TCT 通测检测 TESTING CENTRE TECHNOLOGY

TEST REPORT

FCC ID: 2ABQ6-DCG-N10

Product: Tablet PC

Model No.: DCG-N10

Additional Model No.: -

Trade Mark: datecode genie

Report No.: TCT181102E015

Issued Date: Nov. 03, 2018

Issued for:

Inspira Technologies LLC

1901 4th Ave, Suite 210, San Diego, CA 92101, USA

Issued By:

Shenzhen Tongce Testing Lab.
1B/F., Building 1, Yibaolai Industrial Park, Qiaotou, Fuyong, Baoan District, Shenzhen, Guangdong, China
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Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com

1. Test Certification

Product:	Tablet PC
Model No.:	DCG-N10
Additional Model No.:	-
Trade Mark:	datecode genie
Applicant:	Inspira Technologies LLC
Address:	1901 4th Ave, Suite 210, San Diego, CA 92101, USA
Manufacturer:	Inspira Technologies LLC
Address:	1901 4th Ave, Suite 210, San Diego, CA 92101, USA
Date of Test:	Oct. 15, 2018 – Nov. 03, 2018
Applicable Standards:	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 v02

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:	Brews Xu	***Date:***	***Nov. 03, 2018***
	Brews Xu		
Reviewed By:	Beryl Zhao	***Date:***	***Nov. 03, 2018***
	Beryl Zhao		
Approved By:	Tomsin	***Date:***	***Nov. 03, 2018***
	Tomsin		

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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.

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3. EUT Description

Product:	Tablet PC
Model No.:	DCG-N10
Additional Model No.:	-
Trade Mark:	datecode genie
Operation Frequency:	Band I: 5150MHz-5250MHz; Band IV: 5725MHz-5850MHz;
Channel Bandwidth:	802.11a/n(HT20): 20MHz 802.11n(HT40): 40MHz
Modulation Technology:	Orthogonal Frequency Division Multiplexing(OFDM)
Modulation Type	BPSK, QPSK, 16QAM, 64QAM
Antenna Type:	Integral antenna
Antenna Gain:	2dBi
Power Supply:	3.7 V from battery
Adapter:	Model No:K-T100502000U Input:100-240Va.c.50-60Hz 0.35A Max Output:5Vd.c.2000mA

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Operation Frequency each of channel

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

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

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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%)
The sample was placed 0.8m/1.5m for blow/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 & 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.	

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:

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.

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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

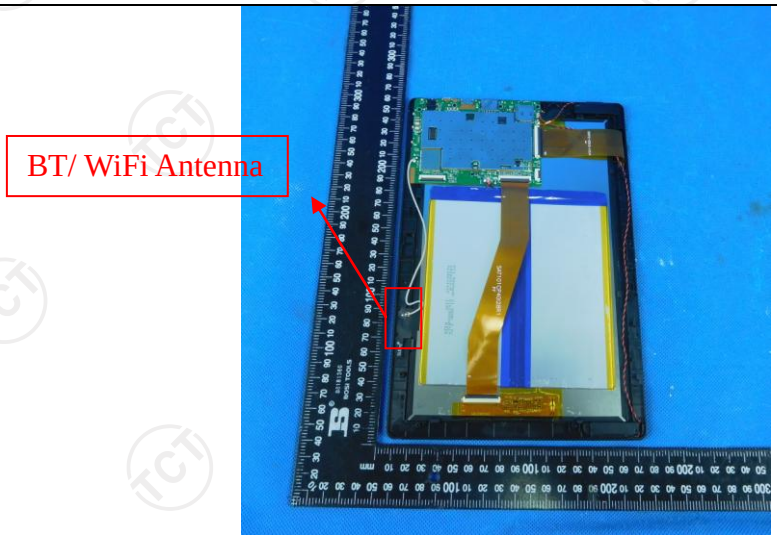
The reported uncertainty of measurement y ± U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

No.	Item	MU
1	Conducted Emission	±2.56dB
2	RF power, conducted	±0.12dB
3	Spurious emissions, conducted	±0.11dB
4	All emissions, radiated(<1G)	±3.92dB
5	All emissions, radiated(>1G)	±4.28dB
6	Temperature	±0.1°C
7	Humidity	±1.0%

6. Test Results and Measurement Data

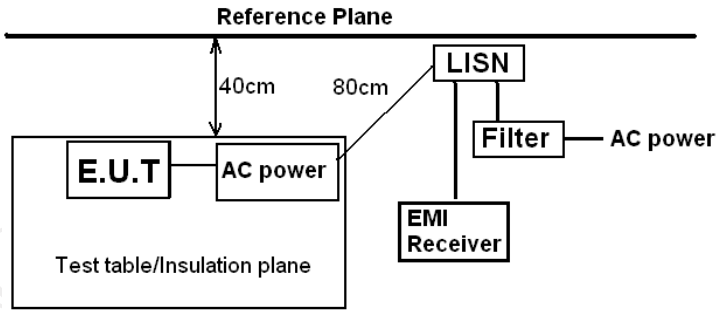
6.1. Antenna requirement

Standard requirement:	FCC Part15 C Section 15.203
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.	
E.U.T Antenna:	
The directional gain of the antenna less than 6dBi, please refer to the below antenna photo.	



6.2. Conducted Emission

6.2.1. Test Specification

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.207</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10:2013</td></tr>
<tr><td>Frequency Range:</td><td>150 kHz to 30 MHz</td></tr>
<tr><td>Receiver setup:</td><td>RBW=9 kHz, VBW=30 kHz, Sweep time=auto</td></tr>
<tr><td>Limits:</td><td>
<table>
<tr><td rowspan="2">Frequency range (MHz)</td><td colspan="2">Limit (dBuV)</td></tr>
<tr><td>Quasi-peak</td><td>Average</td></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>
</td></tr>
<tr><td>Test Setup:</td><td> 

Remark:
E.U.T: Equipment Under Test
LISN: Line Impedence Stabilization Network
Test table height=0.8m</td></tr>
<tr><td>Test Mode:</td><td>Tx Mode</td></tr>
<tr><td>Test Procedure:</td><td>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.
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).
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.</td></tr>
<tr><td>Test Result:</td><td>PASS</td></tr>
</table>

6.2.2. Test Instruments

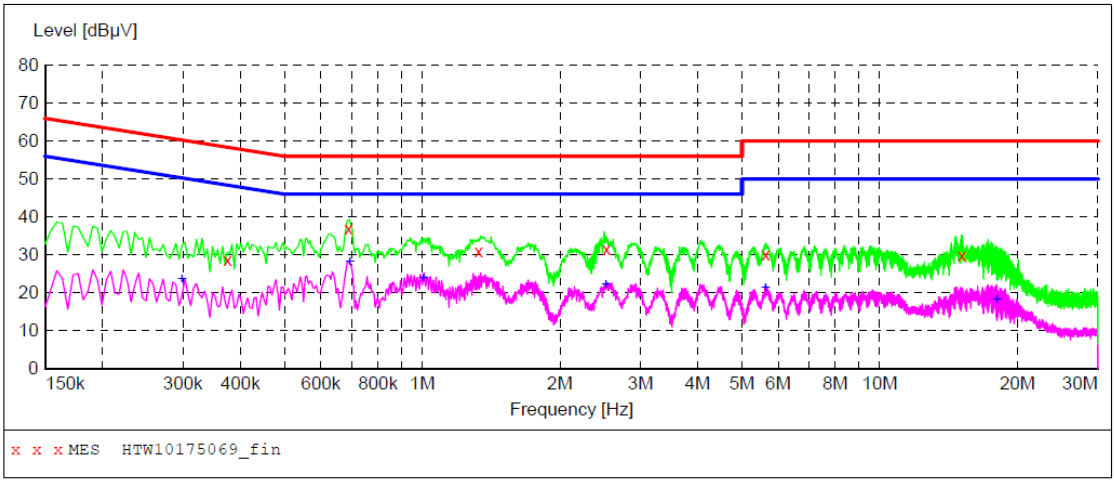
Conducted Emission Shielding Room Test Site (843)				
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Test Receiver	R&S	ESPI	101401	Aug. 27, 2019
LISN	Schwarzbeck	NSLK 8126	8126453	Aug. 27, 2019
Coax cable (9KHz-30MHz)	TCT	CE-05	N/A	Aug. 27, 2019
EMI Test Software	Shurple Technology	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: "HTW10175069_fin"

10/17/2018 7:14PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.375000	28.70	10.1	58	29.7	QP	L1	GND
0.690000	37.00	10.0	56	19.0	QP	L1	GND
1.329000	30.90	10.0	56	25.1	QP	L1	GND
2.526000	31.50	10.0	56	24.5	QP	L1	GND
5.635500	30.10	10.0	60	29.9	QP	L1	GND
15.117000	29.80	10.2	60	30.2	QP	L1	GND

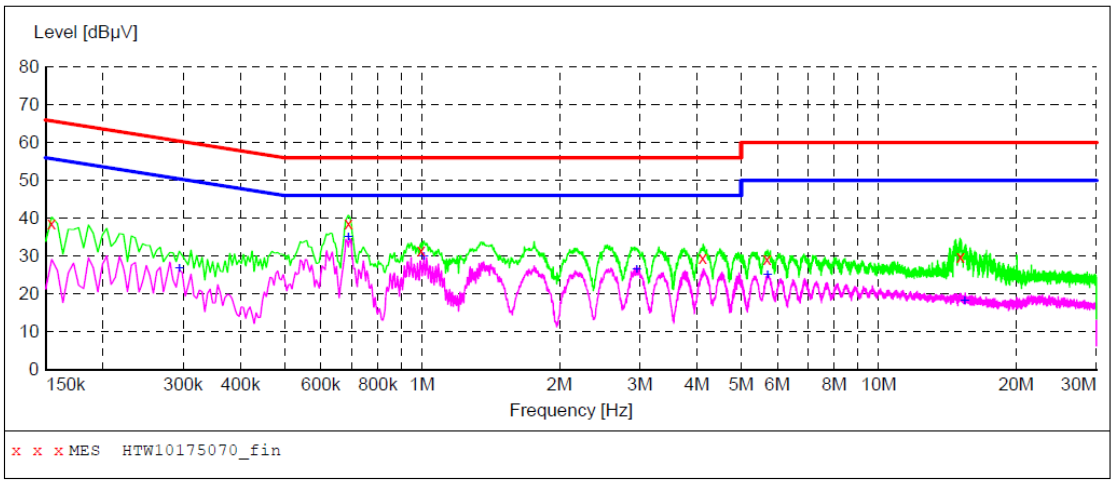
MEASUREMENT RESULT: "HTW10175069_fin2"

10/17/2018 7:14PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.298500	23.60	10.2	50	26.7	AV	L1	GND
0.694500	28.20	10.0	46	17.8	AV	L1	GND
1.005000	23.70	10.0	46	22.3	AV	L1	GND
2.521500	22.10	10.0	46	23.9	AV	L1	GND
5.631000	21.10	10.0	50	28.9	AV	L1	GND
18.042000	18.00	10.3	50	32.0	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: "HTW10175070_fin"

