

## **TEST REPORT**

FCC ID: 2AMY3-ACERT8129L

**Product: Tablet PC** 

Model No.: Acer One 10 T8-129L

Additional Model No.: Acer\_One\_10\_T8-129L

Trade Mark: Acer

Report No.: TCT200622E069

Issued Date: Jul. 28, 2020

Issued for:

Acer India Pvt Ltd.

Embassy Heights 6th Floor, No.13, Magrath Road, (Next to Hosmat Hospital)
Bangalore, 560025 India

Issued By:

**Shenzhen Tongce Testing Lab.** 

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## **TABLE OF CONTENTS**

1.	Test Certification		3
2.	Test Result Summary		
3.	EUT Description		5
4.	General Information		7
	4.1. Test environment and mode		
	4.2. Description of Support Units	()	8
5.	Facilities and Accreditations		9
	5.1. Facilities		
	5.2. Location		9
	5.3. Measurement Uncertainty		9
6.	Test Results and Measurement Data		
	6.1. Antenna requirement		10
	6.2. Conducted Emission		11
	6.3. Maximum Conducted Output Power		
	6.4. 6dB Emission Bandwidth		
	6.5. 26dB Bandwidth and 99% Occupied Bandwidth		
	6.6. Power Spectral Density		
	6.7. Band edge		20
	6.8. Spurious Emission		
	6.9. Frequency Stability Measurement		44
1	Appendix A: Test Result of Conducted Test		
4	Appendix B: Photographs of Test Setup		
4	Appendix C: Photographs of EUT		



### 1. Test Certification

Report No.: TCT200622E069

Product:	Tablet PC
Model No.:	Acer One 10 T8-129L
Additional Model No.:	Acer_One_10_T8-129L
Trade Mark:	Acer
Applicant:	Acer India Pvt Ltd.
Address:	Embassy Heights 6th Floor, No.13, Magrath Road, (Next to Hosmat Hospital) Bangalore, 560025 India
Manufacturer:	HUNAN GREATWALL COMPUTER SYSTEM CO., LTD
Address:	HUNAN GREATWALL INDUSTRIAL PARK, TIANYI SCIENCE AND TECHNOLOGY CITY, XIANGYUN MIDDLE ROAD, TIANYUAN DISTRICT, ZHUZHOU, HUNAN PROVINCE, CHINA
Date of Test:	Jun. 23, 2020 – Jul. 27, 2020
Applicable Standards:	FCC CFR Title 47 Part 15 Subpart E Section 15.407: 2016 KDB662911 D01 Multiple Transmitter Output v02r01r01 KDB789033 D02 General U-NII Test Procedures New Rules v02r01r01

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:	Jul. 27, 2020
	Brews Xu	_	(0)
Reviewed By:	Beryl zhao	Date:	Jul. 28, 2020
(C.)	Beryl Zhao		
Approved By:	Tomsm	Date:	Jul. 28, 2020
	Tomata		



## 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)	PASS
6dB Emission Bandwidth	§15.407(a)	PASS
26dB Emission Bandwidth& 99% Occupied Bandwidth	§15.407(a)	PASS
Power Spectral Density	§15.407(a)	PASS
Restricted Bands around fundamental frequency	§15.407(a)	PASS
Radiated Emission	§15.407(a)	PASS
Frequency Stability	§15.407(g)	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.

Page 4 of 121



TESTING CENTRE TECHNOLOGY Report No.: TCT200622E069

## 3. EUT Description

Product:	Tablet PC
Model No.:	Acer One 10 T8-129L
Additional Model No.:	Acer_One_10_T8-129L
Trade Mark:	Acer
Operation Frequency:	Band 1: 5180 MHz -5240 MHz Band 3: 5745 MHz -5825 MHz
Channel Bandwidth:	802.11a: 20MHz 802.11n: 20MHz, 40MHz 802.11ac: 20MHz, 40MHz, 80MHz
Modulation Technology:	Orthogonal Frequency Division Multiplexing(OFDM)
Modulation Type	256QAM, 64QAM, 16QAM, BPSK, QPSK
Antenna Type:	PIFA Antenna
Antenna Gain:	1.5dBi
Power Supply:	Rechargeable Li-ion Battery DC 7.4V
AC adapter:	Adapter Information: MODEL: JK050200-S37USVU INPUT: AC 100-240V, 50/60Hz, 0.5A OUTPUT: DC 5.0V, 2.0A, 10.0W
Remark:	All models above are identical in interior structure, electrical circuits and components, just model names and memory chip models are different for the marketing requirement.

Page 5 of 121



### Test Frequency each of channel

#### Band 1

				/ 41	
20MHz		40MHz		80MHz	
Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180	38	5190	42	5210
40	5200	46	5230		
48	5240				

#### Band 3

20MHz			40MHz		80MHz	
Channel	Frequency	Channel	Frequency	Channel	Frequency	
149	5745	151	5755	155	5775	
157	5785	159	5795			
165	5825	C')	(,0)		(,C)	

#### 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.



Page 6 of 121

Report No.: TCT200622E069



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.

was worst case.					
Mode	Data rate				
802.11a	6 Mbps				
802.11n(HT20)	6.5 Mbps				
802.11n(HT40)	13.5 Mbps				
802.11ac(VHT20)	6.5 Mbps				
802.11ac(VHT40)	13.5 Mbps				
802.11ac(VHT80)	29.3 Mbps				
Final Test Mode:					
Operation mode:	Keep the EUT in continuous transmitting with modulation				

Report No.: TCT200622E069



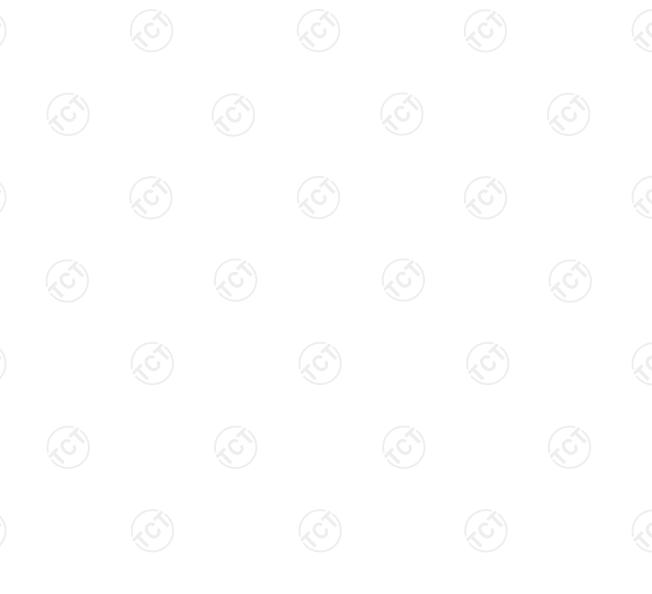
### 4.2. Description of Support Units

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
/	/	/	1	/

#### 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.



Page 8 of 121



TESTING CENTRE TECHNOLOGY Report No.: TCT200622E069

#### 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	±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%

Page 9 of 121



#### 6. Test Results and Measurement Data

### 6.1. Antenna requirement

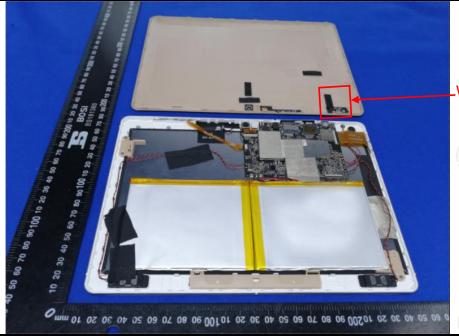
#### **Standard requirement:** FCC Part15 C Section 15.203 /247(c)

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 WIFI antenna is PIFA antenna which permanently attached, and the best case gain of the antenna is 1.5dBi.



-WIFI ANT

Page 10 of 121



### 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:	Frequency range (MHz) Quasi-peak Average 0.15-0.5 66 to 56* 56 to 46 0.5-5 56 46 5-30 60 50			
Test Setup:	Reference Plane  40cm 80cm Filter AC power  EMI Receiver  Remark E.U.T. Equipment Under Test LISN: Line Impedence Stabilization Network Test table height=0.8m			
Test Mode:	Tx Mode			
Test Procedure:	<ol> <li>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.</li> <li>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).</li> <li>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.</li> </ol>			
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	101402	Jul. 27, 2021		
LISN	Schwarzbeck	NSLK 8126	8126453	Sep. 11, 2020		
Coax cable (9KHz-30MHz)	ТСТ	CE-05	N/A	Sep. 08, 2020		
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).

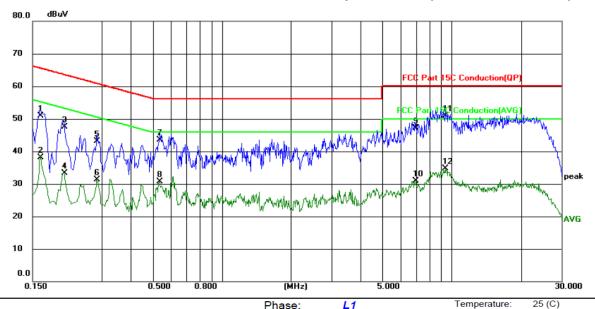




#### 6.2.3. Test data

#### Please refer to following diagram for individual

### Conducted Emission on Line Terminal of the power line (150 kHz to 30MHz)



Site Phase: L1 Temperature: 25 (CLimit: FCC Part 15C Conduction(QP) Power: Humidity: 55 %RH

No	. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
•	I	0.1624	40.64	10.22	50.86	65.34	-14.48	QP	
- 2	2	0.1624	27.94	10.22	38.16	55.34	-17.18	AVG	
, — ;	3	0.2060	37.34	10.23	47.57	63.37	-15.80	QP	
	1	0.2060	23.06	10.23	33.29	53.37	-20.08	AVG	
- !	5	0.2860	32.96	10.23	43.19	60.64	-17.45	QP	
(	3	0.2860	21.04	10.23	31.27	50.64	-19.37	AVG	
	7	0.5340	33.25	10.22	43.47	56.00	-12.53	QP	
	3	0.5340	20.50	10.22	30.72	46.00	-15.28	AVG	
- (	)	6.9220	36.53	10.51	47.04	60.00	-12.96	QP	
10	)	6.9220	20.38	10.51	30.89	50.00	-19.11	AVG	
1	*	9.3740	40.37	10.56	50.93	60.00	-9.07	QP	
12	2	9.3740	24.15	10.56	34.71	50.00	-15.29	AVG	

#### Note:

Freq. = Emission frequency in MHz

Reading level  $(dB\mu V)$  = Receiver reading

Corr. Factor (dB) = LISN factor + Cable loss

Measurement  $(dB\mu V)$  = Reading level  $(dB\mu V)$  + Corr. Factor (dB)

 $Limit (dB\mu V) = Limit stated in standard$ 

 $Margin (dB) = Measurement (dB\mu V) - Limits (dB\mu V)$ 

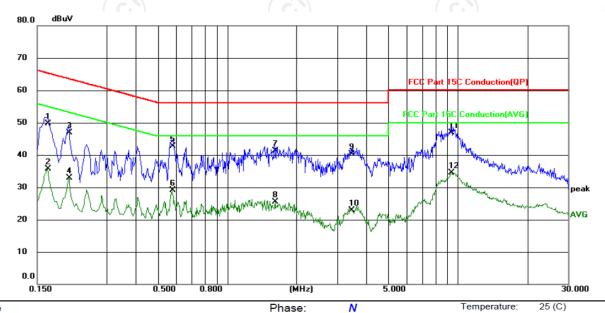
Q.P. =Quasi-Peak

AVG =average

<sup>\*</sup> is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.



