# TEST REPORT of FCC PART 15 SUBPART E

New Application; Class I PC; Class II PC

Product :	ProDVX APPC-10SLBe
Brand:	ProDVX
Model:	APPC-10SLBe 10 inch Android Panel PC Impact
Model Difference:	N/A
FCC ID:	2AR42APPC10SLBE
FCC Rule Part:	§15.407, Cat:NII
Applicant:	ProDVX Europe B.V.
Address:	Europalaan 10, 5232 BC Den Bosch, The Netherlands

Test Performed by:



International Standards Laboratory Corp. LT Lab.TEL: +886-3-263-8888FAX: +886-3-263-8899

No. 120, Lane 180, Hsin Ho Rd., Lung-Tan Dist., Tao Yuan City 325, Taiwan

Report No.: **ISL-22LR0167FE** Issue Date :**2022/10/03** 



Test results given in this report apply only to the specific sample(s) tested and are traceable to national or international standard through calibration of the equipment and evaluating measurement uncertainty herein.

The uncertainty of the measurement does not include in consideration of the test result unless the customer required the determination of uncertainty via the agreement, regulation or standard document specification.

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### **VERIFICATION OF COMPLIANCE**

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Applicant:	ProDVX Europe B.V.
Product Description:	ProDVX APPC-10SLBe
Brand Name:	ProDVX
Model No.:	APPC-10SLBe 10 inch Android Panel PC Impact
Model Difference:	N/A
FCC ID:	2AR42APPC10SLBE
Date of test:	2022/09/12 ~ 2022/09/30
Date of EUT Received:	2022/09/12

#### We hereby certify that:

All the tests in this report have been performed and recorded in accordance with the standards described above and performed by an independent electromagnetic compatibility consultant, International Standards Laboratory Corp.

The test results contained in this report accurately represent the measurements of the characteristics and the energy generated by sample equipment under test at the time of the test. The sample equipment tested as described in this report is in compliance with the limits of above standards.

Test By:	Barry Lee	Date:	2022/10/03
Prepared By:	Barry Lee / Senior Engineer Gigi Jeh Gigi Yeh / Senior Engineer	Date:	2022/10/03
Approved By:	Suy In	Date:	2022/10/03

Jerry Liu / Assistant Manager



# Version

Version No.	Date	Description		
00	2022/10/03	Initial creation of document		

# **Uncertainty of Measurement**

ISO/IEC 17025 requires that an estimate of measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)).

Parameter	Uncertainty (k=2)
Conducted Emission (AC power line)	±0.852 dB
Spurious emissions, radiated	±3.46 dB
RF power, conducted	±1.386 dB
Power Density	±1.432 dB
RF Frequency	$\pm 0.00298\%$
Time	±0.01%
DC Voltage	$\pm 0.808\%$



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# 1. General Information

# **1.1. Product Description**

General:

General Information			
Product Name:	ProDVX APPC-1	0SLBe	
Brand Name:	ProDVX		
Model Name:	APPC-10SLBe 10 inch Android Panel PC Impact		
Model Difference:	N/A		
Temperature Range	0°C to 40°C		
	12V DC from adaptor		
Power Supply:	Adaptor:	Model:2AAJ024FC	

WiFi Information						
WLAN Modular	AP6256					
	WLAN 5GHz Band					
	U-NII-1 5150MHz ~ 5250MHz					
Frequency Range:	U-NII-2A 5250MHz ~ 5350MHz					
	U-NII-2C 5470MHz ~ 5725MHz					
	U-NII-3 5725MHz ~ 5825MHz					
	5150MHz ~ 5250MHz: 14.09dBm					
Max Output Power:	5250MHz ~ 5350MHz: 13.85dBm					
Wax Output I Ower.	5470MHz ~ 5725MHz: 14.2dBm					
	5725MHz ~ 5825MHz: 13.85dBm					
	WLAN 5GHz Band					
	802.11a U-NII-1 : 4ch					
	802.11a U-NII-2A : 4ch					
	802.11a U-NII-2C : 11ch					
	802.11a U-NII-3 : 5ch					
Channel number:	802.11n(HT20) U-NII-1 : 4ch					
	802.11n(HT20) U-NII-2A : 4ch					
	802.11n(HT20) U-NII-2C : 11ch					
	802.11n(HT20) U-NII-3 : 5ch					
	802.11n(HT40) U-NII-1 : 2ch					
	802.11n(HT40) U-NII-2A : 2ch					
	802.11n(HT40) U-NII-2C : 5ch					