10/17/2018 7:17PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.154500	38.60	10.1	66	27.2	QP	N	GND
0.690000	38.70	10.0	56	17.3	QP	N	GND
0.996000	31.40	9.9	56	24.6	QP	N	GND
4.114500	29.60	10.0	56	26.4	QP	N	GND
5.698500	29.20	10.0	60	30.8	QP	N	GND
15.094500	29.80	10.2	60	30.2	QP	N	GND

MEASUREMENT RESULT: "HTW10175070_fin2"

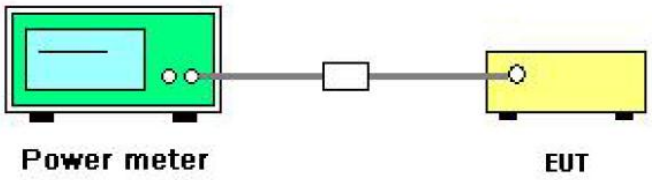
10/17/2018 7:17PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.294000	26.60	10.2	50	23.8	AV	N	GND
0.690000	34.80	10.0	46	11.2	AV	N	GND
1.009500	29.70	10.0	46	16.3	AV	N	GND
2.953500	26.50	10.0	46	19.5	AV	N	GND
5.716500	25.00	10.0	50	25.0	AV	N	GND
15.427500	18.10	10.2	50	31.9	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

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 E Section 15.407(a)& Part 2 J Section 2.1046</td></tr>
<tr><td>Test Method:</td><td>KDB789033 D02 General UNII Test Procedures New Rules v02 Section E</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><td>Frequency Band (MHz)</td><td>Limit</td></tr>
<tr><td>5150-5250</td><td>250mW for client devices</td></tr>
<tr><td>5725-5850</td><td>1 W</td></tr>
<tr><td colspan="2">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:
Pout = PLimit - (directional gain - 6)</td></tr>
</table>
</td></tr>
<tr><td>Test Setup:</td><td> 
</td></tr>
<tr><td>Test Mode:</td><td>Transmitting mode with modulation</td></tr>
<tr><td>Test Procedure:</td><td>1. The testing follows the Measurement Procedure of KDB789033 D02 General UNII Test Procedures New Rules v02 Section E, 3, a
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.
3. Set to the maximum power setting and enable the EUT transmit continuously.
5. Measure the conducted output power and record the results in the test report.</td></tr>
<tr><td>Test Result:</td><td>PASS</td></tr>
<tr><td>Remark:</td><td>Conducted output power= measurement power +10log(1/x) X is duty cycle=1, so 10log(1/1)=0
Conducted output power= measurement power</td></tr>
</table>

6.3.2. Test Instruments

RF Test Room				
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	N9020A	MY49100060	Aug. 27, 2019
Power Meter	Agilent	N1911A	MY45101557	Aug. 27, 2019
Power Sensor	Agilent	N1922A	MY44124432	Aug. 27, 2019
RF Cable (9KHz-40GHz)	TCT	RE-03	N/A	Aug. 27, 2019
Antenna Connector	TCT	RFC-03	N/A	Aug. 27, 2019

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	10.64	24	PASS
11a	CH40	11.40	24	PASS
11a	CH48	11.56	24	PASS
11n(HT20)	CH36	9.18	24	PASS
11n(HT20)	CH40	10.87	24	PASS
11n(HT20)	CH48	9.92	24	PASS
11n(HT40)	CH38	8.88	24	PASS
11n(HT40)	CH46	9.49	24	PASS

Configuration Band IV (5725 - 5850 MHz)				
Mode	Test channel	Maximum Conducted Output Power (dBm)	FCC Limit (dBm)	Result
11a	CH149	12.20	30	PASS
11a	CH157	10.37	30	PASS
11a	CH165	10.42	30	PASS
11n(HT20)	CH149	10.48	30	PASS
11n(HT20)	CH157	9.36	30	PASS
11n(HT20)	CH165	9.33	30	PASS
11n(HT40)	CH151	9.73	30	PASS
11n(HT40)	CH159	9.08	30	PASS

6.4. 6dB Emission Bandwidth

6.4.1. Test Specification

Test Requirement:	FCC CFR47 Part 15 Section 15.407(e)& Part 2 J Section 2.1049
Test Method:	KDB789033 D02 General UNII Test Procedures New Rules v02 Section C
Limit:	>500kHz
Test Setup:	
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. KDB789033 D02 General UNII Test Procedures New Rules v02 Section C 2. Set to the maximum power setting and enable the EUT transmit continuously. 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. 4. Measure and record the results in the test report.
Test Result:	PASS

6.4.2. Test Instruments

RF Test Room				
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	N9020A	MY49100060	Aug. 27, 2019
RF Cable (9KHz-40GHz)	TCT	RE-03	N/A	Aug. 27, 2019
Antenna Connector	TCT	RFC-03	N/A	Aug. 27, 2019

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	16.98	0.5	PASS
11a	CH157	5785	16.95	0.5	PASS
11a	CH165	5825	15.99	0.5	PASS
11n(HT20)	CH149	5745	15.12	0.5	PASS
11n(HT20)	CH157	5785	15.84	0.5	PASS
11n(HT20)	CH165	5825	15.72	0.5	PASS
11n(HT40)	CH151	5755	36.26	0.5	PASS
11n(HT40)	CH159	5795	36.26	0.5	PASS

Test plots as follows:

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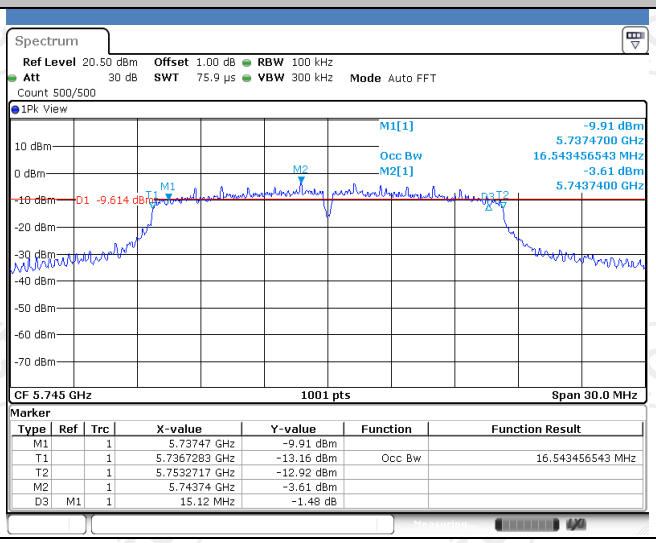
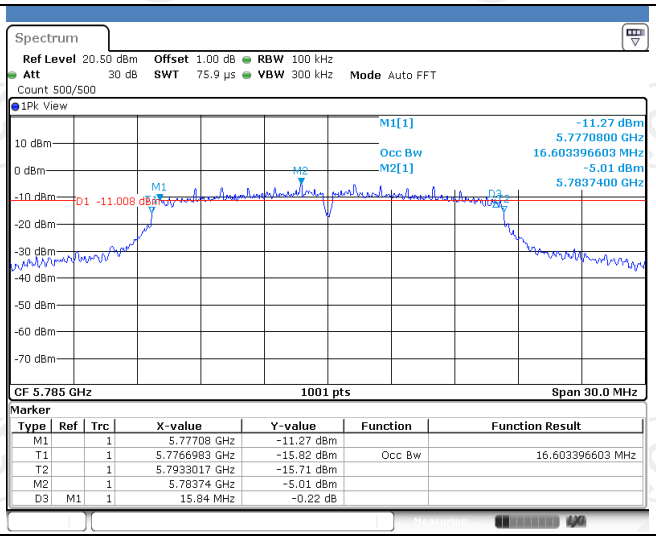
Band IV (5725 – 5850 MHz)

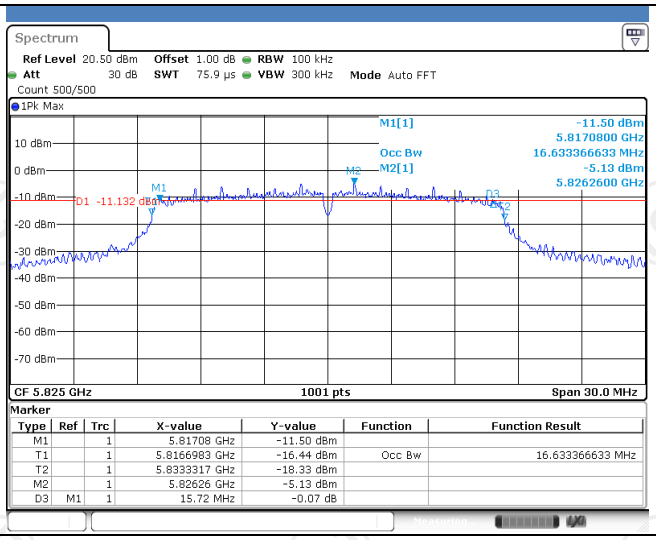
802.11a



Low

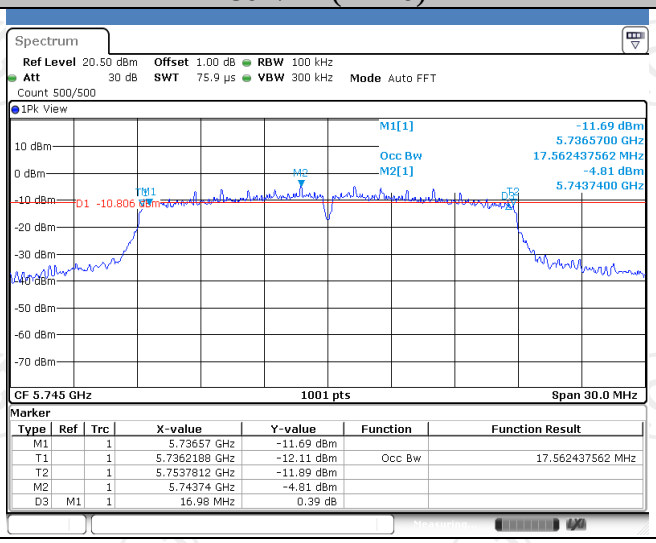


Mid

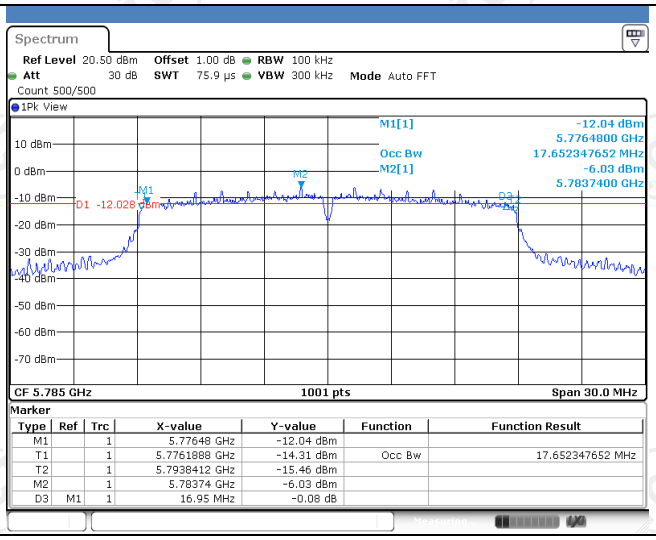


High

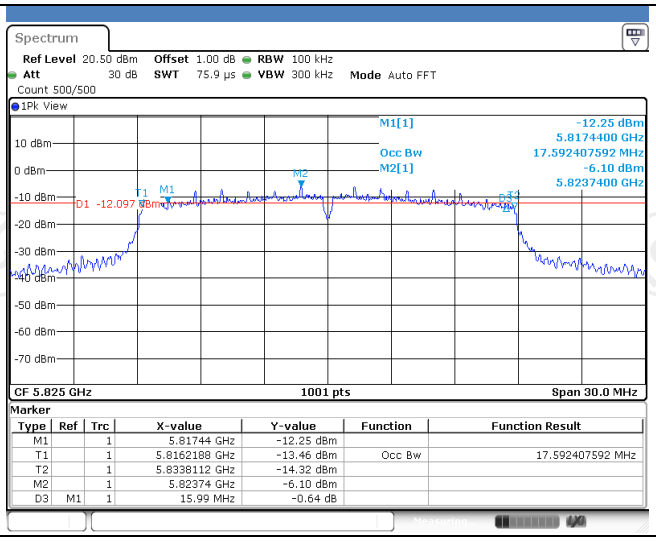
802.11n(HT20)



