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TEST REPORT

Report No...... CTC20211721E03

FCC ID-----: 2AFIW-SFT1200

Applicant:: **GL TECHNOLOGIES (HONG KONG) LIMITED**

FLAT/RM 203 2/F BUILDING 19W 19 SCIENCE PARK WEST Address.....

AVENUE SHATIN NT SHATIN HONG KONG

Manufacturer..... Shenzhen Guanglianzhitong Tech Co., Ltd

Room 305-306, Skyworth Digital Building, Shiyan Street, Address.....

Baoan District, Shenzhen, China

Product Name: **AC1200 Wireless Travel Router**

Trade Mark: **GL.iNET**

Model/Type reference GL-SFT1200

Listed Model(s)...... /

Standard: FCC Part 15, Subpart E 15. 407

Date of receipt of test sample...: Nov. 05. 2021

Date of testing..... Nov. 06, 2021 ~ Nov. 24, 2021

Date of issue..... Nov. 25, 2021

Result....: **PASS**

Compiled by:

(Printed name+signature) Terry Su Terry Su Miller Ma Jeannes

Supervised by:

(Printed name+signature) Miller Ma

Approved by:

(Printed name+signature) Totti Zhao

Testing Laboratory Name.....: CTC Laboratories, Inc.

1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Address:

Shenzhen, Guangdong, China

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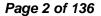
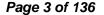




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1. TEST SUMMARY

1.1. Test Standards

The tests were performed according to following standards:

<u>FCC Part 15, Subpart E(15.407)</u> — for 802.11a/n/ac, the test procedure follows the FCC KDB 789033 D02 General UNII Test Procedures New Rules V02r01.

Report No.: CTC20211721E03

RSS-247 Issue 2 February 2017 — Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices

RSS-Gen — General Requirements for Compliance of Radio Apparatus

1.2. Report version

Revised No.	Date of issue	Description
01	Nov. 25, 2021	Original





1.3. Test Description

FCC Part 15 Subpart E (15.407) / RSS-247 Issue 2 February 2017						
Test Item	Test r	equire	Result	Test		
rest item	FCC	IC	Result	Engineer		
Antenna Requirement	15.203	1	Pass	Alicia Liu		
Conducted Emission	15.207	RSS-Gen 8.8	Pass	Eva Feng		
Band Edge Emissions	15.407(b)	RSS-247 6.2.1.2 RSS-247 6.2.2.2 RSS-247 6.2.4.2	Pass	Alicia Liu		
26dB Bandwidth & 99% Bandwidth	15.407(a) (5)	RSS-247 6.2.1.2	Pass	Alicia Liu		
6dB Bandwidth (only for UNII-3)	15.407(e)	RSS-247 6.2.4.1	Pass	Alicia Liu		
Peak Output Power	15.407(a)	RSS-247 6.2.1.1 RSS-247 6.2.4.1	Pass	Alicia Liu		
Power Spectral Density	15.407(a)	RSS-247 6.2	Pass	Alicia Liu		
Transmitter Radiated Spurious Emission	15.407(b) &15.209	RSS-Gen 8.9 RSS-247 6.2.1.2 RSS-247 6.2.4.2	Pass	Alicia Liu		
Frequency Stability	15.407(g)	1	Pass	Alicia Liu		
Dynamic Frequency Selection (DFS)	15.407(h)	RSS-247 6.3	N/A	N/A		

Note: "N/A" is not applicable.

The measurement uncertainty is not included in the test result.





1.4. Test Facility

CTC Laboratories, Inc.

Add: 1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China

Laboratory accreditation

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

CNAS-Lab Code: L5365

CTC Laboratories, Inc. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation. Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025:2017 General Requirements) f or the Competence of Testing and Calibration Laboratories.

A2LA-Lab Cert. No.: 4340.01

CTC Laboratories, Inc. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

Industry Canada (Registration No.: 9783A, CAB Identifier: CN0029)

CTC Laboratories, Inc. EMC Laboratory has been registered by Certification and Engineer Bureau of Indus try Canada for the performance of with Registration NO.: 9783A on Jan, 2016.

FCC (Registration No.: 951311, Designation Number CN1208)

CTC Laboratories, Inc. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained inour files. Registration 951311, Aug 26, 2017.

1.5. Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the CTC Laboratories, Inc. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Below is the best measurement capability for CTC Laboratories, Inc.



Test Items Measurement Uncertainty Notes Transmitter power conducted 0.42 dB (1) Transmitter power Radiated 2.14 dB (1) Conducted spurious emissions 9kHz~40GHz 1.60 dB (1) Radiated spurious emissions 9kHz~40GHz 2.20 dB (1) Conducted Emissions 9kHz~30MHz 3.08 dB (1) Radiated Emissions 30~1000MHz 4.51 dB (1) Radiated Emissions 1~18GHz 5.84 dB (1) Radiated Emissions 18~40GHz 6.12 dB (1) Occupied Bandwidth (1)

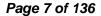
Note (1): This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

1.6. Environmental conditions

	Temperature	22 °C ~ 28°C
Normal Condition	Relative humidity	50% ~ 65%
Condition	Voltage	The equipment shall be the nominal voltage for which the equipment was designed.
Extreme	Temperature	Measurements shall be made over the extremes of the operating temperature range as declared by the manufacturer
Condition	Voltage	Measurements shall be made over the extremes of the operating voltage range as declared by the manufacturer

Normal Condition T _N =Normal Temperature		22 °C ~ 28°C
Futuama Canditian	T _L =Lower Temperature	0 °C
Extreme Condition	T _H =Higher Temperature	40 °C

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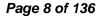




2. GENERAL INFORMATION

2.1. Client Information

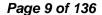
Applicant:	GL TECHNOLOGIES (HONG KONG) LIMITED
Address:	FLAT/RM 203 2/F BUILDING 19W 19 SCIENCE PARK WEST AVENUE SHATIN NT SHATIN HONG KONG
Manufacturer:	Shenzhen Guanglianzhitong Tech Co., Ltd
Address:	Room 305-306, Skyworth Digital Building, Shiyan Street, Baoan District, Shenzhen, China





2.2. General Description of EUT

Product Name:	AC1200 Wireless Travel Router					
Trade Mark:	GL.iNET					
Model/Type reference:	GL-SFT1200	GL-SFT1200				
Listed Model(s):	1					
Power supply:	5Vdc/3A fron	n AC/DC Adapte	er			
Adapter model:	ICP20-050-3 Input: 100-24 Output: 5Vdd	40V~ 50/60Hz 0	.6A			
Hardware version:	V1.0					
Software version:	3.206					
Antenna technology:	CDD					
Antenna 1 and 2 type:	External Antenna					
Antenna 1 and 2 gain:	U-NII-1: 4.12dBi Max U-NII-3: 4.25dBi Max					
Technical index for 5G WIFI						
Operation Band:	⊠U-NII-1 □U-NII-2A □U-NII-2C ⊠U-NII-3					
Operation Frequency Range:	U-NII-1:	5150MHz~52	50MHz			
Operation i requerity range.	U-NII-3:	5725MHz~5850MHz				
	802.11a	⊠ 20MHz				
Support bandwidth:	802.11n	⊠ 20MHz	⊠ 40MHz			
802.11ac ⊠ 20MHz ⊠ 40MHz ⊠ 80MHz □ 16				☐ 160MHz		
Modulation:	802.11a: OFDM (BIT/SK, QPSK, BPSK, 16QAM) 802.11n: OFDM (BIT/SK, QPSK, BPSK, 16QAM, 64QAM) 802.11ac: OFDM (BIT/SK, QPSK, BPSK, 16QAM, 64QAM, 256QAM)					
Bit Rate of Transmitter:	802.11a: 6/9/12/18/24/36/48/54 Mbps 802.11n: up to 300Mbps 802.11ac: at most 866.7 Mbps					





	Directional gain						
Mode	Frequency	Max Antenna Gain (dBi)	For power measurements Directional gain Gain (dBi)	For power spectral density (PSD) measurements Gain (dBi)			
SISO	5150~5250MHz	4.12	4.12	4.12			
CDD 2TX	5150~5250MHz	4.12	4.12	7.13			
SISO	5725~5850MHz	4.25	4.25	4.25			
CDD 2TX	5725~5850MHz	4.25	4.25	7.26			

Note: Directional gain = GANT + Array Gain

For power spectral density (PSD) measurements on all devices, Array Gain = 10 log(NANT/NSS)dB.

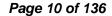
For power measurements on IEEE 802.11 devices, 1, 2

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any NANT;

Array Gain = 5 log(NANT/NSS) dB or 3 dB, whichever is less, for 20MHz channel widths with NANT ≥ 5.

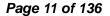
For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China: yz.cnca.cn





2.3. Accessory Equipment information

Equipment Information					
Name	Model	S/N	Manufacturer		
Notebook	X220	R9-NCMYL 12/04	Lenovo		
1	1	1	1		
Cable Information					
Name	Shielded Type	Ferrite Core	Length		
DC Output line	Without	Without	1M		
Lan line	Without	Without	1.2M		
Test Software Information					
Name	Versions	1	1		
SecureCRT.exe	8.7.1	1	1		





2.4. Operation state

Operation Frequency List:

	20MHz E	Bandwidth	40MHz B	40MHz Bandwidth 80MHz Bandwid		Bandwidth
Band (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
	36	5180	20	F100		
U-NII-1	40	5200	38	5190 42	5210	
	44	5220	46	5230	42	3210
	48	5240	40	5230		
	149	5745	151	5755		
	153	5765	151	3733		
U-NII-3	157	5785			155	5775
	161 5805 159 5795	5795				
	165	5825				



Test channel is below:

Operating	Test	20	MHz	40MHz		8	80MHz	
Band	Channel	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	
	CH∟	36	5180	38	5190	1	1	
U-NII-1	CH_M	40	5200	1	1	42	5210	
	СНн	48	5240	46	5230	/	1	
	CH∟	149	5745	151	5755	/	1	
U-NII-3	CH _M	157	5785	/	/	155	5775	
	CH _H	165	5825	159	5795	1	1	

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Data Rated

Preliminary tests were performed in different data rate, and found which the below bit rate is worst case mode, so only show data which it is a worst case mode.

Mode	Data rate (worst mode)
802.11a	6Mbps
802.11n(HT20)/ 802.11n(HT40)	HT-MCS0
802.11ac(VHT20)/ 802.11ac(VHT40)/ 802.11ac(VHT80)	VHT-MCS0

Test mode

For RF test items

The engineering test program was provided and enabled to make EUT continuous transmit.

For AC power line conducted emissions:

The EUT was set to connect with the WLAN AP under large package sizes transmission.

For Radiated spurious emissions test item:

The engineering test program was provided and enabled to make EUT continuous transmit. The EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data Recorded in the report.

For DFS test items

The EUT has been tested under test mode condition. The Applicant provides software to control the EUT for staying in DFS mode for testing.



2.5. Measurement Instruments List

Tonsce	end JS0806-2 Test system					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until	
1	Spectrum Analyzer KEYSIGHT N9020		N9020A	100231	Dec. 25, 2021	
2	Spectrum Analyzer	Rohde & Schwarz	FUV40-N 101331		Mar. 15, 2022	
3	3 MXG Vector Signal Generator	Agilent	N5182A	MY47420864	Dec. 25, 2021	
4	Signal Generator	Agilent	E8257D	MY46521908	Dec. 25, 2021	
5	Power Sensor	Agilent	U2021XA	MY5365004	Mar. 15, 2022	
6	Power Sensor	Agilent	U2021XA	MY5365006	Mar. 15, 2022	
7	High and low temperature box	ESPEC	MT3035	N/A	Mar. 24, 2022	
8	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	102414	Dec. 25, 2021	
9 300328 v2.2.2 test system		TONSCEND	v2.6	1	1	

Radiat	ed emission(3m chamber 2)				
Item	Test Equipment	Manufacturer	Manufacturer Model No.		Calibrated Until
1	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	9168-1013	Jan. 12, 2022
2	Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-647	Dec. 24, 2021
3	Spectrum Analyzer	R&S	FSU26	100105	Dec. 25, 2021
4	Spectrum Analyzer	R&S	FSV40-N	101331	Mar. 15, 2022
5	Pre-Amplifier	SONOMA	310	186194	Dec. 25, 2021
6	Low Noise Pre-Amplifier	EMCI	EMC051835	980075	Dec. 25, 2021
7	Test Receiver	R&S	ESCI7	100967	Dec. 25, 2021

Radiate	ed emission(3m chamber 3))								
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated Until					
1	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168 9168-759		Nov. 09, 2022					
2	Horn Antenna	Schwarzbeck	BBHA 9120D 9120D-647		Dec. 24, 2021					
3	Test Receiver	Keysight	N9038A	MY56400071	Dec. 25, 2021					
4	Broadband Premplifier	SCHWARZBECK	BBV9743B	259	Dec. 25, 2021					
5	Mirowave Broadband Amplifier	SCHWARZBECK	BBV9718C	111	Dec. 25, 2021					

Condu	Conducted Emission									
Item	Test Equipment	Manufacturer	lanufacturer Model No.		Calibrated until					
1	LISN	R&S	ENV216	101112	Dec. 25, 2021					
2	LISN	R&S	ENV216	101113	Dec. 25, 2021					
3	EMI Test Receiver	R&S	ESCS30	100353	Dec. 25, 2021					

Note: 1. The Cal. Interval was one year.

2. The cable loss has calculated in test result which connection between each test instruments.



3. TEST ITEM AND RESULTS

3.1. Conducted Emission

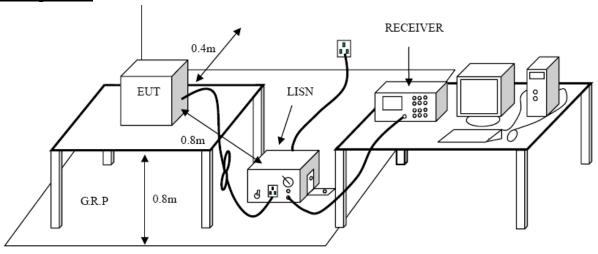
Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.207/ RSS – Gen 8.8:

Fraguency range (MHZ)	Limit (dBuV)				
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			

^{*} Decreases with the logarithm of the frequency.