	- 1					
	802.11n(HT40)	U-NII-3	:	2ch		
	802.11ac(VHT20)	U-NII-1	:	4ch		
	802.11ac(VHT20)	U-NII-2A	:	4ch		
	802.11ac(VHT20)	U-NII-2C	:	11ch		
	802.11ac(VHT20)	U-NII-3	:	5ch		
	802.11ac(VHT40)	U-NII-1	:	2ch		
	802.11ac(VHT40)	U-NII-2A	:	2ch		
	802.11ac(VHT40)	U-NII-2C	:	5ch		
	802.11ac(VHT40)	U-NII-3	:	2ch		
	802.11ac(VHT80)	U-NII-1	:	1ch		
	802.11ac(VHT80)	U-NII-2A	:	1ch		
	802.11ac(VHT80)	U-NII-2C	:	2ch		
	802.11ac(VHT80)	U-NII-3	:	1ch		
	802.11a	Straddle		1 ch		
	802.11n(HT20)	Straddle	:	1ch		
	802.11n(HT40)	Straddle		1ch		
	802.11ac(VHT20)	Straddle		1ch		
	802.11ac(VHT40)	Straddle		1ch		
	802.11ac(VHT80)	Straddle		1ch		
Product HW Version:	22080147					
Product SW Version:	11					
Product FW Version:	11					
Test SW Version:	Ampak RFTestTool	7.3				
RF power setting:	RF power setting: Refer power table					

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	Antenna Type	Brand	Model	Peak Gain	Frequency Range	Con- nector Type
				6.63dBi	5150MHz ~ 5250MHz	
1	PCB	TSKY CO.,	A8-A006-00509	6.63dBi	5250MHz ~ 5350MHz	i nor
1	rCD	LTD.	A8-A000-00309	5.78dBi	5470MHz ~ 5725MHz	1-pex
				5.55dBi	5725MHz ~ 5825MHz	

The EUT is compliance with IEEE 802.11 a/b/g/n/ac Standard.

This report applies for Wifi frequency band 5150 MHz- 5250 MHz, 5150 MHz- 5250 MHz, 5470MHz - 5725MHz, 5725 MHz- 5850 MHz

**Remark:** The above DUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.



#### **1.2.** Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for <u>FCC ID: 2AR42APPC10SLBE</u> filing to comply with Section 15.407 of the FCC Part 15, Subpart E Rules.

#### 1.3. Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.10: 2013. Radiated testing was performed at an antenna to EUT distance 3 meters.

KDB Document: 789033 D02 General U-NII Test Procedures New Rules v02r01

FCC 14-30 Revision UNII

594280 D02 U-NII Device Security v01r03

#### 1.4. Test Facility

The measurement facilities used to collect the 3m Radiated Emission and AC power line conducted data are located on the address of International Standards Laboratory Corp. <LT Lab.> No. 120, Lane 180, Hsin Ho Rd., Lung-Tan Dist., Tao Yuan City 325, Taiwan which are constructed and calibrated to meet the FCC requirements in documents ANSI C63.10: 2013. FCC Registration Number is: 487532; Designation Number is: TW0997.

#### **1.5. Special Accessories**

Not available for this EUT intended for grant.

#### **1.6. Equipment Modifications**

Not available for this EUT intended for grant.



# 2. System Test Configuration

#### **2.1. EUT Configuration**

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

#### 2.2. EUT Exercise

The EUT (Transmitter) was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements.

#### 2.3. Test Procedure

#### **2.3.1 Conducted Emissions**

The EUT is a placed on as turn table which is 0.8 m above ground plane. According to the requirements in Section 6 of ANSI C63.10: 2013. Con-ducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR 16-1-1 Quasi-Peak and Average detector mode.

#### 2.3.2 Radiated Emissions

The EUT is a placed on a turntable which is 0.8 m/1.5m (Frequency above 1GHz) above the ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. The EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. To find out the maximum emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna according to the requirements in Section 6, 11 and 12 of ANSI C63.10: 2013.



