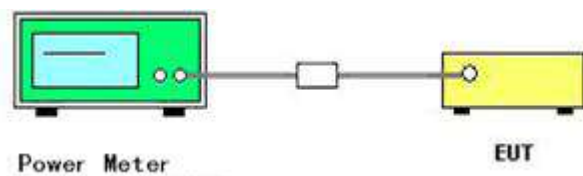
5.1.1. Standard Applicable

According to § 15.247(b)(3), For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850MHz bands: 1 Watt.

5.1.2. Test Procedures

The transmitter output (antenna port) was connected to the power meter.

5.1.3. Test Setup Layout



5.1.4. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

5.1.5. Test Result of Maximum Conducted Output Power

| | | | |
|---------------|------|----------------|-----------------------|
| Temperature | 25°C | Humidity | 60% |
| Test Engineer | Leo | Configurations | V4.1 BLE, 802.11b/g/n |

V4.1 BLE Part (Chain 1 Only)

| Channel | Frequency (MHz) | Conducted Power (dBm, Average) | Max. Limit (dBm) | Result |
|---------|-----------------|--------------------------------|------------------|----------|
| 1 | 2402 | -0.81 | 30 | Complies |
| 20 | 2440 | 0.17 | 30 | Complies |
| 40 | 2480 | -0.51 | 30 | Complies |

802.11b

| Channel | Frequency (MHz) | Conducted Power(dBm, Average) | | Max. Limit (dBm) | Result |
|---------|-----------------|-------------------------------|---------|------------------|----------|
| | | Chain 0 | Chain 1 | | |
| 1 | 2412 | 16.19 | 15.81 | 30 | Complies |
| 6 | 2437 | 16.05 | 15.13 | 30 | Complies |
| 11 | 2462 | 15.65 | 15.22 | 30 | Complies |

802.11g

| Channel | Frequency (MHz) | Conducted Power(dBm, Average) | | Max. Limit (dBm) | Result |
|---------|-----------------|-------------------------------|---------|------------------|----------|
| | | Chain 0 | Chain 1 | | |
| 1 | 2412 | 15.56 | 15.19 | 30 | Complies |
| 6 | 2437 | 15.39 | 15.07 | 30 | Complies |
| 11 | 2462 | 15.34 | 15.01 | 30 | Complies |

802.11n(HT20)

| Channel | Frequency (MHz) | Conducted Power(dBm, Average) | | | Max. Limit (dBm) | Result |
|---------|-----------------|-------------------------------|---------|------------------|------------------|----------|
| | | Chain 0 | Chain 1 | Chain 0+ Chain 1 | | |
| 1 | 2412 | 14.98 | 14.42 | 17.72 | 30 | Complies |
| 6 | 2437 | 14.61 | 14.31 | 17.47 | 30 | Complies |
| 11 | 2462 | 14.46 | 14.22 | 17.35 | 30 | Complies |

802.11n(HT40)

| Channel | Frequency (MHz) | Conducted Power(dBm, Average) | | | Max. Limit (dBm) | Result |
|---------|-----------------|-------------------------------|---------|------------------|------------------|----------|
| | | Chain 0 | Chain 1 | Chain 0+ Chain 1 | | |
| 3 | 2422 | 12.10 | 11.74 | 14.93 | 30 | Complies |
| 6 | 2437 | 12.28 | 11.89 | 15.10 | 30 | Complies |
| 9 | 2452 | 12.87 | 12.03 | 15.48 | 30 | Complies |

5.2. Power Spectral Density Measurement

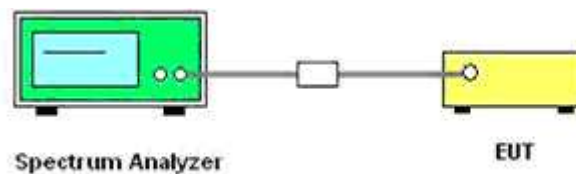
5.2.1. Standard Applicable

According to §15.247(e): For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

5.2.2. Test Procedures

- 1) The transmitter was connected directly to a Spectrum Analyzer through a directional couple.
- 2) The power was monitored at the coupler port with a Spectrum Analyzer. The power level was set to the maximum level.
- 3) Set the RBW = 3 kHz.
- 4) Set the VBW $\geq 3 \times \text{RBW}$
- 5) Set the span to 1.5 times the DTS channel bandwidth.
- 6) Detector = peak.
- 7) Sweep time = auto couple.
- 8) Trace mode = max hold.
- 9) Allow trace to fully stabilize.
- 10) Use the peak marker function to determine the maximum power level in any 3 kHz band segment within the fundamental EBW.

5.2.3. Test Setup Layout



5.2.4. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

5.2.5. Test Result of Power Spectral Density

| | | | |
|---------------|------|----------------|-----------------------|
| Temperature | 25°C | Humidity | 60% |
| Test Engineer | Leo | Configurations | V4.1 BLE, 802.11b/g/n |

V4.1 BLE Part (Chain 1 Only)

| Channel | Frequency (MHz) | Power Density (dBm/3KHz) | Max. Limit (dBm/3KHz) | Result |
|---------|-----------------|--------------------------|-----------------------|----------|
| 1 | 2402 | -15.76 | 8 | Complies |
| 20 | 2440 | -14.56 | 8 | Complies |
| 40 | 2480 | -15.33 | 8 | Complies |

802.11b

| Channel | Frequency (MHz) | Power Density(dBm/3KHz) | | Max. Limit (dBm/3KHz) | Result |
|---------|-----------------|-------------------------|---------|-----------------------|----------|
| | | Chain 0 | Chain 1 | | |
| 1 | 2412 | -9.57 | -10.20 | 8 | Complies |
| 6 | 2437 | -10.43 | -11.11 | 8 | Complies |
| 11 | 2462 | -10.47 | -9.72 | 8 | Complies |

802.11g

| Channel | Frequency (MHz) | Power Density(dBm/3KHz) | | Max. Limit (dBm/3KHz) | Result |
|---------|-----------------|-------------------------|---------|-----------------------|----------|
| | | Chain 0 | Chain 1 | | |
| 1 | 2412 | -12.56 | -13.04 | 8 | Complies |
| 6 | 2437 | -12.96 | -13.10 | 8 | Complies |
| 11 | 2462 | -12.32 | -13.22 | 8 | Complies |

802.11n(HT20)

| Channel | Frequency (MHz) | Power Density(dBm/3KHz) | | | Max. Limit (dBm/3KHz) | Result |
|---------|-----------------|-------------------------|---------|-----------------|-----------------------|----------|
| | | Chain 0 | Chain 1 | Chain 0+Chain 1 | | |
| 1 | 2412 | -12.99 | -13.78 | -10.36 | 8 | Complies |
| 6 | 2437 | -13.44 | -13.83 | -10.62 | 8 | Complies |
| 11 | 2462 | -13.09 | -13.75 | -10.40 | 8 | Complies |

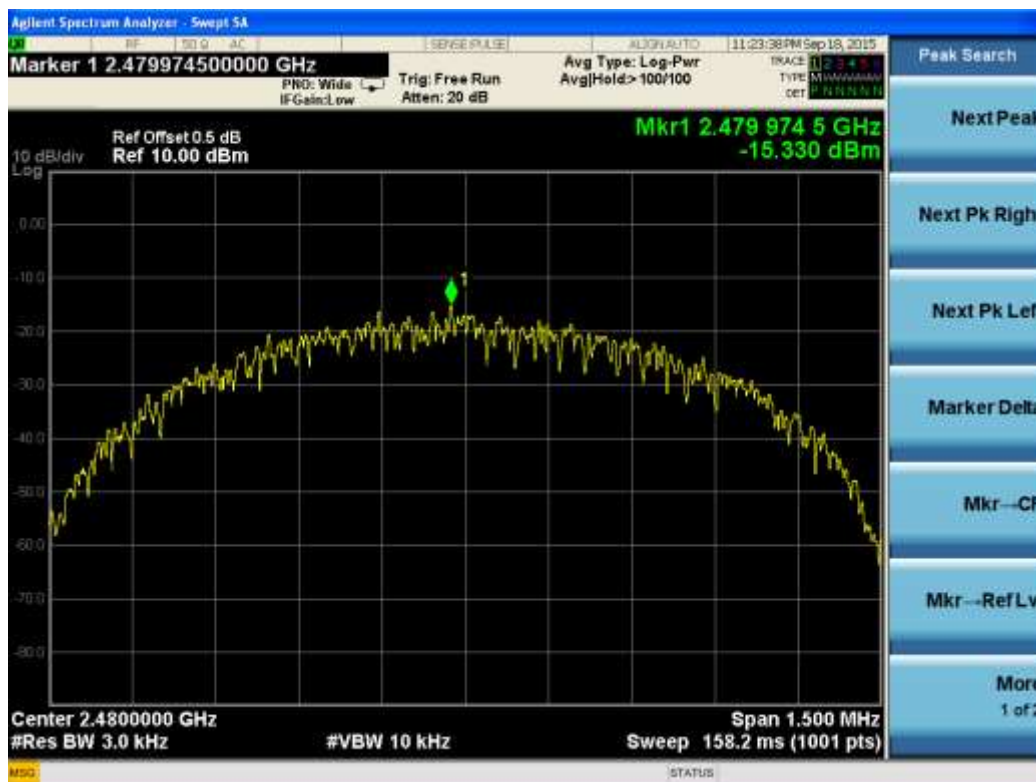
802.11n(HT40)

| Channel | Frequency (MHz) | Power Density(dBm/3KHz) | | | Max. Limit (dBm/3KHz) | Result |
|---------|-----------------|-------------------------|---------|-----------------|-----------------------|----------|
| | | Chain 0 | Chain 1 | Chain 0+Chain 1 | | |
| 3 | 2422 | -14.44 | -15.28 | -11.83 | 8 | Complies |
| 6 | 2437 | -13.48 | -16.60 | -11.76 | 8 | Complies |
| 9 | 2452 | -14.10 | -16.34 | -12.07 | 8 | Complies |

Note: The measured power density (dBm) has the offset with cable loss already.

V4.1 BLE Part power density (Chain 1 Only)





802.11b power density / Chain 0





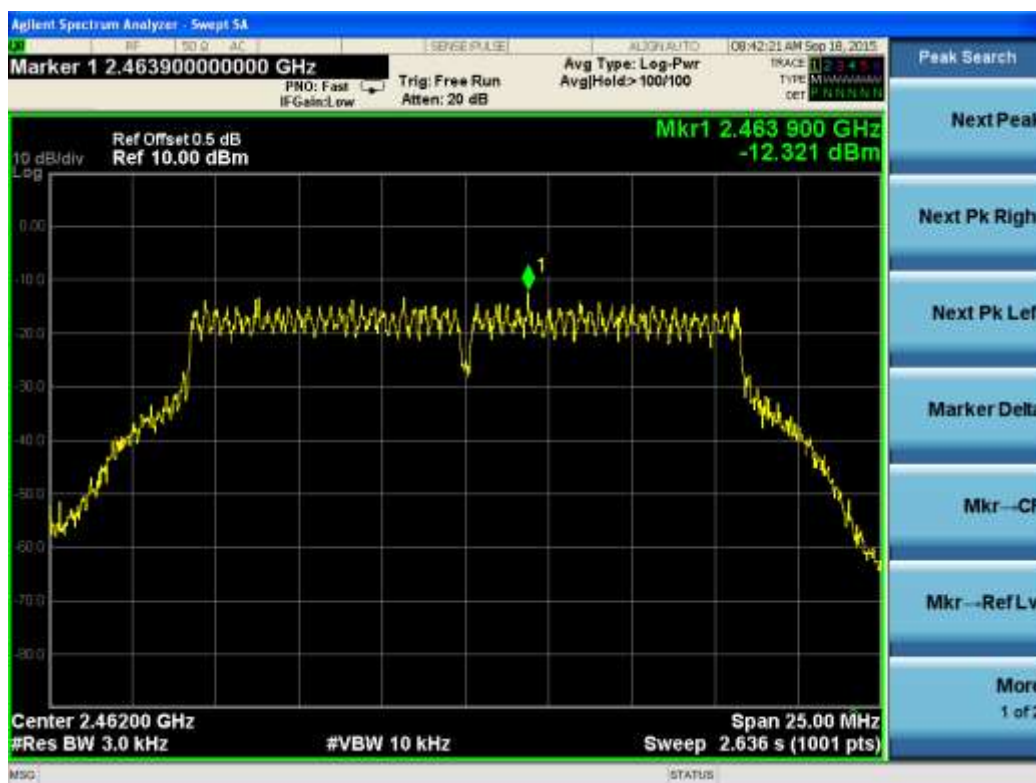
802.11b power density / Chain 1





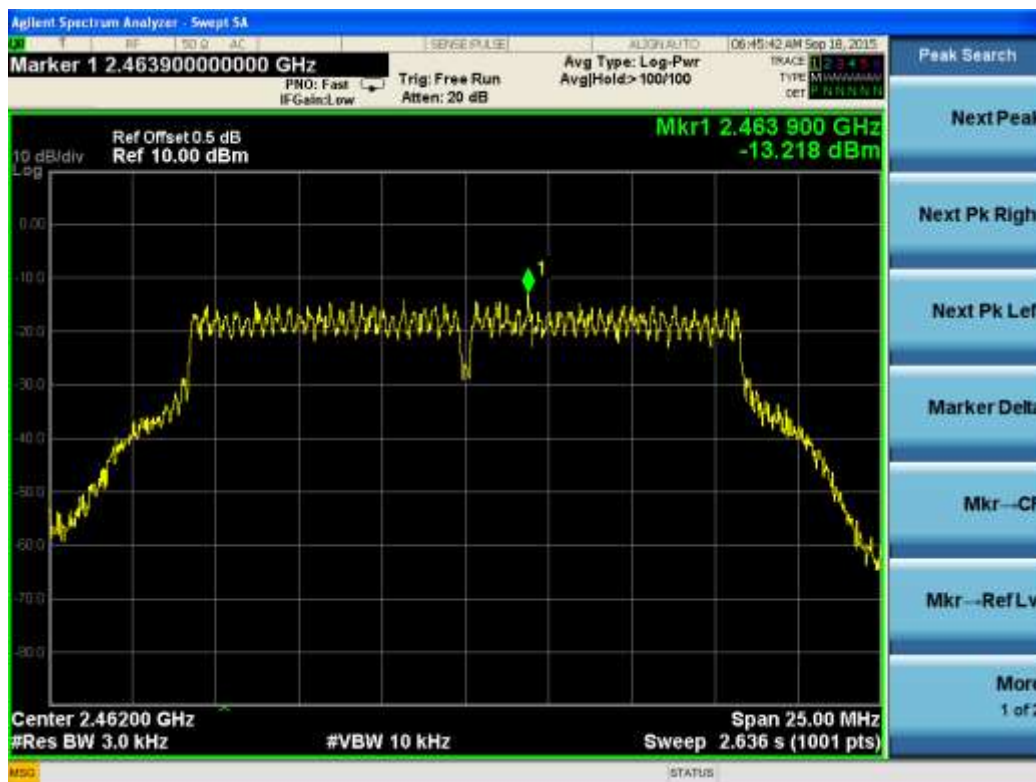
802.11g power density / Chain 0





802.11g power density / Chain 1



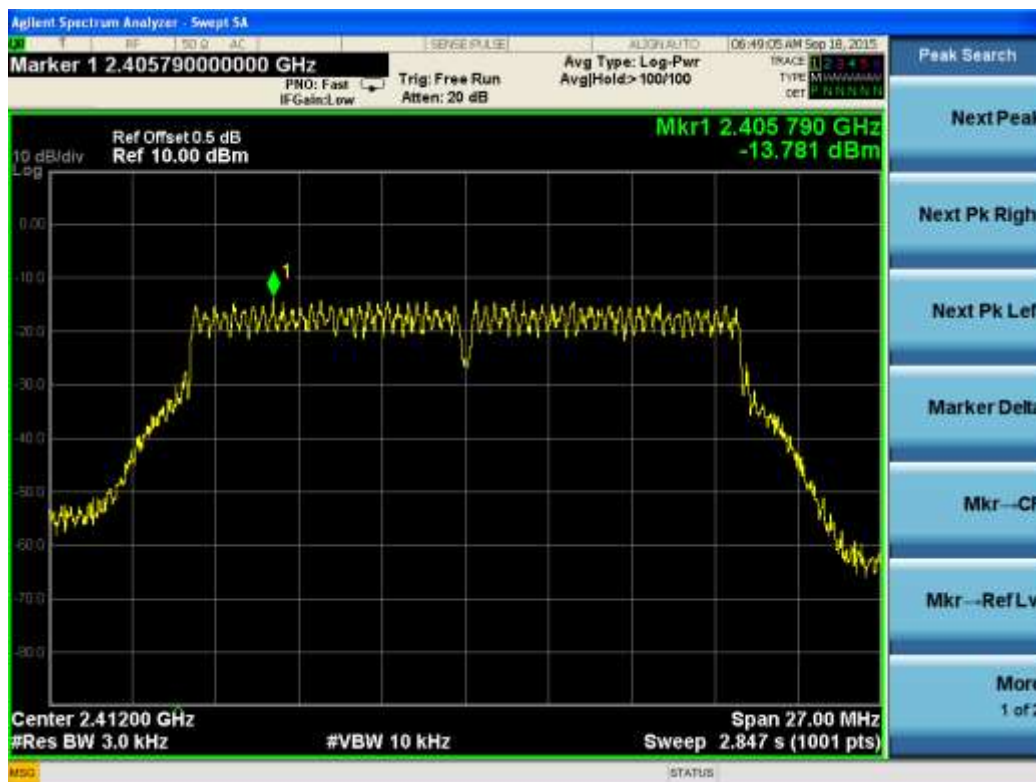


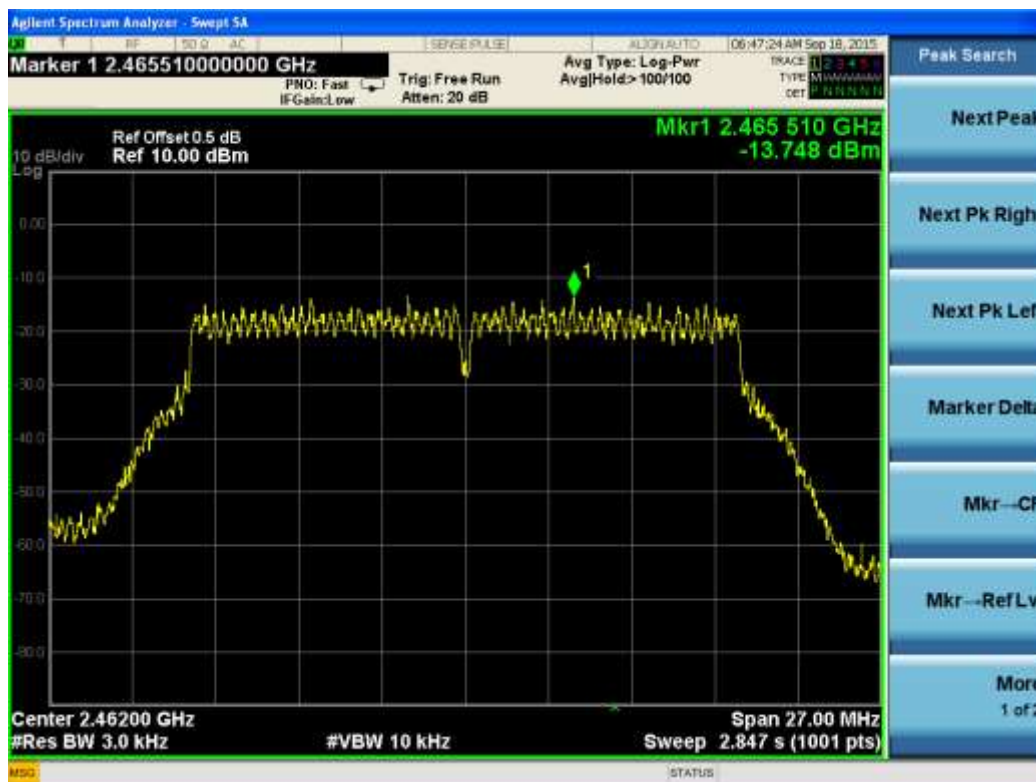
802.11n(HT20) power density / Chain 0





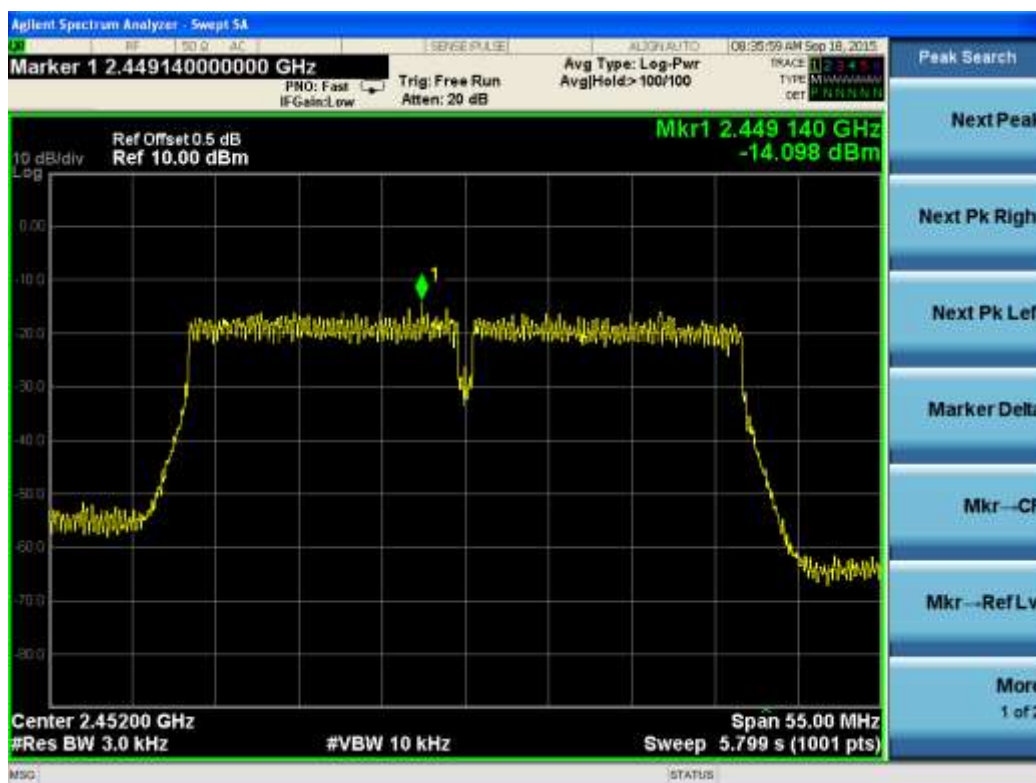
802.11n(HT20) power density / Chain 1



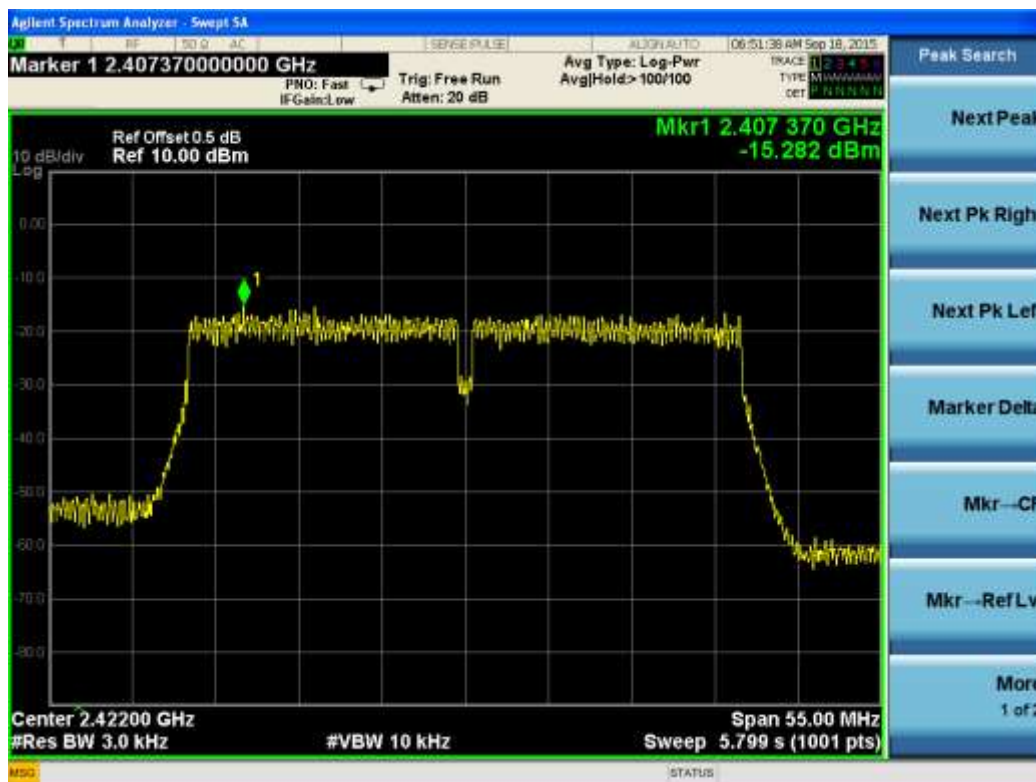


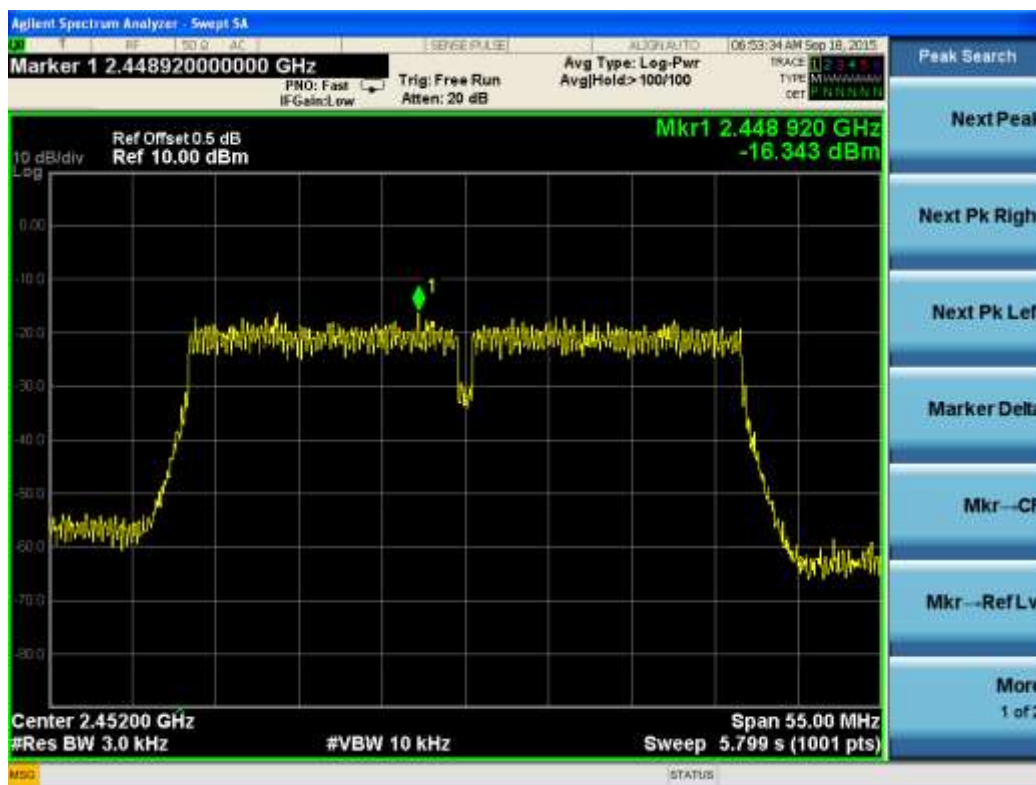
802.11n(HT40) power density / Chain 0





802.11n(HT40) power density / Chain 1





5.3. 6 dB Spectrum Bandwidth Measurement

5.3.1. Standard Applicable

According to §15.247(a)(2): Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5MHz, and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

5.3.2. Instruments Setting

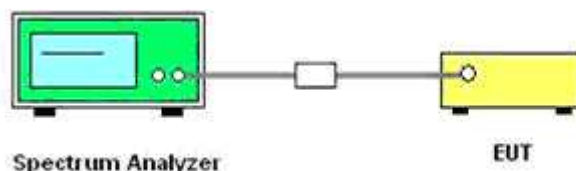
The following table is the setting of the Spectrum Analyzer.

| Spectrum Parameter | Setting |
|--------------------|----------|
| Attenuation | Auto |
| Span Frequency | > RBW |
| Detector | Peak |
| Trace | Max Hold |
| Sweep Time | 100ms |

5.3.3. Test Procedures

- 1) The transmitter output (antenna port) was connected to the spectrum analyser in peak hold mode.
- 2) The resolution bandwidth and the video bandwidth were set according to KDB558074 D01 DTS Meas. Guidance v03r02.
- 3) Measured the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6dB relative to the maximum level measured in the fundamental emission.
- 4) Measured the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 20dB relative to the maximum level measured in the fundamental emission.

