

# TEST REPORT

**FCC ID: 2ALAVA102**

**Product: Tablet PC**

**Model No.: A102**

**Additional Model No.: -**

**Trade Mark: Ceibal**

**Report No.: TCT180122E002**

**Issued Date: January 22, 2018**

Issued for:

**Haier International Business Corporation Limited  
Room 1602, 16th Floor, Tower A, No. 1 Ke Yuan Wei Yi Road, Lao Shan  
District, Qingdao, Shandong, China**

Issued By:

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**Appendix A: Photographs of Test Setup**

**Appendix B: Photographs of EUT**

## 1. Test Certification

<b>Product:</b>	Tablet PC
<b>Model No.:</b>	A102
<b>Additional Model No.:</b>	-
<b>Trade Mark:</b>	Ceibal
<b>Applicant:</b>	Haier International Business Corporation Limited
<b>Address:</b>	Room 1602, 16th Floor, Tower A, No. 1 Ke Yuan Wei Yi Road, Lao Shan District, Qingdao, Shandong, China
<b>Manufacturer:</b>	Haier International Business Corporation Limited
<b>Address:</b>	Room 1602, 16th Floor, Tower A, No. 1 Ke Yuan Wei Yi Road, Lao Shan District, Qingdao, Shandong, China
<b>Date of Test:</b>	January 06, 2018 - January 16, 2018
<b>Applicable Standards:</b>	FCC CFR Title 47 Part 15 Subpart E Section 15.407: 2017 ANSI C63.10-2013 KDB789033 D02 General U-NII Test Procedures New Rules v02r01

The above equipment has been tested by Shenzhen Tongce Testing Lab. and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Tested By:



Date: January 06, 2018

Reviewed By:

  
Brews Xu

Date: January 17, 2018

Approved By:



Tomsin

Date: January 22, 2018

## 2. Test Result Summary

Requirement	CFR 47 Section	Result
Antenna requirement	§15.203	PASS
AC Power Line Conducted Emission	§15.207	PASS
Maximum Conducted Output Power	§15.407(a) §2.1046	PASS
6dB Emission Bandwidth	§15.407(a) §2.1049	PASS
26dB Emission Bandwidth & 99% Occupied Bandwidth	§15.407(a) §2.1049	PASS
Power Spectral Density	§15.407(a)	PASS
Band edge	§15.407(a)	PASS
Radiated Emission	§15.407(a) §2.1053	PASS
Frequency Stability	§15.407(g) §2.1055	PASS

**Note:**

1. PASS: Test item meets the requirement.
2. Fail: Test item does not meet the requirement.
3. N/A: Test case does not apply to the test object.
4. The test result judgment is decided by the limit of test standard.

### 3. EUT Description

<b>Product:</b>	Tablet PC
<b>Model No.:</b>	A102
<b>Additional Model No.:</b>	-
<b>Trade Mark:</b>	Ceibal
<b>Operation Frequency:</b>	Band I: 5180MHz-5240MHz; 5190MHz-5230MHz Band IV: 5745MHz-5825MHz; 5755MHz-5795MHz
<b>Channel Bandwidth:</b>	802.11a/n(HT20): 20MHz 802.11n(HT40): 40MHz
<b>Modulation Technology:</b>	Orthogonal Frequency Division Multiplexing(OFDM)
<b>Modulation Type</b>	BPSK, QPSK, 16QAM, 64QAM
<b>Antenna Type:</b>	1 Transmit, 1 Receive
<b>Antenna Gain:</b>	1.85 dBi
<b>Power Supply:</b>	DC 3.7V for internal battery
<b>Adapter:</b>	Model: XHY050200UE Input: 100-240Va.c., 50/60Hz, 0.3A Output: 5.0Vd.c., 2.0A

## Operation Frequency each of channel

20MHz		40MHz	
Channel	Frequency	Channel	Frequency
36	5180	38	5190
40	5200	46	5230
44	5220	151	5755
48	5240	159	5795
149	5745		
153	5765		
157	5785		
161	5805		
165	5825		

**Note:**

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

### For 802.11a/n (HT20)

Band I (5150 - 5250 MHz)			Band IV (5725 - 5850 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
36	Low	5180	149	Low	5745
44	Mid	5220	157	Mid	5785
48	High	5240	165	High	5825

### For 802.11n (HT40)

Band I (5150 - 5250 MHz)			Band IV (5725 - 5850 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
38	Low	5190	151	Low	5755
46	High	5230	159	High	5795

## 4. General Information

### 4.1. Test environment and mode

Operating Environment:	
Temperature:	25.0 °C
Humidity:	56 % RH
Atmospheric Pressure:	1010 mbar
Test Mode:	
Engineering mode:	Keep the EUT in continuous transmitting by select channel and modulations(The value of duty cycle is 100%)
<p>The sample was placed 0.8m/1.5m for below/above 1GHz above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y &amp; Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.</p>	

<p>We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:</p>	
Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.	
Mode	Data rate
802.11a	6 Mbps
802.11n(HT20)	MCS0
802.11n(HT40)	MCS0
Final Test Mode:	
Operation mode:	Keep the EUT in continuous transmitting with modulation

## 4.2. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
/	/	/	/	/

**Note:**

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
3. For conducted measurements (Output Power, Emission Bandwidth, Power Spectral Density, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.



## 5. Facilities and Accreditations

### 5.1. Facilities

The test facility is recognized, certified, or accredited by the following organizations:

- FCC - Registration No.: 645098

Shenzhen Tongce Testing Lab

The 3m Semi-anechoic chamber has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- IC - Registration No.: 10668A-1

The 3m Semi-anechoic chamber of Shenzhen TCT Testing Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing

### 5.2. Location

Shenzhen Tongce Testing Lab

Address: 1B/F., Building 1, Yibaolai Industrial Park, Qiaotou, Fuyong, Baoan District, Shenzhen, Guangdong, China

TEL: +86-755-27673339


### 5.3. Measurement Uncertainty

The reported uncertainty of measurement  $y \pm U$ , where expended uncertainty  $U$  is based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95 %.

No.	Item	MU
1	Conducted Emission	$\pm 2.56\text{dB}$
2	RF power, conducted	$\pm 0.12\text{dB}$
3	Spurious emissions, conducted	$\pm 0.11\text{dB}$
4	All emissions, radiated(<1G)	$\pm 3.92\text{dB}$
5	All emissions, radiated(>1G)	$\pm 4.28\text{dB}$
6	Temperature	$\pm 0.1^{\circ}\text{C}$
7	Humidity	$\pm 1.0\%$

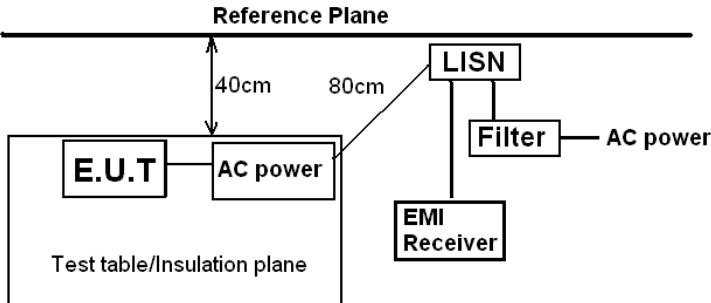
## 6. Test Results and Measurement Data

### 6.1. Antenna requirement

<b>Standard requirement:</b>	FCC Part15 C Section 15.203 /247(c)
<p>15.203 requirement: 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, 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.</p>	
<b>E.U.T Antenna:</b>	
<p>The directional gain of the antenna less than 6 dBi, please refer to the below antenna photo.</p>	
	

## 6.2. Conducted Emission

### 6.2.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.207														
Test Method:	ANSI C63.10:2013														
Frequency Range:	150 kHz to 30 MHz														
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto														
Limits:	<table><tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBuV)</th></tr><tr><th>Quasi-peak</th><th>Average</th></tr><tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr><tr><td>0.5-5</td><td>56</td><td>46</td></tr><tr><td>5-30</td><td>60</td><td>50</td></tr></table>	Frequency range (MHz)	Limit (dBuV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50
Frequency range (MHz)	Limit (dBuV)														
	Quasi-peak	Average													
0.15-0.5	66 to 56*	56 to 46*													
0.5-5	56	46													
5-30	60	50													
Test Setup:	<div><p>Reference Plane</p><p>Remark E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p></div>														
Test Mode:	Tx Mode														
Test Procedure:	<div><div>1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.</div><div>2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).</div><div>3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.</div></div>														
Test Result:	PASS														

## 6.2.2. Test Instruments

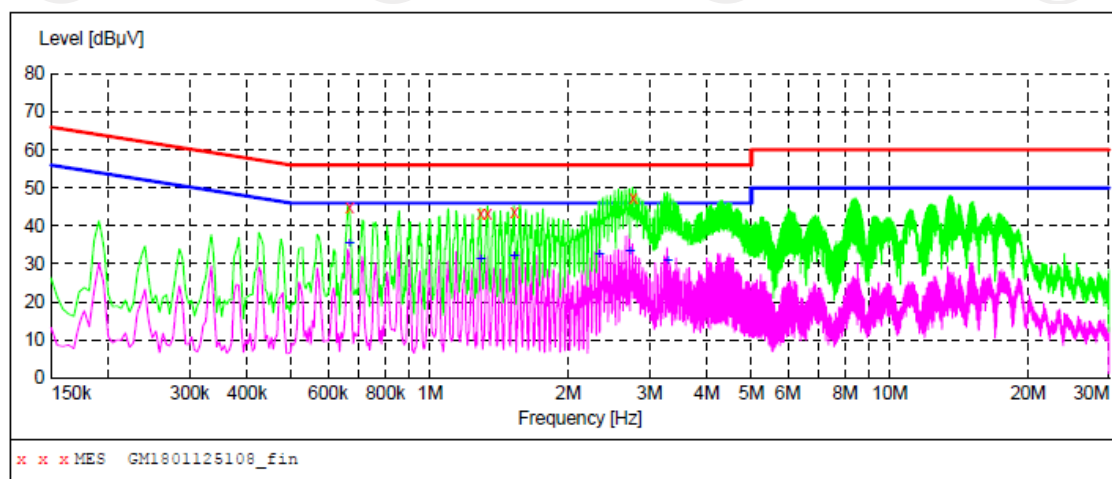
Conducted Emission Shielding Room Test Site (843)				
Equipment	Manufacturer	Model	Serial Number	Calibration Due
Test Receiver	R&S	ESPI	101401	Jun. 12, 2018
LISN	Schwarzbeck	NSLK 8126	8126453	Sep. 27, 2018
Coax cable (9KHz-30MHz)	TCT	CE-05	N/A	Sep. 27, 2018
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A

**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

## 6.2.3. Test data

Please refer to following diagram for individual

### Conducted Emission on Line Terminal of the power line



#### MEASUREMENT RESULT: "GM1801125108\_fin"

1/12/2018 9:40PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.667500	44.80	10.0	56	11.2	QP	L1	GND
1.288500	43.10	10.1	56	12.9	QP	L1	GND
1.333500	43.10	10.1	56	12.9	QP	L1	GND
1.527000	43.80	10.1	56	12.2	QP	L1	GND
2.764500	47.40	10.1	56	8.6	QP	L1	GND

#### MEASUREMENT RESULT: "GM1801125108\_fin2"

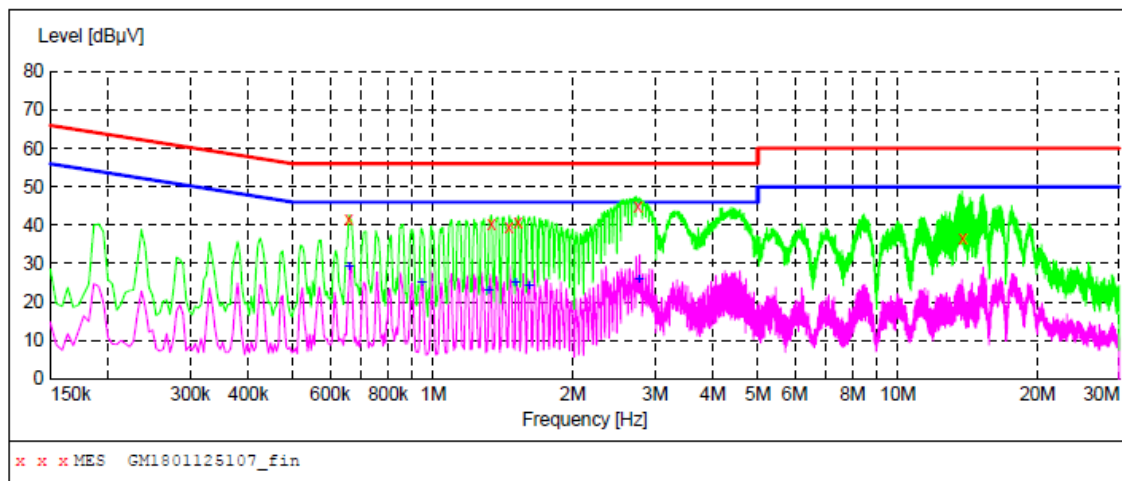
1/12/2018 9:40PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.667500	35.20	10.0	46	10.8	AV	L1	GND
1.288500	31.30	10.1	46	14.7	AV	L1	GND
1.527000	31.90	10.1	46	14.1	AV	L1	GND
2.337000	32.40	10.1	46	13.6	AV	L1	GND
2.719500	33.40	10.1	46	12.6	AV	L1	GND
3.291000	30.70	10.1	46	15.3	AV	L1	GND

#### Remark:

Transd = Cable lose+ PULSE LIMITER factor + ARTIFICIAL MAINS factor; Margin= Limit - Level