### Conducted Emission on Neutral Terminal of the power line (150 kHz to 30MHz)



Limit: FCC Part 15C Conduction(QP) Power: Humidity: 55 %RH

_	No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
			MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
	1		0.1660	39.62	10.12	49.74	65.16	-15.42	QP	
	2		0.1660	25.53	10.12	35.65	55.16	-19.51	AVG	
	3		0.2060	36.87	10.13	47.00	63.37	-16.37	QP	
	4		0.2060	22.82	10.13	32.95	53.37	-20.42	AVG	
-	5		0.5780	32.61	10.13	42.74	56.00	-13.26	QP	
	6		0.5780	19.00	10.13	29.13	46.00	-16.87	AVG	
	7		1.6180	31.23	10.12	41.35	56.00	-14.65	QP	
	8		1.6180	15.32	10.12	25.44	46.00	-20.56	AVG	
	9		3.4420	30.13	10.13	40.26	56.00	-15.74	QP	
	10		3.4420	12.72	10.13	22.85	46.00	-23.15	AVG	
_	11	*	9.3460	36.73	10.15	46.88	60.00	-13.12	QP	
	12		9.3460	24.41	10.15	34.56	50.00	-15.44	AVG	

#### Note:

Freq. = Emission frequency in MHz

Reading level  $(dB\mu V)$  = Receiver reading

Corr. Factor (dB) = LISN factor + Cable loss

Measurement ( $dB\mu V$ ) = Reading level ( $dB\mu V$ ) + Corr. Factor (dB)

Limit (dBµV) = Limit stated in standard

 $Margin (dB) = Measurement (dB\mu V) - Limits (dB\mu V)$ 

Q.P. =Quasi-Peak

AVG =average

 $<sup>^{\</sup>star}$  is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.



## 6.3. Maximum Conducted Output Power

### 6.3.1. Test Specification

Test Requirement:	FCC Part15 E Section 15.407(a)& Part 2 J Section 2.1046			
Test Method:	KDB662911 D01 Multiple Transmitter Output v02r01r01 KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section E			
	Frequency Band (MHz)	Limit		
	5180 - 5240	24dBm(250mW) for client device		
Limit:	5260 - 5320	24dBm(250mW) or 11 dBm + 10 log B, B is the 26 dB emission bandwidth in megahertz		
	5470 - 5725	24dBm(250mW) or 11 dBm + 10 log B, B is the 26 dB emission bandwidth in megahertz		
	5745 - 5825	30dBm(1W)		
Test Setup:	Power meter EUT			
Test Mode:	Transmitting mode w	vith modulation		
Test Procedure:	<ol> <li>The testing follows the Measurement Procedure of KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section E, 3, a</li> <li>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>Set to the maximum power setting and enable the EUT transmit continuously.</li> <li>Measure the conducted output power and record the results in the test report.</li> </ol>			
Test Result:	PASS			
Remark:	Conducted output power= measurement power +10log(1/x) X is duty cycle=1, so 10log(1/1)=0 Conducted output power= measurement power			



#### 6.3.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100619	Sep. 11, 2020
Power Meter	Agilent	E4418B	GB43312526	Sep. 08, 2020
Power Sensor	Agilent	E9301A	MY41497725	Sep. 08, 2020
4 Ch. Simultaneous Sampling 14 Bits 2 MS/s	Agilent	U2531A	N/A	Sep. 08, 2020
Combiner Box	Ascentest	AT890-RFB	N/A	Sep. 08, 2020

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



Page 16 of 121



#### 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:	KDB662911 D01 Multiple Transmitter Output v02r01r01 KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section C				
Limit:	>500kHz				
Test Setup:	Spectrum Analyzer EUT				
Test Mode:	Transmitting mode with modulation				
Test Procedure:	<ol> <li>KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section C</li> <li>Set to the maximum power setting and enable the EUT transmit continuously.</li> <li>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>Measure and record the results in the test report.</li> </ol>				
Test Result:	PASS				

### 6.4.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100619	Sep. 11, 2020
4 Ch. Simultaneous Sampling 14 Bits 2 MS/s	Agilent	U2531A	N/A	Sep. 08, 2020
Combiner Box	Ascentest	AT890-RFB	N/A	Sep. 08, 2020

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

Page 17 of 121



## 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:	KDB662911 D01 Multiple Transmitter Output v02r01r01 KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section D				
Limit:	No restriction limits				
Test Setup:	Spectrum Analyzer EUT				
Test Mode:	Transmitting mode with modulation				
Test Procedure:	<ol> <li>KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section D</li> <li>Set to the maximum power setting and enable the EUT transmit continuously.</li> <li>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>Measure and record the results in the test report.</li> </ol>				
Test Result:	PASS				

#### 6.5.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100619	Sep. 11, 2020
4 Ch. Simultaneous Sampling 14 Bits 2 MS/s	Agilent	U2531A	N/A	Sep. 08, 2020
Combiner Box	Ascentest	AT890-RFB	N/A	Sep. 08, 2020

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

Page 18 of 121



## 6.6. Power Spectral Density

### 6.6.1. Test Specification

Test Requirement:	FCC Part15 E Section 15.407 (a)
Test Method:	KDB662911 D01 Multiple Transmitter Output v02r01r01 KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section F
Limit:	≤11.00dBm/MHz for Band 1 5150MHz-5250MHz(client device) ≤11.00dBm/MHz for Band 2A&2C 5250-5350&5470- 5725 ≤30.00dBm/500KHz for Band 3 5725MHz-5850MHz The e.i,r,p spectral density for Band 1 5150MHz – 5250 MHz should not exceed 10dBm/MHz
Test Setup:	Spectrum Analyzer EUT
Test Mode:	Transmitting mode with modulation
Test Procedure:	<ol> <li>Set the spectrum analyzer or EMI receiver span to view the entire emission bandwidth.</li> <li>Set RBW = 510 kHz/1 MHz, VBW ≥ 3*RBW, Sweep time = Auto, Detector = RMS.</li> <li>Allow the sweeps to continue until the trace stabilizes.</li> <li>Use the peak marker function to determine the maximum amplitude level.</li> <li>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>
Test Result:	PASS
st Setup: st Mode:	Spectrum Analyzer  Transmitting mode with modulation  1. Set the spectrum analyzer or EMI receiver span to view the entire emission bandwidth.  1. Set RBW = 510 kHz/1 MHz, VBW ≥ 3*RBW, Sweep time = Auto, Detector = RMS.  2. Allow the sweeps to continue until the trace stabilize 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 f measurements above 1 GHz, so as to simulate a near free-space environment.

### 6.6.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100619	Sep. 11, 2020
4 Ch. Simultaneous Sampling 14 Bits 2 MS/s	Agilent	U2531A	N/A	Sep. 08, 2020
Combiner Box	Ascentest	AT890-RFB	N/A	Sep. 08, 2020

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



## 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 1&2A&2C: $E[dB\mu V/m] = EIRP[dBm] + 95.2=68.2$ $dB\mu V/m$ , for $EIRP(dBm) = -27dBm$ For Band 3(5715-5725MHz&5850-5860MHz): $E[dB\mu V/m] = EIRP[dBm] + 95.2=78.2$ $dB\mu V/m$ , for $EIRP(dBm) = -17dBm$ ; For Band 3(other un-restricted band): $E[dB\mu V/m] = EIRP[dBm] + 95.2=68.2$ $dB\mu V/m$ , for $EIRP(dBm) = -27dBm$			
Test Setup:	Ground Reference Plans  Test Receiver  Test Receiver  Test Receiver			
Test Mode:	Transmitting mode with modulation			
Test Procedure:	Transmitting mode with modulation  1. The EUT was placed on the top of a rotating table 0.8 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 rota table 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			



TESTI	NG CENTRE TECHNOL	quasipe	eak or avera	ge method sheet.	as specified	<u>t No.: TCT20062</u> and then	2EU09
Test Result:		PASS	(0)				





### 6.7.2. Test Instruments

	Radiated En	nission Test Site	e (966)	
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Test Receiver	ROHDE&SCHW ARZ	ESIB7	100197	Jul. 27, 2021
Spectrum Analyzer	ROHDE&SCHW ARZ	FSQ40	200061	Sep. 11, 2020
Spectrum Analyzer	Agilent	N9020A	MY49100619	Sep. 11, 2020
Pre-amplifier	EM Electronics Corporation CO.,LTD	EM30265	07032613	Sep. 08, 2020
Pre-amplifier	HP	8447D	2727A05017	Sep. 08, 2020
Loop antenna	ZHINAN	ZN30900A	12024	Oct. 20, 2019
Broadband Antenna	Schwarzbeck	VULB9163	340	Sep. 06, 2020
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Sep. 06, 2020
Horn Antenna	A-INFO	LB-180400-KF	J211020657	Sep. 06, 2020
Coax cable (9KHz-40GHz)	тст	RE-high-02	N/A	Sep. 08, 2020
Coax cable (9KHz-40GHz)	тст	RE-high-04	N/A	Sep. 08, 2020
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).

Page 22 of 121



6.7.3. Test Data

802.11 a	СН	Freq. (MHz)	Read_level (dBuV/m)	Factor (dB)	Peak (dBuV/m)	Limit (dBuV/m) (Peak)	Limit (dBuV/m) (Avg)	Over	Ant. Pol. H/V
	Lawaat	5150	44.56	5.82	50.38	68.2	54	-3.62	Н
Donal 4	Lowest	5150	39.43	5.82	45.25	68.2	54	-8.75	V
Band 1	Llimboot	5350	41.98	6.52	48.50	68.2	54	-5.50	Н
	Highest	5350	40.21	6.52	46.73	68.2	54	-7.27	V
							7.		
	Lowest	5470	42.38	5.82	48.20	68.2	1	-20.00	HC
Danda	Lowest	5470	40.61	5.82	46.43	68.2	1	-21.77	V
Band 3	I limboot	5850	38.96	6.52	45.48	68.2	/	-22.72	Н
	Highest	5850	41.17	6.52	47.69	68.2	1	-20.51	V
Remark:	Factor(dB)	=Ant. Fac	ctor + Cable Lo	ss-Amp.	Factor			(C, )	

802.11 n HT20	СН	Freq. (MHz)	Read_level (dBuV/m)	Factor (dB)	Peak (dBuV/m)	Limit (dBuV/m) (Peak)	Limit (dBuV/m) (Avg)	Over	Ant. Pol. H/V
	Lowest	5150	45.26	6.96	52.22	68.2	54	-1.78	Н
Daniel 1	Lowest	5150	41.35	6.96	48.31	68.2	54	-5.69	V
Band 1	Llighoot	5350	43.24	8.21	51.45	68.2	54	-2.55	Н
	Highest	5350	39.25	8.21	47.46	68.2	54	-6.54	V
	Lowest	5470	43.24	8.21	51.45	68.2	/	-16.75	Н
Dand 0	Lowest	5470	43.24	8.21	51.45	68.2	7 /	-16.75	V
Band 3	l liada a at	5850	42.26	8.87	51.13	68.2	١ ( د	-17.07	Н
	Highest	5850	40.28	8.87	49.15	68.2	1	-19.05	V