Test Configuration

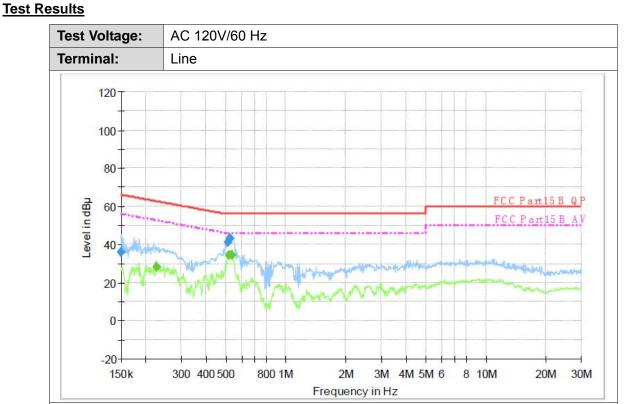


Test Procedure

- 1. The EUT was setup according to ANSI C63.10:2013 requirements.
- 2. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface.
- 3. The EUT and simulators are connected to the main power through a line impedances stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment.
 - The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)
- 4. Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
- 5. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
- 6. Conducted Emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
- 7. During the above scans, the emissions were maximized by cable manipulation.

Test Mode

Please refer to the clause 2.4.



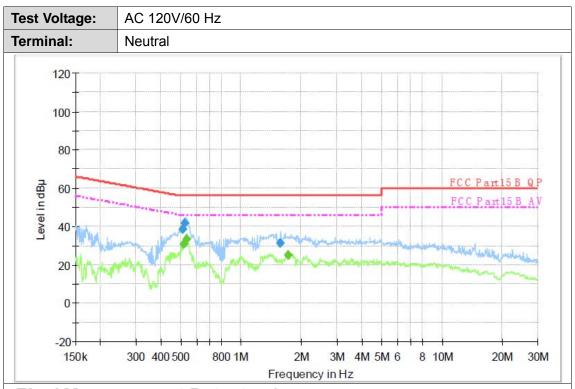
Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.150600	36.0	1000.00	9.000	On	L1	9.7	30.0	66.0	
0.512950	41.2	1000.00	9.000	On	L1	9.7	14.8	56.0	
0.525380	43.3	1000.00	9.000	On	L1	9.7	12.7	56.0	

Final Measurement Detector 2

	Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
Г	0.227190	28.2	1000.00	9.000	On	L1	9.7	24.4	52.6	
Г	0.519130	34.5	1000.00	9.000	On	L1	9.7	11.5	46.0	
	0.538120	34.7	1000.00	9.000	On	L1	9.7	11.3	46.0	

Emission Level= Read Level+ Correct Factor



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBμ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.515000	38.8	1000.00	9.000	On	N	10.0	17.2	56.0	
0.525380	41.6	1000.00	9.000	On	N	10.0	14.4	56.0	
1.574880	31.2	1000.00	9.000	On	N	10.0	24.8	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.517060	30.7	1000.00	9.000	On	N	10.0	15.3	46.0	
0.535980	33.6	1000.00	9.000	On	N	10.0	12.4	46.0	
1.719450	25.1	1000.00	9.000	On	N	10.0	20.9	46.0	

Emission Level= Read Level+ Correct Factor



3.2. Radiated Emission

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.209/ RSS-Gen 8.9

Frequency	Limit (dBuV/m @3m)	Value	
30 MHz ~ 88 MHz	40.00	Quasi-peak	
88 MHz ~ 216 MHz	43.50	Quasi-peak	
216 MHz ~ 960 MHz	46.00	Quasi-peak	
960 MHz ~ 1 GHz	54.00	Quasi-peak	
Abovo 1 CH7	54.00	Average	
Above 1 GHz	74.00	Peak	

Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission Level (dBuV/m)= 20log Emission Level (uV/m).

Limits of unwanted emission out of the restricted bands

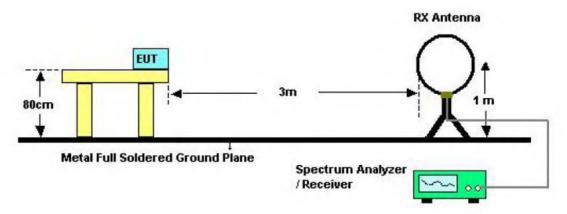
FCC CFR Title 47 Part 15 Subpart C Section 15.407(b)/ RSS-247 6.2.1.2 & RSS-247 6.2.4.2

Frequency (MHz)	EIRP Limits (dBm)	Equivalent Field Strength at 3m (dBuV/m)
5150~5250	-27	68.2
5250~5350	-27	68.2
5470~5725	-27	68.2
	-27(Note 2)	68.2
E70E . E00E	10(Note 2)	105.2
5725~5825	15.6(Note 2)	110.8
	27(Note 2)	122.2

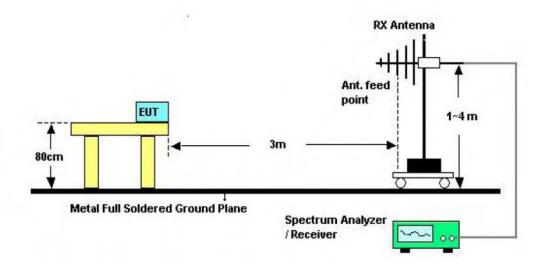
Note: 1. The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength: $E = \frac{1000000\sqrt{30P}}{3}$ uV/m, where P is the eirp (Watts)

2. According to FCC 16-24, All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27dBm/MHz at the band edge.

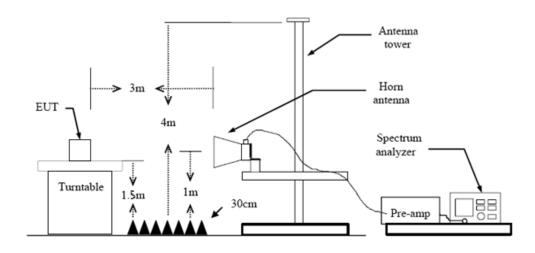
For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China: yz.cnca.cn



Below 30MHz Test Setup



Below 1000MHz Test Setup



Above 1GHz Test Setup

Test Procedure

- 1. The EUT was setup and tested according to ANSI C63.10:2013
- 2. The EUT is placed on a turn table which is 0.8 meter above ground for below 1 GHz, and 1.5 m for above 1 GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level.

CTC Laboratories, Inc.





3. The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower.

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- 4. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (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 to comply with the guidelines.
- 5. Set to the maximum power setting and enable the EUT transmit continuously.
- 6. Use the following spectrum analyzer settings
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Below 1 GHz:

RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, Trace=max hold;

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.

(3) From 1 GHz to 40GHz:

RBW=1MHz, VBW=3MHz Peak detector for Peak value.

RBW=1MHz, VBW≥1/T Peak detector for Average value.

Note 1: For the 1/T& Duty Cycle please refer to clause Duty Cycle.

Test Mode

Please refer to the clause 2.4.

Test Result

9 KHz~30 MHz

From 9 KHz to 30 MHz: Conclusion: PASS

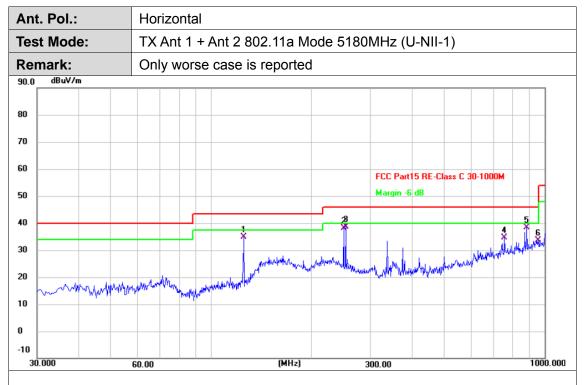
Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Pre-scan all antenna, only show the test data for worse case antenna on the test report.



CTC Laboratories, Inc.

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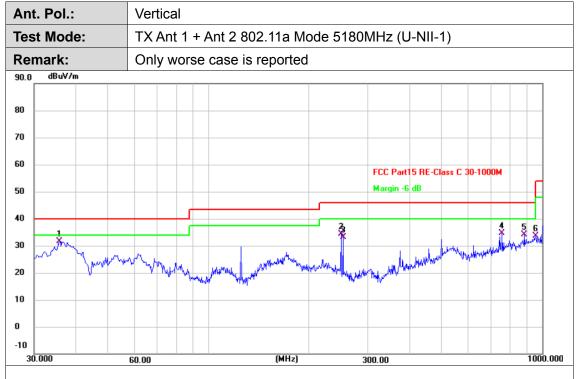


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	125.0600	50.87	-16.00	34.87	43.50	-8.63	QP
2	249.8667	54.28	-16.19	38.09	46.00	-7.91	QP
3 *	253.1000	54.63	-16.06	38.57	46.00	-7.43	QP
4	759.4400	38.01	-3.46	34.55	46.00	-11.45	QP
5	887.4800	40.38	-1.90	38.48	46.00	-7.52	QP
6	958.2900	34.13	-0.54	33.59	46.00	-12.41	QP

Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value





No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	35.8200	46.35	-14.61	31.74	40.00	-8.26	QP
2	249.8667	50.57	-16.19	34.38	46.00	-11.62	QP
3	253.1000	49.23	-16.06	33.17	46.00	-12.83	QP
4	759.4400	38.07	-3.46	34.61	46.00	-11.39	QP
5	887.4800	36.05	-1.90	34.15	46.00	-11.85	QP
6	957.3200	34.15	-0.54	33.61	46.00	-12.39	QP

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

Ant No.:		Ant 1 +	Ant 2						
Ant. Pol.:		Horizon	ontal 2.11a Mode 5180MHz (U-NII-1)						
Test Mode:	.	TX 802.	11a Mod	e 5180N	OMHz (U-NII-1) sion which more than 10 dB below the				
Remark:			ort for the ed limit.	emissio	n which	more th	an 10 di	3 below	the
100.0 dBuV/m									
90									
80						FCC Part15	Class C 3M	Above-1G Pea	ak
70									
60						FCC Part15	Class C 3M	Above-16 AV	
50		2 X				recruitio	Class C Sin 7	above ru Av	
40		1 *							
30									
20									
10									
0.0									

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	10359.378	33.20	3.20	36.40	54.00	-17.60	AVG
2	10359.488	45.72	3.20	48.92	74.00	-25.08	peak

1000.000 4900.00 8800.00 12700.00 16600.00 (MHz) 24400.00 28300.00 32200.00 36100.00 40000.00

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

32200.00



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11a Mode 5180MHz (U-NII-1) No report for the emission which more than 10 dB below the Remark: prescribed limit. 100.0 dBuV/m 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV ž 50 40 2 30 20 10

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1	10359.412	46.66	3.20	49.86	74.00	-24.14	peak
2 *	10359.648	32.73	3.20	35.93	54.00	-18.07	AVG

(MHz)

Remarks:

1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

12700.00

16600.00

24400.00 28300.00 32200.00 36100.00 40000.00



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Horizontal **Test Mode:** TX 802.11a Mode 5200MHz (U-NII-1) No report for the emission which more than 10 dB below the Remark: prescribed limit. dBuV/m 100.0 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV 50 40 2 X 30 20 10

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1	10399.800	45.98	3.16	49.14	74.00	-24.86	peak
2 *	10400.642	33.59	3.15	36.74	54.00	-17.26	AVG

Remarks:

1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

12700.00 16600.00 (MHz)

2.Margin value = Level -Limit value

8800.00





Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11a Mode 5200MHz (U-NII-1) Remark: No report for the emission which more than 10 dB below the prescribed limit. dBuV/m 100.0 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV X X 50 40 2 X 30 20 10

No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)			Detector
1	10399.648	45.97	3.16	49.13	74.00	-24.87	peak
2 *	10400.550	33.62	3.15	36.77	54.00	-17.23	AVG

(MHz)

24400.00

28300.00

32200.00

36100.00

40000.00

12700.00

16600.00

8800.00

Remarks:

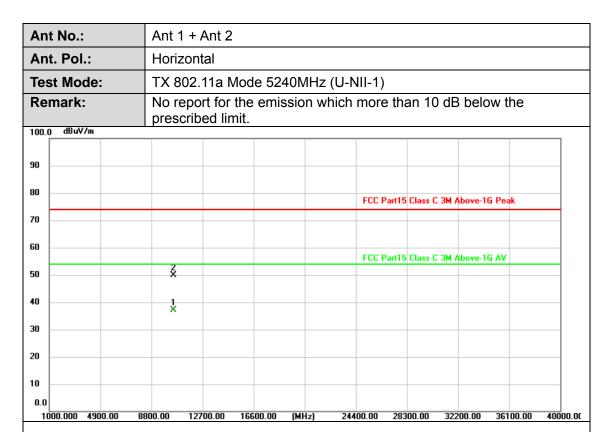
1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	10479.164	33.99	3.07	37.06	54.00	-16.94	AVG
2	10480.632	46.79	3.07	49.86	74.00	-24.14	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

24400.00 28300.00 32200.00 36100.00 40000.00



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11a Mode 5240MHz (U-NII-1) No report for the emission which more than 10 dB below the Remark: prescribed limit. 100.0 dBuV/m 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV ž 50 40 2 X 30 20

No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)	Limit (dBuV/m)		Detector
1	10479.818	46.77	3.07	49.84	74.00	-24.16	peak
2 *	10479.892	34.13	3.07	37.20	54.00	-16.80	AVG

12700.00 16600.00 (MHz)

Remarks:

10

1000.000 4900.00

8800.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

36100.00

32200.00

40000.00



40

30

20 10

1000.000 4900.00

Ant No.: Ant 1 + Ant 2 Ant. Pol.: Horizontal **Test Mode:** TX 802.11n(HT20) Mode 5180MHz (U-NII-1) Remark: No report for the emission which more than 10 dB below the prescribed limit. dBuV/m 100.0 90 RΠ FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV 2 X 50

I							
No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)		Margin (dB)	Detector
1 *	10360.456	33.07	3.20	36.27	54.00	-17.73	AVG
2	10360.984	45.58	3.20	48.78	74.00	-25.22	peak

(MHz)

24400.00 28300.00

16600.00

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

X

8800.00

12700.00

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Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11n(HT20) Mode 5180MHz (U-NII-1) Remark: No report for the emission which more than 10 dB below the prescribed limit. 100.0 dBuV/m 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV 2 X 50 40 X 30 20

No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	10359.988	33.54	3.20	36.74	54.00	-17.26	AVG
2	10360.624	46.35	3.20	49.55	74.00	-24.45	peak

(MHz)

24400.00 28300.00

32200.00 36100.00

Remarks:

10 0.0

1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

8800.00

12700.00

16600.00

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Ant No.: Ant 1 + Ant 2

Ant. Pol.: Horizontal

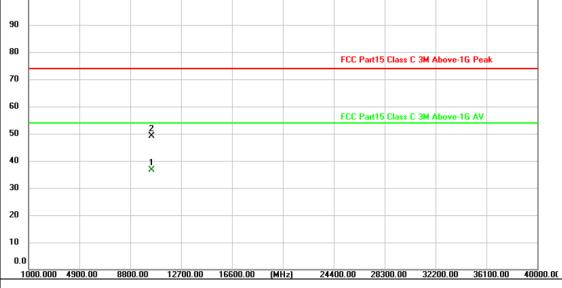
Test Mode: TX 802.11n(HT20) Mode 5200MHz (U-NII-1)

Remark: No report for the emission which more than 10 dB below the prescribed limit.