5.3.4. Test Setup Layout



5.3.5. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

5.3.6. Test Result of Spectrum Bandwidth

| | | | |
|---------------|------|----------------|-----------------------|
| Temperature | 25°C | Humidity | 60% |
| Test Engineer | Leo | Configurations | V4.1 BLE, 802.11b/g/n |

V4.1 BLE Part (Chain 1 Only)

| Channel | Frequency | 6dB Bandwidth (MHz) | Min. Limit (kHz) | Result |
|---------|-----------|---------------------|------------------|----------|
| 1 | 2402 | 0.71 | 500 | Complies |
| 20 | 2440 | 0.72 | 500 | Complies |
| 40 | 2480 | 0.71 | 500 | Complies |

802.11b

| Channel | Frequency | 6dB Bandwidth (MHz, Chain 0) | 6dB Bandwidth (MHz, Chain 1) | Min. Limit (kHz) | Result |
|---------|-----------|------------------------------|------------------------------|------------------|----------|
| 1 | 2412 | 8.64 | 8.81 | 500 | Complies |
| 6 | 2437 | 8.94 | 8.57 | 500 | Complies |
| 11 | 2462 | 8.70 | 8.89 | 500 | Complies |

802.11g

| Channel | Frequency | 6dB Bandwidth (MHz, Chain 0) | 6dB Bandwidth (MHz, Chain 1) | Min. Limit (kHz) | Result |
|---------|-----------|------------------------------|------------------------------|------------------|----------|
| 1 | 2412 | 16.38 | 16.40 | 500 | Complies |
| 6 | 2437 | 16.40 | 16.39 | 500 | Complies |
| 11 | 2462 | 16.40 | 16.39 | 500 | Complies |

802.11n(HT20)

| Channel | Frequency | 6dB Bandwidth (MHz, Chain 0) | 6dB Bandwidth (MHz, Chain 1) | Min. Limit (kHz) | Result |
|---------|-----------|------------------------------|------------------------------|------------------|----------|
| 1 | 2412 | 17.60 | 17.61 | 500 | Complies |
| 6 | 2437 | 17.62 | 17.60 | 500 | Complies |
| 11 | 2462 | 17.60 | 17.61 | 500 | Complies |

802.11n(HT40)

| Channel | Frequency | 6dB Bandwidth (MHz, Chain 0) | 6dB Bandwidth (MHz, Chain 1) | Min. Limit (kHz) | Result |
|---------|-----------|------------------------------|------------------------------|------------------|----------|
| 3 | 2422 | 36.36 | 36.13 | 500 | Complies |
| 6 | 2437 | 36.05 | 35.97 | 500 | Complies |
| 9 | 2452 | 36.33 | 36.35 | 500 | Complies |

V4.1BLE Part channel, 6dB bandwidth (Chain 1 Only)





802.11b channel, 6dB bandwidth / Chain 0





802.11b channel, 6dB bandwidth / Chain 1





802.11g channel, 6dB bandwidth / Chain 0



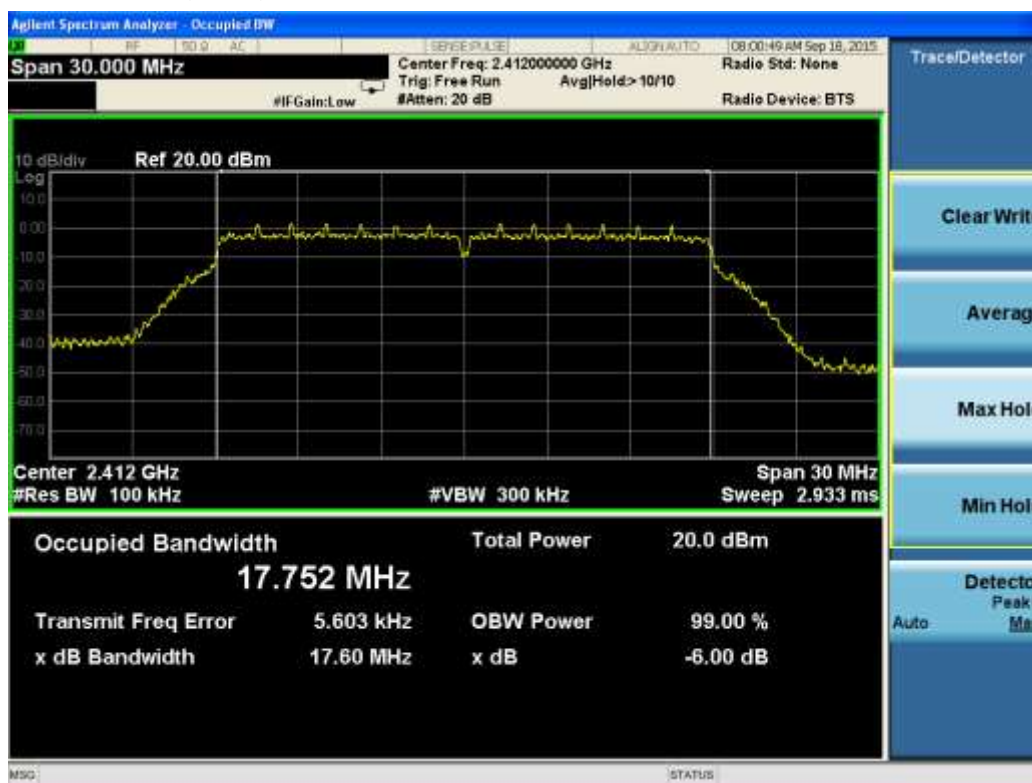


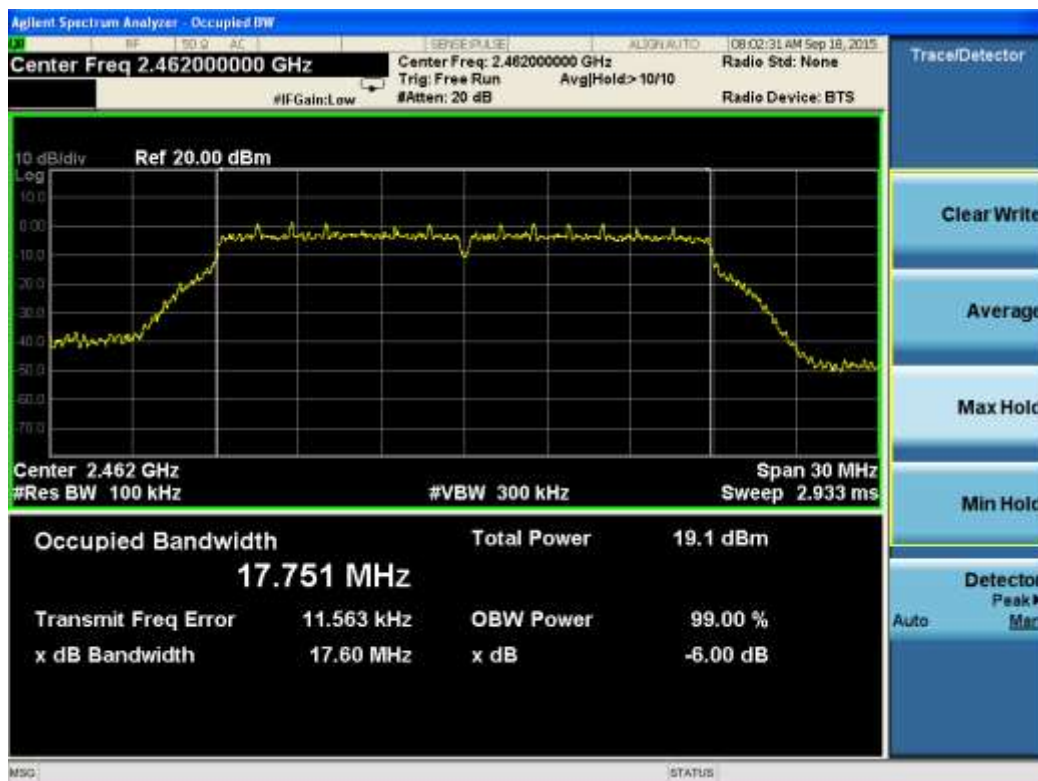
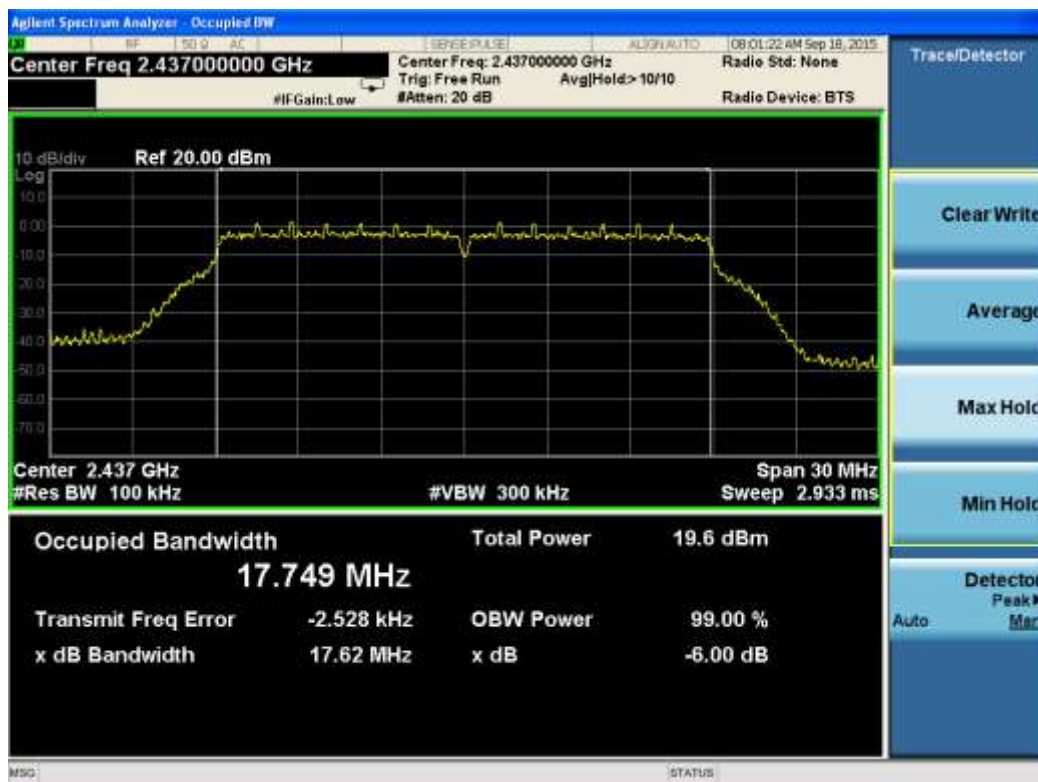
802.11g channel, 6dB bandwidth / Chain 1





802.11n(HT20) channel, 6dB bandwidth / Chain 0



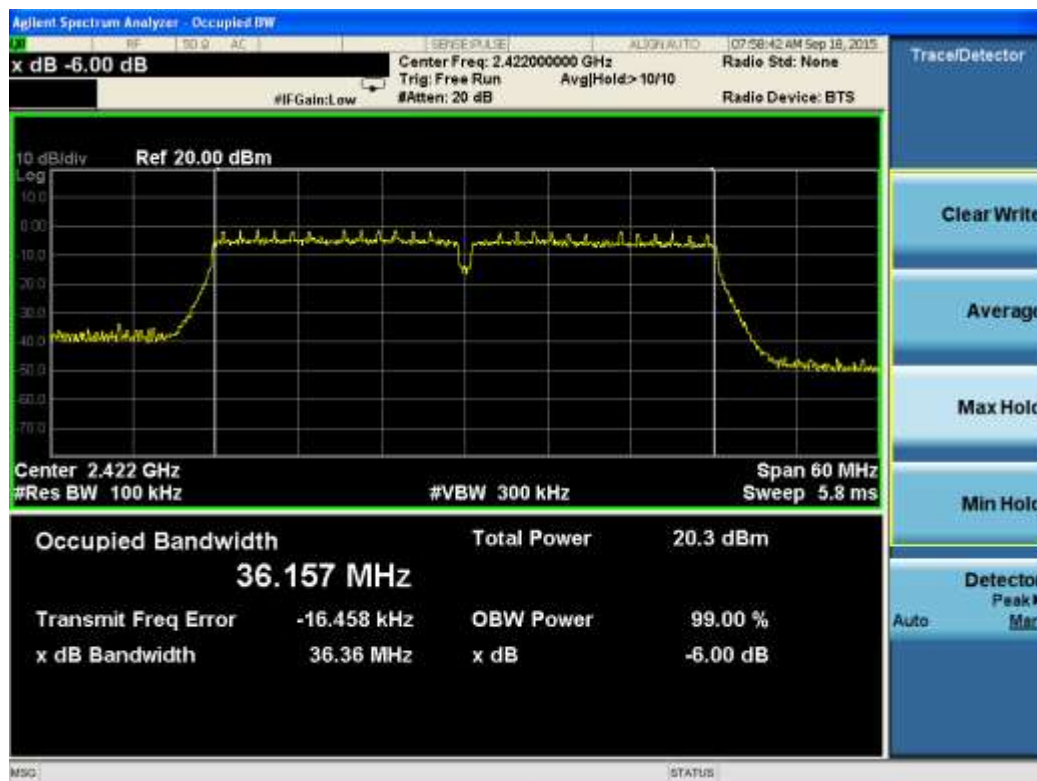


802.11n(HT20) channel, 6dB bandwidth / Chain 1





802.11n(HT40) channel, 6dB bandwidth / Chain 0





802.11n(HT40) channel, 6dB bandwidth / Chain 1





V4.1 BLE Part (Chain 1 Only)

| Channel | Frequency | 20dB Bandwidth (MHz) | Limit |
|---------|-----------|----------------------|---------------|
| 1 | 2402 | 1.26 | Non-specified |
| 20 | 2440 | 1.25 | |
| 40 | 2480 | 1.26 | |

802.11b

| Channel | Frequency | 20dB Bandwidth (MHz, Chain 0) | 20dB Bandwidth (MHz, Chain 1) | Limit |
|---------|-----------|-------------------------------|-------------------------------|---------------|
| 1 | 2412 | 13.37 | 13.27 | Non-specified |
| 6 | 2437 | 13.41 | 13.28 | |
| 11 | 2462 | 13.38 | 13.21 | |

802.11g

| Channel | Frequency | 20dB Bandwidth (MHz, Chain 0) | 20dB Bandwidth (MHz, Chain 1) | Limit |
|---------|-----------|-------------------------------|-------------------------------|---------------|
| 1 | 2412 | 20.51 | 20.39 | Non-specified |
| 6 | 2437 | 20.51 | 20.37 | |
| 11 | 2462 | 20.49 | 20.57 | |

802.11n(HT20)

| Channel | Frequency | 20dB Bandwidth (MHz, Chain 0) | 20dB Bandwidth (MHz, Chain 1) | Limit |
|---------|-----------|-------------------------------|-------------------------------|---------------|
| 1 | 2412 | 20.94 | 20.86 | Non-specified |
| 6 | 2437 | 20.96 | 20.86 | |
| 11 | 2462 | 20.87 | 20.91 | |

802.11n(HT40)

| Channel | Frequency | 20dB Bandwidth (MHz, Chain 0) | 20dB Bandwidth (MHz, Chain 1) | Limit |
|---------|-----------|-------------------------------|-------------------------------|---------------|
| 3 | 2422 | 39.87 | 39.78 | Non-specified |
| 6 | 2437 | 39.88 | 39.91 | |
| 9 | 2452 | 39.93 | 39.85 | |

V4.1 BLE Part channel, 20dB bandwidth (Chain 1 Only)





802.11b channel, 20dB bandwidth / Chain 0





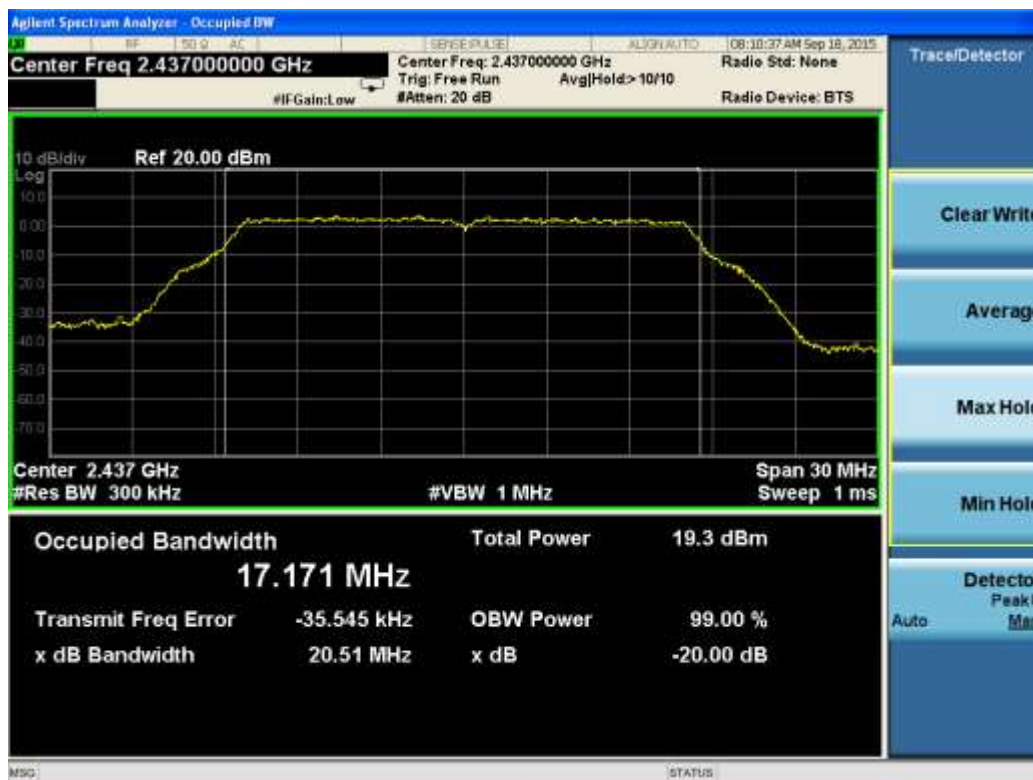
802.11b channel, 20dB bandwidth / Chain 1





802.11g channel, 20dB bandwidth / Chain 0





802.11g channel, 20dB bandwidth / Chain 1





802.11n(HT20) channel, 20dB bandwidth / Chain 0





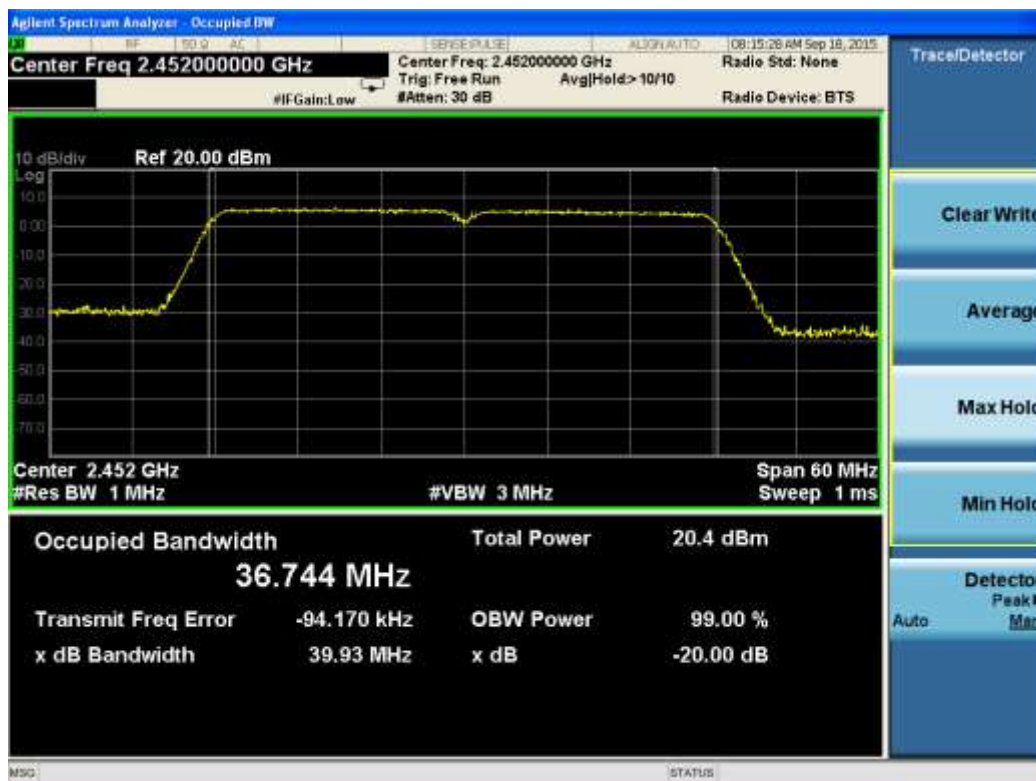
802.11n(HT20) channel, 20dB bandwidth / Chain 1





802.11n(HT40) channel, 20dB bandwidth / Chain 0





802.11n(HT40) channel, 20dB bandwidth / Chain 1





5.4. Radiated Emissions Measurement

5.4.1. Standard Applicable

According to §15.247 (d): 20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

| Frequencies(MHz) | Field Strength(microvolts/meter) | Measurement Distance(meters) |
|------------------|----------------------------------|------------------------------|
| 0.009~0.490 | 2400/F(KHz) | 300 |
| 0.490~1.705 | 24000/F(KHz) | 30 |
| 1.705~30.0 | 30 | 30 |
| 30~88 | 100 | 3 |
| 88~216 | 150 | 3 |
| 216~960 | 200 | 3 |
| Above 960 | 500 | 3 |

5.4.2. Instruments Setting

The following table is the setting of spectrum analyzer and receiver.

| Spectrum Parameter | Setting |
|---|--|
| Attenuation | Auto |
| Start Frequency | 1000 MHz |
| Stop Frequency | 10th carrier harmonic |
| RB / VB (Emission in restricted band) | 1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average |
| RB / VB (Emission in non-restricted band) | 1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average |