802.11 n HT40	СН	Freq. (MHz)	Read_level (dBuV/m)	Factor (dB)	Peak (dBuV/m)	Limit (dBuV/m) (Peak)	Limit (dBuV/m) (Avg)	Over	Ant. Pol. H/V
	Lowest	5150	43.69	5.82	49.51	68.2	54	-4.49	Н
Dond 1	Lowest	5150	38.77	5.82	44.59	68.2	54	-9.41	V
Band 1	Ulabaat	5350	42.38	6.52	48.90	68.2	54	-5.10	Н
	Highest	5350	39.74	6.52	46.26	68.2	54	-7.74	V
		5470	42.88	5.82	48.70	68.2	/	-19.50	Н
	Lowest	5470	39.64	5.82	45.46	68.2	1	-22.74	V
Band 3	1111 1	5850	41.55	6.52	48.07	68.2	1	-20.13	Н
	Highest	5850	41.76	6.52	48.28	68.2	/	-19.92	V
Remark:	Factor(dB)	=Ant. Fac	ctor + Cable Lo	oss-Amp.	Factor	Z.			I.
802.11 ac HT20	СН	Freq. (MHz)	Read_level (dBuV/m)	Factor (dB)	Peak (dBuV/m)	Limit (dBuV/m) (Peak)	Limit (dBuV/m) (Avg)	Over	Ant. Pol. H/V
7.	Lavvaat	5150	45.38	6.96	52.34	68.2	54	-1.66	H_
Dond 1	Lowest	5150	41.47	6.96	48.43	68.2	54	-5.57	V
Band 1	Llighoot	5350	43.36	8.21	51.57	68.2	54	-2.43	H
	Highest	5350	39.25	8.21	47.46	68.2	54	-6.54	V
						<b>X</b> \			
	Lowest	5470	43.24	8.21	51.41	68.2	1 (2	-16.79	Н
Band 3	Lowest	5470	43.24	8.21	51.83	68.2	1	-16.37	V
Danu 3	Highort	5850	42.26	8.87	51.41	68.2	/	-16.79	Н
	Highest	5850	40.28	8.87	50.36	68.2	/	-17.84	V
	•	7 7 31	ctor + Cable Lo		- 41			•	

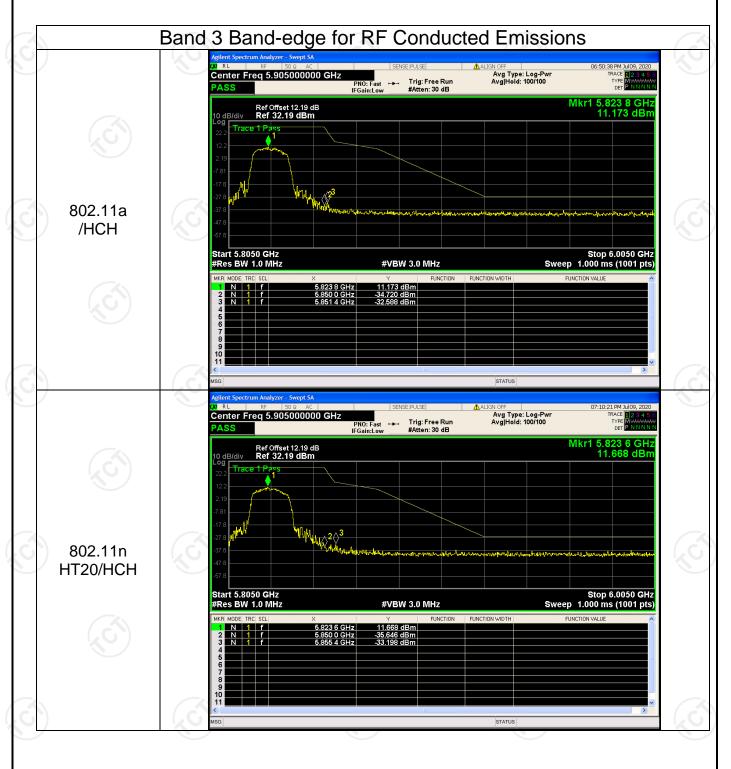
802.11 ac HT40	СН	Freq. (MHz)	Read_level (dBuV/m)	Factor (dB)	Peak (dBuV/m)	Limit (dBuV/m) (Peak)	Limit (dBuV/m) (Avg)	Over	Ant. Pol. H/V
	Lowest	5150	40.34	5.82	46.16	68.2	54	-7.84	Н
Band 1	Lowest	5150	39.82	5.82	45.64	68.2	54	-8.36	V
Danu i	Llighoot	5350	40.98	6.52	47.50	68.2	54	-6.50	Н
	Highest	5350	39.25	6.52	45.77	68.2	54	-8.23	٧
	Lowoot	5470	44.01	5.82	49.83	68.2	/	-18.37	Н
Dand 2	Lowest	5470	38.54	5.82	44.36	68.2	1	-23.84	V
Band 3	Llighoot	5850	45.57	6.52	52.09	68.2	1	-16.11	Н
	Highest	5850	43.01	6.52	49.53	68.2	/	-18.67	V
Remark: I	Factor(dB)	=Ant. Fac	ctor + Cable Lo	oss-Amp.	Factor				



802.11 ac HT80	СН	Freq. (MHz)	Read_level (dBuV/m)	Factor (dB)	Peak (dBuV/m)	Limit (dBuV/m) (Peak)	Limit (dBuV/m) (Avg)	Over	Ant Pol. H/V
	Lowest	5150	44.16	5.82	49.98	68.2	54	-4.02	Н
Band 1	Lowest	5150	40.54	5.82	46.36	68.2	54	-7.64	V
Dariu i	Highest	5350	42.65	6.52	49.17	68.2	54	-4.83	Н
· · · · · · · · · · · · · · · · · · ·	riigriest	5350	38.78	6.52	45.30	68.2	54	-8.70	V
		5470	42.71	5.82	48.53	68.2	/	-19.67	H
Dando	Lowest	5470	40.59	5.82	46.41	68.2	) /	-21.79	V
Band 3	Llighoot	5850	41.87	6.52	48.39	68.2	1	-19.81	Н
	Highest	5850	40.81	6.52	47.33	68.2	/	-20.87	V
Remark:	Factor(dB)	=Ant. Fac	ctor + Cable Lo	oss-Amp.	Factor				

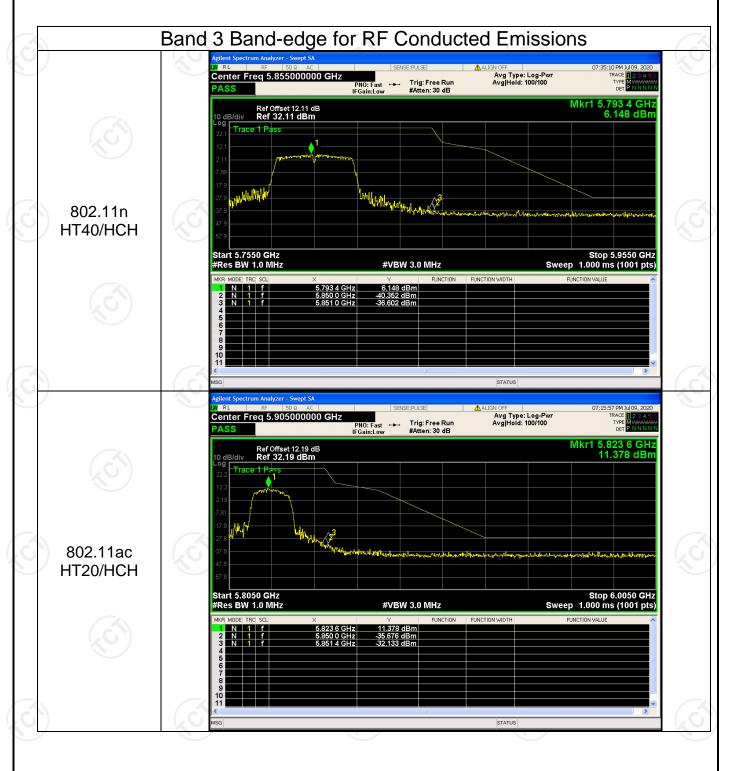


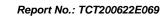




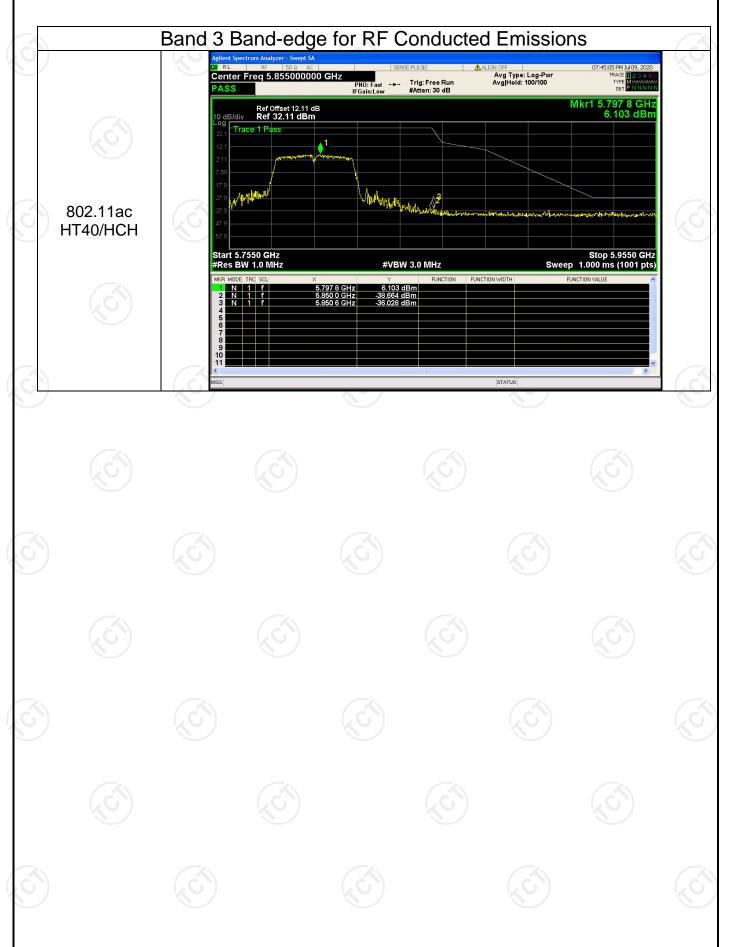














## 6.8. Spurious Emission

### 6.8.1. Restrict Bands Measurement

### 6.8.1.1. Test Specification

Test Requirement:	FCC CFR47	Part 15 Se	ection 15.	407 & 1	5.209 & 15.205				
Test Method:	KDB 789033 D02 v02r01  Band 1 & 2A: 4.5 GHz to 5.15 GHz and 5.35GHz to 5.46GHz								
Frequency Range:					5.35GHz to				
Measurement Distance:	3 m								
Antenna Polarization:	Horizontal &	Vertical							
Operation mode:	Transmitting	mode with	modulat	ion					
Receiver Setup:	Frequency Above 1GHz	Detector Peak RMS	RBW 1MHz 1MHz	VBW 3MHz 3MHz	Remark Peak Value Average Value				
Limit:	Frequency Above 1GHz	Limit (dBuV/m @3m) 74 54	Rem Peak \ Average	/alue					
Test setup:		Test Receive	3m und Reference Plane	Pre- mplifier Controller					
Test Procedure:	D02 General V02r01. Some as urer 2. For the race The EUT above growth above growth on the top EUT was	eral UNII To bection G) I ment. diated emis was placed bund. The I ce receiving of a varia arranged t	est Proce Unwanted ssion test d on a tu EUT was ng antenr ble heigh to its wors	edures N d emission t below 1 rntable w set 3 mo as, which at antenn st case a	ons				

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		TESTING CENTRE TECHNOLOGY

(from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high PASS filter are used for the test in order to get better signal level. For the radiated emission test above 1GHz: Place the measurement antenna on a turntable with 1.5 meter above ground, which is away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.

- Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
- 4. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
- 5. Use the following spectrum analyzer settings:
  - (1) Span shall wide enough to fully capture the emission being measured;
  - (2) Set RBW=100 kHz for f < 1 GHz; VBW ≥RBW; Sweep = auto; Detector function = peak; Trace = max hold;
  - (3) Set RBW = 1 MHz, VBW= 3MHz for f>1 GHz for peak measurement.

For average measurement: VBW = 10 Hz, when duty cycle is no less than 98 percent. VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

(4) A 5.8GHz high –PASS filter is used druing radiated emissions above 1GHz measurement.

Test results:

**PASS** 



### 6.8.1.1 Test Instruments

Report No.: TCT200622E069

	Radiated En	nission Test Sit	e (966)	
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Test Receiver	ROHDE&SCHW ARZ	ESIB7	100197	Jul. 27, 2021
Spectrum Analyzer	ROHDE&SCHW ARZ	FSQ40	200061	Sep. 11, 2020
Spectrum Analyzer	Agilent	N9020A	MY49100619	Sep. 11, 2020
Pre-amplifier	EM Electronics Corporation CO.,LTD	EM30265	07032613	Sep. 08, 2020
Pre-amplifier	HP	8447D	2727A05017	Sep. 08, 2020
Loop antenna	ZHINAN	ZN30900A	12024	Oct. 20, 2019
Broadband Antenna	Schwarzbeck	VULB9163	340	Sep. 06, 2020
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Sep. 06, 2020
Horn Antenna	A-INFO	LB-180400-KF	J211020657	Sep. 06, 2020
Coax cable (9KHz-40GHz)	тст	RE-high-02	N/A	Sep. 08, 2020
Coax cable (9KHz-40GHz)	тст	RE-high-04	N/A	Sep. 08, 2020
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).



### 6.8.1.2 Test Data

## Restrict band around fundamental

┖.	1			Nestric	t band are	una runaa	iliciliai			
	11a CH36: 5180MHz									
	Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBuV)	Correction Factor (dB/m)	Emission Peak (dBµV/m)	n Level AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
	5142.20	Н	42.35		5.79	48.14		74	54	-5.86
	5150.00	C H	39.52	1.0	5.82	45.34	(0-7	74	54	-8.66
	5142.20	\ \	40.14		5.79	45.93	<u></u>	74	54	-8.07
	5150.00	V	41.55		5.82	47.37		74	54	-6.63

				/: ·=- a\ a.					
			11r	า (HT20) CF	136: 5180M	<u>lHz</u>			
Frequency (MHz)	Ant. Pol. H/V	Peak reading (DbµV)	AV reading (dBuV)	Correction Factor (Db/m)	Emission Peak (DbµV/m)	AV (DbµV/m)	Peak limit (DbµV/m)	AV limit (DbµV/m)	Margin (Db)
5142.20	Н	43.28		5.79	49.07		74	54	-4.93
5150.00	ZH.	41.51		5.82	47.33		74	54	-6.67
5142.20	V	40.95	f C	5.79	46.74		74	54	-7.26
5150.00	V	42.33		5.82	48.15	-2-	74	54	-5.85
			11	n(HT40) CH	138: 5190M	Hz			
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBuV)	Correction Factor (dB/m)	Emission Peak (dBµV/m)	AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
5135.98	Н	45.11		5.80	50.91		74	54	-3.09
5150.00	Н	43.77		5.82	49.59		74	54	-4.41
5135.98	V	42.59		5.80	48.39		74	54	-5.61
5150.00	V	40.54		5.82	46.36		74	54	-7.64

	11ac(VHT20) CH36: 5180MHz								
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBuV)	Correction Factor (dB/m)	Emission Peak (dBµV/m)	AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
5142.20	Н	42.62		5.79	48.41		74	54	-5.59
5150.00	Н	38.53		5.82	44.35		74	54	-9.65
5142.20	V	43.21		5.79	49.00		74	54	-5.00
5150.00	V	41.44		5.82	47.26		74	54	-6.74
			11a	C(VHT40) C	H38: 5190	MHz			
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBuV)	Correction Factor (dB/m)	Emission Peak (dBµV/m)	n Level AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
5142.20	H	42.86		5.80	48.66	<u></u>	74	54	-5.34
5150.00	Н	39.65		5.82	45.47		74	54	-8.53
5142.20	V	43.52		5.80	49.32		74	54	-4.68
5150.00	V	41.98		5.82	47.80		74	54	-6.20
			11a	c(VHT80) C	H42: 5210	ИНz			
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBuV)	Correction Factor (dB/m)	Emission Peak (dBµV/m)	AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
5142.20	Н	41.80		5.80	47.60		74	54	-6.40
5150.00	H	39.42		5.82	45.24		74	54	-8.76
5142.20	V	40.36	750	5.80	46.16	ΛO)	74	54	-7.84
5150.00	V	38.79		5.82	44.61	<u></u>	74	54	-9.39

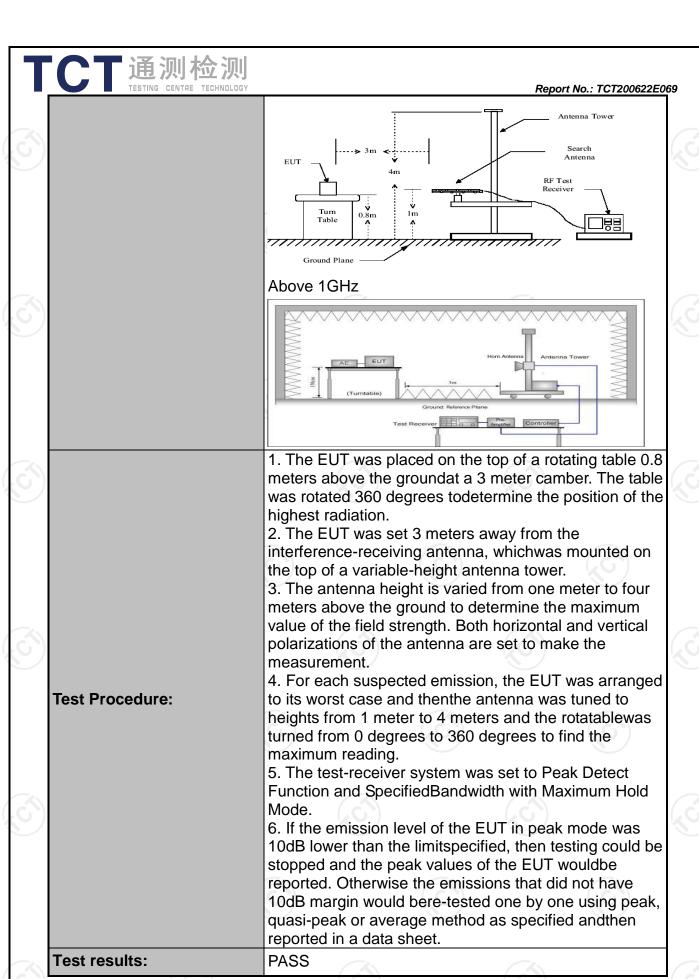


### 6.8.2. Unwanted Emissions out of the Restricted Bands

Report No.: TCT200622E069

### 6.8.2.1. Test Specification

Test Requirement:	FCC CFR47	Part 15 S	Section 15.	407 & 1	5.209 & 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 9kHz- 150kHz 150kHz- 30MHz- 30MHz Above 1GHz	Detector Quasi-peak Quasi-peak Quasi-peak Peak	RBW 200Hz 9kHz	VBW 1kHz 30kHz 300KHz 3MHz	Remark Quasi-peak Value Quasi-peak Value Quasi-peak Value Peak Value		
	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 0.009-0.490		Field Strength (microvolts/meter) 2400/F(KHz) 24000/F(KHz)		Measurement Distance (meters) 300 30		
Limit:	0.490-1.705 1.705-30 30-88		30 100 150		30 3 3		
	88-216 216-960 Above 960	3")	200 500		3		
	Frequency Above 1G	/	Limit (dBuV/m @3m) 74.0 54.0		Detector Peak Average		
Test setup:		Computer mplifier ceiver					
	30MHz to 1GHz						

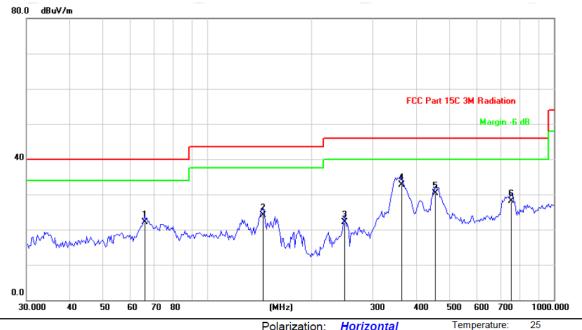




#### 6.8.3. Test Data

# Please refer to following diagram for individual Below 1GHz

#### Horizontal:



Site Polarization: Horizontal Temperature: 25
Limit: FCC Part 15C 3M Radiation Power: AC 120V/60Hz Humidity: 55 %

	No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
<u>-</u> ر			MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
_	1		65.9067	36.59	-14.54	22.05	40.00	-17.95	QP
_	2		144.7899	40.62	-16.54	24.08	43.50	-19.42	QP
-	3		248.7319	34.80	-12.79	22.01	46.00	-23.99	QP
_	4	*	363.5231	42.30	-9.50	32.80	46.00	-13.20	QP
X	5		455.1888	38.50	-8.10	30.40	46.00	-15.60	QP
_	6		754.9628	31.97	-3.94	28.03	46.00	-17.97	QP



#### Vertical:

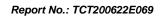


Site Polarization: Vertical Temperature: 25
Limit: FCC Part 15C 3M Radiation Power: AC 120V/60Hz Humidity: 55 %

	No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
	1		36.7811	41.03	-11.17	29.86	40.00	-10.14	QP
<b>X</b>	2		65.4452	39.12	-14.38	24.74	40.00	-15.26	QP
	3	*	142.7692	51.35	-16.51	34.84	43.50	-8.66	QP
	4		220.7241	34.56	-13.64	20.92	46.00	-25.08	QP
	5		346.0740	37.34	-9.82	27.52	46.00	-18.48	QP
	6		452.0013	34.34	-8.15	26.19	46.00	-19.81	QP

**Note:** 1.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

2. Measurements were conducted in all three channels (high, middle, low) and all modulation (802.11a, 802.11n(HT20), 802.11n(HT40), 802.11ac(VHT20), 802.11ac(VHT40) 802.11nac(VHT80), and the worst case Mode (Lowest channel and 11a) was submitted only.