100.0 dBuV/m

90
80
FCC Part15 Class C 3M Above-16 Peak
70

Report No.: CTC20211721E03



No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)		Margin (dB)	Detector
1 *	10399.248	33.39	3.16	36.55	54.00	-17.45	AVG
2	10400.914	45.99	3.15	49.14	74.00	-24.86	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

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Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11n(HT20) Mode 5200MHz (U-NII-1) Remark: No report for the emission which more than 10 dB below the prescribed limit. dBuV/m 100.0 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV 2 X 50 40 X 30 20 10

No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)		Margin (dB)	Detector
1 *	10399.066	33.65	3.16	36.81	54.00	-17.19	AVG
2	10400.996	45.95	3.15	49.10	74.00	-24.90	peak

(MHz)

24400.00

32200.00

36100.00

40000.00

Remarks:

0.0

1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

8800.00

12700.00

16600.00

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Ant No.: Ant 1 + Ant 2 Ant. Pol.: Horizontal **Test Mode:** TX 802.11n(HT20) Mode 5240MHz (U-NII-1) Remark: No report for the emission which more than 10 dB below the prescribed limit. 100.0 dBuV/m 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV ž 50 40 30 20 10 0.0 1000.000 4900.00 8800.00 12700.00 16600.00 (MHz) 24400.00 28300.00 32200.00 36100.00 40000.00

No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)		Margin (dB)	Detector
1 *	10479.120	34.33	3.08	37.41	54.00	-16.59	AVG
2	10480.824	46.86	3.07	49.93	74.00	-24.07	peak

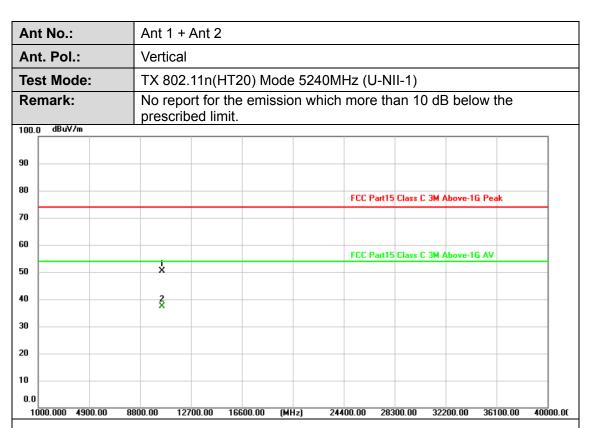
Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

For anti-take verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China: yz.cnca.cn





No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)			Detector
1	10479.192	47.31	3.07	50.38	74.00	-23.62	peak
2 *	10479.450	34.30	3.07	37.37	54.00	-16.63	AVG

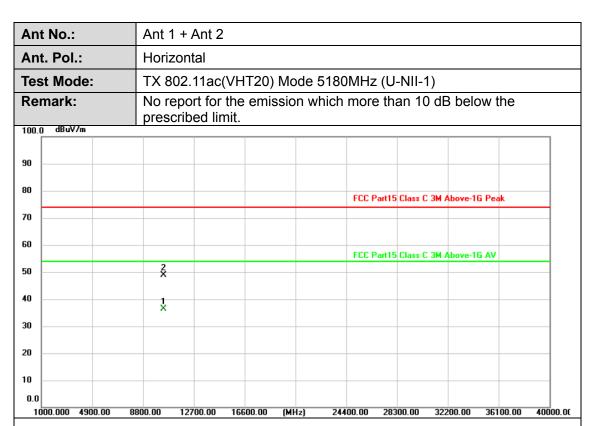
Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

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No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)			Detector
1 *	10360.698	33.18	3.20	36.38	54.00	-17.62	AVG
2	10360.946	45.63	3.20	48.83	74.00	-25.17	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

24400.00 28300.00 32200.00 36100.00 40000.00



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11ac(VHT20) Mode 5180MHz (U-NII-1) No report for the emission which more than 10 dB below the Remark: prescribed limit. dBuV/m 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV ½ 50 40 2 X 30 20 10

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1	10359.236	45.64	3.20	48.84	74.00	-25.16	peak
2 *	10360.598	33.55	3.20	36.75	54.00	-17.25	AVG

Remarks:

1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

16600.00 (MHz)

2.Margin value = Level -Limit value

8800.00

12700.00



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Horizontal **Test Mode:** TX 802.11ac(VHT20) Mode 5200MHz (U-NII-1) Remark: No report for the emission which more than 10 dB below the prescribed limit. dBuV/m 100.0 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV 2 X 50 40 X 30

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1 *	10400.652	33.54	3.15	36.69	54.00	-17.31	AVG
2	10400.768	45.63	3.15	48.78	74.00	-25.22	peak

(MHz)

Remarks:

20

10 0.0

1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

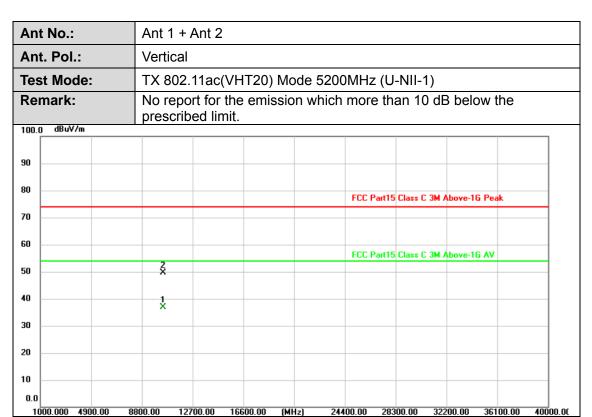
2.Margin value = Level -Limit value

8800.00

12700.00 16600.00

24400.00 28300.00 32200.00 36100.00





No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)		Margin (dB)	Detector
1 *	10399.314	33.81	3.16	36.97	54.00	-17.03	AVG
2	10399.566	46.44	3.16	49.60	74.00	-24.40	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



Ant 1 + Ant 2 Ant No.: Ant. Pol.: Horizontal **Test Mode:** TX 802.11ac(VHT20) Mode 5240MHz (U-NII-1) Remark: No report for the emission which more than 10 dB below the prescribed limit. dBuV/m 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV 2 X 50 40 30 20

No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)			Detector
1 *	10479.220	34.43	3.07	37.50	54.00	-16.50	AVG
2	10479.302	46.68	3.07	49.75	74.00	-24.25	peak

Remarks:

10

1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

12700.00 16600.00 (MHz)

2.Margin value = Level -Limit value

8800.00

24400.00 28300.00 32200.00 36100.00

24400.00 28300.00 32200.00 36100.00 40000.00



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11ac(VHT20) Mode 5240MHz (U-NII-1) No report for the emission which more than 10 dB below the Remark: prescribed limit. dBuV/m 100 O 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV 2 X 50 40 30 20 10

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	10479.000	34.25	3.08	37.33	54.00	-16.67	AVG
2	10479.188	46.62	3.07	49.69	74.00	-24.31	peak

16600.00 (MHz)

Remarks:

0.0

1000.000 4900.00

8800.00

12700.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

24400.00 28300.00 32200.00 36100.00 40000.00



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Horizontal **Test Mode:** TX 802.11n(HT40) Mode 5190MHz (U-NII-1) Remark: No report for the emission which more than 10 dB below the prescribed limit. dBuV/m 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV 2 X 50 40 X 30 20 10

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1 *	10379.354	33.21	3.18	36.39	54.00	-17.61	AVG
2	10380.406	45.80	3.18	48.98	74.00	-25.02	peak

12700.00 16600.00 (MHz)

Remarks:

1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

8800.00

24400.00 28300.00 32200.00 36100.00 40000.00



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11n(HT40) Mode 5190MHz (U-NII-1) Remark: No report for the emission which more than 10 dB below the prescribed limit. dBuV/m 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV 1 X 50 40 2 X 30 20 10

No).	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1		10379.080	46.38	3.18	49.56	74.00	-24.44	peak
2	*	10380.010	33.55	3.18	36.73	54.00	-17.27	AVG

12700.00 16600.00 (MHz)

Remarks:

1000.000 4900.00

8800.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



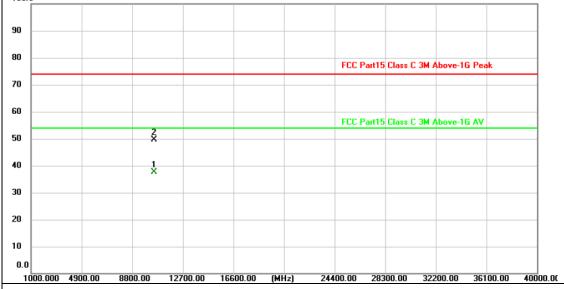
Ant No.: Ant 1 + Ant 2

Ant. Pol.: Horizontal

Test Mode: TX 802.11n(HT40) Mode 5230MHz (U-NII-1)

Remark: No report for the emission which more than 10 dB below the prescribed limit.

Report No.: CTC20211721E03



No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)			Detector
1 *	10459.064	34.49	3.10	37.59	54.00	-16.41	AVG
2	10460.518	46.48	3.10	49.58	74.00	-24.42	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11n(HT40) Mode 5230MHz (U-NII-1) No report for the emission which more than 10 dB below the Remark: prescribed limit. dBuV/m 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV Ÿ 50 40 2 X 30 20 10

No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)		Margin (dB)	Detector
1	10459.268	46.99	3.10	50.09	74.00	-23.91	peak
2 *	10459.916	34.48	3.10	37.58	54.00	-16.42	AVG

(MHz)

24400.00 28300.00 32200.00 36100.00

Remarks:

1000.000 4900.00

8800.00

12700.00

16600.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

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24400.00 28300.00 32200.00 36100.00 40000.00



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Horizontal **Test Mode:** TX 802.11ac(VHT40) Mode 5190MHz (U-NII-1) Remark: No report for the emission which more than 10 dB below the prescribed limit. 100.0 dBuV/m 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV 50 40 2 X 30 20 10

No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)		Margin (dB)	Detector
1	10379.976	45.23	3.18	48.41	74.00	-25.59	peak
2 *	10380.766	33.11	3.18	36.29	54.00	-17.71	AVG

12700.00 16600.00 (MHz)

Remarks:

0.0

1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

8800.00



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11ac(VHT40) Mode 5190MHz (U-NII-1) Remark: No report for the emission which more than 10 dB below the prescribed limit. 100.0 dBuV/m 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV ½ 50 40 ž 30 20

N	No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)		Margin (dB)	Detector
	1	10379.580	45.57	3.18	48.75	74.00	-25.25	peak
2	2 *	10379.608	33.71	3.18	36.89	54.00	-17.11	AVG

(MHz)

24400.00

28300.00

32200.00

40000.00

Remarks:

10

1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

8800.00

12700.00

16600.00



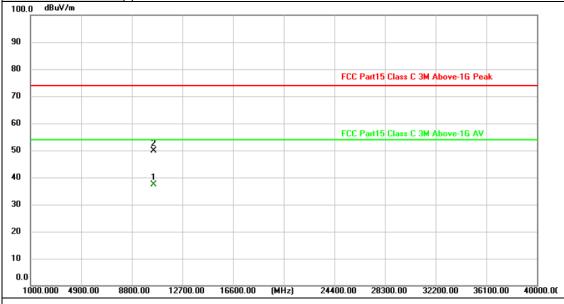
Ant No.: Ant 1 + Ant 2

Ant. Pol.: Horizontal

Test Mode: TX 802.11ac(VHT40) Mode 5230MHz (U-NII-1)

Remark: No report for the emission which more than 10 dB below the prescribed limit.