## Conducted Emission on Neutral Terminal of the power line



### MEASUREMENT RESULT: "GM1801125107\_fin"

1/12/2018 9:38PM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.658500	41.40	10.0	56	14.6	QP	N	GND
1.333500	40.50	10.1	56	15.5	QP	N	GND
1.455000	39.30	10.1	56	16.7	QP	N	GND
1.522500	40.60	10.1	56	15.4	QP	N	GND
2.760000	44.80	10.1	56	11.2	QP	N	GND
13.789500	36.60	10.5	60	23.4	QP	N	GND

### MEASUREMENT RESULT: "GM1801125107\_fin2"

1/12/2018 9:38PM

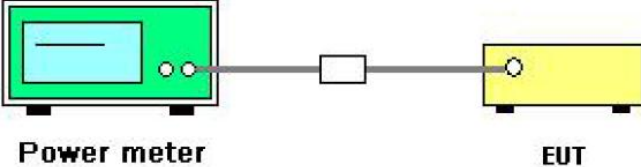
Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.658500	28.90	10.0	46	17.1	AV	N	GND
0.946500	24.80	10.0	46	21.2	AV	N	GND
1.315500	22.80	10.1	46	23.2	AV	N	GND
1.504500	24.90	10.1	46	21.1	AV	N	GND
1.608000	24.20	10.1	46	21.8	AV	N	GND
2.773500	26.00	10.1	46	20.0	AV	N	GND

#### Remark:

Transd = Cable lose+ PULSE LIMITER factor + ARTIFICIAL MAINS factor; Margin= Limit - Level

## 6.3. Maximum Conducted Output Power

### 6.3.1. Test Specification

<b>Test Requirement:</b>	FCC Part15 E Section 15.407(a)& Part 2 J Section 2.1046						
<b>Test Method:</b>	KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section E						
<b>Limit:</b>	<table border="1"> <thead> <tr> <th>Frequency Band (MHz)</th><th>Limit</th></tr> </thead> <tbody> <tr> <td>5150-5250</td><td>250mW for client devices</td></tr> <tr> <td>5725-5850</td><td>1 W</td></tr> </tbody> </table> <p>Note: For those cases where it is specified that the conducted output power be reduced by the amount in dB that the directional gain of the transmitting antenna exceeds 6 dBi, the output power effective limit shall be calculated as follows in Equation:  <math>P_{out} = P_{Limit} - (\text{directional gain} - 6)</math></p>	Frequency Band (MHz)	Limit	5150-5250	250mW for client devices	5725-5850	1 W
Frequency Band (MHz)	Limit						
5150-5250	250mW for client devices						
5725-5850	1 W						
<b>Test Setup:</b>	 <p>The diagram illustrates the test setup. On the left is a green box labeled 'Power meter'. A cable connects it to a small white box labeled 'Attenuator'. Another cable connects the attenuator to a yellow box labeled 'EUT' (Equipment Under Test).</p>						
<b>Test Mode:</b>	Transmitting mode with modulation						
<b>Test Procedure:</b>	<ol style="list-style-type: none"> <li>1. The testing follows the Measurement Procedure of KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section E, 3, a</li> <li>2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.</li> <li>3. Set to the maximum power setting and enable the EUT transmit continuously.</li> <li>5. Measure the conducted output power and record the results in the test report.</li> </ol>						
<b>Test Result:</b>	PASS						
<b>Remark:</b>	<p>Conducted output power= measurement power +10log(1/x) X is duty cycle=1, so 10log(1/1)=0</p> <p>Conducted output power= measurement power</p>						



### 6.3.2. Test Instruments

RF Test Room				
Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100060	Sep. 27, 2018
Power Meter	Agilent	N1911A	MY45101557	Sep. 27, 2018
Power Sensor	Agilent	N1922A	MY44124432	Sep. 27, 2018
RF Cable (9KHz-40GHz)	TCT	RE-03	N/A	Sep. 27, 2018
Antenna Connector	TCT	RFC-03	N/A	Sep. 27, 2018

**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).



### 6.3.3. Test Data

#### Configuration Band I (5150 - 5250 MHz )


Mode	Test channel	Maximum Conducted Output Power (dBm)	FCC Limit (dBm)	Result
11a	CH36	15.57	24	PASS
11a	CH40	15.76	24	PASS
11a	CH48	14.93	24	PASS
11n(HT20)	CH36	13.40	24	PASS
11n(HT20)	CH40	13.59	24	PASS
11n(HT20)	CH48	12.89	24	PASS
11n(HT40)	CH38	13.65	24	PASS
11n(HT40)	CH46	12.50	24	PASS

#### Configuration Band IV (5725 - 5850 MHz )

Mode	Test channel	Maximum Conducted Output Power (dBm)	FCC Limit (dBm)	Result
11a	CH149	15.49	30	PASS
11a	CH157	14.84	30	PASS
11a	CH165	12.54	30	PASS
11n(HT20)	CH149	13.19	30	PASS
11n(HT20)	CH157	12.79	30	PASS
11n(HT20)	CH165	10.66	30	PASS
11n(HT40)	CH151	12.76	30	PASS
11n(HT40)	CH159	11.07	30	PASS

## 6.4. 6dB Emission Bandwidth

### 6.4.1. Test Specification

<b>Test Requirement:</b>	FCC CFR47 Part 15 Section 15.407(e)& Part 2 J Section 2.1049
<b>Test Method:</b>	KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section C
<b>Limit:</b>	>500kHz
<b>Test Setup:</b>	 <p>Spectrum Analyzer                      EUT</p>
<b>Test Mode:</b>	Transmitting mode with modulation
<b>Test Procedure:</b>	<ol style="list-style-type: none"> <li>1. KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section C</li> <li>2. Set to the maximum power setting and enable the EUT transmit continuously.</li> <li>3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6dB bandwidth must be greater than 500 kHz.</li> <li>4. Measure and record the results in the test report.</li> </ol>
<b>Test Result:</b>	PASS

### 6.4.2. Test Instruments

RF Test Room				
Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100060	Sep. 27, 2018
RF Cable (9KHz-40GHz)	TCT	RE-03	N/A	Sep. 27, 2018
Antenna Connector	TCT	RFC-03	N/A	Sep. 27, 2018

**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

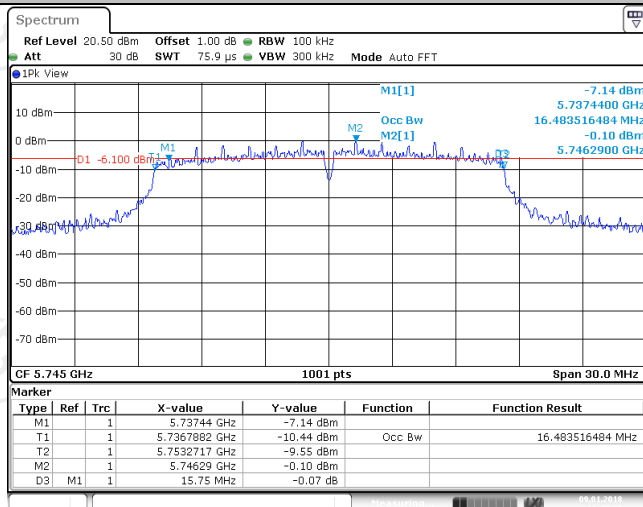
### 6.4.3. Test data

Band IV (5725 - 5850 MHz )					
Mode	Test channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
11a	CH149	5745	15.75	0.5	PASS
11a	CH157	5785	16.38	0.5	PASS
11a	CH161	5825	15.72	0.5	PASS
11n(HT20)	CH149	5745	14.55	0.5	PASS
11n(HT20)	CH157	5785	16.32	0.5	PASS
11n(HT20)	CH161	5825	16.98	0.5	PASS
11n(HT40)	CH151	5755	35.57	0.5	PASS
11n(HT40)	CH159	5795	35.91	0.5	PASS

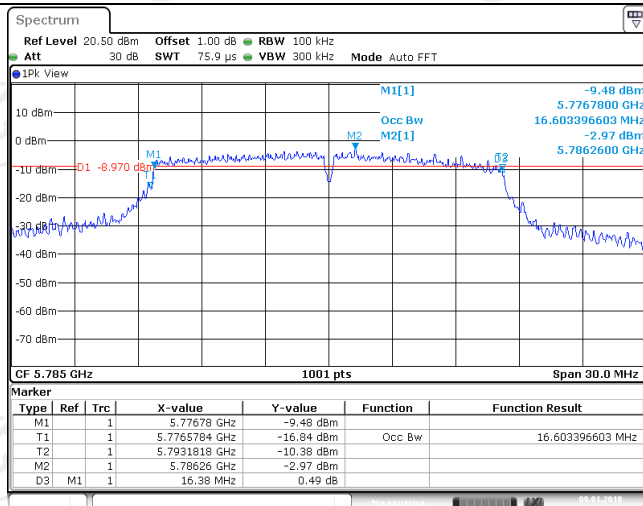
Test plots as follows:

## Band IV (5725 – 5850 MHz)

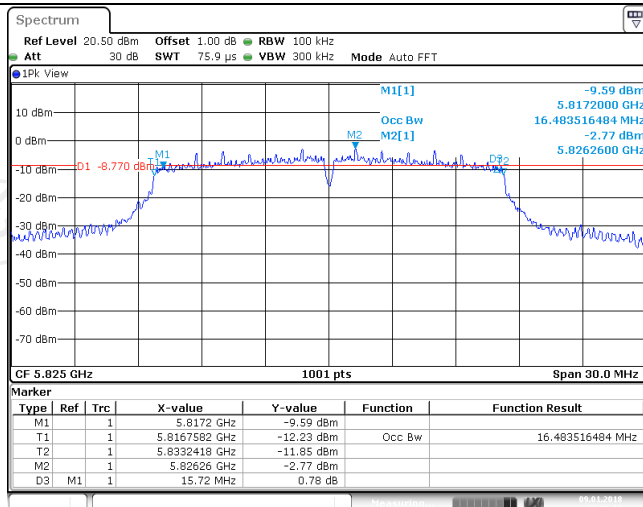
802.11a



Low

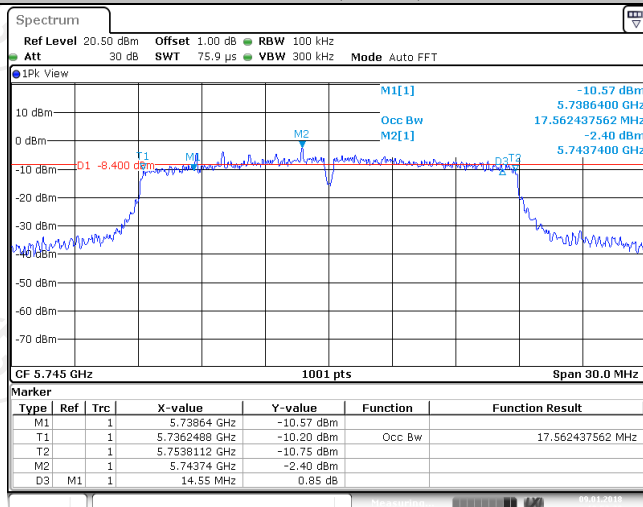


Mid

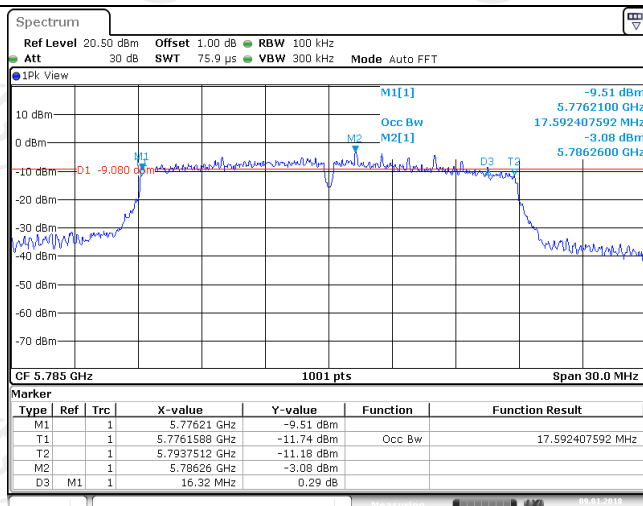


High

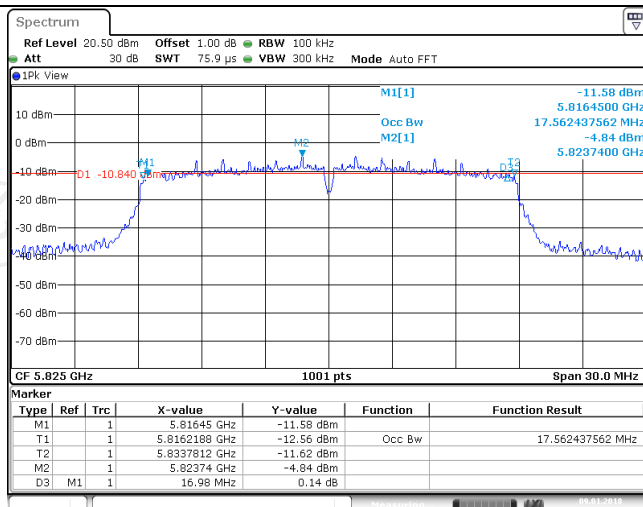
## 802.11n(HT20)