			N	1odulation T		1			
					5180MHz				
requency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBuV)	Correction Factor (dB/m)	Emission Peak (dBµV/m)	AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
10360	Н	40.15		8.02	48.17		74	54	-5.83
15540	I	38.23		9.87	48.10		74	54	-5.90
(	Н		<del></del> c		(	.C. <del></del>		fc.	
					Y.				
10360	V	39.46		8.02	47.48		74	54	-6.52
15540	V	35.95		9.87	45.82		74	54	-8.18
	V								
				11a CH40:	: 5200MHz				
requency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Correction Factor (dB/m)	Emission Peak (dBµV/m)	n Level AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margir (dB)
10400	Н	41.23		7.97	49.2		74	54	-4.80
15600	ΚH	40.51	K	9.83	50.34	( <del></del>	74	54	-3.66
	G H		<del>1</del> C			· C			
		1		<i>y</i>			ı		
10400	V	42.27		7.97	50.24		74	54	-3.76
15600	V	40.45		9.83	50.28		74	54	-3.72
	V						//·		
	•			11a CH48:	5240MHz				
	A . D .	Peak	A) / II	Correction		on Level	<b>5</b> 11: 14	A > / I' '/	
requency (MHz)	Ant. Pol. H/V	reading (dBµV)	AV reading (dBµV)	Factor (dB/m)	Peak (dBµV/m)	AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margir (dB)
10480	I	40.75		7.97	48.72		74	54	-5.28
15720	Н	41.92	<del></del>	9.83	51.75		74	54	-2.25
	Н		140		\	(0-7		740	
10480	V	41.46		7.97	49.43		74	54	-4.57
15720	V	39.23		9.83	49.06		74	54	-4.94
	V								
			11n	(HT20) C	H36: 5180N	ЛHz			
requency (MHz)	Ant. Pol. H/V	Peak reading	AV reading (dBµV)	racioi	Peak	n Level AV	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margir (dB)
` ′		(dBµV)		(dB/m)		(dBµV/m)	, ,		` ,
10360	Н	41.47		8.02	49.49		74	54	-4.51
15540	H	38.21	<del>- (2</del> G)	9.87	48.08	<u>,G"</u>	74	54	-5.92
1	Н								
40000	\/	44.00	1	0.00	40.04	<u> </u>	74	F 4	4.00
10360	V	41.02		8.02	49.04		74	54	-4.96
15540	V	37.68		9.87	47.55		74	54	-6.45
<u> </u>	V			 0(HT00) OL	 140, E200M	  L =	7		
		Dook		n(HT20) CF Correction		n Level			
requency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Factor (dB/m)	Peak (dBµV/m)	AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margir (dB)
10400	ZΗ	40.56	/ X	7.97	48.53		74	54	-5.47
15600	Н	38.14	<del>(</del> G)	9.83	47.97	, C) <del>-</del>	74	54	-6.03
	H								
			•			•	•		
		10.01	1		F0.00		7.4	ΕΛ	-3.02
10400	V	43.01		7.97	50.98		74	54	-3.02
10400	V	43.01 40.58		7.97 9.83	50.98		74	54 54	-3.59



Frequency	Ant. Pol.	Peak	AV reading	Correction		n Level	Peak limit	AV limit	Margin
(MHz)	H/V	reading (dBµV)	AV reading (dBµV)	Factor (dB/m)	Peak (dBµV/m)	AV (dBµV/m)	(dBµV/m)	(dBµV/m)	(dĔ)
10480	Н	40.59		7.97	48.56		74	54	-5.44
15720	Н	39.41		9.83	49.24		74	54	-4.76
	Ι								
10480	V	41.25		7.97	49.22		74	54	-4.78
15720	V	39.18	-	9.83	49.01	-/-	74	54	-4.99
	V								

			11	n(HT40)CH	38: 5190M	Hz			
Frequency	Ant. Pol.	Peak	AV reading	Correction	Emissio	n Level	Peak limit	AV limit	Margin
(MHz)	H/V	reading (dBµV)	(dBµV)	Factor (dB/m)	Peak (dBµV/m)	AV (dBµV/m)	(dBµV/m)	(dBµV/m)	(dB)
10380	Н	42.39		7.75	50.14		74	54	-3.86
15570	Н	40.55		9.87	50.42		74	54	-3.58
/	H		<i>f</i>			-1-		<i>f</i>	
<u> </u>			KO,	/					
10380	V	41.41		7.75	49.16		74	54	-4.84
15570	V	40.59		9.87	50.46		74	54	-3.54
	V								
			11	n(HT40)CH	146: 5230M	Hz			
roguenov	Ant. Pol.	Peak	AV reading	Correction	Emissio	n Level	Peak limit	AV limit	Margin
Frequency (MHz)	H/V	reading (dBµV)	(dBµV)	Factor (dB/m)	Peak (dBµV/m)	AV (dBµV/m)	(dBµV/m)	(dBµV/m)	(dB)
10460	Η	42.42		7.97	50.39		74	54	-3.61
15690	AH.	39.57	7- (1)	9.83	49.40	( <del>\</del>	74	54	-4.60
()	H H		( <del></del> -C )		(	(C) -}-		<del>[_</del> C]	
					,				
10460	V	42.74		7.97	50.71		74	54	-3.29
15690	V	40.12		9.83	49.95		74	54	-4.05
·	V				X\				/
				c(VHT20) C		MHz			
	Ant Dal	Peak	AV reading	Correction	Emissio	n Level	Dools limit	۸ <i>/ انمو</i> ند	Monein
Frequency (MHz)	Ant. Pol. H/V	reading (dBµV)	(dBµV)	Factor (dB/m)	Peak (dBµV/m)	AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
10360	-, Н	43.49		8.02	51.51		74	54	-2.49
15540	Н	40.57	<i>f</i>	9.87	50.44	2.1.	74	54	-3.56
'	Н					-/-		-4-	
							•		
10360	V	40.81		8.02	48.83		74	54	-5.17
10360 15540	V	40.81 39.61		8.02 9.87	48.83 49.48		74 74	54 54	-5.17 -4.52
15540	V	39.61		9.87	49.48		74	54	-4.52
15540	V V	39.61	  11a	9.87  c(VHT20) C	49.48  :H40: 5200I	  MHz	74	54	-4.52 
15540	V	39.61		9.87  c(VHT20) C	49.48  H40: 5200I Emissic Peak		74	54	-4.52
15540  -requency	V V	39.61  Peak reading	 11ad AV reading	9.87  c(VHT20) C Correction Factor	49.48  H40: 5200I Emissio Peak (dBµV/m)	  MHz on Level	Peak limit (dBµV/m)	54  AV limit	-4.52  Margin
15540  Frequency (MHz) 10400	V V Ant. Pol. H/V	Peak reading (dBµV) 42.48	 11a ΑV reading (dBμV)	9.87 c(VHT20) C Correction Factor (dB/m) 7.97	49.48  H40: 5200I Emissic Peak (dBµV/m) 50.45	 MHz on Level AV (dBµV/m)	74  Peak limit (dBµV/m) 74	54  AV limit (dBμV/m) 54	-4.52 / Margin (dB) -3.55
15540  Frequency (MHz)	V V Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	9.87 c(VHT20) C Correction Factor (dB/m)	49.48  H40: 5200I Emissio Peak (dBµV/m)	 MHz on Level AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	-4.52 / Margin (dB)
15540  Frequency (MHz) 10400 15600	V V Ant. Pol. H/V H	39.61 Peak reading (dBµV) 42.48 39.21	AV reading (dBµV)	9.87 c(VHT20) C Correction Factor (dB/m) 7.97 9.83	49.48  H40: 5200I Emissic Peak (dBµV/m) 50.45 49.04	MHz on Level AV (dBµV/m)	74  Peak limit (dBµV/m) 74 74	54  AV limit (dBµV/m) 54 54	-4.52  Margin (dB) -3.55 -4.96
15540  Frequency (MHz) 10400 15600	V V Ant. Pol. H/V H	39.61 Peak reading (dBµV) 42.48 39.21	AV reading (dBµV)	9.87 c(VHT20) C Correction Factor (dB/m) 7.97 9.83	49.48  H40: 5200I Emissic Peak (dBµV/m) 50.45 49.04	MHz on Level AV (dBµV/m)	74  Peak limit (dBµV/m) 74 74	54  AV limit (dBµV/m) 54 54	-4.52  Margin (dB) -3.55 -4.96
15540  Frequency (MHz) 10400 15600	V V Ant. Pol. H/V H H	39.61 Peak reading (dBµV) 42.48 39.21	AV reading (dBµV)	9.87 c(VHT20) C Correction Factor (dB/m) 7.97 9.83	49.48  H40: 5200I Emissic Peak (dBµV/m) 50.45 49.04	MHz n Level AV (dBµV/m)	74  Peak limit (dBµV/m) 74 	54  AV limit (dBµV/m) 54 54	-4.52  Margin (dB) -3.55 -4.96



			11a	_ `	H48: 5240I				
requency	Ant. Pol.	Peak	AV reading	Correction		n Level	Peak limit	AV limit	Margin
(MHz)	H/V	reading (dBµV)	(dBµV)	Factor (dB/m)	Peak (dBµV/m)	AV (dBµV/m)	(dBµV/m)	(dBµV/m)	(dB)
10480	Н	39.22		7.97	47.19		74	54	-6.81
15720	Н	41.79		9.83	51.62		74	54	-2.38
/	H				/			N	
	(0)		120			(0)		(20)	
10480	V	41.04		7.97	49.01	<u></u>	74	54	-4.99
15720	V	39.12		9.83	48.95		74	54	-5.05
	V								
			11a	c(VHT40) C	H38: 5190I	MHz			
requency	Ant. Pol.	Peak	AV reading	Correction	Emissio	n Level	Peak limit	AV limit	Margin
(MHz)	H/V	reading (dBµV)	(dBµV)	Factor (dB/m)	Peak (dBµV/m)	AV (dBµV/m)	(dBµV/m)	(dBµV/m)	(dB)
10380	Н	43.01		7.75	50.76		74	54	-3.24
15570	Н	40.54		9.87	50.41		74	54	-3.59
(	Н	-	<del></del> -C		(	. C.) <del>-</del> <del>-</del> -		<del>(</del> C )	
				/					
10380	V	40.88		7.75	48.63		74	54	-5.37
15570	V	39.62		9.87	49.49		74	54	-4.51
	V	<del></del> 7.			·				
			11a	c(VHT40) C	H46: 5230I				
requency	Ant. Pol.	Peak	AV reading	Correction		on Level	Peak limit	AV limit	Margin
(MHz)	H/V	reading (dBµV)	(dBµV)	Factor (dB/m)	Peak (dBµV/m)	AV (dBµV/m)	(dBµV/m)	(dBµV/m)	(dB)
10460	Н	41.51		7.97	49.48		74	54	-4.52
15690	Н	40.77		9.83	50.6	-1-	74	54	-3.40
/	Н		<u> </u>			( ) -J-			
10460	V	42.56		7.97	50.53		74	54	-3.47
15690	V	39.74		9.83	49.57		74	54	-4.43
	V				<b>K</b> )				/
			11a	c(VHT80) C	H42: 5210I	MHz		<u> </u>	
Frequency	Ant. Pol.	Peak	AV reading	Correction	Emissic	n Level	Peak limit	AV limit	Margin
(MHz)	H/V	reading (dBµV)	(dBµV)	Factor (dB/m)	Peak (dBµV/m)	AV (dBµV/m)	(dBµV/m)	(dBµV/m)	(dB)
10420	ZH.	42.31	-7- (1)	7.96	50.27	\	74	54	-3.73
15630	, C H	38.69	<del>[_</del> C`	9.84	48.53	,G-4	74	54	-5.47
	H					<u></u>			
10420	V	42.35		7.96	50.31		74	54	-3.69
15630	V	41.44		9.84	51.28		74	54	-2.72
	V	C		( (					(

#### Note:

- 1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss Pre-amplifier
- 2. Margin (dB) = Emission Level (Peak) (dB $\mu$ V/m)-Average limit (dB $\mu$ V/m)
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency. The highest test frequency is 40GHz.
- 5. Data of measurement shown "---"in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.