Report No.: CTC20211721E03



N	lo.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1	*	10459.418	34.38	3.10	37.48	54.00	-16.52	AVG
2	2	10459.924	46.77	3.10	49.87	74.00	-24.13	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

24400.00 28300.00 32200.00 36100.00 40000.00



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11ac(VHT40) Mode 5230MHz (U-NII-1) Remark: No report for the emission which more than 10 dB below the prescribed limit. dBuV/m 100.0 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV ź 50 40 1 X 30 20

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)		Detector
1 *	10459.114	34.48	3.10	37.58	54.00	-16.42	AVG
2	10459.552	46.95	3.10	50.05	74.00	-23.95	peak

Remarks:

10

1000.000 4900.00

8800.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

12700.00 16600.00 (MHz)

2.Margin value = Level -Limit value

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24400.00 28300.00 32200.00 36100.00 40000.00



40

30

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10

1000.000 4900.00

Ant No.: Ant 1 + Ant 2 Ant. Pol.: Horizontal **Test Mode:** TX 802.11ac(VHT80) Mode 5210MHz (U-NII-1) Remark: No report for the emission which more than 10 dB below the prescribed limit. dBuV/m 100 0 90 RΠ FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV 2 X 50

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	10419.538	33.54	3.14	36.68	54.00	-17.32	AVG
2	10419.908	45.45	3.14	48.59	74.00	-25.41	peak

(MHz)

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

,

8800.00

12700.00 16600.00

24400.00 28300.00 32200.00 36100.00 40000.00



40

30

20 10

1000.000 4900.00

Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11ac(VHT80) Mode 5210MHz (U-NII-1) Remark: No report for the emission which more than 10 dB below the prescribed limit. dBuV/m 100.0 90 ខា FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV 50

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1 *	10419.934	33.89	3.14	37.03	54.00	-16.97	AVG
2	10420.254	46.18	3.14	49.32	74.00	-24.68	peak

16600.00 (MHz)

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

X

8800.00

12700.00

24400.00 28300.00 32200.00 36100.00 40000.00



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Horizontal **Test Mode:** TX 802.11a Mode 5745MHz (U-NII-3) Remark: No report for the emission which more than 10 dB below the prescribed limit. dBuV/m 100.0 90 RΠ FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV ź 50 40 1 X 30 20

No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)		Margin (dB)	Detector
1 *	11489.418	34.04	3.44	37.48	54.00	-16.52	AVG
2	11489.480	46.60	3.44	50.04	74.00	-23.96	peak

12700.00 16600.00 (MHz)

Remarks:

10

1000.000 4900.00

8800.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

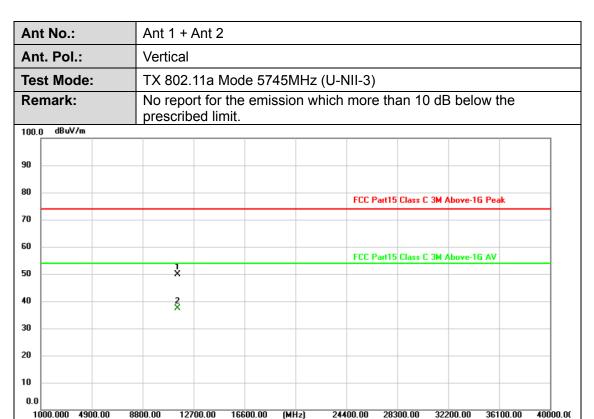
2.Margin value = Level -Limit value

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No		Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)			Detector
1		11490.786	46.55	3.44	49.99	74.00	-24.01	peak
2	*	11490.966	34.01	3.44	37.45	54.00	-16.55	AVG

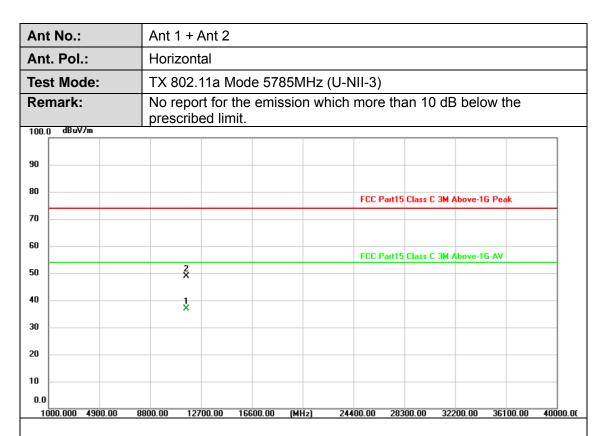
Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

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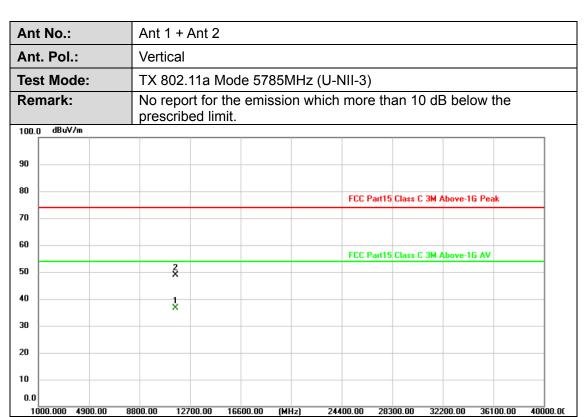
No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 '	11569.060	33.48	3.39	36.87	54.00	-17.13	AVG
2	11570.920	45.60	3.39	48.99	74.00	-25.01	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value





No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)	Limit (dBuV/m)		Detector
1 *	11569.186	33.34	3.39	36.73	54.00	-17.27	AVG
2	11570.642	45.48	3.39	48.87	74.00	-25.13	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

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Ant No.: Ant 1 + Ant 2 Ant. Pol.: Horizontal **Test Mode:** TX 802.11a Mode 5825MHz (U-NII-3) Remark: No report for the emission which more than 10 dB below the prescribed limit. dBuV/m 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV 2 X 50 40

No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)		Margin (dB)	Detector
1 *	11649.716	33.00	3.34	36.34	54.00	-17.66	AVG
2	11649.994	45.65	3.34	48.99	74.00	-25.01	peak

12700.00 16600.00 (MHz)

Remarks:

30

20

10 0.0

1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

X

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24400.00 28300.00 32200.00 36100.00

24400.00 28300.00 32200.00 36100.00 40000.00



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11a Mode 5825MHz (U-NII-3) Remark: No report for the emission which more than 10 dB below the prescribed limit. 100.0 dBuV/m 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV 2 X 50 40 X 30 20

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1 *	11649.076	33.11	3.34	36.45	54.00	-17.55	AVG
2	11649.908	45.21	3.34	48.55	74.00	-25.45	peak

12700.00 16600.00 (MHz)

Remarks:

10 0.0

1000.000 4900.00

8800.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



Ant No.: Ant 1 + Ant 2

Ant. Pol.: Horizontal

Test Mode: TX 802.11n(HT20) Mode 5745MHz (U-NII-3)

Remark: No report for the emission which more than 10 dB below the prescribed limit.

Report No.: CTC20211721E03



No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)		Margin (dB)	Detector
1 *	11489.876	33.95	3.44	37.39	54.00	-16.61	AVG
2	11490.332	46.14	3.44	49.58	74.00	-24.42	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11n(HT20) Mode 5745MHz (U-NII-3) Remark: No report for the emission which more than 10 dB below the prescribed limit. dBuV/m 100.0 90 ខព FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV ź 50 40 30 20 10

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	11490.432	34.12	3.44	37.56	54.00	-16.44	AVG
2	11490.482	47.08	3.44	50.52	74.00	-23.48	peak

Remarks:

1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

12700.00 16600.00 (MHz)

2.Margin value = Level -Limit value

8800.00

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24400.00 28300.00 32200.00 36100.00 40000.00

32200.00

36100.00

40000.00

24400.00 28300.00



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Horizontal **Test Mode:** TX 802.11n(HT20) Mode 5785MHz (U-NII-3) Remark: No report for the emission which more than 10 dB below the prescribed limit. dBuV/m 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-16 AV 2 X 50 40 X 30 20 10

No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	11569.116	33.21	3.39	36.60	54.00	-17.40	AVG
2	11569.250	45.42	3.39	48.81	74.00	-25.19	peak

(MHz)

Remarks:

1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

8800.00

12700.00

16600.00



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11n(HT20) Mode 5785MHz (U-NII-3) Remark: No report for the emission which more than 10 dB below the prescribed limit. dBuV/m 100.0 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV 2 X 50 40 1 X 30 20

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)		Detector
1 *	11569.936	33.65	3.39	37.04	54.00	-16.96	AVG
2	11570.944	46.27	3.39	49.66	74.00	-24.34	peak

12700.00 16600.00 (MHz) 24400.00 28300.00 32200.00 36100.00 40000.00

Remarks:

10

1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

8800.00

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Ant No.: Ant 1 + Ant 2 Ant. Pol.: Horizontal **Test Mode:** TX 802.11n(HT20) Mode 5825MHz (U-NII-3) Remark: No report for the emission which more than 10 dB below the prescribed limit. 100.0 dBuV/m 90

Report No.: CTC20211721E03



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1	11650.346	44.74	3.33	48.07	74.00	-25.93	peak
2 *	11650.594	32.91	3.33	36.24	54.00	-17.76	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

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Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11n(HT20) Mode 5825MHz (U-NII-3) Remark: No report for the emission which more than 10 dB below the prescribed limit. dBuV/m 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV 2 X 50 40 X 30 20 10

No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)			Detector
1 *	11649.240	33.03	3.34	36.37	54.00	-17.63	AVG
2	11650.356	45.19	3.33	48.52	74.00	-25.48	peak

8800.00 12700.00 16600.00 (MHz) 24400.00 28300.00 32200.00 36100.00 40000.00

Remarks:

1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

24400.00 28300.00 32200.00 36100.00 40000.00



Ant 1 + Ant 2 Ant No.: Ant. Pol.: Horizontal **Test Mode:** TX 802.11ac(VHT20) Mode 5745MHz (U-NII-3) Remark: No report for the emission which more than 10 dB below the prescribed limit. dBuV/m 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV 50 40 X

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1 *	11490.598	33.98	3.44	37.42	54.00	-16.58	AVG
2	11490.746	47.35	3.44	50.79	74.00	-23.21	peak

Remarks:

30

20

10 0.0

1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

12700.00 16600.00 (MHz)

2.Margin value = Level -Limit value

24400.00 28300.00 32200.00 36100.00 40000.00



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11ac(VHT20) Mode 5745MHz (U-NII-3) Remark: No report for the emission which more than 10 dB below the prescribed limit. 100.0 dBuV/m 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV ž 50 40 30 20 10

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	11489.206	34.17	3.44	37.61	54.00	-16.39	AVG
2	11490.942	47.41	3.44	50.85	74.00	-23.15	peak

12700.00 16600.00 (MHz)

Remarks:

0.0

1000.000 4900.00

8800.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

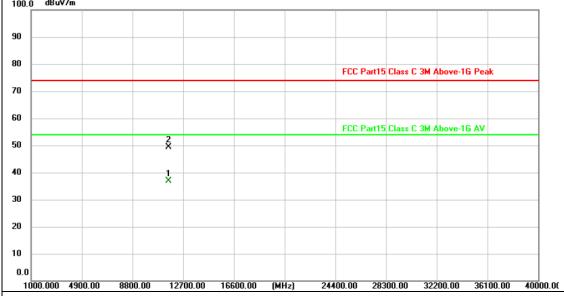


Ant No.: Ant 1 + Ant 2

Ant. Pol.: Horizontal

Test Mode: TX 802.11ac(VHT20) Mode 5785MHz (U-NII-3)

Remark: No report for the emission which more than 10 dB below the prescribed limit.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1 *	11569.578	33.44	3.39	36.83	54.00	-17.17	AVG
2	11570.970	46.11	3.39	49.50	74.00	-24.50	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

24400.00 28300.00 32200.00 36100.00 40000.00



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11ac(VHT20) Mode 5785MHz (U-NII-3) Remark: No report for the emission which more than 10 dB below the prescribed limit. dBuV/m 100.0 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV X 50 40 ļ. 30 20

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)		Detector
1 *	11569.254	33.71	3.39	37.10	54.00	-16.90	AVG
2	11569.294	46.59	3.39	49.98	74.00	-24.02	peak

12700.00 16600.00 (MHz)

Remarks:

10

1000.000 4900.00

8800.00

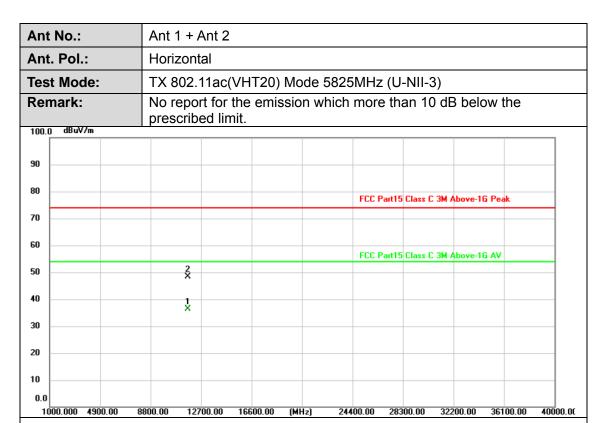
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

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No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)		Margin (dB)	Detector
1 *	11649.212	32.99	3.34	36.33	54.00	-17.67	AVG
2	11649.724	45.08	3.34	48.42	74.00	-25.58	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

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24400.00 28300.00 32200.00 36100.00 40000.00



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11ac(VHT20) Mode 5825MHz (U-NII-3) Remark: No report for the emission which more than 10 dB below the prescribed limit. dBuV/m 100.0 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV X 50 40 30 20 10

No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	11649.658	33.35	3.34	36.69	54.00	-17.31	AVG
2	11650.830	46.45	3.33	49.78	74.00	-24.22	peak

12700.00 16600.00 (MHz)

Remarks:

1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

8800.00



Ant No.:

Ant 1 + Ant 2

Ant. Pol.:

Horizontal

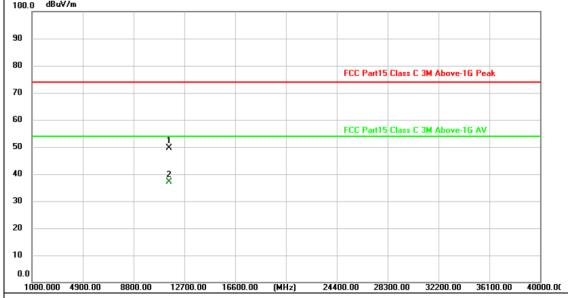
Test Mode:

TX 802.11n(HT40) Mode 5755MHz (U-NII-3)

Remark:

No report for the emission which more than 10 dB below the prescribed limit.