# 2.4. Configuration of Tested System

#### Fig. 2-1 Configuration of Tested System

#### **Radiated Emission**

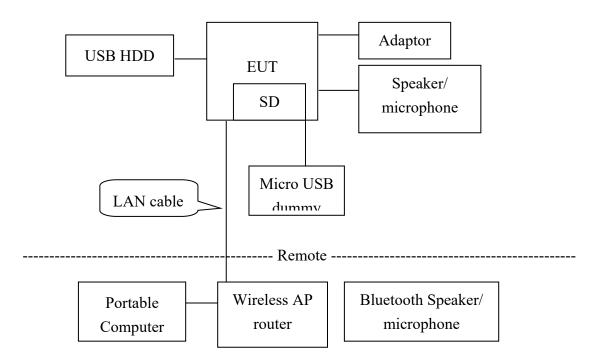


#### 1. Table 1-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1	adaptor	CWT	2AAJ024FC	NA	NA	300cm

#### Fig. 2-2 Configuration of Tested System

#### **AC Conducted Emission**





Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1	USB HDD	AKiTIO	SK2-U31AS-A KT N/A		Shielded /1m	N/A
2	Portable Com- puter	Lenovo	TP00067B	N/A	N/A	Non-shielded /1.8m
3	Speaker/ microphone	KOKA	ST-304	N/A	Non-shielded /1.5m	N/A
4	Bluetooth Speaker/ microphone	N/A	SA-868	N/A	N/A	N/A
5	Wireless AP router	ASUS	RT-AC66U	N/A	Non-shield / 10m	Non-shield / 1.8m
6	SD card	SanDisk	11287080S2CA RD	N/A	N/A	N/A

# Table 2-2 Equipment Used in Tested System

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**Note:** All the above equipment/cables were placed in worse case positions to maximize emission signals during emission test.

**Grounding:** Grounding was in accordance with the manufacturer's requirements and conditions for the intended use.



#### 2.5. Duty Cycle

If duty cycle of test signal is  $\ge 98$  %, duty factor is not required. If duty cycle of test signal is < 98 %, duty factor shall be considered. The output power = measured power + duty factor.

Mode	ON time (ms)	Total time (ms)	Duty Cycle	Duty Factor	1/Ton (kHz)	VBW for average de- tector (kHz)
а	1.390	1.440	96.528%	0.15	0.719	1
HT20	1.296	1.348	96.089%	0.17	0.772	1
HT40	0.635	0.690	92.029%	0.36	1.575	3
VHT20	1.305	1.360	95.956%	0.18	0.766	1
VHT40	0.648	0.702	92.308%	0.35	1.543	3
VHT80	0.322	0.362	88.950%	0.51	3.106	5



# 3. Summary of Test Results

FCC Rules	Description Of Test	Result
§15.207	AC Power Line Conducted Emission	Compliant
§15.407(a)(2)	Output Power/ EIRP/ Spectral Density Measurement	Compliant
§15.407(a)	26dB Emission Bandwidth	Compliant
§15.407(e)	6dB Emission Bandwidth	Compliant
§15.407(b)	Undesirable Emission – Radiated Measurement	Compliant
§15.407( c)	Transmission in case of Absence of Information	Compliant
§15.407(a)	Antenna Requirement	Compliant
§15.407(d)	TPC and DFS Measurement	Compliant
§15.407(i)	Device Security	Compliant



# 4. Description of Test Modes

The EUT has been tested under operating condition. Test program used to control the EUT for staying in continuous transmitting mode is programmed.

#### 5150MHz-5350MHz:

802.11a mode: Channel low (5180MHz), mid (5260MHz) and high (5320MHz) with 6Mbps lowest data rate are chosen for pre-test testing of radiated emissions.
802.11 n HT20: Channel low (5180MHz), mid (5260MHz) and high (5320MHz) with 6.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.
802.11 n HT40: Channel low (5190MHz), mid (5230MHz) and high (5310MHz) with 13.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.
802.11 ac VHT20: Channel low (5180MHz), mid (5260MHz) and high (5320MHz) with 6.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.
802.11 ac VHT20: Channel low (5180MHz), mid (5260MHz) and high (5320MHz) with 6.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.
802.11 ac VHT20: Channel low (5190MHz), mid (5260MHz) and high (5310MHz) with 13.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.
802.11 ac VHT40: Channel low (5190MHz), mid (5230MHz) and high (5310MHz) with 13.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.
802.11 ac VHT40: Channel low (5190MHz), mid (5230MHz) and high (5310MHz) with 13.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.
802.11 ac VHT80: Channel low (5210MHz) and high (5290MHz) with 13.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.