	Modulation Type: Band 3												
			11a	(HT20) CH	149: 5745N	ИHz							
Frequen (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBuV)	Correction Factor (dB/m)	Peak III		Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)				
11490	Н	40.98		8.09	49.07		74	54	-4.93				
17235	Н	38.12		9.67	47.79		74	54	-6.21				
	Н		fc\)		/			<del></del>					
	KO)		KO)		4			KO)					
11490	V	42.37		8.09	50.46		74	54	-3.54				
17235	V	39.80		9.67	49.47		74	54	-4.53				
	V												

			11a	(HT20) CH	157: 5785N	ИHz			
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	ΑV reading (dBμV)	Correction Factor (dB/m)	Emission Peak (dBµV/m)	n Level AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
11570	Ŧ	42.08	-7	8.10	50.18		74	54	-3.82
17355	, C H	41.15	<del>(-,</del> C)	9.65	50.80	(C)	74	54	-3.20
	Н					-		-2-	
11570	V	40.85		8.10	48.95		74	54	-5.05
17355	V	37.49		9.65	47.14		74	54	-6.86
	V	<u></u>		( , (					( , (

			11a	(HT20) CH	161: 5825N	ИHz			
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Correction Factor (dB/m)	Emission Peak (dBµV/m)	n Level AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
11650	CO H	41.23	70	8.12	49.35	<b>KO-</b> -J	74	54	-4.65
17475	H	39.04		9.62	48.66		74	54	-5.34
	Н								
11650	V	41.74		8.12	49.86		74	54	-4.14
17475	V	39.25		9.62	48.87		74	54	-5.13
/	V				<i></i>				\

			11n	(HT20) CH	151: 5745N	1Hz			
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Correction Factor (dB/m)	Emission Peak (dBµV/m)	n Level AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
11510	H	41.89		8.09	49.98	1	74	54	-4.02
17265	Τ	38.56		9.67	48.23		74	54	-5.77
	H	-							
11510	V	42.16		8.09	50.25		74	54	-3.75
17265	V	40.83		9.67	50.50		74	54	-3.50
	V								



			11r	(HT20) CH	157: 5785N	1Hz	•		
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Correction Factor (dB/m)	Emission Peak (dBµV/m)	AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
11570	Н	41.96		8.10	50.06		74	54	-3.94
17355	Н	38.74		9.65	48.39		74	54	-5.61
	Н								
			<i></i>						
11570	V	40.16	fc	8.10	48.26		74	54	-5.74
17355	V	40.93	-4	9.65	50.58	-#-	74	54	-3.42
	V								

			11n	(HT20) CH	165: 5825N	1Hz			
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Correction Factor (dB/m)	Emission Peak (dBµV/m)	n Level AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
11650	Н	40.17		8.12	48.29		74	54	-5.71
17475	Н	39.44		9.62	49.06		74	54	-4.94
	X.H		-7-						
	2 <b>(</b> )		(20)			.C')		(20)	
11650	V	40.85	-77	8.10	48.95		74	54	-5.05
17475	V	39.19		9.65	48.84		74	54	-5.16
	V								

			11n	(HT40) CH	151: 5755N	1Hz			
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Correction Factor (dB/m)	Emission Peak (dBµV/m)	n Level AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
11510	Н	42.99		8.09	51.08		74	54	-2.92
17265	Н	40.81	\lambda	9.67	50.48		74	54	-3.52
	KO H		70			(0-1		740	
11510	V	42.42		8.09	50.51		74	54	-3.49
17265	V	39.56		9.67	49.23		74	54	-4.77
	V								/
		(C)		1/2	(` ر		(C)		1

		11n	(HT40) CH	159: 5795N	1Hz			
Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Correction Factor (dB/m)	Emission Peak (dBµV/m)	n Level AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
Ξ	41.96	<del></del>	8.10	50.06		74	54	-3.94
Н	39.47	-4-	9.65	49.12		74	54	-4.88
Н								
V	41.33		8.10	49.43		74	54	-4.57
V	39.28		9.65	48.93		74	54	-5.07
V	<u> </u>		🖔	<i>)</i>		<u> </u>		🖔
	H/V H H H V	H/V reading (dBµV) H 41.96 H 39.47 H  V 41.33 V 39.28	Ant. Pol. H/V       Peak reading (dBμV)       AV reading (dBμV)         H       41.96          H       39.47          H           V       41.33          V       39.28	Ant. Pol. H/V         Peak reading (dBμV)         AV reading (dBμV)         Correction Factor (dB/m)           H         41.96          8.10           H         39.47          9.65           H          8.10            V         41.33          8.10           V         39.28          9.65	Ant. Pol. H/V         Peak reading (dBμV)         AV reading (dBμV)         Correction Factor (dB/m)         Emission Peak (dBμV/m)           H         41.96          8.10         50.06           H         39.47          9.65         49.12           H               V         41.33          8.10         49.43           V         39.28          9.65         48.93	H/V         reading (dBμV)         AV reading (dBμV)         Factor (dB/m)         Peak (dBμV/m)         AV (dBμV/m)           H         41.96          8.10         50.06            H         39.47          9.65         49.12            H                V         41.33          8.10         49.43            V         39.28          9.65         48.93	Ant. Pol. H/V         Peak reading (dBμV)         AV reading (dBμV)         Correction Factor (dB/m)         Emission Level Peak (dBμV/m)         Peak Imit (dBμV/m)           H         41.96          8.10         50.06          74           H         39.47          9.65         49.12          74           H           8.10         49.43          74           V         41.33          8.10         49.43          74           V         39.28          9.65         48.93          74	Ant. Pol. H/V         Peak reading (dBμV)         AV reading (dBμV)         Correction Factor (dB/m)         Emission Level Peak (dBμV/m)         Peak Iimit (dBμV/m)         AV Iimit (dBμV/m)           H         41.96          8.10         50.06          74         54           H         39.47          9.65         49.12          74         54           H                  V         41.33          8.10         49.43          74         54           V         39.28          9.65         48.93          74         54

	11ac(VHT20) CH149: 5745MHz										
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Correction Factor (dB/m)	Daal.   A\/		Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)		
11490							74	54	-3.77		
17235	Η	39.58		9.67	49.25		74	54	-4.75		
	Ι										
-2					7						
11490	V	41.69		8.09	49.78		74	54	-4.22		
17235	V	38.74		9.67	48.41		74	54	-5.59		
	V										



	11ac(VHT20) CH157: 5785MHz											
Freq (M	uency IHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Peak (dBµV/m)	n Level AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)		
11	570	Н	40.96		8.10	49.06		74	54	-4.94		
17	355	Н	38.87		9.65	48.52		74	54	-5.48		
-		H										
				(.c.)								
11	570	V	39.45		8.10	47.55	-7-	74	54	-6.45		
17	355	V	38.57		9.65	48.22	1	74	54	-5.78		
-		V										

	11ac(VHT20) CH165: 5825MHz											
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Correction Factor (dB/m)	Emission Peak (dBµV/m)	(dBµV/m) (dBµV/m)		AV limit (dBµV/m)	Margin (dB)			
11650	Η	41.68		8.12	49.80		74	54	-4.20			
17475	H	40.37	-7-	9.62	49.99	<b></b>	74	54	-4.01			
(	C H		<del>(</del> C)	)	(	, C) <del>!-</del> }		<del></del>				
				7								
11650	<b>V</b>	41.83		8.12	49.95		74	54	-4.05			
17475	V	37.51		9.62	47.13		74	54	-6.87			
	V				Z							

			11ac	(VHT40) CI	H151: 5755	MHz			
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)			Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)		
11510	Н	41.74	7	8.12	49.86		74	54	-4.14
17265	H	39.36	řO	9.62	48.98	(O-1	74	54	-5.02
	Н								
11510	V	42.21		8.09	50.30		74	54	-3.70
17265	V	39.33		9.67	49.00		74	54	-5.00
J )	V	$(C_{\bullet})$		(2)	(`` ر		(2G)		(25

	11ac(VHT40) CH159: 5795MHz											
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Correction Factor (dB/m)	reak AV (dBµV/m) (dBµV/m)		Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)			
11590	Н	41.61	-4-	8.10	49.71		74	54	-4.29			
17385	Н	39.44		9.65	49.09		74	54	-4.91			
	Н											
5.4					-,							
11590	V	42.05		8.10	50.15		74	54	-3.85			
17385	V	40.13		9.65	49.78		74	54	-4.22			
	V											



Report No.: TCT200622E069 11ac(VHT80) CH155: 5775MHz Correction **Emission Level** Peak Frequency (MHz) AV reading Ant. Pol. Peak limit **AV** limit Margin Peak dBµV/m) reading Factor AV (dBµV/m) H/V (dBµV) (dBµV/m) (dBµV/m) (dB)(dB/m) (dBµV) 8.09 74 11550 Н 41.72 49.81 54 -4.19

17325	Н	37.36		9.66	47.02		74	54	-6.98
	Н								
11550	V	42.55	<del></del>	8.09	50.64		74	54	-3.36
17325	V	39.32	-4	9.66	48.98	-/-	74	54	-5.02
	V		)						

#### Note:

- 1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss Pre-amplifier
- 2. Margin (dB) = Emission Level (Peak) (dB $\mu$ V/m)-Average limit (dB $\mu$ V/m)
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency. The highest test frequency is 40GHz.
- 5. Data of measurement shown "---"in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.



Page 43 of 121

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



# 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 0 degrees to 45 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:	Spectrum Analyzer EUT  AC/DC Power supply
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 all models(11a,11n,11ac), the worst case (11ac) was found and test data was shown in this report.



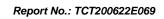


## Test plots as follows:

Test mode:		802.11ac(V	/HT20)	Freque	ency(MH	lz):	5180	
Temperature (°C)	\/c	oltage(VDC)	Measu	rement	D	elta	Res	er ilt
Temperature ( C)	voltage(vDC)		Frequency(MHz)		Frequency(Hz)		1763	uit
45	3.7V		5180	.0090	9000		PAS	SS
35			5180	.0066	6600		PAS	SS
25			5179.9878		-1200		PAS	SS
15		3.7 V	5179.9983		-1	700	PAS	SS
5			5180.0025		2500		PAS	SS
0		, `)	5180.0048		4800		PAS	SS
	4.3		5179.9831		-1600		PAS	SS
20	3.8		5180.0030		3000		PAS	SS
		3.6	5179.	9821	-1900		PAS	SS

Test mode:	802.11ac(\)	/HT20) Frequ	ency(MHz):	5200
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	(C)	5200.0090	9000	PASS
35		5200.0081	8100	PASS
25	3.7V	5200.0072	7200	PASS
15	3.7 V	5200.0046	4600	PASS
5		5199.9980	-2000	PASS
0		5199.9879	-12100	PASS
	4.3	5199.9957	-4300	PASS
20	3.8	5200.0037	3700	PASS
	3.6	5200.0055	5500	PASS

Test mode:		802.11ac(V	/HT20)	Freque	ency(MHz):		5240
Temperature (°C)	Vo	ltage(VDC)	Measu		Delta	⊔-/	Result
			Frequen	, , , , , , , , , , , , , , , , , , ,	Frequency(Hz)		5.22
45			5240.0044		4400		PASS
35			5240.0022		2200		PASS
25		3.7V	5240.0029		2900		PASS
15		3.7 V	5239.9991		-900	7	PASS
5			5239.9983		-1700		PASS
0			5239.9979		-2100		PASS
	4.3		5240.0031		3100		PASS
20		3.8	5240.	.0019	1900		PASS
(20)		3.6	5239.9985		-1500		PASS