Report No.: CTC20211721E03



No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)		Margin (dB)	Detector
1	11509.060	46.22	3.42	49.64	74.00	-24.36	peak
2 *	11509.142	33.74	3.42	37.16	54.00	-16.84	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11n(HT40) Mode 5755MHz (U-NII-3) Remark: No report for the emission which more than 10 dB below the prescribed limit. 100.0 dBuV/m 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV 50 40 1 X 30 20 10

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	11509.202	34.18	3.42	37.60	54.00	-16.40	AVG
2	11510.646	47.76	3.43	51.19	74.00	-22.81	peak

(MHz)

24400.00 28300.00

32200.00

36100.00

Remarks:

1000.000 4900.00

8800.00

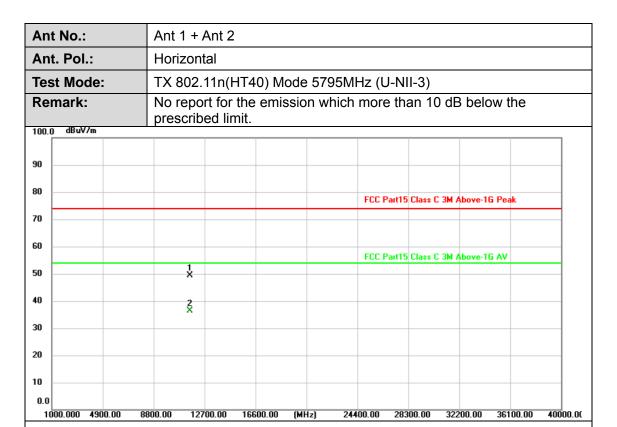
12700.00

16600.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value





No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)		Margin (dB)	Detector
1	11589.336	45.94	3.37	49.31	74.00	-24.69	peak
2 *	11590.196	33.09	3.37	36.46	54.00	-17.54	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11n(HT40) Mode 5795MHz (U-NII-3) No report for the emission which more than 10 dB below the Remark: prescribed limit. 100.0 dBuV/m 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV X 50 40 X 30 20 10

No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)			Detector
1 *	11589.030	33.45	3.37	36.82	54.00	-17.18	AVG
2	11589.336	46.55	3.37	49.92	74.00	-24.08	peak

(MHz)

12700.00

16600.00

Remarks:

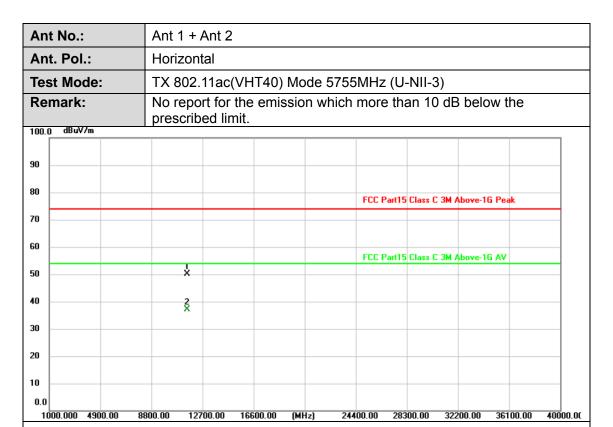
1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	11509.420	46.70	3.42	50.12	74.00	-23.88	peak
2 *	11509.736	33.82	3.43	37.25	54.00	-16.75	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

24400.00 28300.00 32200.00 36100.00 40000.00



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11ac(VHT40) Mode 5755MHz (U-NII-3) Remark: No report for the emission which more than 10 dB below the prescribed limit. dBuV/m 100.0 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV ź 50 40 1 X 30 20 10

No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	11509.152	34.06	3.42	37.48	54.00	-16.52	AVG
2	11509.864	46.83	3.43	50.26	74.00	-23.74	peak

Remarks:

1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

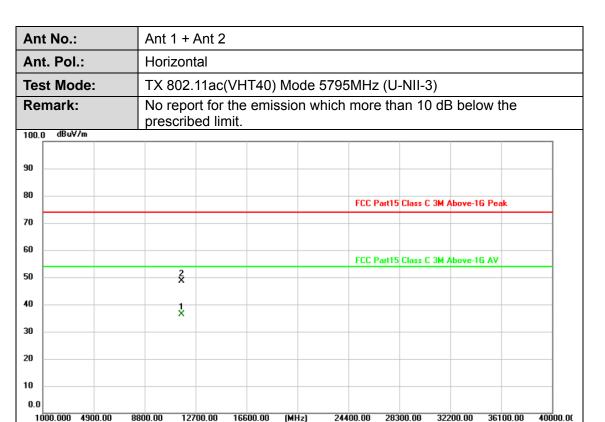
12700.00 16600.00 (MHz)

2.Margin value = Level -Limit value

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8800.00





No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)		Margin (dB)	Detector
1 *	11589.074	33.13	3.37	36.50	54.00	-17.50	AVG
2	11589.106	45.35	3.37	48.72	74.00	-25.28	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

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24400.00 28300.00 32200.00 36100.00 40000.00



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11ac(VHT40) Mode 5795MHz (U-NII-3) Remark: No report for the emission which more than 10 dB below the prescribed limit. 100.0 dBuV/m 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV 2 X 50 40 1 X 30 20 10

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	11589.058	33.47	3.37	36.84	54.00	-17.16	AVG
2	11589.122	45.66	3.37	49.03	74.00	-24.97	peak

12700.00 16600.00 (MHz)

Remarks:

1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

8800.00

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24400.00 28300.00 32200.00 36100.00 40000.00



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Horizontal **Test Mode:** TX 802.11ac(VHT80) Mode 5775MHz (U-NII-3) No report for the emission which more than 10 dB below the Remark: prescribed limit. dBuV/m 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV 50 40 2 X 30 20

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1	11549.358	45.84	3.41	49.25	74.00	-24.75	peak
2 *	11550.168	33.40	3.39	36.79	54.00	-17.21	AVG

Remarks:

10 0.0

1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

12700.00 16600.00 (MHz)

2.Margin value = Level -Limit value

8800.00

24400.00 28300.00 32200.00 36100.00 40000.00



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11ac(VHT80) Mode 5775MHz (U-NII-3) Remark: No report for the emission which more than 10 dB below the prescribed limit. dBuV/m 100.0 90 80 FCC Part15 Class C 3M Above-1G Peak 70 60 FCC Part15 Class C 3M Above-1G AV 2 X 50 40 ļ. 30 20 10

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	11549.198	33.72	3.41	37.13	54.00	-16.87	AVG
2	11550.926	46.06	3.39	49.45	74.00	-24.55	peak

12700.00 16600.00 (MHz)

Remarks:

1000.000 4900.00

8800.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



3.3. Band Edge Emissions

Limit

Limits of unwanted emission out of the restricted bands

FCC CFR Title 47 Part 15 Subpart C Section 15.407(b)/ RSS-247 6.2.1.2 & RSS-247 6.2.4.2

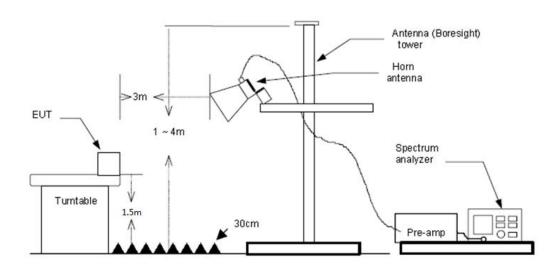
Frequency (MHz)	EIRP Limits (dBm)	Equivalent Field Strength at 3m (dBuV/m)		
5150~5250	-27	68.2		
5250~5350	-27	68.2		
5470~5725	-27	68.2		
	-27(Note 2)	68.2		
5725~5825	10(Note 2)	105.2		
3725~3625	15.6(Note 2)	110.8		
	27(Note 2)	122.2		

Note: 1. The following formula is used to convert the equipment isotropic radiated power (eirp) to field $1000000\sqrt{30P}$... $2.0000000\sqrt{30P}$

strength: $E = \frac{1000000\sqrt{30P}}{3}$ uV/m, where P is the eirp (Watts)

2. According to FCC 16-24, All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27dBm/MHz at the band edge.

Test Configuration



Test Procedure

- 1. The EUT was setup and tested according to ANSI C63.10:2013 requirements.
- 2. The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
- 3. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
- 4. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.

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5. The receiver set as follow:

RBW=1MHz. VBW=3MHz PEAK detector for Peak value.

RBW=1MHz, VBW see note 1 with Peak Detector for Average Value.

Note 1: For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for average measurements. For the Duty Cycle please refer to clause Appendix E: Duty Cycle

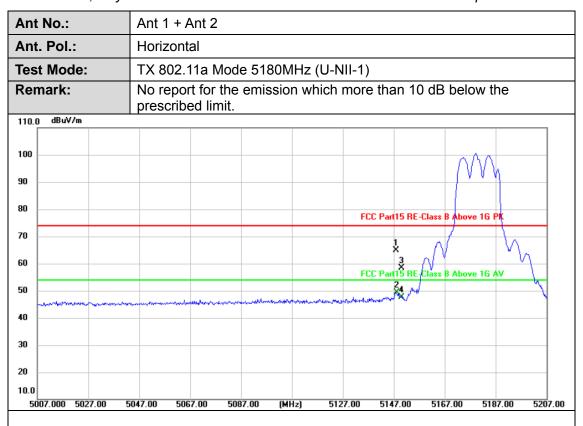
Report No.: CTC20211721E03

Test Mode

Please refer to the clause 2.4.

Test Results

Pre-scan all antenna, only show the test data for worse case antenna on the test report.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	5147.867	27.77	37.15	64.92	74.00	-9.08	peak
2 *	5148.067	12.33	37.15	49.48	54.00	-4.52	AVG
3	5150.000	21.30	37.15	58.45	74.00	-15.55	peak
4	5150.000	10.56	37.15	47.71	54.00	-6.29	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



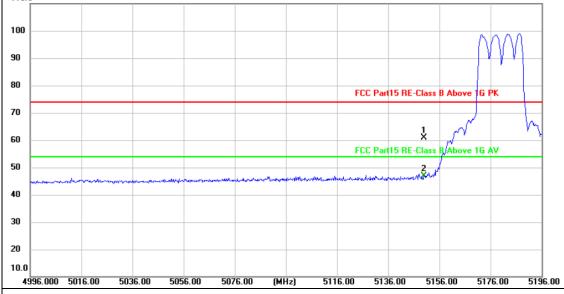
Ant No.: Ant 1 + Ant 2

Ant. Pol.: Vertical

Test Mode: TX 802.11a Mode 5180MHz (U-NII-1)

Remark: No report for the emission which more than 10 dB below the prescribed limit.

Report No.: CTC20211721E03



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	5150.000	23.84	37.15	60.99	74.00	-13.01	peak
2 *	5150.000	9.66	37.15	46.81	54.00	-7.19	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant No.: Ant 1 + Ant 2								
Ant	. Pol.:	Horizontal	Horizontal					
Tes	t Mode:	TX 802.11a Mod	ode 5240MHz (U-NII-1)					
Rer	mark:	No report for the prescribed limit.	ne emission which more than 10 dB below the					
110.0) dBuV/m							
100	$\wedge \wedge \wedge$							
90	100							
80			FCC Part15 RE-Class B Above 1G PK					
70	$\sqrt{}$	١٥						
60			FCC Part15 RE-Class B Above 1G AV					
50		hotel was a second	10 Z					
40								
30								
20								
10.0	23.000 5243.00	5263.00 5283.00 53	5303.00 (MHz) 5343.00 5363.00 5383.00 5403.00 5423					

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	5350.000	21.70	37.41	59.11	74.00	-14.89	peak
2 *	5350.000	5.29	37.41	42.70	54.00	-11.30	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



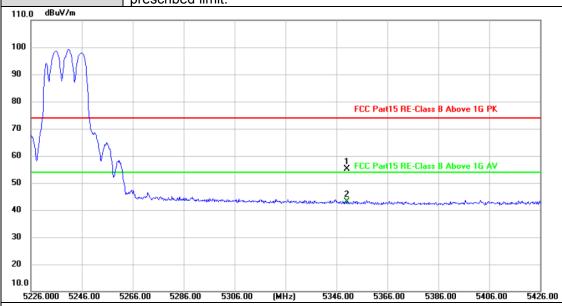
Ant No.: Ant 1 + Ant 2

Ant. Pol.: Vertical

Test Mode: TX 802.11a Mode 5240MHz (U-NII-1)

Remark: No report for the emission which more than 10 dB below the prescribed limit.

Report No.: CTC20211721E03



No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	5350.000	17.82	37.41	55.23	74.00	-18.77	peak
2 *	5350.000	5.61	37.41	43.02	54.00	-10.98	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

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Ant	No.:	: Ant 1 + Ant 2			
Ant	. Pol.:	Horizontal			
Tes	t Mode:	TX 802.11n(HT20) Mode 5180MHz (U-NII-1)			
Rer	mark:	No report for the emission which more than 10 dB below the prescribed limit.			
110.0) dBuV/m				
100					
90		/ V V V			
80		FCC Part15 RE-Class B Above 16 PK			
70		1 1			
60		FCC Part15 RE-Class B Above 1G AV			
50		name and the second of the sec			
40	Water Commencer - Jan March				
30					
20					
10.0					

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	5147.479	27.39	37.15	64.54	74.00	-9.46	peak
2 *	5148.551	12.44	37.15	49.59	54.00	-4.41	AVG
3	5150.000	22.80	37.15	59.95	74.00	-14.05	peak
4	5150.000	8.56	37.15	45.71	54.00	-8.29	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical TX 802.11n(HT20) Mode 5180MHz (U-NII-1) **Test Mode:** No report for the emission which more than 10 dB below the Remark: prescribed limit. dBuV/m 110.0 100 90 80 FCC Part15 RE-Class B Above 16 PK 70 60 FCC Part 15 RE-Class B Above 1G AV 50 40 30

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	5147.631	25.36	37.15	62.51	74.00	-11.49	peak
2 *	5147.911	11.77	37.15	48.92	54.00	-5.08	AVG
3	5150.000	20.11	37.15	57.26	74.00	-16.74	peak
4	5150.000	8.59	37.15	45.74	54.00	-8.26	AVG

(MHz)

5113.00

5133.00

Remarks:

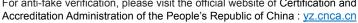
20 10.0

4993.000 5013.00

5053.00

5073.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor







nt No.: Ant 1 + Ant 2							
Ant. Pol.:	Horizontal						
Test Mode:	TX 802.11n(HT20) Mode 5240MHz (U-NII-1)						
Remark:	No report for the emission which more than 10 dB below the prescribed limit.						
110.0 dBuV/m							
100							
90							
80	FCC Part15 RE-Class B Above 1G PK						
70							
60	T X FCC Part 15 RE-Class B Above 1G AV						
50	S						
40	The state of the s						
30							
20							
10.0							

No.	Frequency (MHz)	Reading Factor (dBuV) (dB/m)		Level (dBuV/m)		Margin (dB)	Detector
1	5350.000	20.85	37.41	58.26	74.00	-15.74	peak
2 *	5350.000	5.03	37.41	42.44	54.00	-11.56	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



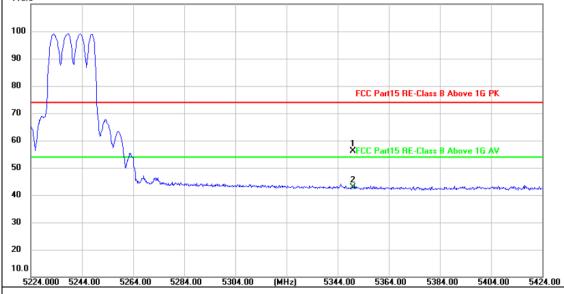
Ant No.: Ant 1 + Ant 2

Ant. Pol.: Vertical

Test Mode: TX 802.11n(HT20) Mode 5240MHz (U-NII-1)

Remark: No report for the emission which more than 10 dB below the prescribed limit.