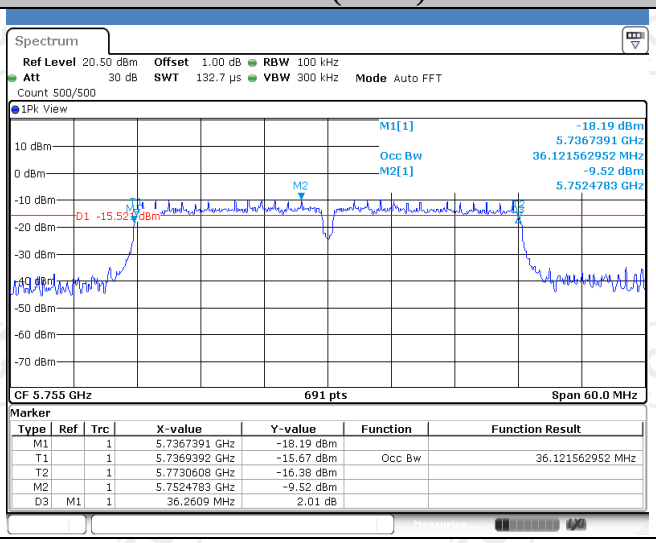
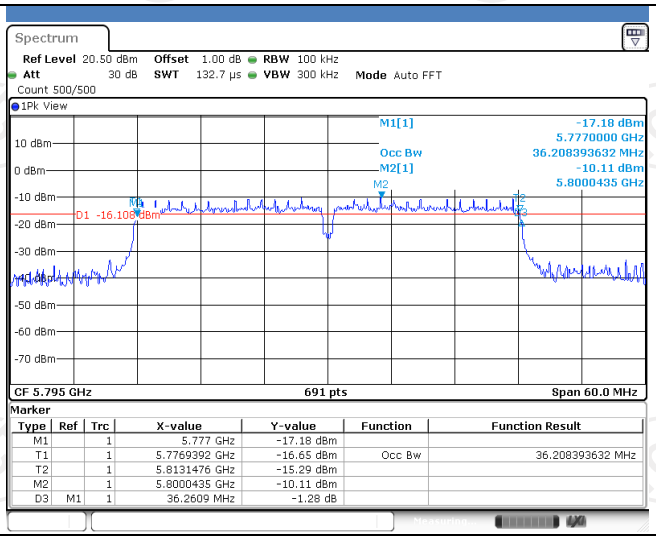
Low



Mid



High

802.11n(HT40)

Low

High

6.5. 26dB Bandwidth and 99% Occupied Bandwidth

6.5.1. Test Specification

Test Requirement:	47 CFR Part 15C Section 15.407 (a)& Part 2 J Section 2.1049
Test Method:	KDB789033 D02 General UNII Test Procedures New Rules v02 Section D
Limit:	No restriction limits
Test Setup:	
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. KDB789033 D02 General UNII Test Procedures New Rules v02 Section D 2. Set to the maximum power setting and enable the EUT transmit continuously. 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. 4. Measure and record the results in the test report.
Test Result:	PASS

6.5.2. Test Instruments

RF Test Room				
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	N9020A	MY49100060	Aug. 27, 2019
RF Cable (9KHz-26.5GHz)	TCT	RE-06	N/A	Aug. 27, 2019
Antenna Connector	TCT	RFC-01	N/A	Aug. 27, 2019

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

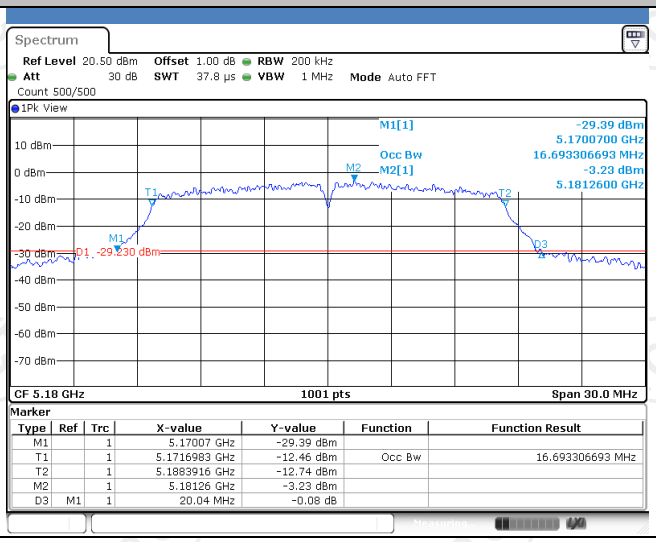
Band I

Mode	Test channel	Frequency (MHz)	26 dB Bandwidth (MHz)	99% Bandwidth (MHz)
11a	CH36	5180	20.04	16.69
11a	CH44	5220	19.59	16.60
11a	CH48	5240	19.83	16.57
11n(HT20)	CH36	5180	19.83	17.62
11n(HT20)	CH44	5220	19.74	17.56
11n(HT20)	CH48	5240	20.10	17.65
11n(HT40)	CH38	5190	40.38	36.38
11n(HT40)	CH46	5230	41.16	36.38

Test plots as follows:

Band I （5150 – 5250 MHz）

802.11a



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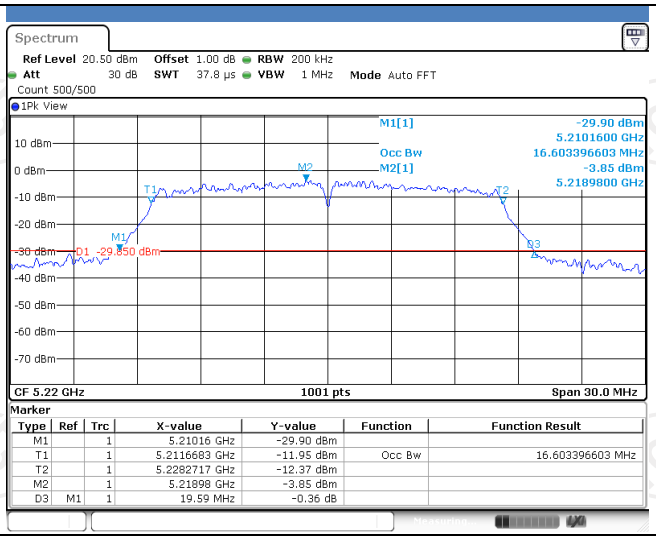

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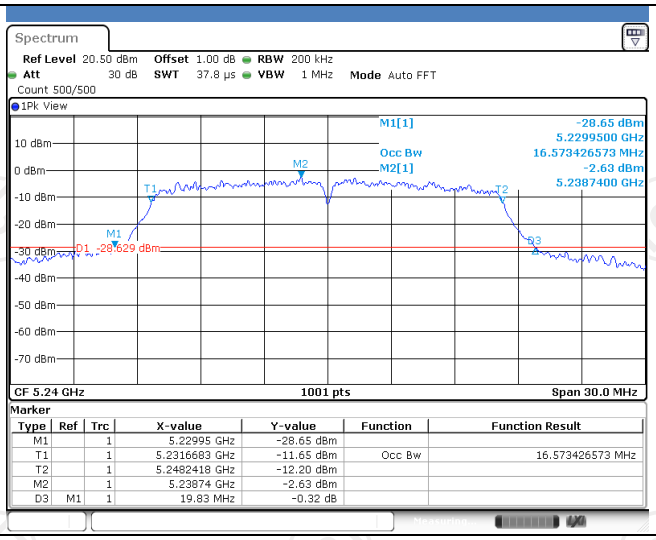
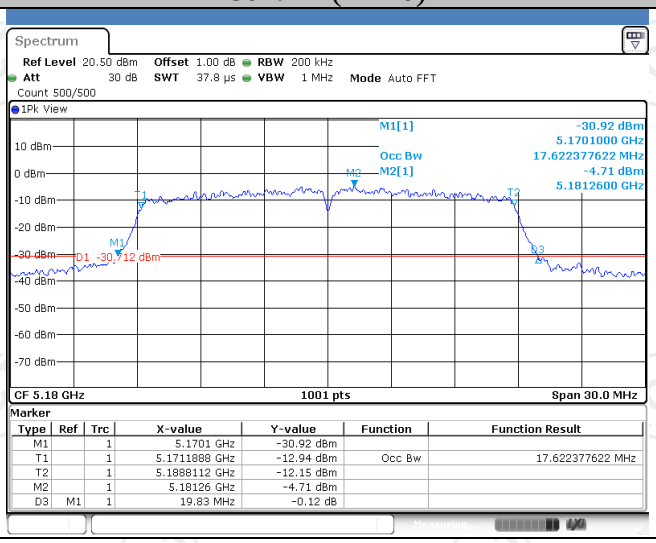


High

802.11n(HT20)



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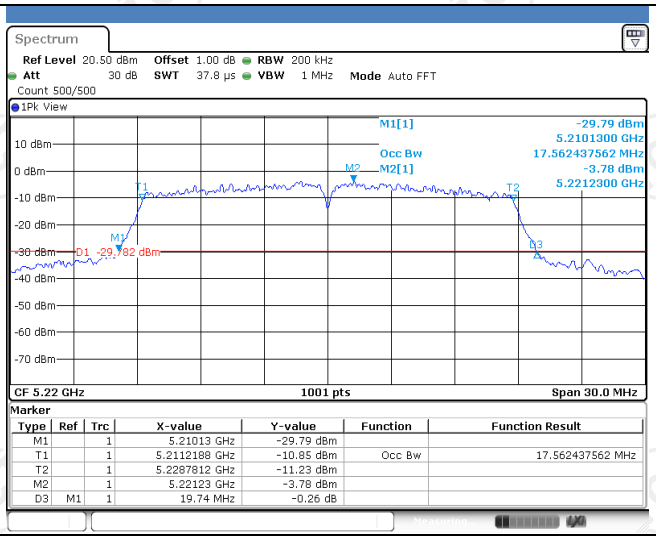