Test mode:	802.11ac	(VHT20)	Freque	ency(MHz):		5745	
Temperature (°C)	Voltage(VDC)	Measu	rement	Delta		Result	
Temperature ( C)	voilage(vDC)	Frequer	ncy(MHz)	Frequency(Hz)		Result	
45		5745	.0020	2000		PASS	
35		5745	.0018	1800		PASS	
25	3.7V	5744	.9960	-4000		PASS	
15	3.7 V	5744	.9955	-4500 3200 5100		PASS	
5		5745	.0032			PASS	
0		5745	.0051			PASS	
	4.3	5745	.0071	7100		PASS	
20	3.8	5745	.0079	7900		PASS	K
	3.6	5745	.0021	2100		PASS	

Test mode:	80	)2.11ac(\	/HT20)	Freque	ency(N	IHz):		5785	
Temperature (°C)	Voltage	2(\/DC)	Measu	rement		Delta		Pos	eril <del>t</del>
Temperature ( C)	Voltage(VDC)		Frequen	Frequency(MHz)		Frequency(Hz)		Result	
45			5785	.0077	7700			PAS	SS
35			5785	.0036	3600		-X\	PAS	SS
25		3.7V		5785.0025		2500	57)	PAS	SS
15	ა.	/ V	5785.0010		1000			PASS	SS
5				5785.0030		3000		PASS	SS
0_			5785	.0046		4600		PAS	SS
(.6)	4.3		5785	.0049	.G')	4900		PAS	SS
20	3	.8	5785	.0034		3400		PAS	SS
	3	.6	5784	.9975		-2500		PAS	SS

Test mode:	Test mode: 802.11ac		/HT20) Frequency(MHz):			z):	5825		
Temperature (°C)	Voltage(	2αΦ(\/ )( '\		rement cy(MHz)	Delta Frequency(Hz		Resu	lt	
45				5824.9816		-1800		3	
35				5825.0076		7600		3	
25	2.7\	, (	5824.9953		-4700		PASS	3	
15	3.7	3.7V		5824.9985		500	PASS	3	
5				5825.0019		1900		3	
0			5825.0052		52	200	PASS	S /	
	4.3		5825.	0048	48	300	PASS	3	
20	3.8		5824.	9987	-13	300	PASS	3	
	3.6		5825.	0038	38	300	PASS	3	





Test mode:	802.11ac	VHT40)	Freque	ency(MHz):	5190		
Temperature (°C)	Voltage(VDC)	Measu	rement	Delta		Result	
Temperature ( C)	voitage(vDC)	Frequen	cy(MHz)	Frequency(Hz)		Result	
45		5189	.9870	-13000		PASS	
35		5190.0117 11700			PASS		
25	2.71/	5190	.0109	10900		PASS	
15	3.7V	5190	.0029	2900		PASS	
5		5190	.0068	6800		PASS	
0		5190	.0020	2000		PASS	
	4.3	5189	.9910	-9000		PASS	
20	3.8	5189	.9978	-2200	3)	PASS	K
	3.6	5190	.0049	4900		PASS	

Test mode:	Test mode: 802.11ac(V		HT40) Frequency(MHz):			lz):	5230		
Temperature (°C)	Vo	ltage(VDC)	Measurement		Delta			Result	
Temperature ( C)	>	mage(VDC)	Frequen	cy(MHz)	Freque	ency(Hz	<u>z</u> )	Nesuit	
45			5229.9880		-12000			PASS	
35			5230	5230.0128 12800			PASS		
25		3.7V	5230.0095		9500		")	PASS	
15		3.7 V	5229	5229.9988		200		PASS	
5			5229.9981		-1900			PASS	
0			5230.0059		5900			PASS	
$(C_{i})$		4.3	5230	.0044	4	400		PASS	
20		3.8	5230	.0023	2	300		PASS	
		3.6	5229	.9978	-2	200		PASS	

Test mode:	Test mode: 802.11ac(V		Freque	5755		
Temperature (°C)	Voltage(VDC)	Measure	Measurement		Result	
Temperature ( C)	voitage(vDC)	Frequency	y(MHz)	Frequency(H	lz)	
45		5754.9	5754.9870		PASS	
35		5755.0128		12800	PASS	
25	3.7V	5755.0113		11300	PASS	
15	3.1 V	5755.0091		9100	PASS	
5		5755.0	031	3100	PASS	
0		5755.0	5755.0070		PASS	
	4.3		044	4400	PASS	
20	3.8	5755.0	026	2600	PASS	
	3.6	5755.0	067	6700	PASS	





Test mode:	802.11ac	(VHT40)	Freque	ency(MHz):		5795
Temperature (°C)	Voltage(VDC)	Measu	rement	Delta		Result
Temperature ( C)	voltage(vDC)	Frequen	cy(MHz)	Frequency(F	łz)	Result
45		5794	.9880	-12000		PASS
35		5794	5794.9843 -15700			PASS
25	2.71/	5795	.0055	5500		PASS
15	3.7V	5795	.0037	3700	1	PASS
5		5795	.0021	2100		PASS
0		5795	.0059	5900		PASS
	4.3	5795	.0048	4800		PASS
20	3.8	5794	.9983	-1700	)	PASS
	3.6	5795	.0052	5200		PASS

Test mode:	Test mode: 802.11ac(VI		HT80) Frequency(MHz):			5210			
Temperature (°C)	Vo	ltage(VDC)	Measurement		Delta			Result	
remperature ( 0)	>	mage(VDC)	Frequen	cy(MHz)	Frequ	iency(F	Hz)	110.	Suit
45			5209.9890		-11000		PA	SS	
35			5210	.0061	6	6100		PA	SS
25		3.7V	5210	.0045	4500		57)	PA	SS
15		3.7 V	5210	.0058		5800		PA	SS
5			5210	.0083	8300			PA	SS
0			5210	5210.0096		9600		PA	SS
(,c)		4.3	5210	.0083	3 (3)	3300		PA	SS
20		3.8	5210	.0065		5500		PA	SS
		3.6	5210	.0072	7	7200		PA	SS

Test mode:	Test mode: 802.11ac(V		Freque	5775		
Temperature (°C)	Voltage(VDC)	Measure	Measurement		Result	
Temperature ( C)	voitage(vDC)	Frequenc	y(MHz)	Frequency(H	lz)   Result	
45		5774.9	5774.9860		PASS	
35		5775.0028 2800		2800	PASS	
25	3.7V	5775.0	5775.0051		PASS	
15	3.1 V	5774.9	5774.9938		PASS	
5		5774.9	5774.9921		PASS	
0		5774.9	906	-9400	PASS	
	4.3	5775.0	081	8100	PASS	
20	20 3.8		0046	4600	PASS	
	3.6	5775.0	010	1000	PASS	



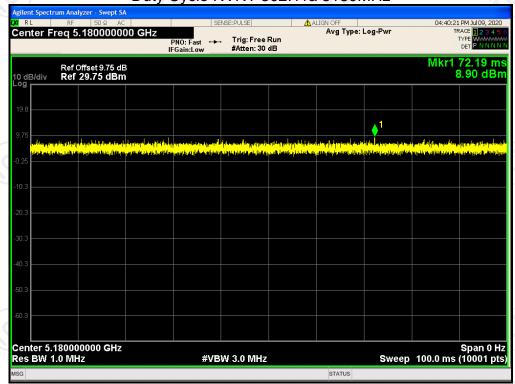
## **Appendix A: Test Result of Conducted Test**

#### Band 1

# Duty Cycle

Condition	Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor (dB)
NVNT	802.11a	5180	100	0
NVNT	802.11a	5200	100	0
NVNT	802.11a	5240	100	0
NVNT	802.11ac20	5180	100	0 (
NVNT	802.11ac20	5200	100	0
NVNT	802.11ac20	5240	100	0
NVNT	802.11ac40	5190	100	0_
NVNT	802.11ac40	5230	100	0
NVNT	802.11ac80	5210	100	0
NVNT	802.11n(HT20)	5180	100	0
NVNT	802.11n(HT20)	5200	100	0
NVNT	802.11n(HT20)	5240	100	0
NVNT	802.11n(HT40)	5190	100	0
NVNT	802.11n(HT40)	5230	100	0