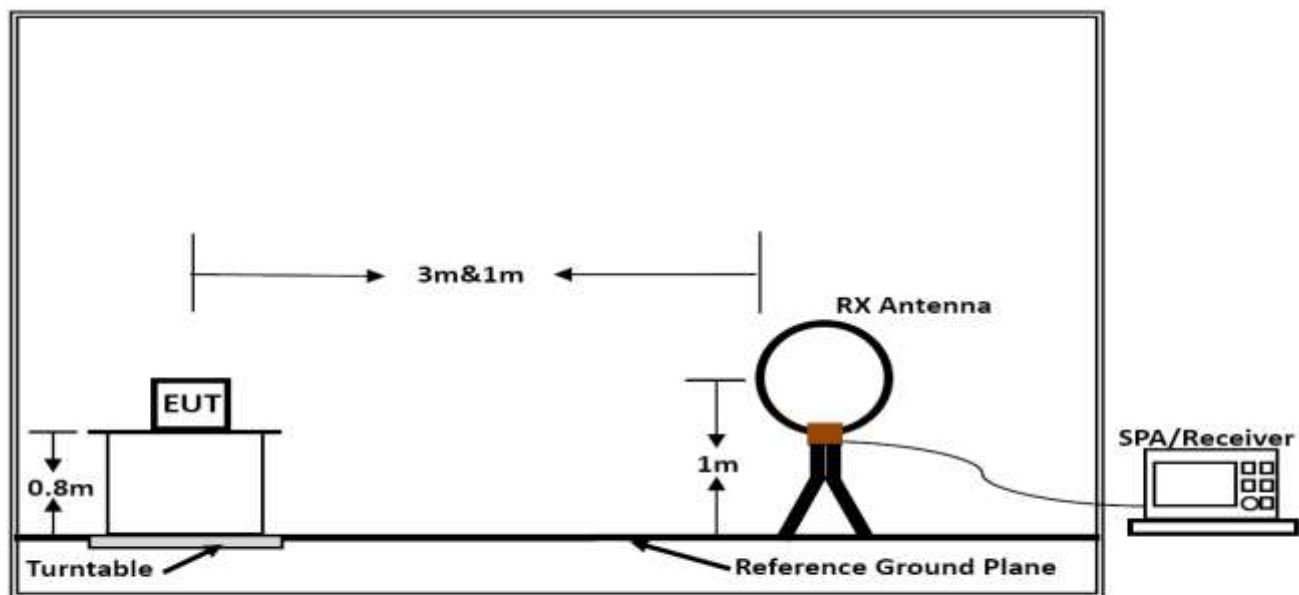
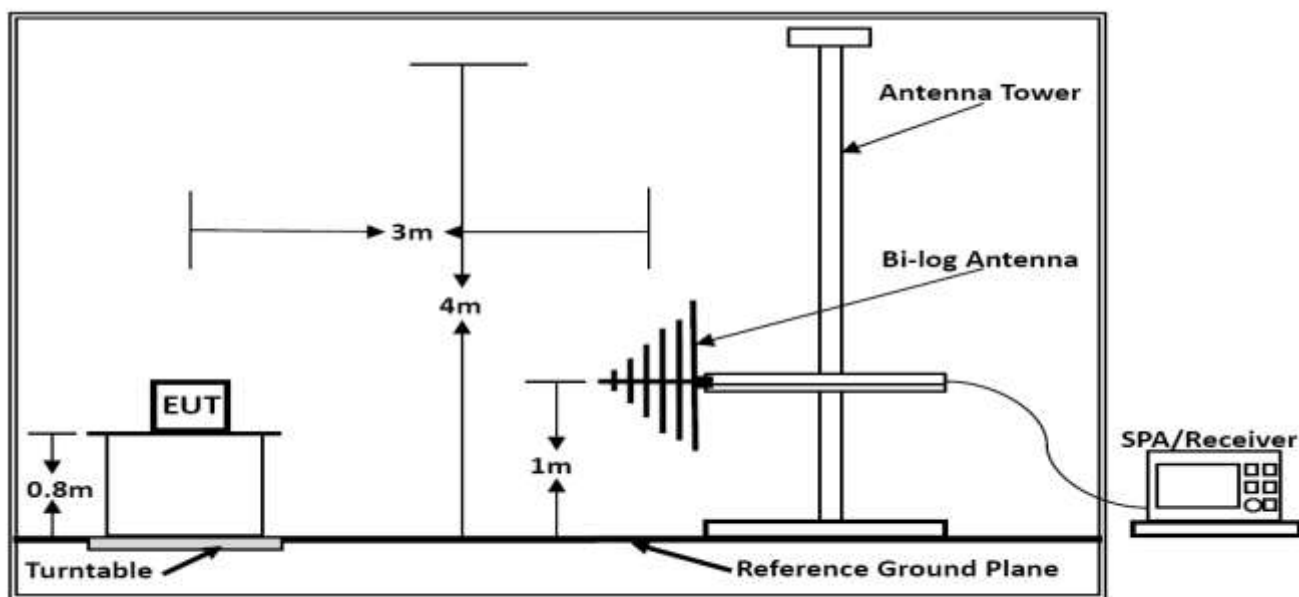
| Receiver Parameter | Setting |
|------------------------|----------------------------------|
| Attenuation | Auto |
| Start ~ Stop Frequency | 9kHz~150kHz / RB 200Hz for QP |
| Start ~ Stop Frequency | 150kHz~30MHz / RB 9kHz for QP |
| Start ~ Stop Frequency | 30MHz~1000MHz / RB 100kHz for QP |

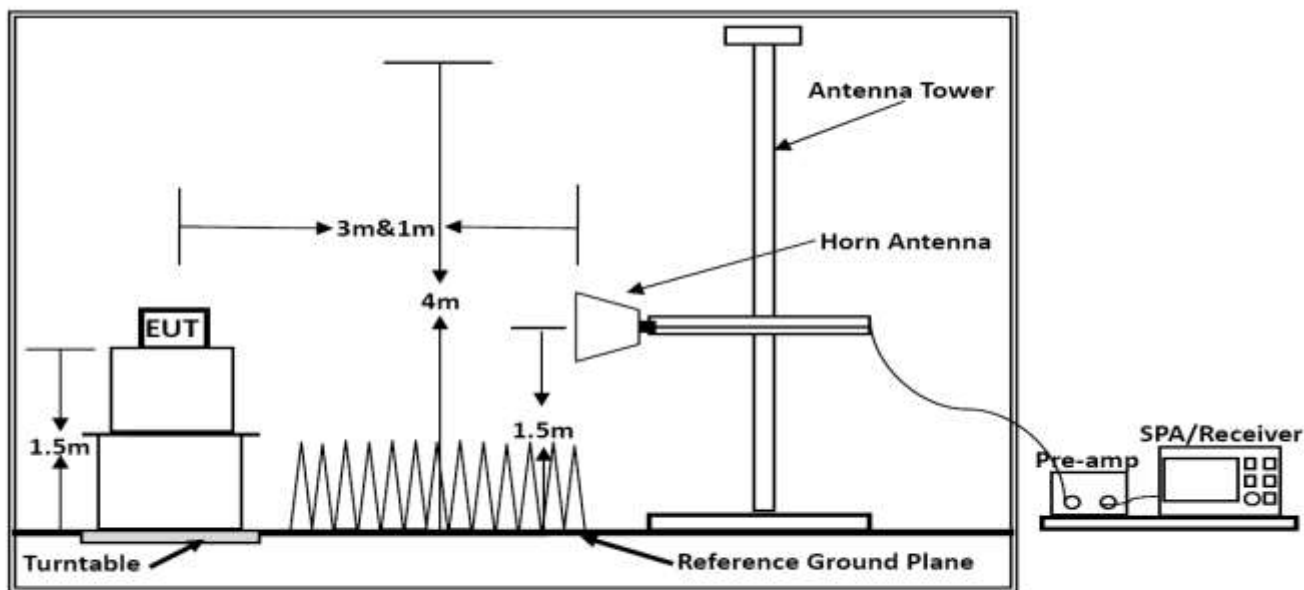
5.4.3. Test Procedures

- 1) Configure the EUT according to ANSI C63.10: 2013. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
- 2) Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
- 3) The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.

- 4) For each suspected emissions, the antenna tower was scan (from 1 m to 4 m) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading
- 5) Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
- 6) For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
- 7) When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.
- 8) If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
- 9) For the radiated emission test above 1GHz: Place the measurement antenna away from each area of the EUT determined to be a source of emission at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane. The emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
- 10) In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

5.4.4. Test Setup Layout

**Below 30MHz****Below 1GHz**



Above 1GHz

Above 10 GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade from 3m to 1.5m.

Distance extrapolation factor = $20 \log (\text{specific distance [3m]} / \text{test distance [1.5m]})$ (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [6 dB].

5.4.5. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

5.4.6. Results of Radiated Emissions (9kHz~30MHz)

| | | | |
|---------------|------|----------------|-----------------------|
| Temperature | 25°C | Humidity | 60% |
| Test Engineer | Leo | Configurations | V4.1 BLE, 802.11b/g/n |

| Freq. (MHz) | Level (dBuV) | Over Limit (dB) | Over Limit (dBuV) | Remark |
|----------------|-----------------|--------------------|----------------------|----------|
| - | - | - | - | See Note |

Note:

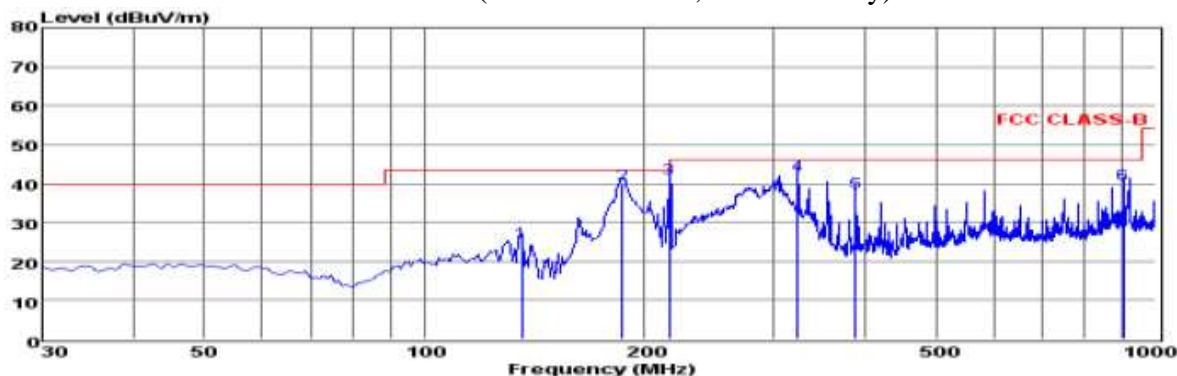
The radiated emissions from 9kHz to 30MHz are at least 20dB below the official limit and no need to report.

5.4.7. Results of Radiated Emissions (30MHz~1GHz)

Note: Only record the worst test result in this report.

The Test Result For Configuration 1(Input AC 120V/60Hz): Configured with Switching Power Adapter (Used For Charging)

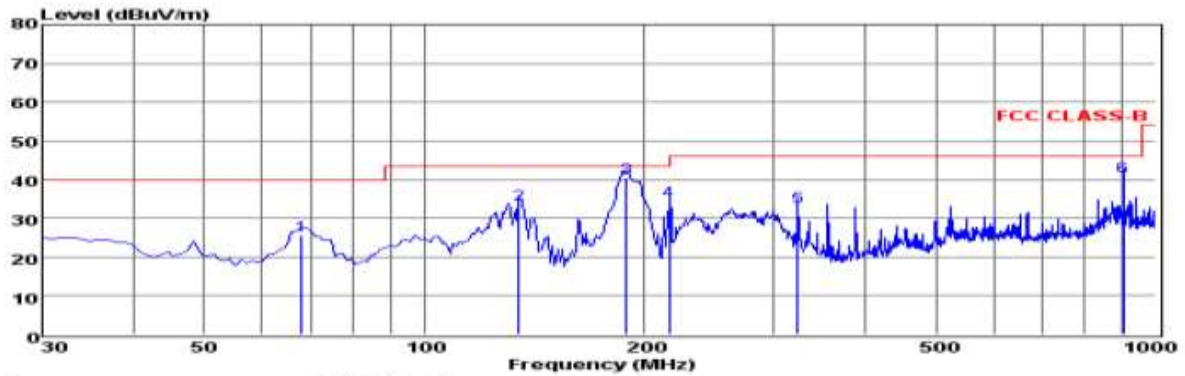
Test result for V4.1 BLE Part (Middle Channel, Chain 1 Only)



Env./Ins: 24°C/56%
 EUT: Tablet POS
 M/N: HM518
 Power Rating: AC 120V/60Hz
 Test Mode: TX-Middle Channel (BLE)
 Operator: Leo
 Memo: Configuration 1
 pol: HORIZONTAL

| | Freq | Reading | CabLos | Antfac | Measured | Limit | Over | Remark |
|---|--------|---------|--------|--------|----------|--------|--------|--------|
| | MHz | dBuV | dB | dB/m | dBuV/m | dBuV/m | dB | |
| 1 | 135.73 | 15.84 | 0.70 | 8.51 | 25.05 | 43.50 | -18.45 | QP |
| 2 | 186.17 | 28.57 | 0.98 | 10.22 | 39.77 | 43.50 | -3.73 | QP |
| 3 | 216.24 | 29.49 | 0.88 | 11.08 | 41.45 | 46.00 | -4.55 | QP |
| 4 | 323.91 | 27.60 | 1.10 | 13.48 | 42.18 | 46.00 | -3.82 | QP |
| 5 | 388.90 | 21.92 | 1.17 | 14.80 | 37.89 | 46.00 | -8.11 | QP |
| 6 | 903.00 | 16.78 | 1.87 | 21.11 | 39.76 | 46.00 | -6.24 | QP |

Note: 1. All readings are Quasi-peak values.
 2. Measured= Reading + Antenna Factor + Cable Loss
 3. The emission that are 20dB below the official limit are not reported

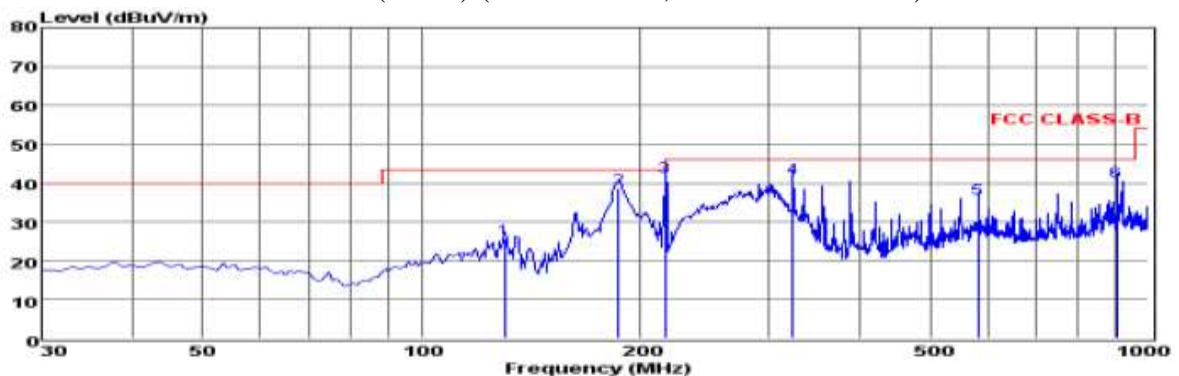


Env./Ins: 24°C/56%
EUT: Tablet POS
M/N: HM518
Power Rating: AC 120V/60Hz
Test Mode: TX-Middle Channel(BLE)
Operator: Leo
Memo: Configuration 1
pol: VERTICAL

| | Freq | Reading | CabLos | Antfac | Measured | Limit | Over | Remark |
|---|--------|---------|--------|--------|----------|--------|--------|--------|
| | MHz | dBuV | dB | dB/m | dBuV/m | dBuV/m | dB | |
| 1 | 67.83 | 15.67 | 0.51 | 9.54 | 25.72 | 40.00 | -14.28 | QP |
| 2 | 134.76 | 24.23 | 0.74 | 8.58 | 33.55 | 43.50 | -9.95 | QP |
| 3 | 189.08 | 28.99 | 0.86 | 10.48 | 40.33 | 43.50 | -3.17 | QP |
| 4 | 216.24 | 22.42 | 0.88 | 11.08 | 34.38 | 46.00 | -11.62 | QP |
| 5 | 323.91 | 18.45 | 1.10 | 13.48 | 33.03 | 46.00 | -12.97 | QP |
| 6 | 903.00 | 17.86 | 1.87 | 21.11 | 40.84 | 46.00 | -5.16 | QP |

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that are 20dB below the official limit are not reported

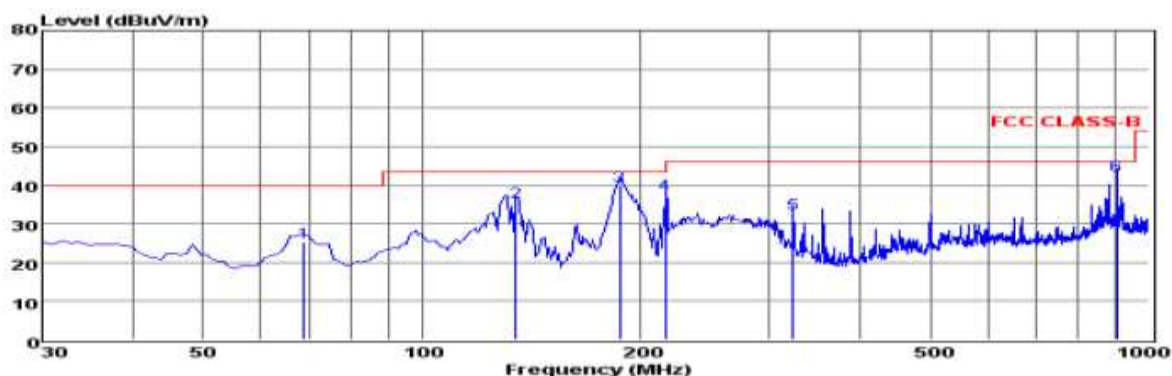
Test result for 802.11n(HT20) (Low Channel, Chain 0 + Chain 1)



Env./Ins: 24°C/56%
EUT: Tablet POS
M/N: HM518
Power Rating: AC 120V/60Hz
Test Mode: TX-Low Channel(802.11n20, Chain0+Chain1)
Operator: Leo
Memo: Configuration 1
pol: HORIZONTAL

| | Freq | Reading | CabLos | Antfac | Measured | Limit | Over | Remark |
|---|--------|---------|--------|--------|----------|--------|--------|--------|
| | MHz | dBuV | dB | dB/m | dBuV/m | dBuV/m | dB | |
| 1 | 129.91 | 15.75 | 0.76 | 8.94 | 25.45 | 43.50 | -18.05 | QP |
| 2 | 186.17 | 27.40 | 0.98 | 10.22 | 38.60 | 43.50 | -4.90 | QP |
| 3 | 216.24 | 29.70 | 0.88 | 11.08 | 41.66 | 46.00 | -4.34 | QP |
| 4 | 323.91 | 26.72 | 1.10 | 13.48 | 41.30 | 46.00 | -4.70 | QP |
| 5 | 582.90 | 16.19 | 1.54 | 18.13 | 35.86 | 46.00 | -10.14 | QP |
| 6 | 903.00 | 17.58 | 1.87 | 21.11 | 40.56 | 46.00 | -5.44 | QP |

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that are 20dB below the official limit are not reported



Env./Ins: 24°C/56%
EUT: Tablet POS
M/N: HM518
Power Rating: AC 120V/60Hz
Test Mode: TX-Low Channel(802.11n20, Chain0+Chain1)
Operator: Leo
Memo: Configuration 1
pol: VERTICAL

| | Freq | Reading | CabLos | Antfac | Measured | Limit | Over | Remark |
|---|--------|---------|--------|--------|----------|--------|--------|--------|
| | MHz | dBuV | dB | dB/m | dBuV/m | dBuV/m | dB | |
| 1 | 68.80 | 15.60 | 0.51 | 9.14 | 25.25 | 40.00 | -14.75 | QP |
| 2 | 134.76 | 26.26 | 0.74 | 8.58 | 35.58 | 43.50 | -7.92 | QP |
| 3 | 187.14 | 28.71 | 0.98 | 10.31 | 40.00 | 43.50 | -3.50 | QP |
| 4 | 216.24 | 25.74 | 0.88 | 11.08 | 37.70 | 46.00 | -8.30 | QP |
| 5 | 323.91 | 18.25 | 1.10 | 13.48 | 32.83 | 46.00 | -13.17 | QP |
| 6 | 903.00 | 19.42 | 1.87 | 21.11 | 42.40 | 46.00 | -3.60 | QP |

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that are 20dB below the official limit are not reported

***Note:

Pre-scan all mode and recorded the worst case results in this report (802.11n(HT20) (Low Channel, Chain 0 + Chain 1)).

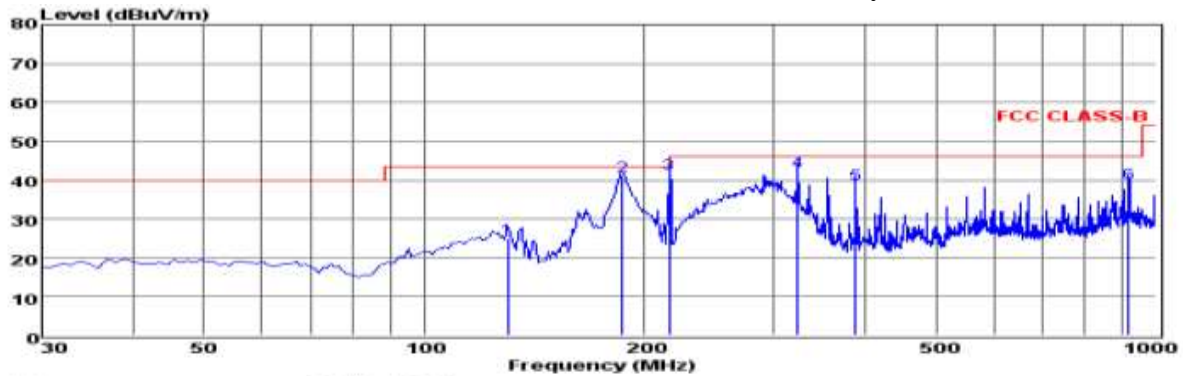
Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Only recorded the worst test case in this report.

The Test Result For Configuration 1(Input AC 240V/60Hz): Configured with Switching Power Adapter (Used For Charging)

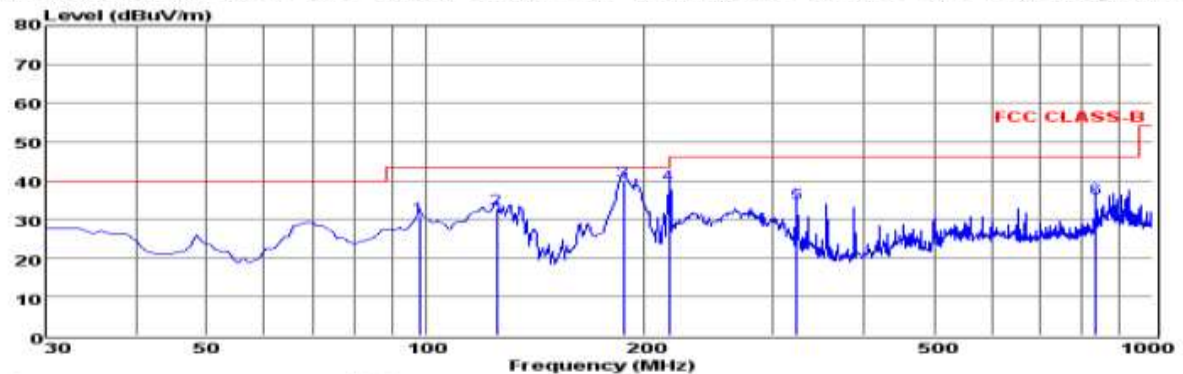
Test result for V4.1 BLE Part (Middle Channel, Chain 1 Only)



Env./Ins: 24°C/56%
 EUT: Tablet POS
 M/N: HM518
 Power Rating: AC 240V/60Hz
 Test Mode: TX-Middle Channel(BLE)
 Operator: Leo
 Memo: Configuration 1
 pol: HORIZONTAL

| | Freq | Reading | CabLos | Antfac | Measured | Limit | Over | Remark |
|---|--------|---------|--------|--------|----------|--------|--------|--------|
| | MHz | dBuV | dB | dB/m | dBuV/m | dBuV/m | dB | |
| 1 | 129.91 | 15.27 | 0.76 | 8.94 | 24.97 | 43.50 | -18.53 | QP |
| 2 | 186.17 | 29.95 | 0.98 | 10.22 | 41.15 | 43.50 | -2.35 | QP |
| 3 | 216.24 | 29.76 | 0.88 | 11.08 | 41.72 | 46.00 | -4.28 | QP |
| 4 | 323.91 | 27.61 | 1.10 | 13.48 | 42.19 | 46.00 | -3.81 | QP |
| 5 | 388.90 | 23.09 | 1.17 | 14.80 | 39.06 | 46.00 | -6.94 | QP |
| 6 | 917.55 | 16.32 | 1.85 | 21.20 | 39.37 | 46.00 | -6.63 | QP |

Note: 1. All readings are Quasi-peak values.
 2. Measured= Reading + Antenna Factor + Cable Loss
 3. The emission that are 20db below the official limit are not reported

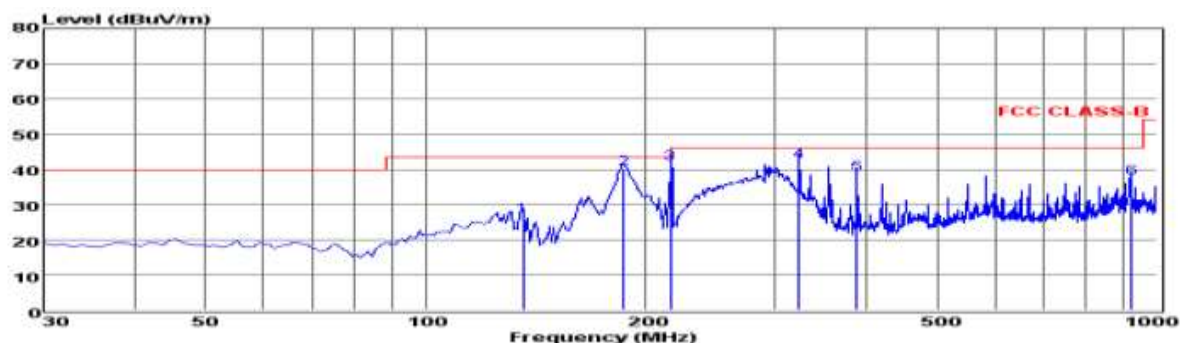


Env./Ins: 24°C/56%
 EUT: Tablet POS
 M/N: HM518
 Power Rating: AC 240V/60Hz
 Test Mode: TX-Middle Channel(BLE)
 Operator: Leo
 Memo: Configuration 1
 pol: VERTICAL

| | Freq | Reading | CabLos | Antfac | Measured | Limit | Over | Remark |
|---|--------|---------|--------|--------|----------|--------|--------|--------|
| | MHz | dBuV | dB | dB/m | dBuV/m | dBuV/m | dB | |
| 1 | 97.90 | 16.98 | 0.61 | 13.03 | 30.62 | 43.50 | -12.88 | QP |
| 2 | 125.06 | 22.35 | 0.71 | 9.70 | 32.76 | 43.50 | -10.74 | QP |
| 3 | 187.14 | 28.50 | 0.98 | 10.31 | 39.79 | 43.50 | -3.71 | QP |
| 4 | 216.24 | 27.04 | 0.88 | 11.08 | 39.00 | 46.00 | -7.00 | QP |
| 5 | 323.91 | 19.70 | 1.10 | 13.48 | 34.28 | 46.00 | -11.72 | QP |
| 6 | 834.13 | 13.24 | 1.81 | 20.41 | 35.46 | 46.00 | -10.54 | QP |