## Low

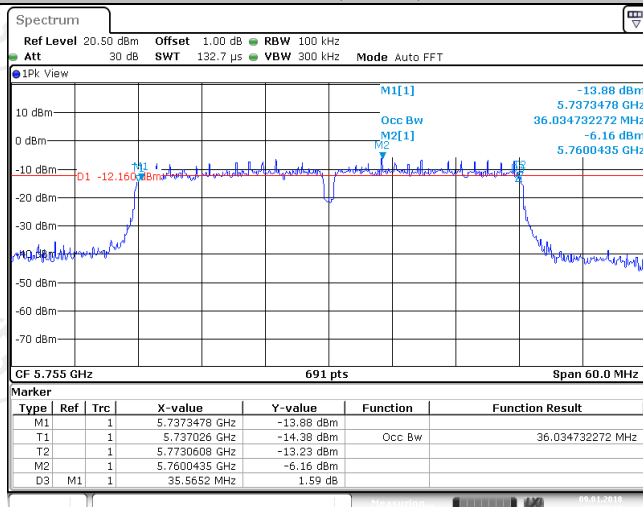


## Mid

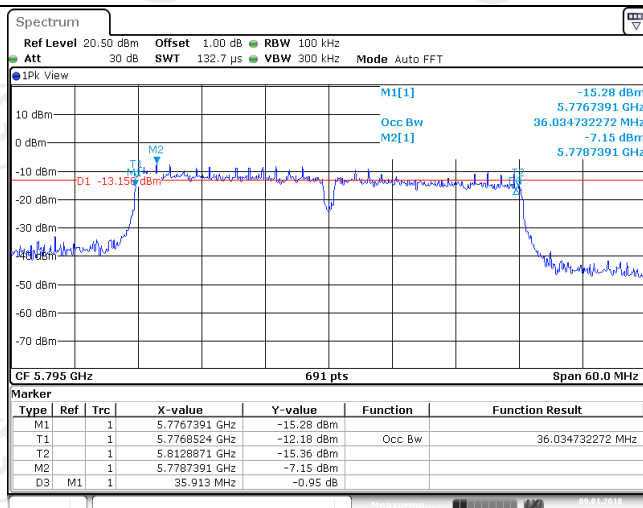


## High

## 802.11n(HT40)




## Low



## High

## 6.5. 26dB Bandwidth and 99% Occupied Bandwidth

### 6.5.1. Test Specification

<b>Test Requirement:</b>	47 CFR Part 15C Section 15.407 (a)& Part 2 J Section 2.1049
<b>Test Method:</b>	KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section D
<b>Limit:</b>	No restriction limits
<b>Test Setup:</b>	 <p>Spectrum Analyzer                      EUT</p>
<b>Test Mode:</b>	Transmitting mode with modulation
<b>Test Procedure:</b>	<ol style="list-style-type: none"> <li>1. KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section D</li> <li>2. Set to the maximum power setting and enable the EUT transmit continuously.</li> <li>3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement.</li> <li>4. Measure and record the results in the test report.</li> </ol>
<b>Test Result:</b>	PASS

### 6.5.2. Test Instruments

RF Test Room				
Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100060	Sep. 27, 2018
RF Cable (9KHz-26.5GHz)	TCT	RE-06	N/A	Sep. 27, 2018
Antenna Connector	TCT	RFC-01	N/A	Sep. 27, 2018

**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

### 6.5.3. Test data

#### Band I

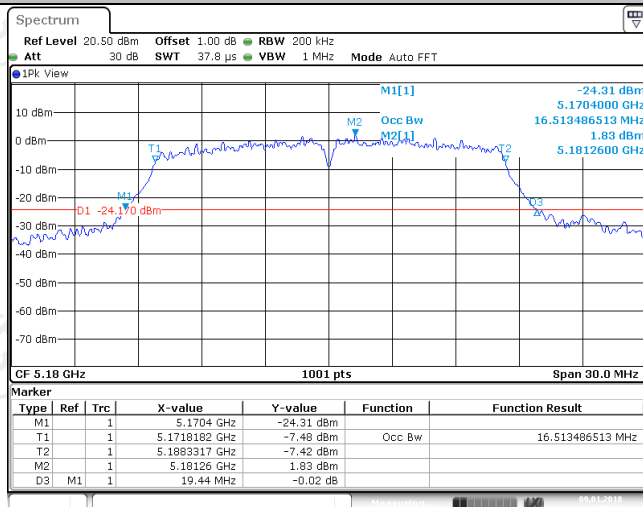
Mode	Test channel	Frequency (MHz)	26 dB Bandwidth (MHz)	99% Bandwidth (MHz)
11a	CH36	5180	19.44	16.51
11a	CH44	5220	20.94	16.66
11a	CH48	5240	19.53	16.45
11n(HT20)	CH36	5180	19.74	17.53
11n(HT20)	CH44	5220	19.47	17.53
11n(HT20)	CH48	5240	19.56	17.56
11n(HT40)	CH38	5190	39.90	36.14
11n(HT40)	CH46	5230	40.62	36.44

Test plots as follows:

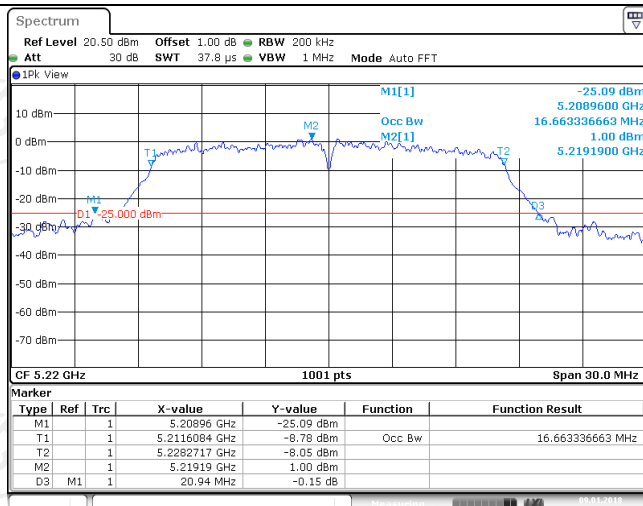


## Band I (5150 – 5250 MHz)

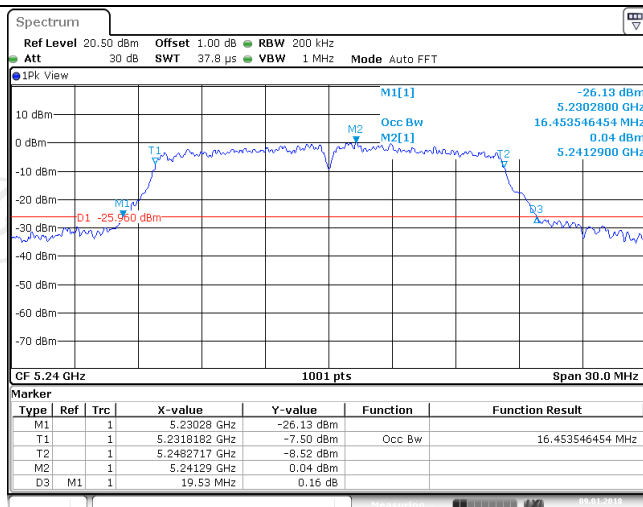
802.11a



Low

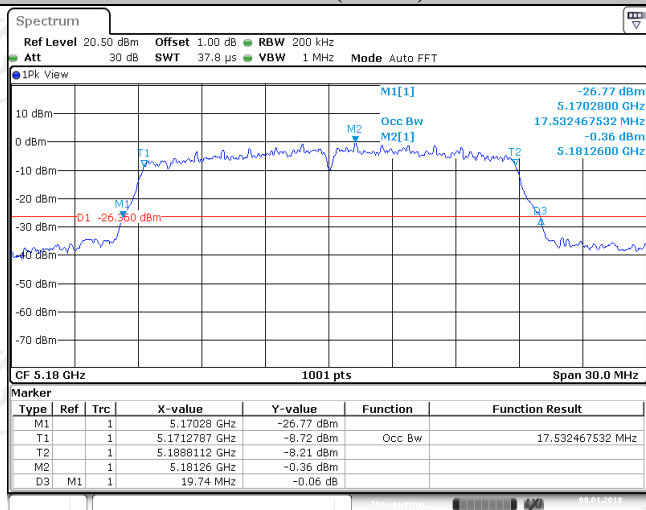


Mid

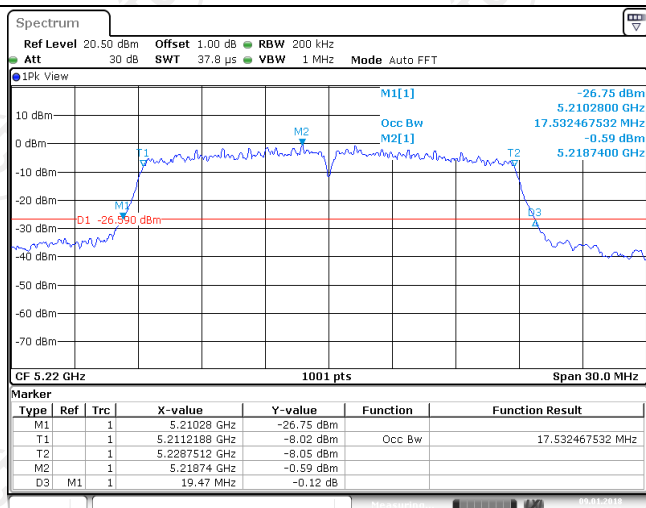


High

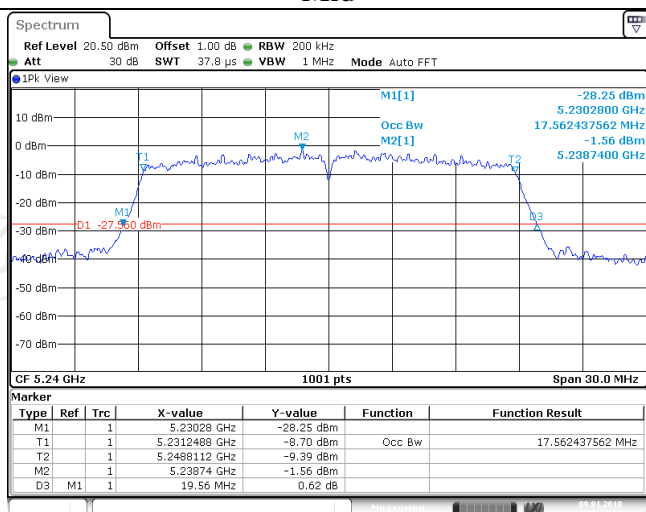
## 802.11n(HT20)



## Low

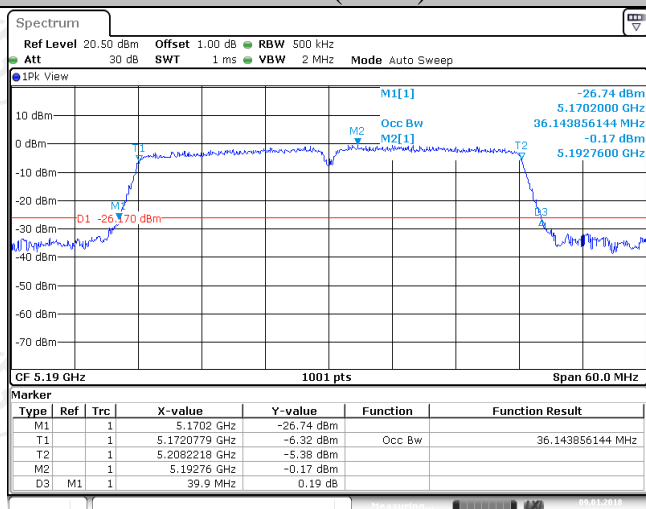


## Mid

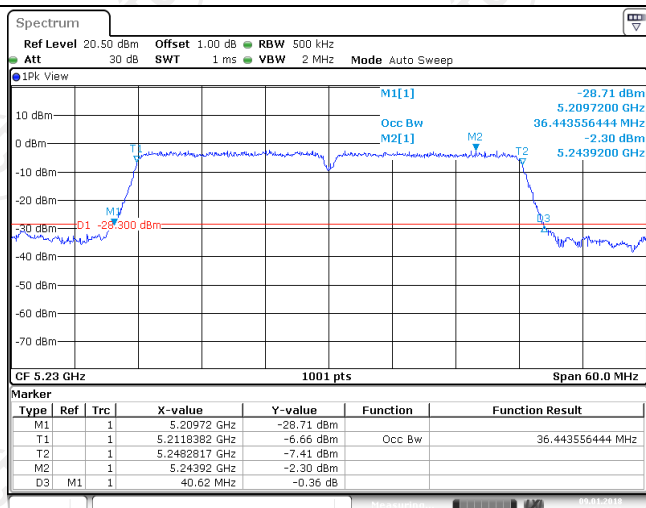


## High

## 802.11n(HT40)



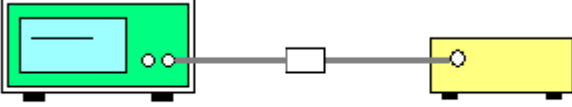
## Low



## High

## 6.6. Power Spectral Density

### 6.6.1. Test Specification

<b>Test Requirement:</b>	FCC Part15 E Section 15.407 (a)
<b>Test Method:</b>	KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section F
<b>Limit:</b>	<p>≤11.00dBm/MHz for Band I 5150MHz-5250MHz  ≤30.00dBm/500KHz for Band IV 5725MHz-5850MHz  The e.i.r.p spectral density for Band I 5150MHz – 5250 MHz should not exceed 10dBm/MHz  Note: For those cases where it is specified that the conducted output power be reduced by the amount in dB that the directional gain of the transmitting antenna exceeds 6 dBi, the PSD effective limit shall be calculated as follows in Equation:  <math>PSD_{out} = PSD_{Limit} - (directional\ gain - 6)</math></p>
<b>Test Setup:</b>	 <p style="text-align: center;">Spectrum Analyzer                      EUT</p>
<b>Test Mode:</b>	Transmitting mode with modulation
<b>Test Procedure:</b>	<ol style="list-style-type: none"> <li>1. Set the spectrum analyzer or EMI receiver span to view the entire emission bandwidth.</li> <li>1. Set RBW = 500 kHz/1 MHz, VBW ≥ 3*RBW, Sweep time = Auto, Detector = RMS.</li> <li>2. Allow the sweeps to continue until the trace stabilizes.</li> <li>3. Use the peak marker function to determine the maximum amplitude level.</li> <li>4. The E.I.R.P spectral density used radiated test method. At a test site that has been validated using the procedures of ANSI C63.4 or the latest CISPR 16-1-4 for measurements above 1 GHz, so as to simulate a near free-space environment.</li> </ol>
<b>Test Result:</b>	PASS