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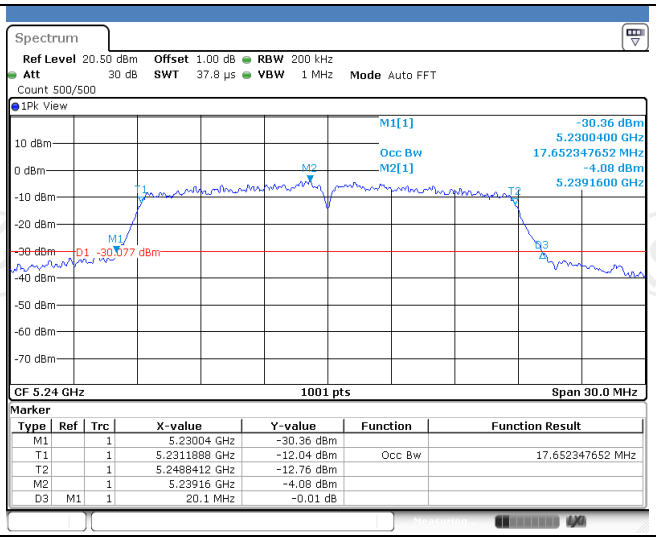
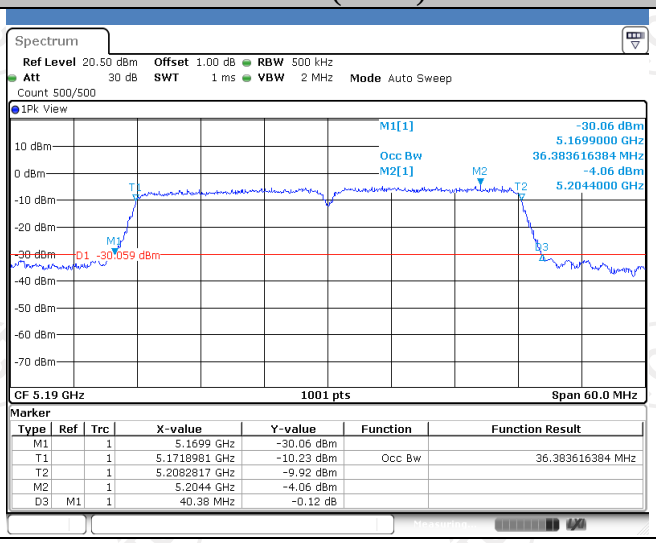


High

802.11n(HT40)

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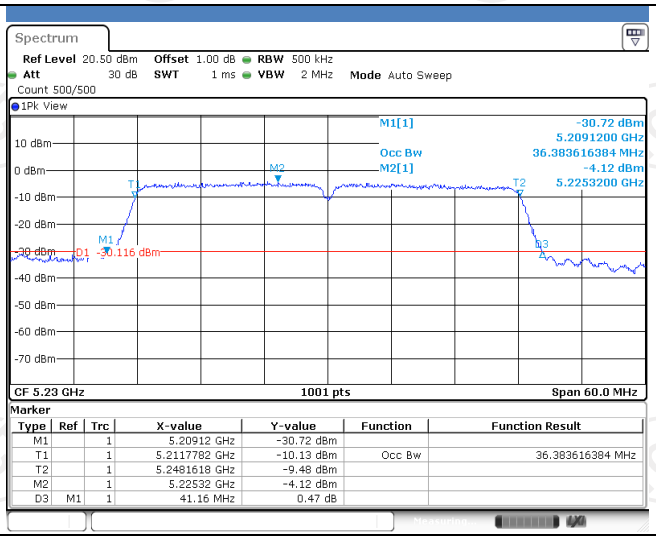
High

6.6. Power Spectral Density

6.6.1. Test Specification

Test Requirement:	FCC Part15 E Section 15.407 (a)
Test Method:	KDB789033 D02 General UNII Test Procedures New Rules v02 Section F
Limit:	≤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: PSDout = PSDLimit - (directional gain - 6)
Test Setup:	
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. Set the spectrum analyzer or EMI receiver span to view the entire emission bandwidth. 1. Set RBW = 500 kHz/1 MHz, VBW ≥ 3*RBW, Sweep time = Auto, Detector = RMS. 2. Allow the sweeps to continue until the trace stabilizes. 3. Use the peak marker function to determine the maximum amplitude level. 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.
Test Result:	PASS

6.6.2. Test Instruments

RF Test Room				
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	N9020A	MY49100060	Aug. 27, 2019
Spectrum Analyzer	ROHDE&SCHWARZ	FSP40	100056	Aug. 27, 2019
RF Cable (9KHz-40GHz)	TCT	RE-03	N/A	Aug. 27, 2019
Antenna Connector	TCT	RFC-03	N/A	Aug. 27, 2019

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(dBm/MHz)	Limit (dBm/MHz)	Result
11a	CH36	1.09	11	PASS
11a	CH44	1.46	11	PASS
11a	CH48	1.48	11	PASS
11n(HT20)	CH36	-0.88	11	PASS
11n(HT20)	CH44	0.72	11	PASS
11n(HT20)	CH48	-0.34	11	PASS
11n(HT40)	CH38	-4.82	11	PASS
11n(HT40)	CH46	-4.16	11	PASS

Configuration Band IV (5725 - 5850 MHz)				
Mode	Test channel	Power Spectral Density(dBm/MHz)	Limit (dBm/MHz)	Result
11a	CH149	1.30	30	PASS
11a	CH157	-1.03	30	PASS
11a	CH161	-0.92	30	PASS
11n(HT20)	CH149	0.22	30	PASS
11n(HT20)	CH157	-1.85	30	PASS
11n(HT20)	CH161	-1.94	30	PASS
11n(HT40)	CH149	-5.66	30	PASS
11n(HT40)	CH157	-6.18	30	PASS

Test plots as follows:

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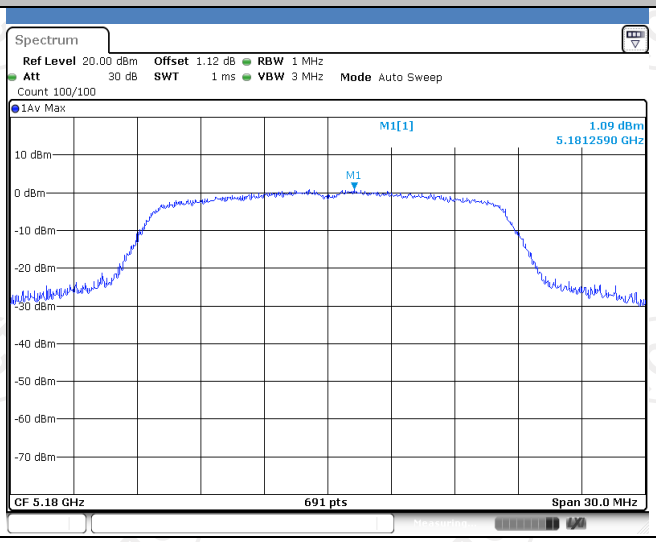
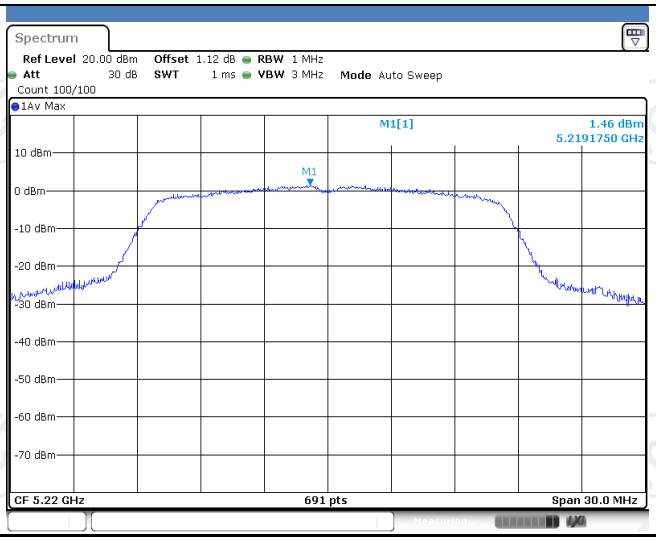
Band I （5150 – 5250 MHz）

802.11a



Low



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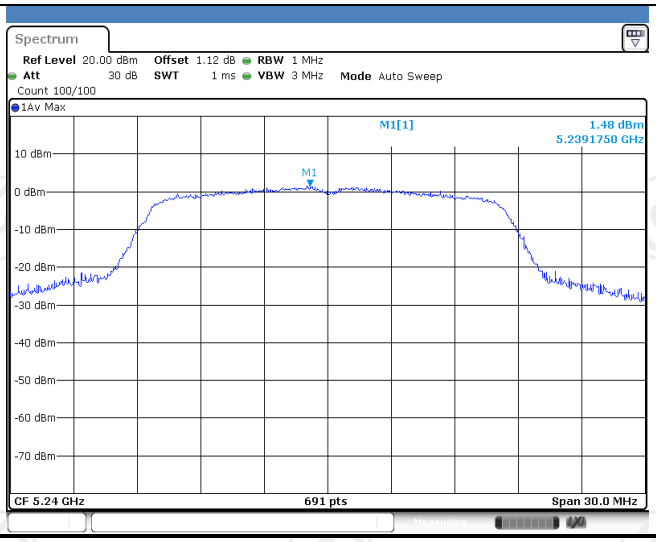
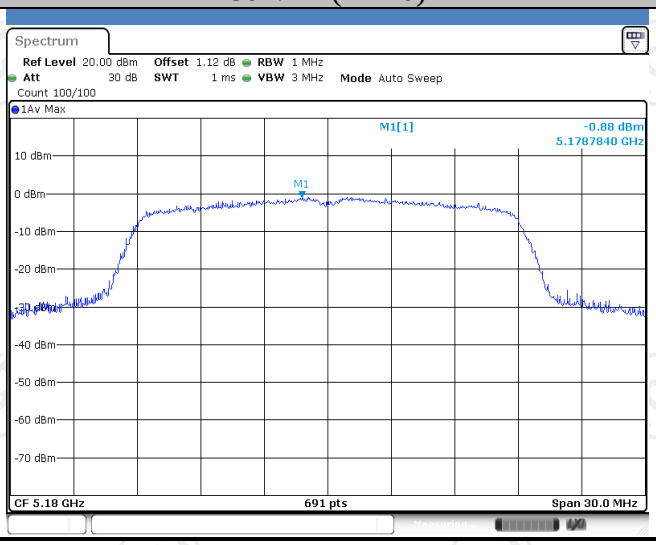
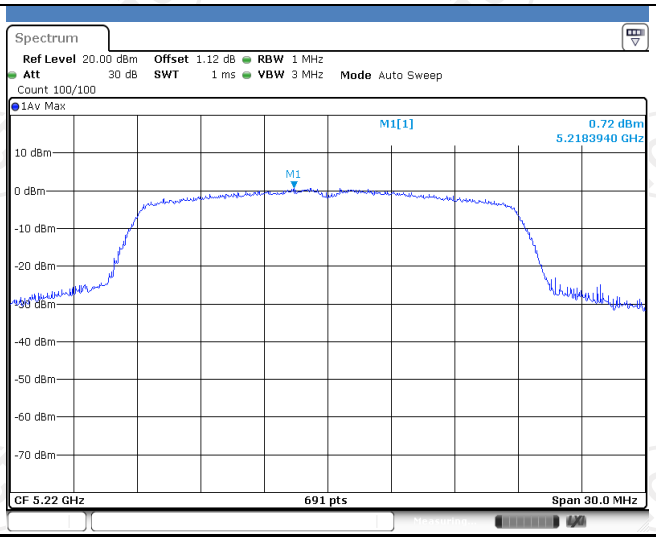