Note: 1. All readings are Quasi-peak values.
 2. Measured= Reading + Antenna Factor + Cable Loss
 3. The emission that are 20db below the official limit are not reported

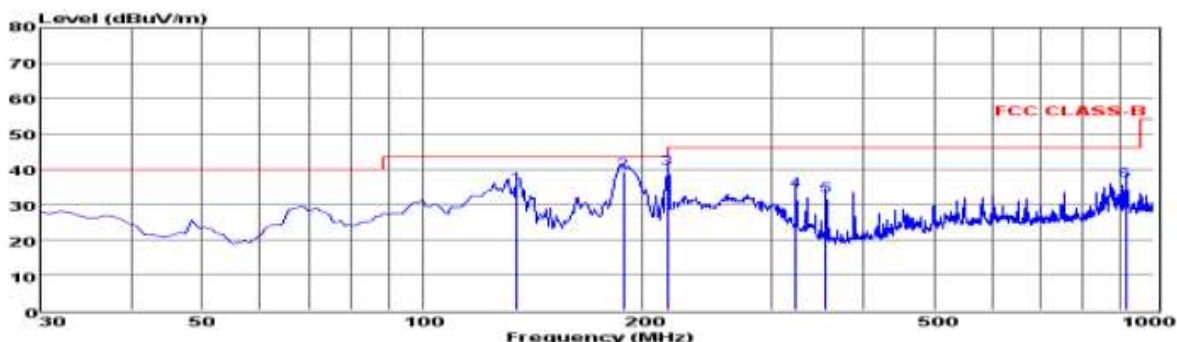
Test result for 802.11n(HT20) (Low Channel, Chain 0 + Chain 1)



Env./Ins: 24°C/56%
EUT: Tablet POS
M/N: HM518
Power Rating: AC 240V/60Hz
Test Mode: TX-Low Channel(802.11n20, Chain0+Chain1)
Operator: Leo
Memo: Configuration 1
pol: HORIZONTAL

| | Freq | Reading | CabLos | Antfac | Measured | Limit | Over | Remark |
|---|--------|---------|--------|--------|----------|--------|--------|--------|
| | MHz | dBuV | dB | dB/m | dBuV/m | dBuV/m | dB | |
| 1 | 135.73 | 17.51 | 0.70 | 8.51 | 26.72 | 43.50 | -16.78 | QP |
| 2 | 186.17 | 28.85 | 0.98 | 10.22 | 40.05 | 43.50 | -3.45 | QP |
| 3 | 216.24 | 29.76 | 0.88 | 11.08 | 41.72 | 46.00 | -4.28 | QP |
| 4 | 323.91 | 27.80 | 1.10 | 13.48 | 42.38 | 46.00 | -3.62 | QP |
| 5 | 388.90 | 22.55 | 1.17 | 14.80 | 38.52 | 46.00 | -7.48 | QP |
| 6 | 923.37 | 14.14 | 1.99 | 21.24 | 37.37 | 46.00 | -8.63 | QP |

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that are 20dB below the official limit are not reported



Env./Ins: 24°C/56%
EUT: Tablet POS
M/N: HM518
Power Rating: AC 240V/60Hz
Test Mode: TX-Low Channel(802.11n20, Chain0+Chain1)
Operator: Leo
Memo: Configuration 1
pol: VERTICAL

| | Freq | Reading | CabLos | Antfac | Measured | Limit | Over | Remark |
|---|--------|---------|--------|--------|----------|--------|--------|--------|
| | MHz | dBuV | dB | dB/m | dBuV/m | dBuV/m | dB | |
| 1 | 134.76 | 26.02 | 0.74 | 8.58 | 35.34 | 43.50 | -8.16 | QP |
| 2 | 188.11 | 27.97 | 0.98 | 10.39 | 39.34 | 43.50 | -4.16 | QP |
| 3 | 216.24 | 28.08 | 0.88 | 11.08 | 40.04 | 46.00 | -5.96 | QP |
| 4 | 323.91 | 19.36 | 1.10 | 13.48 | 33.94 | 46.00 | -12.06 | QP |
| 5 | 355.92 | 16.87 | 1.18 | 14.37 | 32.42 | 46.00 | -13.58 | QP |
| 6 | 915.61 | 13.50 | 2.04 | 21.19 | 36.73 | 46.00 | -9.27 | QP |

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that are 20dB below the official limit are not reported

***Note:

Pre-scan all mode and recorded the worst case results in this report (802.11n(HT20) (Low Channel, Chain 0 + Chain 1)).

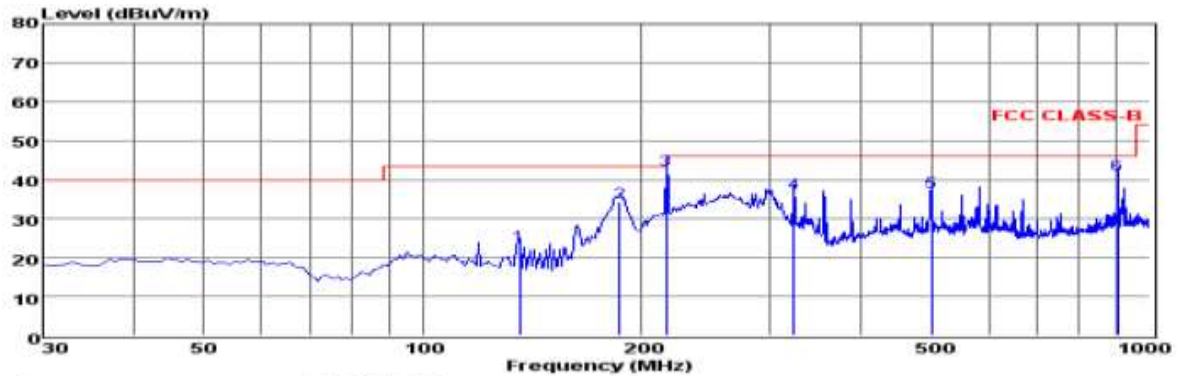
Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Only recorded the worst test case in this report.

The Test Result For Configuration 2(Input AC 120V/60Hz): Configured with Switching Power Adapter and Docking Station (Used For Charging)

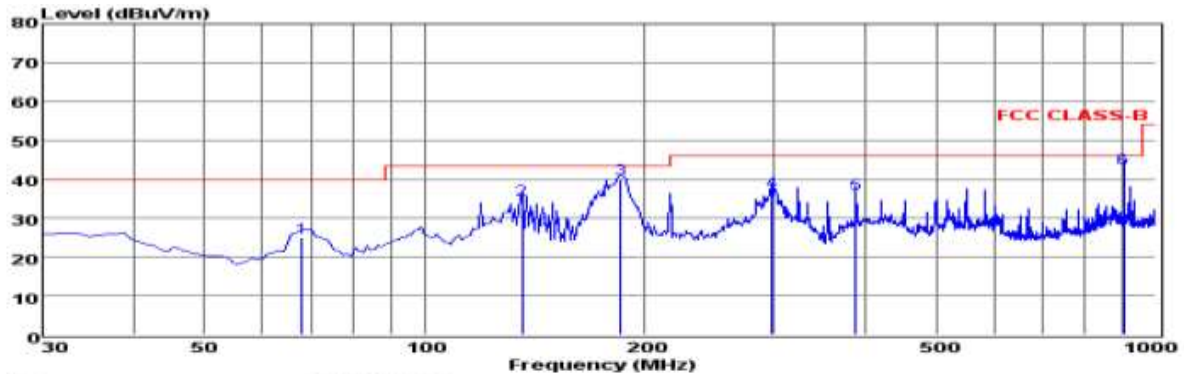
Test result for V4.1 BLE Part (Middle Channel, Chain 1 Only)



Env./Ins: 24°C/56%
 EUT: Tablet POS
 M/N: HM518
 Power Rating: AC 120V/60Hz
 Test Mode: TX-Middle Channel(BLE)
 Operator: Leo
 Memo: Configuration 2
 pol: HORIZONTAL

| | Freq | Reading | CabLos | Antfac | Measured | Limit | Over | Remark |
|---|--------|---------|--------|--------|----------|--------|--------|--------|
| | MHz | dBuV | dB | dB/m | dBuV/m | dBuV/m | dB | |
| 1 | 135.73 | 13.89 | 0.70 | 8.51 | 23.10 | 43.50 | -20.40 | QP |
| 2 | 186.17 | 23.13 | 0.98 | 10.22 | 34.33 | 43.50 | -9.17 | QP |
| 3 | 216.24 | 30.44 | 0.88 | 11.08 | 42.40 | 46.00 | -3.60 | QP |
| 4 | 323.91 | 22.06 | 1.10 | 13.48 | 36.64 | 46.00 | -9.36 | QP |
| 5 | 500.45 | 18.90 | 1.34 | 16.59 | 36.83 | 46.00 | -9.17 | QP |
| 6 | 903.00 | 18.28 | 1.87 | 21.11 | 41.26 | 46.00 | -4.74 | QP |

Note: 1. All readings are Quasi-peak values.
 2. Measured= Reading + Antenna Factor + Cable Loss
 3. The emission that are 20db below the official limit are not reported

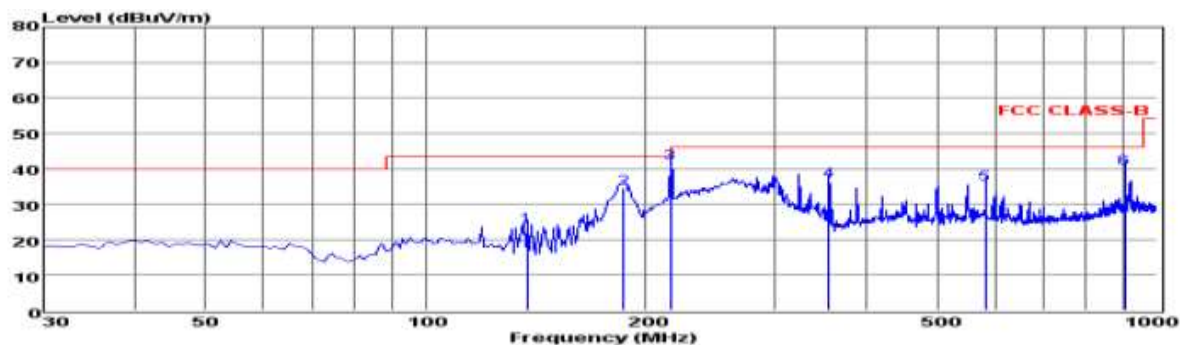


Env./Ins: 24°C/56%
 EUT: Tablet POS
 M/N: HM518
 Power Rating: AC 120V/60Hz
 Test Mode: TX-Middle Channel(BLE)
 Operator: Leo
 Memo: Configuration 2
 pol: VERTICAL

| | Freq | Reading | CabLos | Antfac | Measured | Limit | Over | Remark |
|---|--------|---------|--------|--------|----------|--------|--------|--------|
| | MHz | dBuV | dB | dB/m | dBuV/m | dBuV/m | dB | |
| 1 | 67.83 | 14.99 | 0.51 | 9.54 | 25.04 | 40.00 | -14.96 | QP |
| 2 | 135.73 | 25.58 | 0.70 | 8.51 | 34.79 | 43.50 | -8.71 | QP |
| 3 | 185.20 | 29.19 | 0.70 | 10.14 | 40.03 | 43.50 | -3.47 | QP |
| 4 | 298.69 | 22.78 | 1.12 | 13.03 | 36.93 | 46.00 | -9.07 | QP |
| 5 | 388.90 | 20.46 | 1.17 | 14.80 | 36.43 | 46.00 | -9.57 | QP |
| 6 | 903.00 | 19.92 | 1.87 | 21.11 | 42.90 | 46.00 | -3.10 | QP |

Note: 1. All readings are Quasi-peak values.
 2. Measured= Reading + Antenna Factor + Cable Loss
 3. The emission that are 20db below the official limit are not reported

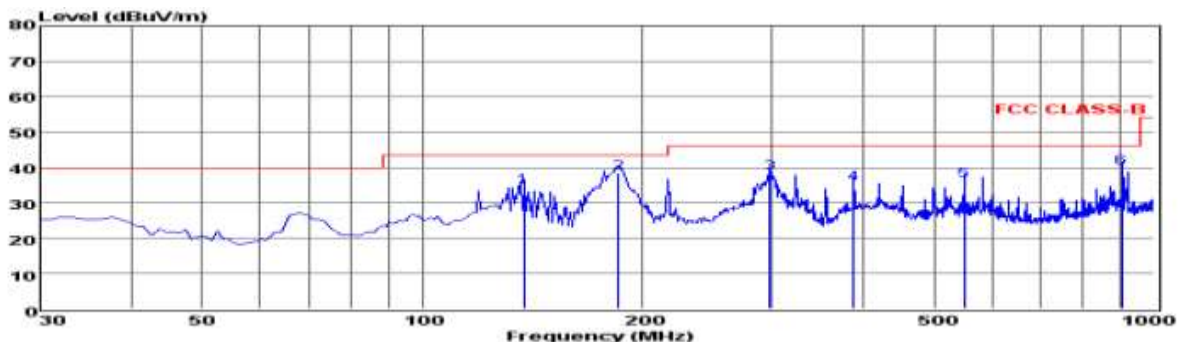
Test result for 802.11n(HT20) (Low Channel, Chain 0 + Chain 1)



Env./Ins: 24°C/56%
 EUT: Tablet P08
 M/N: HM518
 Power Rating: AC 120V/60Hz
 Test Mode: TX-Low Channel(802.11n20, Chain0+Chain1)
 Operator: Leo
 Memo: Configuration 2
 pol: HORIZONTAL

| | Freq | Reading | CabLos | Antfac | Measured | Limit | Over | Remark |
|---|--------|---------|--------|--------|----------|--------|--------|--------|
| | MHz | dBuV | dB | dB/m | dBuV/m | dBuV/m | dB | |
| 1 | 137.67 | 14.61 | 0.70 | 8.36 | 23.67 | 43.50 | -19.83 | QP |
| 2 | 186.17 | 23.24 | 0.98 | 10.22 | 34.44 | 43.50 | -9.06 | QP |
| 3 | 216.24 | 29.64 | 0.88 | 11.08 | 41.60 | 46.00 | -4.40 | QP |
| 4 | 355.92 | 20.95 | 1.18 | 14.37 | 36.50 | 46.00 | -9.50 | QP |
| 5 | 582.90 | 16.05 | 1.54 | 18.13 | 35.72 | 46.00 | -10.28 | QP |
| 6 | 903.00 | 17.32 | 1.87 | 21.11 | 40.30 | 46.00 | -5.70 | QP |

Note: 1. All readings are Quasi-peak values.
 2. Measured= Reading + Antenna Factor + Cable Loss
 3. The emission that are 20dB below the official limit are not reported



Env./Ins: 24°C/56%
 EUT: Tablet P08
 M/N: HM518
 Power Rating: AC 120V/60Hz
 Test Mode: TX-Low Channel(802.11n20, Chain0+Chain1)
 Operator: Leo
 Memo: Configuration 2
 pol: VERTICAL

| | Freq | Reading | CabLos | Antfac | Measured | Limit | Over | Remark |
|---|--------|---------|--------|--------|----------|--------|--------|--------|
| | MHz | dBuV | dB | dB/m | dBuV/m | dBuV/m | dB | |
| 1 | 137.67 | 25.51 | 0.70 | 8.36 | 34.57 | 43.50 | -8.93 | QP |
| 2 | 185.20 | 27.59 | 0.70 | 10.14 | 38.43 | 43.50 | -5.07 | QP |
| 3 | 298.69 | 24.13 | 1.12 | 13.03 | 38.28 | 46.00 | -7.72 | QP |
| 4 | 388.90 | 19.49 | 1.17 | 14.80 | 35.46 | 46.00 | -10.54 | QP |
| 5 | 550.89 | 17.23 | 1.39 | 17.53 | 36.15 | 46.00 | -9.85 | QP |
| 6 | 903.00 | 16.79 | 1.87 | 21.11 | 39.77 | 46.00 | -6.23 | QP |

Note: 1. All readings are Quasi-peak values.
 2. Measured= Reading + Antenna Factor + Cable Loss
 3. The emission that are 20dB below the official limit are not reported

***Note:

Pre-scan all mode and recorded the worst case results in this report (802.11n(HT20) (Low Channel, Chain 0 + Chain 1)).

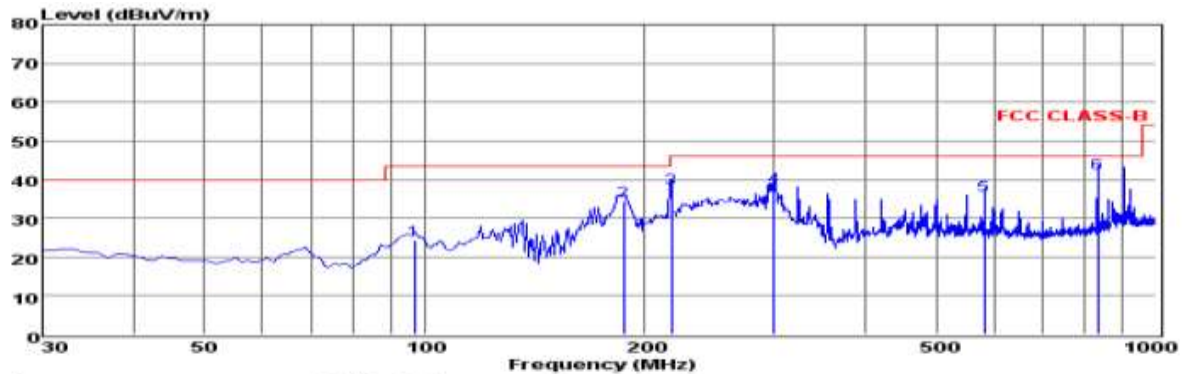
Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Only recorded the worst test case in this report.

The Test Result For Configuration 2(Input AC 240V/60Hz): Configured with Switching Power Adapter and Docking Station (Used For Charging)

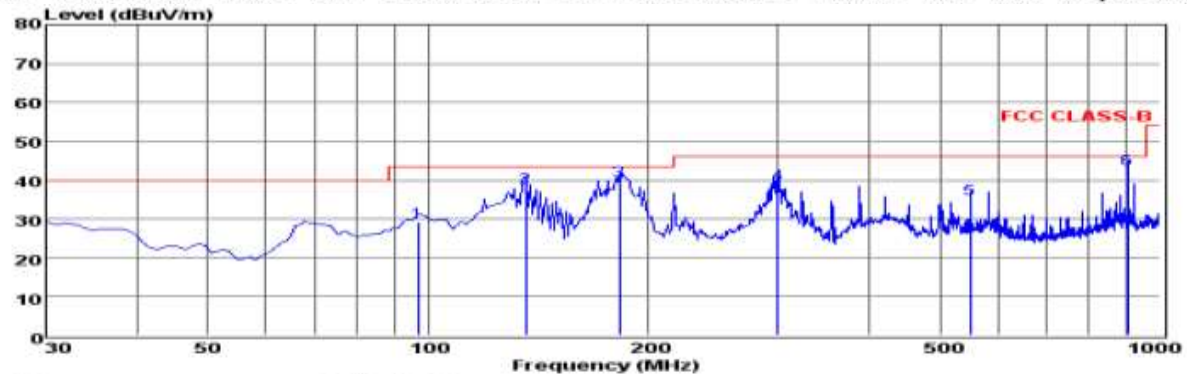
Test result for V4.1 BLE Part (Middle Channel, Chain 1 Only)



Env./Ins: 24°C/56%
 EUT: Tablet POS
 M/N: HM518
 Power Rating: AC 240V/60Hz
 Test Mode: TX-Middle Channel(BLE)
 Operator: Leo
 Memo: Configuration 2
 pol: HORIZONTAL

| | Freq | Reading | CabLos | Antfac | Measured | Limit | Over | Remark |
|---|--------|---------|--------|--------|----------|--------|--------|--------|
| | MHz | dBuV | dB | dB/m | dBuV/m | dBuV/m | dB | |
| 1 | 96.93 | 10.80 | 0.61 | 12.96 | 24.37 | 43.50 | -19.13 | QP |
| 2 | 187.14 | 23.19 | 0.98 | 10.31 | 34.48 | 43.50 | -9.02 | QP |
| 3 | 217.21 | 25.90 | 0.88 | 11.11 | 37.89 | 46.00 | -8.11 | QP |
| 4 | 300.63 | 23.90 | 1.13 | 13.07 | 38.10 | 46.00 | -7.90 | QP |
| 5 | 582.90 | 16.21 | 1.54 | 18.13 | 35.88 | 46.00 | -10.12 | QP |
| 6 | 832.19 | 19.38 | 1.86 | 20.39 | 41.63 | 46.00 | -4.37 | QP |

Note: 1. All readings are Quasi-peak values.
 2. Measured= Reading + Antenna Factor + Cable Loss
 3. The emission that are 20db below the official limit are not reported

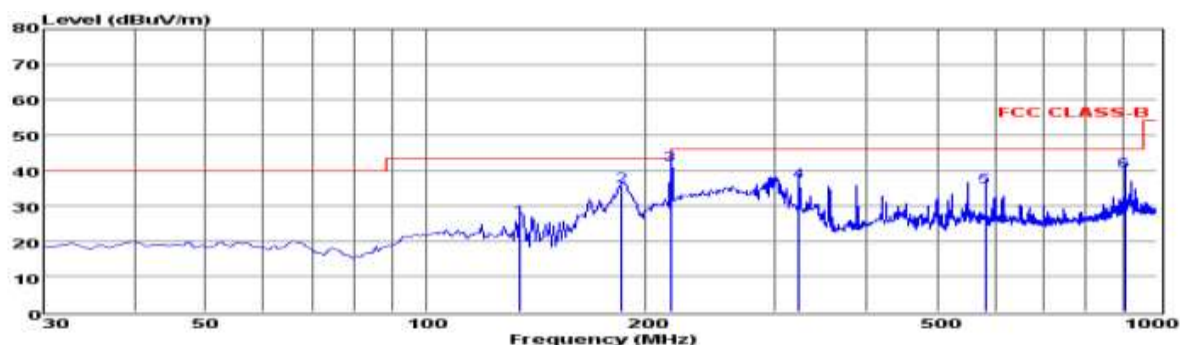


Env./Ins: 24°C/56%
 EUT: Tablet POS
 M/N: HM518
 Power Rating: AC 240V/60Hz
 Test Mode: TX-Middle Channel(BLE)
 Operator: Leo
 Memo: Configuration 2
 pol: VERTICAL

| | Freq | Reading | CabLos | Antfac | Measured | Limit | Over | Remark |
|---|--------|---------|--------|--------|----------|--------|--------|--------|
| | MHz | dBuV | dB | dB/m | dBuV/m | dBuV/m | dB | |
| 1 | 96.93 | 15.72 | 0.61 | 12.96 | 29.29 | 43.50 | -14.21 | QP |
| 2 | 135.73 | 28.85 | 0.70 | 8.51 | 38.06 | 43.50 | -5.44 | QP |
| 3 | 182.29 | 29.08 | 0.89 | 9.88 | 39.85 | 43.50 | -3.65 | QP |
| 4 | 300.63 | 24.89 | 1.13 | 13.07 | 39.09 | 46.00 | -6.91 | QP |
| 5 | 550.89 | 16.15 | 1.39 | 17.53 | 35.07 | 46.00 | -10.93 | QP |
| 6 | 903.00 | 19.91 | 1.87 | 21.11 | 42.89 | 46.00 | -3.11 | QP |

Note: 1. All readings are Quasi-peak values.
 2. Measured= Reading + Antenna Factor + Cable Loss
 3. The emission that are 20db below the official limit are not reported

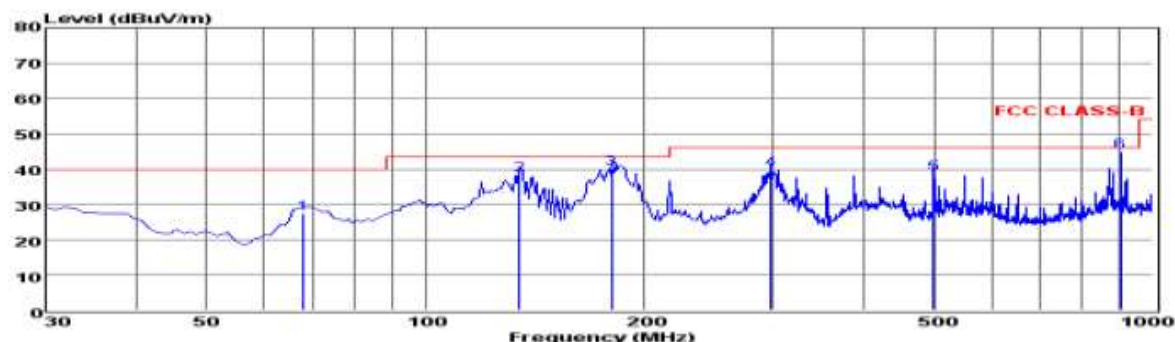
Test result for 802.11n(HT20) (Low Channel, Chain 0 + Chain 1)



Env./Ins: 24°C/56%
EUT: Tablet POS
M/N: HM518
Power Rating: AC 240V/60Hz
Test Mode: TX-Low Channel(802.11n20, Chain0+Chain1)
Operator: Leo
Memo: Configuration 2
pol: HORIZONTAL

| | Freq | Reading | CabLos | Antfac | Measured | Limit | Over | Remark |
|---|--------|---------|--------|--------|----------|--------|--------|--------|
| | MHz | dBuV | dB | dB/m | dBuV/m | dBuV/m | dB | |
| 1 | 134.76 | 17.21 | 0.74 | 8.58 | 26.53 | 43.50 | -16.97 | QP |
| 2 | 185.20 | 24.74 | 0.70 | 10.14 | 35.58 | 43.50 | -7.92 | QP |
| 3 | 216.24 | 29.72 | 0.88 | 11.08 | 41.68 | 46.00 | -4.32 | QP |
| 4 | 323.91 | 22.26 | 1.10 | 13.48 | 36.84 | 46.00 | -9.16 | QP |
| 5 | 582.90 | 15.72 | 1.54 | 18.13 | 35.39 | 46.00 | -10.61 | QP |
| 6 | 903.00 | 16.85 | 1.87 | 21.11 | 39.83 | 46.00 | -6.17 | QP |

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that are 20dB below the official limit are not reported



Env./Ins: 24°C/56%
EUT: Tablet POS
M/N: HM518
Power Rating: AC 240V/60Hz
Test Mode: TX-Low Channel(802.11n20, Chain0+Chain1)
Operator: Leo
Memo: Configuration 2
pol: VERTICAL

| | Freq | Reading | CabLos | Antfac | Measured | Limit | Over | Remark |
|---|--------|---------|--------|--------|----------|--------|--------|--------|
| | MHz | dBuV | dB | dB/m | dBuV/m | dBuV/m | dB | |
| 1 | 67.83 | 17.19 | 0.51 | 9.54 | 27.24 | 40.00 | -12.76 | QP |
| 2 | 134.76 | 29.18 | 0.74 | 8.58 | 38.50 | 43.50 | -5.00 | QP |
| 3 | 180.35 | 29.57 | 0.89 | 9.71 | 40.17 | 43.50 | -3.33 | QP |
| 4 | 298.69 | 25.56 | 1.12 | 13.03 | 39.71 | 46.00 | -6.29 | QP |
| 5 | 499.48 | 20.78 | 1.34 | 16.57 | 38.69 | 46.00 | -7.31 | QP |
| 6 | 903.00 | 21.82 | 1.87 | 21.11 | 44.80 | 46.00 | -1.20 | QP |

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that are 20dB below the official limit are not reported

***Note:

Pre-scan all mode and recorded the worst case results in this report (802.11n(HT20) (Low Channel, Chain 0 + Chain 1)).