#### 5470MHz-5725MHz:

802.11a mode: Channel low (5500MHz), mid (5600MHz) and high (5700MHz) with 6Mbps lowest data rate are chosen for pre-test testing of radiated emissions.

802.11 n HT20: Channel low (5500MHz), mid (5600MHz) and high (5700MHz) with

6.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.

802.11 n HT40: Channel low (5510MHz), mid (5550MHz) and high (5670MHz) with

13.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.

802.11 ac VHT20: Channel low (5500MHz), mid (5600MHz) and high (5700MHz) with 6.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.

802.11 ac VHT40: Channel low (5510MHz), mid (5550MHz) and high (5670MHz) with

13.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.

802.11 ac VHT80: Channel low (5530MHz) and high (5610MHz) with 13.5Mbps lowest data rate is chosen for pre-test testing of radiated emissions.

5650MHz-5735MHz (Straddle channel) :

802.11a mode: Channel (5720MHz) with 6Mbps lowest data rate are chosen for pre-test testing of radiated emissions.

802.11 n HT20: Channel (5720MHz) with 6.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.

802.11 n HT40: Channel (5710MHz) with 13.5Mbps lowest data rate are chosen for pre-test



testing of radiated emissions.

802.11 ac VHT20: Channel (5720MHz) with 6.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.

802.11 ac VHT40: Channel (5710MHz) z) with 13.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.

802.11 ac VHT80: Channel (5690MHz) with 13.5Mbps lowest data rate is chosen for pre-test testing of radiated emissions.

#### 5725MHz-5850MHz:

802.11a mode: Channel low (5745MHz), mid (5785MHz) and high (5825MHz) with 6Mbps lowest data rate are chosen for pre-test testing of radiated emissions.

802.11 n HT20: Channel low (5745MHz), mid (5785MHz) and high (5825MHz) with

6.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.

802.11 n HT40: Channel low (5755MHz) and high (5795MHz) with 13.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.

802.11 ac VHT20: Channel low (5745MHz), mid (5785MHz) and high (5825MHz) with 6.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.

802.11 ac VHT40: Channel low (5755MHz) and high (5795MHz) with 13.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.

802.11 ac VHT80: Channel (5775MHz) with 13.5Mbps lowest data rate is chosen for pre-test testing of radiated emissions.



# 5. Conduced Emission Test

# 5.1. Standard Applicable

According to §15.207, frequency range within 150kHz to 30MHz shall not exceed the Limit table as below.

Frequency range		mits (uV)
MHz	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
Note		
1. The lower limit shall apply at the tra	ansition frequencies	

2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

#### 5.2. Measurement Equipment Used:

Location	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Conduction 02	EMI Receiver 14	ROHDE& SCHWARZ	ESCI	101034	05/25/2022	05/25/2023
Conduction 02	Conduction 02-1 Cable	WOKEN	CFD 300-NL	Conduction 02 -1	10/13/2021	10/13/2022
Conduction 02	LISN 26	R&S	ENV216	102378	12/03/2021	12/03/2022
Conduction 02	LISN 21	R&S	ENV216	101476	07/20/2022	07/20/2023
Conduction 02	ISN T4 07	Teseq GmbH	ISN T400A	30449	07/28/2022	07/28/2023
Conduction 02	ISN T8 10	TESEQ	ISN T800	42773	08/05/2022	08/05/2023
Conduction 02	ISN T8 CAT6A_01	SCHWARZ- BECK	NTFM 8158	8158 0123	01/25/2022	01/25/2023
Conduction 02	CDN ISN ST08A_1	Teseq GmbH	CDN ISN ST08A	43352	10/07/2021	10/07/2022
Conduction 02	Capacitive Volt- age Probe 01	SCHAFFNER	CVP 2200A	18711	02/23/2022	02/23/2023
Conduction 02	Current Probe	SCHAFFNER	SMZ 11	18030	02/23/2022	02/23/2023



#### 5.3. EUT Setup:

- 1. The conducted emission tests were performed in the test site, using the setup in accordance with the ANSI C63.10: 2013
- 2. The AC/DC Power adaptor of EUT was plug-in LISN. The EUT was placed flushed with the rear of the table.
- 3. The LISN was connected with 120Vac/60Hz power source.