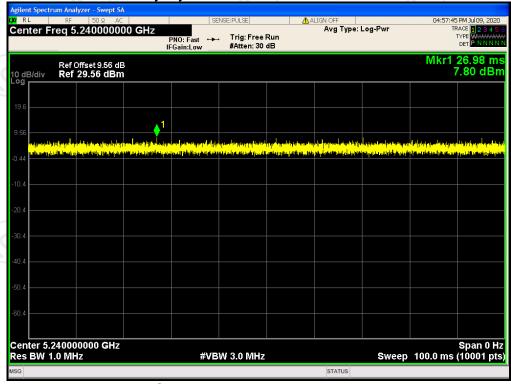
Duty Cycle NVNT 802.11a 5180MHz



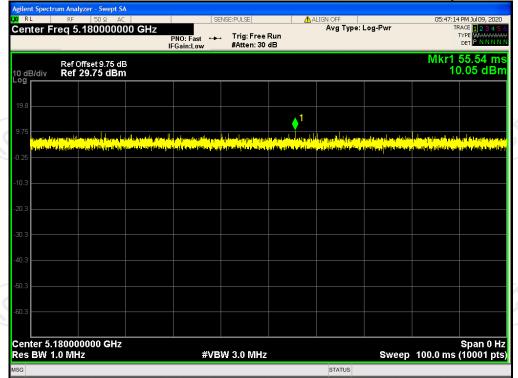
Duty Cycle NVNT 802.11a 5200MHz



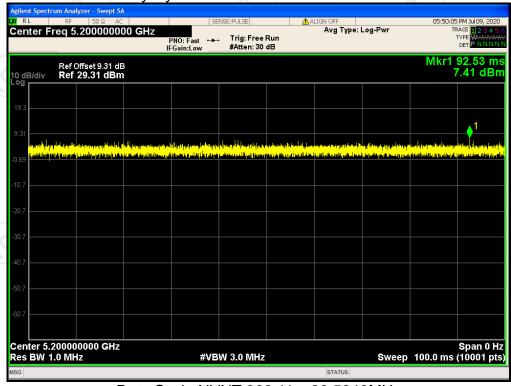
#### Duty Cycle NVNT 802.11a 5240MHz



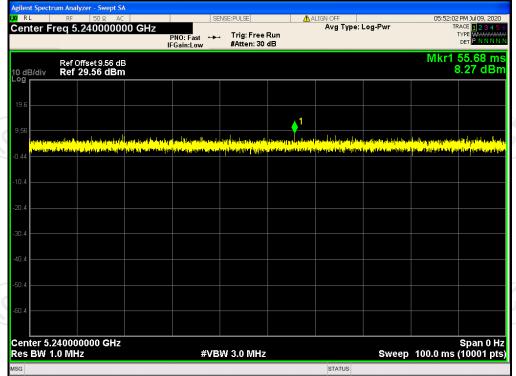
Duty Cycle NVNT 802.11ac20 5180MHz



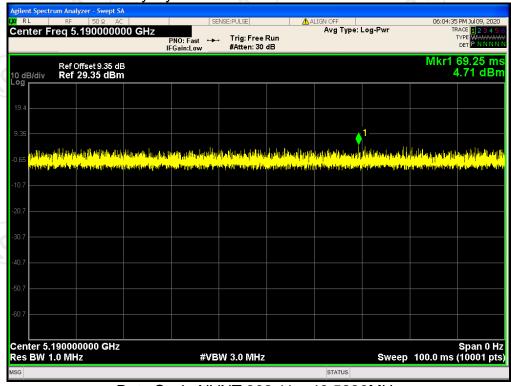
#### Duty Cycle NVNT 802.11ac20 5200MHz



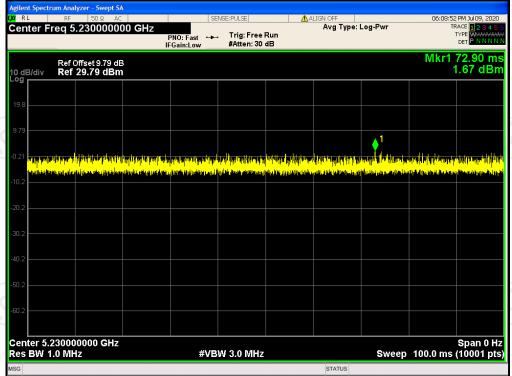
Duty Cycle NVNT 802.11ac20 5240MHz



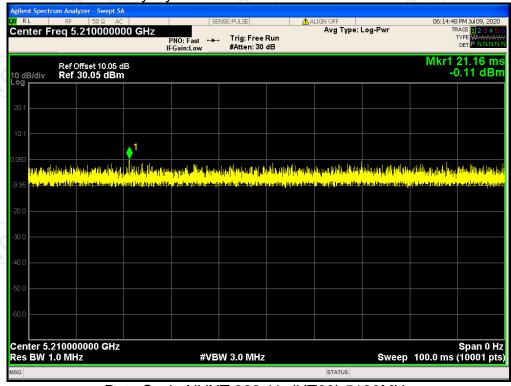
#### Duty Cycle NVNT 802.11ac40 5190MHz



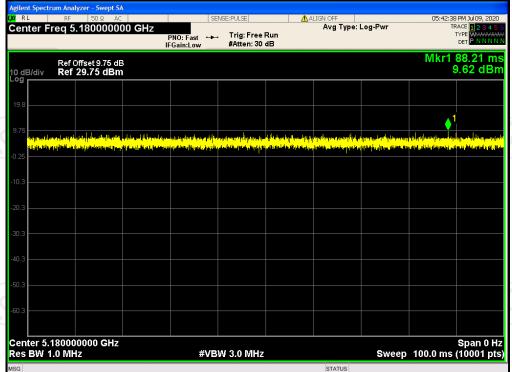
Duty Cycle NVNT 802.11ac40 5230MHz



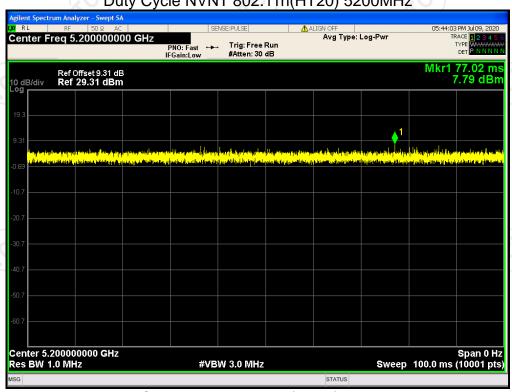
#### Duty Cycle NVNT 802.11ac80 5210MHz



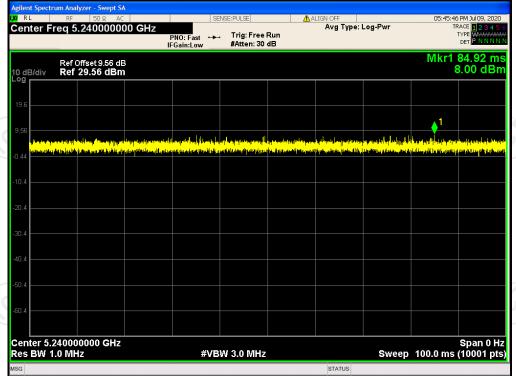
Duty Cycle NVNT 802.11n(HT20) 5180MHz



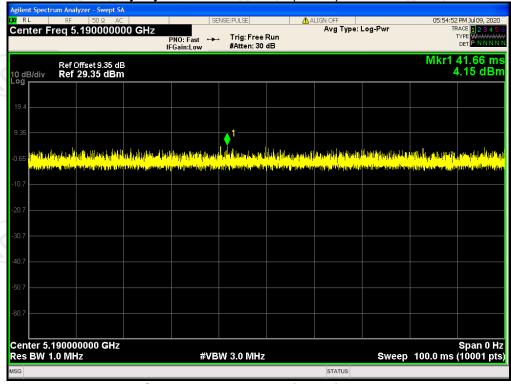
Duty Cycle NVNT 802.11n(HT20) 5200MHz



Duty Cycle NVNT 802.11n(HT20) 5240MHz

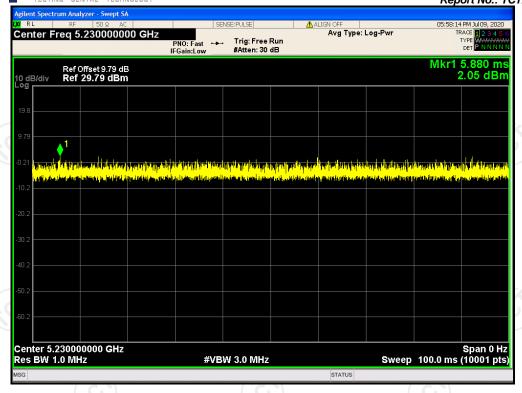


### Duty Cycle NVNT 802.11n(HT40) 5190MHz



Duty Cycle NVNT 802.11n(HT40) 5230MHz

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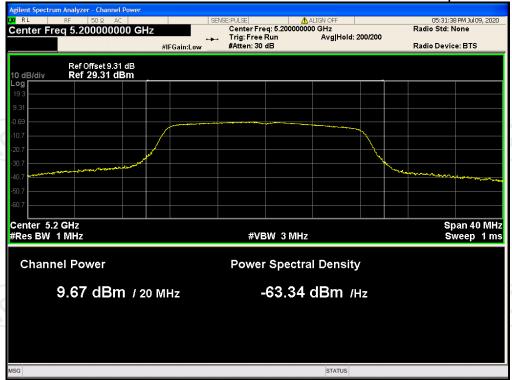
## **Maximum Conducted Output Power**

				-			
Condition	Mode	Frequency (MHz)	Conducted Power	Duty Factor	Total Power	Limit	Verdict
			(dBm)	(dB)	(dBm)	(dBm)	
NVNT	802.11a	5180	12.07	0	12.07	24	Pass
NVNT	802.11a	5200	9.67	0	9.67	24	Pass
NVNT	802.11a	5240	10.04	0	10.04	24	Pass
NVNT	802.11ac20	5180	11.47	0	11.47	24	Pass
NVNT	802.11ac20	5200	9.42	0	9.42	24	Pass
NVNT	802.11ac20	5240	10.08	0	10.08	24	Pass
NVNT	802.11ac40	5190	11.02	0	11.02	24	Pass
NVNT	802.11ac40	5230	9.39	0	9.39	24	Pass
NVNT	802.11ac80	5210	10.38	0	10.38	24	Pass
NVNT	802.11n(HT20)	5180	11.34	0	11.34	24	Pass
NVNT	802.11n(HT20)	5200	9.55	0	9.55	24	Pass
NVNT	802.11n(HT20)	5240	9.80	0	9.80	24	Pass
NVNT	802.11n(HT40)	5190	10.50	0	10.50	24	Pass
NVNT	802.11n(HT40)	5230	9.14	0	9.14	24	Pass

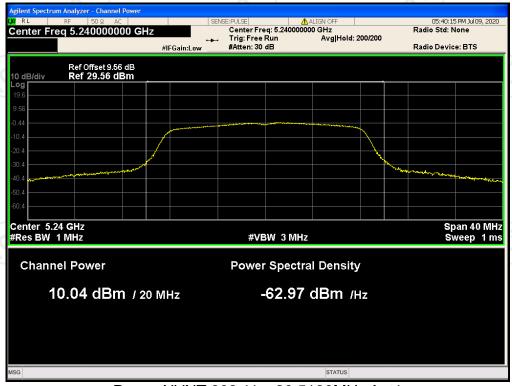
### Power NVNT 802.11a 5180MHz Ant1



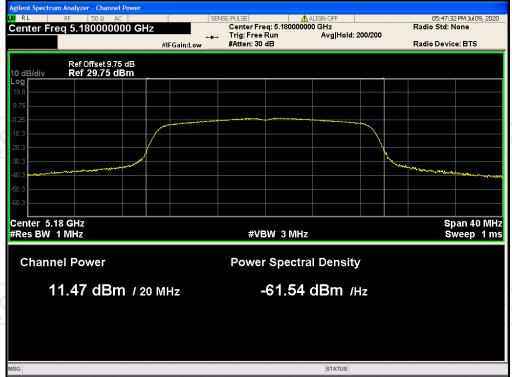
Power NVNT 802.11a 5200MHz Ant1



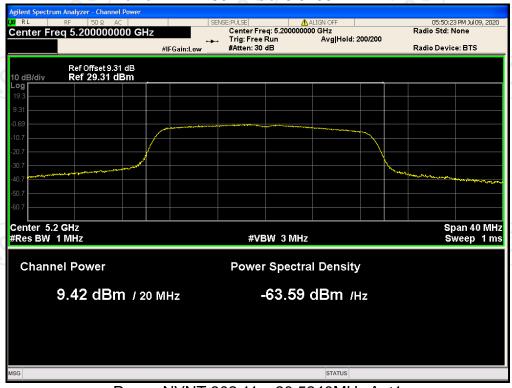
#### Power NVNT 802.11a 5240MHz Ant1



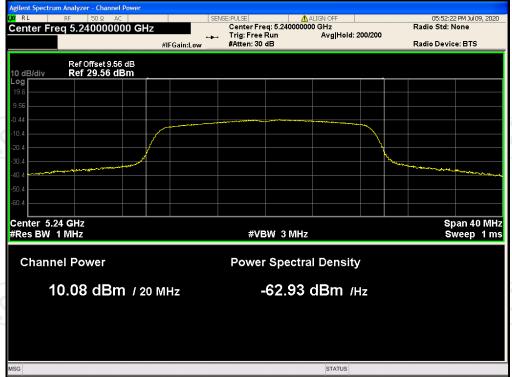
Power NVNT 802.11ac20 5180MHz Ant1



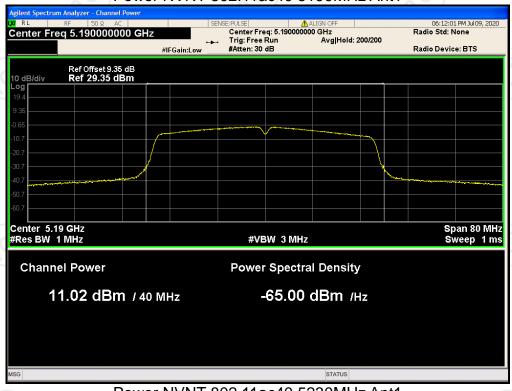
#### Power NVNT 802.11ac20 5200MHz Ant1



Power NVNT 802.11ac20 5240MHz Ant1



#### Power NVNT 802.11ac40 5190MHz Ant1



Power NVNT 802.11ac40 5230MHz Ant1