## 6.6.2. Test Instruments

RF Test Room				
Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100060	Sep. 27, 2018
Spectrum Analyzer	ROHDE&SCHWARZ	FSP40	100056	Sep. 27, 2018
RF Cable (9KHz-40GHz)	TCT	RE-03	N/A	Sep. 27, 2018
Antenna Connector	TCT	RFC-03	N/A	Sep. 27, 2018

**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

### 6.6.3. Test data

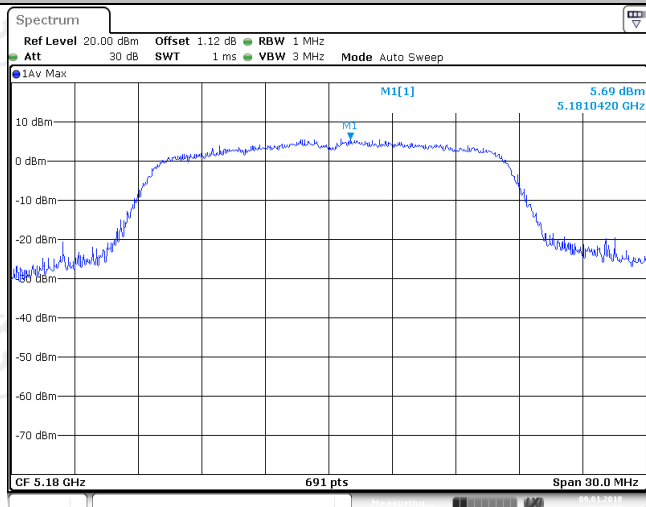
Configuration Band I (5150 - 5250 MHz )				
Mode	Test channel	Power Spectral Density	Limit (dBm/MHz)	Result
11a	CH36	5.69	11	PASS
11a	CH44	5.25	11	PASS
11a	CH48	4.60	11	PASS
11n(HT20)	CH36	3.40	11	PASS
11n(HT20)	CH44	3.54	11	PASS
11n(HT20)	CH48	2.22	11	PASS
11n(HT40)	CH38	-0.50	11	PASS
11n(HT40)	CH46	-1.47	11	PASS

Configuration Band IV (5150 - 5250 MHz )				
Mode	Test channel	Power Spectral Density	Limit (dBm/MHz)	Result
11a	CH149	4.03	30	PASS
11a	CH157	3.33	30	PASS
11a	CH161	1.30	30	PASS
11n(HT20)	CH149	1.48	30	PASS
11n(HT20)	CH157	1.48	30	PASS
11n(HT20)	CH161	-1.09	30	PASS
11n(HT40)	CH151	-2.27	30	PASS
11n(HT40)	CH159	-2.80	30	PASS

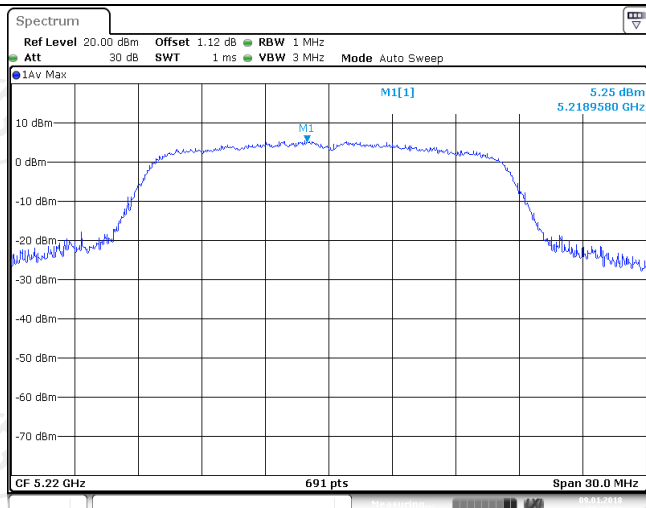
Test plots as follows:

## Band I (5150 – 5250 MHz)

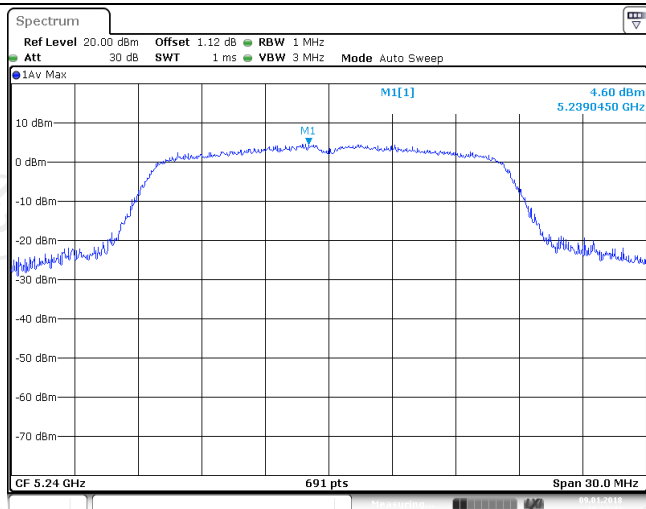
802.11a



Low

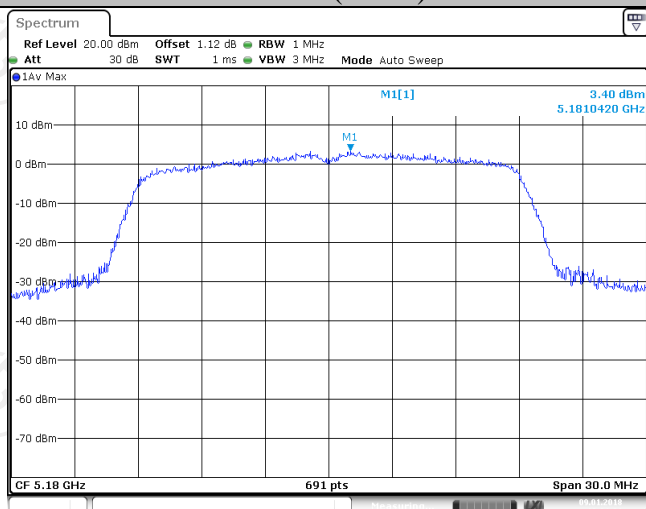


Mid

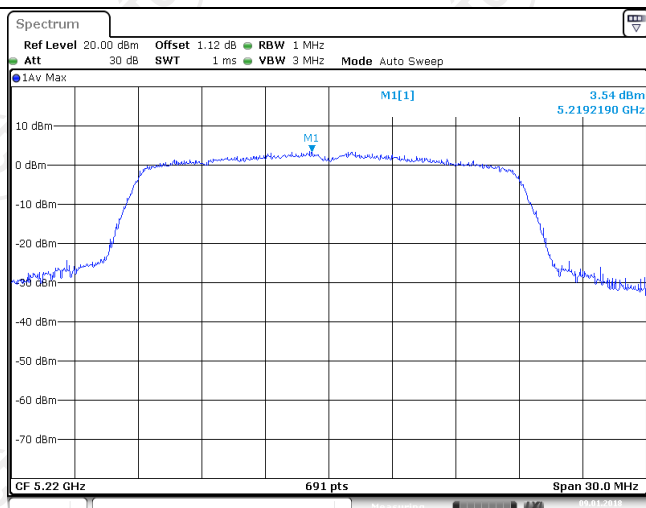


High

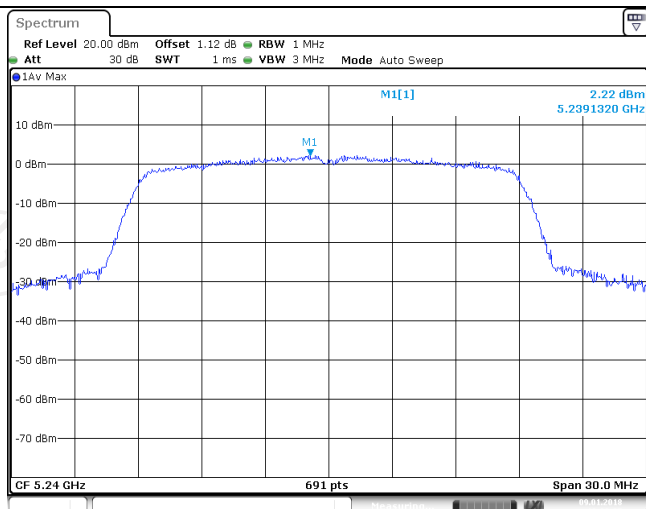
## 802.11n(HT20)