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Only recorded the worst test case in this report.

5.4.8. Results for Radiated Emissions (Above 1GHz)

Note: Only recorded the worst test result in this report.

V4.1 BLE Part (Chain 1 Only)

Channel 1

| Freq. MHz | Reading Level dBuV | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol. |
|-----------|--------------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 4804.13 | 43.51 | 33.06 | 35.04 | 3.94 | 45.47 | 74 | -28.53 | Peak | Horizontal |
| 4804.15 | 34.07 | 33.06 | 35.04 | 3.94 | 36.03 | 54 | -17.97 | Average | Horizontal |
| 4804.13 | 44.22 | 33.06 | 35.04 | 3.94 | 46.18 | 74 | -27.82 | Peak | Vertical |
| 4804.15 | 34.67 | 33.06 | 35.04 | 3.94 | 36.63 | 54 | -17.37 | Average | Vertical |

Channel 20

| Freq. MHz | Reading Level dBuV | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol. |
|-----------|--------------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 4880.17 | 42.29 | 33.16 | 35.15 | 3.96 | 44.26 | 74 | -29.74 | Peak | Horizontal |
| 4880.20 | 32.68 | 33.16 | 35.15 | 3.96 | 34.65 | 54 | -19.35 | Average | Horizontal |
| 4880.17 | 43.39 | 33.16 | 35.15 | 3.96 | 45.36 | 74 | -28.64 | Peak | Vertical |
| 4880.20 | 33.82 | 33.16 | 35.15 | 3.96 | 35.79 | 54 | -18.21 | Average | Vertical |

Channel 40

| Freq. MHz | Reading Level dBuV | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol. |
|-----------|--------------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 4960.24 | 43.07 | 33.26 | 35.14 | 3.98 | 45.17 | 74 | -28.83 | Peak | Horizontal |
| 4960.26 | 33.30 | 33.26 | 35.14 | 3.98 | 35.40 | 54 | -18.60 | Average | Horizontal |
| 4960.24 | 44.12 | 33.26 | 35.14 | 3.98 | 46.22 | 74 | -27.78 | Peak | Vertical |
| 4960.26 | 34.46 | 33.26 | 35.14 | 3.98 | 36.56 | 54 | -17.44 | Average | Vertical |

802.11b / Chain 0

Channel 1

| Freq. MHz | Reading dBuV | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol. |
|-----------|--------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 4824.16 | 54.73 | 33.06 | 35.04 | 3.94 | 56.69 | 74 | -17.31 | Peak | Horizontal |
| 4824.19 | 45.28 | 33.06 | 35.04 | 3.94 | 47.24 | 54 | -6.76 | Average | Horizontal |
| 4824.16 | 54.75 | 33.06 | 35.04 | 3.94 | 56.71 | 74 | -17.29 | Peak | Vertical |
| 4824.19 | 44.43 | 33.06 | 35.04 | 3.94 | 46.39 | 54 | -7.61 | Average | Vertical |

Channel 6

| Freq. MHz | Reading dBuV | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol. |
|-----------|--------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 4874.23 | 53.13 | 33.16 | 35.15 | 3.96 | 55.10 | 74 | -18.90 | Peak | Horizontal |
| 4874.26 | 43.20 | 33.16 | 35.15 | 3.96 | 45.17 | 54 | -8.83 | Average | Horizontal |
| 4874.23 | 54.54 | 33.16 | 35.15 | 3.96 | 56.51 | 74 | -17.49 | Peak | Vertical |
| 4874.26 | 44.61 | 33.16 | 35.15 | 3.96 | 46.58 | 54 | -7.42 | Average | Vertical |

Channel 11

| Freq. MHz | Reading dBuV | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol. |
|-----------|--------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 4924.31 | 51.60 | 33.26 | 35.14 | 3.98 | 53.70 | 74 | -20.30 | Peak | Horizontal |
| 4924.34 | 42.42 | 33.26 | 35.14 | 3.98 | 44.52 | 54 | -9.48 | Average | Horizontal |
| 4924.31 | 51.51 | 33.26 | 35.14 | 3.98 | 53.61 | 74 | -20.39 | Peak | Vertical |
| 4924.34 | 41.71 | 33.26 | 35.14 | 3.98 | 43.81 | 54 | -10.19 | Average | Vertical |

802.11g / Chain 0

Channel 1

| Freq. MHz | Reading dBuv | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuv/m | Limit dBuv/m | Margin dB | Remark | Pol. |
|-----------|--------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 4824.15 | 56.64 | 33.06 | 35.04 | 3.94 | 58.60 | 74 | -15.40 | Peak | Horizontal |
| 4824.17 | 48.51 | 33.06 | 35.04 | 3.94 | 50.47 | 54 | -3.53 | Average | Horizontal |
| 4824.15 | 57.65 | 33.06 | 35.04 | 3.94 | 59.61 | 74 | -14.39 | Peak | Vertical |
| 4824.17 | 48.24 | 33.06 | 35.04 | 3.94 | 50.20 | 54 | -3.80 | Average | Vertical |

Channel 6

| Freq. MHz | Reading dBuv | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuv/m | Limit dBuv/m | Margin dB | Remark | Pol. |
|-----------|--------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 4874.26 | 55.23 | 33.16 | 35.15 | 3.96 | 57.20 | 74 | -16.80 | Peak | Horizontal |
| 4874.29 | 43.67 | 33.16 | 35.15 | 3.96 | 45.64 | 54 | -8.36 | Average | Horizontal |
| 4874.26 | 55.59 | 33.16 | 35.15 | 3.96 | 57.56 | 74 | -16.44 | Peak | Vertical |
| 4874.29 | 45.62 | 33.16 | 35.15 | 3.96 | 47.59 | 54 | -6.41 | Average | Vertical |

Channel 11

| Freq. MHz | Reading dBuv | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuv/m | Limit dBuv/m | Margin dB | Remark | Pol. |
|-----------|--------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 4924.37 | 55.34 | 33.26 | 35.14 | 3.98 | 57.44 | 74 | -16.56 | Peak | Horizontal |
| 4924.40 | 45.55 | 33.26 | 35.14 | 3.98 | 47.65 | 54 | -6.35 | Average | Horizontal |
| 4924.37 | 56.34 | 33.26 | 35.14 | 3.98 | 58.44 | 74 | -15.56 | Peak | Vertical |
| 4924.40 | 47.02 | 33.26 | 35.14 | 3.98 | 49.12 | 54 | -4.88 | Average | Vertical |

802.11n(HT20) / Chain 0 + Chain 1

Channel 1

| Freq. MHz | Reading dBuV | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol. |
|-----------|--------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 4824.21 | 53.81 | 33.06 | 35.04 | 3.94 | 55.77 | 74 | -18.23 | Peak | Horizontal |
| 4824.24 | 42.97 | 33.06 | 35.04 | 3.94 | 44.93 | 54 | -9.07 | Average | Horizontal |
| 4824.21 | 56.25 | 33.06 | 35.04 | 3.94 | 58.21 | 74 | -15.79 | Peak | Vertical |
| 4824.24 | 44.98 | 33.06 | 35.04 | 3.94 | 46.94 | 54 | -7.06 | Average | Vertical |

Channel 6

| Freq. MHz | Reading dBuV | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol. |
|-----------|--------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 4874.37 | 52.60 | 33.16 | 35.15 | 3.96 | 54.57 | 74 | -19.43 | Peak | Horizontal |
| 4874.39 | 42.96 | 33.16 | 35.15 | 3.96 | 44.93 | 54 | -9.07 | Average | Horizontal |
| 4874.37 | 55.01 | 33.16 | 35.15 | 3.96 | 56.98 | 74 | -17.02 | Peak | Vertical |
| 4874.39 | 44.02 | 33.16 | 35.15 | 3.96 | 45.99 | 54 | -8.01 | Average | Vertical |

Channel 11

| Freq. MHz | Reading dBuV | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol. |
|-----------|--------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 4924.44 | 51.88 | 33.26 | 35.14 | 3.98 | 53.98 | 74 | -20.02 | Peak | Horizontal |
| 4924.46 | 42.06 | 33.26 | 35.14 | 3.98 | 44.16 | 54 | -9.84 | Average | Horizontal |
| 4924.44 | 53.22 | 33.26 | 35.14 | 3.98 | 55.32 | 74 | -18.68 | Peak | Vertical |
| 4924.46 | 43.51 | 33.26 | 35.14 | 3.98 | 45.61 | 54 | -8.39 | Average | Vertical |

802.11n(HT40) / Chain 0 + Chain 1

Channel 3

| Freq. MHz | Reading dBuV | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol. |
|-----------|--------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 4844.17 | 50.86 | 33.06 | 35.04 | 3.94 | 52.82 | 74 | -21.18 | Peak | Horizontal |
| 4844.19 | 41.33 | 33.06 | 35.04 | 3.94 | 43.29 | 54 | -10.71 | Average | Horizontal |
| 4844.17 | 52.52 | 33.06 | 35.04 | 3.94 | 54.48 | 74 | -19.52 | Peak | Vertical |
| 4844.19 | 40.99 | 33.06 | 35.04 | 3.94 | 42.95 | 54 | -11.05 | Average | Vertical |

Channel 6

| Freq. MHz | Reading dBuV | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol. |
|-----------|--------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 4874.34 | 49.88 | 33.16 | 35.15 | 3.96 | 51.85 | 74 | -22.15 | Peak | Horizontal |
| 4874.37 | 39.31 | 33.16 | 35.15 | 3.96 | 41.28 | 54 | -12.72 | Average | Horizontal |
| 4874.34 | 49.96 | 33.16 | 35.15 | 3.96 | 51.93 | 74 | -22.07 | Peak | Vertical |
| 4874.37 | 39.49 | 33.16 | 35.15 | 3.96 | 41.46 | 54 | -12.54 | Average | Vertical |

Channel 9

| Freq. MHz | Reading dBuV | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol. |
|-----------|--------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 4904.33 | 49.21 | 33.26 | 35.14 | 3.98 | 51.31 | 74 | -22.69 | Peak | Horizontal |
| 4904.36 | 38.38 | 33.26 | 35.14 | 3.98 | 40.48 | 54 | -13.52 | Average | Horizontal |
| 4904.33 | 50.96 | 33.26 | 35.14 | 3.98 | 53.06 | 74 | -20.94 | Peak | Vertical |
| 4904.36 | 42.03 | 33.26 | 35.14 | 3.98 | 44.13 | 54 | -9.87 | Average | Vertical |

Notes:

1. Measuring frequencies from 9k~10th harmonic or 26.5GHz (which is less), No emission found between lowest internal used/generated frequency to 30MHz.
2. Radiated emissions measured in frequency range from 30MHz~10th harmonic or 26.5GHz (which is less) were made with an instrument using Peak detector mode.
3. The radiated emissions from 18GHz to 25GHz are at least 20dB below the official limit and no need to report.

5.4.9. Results of Band Edges Test (Radiated)

Note: Only recorded the worst test result in this report.

V4.1 BLE Part (Chain 1 Only)

Tx-2402

| Freq. MHz | Reading Level dBuV | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol. |
|-----------|--------------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 2375.44 | 42.55 | 32.90 | 35.16 | 3.51 | 43.80 | 74 | -30.20 | Peak | Horizontal |
| 2375.47 | 33.32 | 32.90 | 35.16 | 3.51 | 34.57 | 54 | -19.43 | Average | Horizontal |
| 2390.00 | 45.62 | 32.92 | 35.16 | 3.54 | 46.92 | 74 | -27.08 | Peak | Horizontal |
| 2389.97 | 36.42 | 32.92 | 35.16 | 3.54 | 37.72 | 54 | -16.28 | Average | Horizontal |
| 2400.00 | 56.27 | 32.92 | 35.16 | 3.54 | 57.57 | 74 | -16.43 | Peak | Horizontal |
| 2399.99 | 46.97 | 32.92 | 35.16 | 3.54 | 48.27 | 54 | -5.73 | Average | Horizontal |
| 2375.44 | 42.59 | 32.90 | 35.16 | 3.51 | 43.84 | 74 | -30.16 | Peak | Vertical |
| 2375.47 | 33.34 | 32.90 | 35.16 | 3.51 | 34.59 | 54 | -19.41 | Average | Vertical |
| 2390.00 | 46.71 | 32.92 | 35.16 | 3.54 | 48.01 | 74 | -25.99 | Peak | Vertical |
| 2389.97 | 37.72 | 32.92 | 35.16 | 3.54 | 39.02 | 54 | -14.98 | Average | Vertical |
| 2400.00 | 57.94 | 32.92 | 35.16 | 3.54 | 59.24 | 74 | -14.76 | Peak | Vertical |
| 2399.99 | 47.79 | 32.92 | 35.16 | 3.54 | 49.09 | 54 | -4.91 | Average | Vertical |

Tx-2480

| Freq. MHz | Reading Level dBuV | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol. |
|-----------|--------------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 2483.50 | 45.54 | 33.06 | 35.18 | 3.60 | 47.02 | 74 | -26.98 | Peak | Horizontal |
| 2483.51 | 36.86 | 33.06 | 35.18 | 3.60 | 38.34 | 54 | -15.66 | Average | Horizontal |
| 2486.67 | 40.56 | 33.08 | 35.18 | 3.62 | 42.08 | 74 | -31.92 | Peak | Horizontal |
| 2486.70 | 31.70 | 33.08 | 35.18 | 3.62 | 33.22 | 54 | -20.78 | Average | Horizontal |
| 2483.50 | 45.82 | 33.06 | 35.18 | 3.60 | 47.30 | 74 | -26.70 | Peak | Vertical |
| 2483.51 | 36.76 | 33.06 | 35.18 | 3.60 | 38.24 | 54 | -15.76 | Average | Vertical |
| 2486.67 | 41.47 | 33.08 | 35.18 | 3.62 | 42.99 | 74 | -31.01 | Peak | Vertical |
| 2486.70 | 32.61 | 33.08 | 35.18 | 3.62 | 34.13 | 54 | -19.87 | Average | Vertical |

802.11b / Chain 0

Tx-2412

| Freq. MHz | Reading dBuV | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol. |
|-----------|--------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 2372.67 | 45.74 | 32.90 | 35.16 | 3.51 | 46.99 | 74 | -27.01 | Peak | Horizontal |
| 2372.70 | 37.78 | 32.90 | 35.16 | 3.51 | 39.03 | 54 | -14.97 | Average | Horizontal |
| 2390.00 | 49.30 | 32.92 | 35.16 | 3.54 | 50.60 | 74 | -23.40 | Peak | Horizontal |
| 2389.97 | 37.54 | 32.92 | 35.16 | 3.54 | 38.84 | 54 | -15.16 | Average | Horizontal |
| 2400.00 | 56.64 | 32.92 | 35.16 | 3.54 | 57.94 | 74 | -16.06 | Peak | Horizontal |
| 2399.97 | 46.88 | 32.92 | 35.16 | 3.54 | 48.18 | 54 | -5.82 | Average | Horizontal |
| 2372.67 | 47.82 | 32.90 | 35.16 | 3.51 | 49.07 | 74 | -24.93 | Peak | Vertical |
| 2372.70 | 37.33 | 32.90 | 35.16 | 3.51 | 38.58 | 54 | -15.42 | Average | Vertical |
| 2390.00 | 48.52 | 32.92 | 35.16 | 3.54 | 49.82 | 74 | -24.18 | Peak | Vertical |
| 2389.97 | 39.16 | 32.92 | 35.16 | 3.54 | 40.46 | 54 | -13.54 | Average | Vertical |
| 2400.00 | 56.72 | 32.92 | 35.16 | 3.54 | 58.02 | 74 | -15.98 | Peak | Vertical |
| 2399.97 | 47.08 | 32.92 | 35.16 | 3.54 | 48.38 | 54 | -5.62 | Average | Vertical |

Tx-2462

| Freq. MHz | Reading dBuV | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol. |
|-----------|--------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 2483.50 | 48.83 | 33.06 | 35.18 | 3.60 | 50.31 | 74 | -23.69 | Peak | Horizontal |
| 2483.53 | 39.70 | 33.06 | 35.18 | 3.60 | 41.18 | 54 | -12.82 | Average | Horizontal |
| 2487.41 | 45.52 | 33.08 | 35.18 | 3.62 | 47.04 | 74 | -26.96 | Peak | Horizontal |
| 2487.43 | 36.60 | 33.08 | 35.18 | 3.62 | 38.12 | 54 | -15.88 | Average | Horizontal |
| 2483.50 | 47.95 | 33.06 | 35.18 | 3.60 | 49.43 | 74 | -24.57 | Peak | Vertical |
| 2483.53 | 40.17 | 33.06 | 35.18 | 3.60 | 41.65 | 54 | -12.35 | Average | Vertical |
| 2487.41 | 45.52 | 33.08 | 35.18 | 3.62 | 47.04 | 74 | -26.96 | Peak | Vertical |
| 2487.43 | 34.50 | 33.08 | 35.18 | 3.62 | 36.02 | 54 | -17.98 | Average | Vertical |

802.11g / Chain 0

Tx-2412

| Freq. MHz | Reading dBuV | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol. |
|-----------|--------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 2376.14 | 44.73 | 32.90 | 35.16 | 3.51 | 45.98 | 74 | -28.02 | Peak | Horizontal |
| 2376.17 | 37.93 | 32.90 | 35.16 | 3.51 | 39.18 | 54 | -14.82 | Average | Horizontal |
| 2390.00 | 50.10 | 32.92 | 35.16 | 3.54 | 51.40 | 74 | -22.60 | Peak | Horizontal |
| 2389.97 | 35.75 | 32.92 | 35.16 | 3.54 | 37.05 | 54 | -16.95 | Average | Horizontal |
| 2400.00 | 63.89 | 32.92 | 35.16 | 3.54 | 65.19 | 74 | -8.81 | Peak | Horizontal |
| 2399.97 | 48.08 | 32.92 | 35.16 | 3.54 | 49.38 | 54 | -4.62 | Average | Horizontal |
| 2376.14 | 46.57 | 32.90 | 35.16 | 3.51 | 47.82 | 74 | -26.18 | Peak | Vertical |
| 2376.17 | 36.41 | 32.90 | 35.16 | 3.51 | 37.66 | 54 | -16.34 | Average | Vertical |
| 2390.00 | 49.14 | 32.92 | 35.16 | 3.54 | 50.44 | 74 | -23.56 | Peak | Vertical |
| 2389.97 | 39.47 | 32.92 | 35.16 | 3.54 | 40.77 | 54 | -13.23 | Average | Vertical |
| 2400.00 | 62.42 | 32.92 | 35.16 | 3.54 | 63.72 | 74 | -10.28 | Peak | Vertical |
| 2399.97 | 47.54 | 32.92 | 35.16 | 3.54 | 48.84 | 54 | -5.16 | Average | Vertical |

Tx-2462

| Freq. MHz | Reading dBuV | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol. |
|-----------|--------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 2483.50 | 50.35 | 32.90 | 35.16 | 3.51 | 51.60 | 74 | -22.40 | Peak | Horizontal |
| 2483.51 | 39.12 | 32.90 | 35.16 | 3.51 | 40.37 | 54 | -13.63 | Average | Horizontal |
| 2487.61 | 48.02 | 32.92 | 35.16 | 3.54 | 49.32 | 74 | -24.68 | Peak | Horizontal |
| 2487.63 | 35.43 | 32.92 | 35.16 | 3.54 | 36.73 | 54 | -17.27 | Average | Horizontal |
| 2483.50 | 49.55 | 32.90 | 35.16 | 3.51 | 50.80 | 74 | -23.20 | Peak | Vertical |
| 2483.51 | 38.81 | 32.90 | 35.16 | 3.51 | 40.06 | 54 | -13.94 | Average | Vertical |
| 2487.61 | 48.51 | 32.92 | 35.16 | 3.54 | 49.81 | 74 | -24.19 | Peak | Vertical |
| 2487.63 | 38.14 | 32.92 | 35.16 | 3.54 | 39.44 | 54 | -14.56 | Average | Vertical |

802.11n(HT20) / Chain 0 + Chain 1

Tx-2412

| Freq. MHz | Reading dBuV | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol. |
|-----------|--------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 2377.54 | 46.03 | 32.90 | 35.16 | 3.51 | 47.28 | 74 | -26.72 | Peak | Horizontal |
| 2377.57 | 37.23 | 32.90 | 35.16 | 3.51 | 38.48 | 54 | -15.52 | Average | Horizontal |
| 2390.00 | 48.21 | 32.92 | 35.16 | 3.54 | 49.51 | 74 | -24.49 | Peak | Horizontal |
| 2389.97 | 36.79 | 32.92 | 35.16 | 3.54 | 38.09 | 54 | -15.91 | Average | Horizontal |
| 2400.00 | 63.99 | 32.92 | 35.16 | 3.54 | 65.29 | 74 | -8.71 | Peak | Horizontal |
| 2399.97 | 48.64 | 32.92 | 35.16 | 3.54 | 49.94 | 54 | -4.06 | Average | Horizontal |
| 2377.54 | 43.71 | 32.90 | 35.16 | 3.51 | 44.96 | 74 | -29.04 | Peak | Vertical |
| 2377.57 | 38.25 | 32.90 | 35.16 | 3.51 | 39.50 | 54 | -14.50 | Average | Vertical |
| 2390.00 | 49.13 | 32.92 | 35.16 | 3.54 | 50.43 | 74 | -23.57 | Peak | Vertical |
| 2389.99 | 39.01 | 32.92 | 35.16 | 3.54 | 40.31 | 54 | -13.69 | Average | Vertical |
| 2400.00 | 63.81 | 32.92 | 35.16 | 3.54 | 65.11 | 74 | -8.89 | Peak | Vertical |
| 2399.97 | 48.54 | 32.92 | 35.16 | 3.54 | 49.84 | 54 | -4.16 | Average | Vertical |

Tx-2462

| Freq. MHz | Reading dBuV | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol. |
|-----------|--------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 2483.50 | 48.38 | 33.06 | 35.18 | 3.60 | 49.86 | 74 | -24.14 | Peak | Horizontal |
| 2483.51 | 37.23 | 33.06 | 35.18 | 3.60 | 38.71 | 54 | -15.29 | Average | Horizontal |
| 2489.44 | 45.21 | 33.08 | 35.18 | 3.62 | 46.73 | 74 | -27.27 | Peak | Horizontal |
| 2489.47 | 34.02 | 33.08 | 35.18 | 3.62 | 35.54 | 54 | -18.46 | Average | Horizontal |
| 2483.50 | 48.27 | 33.06 | 35.18 | 3.60 | 49.75 | 74 | -24.25 | Peak | Vertical |
| 2483.53 | 36.57 | 33.08 | 35.18 | 3.60 | 38.07 | 54 | -15.93 | Average | Vertical |
| 2489.44 | 47.13 | 33.08 | 35.18 | 3.62 | 48.65 | 74 | -25.35 | Peak | Vertical |
| 2489.47 | 35.91 | 33.08 | 35.18 | 3.62 | 37.43 | 54 | -16.57 | Average | Vertical |

802.11n(HT40) / Chain 0 + Chain 1

Tx-2422

| Freq. MHz | Reading dBuV | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol. |
|-----------|--------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 2371.83 | 44.39 | 32.90 | 35.16 | 3.51 | 45.64 | 74 | -28.36 | Peak | Horizontal |
| 2371.86 | 33.69 | 32.90 | 35.16 | 3.51 | 34.94 | 54 | -19.06 | Average | Horizontal |
| 2390.00 | 45.38 | 32.92 | 35.16 | 3.54 | 46.68 | 74 | -27.32 | Peak | Horizontal |
| 2389.97 | 36.80 | 32.92 | 35.16 | 3.54 | 38.10 | 54 | -15.90 | Average | Horizontal |
| 2400.00 | 65.19 | 32.92 | 35.16 | 3.54 | 66.49 | 74 | -7.51 | Peak | Horizontal |
| 2399.97 | 47.59 | 32.92 | 35.16 | 3.54 | 48.89 | 54 | -5.11 | Average | Horizontal |
| 2371.83 | 43.14 | 32.90 | 35.16 | 3.51 | 44.39 | 74 | -29.61 | Peak | Vertical |
| 2371.86 | 35.91 | 32.90 | 35.16 | 3.51 | 37.16 | 54 | -16.84 | Average | Vertical |
| 2390.00 | 46.82 | 32.92 | 35.16 | 3.54 | 48.12 | 74 | -25.88 | Peak | Vertical |
| 2389.99 | 36.25 | 32.92 | 35.16 | 3.54 | 37.55 | 54 | -16.45 | Average | Vertical |
| 2400.00 | 66.84 | 32.92 | 35.16 | 3.54 | 68.14 | 74 | -5.86 | Peak | Vertical |
| 2399.97 | 48.26 | 32.92 | 35.16 | 3.54 | 49.56 | 54 | -4.44 | Average | Vertical |

Tx-2452

| Freq. MHz | Reading dBuV | Ant. Fac. dB/m | Pre. Fac. dB | Cab. Loss dB | Measured dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol. |
|-----------|--------------|----------------|--------------|--------------|-----------------|--------------|-----------|---------|------------|
| 2483.50 | 46.09 | 33.06 | 35.18 | 3.60 | 47.57 | 74 | -26.43 | Peak | Horizontal |
| 2483.51 | 35.87 | 33.06 | 35.18 | 3.60 | 37.35 | 54 | -16.65 | Average | Horizontal |
| 2486.86 | 43.29 | 33.08 | 35.18 | 3.62 | 44.81 | 74 | -29.19 | Peak | Horizontal |
| 2486.89 | 33.00 | 33.08 | 35.18 | 3.62 | 34.52 | 54 | -19.48 | Average | Horizontal |
| 2483.50 | 45.78 | 33.06 | 35.18 | 3.60 | 47.26 | 74 | -26.74 | Peak | Vertical |
| 2483.51 | 35.79 | 33.06 | 35.18 | 3.60 | 37.27 | 54 | -16.73 | Average | Vertical |
| 2486.86 | 44.94 | 33.08 | 35.18 | 3.62 | 46.46 | 74 | -27.54 | Peak | Vertical |
| 2486.89 | 33.59 | 33.08 | 35.18 | 3.62 | 35.11 | 54 | -18.89 | Average | Vertical |

5.5. Conducted Spurious Emissions and Band Edges Test

5.5.1. Standard Applicable

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 a radiated 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, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

5.5.2. Instruments Setting

The following table is the setting of the spectrum analyzer.

| Spectrum Parameter | Setting |
|---|---------------|
| Detector | Peak |
| Attenuation | Auto |
| RB / VB (Emission in restricted band) | 100KHz/300KHz |
| RB / VB (Emission in non-restricted band) | 100KHz/300KHz |

5.5.3. Test Procedures

The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz

The spectrum from 9kHz to 26.5GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

5.5.4. Test Setup Layout

This test setup layout is the same as that shown in section 5.3.4.