Report No.: CTC20211721E03



No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)		Margin (dB)	Detector
1	5350.000	18.66	37.41	56.07	74.00	-17.93	peak
2 *	5350.000	5.41	37.41	42.82	54.00	-11.18	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

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Ant No.: Ant 1 + Ant 2							
Ant	. Pol.:	Horizontal					
Tes	t Mode:	TX 802.11ac(VHT20) Mode 5180MHz (U-NII-1)					
Rer	mark:	No report for the emission which more than 10 dB below the prescribed limit.					
110.0	dBuV/m						
100							
90							
80		FCC Part15 RE-Class B Above 1G PK					
70		/					
60		FCC Par(15 RE-Class 8 Above 1G AV					
50	باستهمل الاستراب والماري والما						
40							
30							
20 10.0							
L	96.000 5016.00	5036.00 5056.00 5076.00 (MHz) 5116.00 5136.00 5156.00 5176.00 51					

No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	5150.000	23.47	37.15	60.62	74.00	-13.38	peak
2 *	5150.000	10.74	37.15	47.89	54.00	-6.11	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



Ant No.:

Ant 1 + Ant 2

Report No.: CTC20211721E03

Ant.	Pol.:		Vertic	cal							
Test	Mode:		TX 8	02.11ac	(VHT20)	Mode 5	180MHz	(U-NII-	1)		
Rem	nark:			eport for cribed lin		ssion wh	nich more	than 10	dB belo	w the	
110.0	dBuV/m										
100										000	$\overline{}$
90										_{\\\	
80							FC	C Part15 RE	-Class B Abov	e 1G PK	
70									2 X	7	
60							FC	C Part15 RE	Class (Apov	e 1G AV	\dashv
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40											
30											
20 10.0											
	96.000 5016.0	00 5	036.00	5056.00	5076.00	(MHz)	5116.00	5136.00	5156.00	5176.00	5196.0

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5147.790	12.62	37.15	49.77	54.00	-4.23	AVG
2	5148.120	27.32	37.15	64.47	74.00	-9.53	peak
3	5150.000	21.09	37.15	58.24	74.00	-15.76	peak
4	5150.000	8.70	37.15	45.85	54.00	-8.15	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant	No.:		Ant	1 + A	nt 2							
Ant	. Pol.:		Hor	Horizontal								
Tes	t Mode:		TX	TX 802.11ac(VHT20) Mode 5240MHz (U-NII-1)								
Rer	mark:				t for the		ssion wh	ich more	e than 1	0 dB belo	w the	
110.0	0 dBuV/m											
100	$ \wedge$	Λη										
90												
80								F	CC Part15 RE	-Class B Abov	e 1G PK	
70	\mathbb{A}	$ \wedge$	1									
60	V		1					F	I CC Part15 RE	-Class B Abov	e 1G AV	
50			+	m.					3			
40				***	THE RESERVE AND ADDRESS OF THE PERSON NAMED AND ADDRESS OF THE	a construction of the cons		natura, policina propria Paring	Karanara, Januara		and a second	
30												
20												
10.0	220.000 5240		5260.00		0.00	5300.00	(MHz)	5340.00		5380.00	5400.00	542

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1	5350.000	19.59	37.41	57.00	74.00	-17.00	peak
2 *	5350.000	5.58	37.41	42.99	54.00	-11.01	AVG

Remarks:

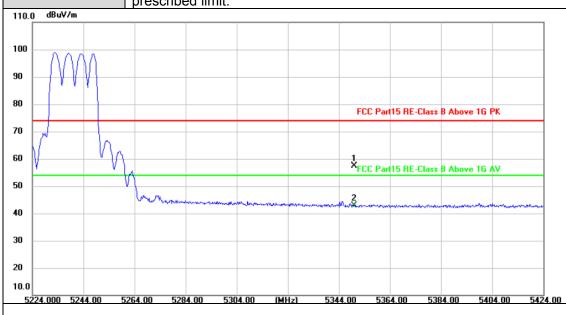
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical TX 802.11ac(VHT20) Mode 5240MHz (U-NII-1) **Test Mode:** No report for the emission which more than 10 dB below the Remark: prescribed limit.

Report No.: CTC20211721E03



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1	5350.000	20.09	37.41	57.50	74.00	-16.50	peak
2 *	5350.000	5.42	37.41	42.83	54.00	-11.17	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



Ant No	.:	Ant 1 + Ar	nt 2				
Ant. Po	ol.:	Horizonta	l .				
Test Mo	ode:	TX 802.11	In(HT40) Mod	de 5190MH	z (U-NII-	1)	
Remarl	k:	No report		sion which n	nore than	10 dB below the	Э
110.0 dB	uV/m						
100							
90						\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	\mathcal{N}
80					FCC Part15	RE-Class B Above 1G PK	
70					1 *		
60						RE-Class B Above 1G AV	· _
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40							
30							
20							
10.0							

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1	5150.000	25.06	37.15	62.21	74.00	-11.79	peak
2 *	5150.000	13.68	37.15	50.83	54.00	-3.17	AVG

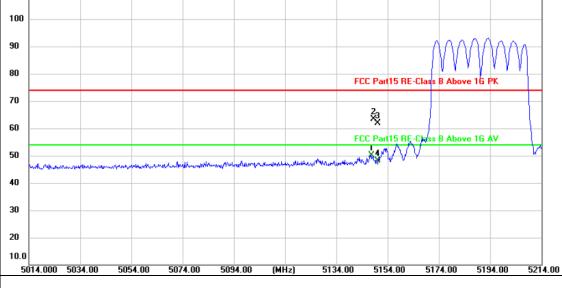
Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical TX 802.11n(HT40) Mode 5190MHz (U-NII-1) **Test Mode:** No report for the emission which more than 10 dB below the Remark: prescribed limit. dBuV/m 110.0 100 90 80 FCC Part15 RE-Cla 70



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5147.507	12.88	37.15	50.03	54.00	-3.97	AVG
2	5148.400	26.15	37.15	63.30	74.00	-10.70	peak
3	5150.000	24.63	37.15	61.78	74.00	-12.22	peak
4	5150.000	11.02	37.15	48.17	54.00	-5.83	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

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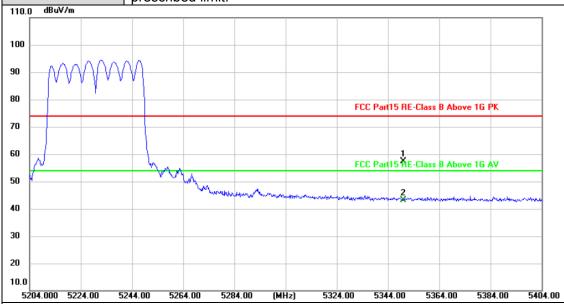
Ant No.: Ant 1 + Ant 2

Ant. Pol.: Horizontal

Test Mode: TX 802.11n(HT40) Mode 5230MHz (U-NII-1)

Remark: No report for the emission which more than 10 dB below the prescribed limit.

Report No.: CTC20211721E03



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	5350.000	19.96	37.41	57.37	74.00	-16.63	peak
2 *	5350.000	5.80	37.41	43.21	54.00	-10.79	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

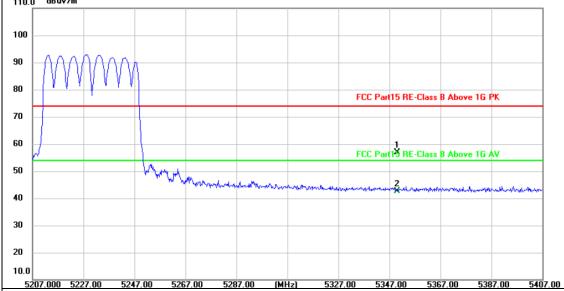
2.Margin value = Level -Limit value

For anti-take verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China: yz.cnca.cn



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical TX 802.11n(HT40) Mode 5230MHz (U-NII-1) **Test Mode:** No report for the emission which more than 10 dB below the Remark: prescribed limit. dBuV/m 110.0 100

Report No.: CTC20211721E03



No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)		Margin (dB)	Detector
1	5350.000	19.51	37.41	56.92	74.00	-17.08	peak
2 *	5350.000	5.26	37.41	42.67	54.00	-11.33	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



Ant	t No.:	Ant 1 + Ant 2	
Ant	. Pol.:	Horizontal	
Tes	t Mode:	TX 802.11ac(VHT40)) Mode 5190MHz (U-NII-1)
Rer	mark:	No report for the emi- prescribed limit.	ssion which more than 10 dB below the
110.0) dBuV/m		
100			
90			
80			FCC Part15 RE-Class B Above 1G PK
70			1.
60			FCC Part 15 RE-Class B Above 16 AV
50	and managed and black on more or	and the contract of the state o	.£ (\ / \ / \
40			
30			
20			
10.0			(MHz) 5133.00 5153.00 5173.00 5193.00 52

No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)		Margin (dB)	Detector
1	5150.000	30.04	37.15	67.19	74.00	-6.81	peak
2 *	5150.000	13.35	37.15	50.50	54.00	-3.50	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant	No.:	Ant 1 + Ant 2
Ant	. Pol.:	Vertical
Tes	t Mode:	TX 802.11ac(VHT40) Mode 5190MHz (U-NII-1)
Rer	mark:	No report for the emission which more than 10 dB below the prescribed limit.
110.0) dBuV/m	
100		
90		
80		FCC Part 15 RE-Class B Above 1G PK
70		Š ₃
60		FCC Part 15 RE-Class B Above 1G AV
50	wheelpers had made and property to the second	and a second and a
40		
30		
20		
10.0		
50	13.000 5033.00	5053.00 5073.00 5093.00 (MHz) 5133.00 5153.00 5173.00 5193.00 52

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5147.467	13.02	37.15	50.17	54.00	-3.83	AVG
2	5147.880	27.75	37.15	64.90	74.00	-9.10	peak
3	5150.000	22.75	37.15	59.90	74.00	-14.10	peak
4	5150.000	9.38	37.15	46.53	54.00	-7.47	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant	No.:		Ant 1 +	Ant 2							
Ant	. Pol.:		Horizon	tal							
Tes	t Mode:		TX 802.	11ac(VI	HT40) N	lode 5	230MHz	(U-NII-1	1)		
Rer	nark:		No repo			ion wh	ch more	than 10	dB belo	w the	
110.0	dBuV/m										
100											
90	\mathcal{M}	₩₩	\								
80							FC	C Part15 RE	-Class B Abov	e 1G PK	
70											
60			\downarrow				FC	C Part 15 RE	-Class B Abov	e 1G AV	
50			A. 10.100	1 my marane				2.			
40					anger and a 1 Mary May	And the second second	Maria Maria Managaria	Annothing the State of the Stat	and the second section of the section of t	Mayura aran kan yar	parting the state of
30											
20											
10.0		8.00 5		68.00 5	288.00		5328.00			5388.00	

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1	5350.000	20.11	37.41	57.52	74.00	-16.48	peak
2 *	5350.000	6.46	37.41	43.87	54.00	-10.13	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



Ant	No.:	Ant 1 +	Ant 2							
Ant	. Pol.:	Vertical								
Tes	t Mode:	TX 802	TX 802.11ac(VHT40) Mode 5230MHz (U-NII-1)							
Rer	nark:		No report for the emission which more than 10 dB below the prescribed limit.							
110.0	g dBuV/m									
100										
90		\mathcal{M}								
80	N 4 K Y Y	V V)			FCC Pa	rt15 RE-Class E	3 Above 1G PK			
70										
60	A				FCC Pa	rt15xRE-Class	3 Above 1G AV			
50	V	\\\\	Walland Market Commission	with Magazinia Magazinia Magazinia	Aurt Hanne manuel	2	and the second	NA IN CUI		
40							Annah dang menjegan salah tahun belangkan sa	- 40-7 %		
30								_		
20										
10.0										

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1	5350.000	17.87	37.41	55.28	74.00	-18.72	peak
2 *	5350.000	5.79	37.41	43.20	54.00	-10.80	AVG

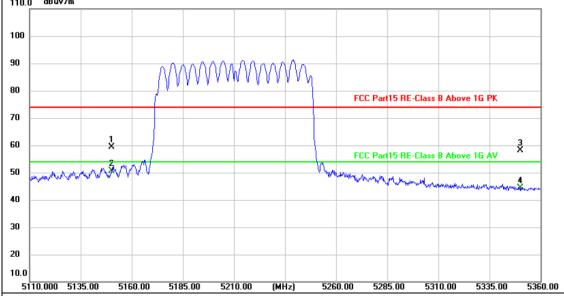
Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Horizontal TX 802.11ac(VHT80) Mode 5210MHz (U-NII-1) **Test Mode:** No report for the emission which more than 10 dB below the Remark: prescribed limit. dBuV/m 110.0 100

Report No.: CTC20211721E03



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	5150.000	22.18	37.15	59.33	74.00	-14.67	peak
2 *	5150.000	13.58	37.15	50.73	54.00	-3.27	AVG
3	5350.000	20.77	37.41	58.18	74.00	-15.82	peak
4	5350.000	6.88	37.41	44.29	54.00	-9.71	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical TX 802.11ac(VHT80) Mode 5210MHz (U-NII-1) **Test Mode:** No report for the emission which more than 10 dB below the Remark: prescribed limit. dBuV/m 110.0 100 90 FCC Part15 RE-Class B Above 1G PK 70 60 FCC Part15 RE-Class B Above 1G AV 50 40 30 20 10.0 5110.000 5135.00 5160.00 5185.00 5210.00 (MHz) 5260.00 5285.00 5310.00 5335.00 5360.00

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	5150.000	22.03	37.15	59.18	74.00	-14.82	peak
2 *	5150.000	12.24	37.15	49.39	54.00	-4.61	AVG
3	5350.000	17.72	37.41	55.13	74.00	-18.87	peak
4	5350.000	7.01	37.41	44.42	54.00	-9.58	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value





Ant 1 + Ant 2 Ant No.: Ant. Pol.: Horizontal **Test Mode:** TX 802.11a Mode 5745MHz (U-NII-3) No report for the emission which more than 10 dB below the Remark: prescribed limit. dBuV/m 130.0 120 110 100 90 80 FCC Part15.407 U-NII-3 70 Margin -6 dB 60 50 40 30.0