## Low



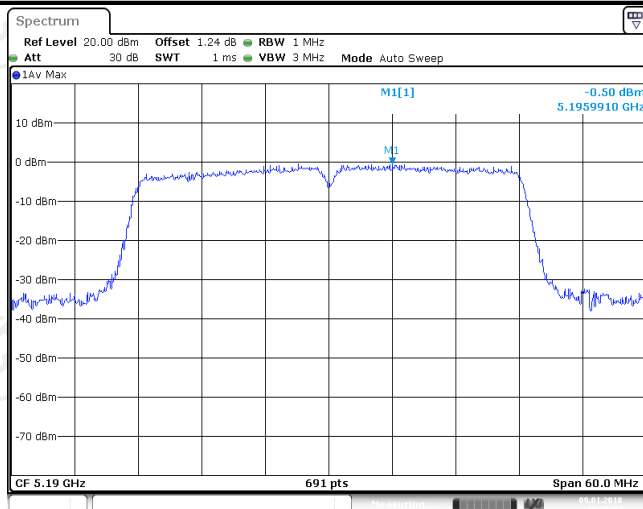
## Mid



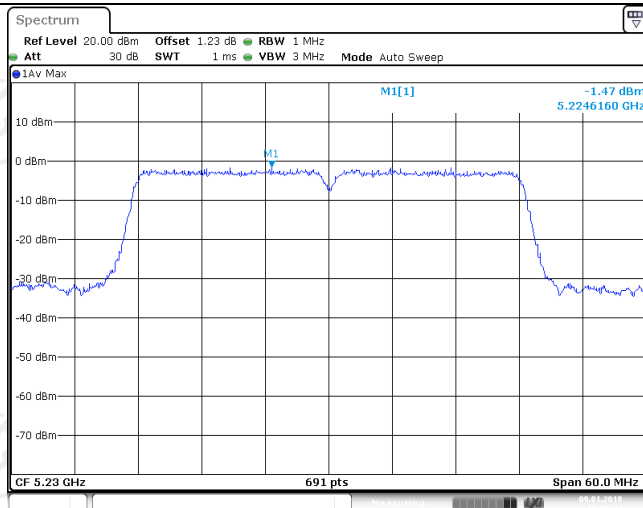
## High



## 802.11n(HT40)



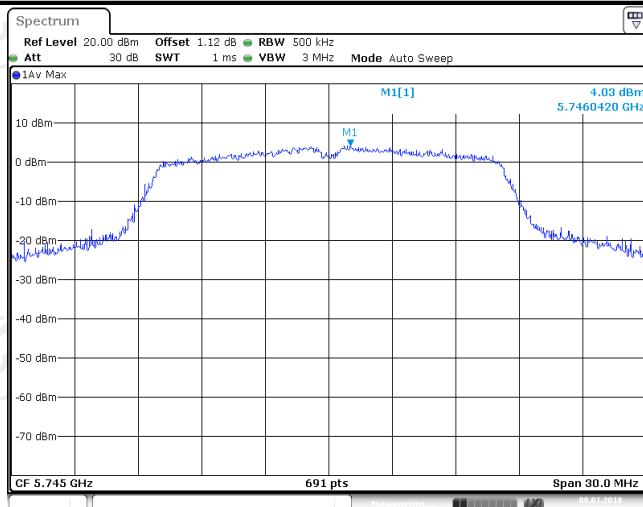
## Low



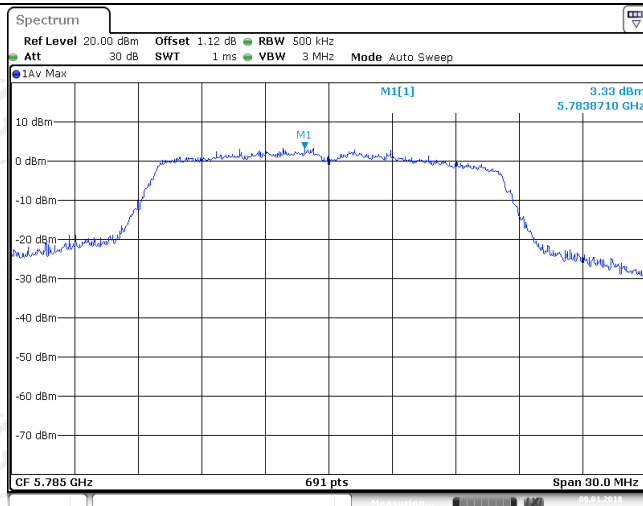
## High

## Band IV (5725 – 5850 MHz)

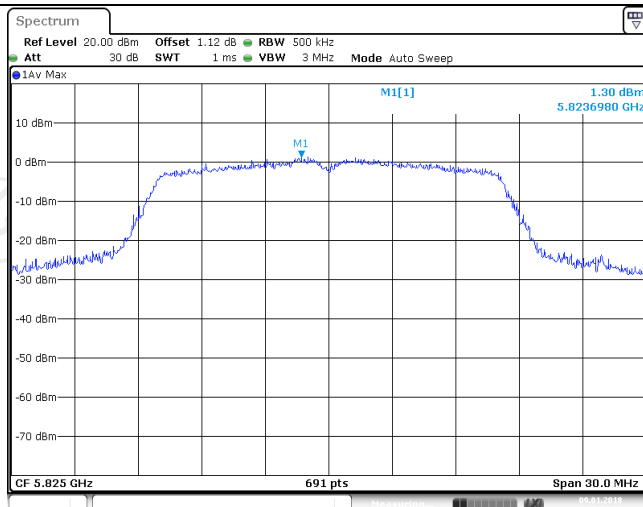
802.11a



Low

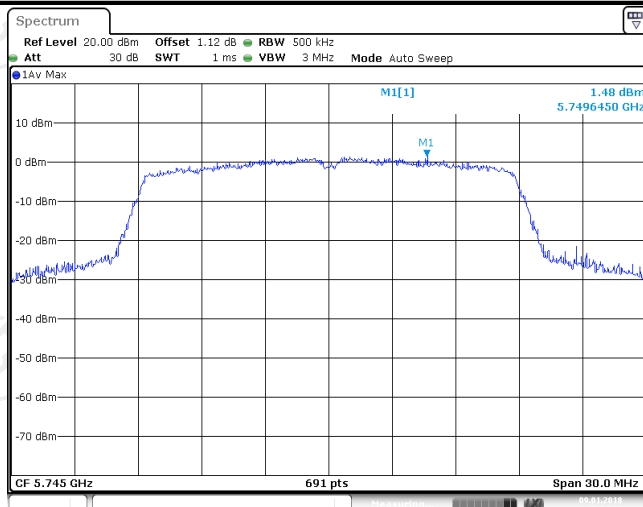


Mid

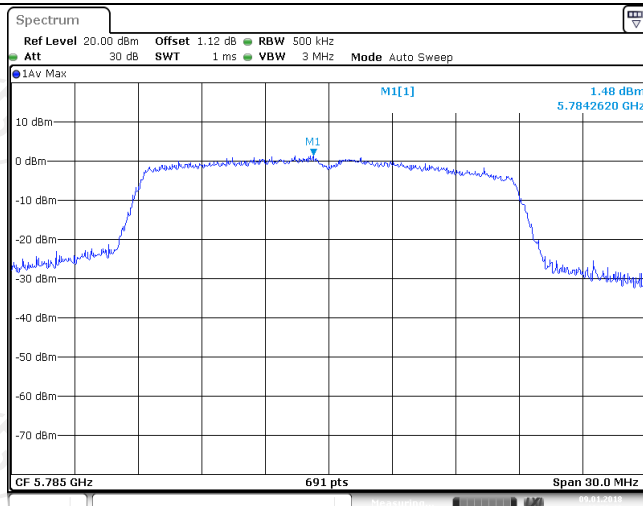


High

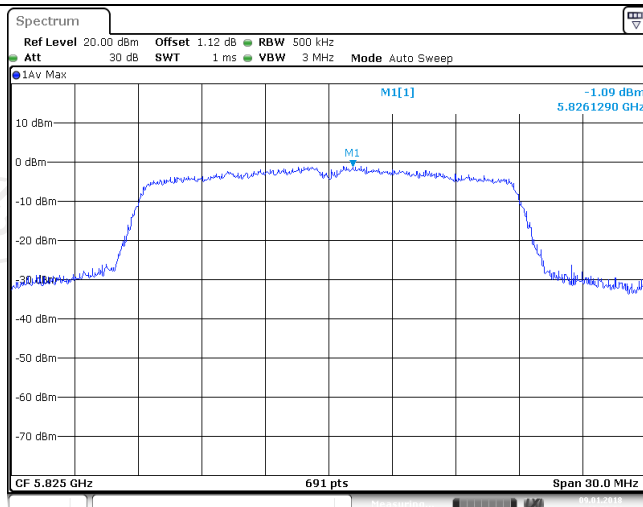
## 802.11n(HT20)



## Low

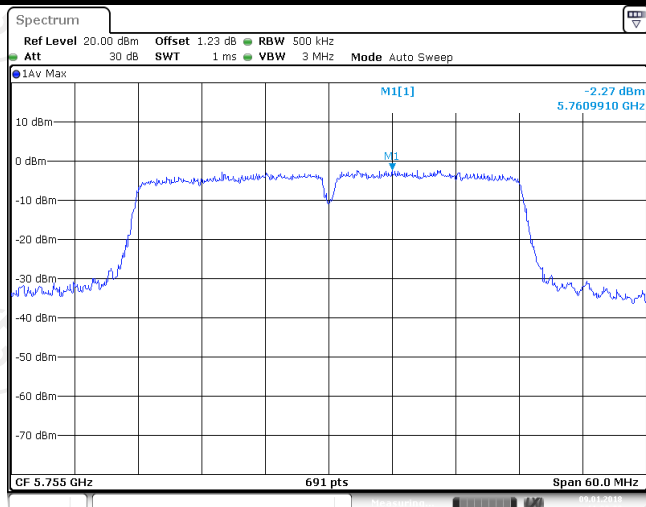


## Mid

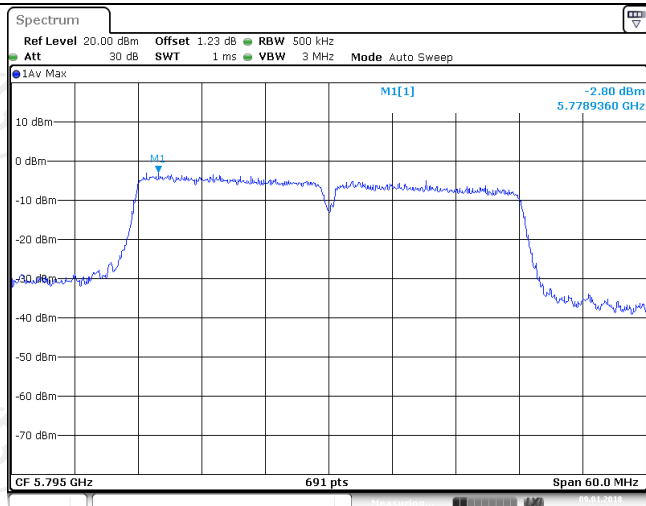


## High

## 802.11n(HT40)



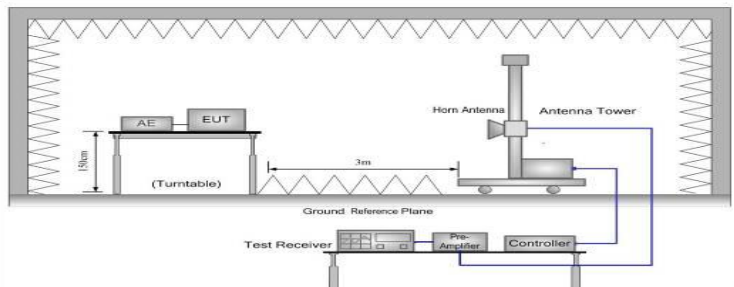
Low



High

## 6.7. Band edge

### 6.7.1. Test Specification

<b>Test Requirement:</b>	FCC CFR47 Part 15E Section 15.407
<b>Test Method:</b>	ANSI C63.10 2013
<b>Limit:</b>	<p>For band I&amp;II&amp;III: <math>E[dB\mu V/m] = EIRP[dBm] + 95.2 = 68.2</math> dB<math>\mu V/m</math>, for EIRP(dBm)= <b>-27dBm</b></p> <p>For band IV(5715-5725MHz&amp;5850-5860MHz): <math>E[dB\mu V/m] = EIRP[dBm] + 95.2 = 78.2</math> dB<math>\mu V/m</math>, for EIRP(dBm)= <b>-17dBm</b>;  For band IV(other un-restricted band): <math>E[dB\mu V/m] = EIRP[dBm] + 95.2 = 68.2</math> dB<math>\mu V/m</math>, for EIRP(dBm)= <b>-27dBm</b></p>
<b>Test Setup:</b>	 <p>The diagram illustrates the test setup. An Equipment Under Test (EUT) is placed on a turntable at a height of 1.5m. The turntable is 3m away from a horn antenna mounted on an antenna tower. A ground reference plane is indicated. The test receiver system includes a test receiver, a pre-amplifier, and a controller, all connected to the antenna tower.</p>
<b>Test Mode:</b>	Transmitting mode with modulation
<b>Test Procedure:</b>	<ol style="list-style-type: none"> <li>1. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> <li>2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</li> <li>3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</li> <li>4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable was turned from 0 degrees to 360 degrees to find the maximum reading.</li> <li>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasipeak or average method as specified and then</li> </ol>

	reported in a data sheet.
Test Result:	PASS

## 6.7.2. Test Instruments

Radiated Emission Test Site (966)				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Test Receiver	ROHDE&SCHW ARZ	ESVD	100008	Sep. 27, 2018
Spectrum Analyzer	ROHDE&SCHW ARZ	FSQ	200061	Sep. 27, 2018
Spectrum Analyzer	ROHDE&SCHW ARZ	FSP40	100056	Sep. 27, 2018
Spectrum Analyzer	Agilent	N9020A	MY49100060	Sep. 27, 2018
Pre-amplifier	EM Electronics Corporation CO.,LTD	EM30265	07032613	Sep. 27, 2018
Pre-amplifier	HP	8447D	2727A05017	Sep. 27, 2018
Loop antenna	ZHINAN	ZN30900A	12024	Sep. 27, 2018
Broadband Antenna	Schwarzbeck	VULB9163	340	Sep. 27, 2018
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Sep. 27, 2018
Horn Antenna	Schwarzbeck	BBH 9170	582	Jun. 07, 2018
Coax cable (9KHz-1GHz)	TCT	RE-low-01	N/A	Sep. 27, 2018
Coax cable (9KHz-40GHz)	TCT	RE-high-02	N/A	Sep. 27, 2018
Coax cable (9KHz-1GHz)	TCT	RE-low-03	N/A	Sep. 27, 2018
Coax cable (9KHz-40GHz)	TCT	RE-high-04	N/A	Sep. 27, 2018
Antenna Mast	Keleto	CC-A-4M	N/A	N/A
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A

**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

### 6.7.3. Test Data

Band I for Band edge emission									
Bandwidth:		20MHz		Worst mode:		802.11a		Test channel:	
								Low	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Detector
5150.00	15.62	31.56	9.79	0.00	56.97	68.20	-11.23	Horizontal	Peak
5150.00	15.49	31.56	9.79	0.00	56.84	68.20	-11.36	Vertical	Peak
5350.00	15.68	32.04	10.06	0.00	57.78	68.20	-10.42	Horizontal	Peak
5350.00	15.48	32.04	10.06	0.00	57.58	68.20	-10.62	Vertical	Peak
5150.00	4.36	31.56	9.79	0.00	45.71	54.00	-8.29	Horizontal	Average
5150.00	4.62	31.56	9.79	0.00	45.97	54.00	-8.03	Vertical	Average
5350.00	4.36	32.04	10.06	0.00	46.46	54.00	-7.54	Horizontal	Average
5350.00	4.28	32.04	10.06	0.00	46.38	54.00	-7.62	Vertical	Average

Band IV for Band edge emission									
Bandwidth:		20MHz		Worst mode:		802.11a		Test channel:	
								Low	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Detector
5725.00	15.87	32.29	10.17	0.00	58.33	68.20	-9.87	Horizontal	Peak
5725.00	15.68	32.29	10.17	0.00	58.14	68.20	-10.06	Vertical	Peak
5850.00	15.51	36.00	11.91	0.00	63.42	68.20	-4.78	Horizontal	Peak
5850.00	15.47	36.00	11.91	0.00	63.38	68.20	-4.82	Vertical	Peak
5725.00	3.26	32.29	10.17	0.00	45.72	54.00	-8.28	Horizontal	Average
5725.00	3.65	32.29	10.17	0.00	46.11	54.00	-7.89	Vertical	Average
5725.00	2.65	36.00	11.91	0.00	50.56	54.00	-3.44	Horizontal	Average
5850.00	2.24	36.00	11.91	0.00	50.15	54.00	-3.85	Vertical	Average



Band I for Band edge emission									
Bandwidth:		20MHz		Worst mode:		802.11a		Test channel:	
								High	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Detector
5150.00	15.68	31.56	9.79	0.00	57.03	68.20	-11.17	Horizontal	Peak
5150.00	15.98	31.56	9.79	0.00	57.33	68.20	-10.87	Vertical	Peak
5350.00	15.39	32.04	10.06	0.00	57.49	68.20	-10.71	Horizontal	Peak
5350.00	15.67	32.04	10.06	0.00	57.77	68.20	-10.43	Vertical	Peak
5150.00	4.56	31.56	9.79	0.00	45.91	54.00	-8.09	Horizontal	Average
5150.00	4.35	31.56	9.79	0.00	45.70	54.00	-8.30	Vertical	Average
5350.00	4.61	32.04	10.06	0.00	46.71	54.00	-7.29	Horizontal	Average
5350.00	4.57	32.04	10.06	0.00	46.67	54.00	-7.33	Vertical	Average