High

802.11n(HT20)



Low



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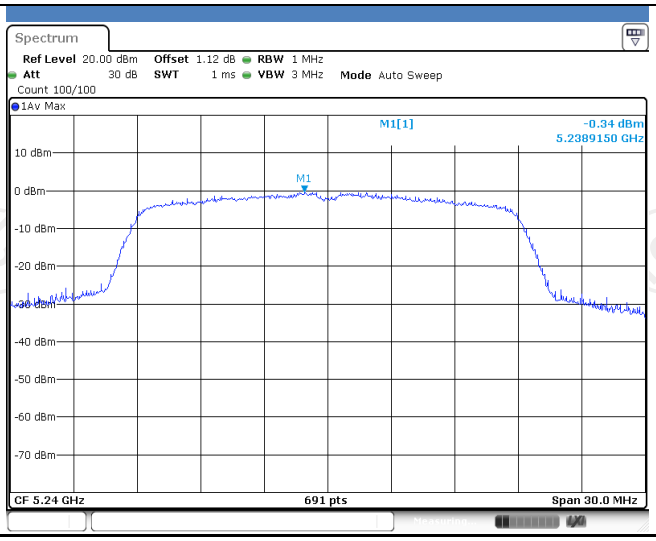
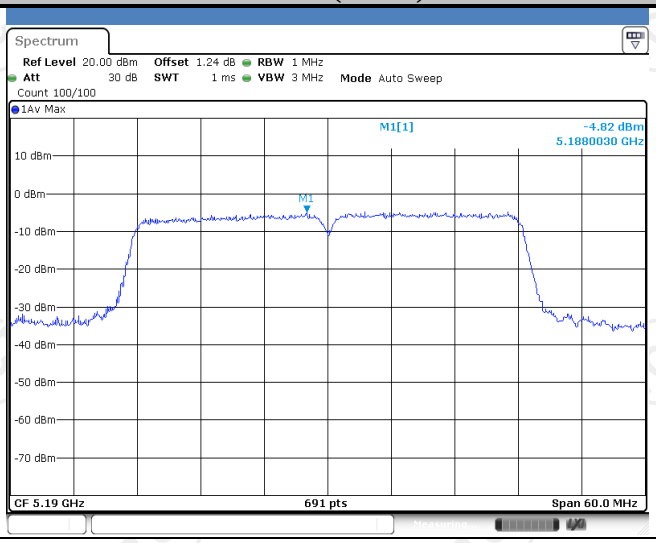


High

802.11n(HT40)

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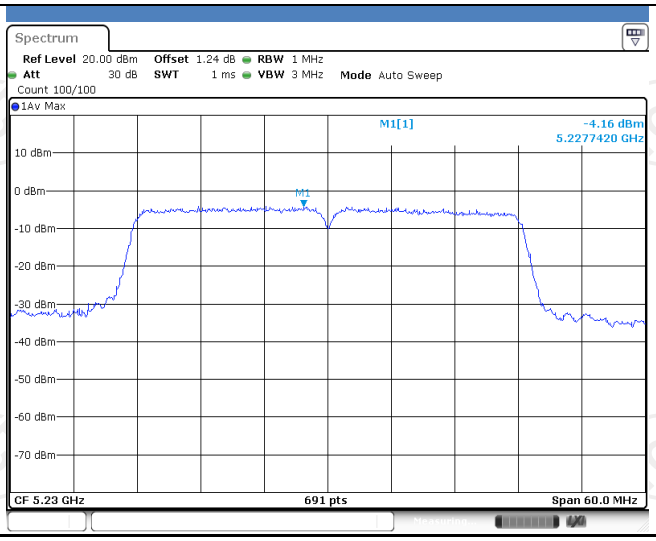
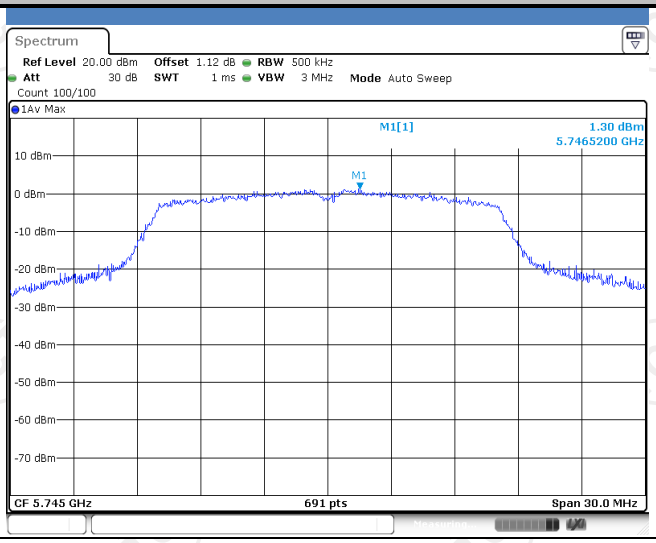

High

Band IV (5725 – 5850 MHz)

802.11a



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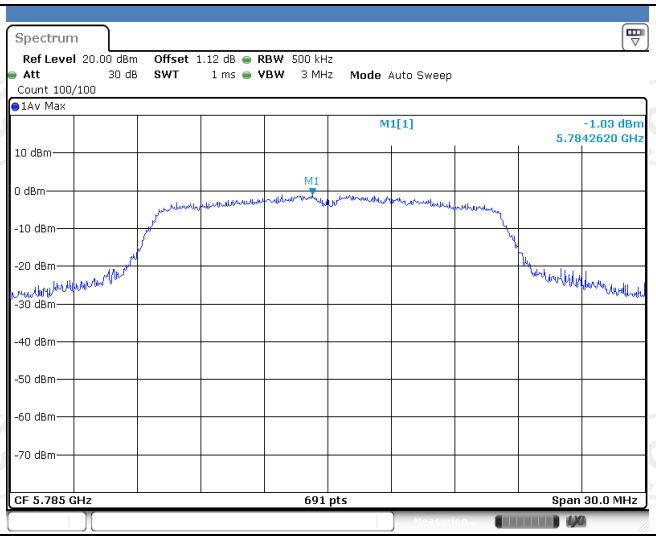

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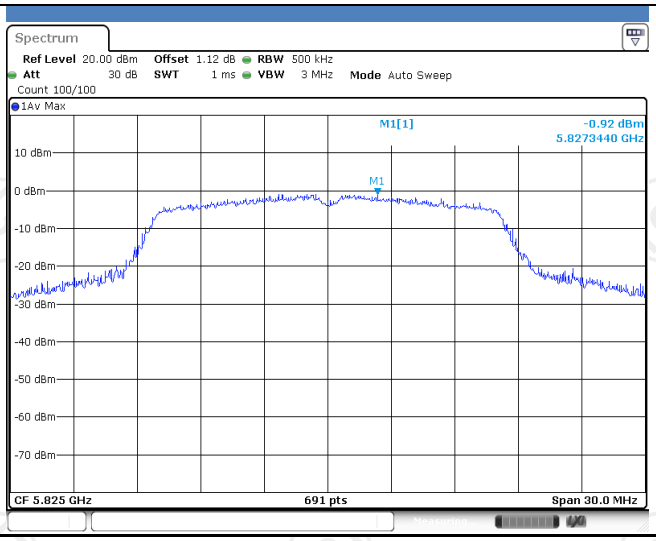
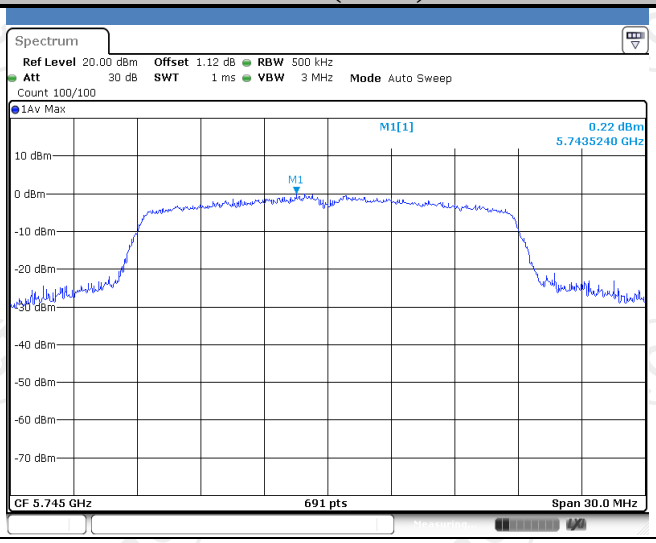


High

802.11n(HT20)

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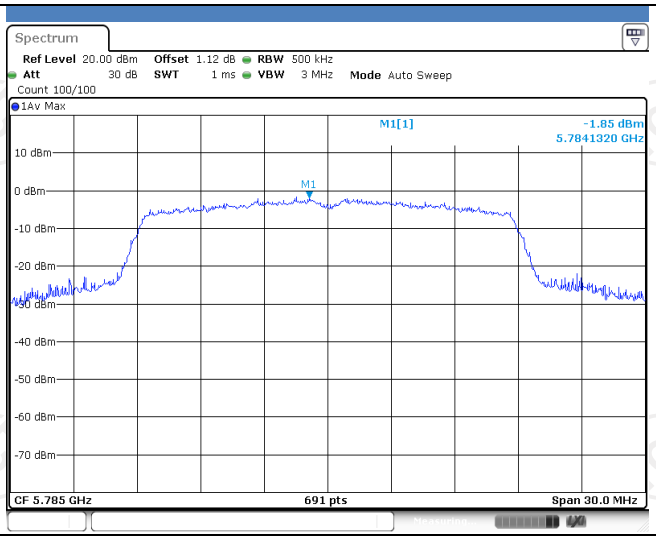
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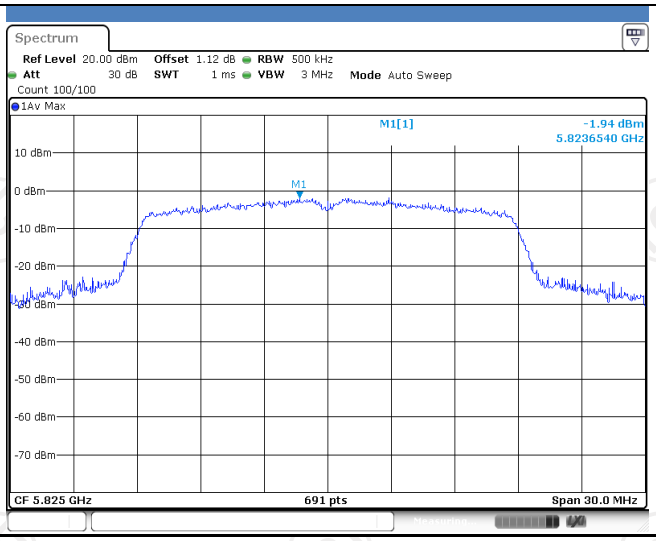
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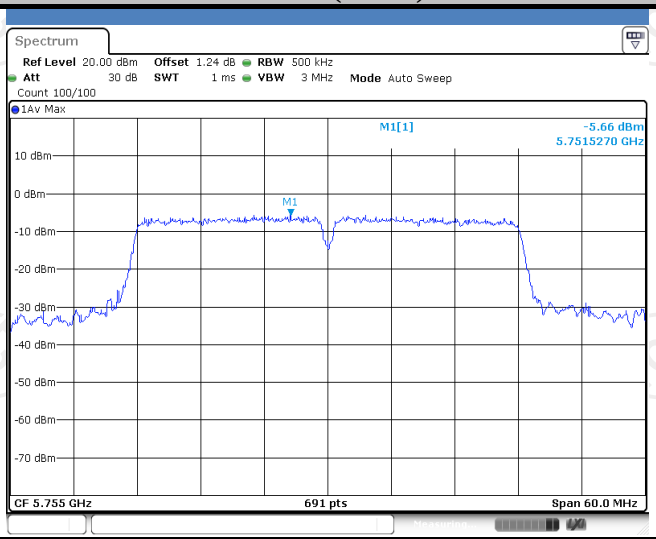
802.11n(HT40)