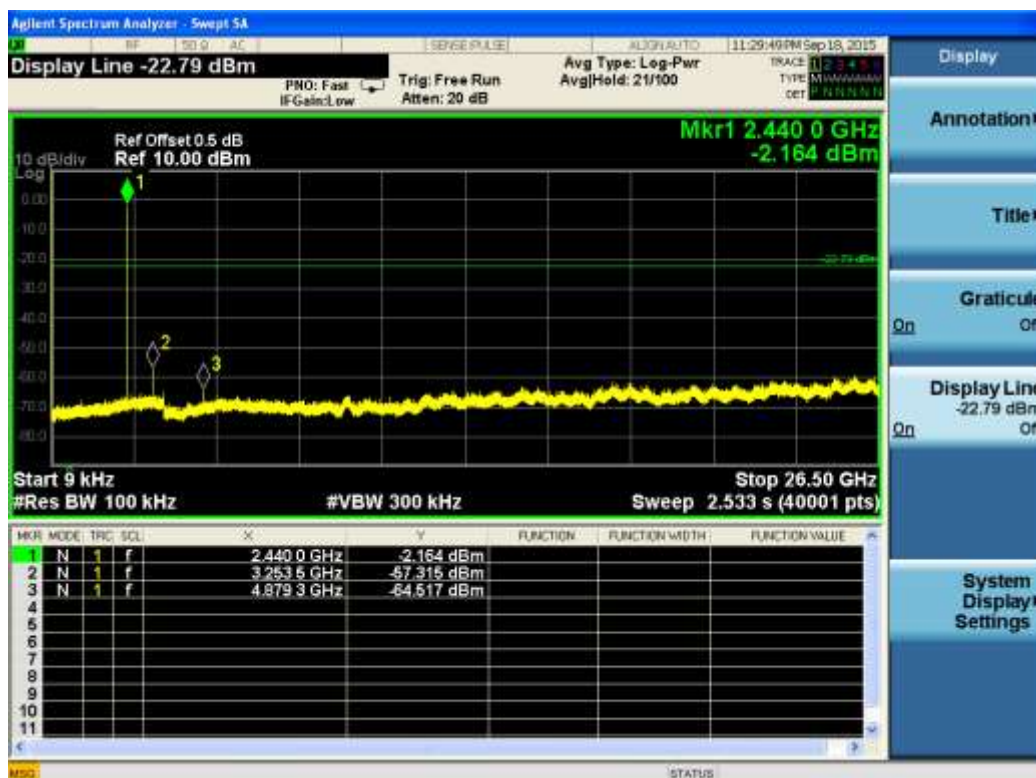
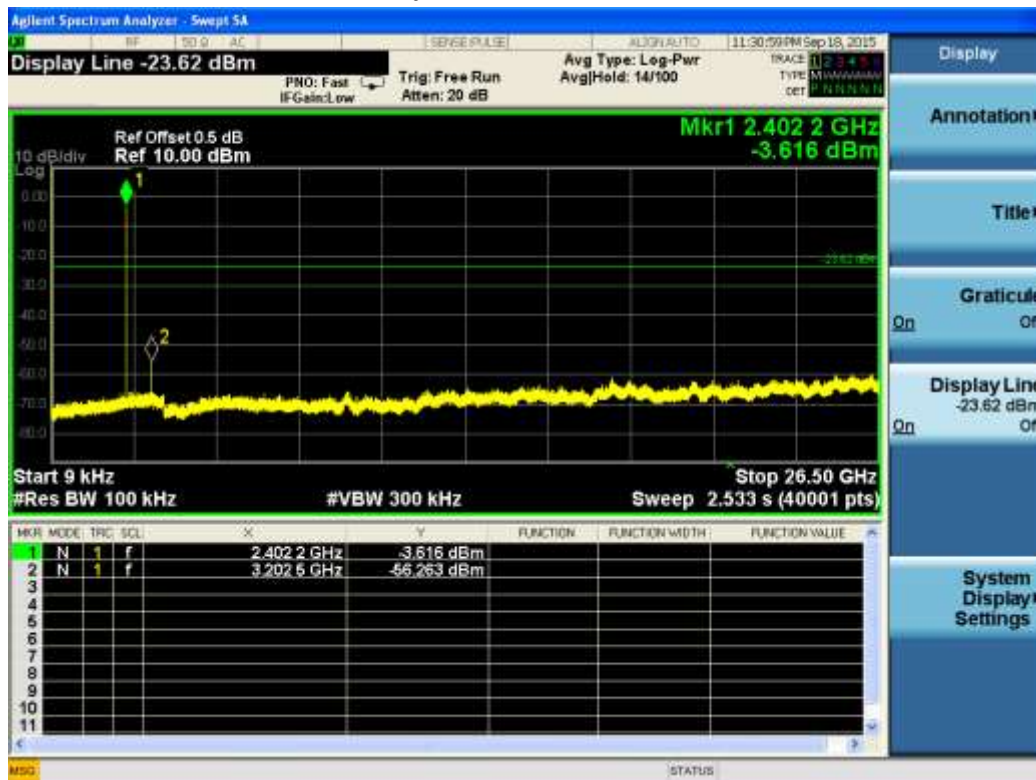
5.5.5. EUT Operation during Test

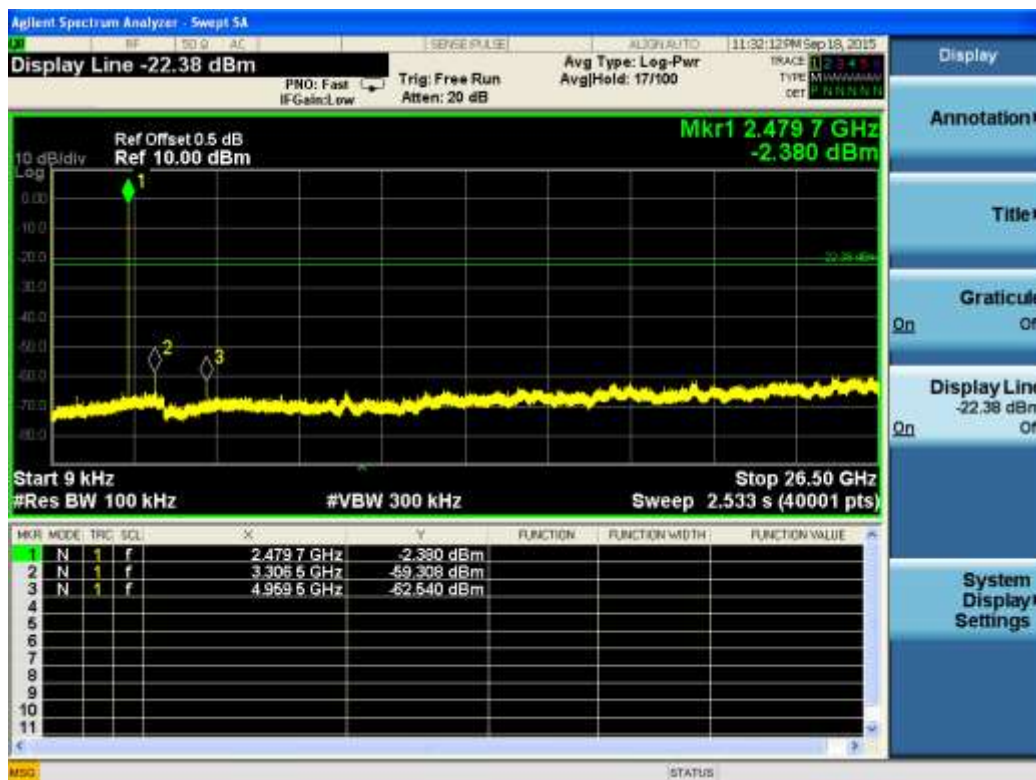
The EUT was programmed to be in continuously transmitting mode.

5.5.6. Test Results of Conducted Spurious Emissions

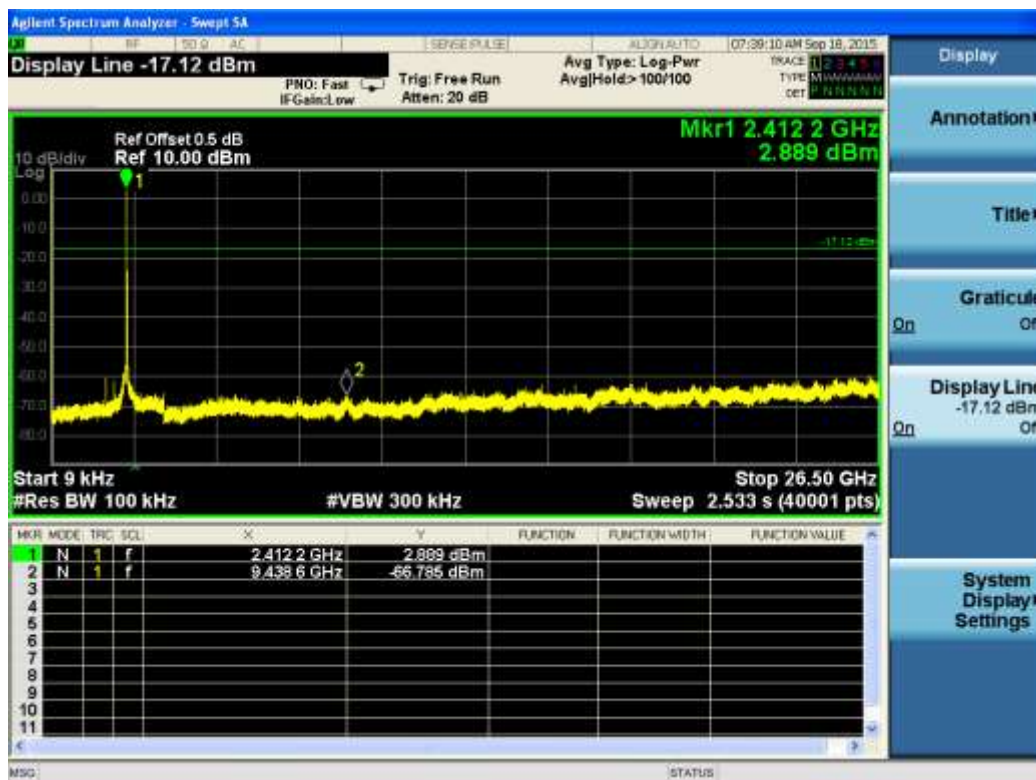
Note: Only recorded the worst test case in this report.

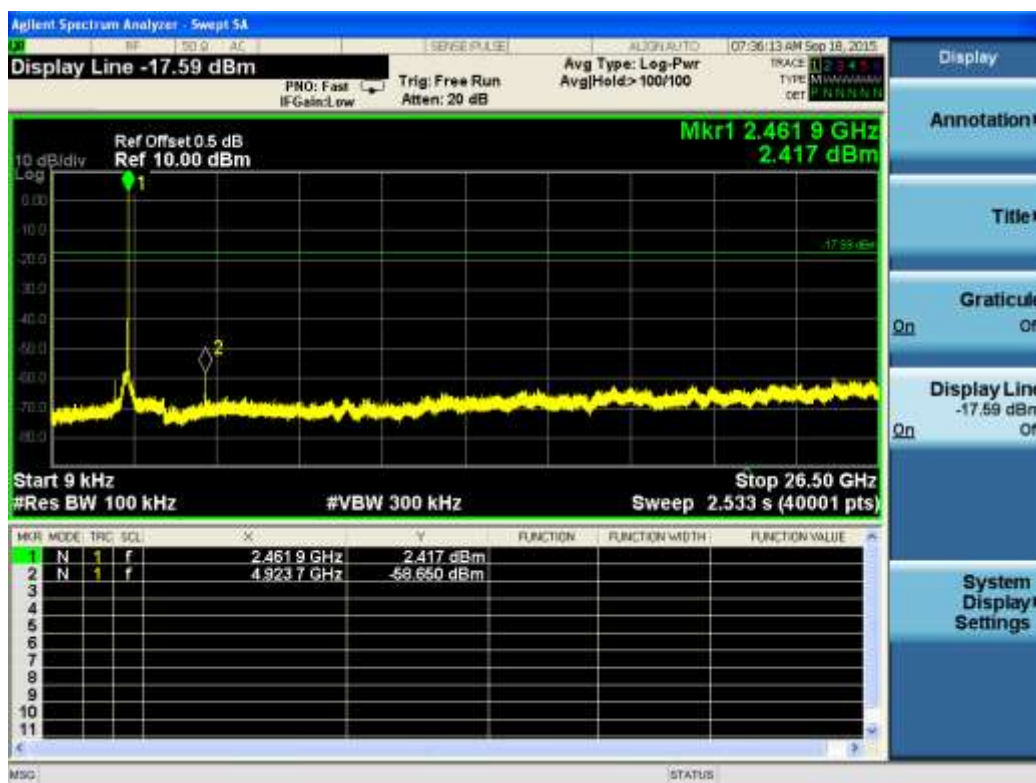
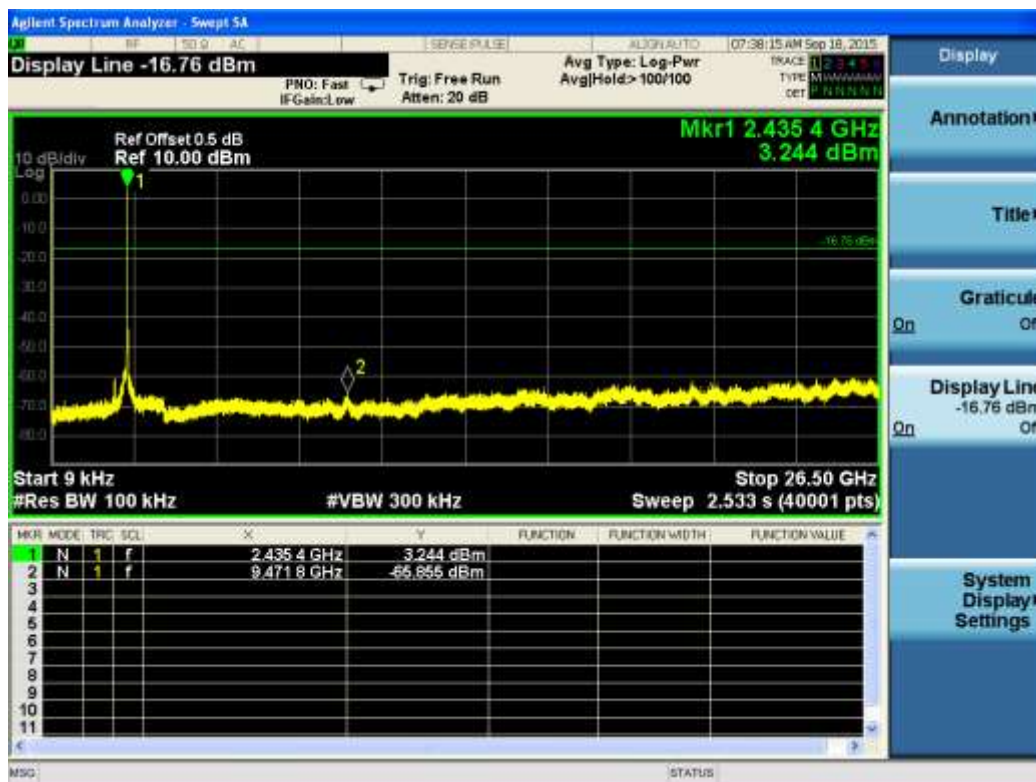
V4.1 BLE Part (Chain 1 Only)



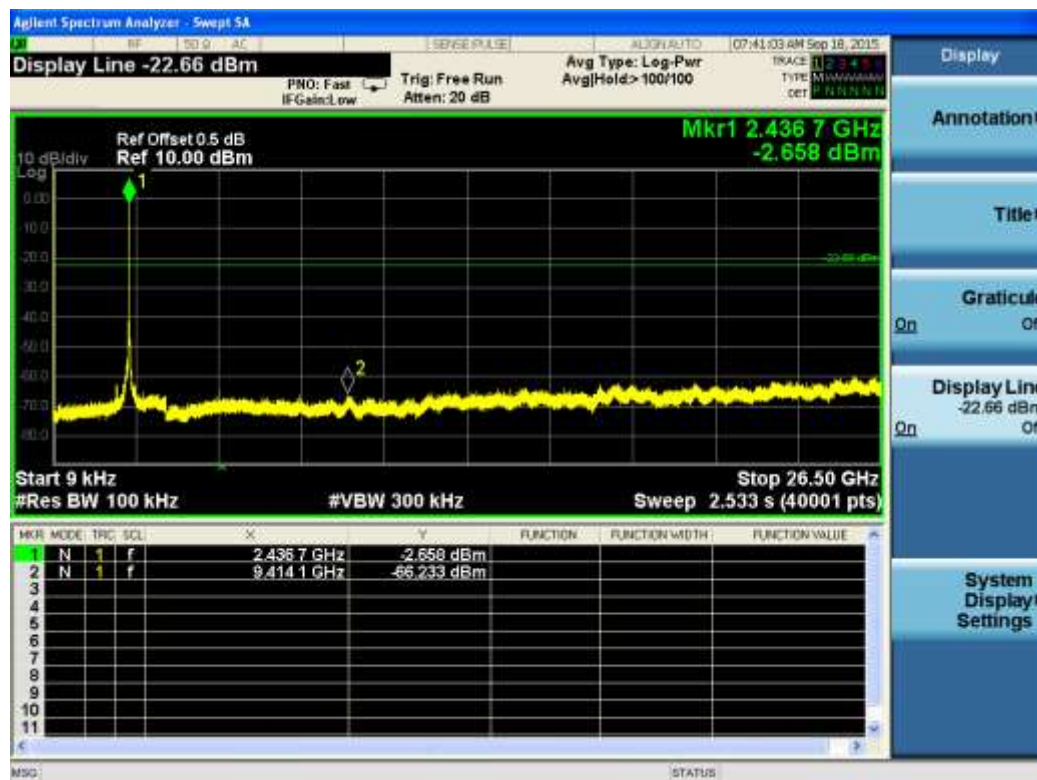
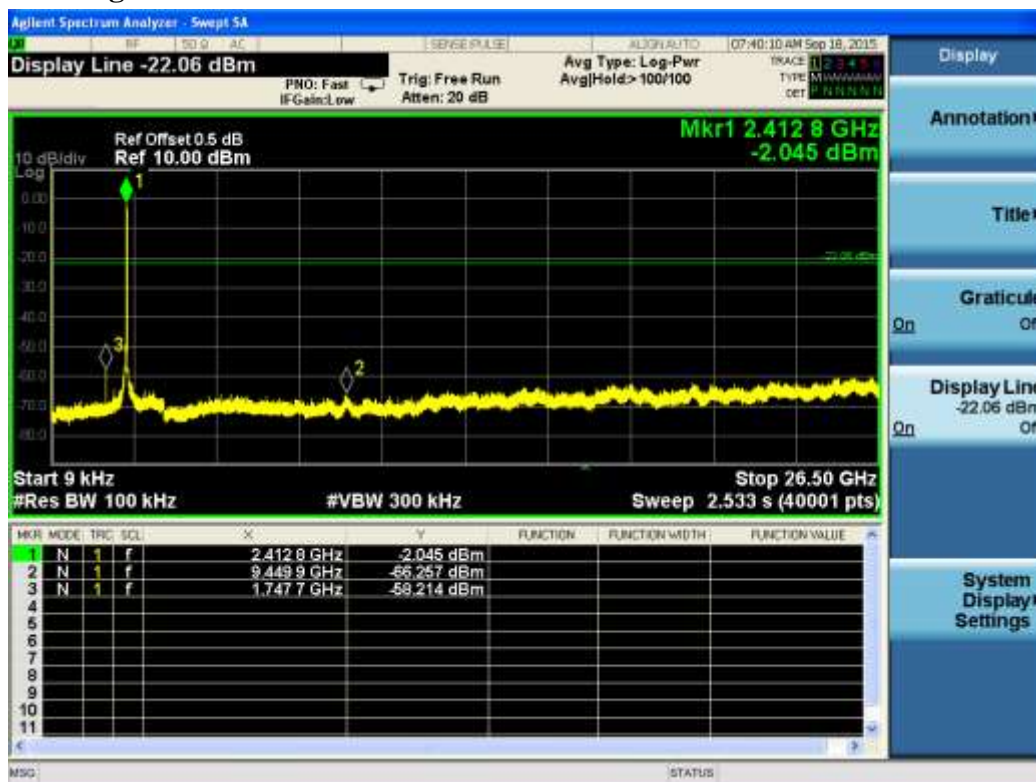