Band IV for Band edge emission									
Bandwidth:		20MHz		Worst mode:		802.11a		Test channel:	
								High	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Detector
5725.00	15.87	32.29	10.17	0.00	58.33	68.20	-9.87	Horizontal	Peak
5725.00	15.98	32.29	10.17	0.00	58.44	68.20	-9.76	Vertical	Peak
5850.00	16.01	36.00	11.91	0.00	63.92	68.20	-4.28	Horizontal	Peak
5850.00	16.03	36.00	11.91	0.00	63.94	68.20	-4.26	Vertical	Peak
5725.00	4.16	32.29	10.17	0.00	46.62	54.00	-7.38	Horizontal	Average
5725.00	4.64	32.29	10.17	0.00	47.10	54.00	-6.90	Vertical	Average
5725.00	1.68	36.00	11.91	0.00	49.59	54.00	-4.41	Horizontal	Average
5850.00	1.98	36.00	11.91	0.00	49.89	54.00	-4.11	Vertical	Average

Band I for Band edge emission									
Bandwidth:		20MHz		Worst mode:		802.11n		Test channel:	
								Low	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Detector
5150.00	16.01	31.56	9.79	0.00	57.36	68.20	-10.84	Horizontal	Peak
5150.00	15.87	31.56	9.79	0.00	57.22	68.20	-10.98	Vertical	Peak
5350.00	15.69	32.04	10.06	0.00	57.79	68.20	-10.41	Horizontal	Peak
5350.00	15.67	32.04	10.06	0.00	57.77	68.20	-10.43	Vertical	Peak
5150.00	4.65	31.56	9.79	0.00	46.00	54.00	-8.00	Horizontal	Average
5150.00	4.54	31.56	9.79	0.00	45.89	54.00	-8.11	Vertical	Average
5350.00	4.61	32.04	10.06	0.00	46.71	54.00	-7.29	Horizontal	Average
5350.00	4.68	32.04	10.06	0.00	46.78	54.00	-7.22	Vertical	Average

Band IV for Band edge emission									
Bandwidth:		20MHz		Worst mode:		802.11n		Test channel:	
								Low	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Detector
5725.00	15.87	32.29	10.17	0.00	58.33	68.20	-9.87	Horizontal	Peak
5725.00	15.98	32.29	10.17	0.00	58.44	68.20	-9.76	Vertical	Peak
5850.00	16.12	36.00	11.91	0.00	64.03	68.20	-4.17	Horizontal	Peak
5850.00	16.05	36.00	11.91	0.00	63.96	68.20	-4.24	Vertical	Peak
5725.00	4.55	32.29	10.17	0.00	47.01	54.00	-6.99	Horizontal	Average
5725.00	4.35	32.29	10.17	0.00	46.81	54.00	-7.19	Vertical	Average
5725.00	2.01	36.00	11.91	0.00	49.92	54.00	-4.08	Horizontal	Average
5850.00	2.11	36.00	11.91	0.00	50.02	54.00	-3.98	Vertical	Average

Band I for Band edge emission									
Bandwidth:		20MHz		Worst mode:		802.11n		Test channel:	
								High	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Detector
5150.00	16.01	31.56	9.79	0.00	57.36	68.20	-10.84	Horizontal	Peak
5150.00	15.87	31.56	9.79	0.00	57.22	68.20	-10.98	Vertical	Peak
5350.00	15.69	32.04	10.06	0.00	57.79	68.20	-10.41	Horizontal	Peak
5350.00	15.67	32.04	10.06	0.00	57.77	68.20	-10.43	Vertical	Peak
5150.00	4.65	31.56	9.79	0.00	46.00	54.00	-8.00	Horizontal	Average
5150.00	4.54	31.56	9.79	0.00	45.89	54.00	-8.11	Vertical	Average
5350.00	4.61	32.04	10.06	0.00	46.71	54.00	-7.29	Horizontal	Average
5350.00	4.68	32.04	10.06	0.00	46.78	54.00	-7.22	Vertical	Average

Band IV for Band edge emission									
Bandwidth:		20MHz		Worst mode:		802.11n		Test channel:	
								High	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Detector
5725.00	15.87	32.29	10.17	0.00	58.33	68.20	-9.87	Horizontal	Peak
5725.00	15.98	32.29	10.17	0.00	58.44	68.20	-9.76	Vertical	Peak
5850.00	16.12	36.00	11.91	0.00	64.03	68.20	-4.17	Horizontal	Peak
5850.00	16.05	36.00	11.91	0.00	63.96	68.20	-4.24	Vertical	Peak
5725.00	4.55	32.29	10.17	0.00	47.01	54.00	-6.99	Horizontal	Average
5725.00	4.35	32.29	10.17	0.00	46.81	54.00	-7.19	Vertical	Average
5725.00	2.01	36.00	11.91	0.00	49.92	54.00	-4.08	Horizontal	Average
5850.00	2.11	36.00	11.91	0.00	50.02	54.00	-3.98	Vertical	Average

## Band I for Band edge emission

Bandwidth: 40MHz		Worst mode: 802.11n		Test channel: Low					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Detector
5150.00	15.87	31.56	9.79	0.00	57.22	68.20	-10.98	Horizontal	Peak
5150.00	15.69	31.56	9.79	0.00	57.04	68.20	-11.16	Vertical	Peak
5350.00	15.77	32.04	10.06	0.00	57.87	68.20	-10.33	Horizontal	Peak
5350.00	15.67	32.04	10.06	0.00	57.77	68.20	-10.43	Vertical	Peak
5150.00	4.33	31.56	9.79	0.00	45.68	54.00	-8.32	Horizontal	Average
5150.00	4.65	31.56	9.79	0.00	46.00	54.00	-8.00	Vertical	Average
5350.00	4.26	32.04	10.06	0.00	46.36	54.00	-7.64	Horizontal	Average
5350.00	4.42	32.04	10.06	0.00	46.52	54.00	-7.48	Vertical	Average

## Band IV for Band edge emission

Bandwidth: 40MHz		Worst mode: 802.11n		Test channel: Low					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Detector
5725.00	15.76	32.29	10.17	0.00	58.22	68.20	-9.98	Horizontal	Peak
5725.00	15.67	32.29	10.17	0.00	58.13	68.20	-10.07	Vertical	Peak
5850.00	16.01	36.00	11.91	0.00	63.92	68.20	-4.28	Horizontal	Peak
5850.00	15.87	36.00	11.91	0.00	63.78	68.20	-4.42	Vertical	Peak
5725.00	4.65	32.29	10.17	0.00	47.11	54.00	-6.89	Horizontal	Average
5725.00	4.36	32.29	10.17	0.00	46.82	54.00	-7.18	Vertical	Average
5725.00	1.98	36.00	11.91	0.00	49.89	54.00	-4.11	Horizontal	Average
5850.00	2.03	36.00	11.91	0.00	49.94	54.00	-4.06	Vertical	Average

## Band I for Band edge emission

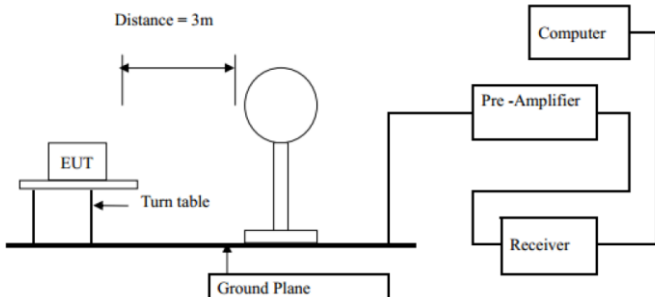
Bandwidth: 40MHz		Worst mode: 802.11n		Test channel: High					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Detector
5150.00	15.78	31.56	9.79	0.00	57.13	68.20	-11.07	Horizontal	Peak
5150.00	15.67	31.56	9.79	0.00	57.02	68.20	-11.18	Vertical	Peak
5350.00	15.95	32.04	10.06	0.00	58.05	68.20	-10.15	Horizontal	Peak
5350.00	15.69	32.04	10.06	0.00	57.79	68.20	-10.41	Vertical	Peak
5150.00	4.55	31.56	9.79	0.00	45.90	54.00	-8.10	Horizontal	Average
5150.00	4.35	31.56	9.79	0.00	45.70	54.00	-8.30	Vertical	Average
5350.00	4.67	32.04	10.06	0.00	46.77	54.00	-7.23	Horizontal	Average
5350.00	4.53	32.04	10.06	0.00	46.63	54.00	-7.37	Vertical	Average

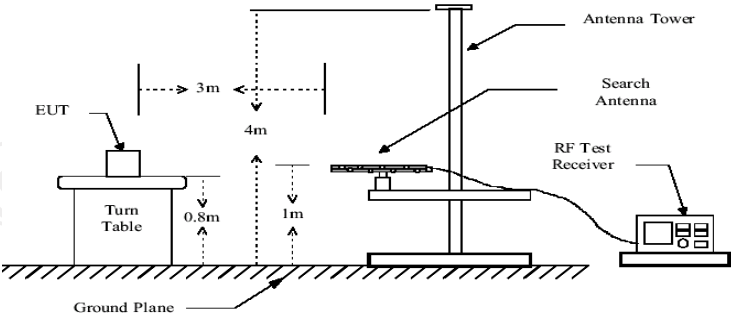
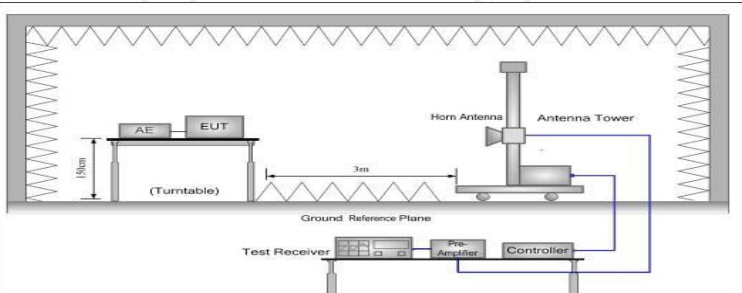
## Band IV for Band edge emission

Bandwidth: 40MHz		Worst mode: 802.11n		Test channel: High					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Detector
5725.00	16.11	32.29	10.17	0.00	58.57	68.20	-9.63	Horizontal	Peak
5725.00	15.98	32.29	10.17	0.00	58.44	68.20	-9.76	Vertical	Peak
5850.00	16.01	36.00	11.91	0.00	63.92	68.20	-4.28	Horizontal	Peak
5850.00	16.05	36.00	11.91	0.00	63.96	68.20	-4.24	Vertical	Peak
5725.00	4.67	32.29	10.17	0.00	47.13	54.00	-6.87	Horizontal	Average
5725.00	4.59	32.29	10.17	0.00	47.05	54.00	-6.95	Vertical	Average
5725.00	1.97	36.00	11.91	0.00	49.88	54.00	-4.12	Horizontal	Average
5850.00	2.13	36.00	11.91	0.00	50.04	54.00	-3.96	Vertical	Average

## 6.8. Spurious Emission

### 6.8.1.1. Test Specification

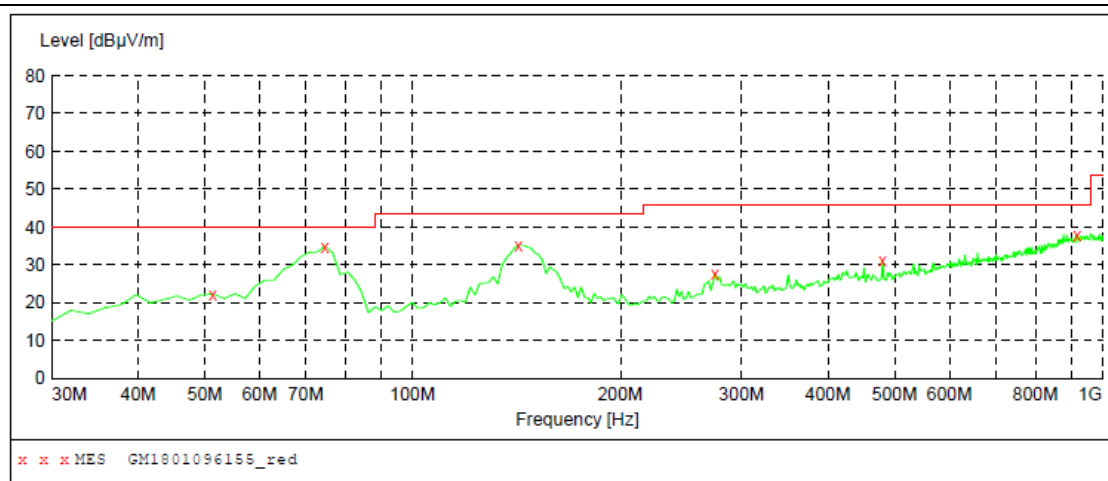
Test Requirement:	FCC CFR47 Part 15 Section 15.407 & 15.209 & 15.205				
Test Method:	KDB 789033 D02 v02r01				
Frequency Range:	9kHz to 40GHz				
Measurement Distance:	3 m				
Antenna Polarization:	Horizontal & Vertical				
Operation mode:	Transmitting mode with modulation				
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	9kHz- 150kHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value
	150kHz- 30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
Peak		1MHz	10Hz	Average Value	
Limit:	Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table,				
	Frequency		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		30		30
	30-88		100		3
	88-216		150		3
	216-960		200		3
	Above 960		500		3
	Frequency		Limit (dBuV/m @3m)		Detector
	Above 1G		74.0		Peak
			54.0		Average
Test setup:	For radiated emissions below 30MHz				
					

	<p>30MHz to 1GHz</p>  <p>Above 1GHz</p> 
<p><b>Test Procedure:</b></p>	<ol style="list-style-type: none"> <li>1. The EUT was placed on the top of a rotating table 0.8/1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> <li>2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</li> <li>3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</li> <li>4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable was turned from 0 degrees to 360 degrees to find the maximum reading.</li> <li>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</li> </ol>
<p><b>Test results:</b></p>	<p>PASS</p>