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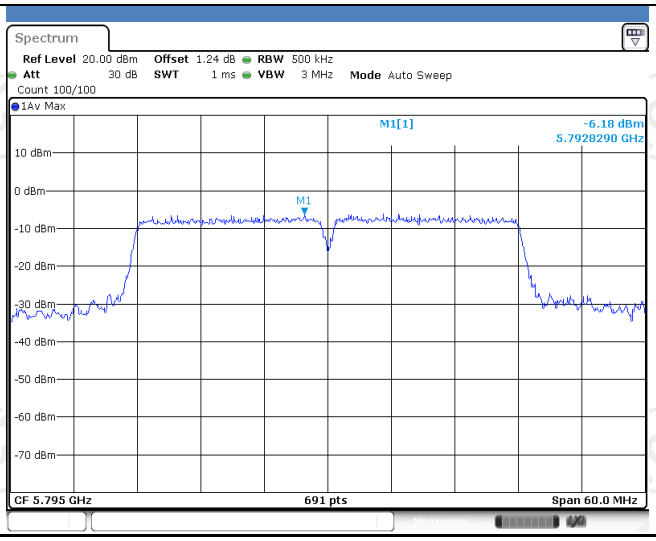
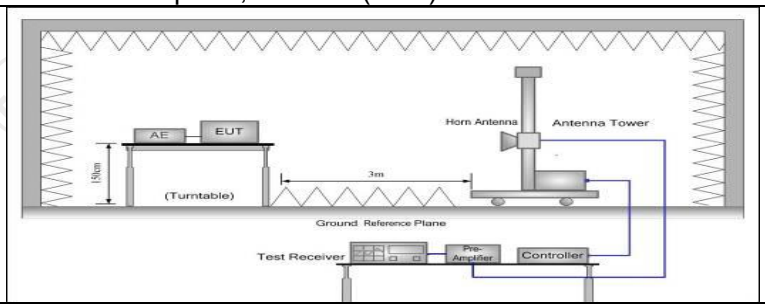

High

6.7. Band edge

6.7.1. Test Specification

Test Requirement:	FCC CFR47 Part 15E Section 15.407
Test Method:	ANSI C63.10 2013
Limit:	For band I&II&III: E[dBμV/m] = EIRP[dBm] + 95.2=68.2 dBμV/m, for EIRP(dBm)= **-27dBm** For band IV(5715-5725MHz&5850-5860MHz): E[dBμV/m] = EIRP[dBm] + 95.2=78.2 dBμV/m, for EIRP(dBm)= **-17dBm；** For band IV(other un-restricted band):E[dBμV/m] = EIRP[dBm] + 95.2=68.2 dBμV/m, for EIRP(dBm)= **-27dBm**
Test Setup:	
Test Mode:	Transmitting mode with modulation
Test Procedure:	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. 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. 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. 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. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 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

	reported in a data sheet.
Test Result:	PASS

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6.7.2. Test Instruments

Radiated Emission Test Site (966)				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Test Receiver	ROHDE&SCHWARZ	ESVD	100008	Aug. 27, 2019
Spectrum Analyzer	ROHDE&SCHWARZ	FSQ	200061	Aug. 27, 2019
Spectrum Analyzer	ROHDE&SCHWARZ	FSP40	100056	Aug. 27, 2019
Spectrum Analyzer	Agilent	N9020A	MY49100060	Aug. 27, 2019
Pre-amplifier	EM Electronics Corporation CO.,LTD	EM30265	07032613	Aug. 27, 2019
Pre-amplifier	HP	8447D	2727A05017	Aug. 27, 2019
Loop antenna	ZHINAN	ZN30900A	12024	Aug. 27, 2019
Broadband Antenna	Schwarzbeck	VULB9163	340	Aug. 27, 2019
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Aug. 27, 2019
Horn Antenna	Schwarzbeck	BBH 9170	582	Aug. 27, 2019
Coax cable (9KHz-1GHz)	TCT	RE-low-01	N/A	Aug. 27, 2019
Coax cable (9KHz-40GHz)	TCT	RE-high-02	N/A	Aug. 27, 2019
Coax cable (9KHz-1GHz)	TCT	RE-low-03	N/A	Aug. 27, 2019
Coax cable (9KHz-40GHz)	TCT	RE-high-04	N/A	Aug. 27, 2019
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).*

Pre-scan both main antenna and auxilliary antenna, found main antenna is the worst case, so only record this case on the report.

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)	Over Limit (dB)	Polarization	Detector
5149.67	19.08	31.70	9.79	0.00	60.57	68.20	-7.63	Vertical	Peak
5149.67	18.85	31.70	9.79	0.00	60.34	68.20	-7.86	Horizontal	Peak
5149.67	7.79	31.70	9.79	0.00	49.28	54.00	-4.72	Vertical	Average
5149.67	8.09	31.70	9.79	0.00	49.58	54.00	-4.42	Horizontal	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)	Over Limit (dB)	Polarization	Detector
5725.49	20.92	31.73	10.47	0.00	63.12	68.20	-5.08	Horizontal	Peak
5725.49	20.73	31.73	10.47	0.00	62.93	68.20	-5.27	Vertical	Peak
5725.49	9.55	31.73	10.47	0.00	51.75	54.00	-2.25	Horizontal	Average
5725.49	8.56	31.73	10.47	0.00	50.76	54.00	-3.24	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)	Over Limit (dB)	Polarization	Detector
5250.63	14.81	31.40	9.91	0.00	56.12	68.20	-12.08	Vertical	Peak
5250.63	16.02	31.40	9.91	0.00	57.33	68.20	-10.87	Horizontal	Peak
5250.63	6.83	31.40	9.91	0.00	48.14	54.00	-5.86	Vertical	Average
5250.63	9.35	31.40	9.91	0.00	50.66	54.00	-3.34	Horizontal	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)	Over Limit (dB)	Polarization	Detector
5850.00	19.53	32.20	10.61	0.00	62.34	68.20	-5.86	Horizontal	Peak
5850.00	21.15	32.20	10.61	0.00	63.96	68.20	-4.24	Vertical	Peak
5850.00	7.88	32.20	10.61	0.00	50.69	54.00	-3.31	Horizontal	Average
5850.00	8.89	32.20	10.61	0.00	51.70	54.00	-2.30	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)	Over Limit (dB)	Polarization	Detector
5149.67	19.38	31.70	9.79	0.00	60.87	68.20	-7.33	Horizontal	Peak
5149.67	18.27	31.70	9.79	0.00	59.76	68.20	-8.44	Vertical	Peak
5149.67	6.37	31.70	9.79	0.00	47.86	54.00	-6.14	Horizontal	Average
5149.67	7.18	31.70	9.79	0.00	48.67	54.00	-5.33	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)	Over Limit (dB)	Polarization	Detector
5725.49	19.65	31.73	10.47	0.00	61.85	68.20	-6.35	Horizontal	Peak
5725.49	19.60	31.73	10.47	0.00	61.80	68.20	-6.40	Vertical	Peak
5725.49	5.73	31.73	10.47	0.00	47.93	54.00	-6.07	Horizontal	Average
5725.49	8.97	31.73	10.47	0.00	51.17	54.00	-2.83	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)	Over Limit (dB)	Polarization	Detector
5250.63	16.26	31.40	9.91	0.00	57.57	68.20	-10.63	Horizontal	Peak
5250.63	15.91	31.40	9.91	0.00	57.22	68.20	-10.98	Vertical	Peak
5250.63	9.88	31.40	9.91	0.00	51.19	54.00	-2.81	Horizontal	Average
5250.63	9.76	31.40	9.91	0.00	51.07	54.00	-2.93	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)	Over Limit (dB)	Polarization	Detector
5850.00	14.79	32.20	10.61	0.00	57.60	68.20	-10.60	Horizontal	Peak
5850.00	16.69	32.20	10.61	0.00	59.50	68.20	-8.70	Vertical	Peak
5850.00	7.46	32.20	10.61	0.00	50.27	54.00	-3.73	Horizontal	Average
5850.00	7.71	32.20	10.61	0.00	50.52	54.00	-3.48	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)	Over Limit (dB)	Polarization	Detector
5149.67	16.38	31.70	9.79	0.00	57.87	68.20	-10.33	Horizontal	Peak
5149.67	15.27	31.70	9.79	0.00	56.76	68.20	-11.44	Vertical	Peak
5149.67	9.37	31.70	9.79	0.00	50.86	54.00	-3.14	Horizontal	Average
5149.67	7.18	31.70	9.79	0.00	48.67	54.00	-5.33	Vertical	Average

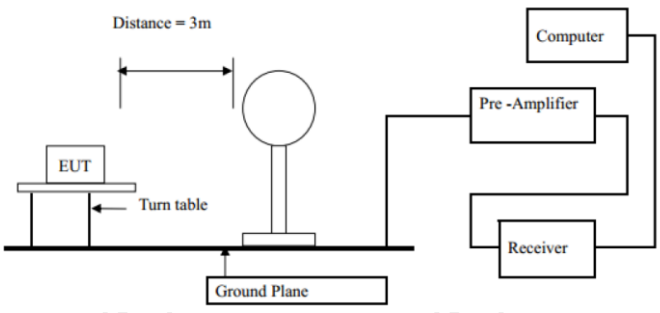
Band IV for Band edge emission									
Bandwidth:		40MHz		Worst mode:		802.11n	Test channel:		Low
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Detector
5725.49	14.65	31.73	10.47	0.00	56.85	68.20	-11.35	Horizontal	Peak
5725.49	15.60	31.73	10.47	0.00	57.80	68.20	-10.40	Vertical	Peak
5725.49	8.73	31.73	10.47	0.00	50.93	54.00	-3.07	Horizontal	Average
5725.49	8.97	31.73	10.47	0.00	51.17	54.00	-2.83	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)	Over Limit (dB)	Polarization	Detector
5250.63	13.82	31.40	9.91	0.00	55.13	68.20	-13.07	Horizontal	Peak
5250.63	13.87	31.40	9.91	0.00	55.18	68.20	-13.02	Vertical	Peak
5250.63	11.50	31.40	9.91	0.00	52.81	54.00	-1.19	Horizontal	Average
5250.63	6.25	31.40	9.91	0.00	47.56	54.00	-6.44	Vertical	Average