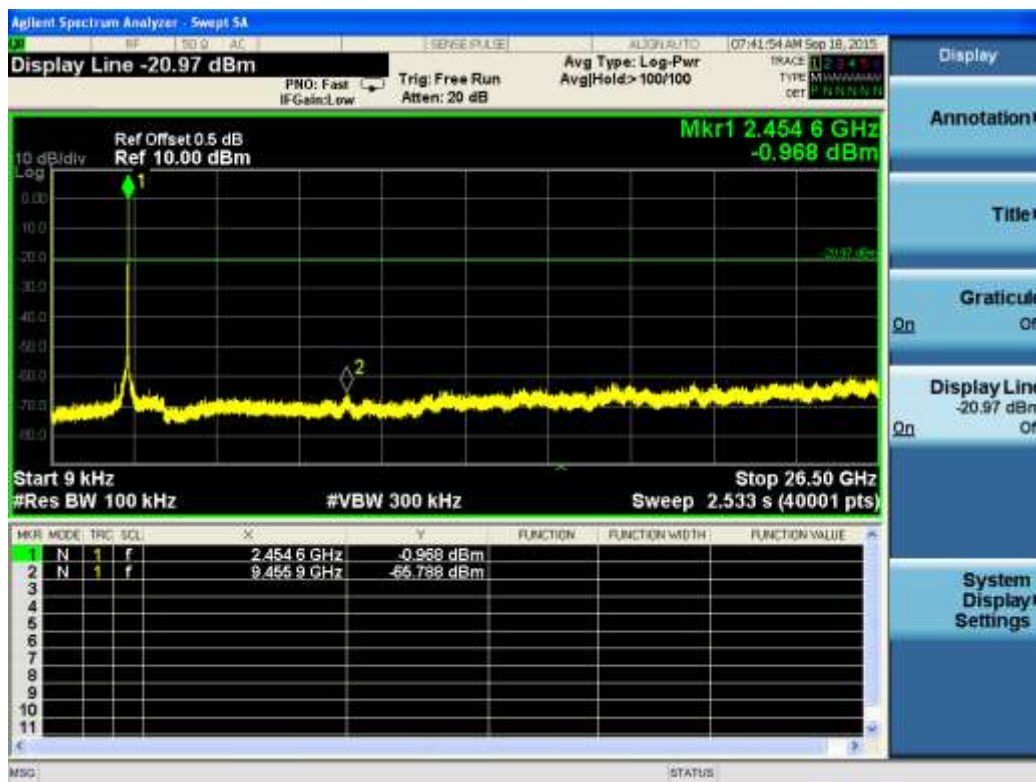
802.11b / Chain 0



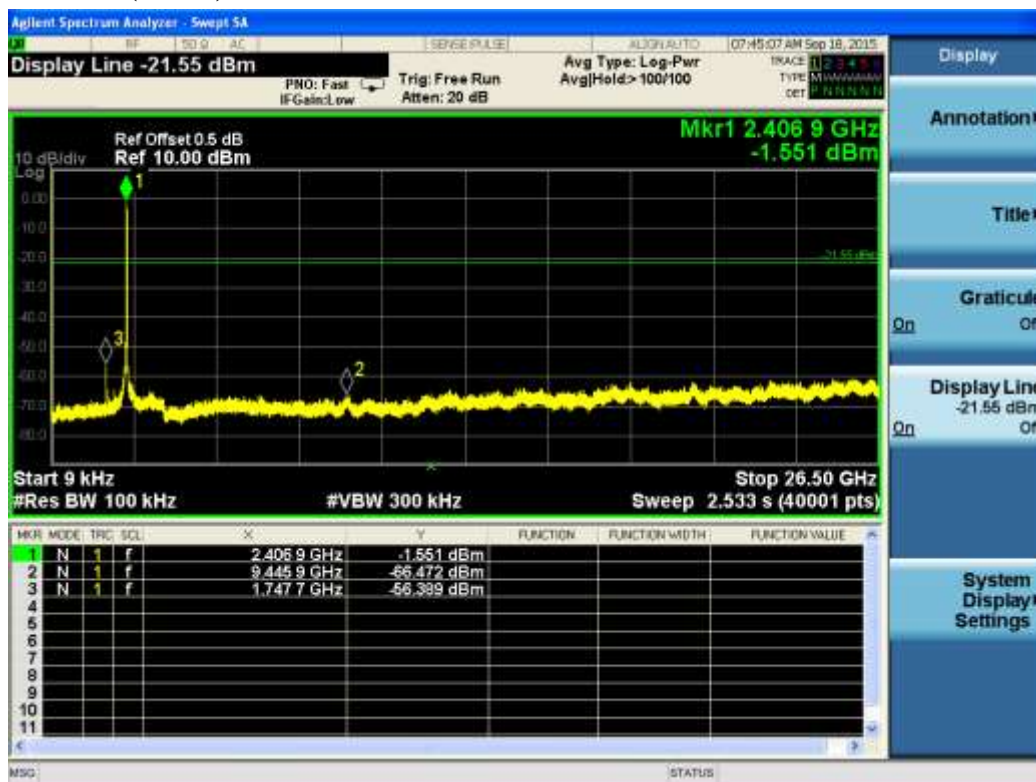


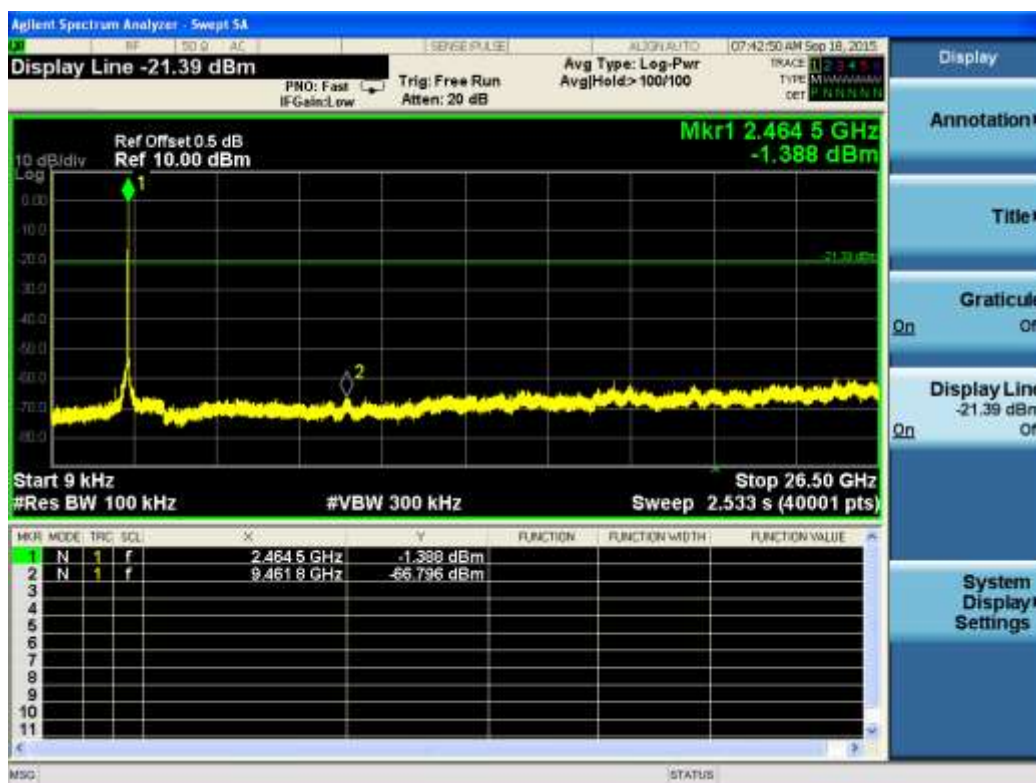
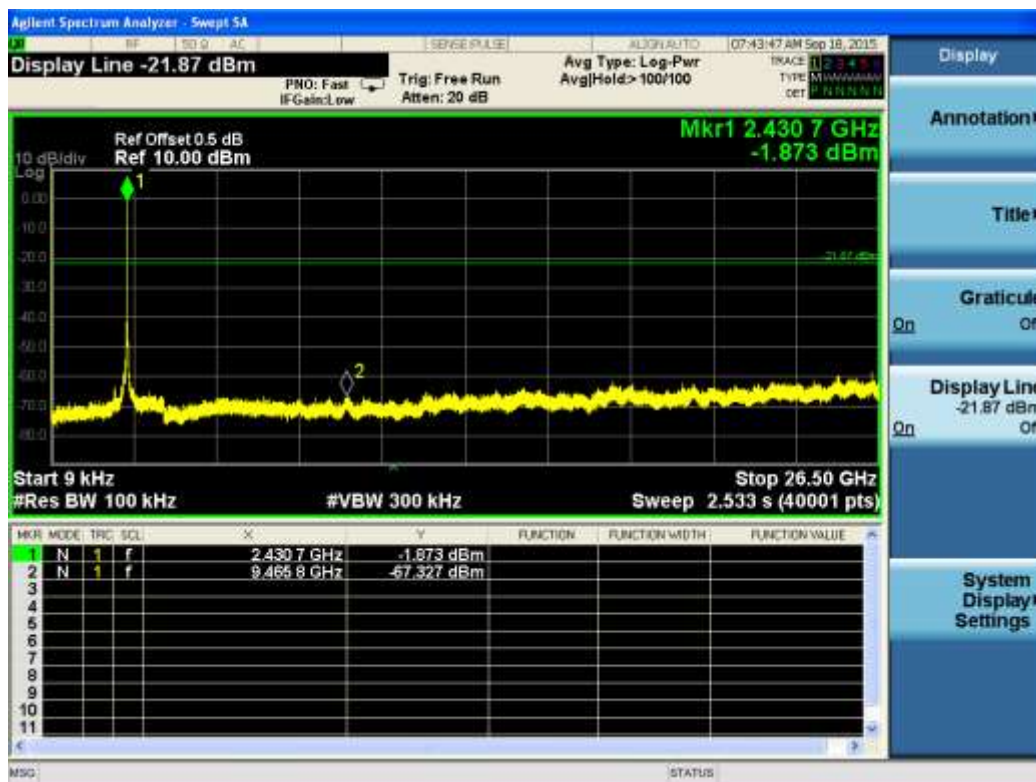
802.11g / Chain 0



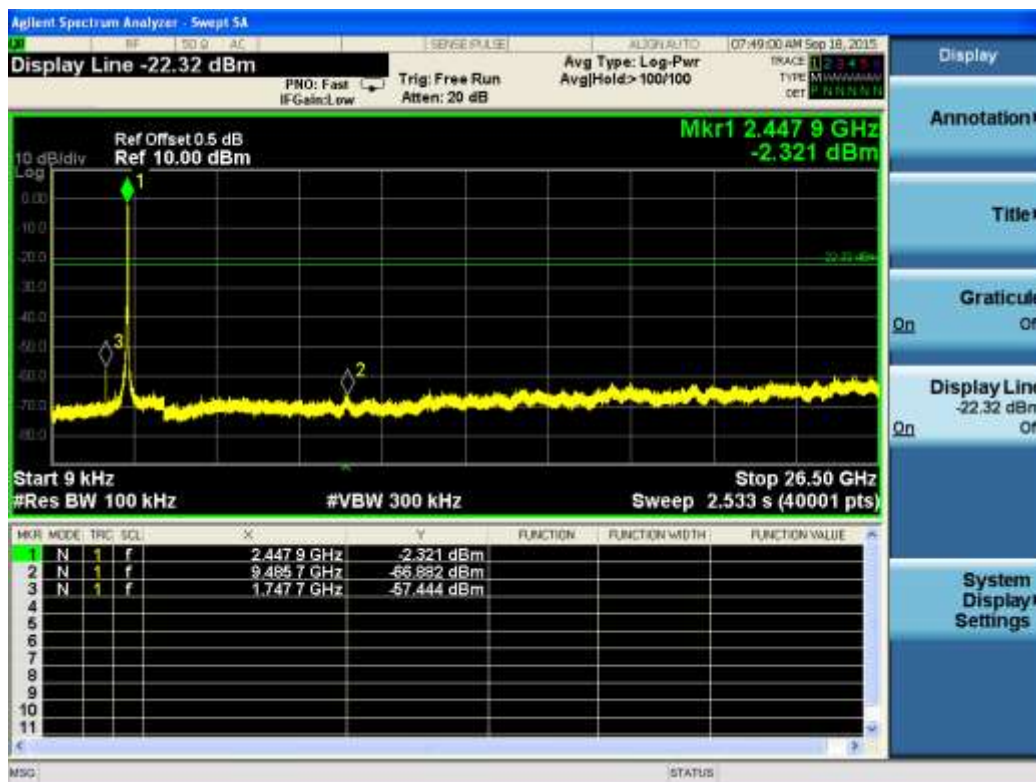
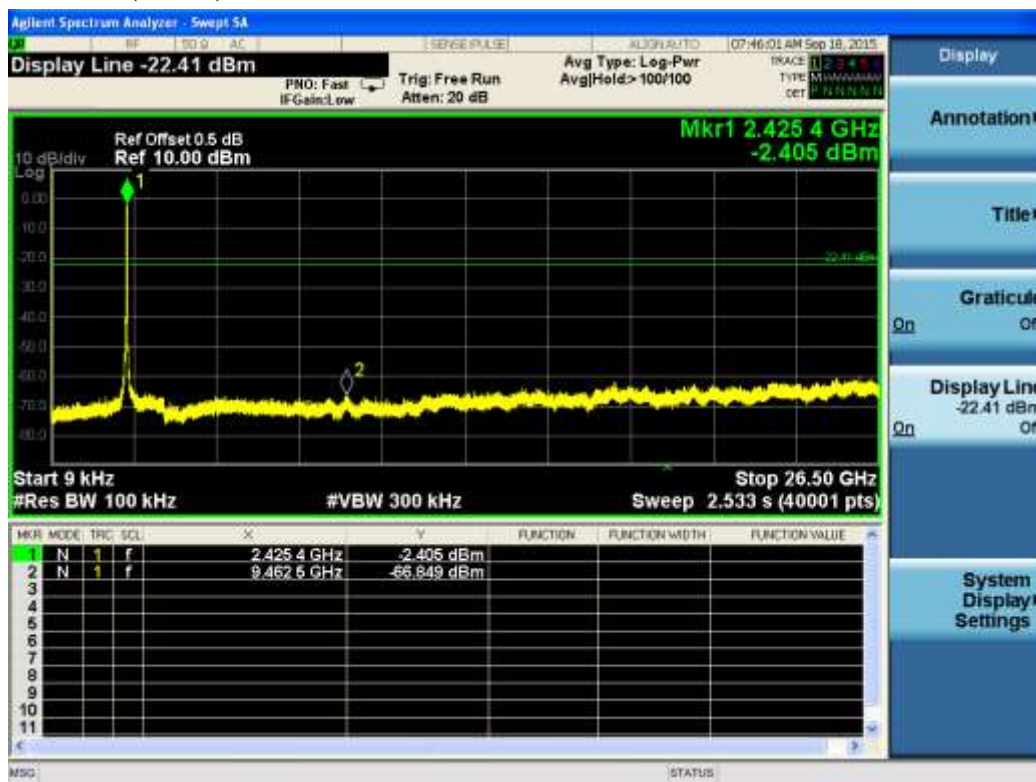


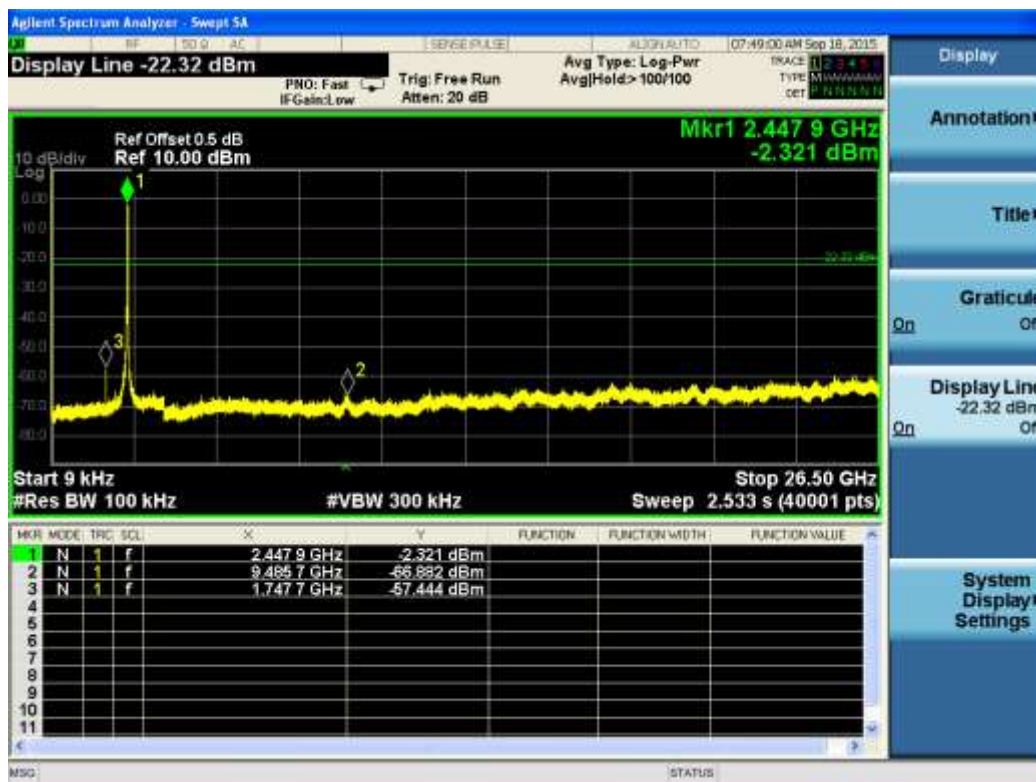
802.11n(HT20) / Chain 0 + Chain 1





802.11n(HT40) / Chain 0 + Chain 1

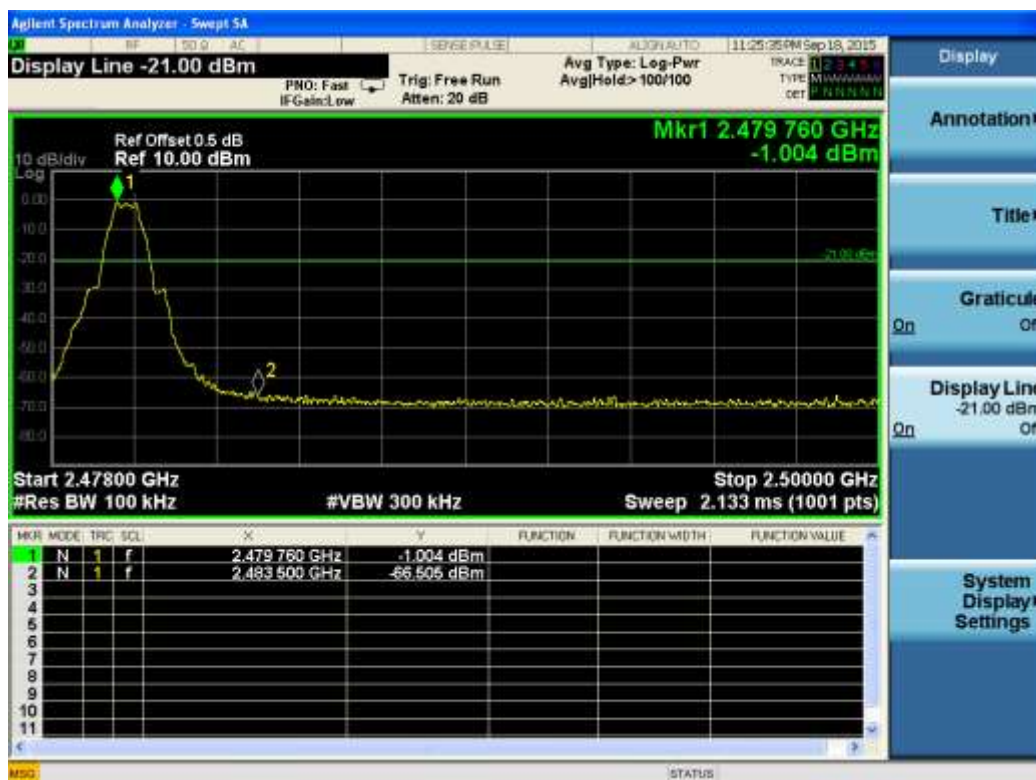
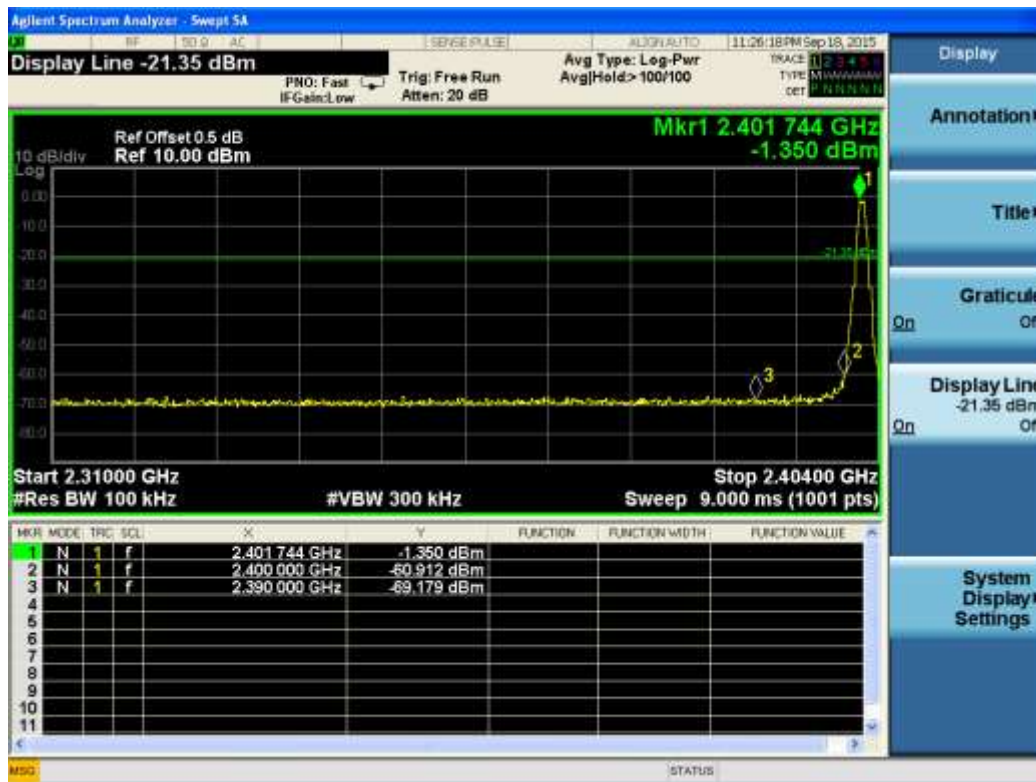




5.5.7. Test Results of Band Edges Test

Only recorded the worst test case in this report.

V4.1 BLE Part (Chain 1)



802.11b / Chain 0



802.11g / Chain 0



802.11n(HT20) / Chain 0 + Chain 1



802.11n(HT40) / Chain 0 + Chain 1



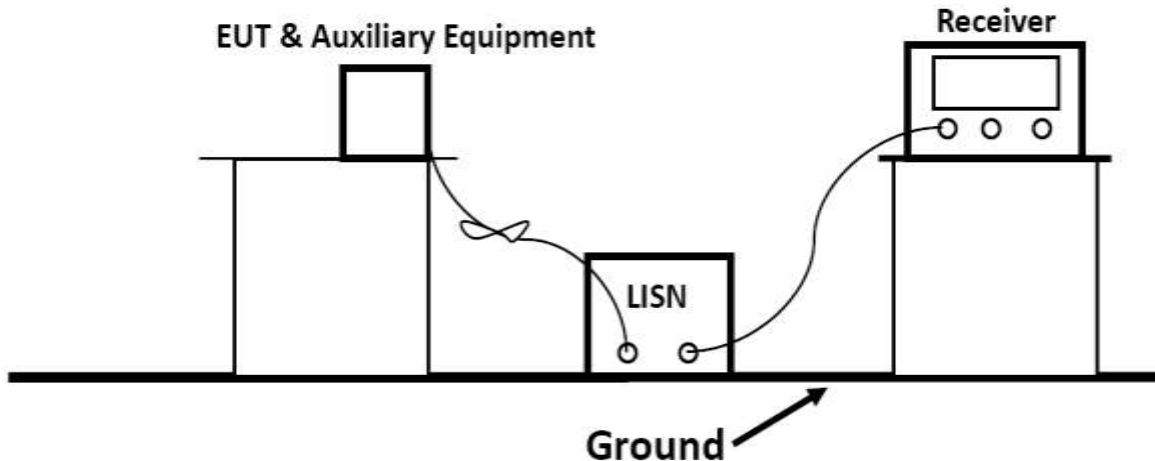
5.6. Power line conducted emissions

5.6.1 Standard Applicable

According to §15.207 (a): For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

| Frequency Range (MHz) | Limits (dB μ V) | |
|-----------------------|---------------------|----------|
| | Quasi-peak | Average |
| 0.15 to 0.50 | 66 to 56 | 56 to 46 |
| 0.50 to 5 | 56 | 46 |
| 5 to 30 | 60 | 50 |

5.6.2 Block Diagram of Test Setup



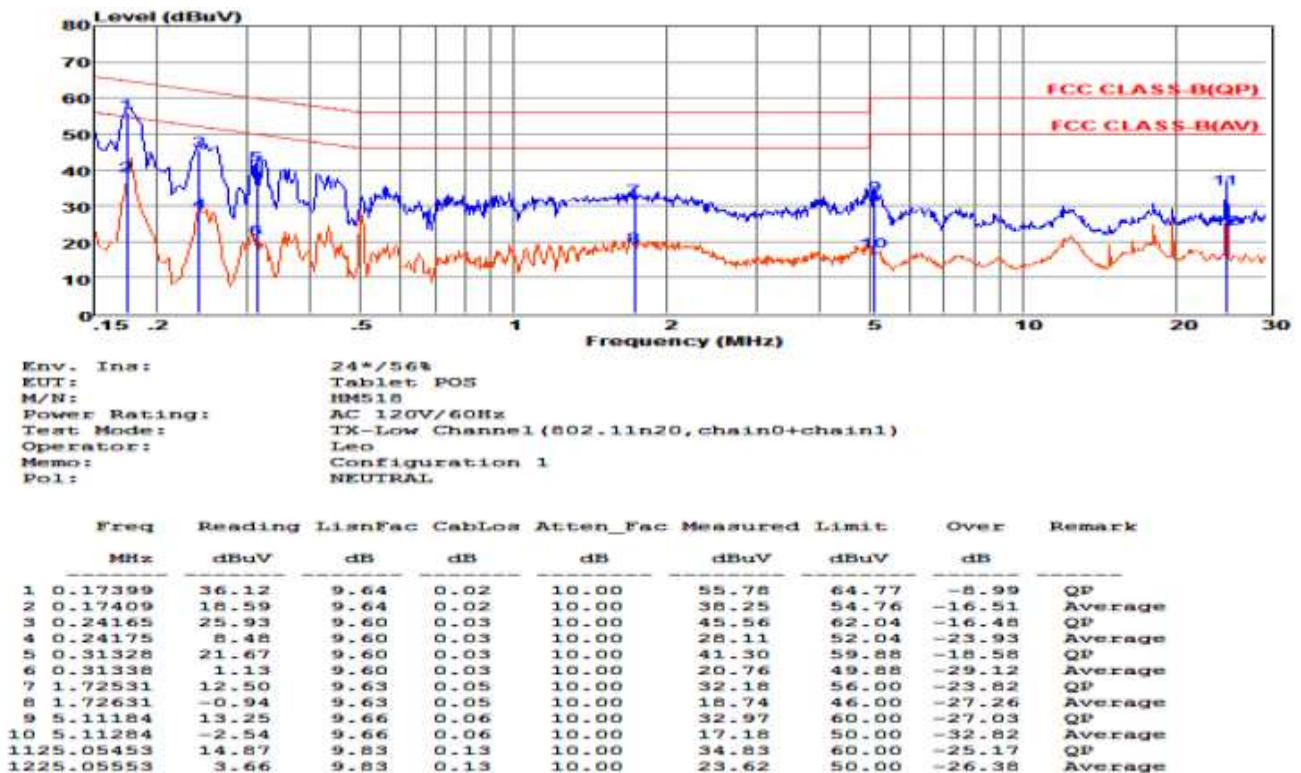
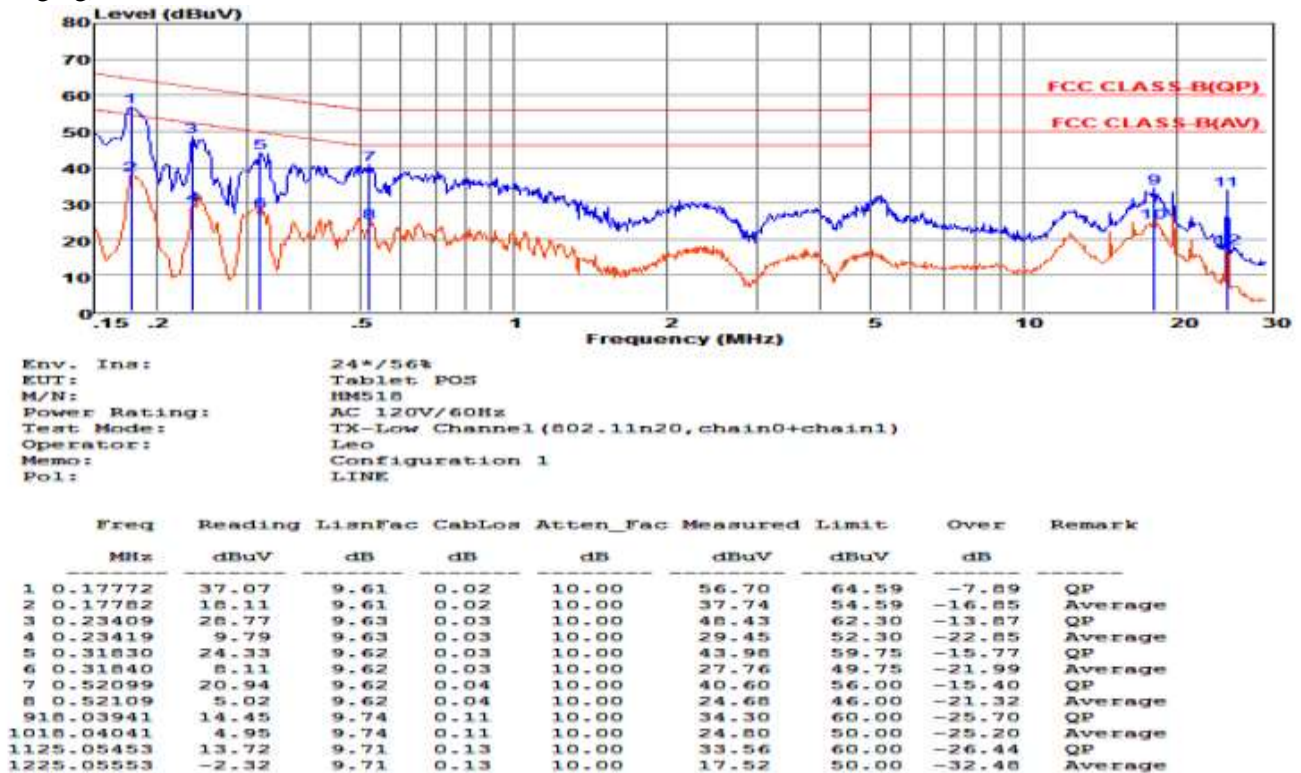
5.6.3 Test Results

PASS.