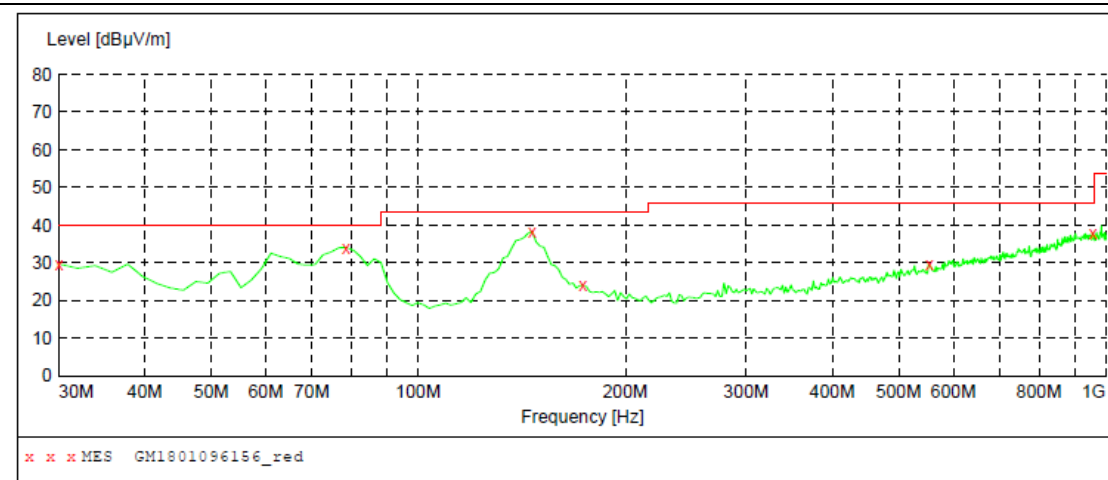


## 6.8.2. Test Data

Please refer to following diagram for individual  
Below 1GHz



Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
51.340000	22.30	-8.8	40.0	17.7	QP	300.0	67.00	HORIZONTAL
74.620000	34.90	-14.8	40.0	5.1	QP	300.0	280.00	HORIZONTAL
142.520000	35.20	-13.9	43.5	8.3	QP	300.0	308.00	HORIZONTAL
274.440000	27.70	-7.9	46.0	18.3	QP	100.0	85.00	HORIZONTAL
480.080000	31.30	-2.5	46.0	14.7	QP	100.0	317.00	HORIZONTAL
918.520000	38.00	7.0	46.0	8.0	QP	100.0	195.00	HORIZONTAL



Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
30.000000	29.70	-13.3	40.0	10.3	QP	100.0	252.00	VERTICAL
78.500000	34.10	-15.6	40.0	5.9	QP	100.0	252.00	VERTICAL
146.400000	38.40	-13.9	43.5	5.1	QP	100.0	228.00	VERTICAL
173.560000	24.10	-12.8	43.5	19.4	QP	100.0	307.00	VERTICAL
553.800000	29.50	-0.7	46.0	16.5	QP	100.0	119.00	VERTICAL
957.320000	38.00	7.3	46.0	8.0	QP	100.0	119.00	VERTICAL

### Remark:

1. Transd = Cable lose + Antenna factor - Pre-amplifier; Margin = Limit – Level
2. The low frequency, which started from 9KHz~30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported
3. The 802.11a,802.11n,802.11ac Test mode, found that 802.11a and band 1 mode for low channel was the worst mode, and the report showed only the test results of the worst mode.



## Above 1GHz

Band I for Low									
Bandwidth:		20MHz			Worst mode:			802.11a	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Test value
1573.19	36.28	25.14	5.49	36.69	30.22	74.00	-43.78	Horizontal	Peak
5022.19	32.80	31.59	9.69	36.38	37.70	74.00	-36.30	Horizontal	Peak
6511.12	31.03	34.02	11.20	35.34	40.91	74.00	-33.09	Horizontal	Peak
9884.60	32.92	39.10	13.60	34.62	51.00	74.00	-23.00	Horizontal	Peak
1728.56	36.38	25.26	5.82	36.99	30.47	74.00	-43.53	Vertical	Peak
3135.99	36.72	28.80	7.64	38.21	34.95	74.00	-39.05	Vertical	Peak
4321.84	34.90	30.27	9.06	37.60	36.63	74.00	-37.37	Vertical	Peak
8973.25	31.87	37.87	13.28	34.39	48.63	74.00	-25.37	Vertical	Peak

Band I for Mid									
Bandwidth:		20MHz			Worst mode:			802.11a	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Test value
2316.43	33.40	28.02	6.63	37.67	30.38	74.00	-43.62	Horizontal	Peak
4664.81	31.50	31.10	9.49	37.14	34.95	74.00	-39.05	Horizontal	Peak
6833.77	29.85	34.24	11.64	34.96	40.77	74.00	-33.23	Horizontal	Peak
8973.25	30.03	37.87	13.28	34.39	46.79	74.00	-27.21	Horizontal	Peak
2190.27	36.15	27.42	6.43	37.34	32.66	74.00	-41.34	Vertical	Peak
4086.46	35.72	29.87	8.85	37.91	36.53	74.00	-37.47	Vertical	Peak
4772.91	34.38	31.49	9.53	37.00	38.40	74.00	-35.60	Vertical	Peak
8462.98	31.61	36.79	12.86	34.34	46.92	74.00	-27.08	Vertical	Peak

Band I for High									
Bandwidth:		20MHz			Worst mode:			802.11a	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Test value
2301.03	32.03	27.50	6.79	37.89	28.43	74.00	-45.57	Horizontal	Peak
3579.82	32.53	29.24	8.24	38.30	31.71	74.00	-42.29	Horizontal	Peak
6412.43	30.10	33.39	11.01	35.31	39.19	74.00	-34.81	Horizontal	Peak
8166.69	31.15	36.80	12.69	34.55	46.09	74.00	-27.91	Horizontal	Peak
1943.29	35.18	25.74	6.18	37.25	29.85	74.00	-44.15	Vertical	Peak
3795.66	34.10	29.59	8.50	38.23	33.96	74.00	-40.04	Vertical	Peak
5504.17	32.96	31.90	10.20	36.32	38.74	74.00	-35.26	Vertical	Peak
8022.46	30.16	37.08	12.35	34.53	45.06	74.00	-28.94	Vertical	Peak

### Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. Measuring frequencies from 1 GHz to 40GHz of highest fundamental frequency.

Band I for Low									
Bandwidth:		20MHz			Worst mode:			802.11n	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Test value
2269.73	32.69	27.92	6.56	37.54	29.63	74.00	-44.37	Horizontal	Peak
4288.96	31.56	30.18	9.02	37.61	33.15	74.00	-40.85	Horizontal	Peak
5895.77	30.06	32.29	10.63	35.38	37.60	74.00	-36.40	Horizontal	Peak
7921.00	29.41	36.78	12.68	34.74	44.13	74.00	-29.87	Horizontal	Peak
1809.61	35.40	25.39	5.97	37.15	29.61	74.00	-44.39	Vertical	Peak
2761.20	35.01	28.10	7.28	38.26	32.13	74.00	-41.87	Vertical	Peak
3815.03	34.68	29.62	8.52	38.22	34.60	74.00	-39.40	Vertical	Peak
8145.93	30.05	36.86	12.64	34.54	45.01	74.00	-28.99	Vertical	Peak

Band I for Mid									
Bandwidth:		20MHz			Worst mode:			802.11n	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Test value
1978.23	33.82	26.09	6.24	37.28	28.87	74.00	-45.13	Horizontal	Peak
3516.59	33.18	29.05	8.14	38.39	31.98	74.00	-42.02	Horizontal	Peak
6347.47	29.84	33.20	11.00	35.30	38.74	74.00	-35.26	Horizontal	Peak
9759.59	31.32	39.10	13.66	35.58	48.50	74.00	-25.50	Horizontal	Peak
1889.63	35.43	25.31	6.10	37.21	29.63	74.00	-44.37	Vertical	Peak
3662.78	35.23	29.30	8.34	38.26	34.61	74.00	-39.39	Vertical	Peak
6868.65	31.55	34.48	11.69	34.92	42.80	74.00	-31.20	Vertical	Peak
9909.80	30.06	39.10	13.59	34.30	48.45	74.00	-25.55	Vertical	Peak

Band I for High									
Bandwidth:		20MHz			Worst mode:			802.11n	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Test value
2322.33	32.46	27.99	6.64	37.68	29.41	74.00	-44.59	Horizontal	Peak
5151.68	31.88	31.69	9.79	36.25	37.11	74.00	-36.89	Horizontal	Peak
9042.04	31.38	38.03	13.35	34.71	48.05	74.00	-25.95	Horizontal	Peak
10669.02	29.23	39.92	13.59	33.71	49.03	74.00	-24.97	Horizontal	Peak
1978.23	35.14	26.09	6.24	37.28	30.19	74.00	-43.81	Vertical	Peak
4433.26	33.45	30.57	9.18	37.51	35.69	74.00	-38.31	Vertical	Peak
7508.69	30.78	36.11	12.42	34.91	44.40	74.00	-29.60	Vertical	Peak
8996.12	31.69	37.90	13.31	34.41	48.49	74.00	-25.51	Vertical	Peak

**Remark:**

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. Measuring frequencies from 1 GHz to 40GHz of highest fundamental frequency.

Band I for Low									
Bandwidth:		40MHz			Worst mode:		802.11n		
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Test value
2281.32	31.48	27.99	6.57	37.57	28.47	74.00	-45.53	Horizontal	Peak
4594.10	32.43	30.89	9.45	37.24	35.53	74.00	-38.47	Horizontal	Peak
7508.69	29.68	36.11	12.42	34.91	43.30	74.00	-30.70	Horizontal	Peak
10507.31	30.92	40.00	13.59	34.33	50.18	74.00	-23.82	Horizontal	Peak
2875.99	33.90	28.41	7.41	38.31	31.41	74.00	-42.59	Vertical	Peak
4444.56	34.09	30.59	9.20	37.49	36.39	74.00	-37.61	Vertical	Peak
7840.75	30.98	36.35	13.06	34.96	45.43	74.00	-28.57	Vertical	Peak
9809.40	31.20	39.10	13.64	35.57	48.37	74.00	-25.63	Vertical	Peak

Band I for High									
Bandwidth:		40MHz			Worst mode:		802.11n		
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Test value
2474.92	31.46	27.30	6.82	37.88	27.70	74.00	-46.30	Horizontal	Peak
6611.33	31.93	34.20	11.37	35.34	42.16	74.00	-31.84	Horizontal	Peak
8725.48	31.51	37.85	13.02	34.37	48.01	74.00	-25.99	Horizontal	Peak
10507.31	30.92	40.00	13.59	34.33	50.18	74.00	-23.82	Horizontal	Peak
2039.59	33.97	26.46	6.30	37.31	29.42	74.00	-44.58	Vertical	Peak
3963.52	34.62	29.70	8.73	38.13	34.92	74.00	-39.08	Vertical	Peak
6511.12	31.62	34.02	11.20	35.34	41.50	74.00	-32.50	Vertical	Peak
8292.38	30.49	36.42	12.81	34.42	45.30	74.00	-28.70	Vertical	Peak

**Remark:**

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamp Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. Measuring frequencies from 1 GHz to 40GHz of highest fundamental frequency.

Band IV for Low									
Bandwidth: 20MHz				Worst mode: 802.11a					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Test value
2246.74	32.93	27.78	6.52	37.47	29.76	74.00	-44.24	Horizontal	Peak
5747.59	30.05	31.84	10.51	35.46	36.94	74.00	-37.06	Horizontal	Peak
6577.75	29.26	34.16	11.32	35.35	39.39	74.00	-34.61	Horizontal	Peak
9538.54	30.94	39.05	13.72	35.20	48.51	74.00	-25.49	Horizontal	Peak
2108.21	34.56	26.77	6.36	37.32	30.37	74.00	-43.63	Vertical	Peak
5338.58	32.30	31.38	10.04	36.62	37.10	74.00	-36.90	Vertical	Peak
6412.43	31.92	33.39	11.01	35.31	41.01	74.00	-32.99	Vertical	Peak
10374.42	30.65	39.56	13.59	35.53	48.27	74.00	-25.73	Vertical	Peak

Band IV for Mid									
Bandwidth: 20MHz				Worst mode: 802.11a					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Test value
1933.42	34.05	25.64	6.17	37.25	28.61	74.00	-45.39	Horizontal	Peak
4512.97	30.40	30.73	9.32	37.37	33.08	74.00	-40.92	Horizontal	Peak
5880.78	32.26	32.26	10.62	35.37	39.77	74.00	-34.23	Horizontal	Peak
8770.01	30.64	37.76	13.07	34.32	47.15	74.00	-26.85	Horizontal	Peak
2102.85	34.43	26.72	6.36	37.32	30.19	74.00	-43.81	Vertical	Peak
3844.28	35.60	29.64	8.56	38.20	35.60	74.00	-38.40	Vertical	Peak
6331.33	31.20	33.16	11.00	35.30	40.06	74.00	-33.94	Vertical	Peak
10560.94	29.43	39.97	13.59	33.69	49.30	74.00	-24.70	Vertical	Peak

Band IV for High									
Bandwidth: 20MHz				Worst mode: 802.11a					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Test value
2352.08	33.84	27.84	6.69	37.77	30.60	74.00	-43.40	Horizontal	Peak
5060.69	31.50	31.74	9.72	36.34	36.62	74.00	-37.38	Horizontal	Peak
6781.78	30.72	34.04	11.58	35.02	41.32	74.00	-32.68	Horizontal	Peak
9611.66	30.71	39.07	13.73	35.19	48.32	74.00	-25.68	Horizontal	Peak
2207.06	34.79	27.54	6.45	37.36	31.42	74.00	-42.58	Vertical	Peak
4310.85	33.86	30.23	9.05	37.60	35.54	74.00	-38.46	Vertical	Peak
6662.01	31.99	34.20	11.43	35.25	42.37	74.00	-31.63	Vertical	Peak
7566.25	31.11	36.17	12.61	34.95	44.94	74.00	-29.06	Vertical	Peak

**Remark:**

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. Measuring frequencies from 1 GHz to 40GHz of highest fundamental frequency.