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	
1 *	5725.000	65.44	5.00	70.44	122.20	-51.76	peak	

(MHz)

5815.00

5842.50

5870.00

5897.50

5925.00

Remarks:

5650.000 5677.50

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

5705.00

5732.50

5760.00

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Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11a Mode 5745MHz (U-NII-3) No report for the emission which more than 10 dB below the Remark: prescribed limit. dBuV/m 130.0 120 110 100 90 80 FCC Part15.407 U-NII-3 70 Margin -6 dB 60 50 pr^Adraw Prayon (to Ayrold Volady volady volady vol 40 5650.000 5677.50 5705.00 5732.50 5760.00 (MHz) 5815.00 5870.00 5925.00 5842.50 5897.50

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5725.000	57.02	5.00	62.02	122.20	-60.18	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

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Ant No.: Ant 1 + Ant 2 Ant. Pol.: Horizontal **Test Mode:** TX 802.11a Mode 5825MHz (U-NII-3) No report for the emission which more than 10 dB below the Remark: prescribed limit. 130.0 dBuV/m 120 110 100 90 80 FCC Part15.407 U-NII-3 70 60 50 40 30.0

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	
1 *	5850.000	47.22	5.38	52.60	122.20	-69.60	peak	

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

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Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11a Mode 5825MHz (U-NII-3) No report for the emission which more than 10 dB below the Remark: prescribed limit. dBuV/m 130.0 120 110 100 90 80 FCC Part15.407 U-NII-3 70 Margin -6 dB 60 50 40 30.0 5650.000 5677.50 5732.50 (MHz) 5842.50 5925.00

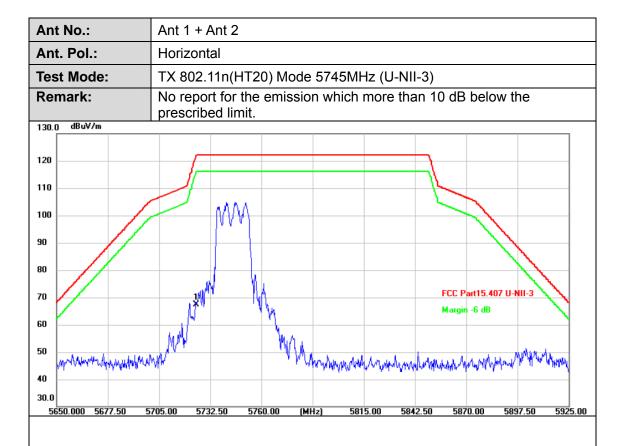
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	
1 *	5850.000	47.89	5.38	53.27	122.20	-68.93	peak	Ī

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value





No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	
1 *	5725.000	62.43	5.00	67.43	122.20	-54.77	peak	

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

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5925.00

Margin -6 dB

5870.00



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11n(HT20) Mode 5745MHz (U-NII-3) No report for the emission which more than 10 dB below the Remark: prescribed limit. dBuV/m 130.0 120 110 100 90 80 FCC Part15.407 U-NII-3 70

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5725.000	60.96	5.00	65.96	122.20	-56.24	peak

(MHz)

5815.00

5842.50

5760.00

5732.50

5705.00

Remarks:

60

50

40

5650.000 5677.50

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Horizontal **Test Mode:** TX 802.11n(HT20) Mode 5825MHz (U-NII-3) No report for the emission which more than 10 dB below the Remark: prescribed limit. 130.0 dBuV/m 120 110 100 90 ខព FCC Part15.407 U-NII-3 70 Margin -6 dB 60 50 40 30.0 (MHz)

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5850.000	51.20	5.38	56.58	122.20	-65.62	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

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Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical TX 802.11n(HT20) Mode 5825MHz (U-NII-3) **Test Mode:** No report for the emission which more than 10 dB below the Remark: prescribed limit. dBuV/m 130.0 120 100 90 80 FCC Part15.407 U-NII-3 70 Margin -6 dB БN 50

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	
1 *	5850.000	48.25	5.38	53.63	122.20	-68.57	peak	

5815.00

5842.50

5870.00

Remarks:

40 30.0

5650.000 5677.50

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

5705.00

5732.50

5760.00





Ant No.: Ant 1 + Ant 2 Ant. Pol.: Horizontal **Test Mode:** TX 802.11ac(VHT20) Mode 5745MHz (U-NII-3) No report for the emission which more than 10 dB below the Remark: prescribed limit. dBuV/m 130.0 120 110 100 90 80 FCC Part15.407 U-NII-3 70 Margin -6 dB 60 50 40 30.0 5760.00 5732.50 (MHz)

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5725.000	63.37	5.00	68.37	122.20	-53.83	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

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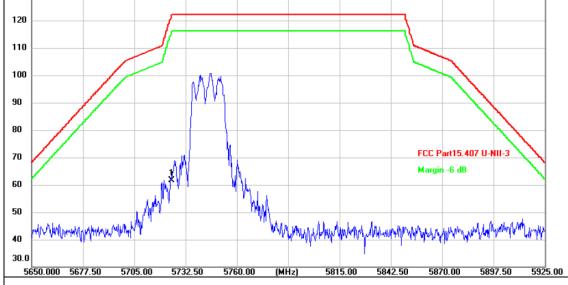


Ant No.: Ant 1 + Ant 2

Ant. Pol.: Vertical

Test Mode: TX 802.11ac(VHT20) Mode 5745MHz (U-NII-3)

Remark: No report for the emission which more than 10 dB below the prescribed limit.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5725.000	56.70	5.00	61.70	122.20	-60.50	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Horizontal **Test Mode:** TX 802.11ac(VHT20) Mode 5825MHz (U-NII-3) No report for the emission which more than 10 dB below the Remark: prescribed limit. 130.0 dBuV/m 120 110 100 90 80 FCC Part15.407 U-NII-3 70 Margin -6 dB 60 50 40 30.0 5650.000 5677.50 (MHz) 5842.50 5925.00

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5850.000	48.22	5.38	53.60	122.20	-68.60	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11ac(VHT20) Mode 5825MHz (U-NII-3) No report for the emission which more than 10 dB below the Remark: prescribed limit. dBuV/m 120 110 100 90 80 FCC Part15.407 U-NII-3 70 Margin -6 dB 60 50 40 30.0 5650.000 5677.50 5705.00 5760.00 (MHz) 5815.00 5842.50 5870.00 5925.00

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5850.000	46.45	5.38	51.83	122.20	-70.37	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Horizontal **Test Mode:** TX 802.11n(HT40) Mode 5755MHz (U-NII-3) No report for the emission which more than 10 dB below the Remark: prescribed limit. dBuV/m 130.0 120 110 100 90 80 FCC Part15.407 U-NII-3 70 Margin -6 dB 60 50 40 30.0

No.	Frequency (MHz)	Reading (dBuV)		Level (dBuV/m)			Detector
1 *	5719.117	69.54	4.98	74.52	110.55	-36.03	peak
2	5725.000	62.28	5.00	67.28	122.20	-54.92	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11n(HT40) Mode 5755MHz (U-NII-3) No report for the emission which more than 10 dB below the Remark: prescribed limit. dBuV/m 130.0 120 100 90 80 many photo Market Marke FCC Part15.407 U-NII-3 70 Margin -6 dB Athan wall was a same of the s 60 50 40 30.0 5897.50 5650.000 5677.50 5705.00 5732.50 5760.00 (MHz) 5815.00 5842.50 5870.00 5925.00

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5725.000	59.82	5.00	64.82	122.20	-57.38	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Horizontal **Test Mode:** TX 802.11n(HT40) Mode 5795MHz (U-NII-3) No report for the emission which more than 10 dB below the Remark: prescribed limit. dBuV/m 130.0 120 110 100 90 80 FCC Part15.407 U-NII-3 70 Margin -6 dB БN 50 30.0 5650.000 5677.50 5732.50 5760.00 (MHz) 5815.00 5842.50 5925.00 5897.50

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	
1 *	5850.000	41.49	5.38	46.87	122.20	-75.33	peak	

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11n(HT40) Mode 5795MHz (U-NII-3) No report for the emission which more than 10 dB below the Remark: prescribed limit. dBuV/m 130.0 120 110 100 90 80 FCC Part15.407 U-NII-3 70 Margin -6 dB 60 50 40 30.0 5650.000 5677.50 5705.00 5732.50 5760.00 (MHz) 5815.00 5842.50 5870.00

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	
1 *	5850.000	40.68	5.38	46.06	122.20	-76.14	peak	

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

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Ant No.: Ant 1 + Ant 2 Ant. Pol.: Horizontal **Test Mode:** TX 802.11ac(VHT40) Mode 5755MHz (U-NII-3) No report for the emission which more than 10 dB below the Remark: prescribed limit. dBuV/m 130.0 120 110 100 90 80 FCC Part15.407 U-NII-3 70 Margin -6 dB БN 50 30.0 5650.000 5677.50 5705.00 5732.50 5760.00 (MHz) 5815.00 5842.50 5870.00 5897.50 5925.00

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	
1 *	5725.000	63.81	5.00	68.81	122.20	-53.39	peak	Ī

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11ac(VHT40) Mode 5755MHz (U-NII-3) No report for the emission which more than 10 dB below the Remark: prescribed limit. dBuV/m 130 0 120 110 100 90 80 FCC Part15.407 U-NII-3 70 Margin -6 dB 60 40 30.0 5732.50 5760.00 (MHz) 5842.50

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5725.000	58.65	5.00	63.65	122.20	-58.55	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

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Ant No.: Ant 1 + Ant 2 Ant. Pol.: Horizontal **Test Mode:** TX 802.11ac(VHT40) Mode 5795MHz (U-NII-3) No report for the emission which more than 10 dB below the Remark: prescribed limit. 130.0 dBuV/m 120 110 100 90 ደበ MANANTAN MAN FCC Part15.407 U-NII-3 70 Margin -6 dB 60 50 40 30.0 5760.00 (MHz) 5815.00 5842.50

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	
1 *	5850.000	43.08	5.38	48.46	122.20	-73.74	peak	

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



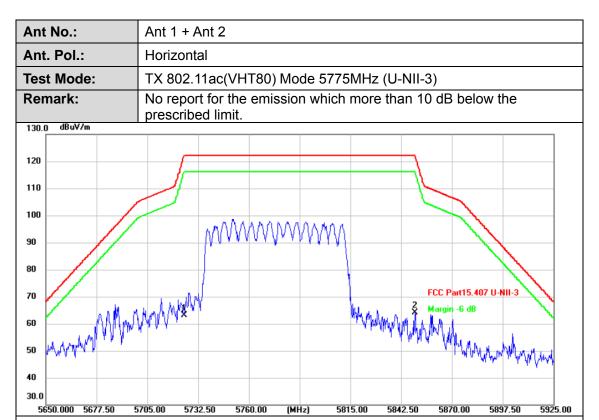
Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11ac(VHT40) Mode 5795MHz (U-NII-3) No report for the emission which more than 10 dB below the Remark: prescribed limit. 130.0 dBuV/m 120 110 100 90 80 FCC Part15.407 U-NII-3 70 Margin -6 dB 60 50 40 30.0 5650.000 5677.50 5760.00 (MHz) 5815.00 5842.50 5870.00 5897.50 5925.00

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	5850.000	40.98	5.38	46.36	122.20	-75.84	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor





No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1	5725.000	58.01	5.00	63.01	122.20	-59.19	peak
2 *	5850.000	58.67	5.38	64.05	122.20	-58.15	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

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Ant No.: Ant 1 + Ant 2 Ant. Pol.: Vertical **Test Mode:** TX 802.11ac(VHT80) Mode 5775MHz (U-NII-3) No report for the emission which more than 10 dB below the Remark: prescribed limit. 130.0 dBuV/m 120 110 100 90 80 FCC Part15.407 U-NII-3 70 Margin -6 dB 60 50 40

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1 *	5725.000	58.21	5.00	63.21	122.20	-58.99	peak
2	5850.000	47.55	5.38	52.93	122.20	-69.27	peak

(MHz)

5815.00

5842.50

5870.00

5897.50

5925.00

Remarks:

5650.000 5677.50

5705.00

5732.50

5760.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

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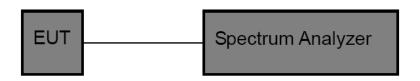


3.4. Bandwidth Test

Limit

FCC Part 15 Subpart C(15.407)/ RSS-247					
Test Item Limit Frequency Range (MHz)					
	N/A	5150~5250			
26 Bandwidth		5250~5350			
		5500~5700			
6 dB Bandwidth	>500kHz	5725~5850			

Test Configuration



Test Procedure

Please refer to According to KDB789033 D02, for the measurement methods.

The setting of the spectrum analyser as below:

26dB Bandwidth Test				
Spectrum Parameters Setting				
Attenuation	Auto			
Span	>26 dB Bandwidth			
RBW	Approximately 1% of the emission bandwidth			
VBW	VBW>RBW			
Detector	Peak			
Trace	Max Hold			
Sweep Time	Auto			



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6dB Bandwidth Test					
Spectrum Parameters	Setting				
Attenuation	Auto				
Span	>6 dB Bandwidth				
RBW	100 kHz				
VBW	VBW>=3*RBW				
Detector	Peak				
Trace	Max Hold				
Sweep Time	Auto				
99	% Occupied Bandwidth Test				
Spectrum Parameters	Setting				
Attenuation	Auto				
RBW	1% to 5% of the OBW				
VBW	≥ 3RBW				
Detector	Peak				
Trace	Max Hold				

Note: The EUT was set to continuously transmitting in each mode and low, Middle and high channel for the test.

Test Mode

Please refer to the clause 2.4.

Test Results

Please see the Appendix A1, A2, A3.