Only recorded the worst test case in this report.

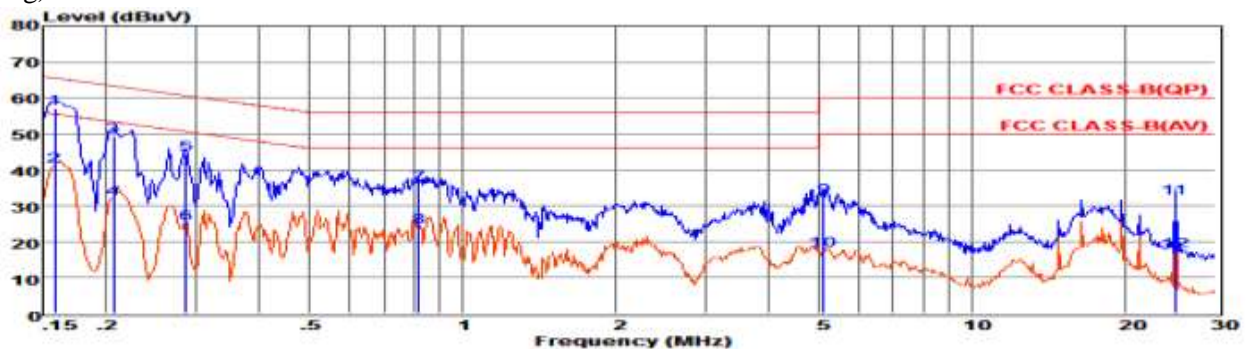
The test data please refer to following page.

The Test Result For Configuration 1(Input AC 120V/60Hz): Configured with Switching Power Adapter (Used For Charging)



Note: Pre-scan all modes and recorded the worst case results in this report.

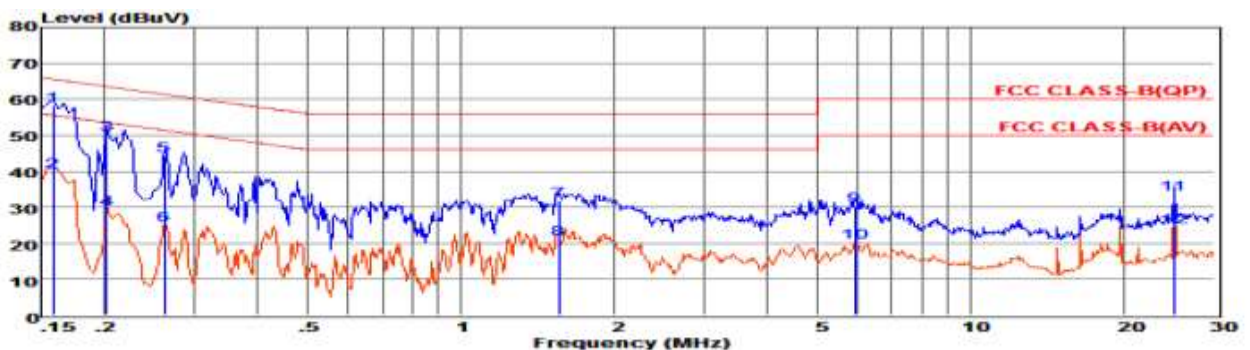
The Test Result For Configuration 1(Input AC 240V/60Hz): Configured with Switching Power Adapter (Used For Charging)



Env. Ins: 24*/56%
EUT: Tablet POS
M/N: HM518
Power Rating: AC 240V/60Hz
Test Mode: TX-Low Channel(802.11n20,chain0+chain1)
Operator: Leo
Memo: Configuration 1
Pol: LINE

| Freq | Reading | LisnFac | CabLos | Atten_Fac | Measured | Limit | Over | Remark |
|------------|---------|---------|--------|-----------|----------|-------|--------|---------|
| MHz | dBuV | dB | dB | dB | dBuV | dBuV | dB | |
| 1 0.15816 | 37.62 | 9.58 | 0.02 | 10.00 | 57.22 | 65.56 | -8.34 | QP |
| 2 0.15826 | 21.30 | 9.58 | 0.02 | 10.00 | 40.90 | 55.55 | -14.65 | Average |
| 3 0.20614 | 29.66 | 9.63 | 0.03 | 10.00 | 49.32 | 63.36 | -14.04 | QP |
| 4 0.20624 | 12.11 | 9.63 | 0.03 | 10.00 | 31.77 | 53.36 | -21.59 | Average |
| 5 0.28630 | 24.57 | 9.63 | 0.03 | 10.00 | 44.23 | 60.63 | -16.40 | QP |
| 6 0.28640 | 5.35 | 9.63 | 0.03 | 10.00 | 25.01 | 50.63 | -25.62 | Average |
| 7 0.82172 | 16.34 | 9.64 | 0.04 | 10.00 | 36.02 | 56.00 | -19.98 | QP |
| 8 0.82182 | 4.53 | 9.64 | 0.04 | 10.00 | 24.21 | 46.00 | -21.79 | Average |
| 9 5.11184 | 12.82 | 9.65 | 0.06 | 10.00 | 32.53 | 60.00 | -27.47 | QP |
| 10 5.11284 | -2.25 | 9.65 | 0.06 | 10.00 | 17.46 | 50.00 | -32.54 | Average |
| 1125.05453 | 12.26 | 9.71 | 0.13 | 10.00 | 32.10 | 60.00 | -27.90 | QP |
| 1225.05553 | -2.44 | 9.71 | 0.13 | 10.00 | 17.40 | 50.00 | -32.60 | Average |

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss+Atten_Fac.
2. The emission levels that are 20dB below the official limit are not reported.



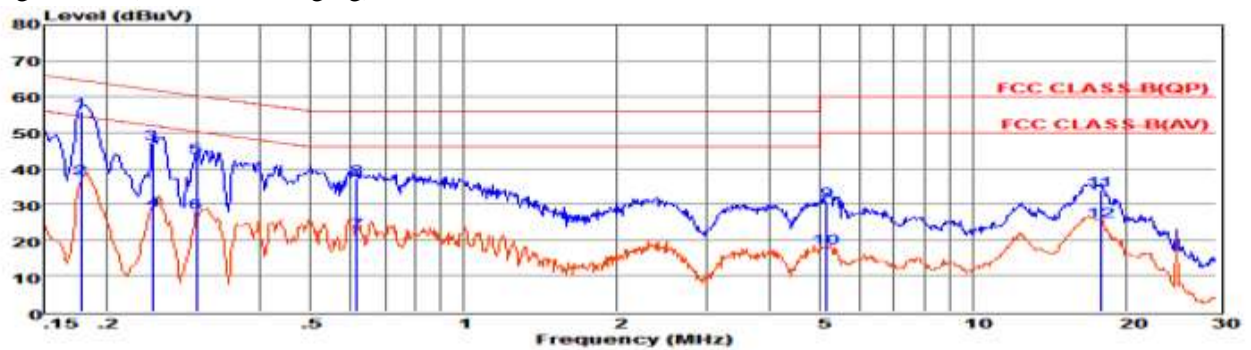
Env. Ins: 24*/56%
EUT: Tablet POS
M/N: HM518
Power Rating: AC 240V/60Hz
Test Mode: TX-Low Channel(802.11n20,chain0+chain1)
Operator: Leo
Memo: Configuration 1
Pol: NEUTRAL

| Freq | Reading | LisnFac | CabLos | Atten_Fac | Measured | Limit | Over | Remark |
|------------|---------|---------|--------|-----------|----------|-------|--------|---------|
| MHz | dBuV | dB | dB | dB | dBuV | dBuV | dB | |
| 1 0.15816 | 38.46 | 9.68 | 0.02 | 10.00 | 58.16 | 65.56 | -7.40 | QP |
| 2 0.15826 | 20.11 | 9.68 | 0.02 | 10.00 | 39.81 | 55.55 | -15.74 | Average |
| 3 0.20181 | 30.68 | 9.59 | 0.02 | 10.00 | 50.29 | 63.54 | -13.25 | QP |
| 4 0.20191 | 9.94 | 9.59 | 0.02 | 10.00 | 29.55 | 53.53 | -23.98 | Average |
| 5 0.26164 | 24.80 | 9.60 | 0.03 | 10.00 | 44.43 | 61.38 | -16.95 | QP |
| 6 0.26174 | 5.37 | 9.60 | 0.03 | 10.00 | 25.00 | 51.38 | -26.38 | Average |
| 7 1.55184 | 12.24 | 9.63 | 0.05 | 10.00 | 31.92 | 56.00 | -24.08 | QP |
| 8 1.55284 | 1.43 | 9.63 | 0.05 | 10.00 | 21.11 | 46.00 | -24.89 | Average |
| 9 5.92934 | 10.50 | 9.68 | 0.06 | 10.00 | 30.24 | 60.00 | -29.76 | QP |
| 10 5.93034 | 0.55 | 9.68 | 0.06 | 10.00 | 20.29 | 50.00 | -29.71 | Average |
| 1125.05453 | 13.61 | 9.83 | 0.13 | 10.00 | 33.57 | 60.00 | -26.43 | QP |
| 1225.05553 | 4.50 | 9.83 | 0.13 | 10.00 | 24.46 | 50.00 | -25.54 | Average |

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss+Atten_Fac.
2. The emission levels that are 20dB below the official limit are not reported.

Note: Pre-scan all modes and recorded the worst case results in this report.

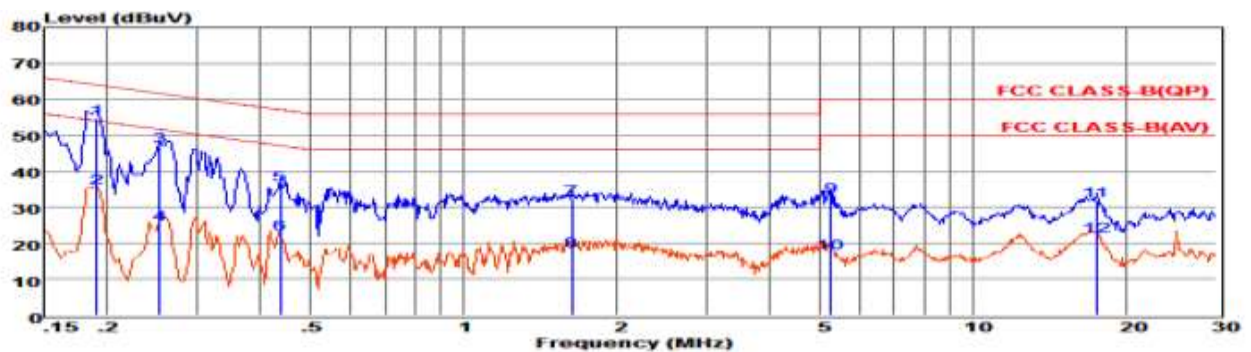
The Test Result For Configuration 2(Input AC 120V/60Hz): Configured with Switching Power Adapter and Docking Station (Used For Charging)



Env. Ins: 24*/56%
EUT: Tablet POS
M/N: HM518
Power Rating: AC 120V/60Hz
Test Mode: TX-Low Channel(802.11n20,chain0+chain1)
Operator: Leo
Memo: Configuration 2
Pol: LINE

| Freq | Reading | LisnFac | CabLos | Atten_Fac | Measured | Limit | Over | Remark |
|------------|---------|---------|--------|-----------|----------|-------|--------|---------|
| MHz | dBuV | dB | dB | dB | dBuV | dBuV | dB | |
| 1 0.17772 | 36.25 | 9.61 | 0.02 | 10.00 | 55.88 | 64.59 | -8.71 | QP |
| 2 0.17782 | 17.40 | 9.61 | 0.02 | 10.00 | 37.03 | 54.59 | -17.56 | Average |
| 3 0.24552 | 27.45 | 9.63 | 0.03 | 10.00 | 47.11 | 61.91 | -14.80 | QP |
| 4 0.24562 | 8.74 | 9.63 | 0.03 | 10.00 | 28.40 | 51.90 | -23.50 | Average |
| 5 0.29869 | 23.51 | 9.63 | 0.03 | 10.00 | 43.17 | 60.28 | -17.11 | QP |
| 6 0.29879 | 8.09 | 9.63 | 0.03 | 10.00 | 27.75 | 50.28 | -22.53 | Average |
| 7 0.61726 | 2.68 | 9.63 | 0.04 | 10.00 | 22.35 | 46.00 | -23.65 | Average |
| 8 0.61726 | 17.52 | 9.63 | 0.04 | 10.00 | 37.19 | 56.00 | -18.81 | QP |
| 9 5.16630 | 11.32 | 9.65 | 0.06 | 10.00 | 31.03 | 60.00 | -28.97 | QP |
| 10 5.16730 | -1.92 | 9.65 | 0.06 | 10.00 | 17.79 | 50.00 | -32.21 | Average |
| 1117.75494 | 13.97 | 9.74 | 0.11 | 10.00 | 33.82 | 60.00 | -26.18 | QP |
| 1217.75594 | 5.32 | 9.74 | 0.11 | 10.00 | 25.17 | 50.00 | -24.83 | Average |

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss+Atten_Fac.
2. The emission levels that are 20dB below the official limit are not reported.



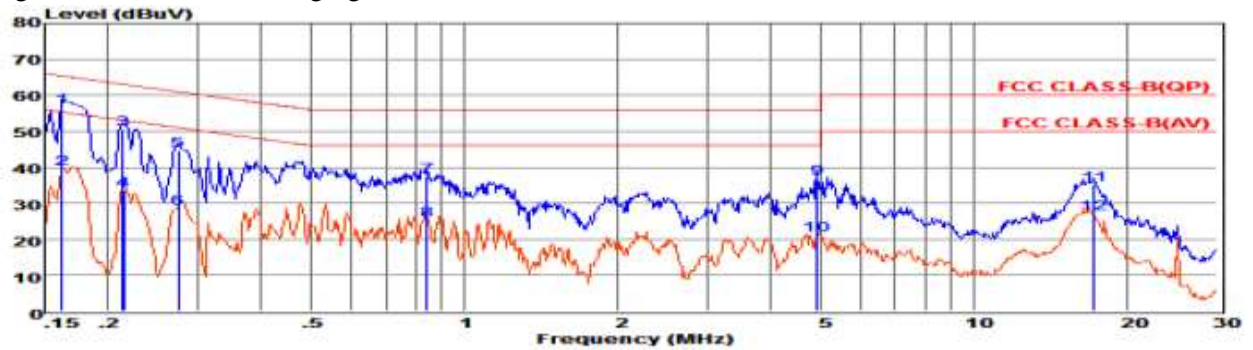
Env. Ins: 24*/56%
EUT: Tablet POS
M/N: HM518
Power Rating: AC 120V/60Hz
Test Mode: TX-Low Channel(802.11n20,chain0+chain1)
Operator: Leo
Memo: Configuration 2
Pol: NEUTRAL

| Freq | Reading | LisnFac | CabLos | Atten_Fac | Measured | Limit | Over | Remark |
|------------|---------|---------|--------|-----------|----------|-------|--------|---------|
| MHz | dBuV | dB | dB | dB | dBuV | dBuV | dB | |
| 1 0.19039 | 35.09 | 9.61 | 0.02 | 10.00 | 54.72 | 64.02 | -9.30 | QP |
| 2 0.19049 | 15.89 | 9.61 | 0.02 | 10.00 | 35.52 | 54.02 | -18.50 | Average |
| 3 0.25345 | 27.22 | 9.60 | 0.03 | 10.00 | 46.85 | 61.64 | -14.79 | QP |
| 4 0.25355 | 5.80 | 9.60 | 0.03 | 10.00 | 25.43 | 51.64 | -26.21 | Average |
| 5 0.43742 | 16.57 | 9.62 | 0.04 | 10.00 | 36.23 | 57.11 | -20.88 | QP |
| 6 0.43752 | 2.95 | 9.62 | 0.04 | 10.00 | 22.61 | 47.11 | -24.50 | Average |
| 7 1.62763 | 12.69 | 9.63 | 0.05 | 10.00 | 32.37 | 56.00 | -23.63 | QP |
| 8 1.62863 | -1.87 | 9.63 | 0.05 | 10.00 | 17.81 | 46.00 | -28.19 | Average |
| 9 5.24907 | 13.25 | 9.66 | 0.06 | 10.00 | 32.97 | 60.00 | -27.03 | QP |
| 10 5.25007 | -2.58 | 9.66 | 0.06 | 10.00 | 17.14 | 50.00 | -32.86 | Average |
| 1117.47496 | 12.02 | 9.78 | 0.11 | 10.00 | 31.91 | 60.00 | -28.09 | QP |
| 1217.47596 | 2.22 | 9.78 | 0.11 | 10.00 | 22.11 | 50.00 | -27.89 | Average |

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss+Atten_Fac.
2. The emission levels that are 20dB below the official limit are not reported.

Note: Pre-scan all modes and recorded the worst case results in this report.

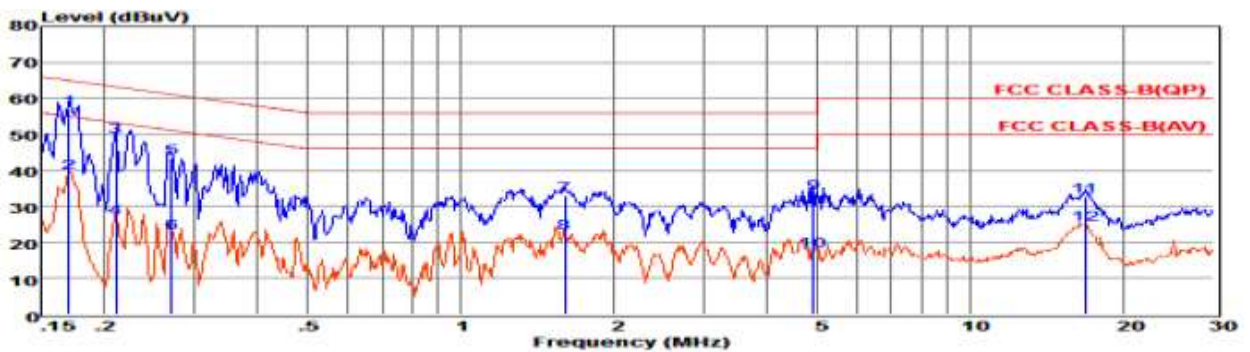
The Test Result For Configuration 2(Input AC 240V/60Hz): Configured with Switching Power Adapter and Docking Station (Used For Charging)



Env. Ins: 24*/56%
EUT: Tablet POS
M/N: HM518
Power Rating: AC 240V/60Hz
Test Mode: TX-Low Channel(802.11n20,chain0+chain1)
Operator: Leo
Memo: Configuration 2
Pol: LINE

| Freq | Reading | LisnFac | CabLos | Atten_Fac | Measured | Limit | Over | Remark |
|------------|---------|---------|--------|-----------|----------|-------|--------|---------|
| MHz | dBuV | dB | dB | dB | dBuV | dBuV | dB | |
| 1 0.16241 | 37.22 | 9.59 | 0.02 | 10.00 | 56.83 | 65.34 | -8.51 | QP |
| 2 0.16251 | 19.84 | 9.59 | 0.02 | 10.00 | 39.45 | 55.33 | -15.88 | Average |
| 3 0.21392 | 30.77 | 9.63 | 0.03 | 10.00 | 50.43 | 63.05 | -12.62 | QP |
| 4 0.21402 | 14.07 | 9.63 | 0.03 | 10.00 | 33.73 | 53.05 | -19.32 | Average |
| 5 0.27442 | 24.90 | 9.63 | 0.03 | 10.00 | 44.56 | 60.98 | -16.42 | QP |
| 6 0.27452 | 8.85 | 9.63 | 0.03 | 10.00 | 28.51 | 50.98 | -22.47 | Average |
| 7 0.84378 | 17.80 | 9.63 | 0.04 | 10.00 | 37.47 | 56.00 | -18.53 | QP |
| 8 0.84388 | 5.62 | 9.63 | 0.04 | 10.00 | 25.29 | 46.00 | -20.71 | Average |
| 9 4.92572 | 17.08 | 9.65 | 0.06 | 10.00 | 36.79 | 56.00 | -19.21 | QP |
| 10 4.92672 | 1.39 | 9.65 | 0.06 | 10.00 | 21.10 | 46.00 | -24.90 | Average |
| 1117.19939 | 15.11 | 9.73 | 0.11 | 10.00 | 34.95 | 60.00 | -25.05 | QP |
| 1217.20039 | 7.27 | 9.73 | 0.11 | 10.00 | 27.11 | 50.00 | -22.89 | Average |

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss+Atten_Fac.
2. The emission levels that are 20dB below the official limit are not reported.



Env. Ins: 24*/56%
EUT: Tablet POS
M/N: HM518
Power Rating: AC 240V/60Hz
Test Mode: TX-Low Channel(802.11n20,chain0+chain1)
Operator: Leo
Memo: Configuration 2
Pol: NEUTRAL

| Freq | Reading | LisnFac | CabLos | Atten_Fac | Measured | Limit | Over | Remark |
|------------|---------|---------|--------|-----------|----------|-------|--------|---------|
| MHz | dBuV | dB | dB | dB | dBuV | dBuV | dB | |
| 1 0.17034 | 37.39 | 9.65 | 0.02 | 10.00 | 57.06 | 64.94 | -7.88 | QP |
| 2 0.17044 | 19.62 | 9.65 | 0.02 | 10.00 | 39.29 | 54.94 | -15.65 | Average |
| 3 0.21055 | 29.84 | 9.59 | 0.03 | 10.00 | 49.46 | 63.18 | -13.72 | QP |
| 4 0.21065 | 7.11 | 9.59 | 0.03 | 10.00 | 26.73 | 53.18 | -26.45 | Average |
| 5 0.27009 | 23.87 | 9.60 | 0.03 | 10.00 | 43.50 | 61.12 | -17.62 | QP |
| 6 0.27019 | 3.11 | 9.60 | 0.03 | 10.00 | 22.74 | 51.11 | -28.37 | Average |
| 7 1.60196 | 13.39 | 9.63 | 0.05 | 10.00 | 33.07 | 56.00 | -22.93 | QP |
| 8 1.60296 | 2.95 | 9.63 | 0.05 | 10.00 | 22.63 | 46.00 | -23.37 | Average |
| 9 4.92572 | 14.03 | 9.66 | 0.06 | 10.00 | 33.75 | 56.00 | -22.25 | QP |
| 10 4.92672 | -2.16 | 9.66 | 0.06 | 10.00 | 17.56 | 46.00 | -28.44 | Average |
| 1116.74973 | 12.89 | 9.76 | 0.11 | 10.00 | 32.76 | 60.00 | -27.24 | QP |
| 1216.75073 | 5.02 | 9.76 | 0.11 | 10.00 | 24.89 | 50.00 | -25.11 | Average |

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss+Atten_Fac.
2. The emission levels that are 20dB below the official limit are not reported.

Note: Pre-scan all modes and recorded the worst case results in this report.

5.7. Antenna Requirements

5.7.1. Standard Applicable

According to § 15.203, An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

5.7.2. Antenna Connector Construction

The antenna used for transmitting is permanently attached and no consideration of replacement. Please see EUT photo for details.

5.7.3. Results: Compliance.

-----THE END OF REPORT-----