Band IV for Low									
Bandwidth: 20MHz				Worst mode: 802.11n					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Test value
2449.85	32.83	27.40	6.80	37.89	29.14	74.00	-44.86	Horizontal	Peak
5956.11	29.58	32.41	10.65	35.42	37.22	74.00	-36.78	Horizontal	Peak
7190.69	29.48	36.14	11.86	35.07	42.41	74.00	-31.59	Horizontal	Peak
9636.16	29.81	39.08	13.72	35.26	47.35	74.00	-26.65	Horizontal	Peak
2065.72	34.73	26.57	6.33	37.31	30.32	74.00	-43.68	Vertical	Peak
3993.90	34.31	29.70	8.77	38.11	34.67	74.00	-39.33	Vertical	Peak
5393.22	32.31	31.49	10.12	36.78	37.14	74.00	-36.86	Vertical	Peak
7941.19	32.33	36.87	12.58	34.69	47.09	74.00	-26.91	Vertical	Peak

Band IV for Mid									
Bandwidth: 20MHz				Worst mode: 802.11n					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Test value
2024.07	32.48	26.40	6.29	37.30	27.87	74.00	-46.13	Horizontal	Peak
5125.52	31.13	31.80	9.77	36.27	36.43	74.00	-37.57	Horizontal	Peak
5836.04	29.14	32.17	10.60	35.34	36.57	74.00	-37.43	Horizontal	Peak
7209.02	29.53	36.21	11.87	35.07	42.54	74.00	-31.46	Horizontal	Peak
2146.12	35.77	27.07	6.39	37.33	31.90	74.00	-42.10	Vertical	Peak
4444.56	34.09	30.59	9.20	37.49	36.39	74.00	-37.61	Vertical	Peak
5191.17	32.87	31.54	9.82	36.21	38.02	74.00	-35.98	Vertical	Peak
8593.22	31.19	37.27	12.89	34.51	46.84	74.00	-27.16	Vertical	Peak

Band IV for High									
Bandwidth: 20MHz				Worst mode: 802.11n					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Test value
2792.44	32.77	28.10	7.17	38.13	29.91	74.00	-44.09	Horizontal	Peak
4858.72	30.37	31.48	9.58	36.80	34.63	74.00	-39.37	Horizontal	Peak
7721.91	29.56	36.10	13.05	35.03	43.68	74.00	-30.32	Horizontal	Peak
8398.59	29.96	36.60	12.85	34.26	45.15	74.00	-28.85	Horizontal	Peak
2081.55	34.37	26.63	6.34	37.32	30.02	74.00	-43.98	Vertical	Peak
6047.78	32.68	32.50	10.75	35.41	40.52	74.00	-33.48	Vertical	Peak
6283.16	31.00	33.07	11.00	35.30	39.77	74.00	-34.23	Vertical	Peak
8398.59	30.55	36.60	12.85	34.26	45.74	74.00	-28.26	Vertical	Peak

**Remark:**

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. Measuring frequencies from 1 GHz to 40GHz of highest fundamental frequency.



Band IV for Low									
Bandwidth: 40MHz				Worst mode: 802.11n					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Test value
2402.72	32.56	27.55	6.78	37.90	28.99	74.00	-45.01	Horizontal	Peak
4455.89	30.59	30.61	9.22	37.47	32.95	74.00	-41.05	Horizontal	Peak
6347.47	29.84	33.20	11.00	35.30	38.74	74.00	-35.26	Horizontal	Peak
8334.70	30.77	36.47	12.82	34.35	45.71	74.00	-28.29	Horizontal	Peak
2044.79	35.13	26.48	6.31	37.31	30.61	74.00	-43.39	Vertical	Peak
4354.97	33.12	30.37	9.09	37.58	35.00	74.00	-39.00	Vertical	Peak
5689.36	31.83	31.62	10.41	35.62	38.24	74.00	-35.76	Vertical	Peak
9322.50	30.29	39.15	13.62	35.51	47.55	74.00	-26.45	Vertical	Peak

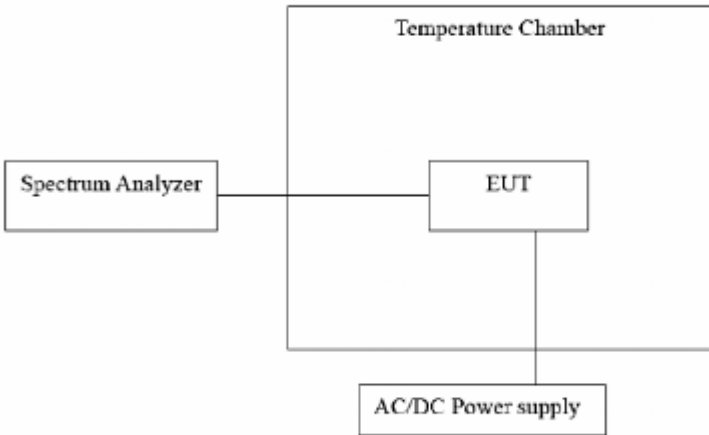
Band IV for High									
Bandwidth: 40MHz				Worst mode: 802.11n					
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin Limit (dB)	Polarization	Test value
2796.57	31.97	28.10	7.36	38.35	29.08	74.00	-44.92	Horizontal	Peak
5047.83	30.79	31.69	9.71	36.35	35.84	74.00	-38.16	Horizontal	Peak
6140.85	31.09	32.66	10.91	35.34	39.32	74.00	-34.68	Horizontal	Peak
9636.16	29.81	39.08	13.72	35.26	47.35	74.00	-26.65	Horizontal	Peak
2070.98	34.06	26.59	6.33	37.31	29.67	74.00	-44.33	Vertical	Peak
3700.26	34.23	29.30	8.39	38.25	33.67	74.00	-40.33	Vertical	Peak
5230.96	32.66	31.44	9.88	36.29	37.69	74.00	-36.31	Vertical	Peak
7566.25	31.11	36.17	12.61	34.95	44.94	74.00	-29.06	Vertical	Peak

**Remark:**

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. Measuring frequencies from 1 GHz to 40GHz of highest fundamental frequency.

## 6.9. Frequency Stability Measurement

### 6.9.1. Test Specification

<b>Test Requirement:</b>	FCC Part15 Section 15.407(g) &Part2 J Section 2.1055
<b>Test Method:</b>	ANSI C63.10: 2013
<b>Limit:</b>	The frequency tolerance shall be maintained within the band of operation frequency over a temperature variation of -30 degrees to 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.
<b>Test Setup:</b>	 <pre> graph LR     SA[Spectrum Analyzer] --- EUT[EUT]     subgraph TC [Temperature Chamber]         EUT     end     P[AC/DC Power supply] --- EUT             </pre>
<b>Test Procedure:</b>	The EUT was placed inside the environmental test chamber and powered by nominal AC/DC voltage. b. Turn the EUT on and couple its output to a spectrum analyzer. c. Turn the EUT off and set the chamber to the highest temperature specified. d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize. e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature. f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.
<b>Test Result:</b>	PASS
<b>Remark:</b>	Pre-scan was performed at Low/ Mid /High channel, the worst case was found. Only the test data of Low channel was shown in this report.

Test plots as follows:

Band I for 802.11a Low					
Voltage(%)	Power(VDC)	TEMP(°C)	Test Frequency (MHz)	Freq.Dev (Hz)	Deviation (ppm)
100%	3.70	-20	5180	5000.00	0.96525
100%		-10	5180	5000.00	0.96525
100%		0	5180	5000.00	0.96525
100%		10	5180	5000.00	0.96525
100%		20	5180	5000.00	0.96525
100%		30	5180	5000.00	0.96525
100%		40	5180	5000.00	0.96525
100%		50	5180	5000.00	0.96525
85%	3.33	25	5180	5000.00	0.96525
115%	4.07	25	5180	5000.00	0.96525

Band IV for 802.11a Low					
Voltage(%)	Power(VDC)	TEMP(°C)	Test Frequency (MHz)	Freq.Dev (Hz)	Deviation (ppm)
100%	3.70	-20	5745	5000.00	0.87032
100%		-10	5745	5000.00	0.87032
100%		0	5745	5000.00	0.87032
100%		10	5745	5000.00	0.87032
100%		20	5745	6000.00	1.04439
100%		30	5745	6000.00	1.04439
100%		40	5745	5000.00	0.87032
100%		50	5745	5000.00	0.87032
85%	3.33	25	5745	5000.00	0.87032
115%	4.07	25	5745	6000.00	1.04439



Band I for 802.11n(HT20) Low					
Voltage(%)	Power(VDC)	TEMP(°C)	Test Frequency (MHz)	Freq.Dev (Hz)	Deviation (ppm)
100%	3.70	-20	5180	5000.00	0.96525
100%		-10	5180	5000.00	0.96525
100%		0	5180	5000.00	0.96525
100%		10	5180	5000.00	0.96525
100%		20	5180	5000.00	0.96525
100%		30	5180	5000.00	0.96525
100%		40	5180	5000.00	0.96525
100%		50	5180	5000.00	0.96525
85%	3.33	25	5180	5000.00	0.96525
115%	4.07	25	5180	5000.00	0.96525

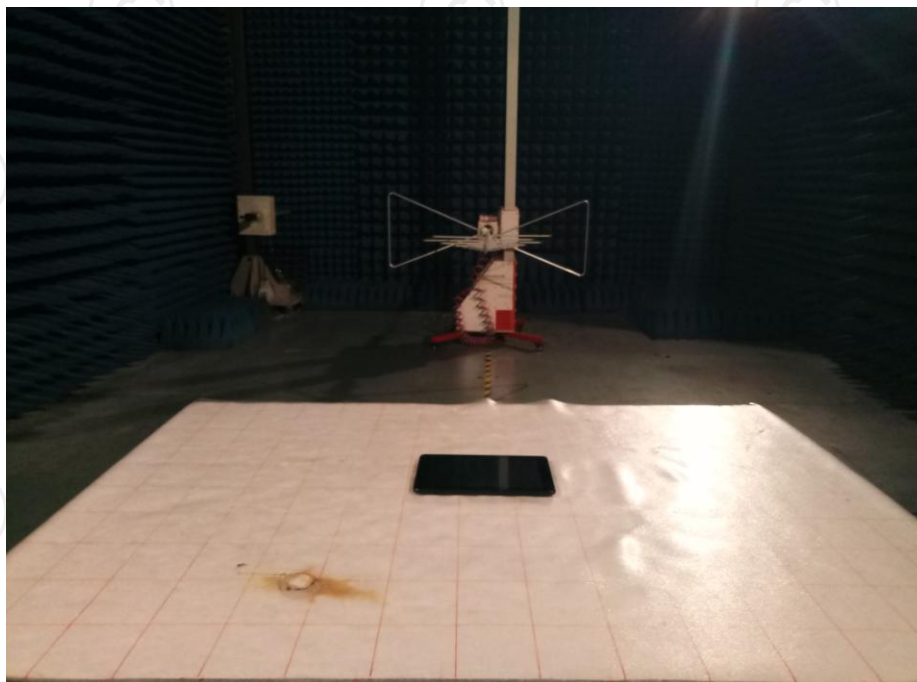
Band IV for 802.11n(HT20) Low					
Voltage(%)	Power(VDC)	TEMP(°C)	Test Frequency (MHz)	Freq.Dev (Hz)	Deviation (ppm)
100%	3.70	-20	5745	5000.00	0.87032
100%		-10	5745	5000.00	0.87032
100%		0	5745	5000.00	0.87032
100%		10	5745	5000.00	0.87032
100%		20	5745	6000.00	1.04439
100%		30	5745	6000.00	1.04439
100%		40	5745	5000.00	0.87032
100%		50	5745	5000.00	0.87032
85%	3.33	25	5745	5000.00	0.87032
115%	4.07	25	5745	6000.00	1.04439

Band I for 802.11n(HT40) Low					
Voltage(%)	Power(VDC)	TEMP(°C)	Test Frequency (MHz)	Freq.Dev (Hz)	Deviation (ppm)
100%	3.70	-20	5190	5000.00	0.96339
100%		-10	5190	5000.00	0.96339
100%		0	5190	5000.00	0.96339
100%		10	5190	5000.00	0.96339
100%		20	5190	5000.00	0.96339
100%		30	5190	5000.00	0.96339
100%		40	5190	5000.00	0.96339
100%		50	5190	5000.00	0.96339
85%	3.33	25	5190	5000.00	0.96339
115%	4.07	25	5190	5000.00	0.96339

Band IV for 802.11n(HT40) Low					
Voltage(%)	Power(VDC)	TEMP(°C)	Test Frequency (MHz)	Freq.Dev (Hz)	Deviation (ppm)
100%	3.70	-20	5755	5000.00	0.86881
100%		-10	5755	5000.00	0.86881
100%		0	5755	5000.00	0.86881
100%		10	5755	5000.00	0.86881
100%		20	5755	6000.00	0.86881
100%		30	5755	6000.00	0.86881
100%		40	5755	5000.00	0.86881
100%		50	5755	5000.00	0.86881
85%	3.33	25	5755	5000.00	0.86881
115%	4.07	25	5755	5000.00	0.86881

## Appendix A: Photographs of Test Setup

### Radiated Emission



CE



## Appendix B: Photographs of EUT

Reference to the test report No.: TRE1801003101.

**\*\*\*\*\*END OF REPORT\*\*\*\*\***