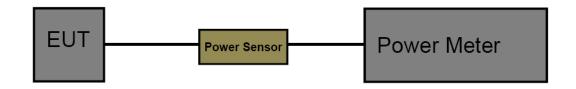
3.5. Output Power Test

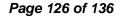
<u>Limit</u>

FCC Part 15 Subpart E (15.407)						
Test Item	Limit	Frequency Range(MHz)				
	Fixed: 1 Watt (30dBm) Mobile and Portable: 250mW (24dBm)	5150~5250				
Conducted Output Power	250mW (24dBm)	5250~5350				
	250mW (24dBm)	5500~5700				
	1 Watt (30dBm)	5725~5850				

		it			
Frequency	Type of devices	Maximum Conducted	EIRP Output Power	Conducted Power	EIRP Power
,		Output Power		Spectral Density	Spectral Density
5150MHz-5250MHz	in vehicles		30mW or 1.76 + 10 × log10B dBm, whichever is less (B=99% OBW in MHz)		
	Other Devices		200mW or 10 + 10 × logsOB dBm, whichever is less (B=99% OBW in MHz)		10dBm/MHz
	in vehicles		30mW or 1.76 + 10 × log10B dBm, whichever is less (B=99% OBW in MHz)		
5250MHz-5350MHz	Other Devices	250mW or 11 + 10 × log10B dBm, whichever is less (B=99% OBW in MHz)	1W or 17 + 10 ×logioB dBm, whichever is less (B=99% OBW in MHz)	11 dBm/Mhz	
5470MHz-5600MHz 5650MHz-5725MHz	ALL Devices	250mW or 11 + 10 × log:0B dBm, whichever is less (B=99% OBW in MHz)	1W or 17 + 10 ×log10B dBm, whichever is less (B=99% OBW in MHz)	11 dBm/Mhz	
5725MHz-5850MHz	ALL Devices	1₩		30dBm/500KHz	

Test Configuration







Test Procedure

The measurement is according to section 3 of KDB 789033 D02 General UNII Test Procedures New Rules V02r01.

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Test Mode

Please refer to the clause 2.4.

Test Result

Please see the Appendix B.



3.6. Power Spectral Density Test

Limit

FCC Part 15 Subpart E(15.407)/ RSS-247

For the 5.15~5.25GHz band:

Outdoor AP

The peak power spectral density (PSD) shall not exceed the lesser of 17dBm/MHz. If G_{Tx} >6dBi, then PSD =17-(G_{Tx} -6).

Indoor AP

The peak power spectral density (PSD) shall not exceed the lesser of 17dBm/MHz. If G_{Tx} >6dBi, then PSD =17-(G_{Tx} -6).

Point-to-point AP

The peak power spectral density (PSD) shall not exceed the lesser of 17dBm/MHz. If G_{Tx} >23dBi, then PSD =17-(G_{Tx} -23).

Client devices

The peak power spectral density (PSD) shall not exceed the lesser of 11dBm/MHz. If G_{Tx} >6dBi, then PSD =11-(G_{Tx} -6).

For the 5.25~5.35GHz band:

The peak power spectral density (PSD) shall not exceed the lesser of 11dBm/MHz. If G_{Tx} >6dBi, then PSD =11-(G_{Tx} -6).

For the 5.47~5.725GHz band:

The peak power spectral density (PSD) shall not exceed the lesser of 11dBm/MHz. If G_{Tx} >6dBi, then PSD =11-(G_{Tx} -6).

For the 5.725~5.85GHz band:

Point-to-multipoint systems (P2M)

The peak power spectral density (PSD) shall not exceed the lesser of 30dBm/500kHz. If $G_{Tx}>6dBi$, then PSD = $30-(G_{Tx}-6)$.

Point-to-point systems (P2P)

The peak power spectral density (PSD) shall not exceed the lesser of 30dBm/500kHz.

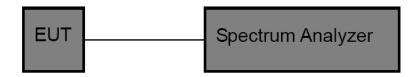
Note: G_{Tx}: EUT Antenna gain.

		IC Power@PSD Lin	nit		
Frequency	Type of devices	Maximum Conducted	FIRE Contact Bosses	Conducted Power	EIRP Power
rrequency	Type or devices	Output Power	Power EIRP Output Power	Spectral Density	Spectral Density
5150MHz-5250MHz	in vehicles		30mW or 1.76 + 10 × log:0B dBm, whichever is less (B=99% OBW in MHz)		
	Other Devices		200mW or 10 + 10 × logioB dBm, whichever is less (B=99% OBW in MHz)		10dBm/MHz
	in vehicles		30mW or 1.76 + 10 × logioB dBm, whichever is less (B=99% OBW in MHz)		
5250MHz-5350MHz	Other Devices	250mW or 11 + 10 × logiOB dBm, whichever is less (B=99% OBW in MHz)	1W or 17 + 10 ×logioB dBm, whichever is less (B=99% OBW in MHz)	11 dBm/Mhz	
5470MHz-5600MHz 5650MHz-5725MHz	ALL Devices	250mW or 11 + 10 × log10B dBm, whichever is less (B=99% OBW in MHz)	1W or 17 + 10 ×log10B dBm, whichever is less (B=99% OBW in MHz)	11 dBm/Mhz	
5725MHz-5850MHz	ALL Devices	1₩		30 dBm/500KHz	

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Test Configuration



Test Procedure

The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement is according to KDB 789033 D02 General UNII Test Procedures New Rules V02r01.

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Set analyzer center frequency to transmitting frequency.
- (3) Set the span to encompass the entire emissions bandwidth (EBW)(alternatively, the entire 99% OBW) of the signal.
- (4) RBW=1MHz for devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz RBW=500kHz for devices operating in the band 5.725-5.85 GHz
- (5) Set the VBW to: ≥ 3 RBW
- (6) Detector: AVG
- (7) Trace: Max Hold and View
- (7) Sweep time: auto
- (8) Trace average at least 100 traces in power averaging.
- (9) User the peak marker function to determine the maximum amplitude level within the RBW. Apply correction to the result if different RBW is used.

NOTE: The EUT was set to continuously transmitting in each mode and low, Middle and high channel for the test.

Test Mode

Please refer to the clause 2.4.

Test Result

Please see the Appendix C.



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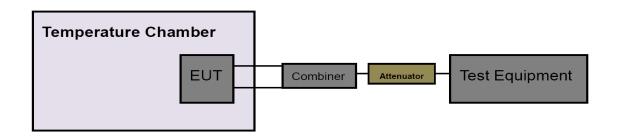


3.7. Frequency Stability Measurement

Limit

FCC Part 15 Subpart C(15.407)						
Test Item	Frequency Range(MHz)					
	Specified in the user's manual,	5150~5250				
Peak Excursion Measurement	the transmitter center frequency	5250~5350				
Peak Excursion Measurement	tolerance shall be ±20 ppm maximum for the 5 GHz band	5500~5700				
	(IEEE 802.11n specification)	5725~5850				

Test Configuration



Test Procedure

The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above.

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Set analyzer center frequency to transmitting frequency.
- (3) Set the span to encompass the entire emissions bandwidth (EBW) of the signal.
- (4) Set the RBW to: 10MHz, VBW=10MHz with peak detector and maxhold settings.
- (5) The test extreme voltage is to change the primary supply voltage from 5.5V to 4.5V percent of the nominal value.
- (6) Extreme temperature is 0°C~40°C

NOTE: The EUT was set to continuously transmitting in continuously un-modulation transmitting mode.

Test Mode

Please refer to the clause 2.4.

Test Result

Please see the Appendix D.



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3.8. Antenna Requirement

Standard Requirement

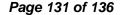
FCC CFR Title 47 Part 15 Subpart C Section 15.203:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, 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.

Test Result

The directional gain of the antenna U-NII-1: 7.13dBi, U-NII-3: 7.26dBi, please refer to the EUT internal photographs antenna photo.

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3.9. Dynamic Frequency Selection(DFS)

Requirement

Table 1: Applicability of DFS Requirements Prior to Use of a Channel

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	Operational Mode			
Requirement	Master	Client Without Radar Detection	Client With Radar Detection	
Non-Occupancy Period	Yes	Not required	Yes	
DFS Detection Threshold	Yes	Not required	Yes	
Channel Availability Check Time	Yes	Not required	Not required	
U-NII Detection Bandwidth	Yes	Not required	Yes	

Table 2: Applicability of DFS requirements during normal operation

	Operational Mode			
Requirement	Master Device or Client with Radar Detection	Client Without Radar Detection		
DFS Detection Threshold	Yes	Not required		
Channel Closing Transmission Time	Yes	Yes		
Channel Move Time	Yes	Yes		
U-NII Detection Bandwidth	Yes	Not required		

Additional requirements for devices with multiple bandwidth modes	Master Device or Client with Radar Detection	Client Without Radar Detection
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required

Note: Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.

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1. DFS Detection Thresholds

Table 3: DFS Detection Thresholds for Master Devices and Client Devices With Radar Detection

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Value (See Notes 1, 2, and 3)
-64 dBm
-62 dBm
-64 dBm

Note 1: This is the level at the input of the receiver assuming a 0dBi receive antenna.

Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.

Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.

2. DFS Response Requirements

Table 4: DFS Response Requirement Values

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.

Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required facilitating a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

RADAR TEST WAVEFORMS

This section provides the parameters for required test waveforms, minimum percentage of successful detections, and the minimum number of trials that must be used for determining DFS conformance. Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms.

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Table 5 Short Pulse Radar Test Waveforms

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Radar Type	Pulse Width (µsec)	PRI (µsec) Number of Pulses		Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	See Note 1
		Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a	$\text{Roundup} \left\{ \left(\frac{1}{360} \right) \cdot \left(\frac{19 \cdot 10^6}{\text{PRI}_{\mu \text{sec}}} \right) \right\}$		
1	1	Test B: 15 unique PRI values randomly selected within the range of 518-3066 µsec, with a minimum increment of 1 µsec, excluding PRI values selected in Test A		60%	30
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
	Agg	gregate (Radar Types 1	-4)	80%	120
Aggregate (Radar Types 1-4) 80% 120 Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time.					

Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.

A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. If more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms. If more than 30 waveforms are used for Short Pulse Radar Type 1, then each additional waveform is generated with Test B and must also be unique and not repeated from the previous waveforms in Tests A or B.

For example if in Short Pulse Radar Type 1 Test B a PRI of 3066 µsec is selected, the number of pulses

would be Round up
$$\left\{ \left(\frac{1}{360} \right) \cdot \left(\frac{19 \cdot 10^6}{3066} \right) \right\} = \text{Round up } \{17.2\} = 18.$$

Table 5a - Pulse Repetition Intervals Values for Test A

Pulse Repetition Frequency	Pulse Repetition Frequency	Pulse Repetition Interval
Number	(Pulses Per Second)	(Microseconds)
1	1930.5	518
2	1858.7	538
3	1792.1	558
4	1730.1	578
5	1672.2	598
6	1618.1	618
7	1567.4	638
8	1519.8	658
9	1474.9	678
10	1432.7	698

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11	1392.8	718
12	1355	738
13	1319.3	758
14	1285.3	778
15	1253.1	798
16	1222.5	818
17	1193.3	838
18	1165.6	858
19	1139	878
20	1113.6	898
21	1089.3	918
22	1066.1	938
23	326.2	3066

Table 6 – Long Pulse Radar Test Waveform

Radar Type	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Number of Pulses per Burst	Number of Bursts	Minimum Percentage of Successful Detection	Minimum Number of Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

The parameters for this waveforms are randomly chosen. Thirty unique waveforms are required for the Long Pulse Radar Type waveforms. If more than 30 waveforms are used for the Long Pulse Radar Type wave forms, then each additional waveform must also be unique and not repeated from the previous waveforms.

Table 7 – Frequency Hopping Radar Test Waveform

Radar Type	Pulse Width (µsec)	PRI (µsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Percentage of Successful Detection	Minimum Number of Trials
6	1	333	9	0.333	300	70%	30

For the Frequency Hopping Radar Type, the same Burst parameters are used for each wave form. The hopping sequence is different for each wave form and a 100-length segment is selected from the hopping sequence defined by the following algorithm:

The first frequency in a hopping sequence is selected randomly from the group of 475 integer frequencies from 5250–5724MHz.Next,the frequency that was just chosen is removed from the group and a frequency is randomly selected from the remaining 474 frequencies in the group. This process continues until all 475 frequencies are chosen for the set. For selection of a random frequency, the frequencies remaining within the group are always treated as equally likely.

Calibration of Radar Waveform

Radar Waveform Calibration Procedure

- 1) A 50 ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected to place of the master
- 2) The interference Radar Detection Threshold Level is -62dBm + 0dBi +1dB = -61dBm that had been taken into account the output power range and antenna gain.
- 3) The following equipment setup was used to calibrate the conducted radar waveform. A vector signal generator was utilized to establish the test signal level for radar type 0. During this process there were no transmissions by either the master or client device. The spectrum analyzer was switched to the zero spans (time domain) at the frequency of the radar waveform generator. Peak detection was

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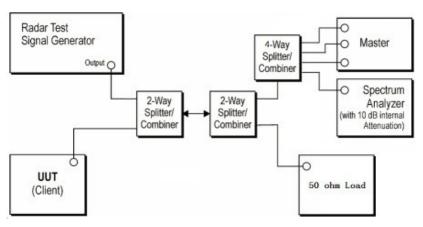


used. The spectrum analyzer resolution bandwidth (RBW) and video bandwidth (VBW) were set to 3 MHz. The spectrum analyzer had offset -1.0dB to compensate RF cable loss 1.0dB.

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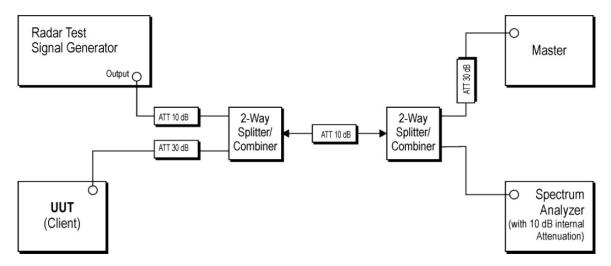
4) The vector signal generator amplitude was set so that the power level measured at the spectrum analyzer was - -62dBm + 0dBi +1dB = -61dBm. Capture the spectrum analyzer plots on short pulse radar waveform.

Conducted Calibration Setup



Test Configuration

Setup for Client with injection at the Master



Radar Waveform Calibration Result

☐ Passed
☒ Not Applicable



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Test Procedure

- 1. The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
- 2. The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device
- 3. A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
- 4. EUT will associate with the master at channel. The file "iperf.exe" specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.
- 5. When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
- 6. Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type
- 7. Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: Dwell (0.3ms) =S (12000ms) / B (4000); where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: C (ms)= N X Dwell (0.3ms); where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
- 8. Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

Test	Mode

Р	ease	refer	to	the	clause	2.4.

☐ Passed	