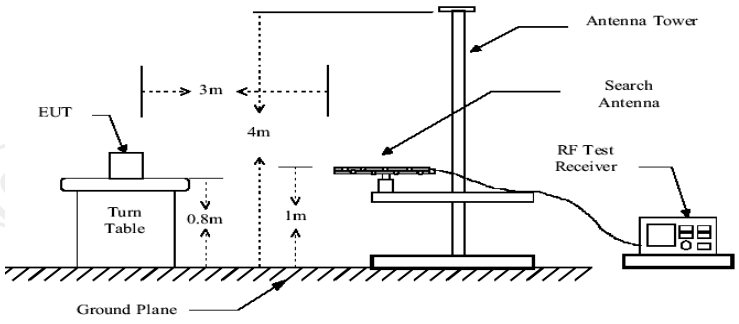
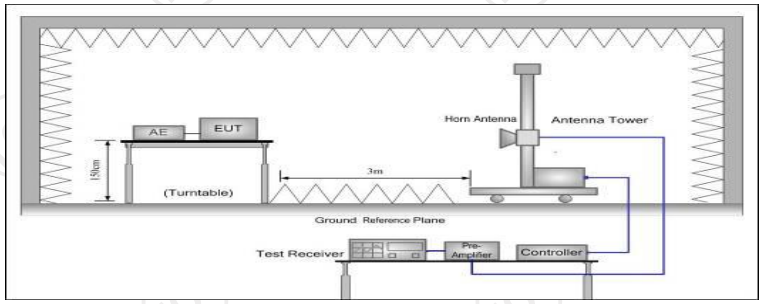
Band IV for Band edge emission									
Bandwidth:		40MHz		Worst mode:		802.11n	Test channel:		High
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Detector
5850.00	14.79	32.20	10.61	0.00	57.60	68.20	-10.60	Horizontal	Peak
5850.00	15.69	32.20	10.61	0.00	58.50	68.20	-9.70	Vertical	Peak
5850.00	5.46	32.20	10.61	0.00	48.27	54.00	-5.73	Horizontal	Average
5850.00	6.71	32.20	10.61	0.00	49.52	54.00	-4.48	Vertical	Average

6.8. Spurious Emission

6.8.1.1. Test Specification

<table>
<tr><td>Test Requirement:</td><td>FCC CFR47 Part 15 Section 15.407 & 15.209 & 15.205</td></tr>
<tr><td>Test Method:</td><td>KDB 789033 D02 v02r01</td></tr>
<tr><td>Frequency Range:</td><td>9kHz to 40GHz</td></tr>
<tr><td>Measurement Distance:</td><td>3 m</td></tr>
<tr><td>Antenna Polarization:</td><td>Horizontal & Vertical</td></tr>
<tr><td>Operation mode:</td><td>Transmitting mode with modulation</td></tr>
<tr><td>Receiver Setup:</td><td>
<table>
<tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr>
<tr><td>9kHz- 150kHz</td><td>Quasi-peak</td><td>200Hz</td><td>1kHz</td><td>Quasi-peak Value</td></tr>
<tr><td>150kHz-30MHz</td><td>Quasi-peak</td><td>9kHz</td><td>30kHz</td><td>Quasi-peak Value</td></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>120KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>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,
<table>
<tr><td>Frequency</td><td>Field Strength (microvolts/meter)</td><td>Measurement Distance (meters)</td></tr>
<tr><td>0.009-0.490</td><td>2400/F(KHz)</td><td>300</td></tr>
<tr><td>0.490-1.705</td><td>24000/F(KHz)</td><td>30</td></tr>
<tr><td>1.705-30</td><td>30</td><td>30</td></tr>
<tr><td>30-88</td><td>100</td><td>3</td></tr>
<tr><td>88-216</td><td>150</td><td>3</td></tr>
<tr><td>216-960</td><td>200</td><td>3</td></tr>
<tr><td>Above 960</td><td>500</td><td>3</td></tr>
</table>
<table>
<tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Detector</td></tr>
<tr><td rowspan="2">Above 1G</td><td>74.0</td><td>Peak</td></tr>
<tr><td>54.0</td><td>Average</td></tr>
</table>
</td></tr>
<tr><td>Test setup:</td><td>For radiated emissions below 30MHz


</td></tr>
</table>

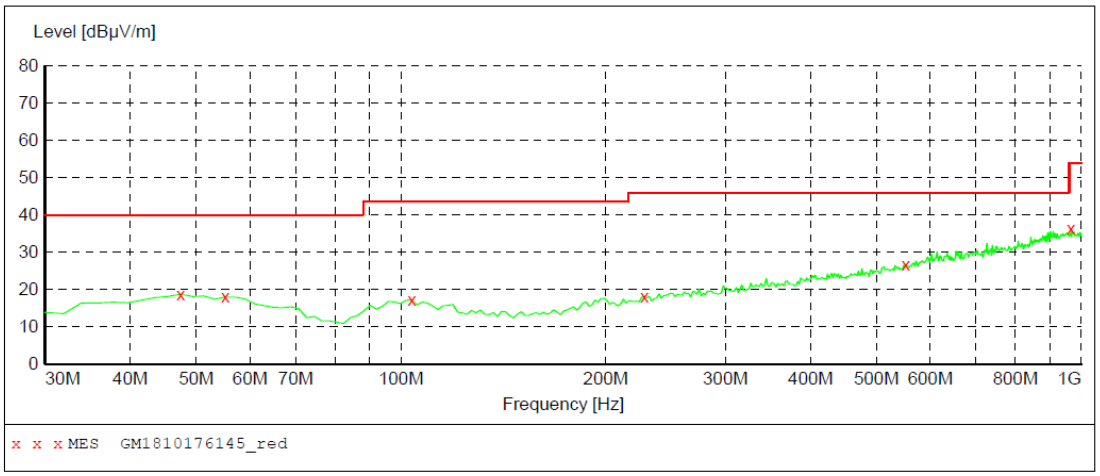
	30MHz to 1GHz  Above 1GHz 
Test Procedure:	1. The EUT was placed on the top of a rotating table 0.8/1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 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. 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. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 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.
Test results:	PASS

6.8.2. Test Data

Note: Pre-scan 802.11a, 802.11n and 802.11ac mode of both main antenna and auxilliary antenna, found 802.11 n(HT20) MIMO mode is the worst case, so only record this case on the report.

Please refer to following diagram for individual

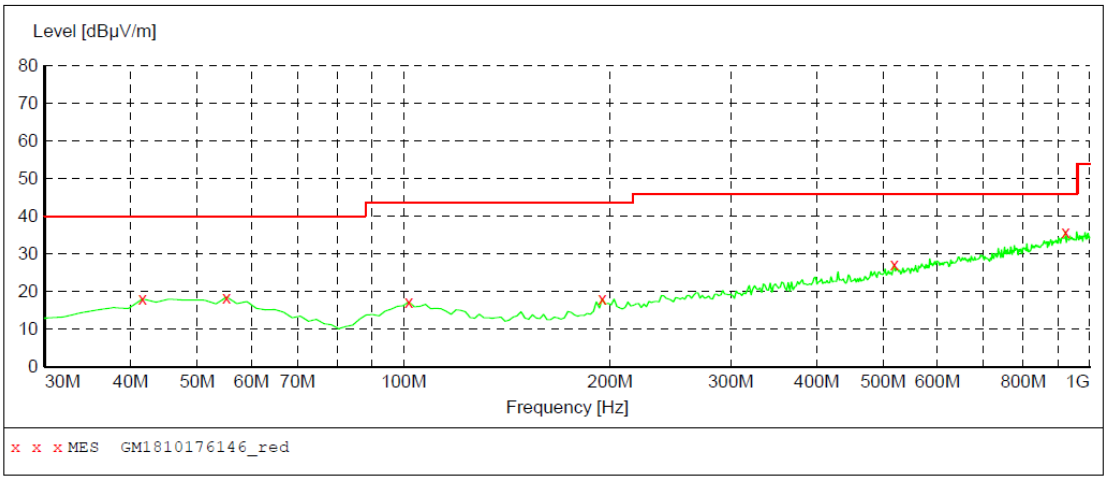
Below 1GHz



MEASUREMENT RESULT: "GM1810176145_red"

10/18/2018 12:38AM

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
47.460000	18.70	-8.7	40.0	21.3	QP	300.0	360.00	HORIZONTAL
55.220000	18.00	-9.1	40.0	22.0	QP	100.0	52.00	HORIZONTAL
103.720000	17.20	-10.3	43.5	26.3	QP	300.0	281.00	HORIZONTAL
227.880000	18.20	-9.1	46.0	27.8	QP	300.0	232.00	HORIZONTAL
551.860000	26.70	0.0	46.0	19.3	QP	100.0	153.00	HORIZONTAL
965.080000	36.30	8.3	53.9	17.6	QP	100.0	29.00	HORIZONTAL



MEASUREMENT RESULT: "GM1810176146_red"

10/18/2018 12:41AM

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
41.640000	18.00	-9.5	40.0	22.0	QP	100.0	295.00	VERTICAL
55.220000	18.50	-9.1	40.0	21.5	QP	100.0	136.00	VERTICAL
101.780000	17.20	-10.3	43.5	26.3	QP	100.0	89.00	VERTICAL
194.900000	18.00	-9.8	43.5	25.5	QP	100.0	186.00	VERTICAL
518.880000	27.10	-0.8	46.0	18.9	QP	100.0	322.00	VERTICAL
922.400000	35.90	7.9	46.0	10.1	QP	100.0	199.00	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.

Above 1GHz

Band I for Low									
Bandwidth:			20MHz		Worst mode:			802.11a	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
3338.52	-3.56	28.20	7.89	0.00	32.53	74.00	-41.47	Vertical	Peak
4719.93	-4.71	31.28	9.51	0.00	36.08	74.00	-37.92	Vertical	Peak
10188.70	-4.30	39.19	13.56	0.00	48.45	74.00	-25.55	Vertical	Peak
12223.87	-5.04	39.54	14.51	0.00	49.01	74.00	-24.99	Vertical	Peak
2343.31	-1.93	27.88	6.68	0.00	32.63	74.00	-41.37	Horizontal	Peak
4553.45	-3.96	30.81	9.38	0.00	36.23	74.00	-37.77	Horizontal	Peak
8384.15	-2.49	36.57	12.84	0.00	46.92	74.00	-27.08	Horizontal	Peak
10835.61	-4.28	40.38	13.58	0.00	49.68	74.00	-24.32	Horizontal	Peak

Band I for Mid									
Bandwidth:			20MHz		Worst mode:			802.11a	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
3308.19	34.64	28.20	7.85	38.39	32.30	68.20	-35.90	Vertical	Peak
4234.72	33.23	30.07	8.97	37.63	34.64	68.20	-33.56	Vertical	Peak
8506.17	31.14	36.92	12.87	34.40	46.53	68.20	-21.67	Vertical	Peak
12210.02	28.86	39.57	14.52	32.79	50.16	68.20	-18.04	Vertical	Peak
2519.42	33.90	27.32	6.85	37.86	30.21	68.20	-37.99	Horizontal	Peak
3525.56	34.82	29.08	8.15	38.37	33.68	68.20	-34.52	Horizontal	Peak
6594.52	30.08	34.19	11.35	35.36	40.26	68.20	-27.94	Horizontal	Peak
12556.75	26.78	38.79	14.41	32.69	47.29	68.20	-20.91	Horizontal	Peak

Band I for High									
Bandwidth:			20MHz		Worst mode:			802.11a	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
3283.02	35.19	28.30	7.82	38.35	32.96	68.20	-35.24	Vertical	Peak
4256.33	33.43	30.11	8.99	37.62	34.91	68.20	-33.29	Vertical	Peak
7245.81	29.34	36.25	11.91	35.02	42.48	68.20	-25.72	Vertical	Peak
12750.00	26.91	38.90	14.56	32.36	48.01	68.20	-20.19	Vertical	Peak
2474.92	33.40	27.30	6.82	37.88	29.64	68.20	-38.56	Horizontal	Peak
4846.37	32.00	31.51	9.57	36.83	36.25	68.20	-31.95	Horizontal	Peak
7135.98	27.87	35.82	11.86	34.99	40.56	68.20	-27.64	Horizontal	Peak
11752.60	25.40	39.99	14.03	33.51	45.91	68.20	-22.29	Horizontal	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:			802.11a	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
2995.54	34.68	28.60	7.48	38.23	32.53	68.20	-35.67	Vertical	Peak
3834.51	34.90	29.63	8.55	38.21	34.87	68.20	-33.33	Vertical	Peak
7081.70	29.32	35.55	11.85	34.91	41.81	68.20	-26.39	Vertical	Peak
12750.00	26.91	38.90	14.56	32.36	48.01	68.20	-20.19	Vertical	Peak
2437.41	32.44	27.45	6.80	37.89	28.80	68.20	-39.40	Horizontal	Peak
3543.55	34.39	29.13	8.18	38.35	33.35	68.20	-34.85	Horizontal	Peak
8145.93	28.75	36.86	12.64	34.54	43.71	68.20	-24.49	Horizontal	Peak
12750.00	26.10	38.90	14.56	32.36	47.20	68.20	-21.00	Horizontal	Peak

Band IV for Mid									
Bandwidth:			20MHz		Worst mode:			802.11a	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
2912.82	35.63	28.51	7.43	38.29	33.28	68.20	-34.92	Vertical	Peak
4055.37	34.33	29.81	8.82	37.98	34.98	68.20	-33.22	Vertical	Peak
6412.43	31.22	33.39	11.01	35.31	40.31	68.20	-27.89	Vertical	Peak
11027.98	26.59	40.41	13.56	33.83	46.73	68.20	-21.47	Vertical	Peak
2564.71	34.19	27.59	6.89	37.85	30.82	68.20	-37.38	Horizontal	Peak
3445.70	34.90	28.57	8.03	38.49	33.01	68.20	-35.19	Horizontal	Peak
6001.77	30.15	32.50	10.67	35.45	37.87	68.20	-30.33	Horizontal	Peak
11603.96	26.25	40.16	13.64	33.16	46.89	68.20	-21.31	Horizontal	Peak

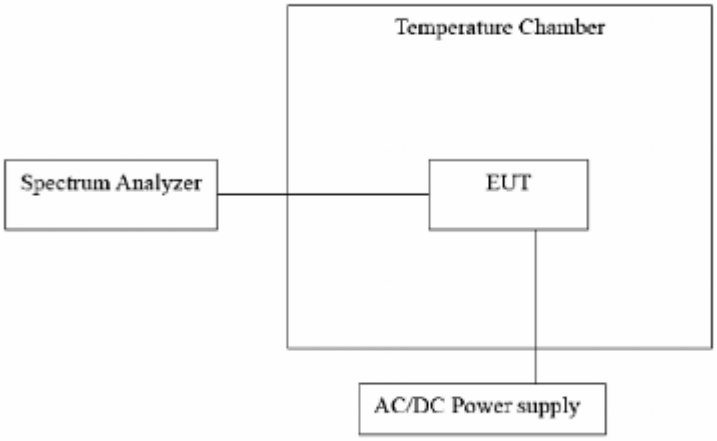
Band IV for High									
Bandwidth:			20MHz		Worst mode:			802.11a	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
2957.65	35.48	28.56	7.46	38.26	33.24	68.20	-34.96	Vertical	Peak
3993.90	34.68	29.70	8.77	38.11	35.04	68.20	-33.16	Vertical	Peak
6662.01	30.15	34.20	11.43	35.25	40.53	68.20	-27.67	Vertical	Peak
12750.00	26.91	38.90	14.56	32.36	48.01	68.20	-20.19	Vertical	Peak
2651.00	32.62	27.95	7.03	37.97	29.63	68.20	-38.57	Horizontal	Peak
3625.67	33.98	29.30	8.30	38.26	33.32	68.20	-34.88	Horizontal	Peak
6283.16	29.62	33.07	11.00	35.30	38.39	68.20	-29.81	Horizontal	Peak
10860.83	27.26	40.46	13.58	34.41	46.89	68.20	-21.31	Horizontal	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

Test Requirement:	FCC Part15 Section 15.407(g) &Part2 J Section 2.1055
Test Method:	ANSI C63.10: 2013
Limit:	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.
Test Setup:	
Test Procedure:	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.
Test Result:	PASS
Remark:	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.

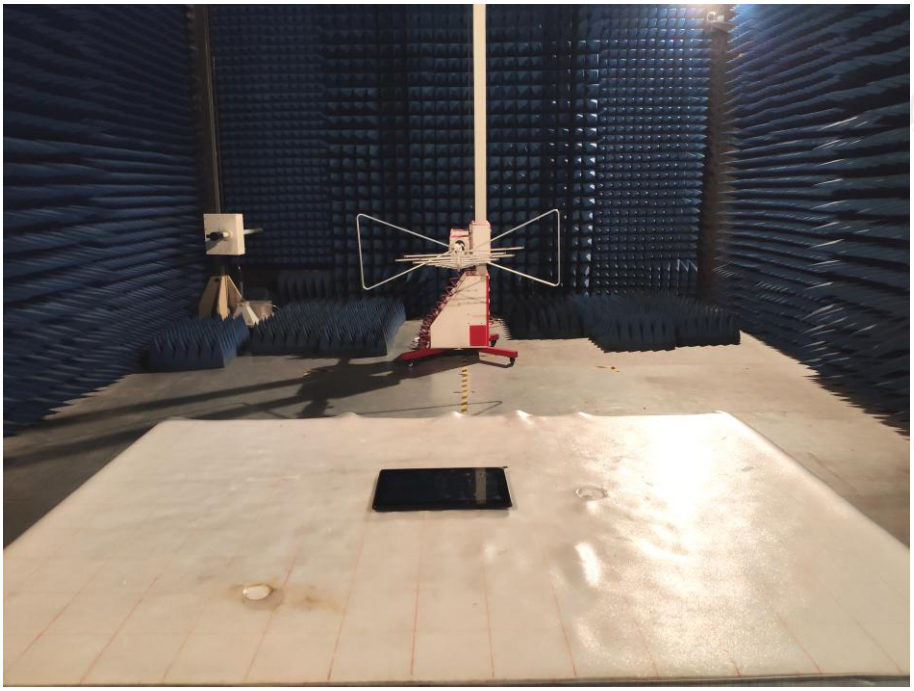
Test plots as follows:

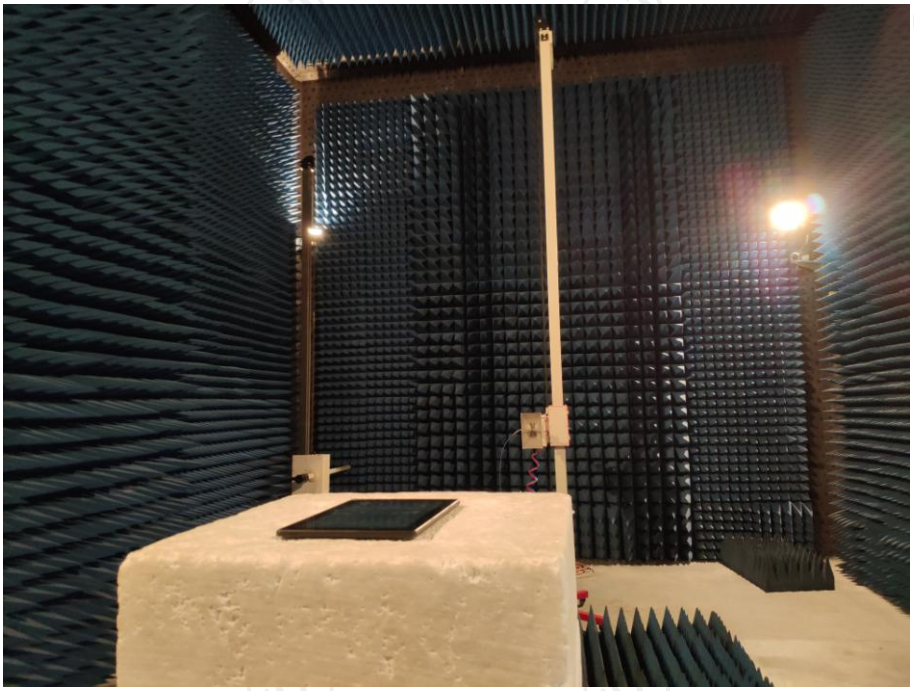
Band I for 802.11a Low					
Voltage(%)	Power(VDC)	TEMP(°C)	Test Frequency (MHz)	Freq.Dev (Hz)	Deviation (ppm)
100%	7.40	-20	5180	-8000.00	-1.54440
100%		-10	5180	-8000.00	-1.54440
100%		0	5180	-7000.00	-1.35135
100%		10	5180	-7000.00	-1.35135
100%		20	5180	-7000.00	-1.35135
100%		30	5180	-7000.00	-1.35135
100%		40	5180	-7000.00	-1.35135
100%		50	5180	-7000.00	-1.35135
85%	6.40	25	5180	-7000.00	-1.35135
115%	8.40	25	5180	-7000.00	-1.35135

Band IV for 802.11a Low					
Voltage(%)	Power(VDC)	TEMP(°C)	Test Frequency (MHz)	Freq.Dev (Hz)	Deviation (ppm)
100%	7.40	-20	5745	-10000.00	-1.74064
100%		-10	5745	-9000.00	-1.56658
100%		0	5745	-9000.00	-1.56658
100%		10	5745	-9000.00	-1.56658
100%		20	5745	-9000.00	-1.56658
100%		30	5745	-10000.00	-1.74064
100%		40	5745	-9000.00	-1.56658
100%		50	5745	-9000.00	-1.56658
85%	6.40	25	5745	-9000.00	-1.56658
115%	8.40	25	5745	-9000.00	-1.56658

Appendix A: Photographs of Test Setup

Radiated Emission





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Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com

Appendix B: Photographs of EUT

Reference to the test report No.: TRE1810009701.

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

Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com