#### 5.4. Measurement Procedure:

- 1. The EUT was placed on a table which is 0.8m above ground plane.
- 2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 3. Repeat above procedures until all frequency measured were complete.
- 4. Both 120V & 240V have been verified, and 120V/60Hz was defined as the worst-case and record in the report.

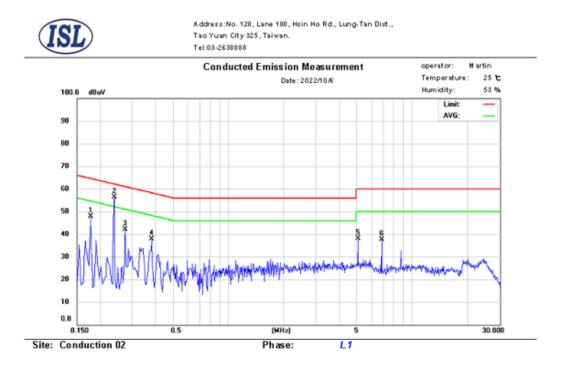
#### 5.5. Measurement Result:

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. Significant peaks are then marked as shown on the following data page, and these signals are then quasi-peaked.

Note: Refer to next page for measurement data and plots.

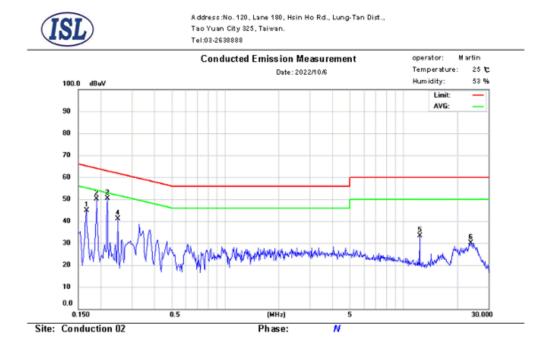


## AC POWER LINE CONDUCTED EMISSION TEST DATA



No.	Frequency (MHz)	QP_R (dBuV)	A VG_R (dBuV)	Correct Factor (dB)	QP Emission (dBuV)	QP Limit (dBuV)	QP Margin (dB)	AVG Emission (dBuV)	AVG Limit (dBuV)	AVG Margin (dB)
1	0.178	30.87	6.71	9.67	40.54	64.58	-24.04	16.38	54.58	-38.20
2	0.238	24.93	4.41	9.67	34.60	62.17	-27.57	14.08	52.17	-38.09
3	0.274	21.73	5.36	9.67	31.40	61.00	-29.60	15.03	51.00	-35.97
4	0.382	19.13	11.76	9.68	28.81	58.24	-29.43	21.44	48.24	-26.80
5	5.074	13.23	6.43	9.81	23.04	60.00	-36.96	16.24	50.00	-33.76
6	6.834	9.91	3.19	9.84	19.75	60.00	-40.25	13.03	50.00	-36.97





No.	Frequency (MHz)	QP_R (dBuV)	A VG_R (dBuV)	Correct Factor (dB)	QP Emission (dBuV)	QP Limit (dBuV)	QP Margin (dB)	AVG Emission (dBuV)	AVG Limit (dBuV)	AVG Margin (dB)
1	0.166	31.79	8.20	9.67	41.46	65.16	-23.70	17.87	55.16	-37.29
2	0.190	28.85	8.02	9.67	38.52	64.04	-25.52	17.69	54.04	-36.35
3	0.218	25.76	8.08	9.67	35.43	62.89	-27.46	17.75	52.89	-35.14
4	0.250	20.43	4.46	9.67	30.10	61.76	-31.66	14.13	51.76	-37.63
5	12.362	5.63	0.47	9.95	15.58	60.00	-44.42	10.42	50.00	-39.58
6	23.922	14.20	3.26	10.07	24.27	60.00	-35.73	13.33	50.00	-36.67



#### 6. OUTPUT POWER / EIRP /SPECTRAL DENSITY MEASUREMENT

#### 6.1. Standard Applicable

According to §15.407(a) Power limits:

(1) For the band 5.15-5.25 GHz.

(i) For an outdoor access point operating in the band 5.15 - 5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15 - 5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15 - 5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.



(iv) For mobile and portable client devices in the 5.15 - 5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBiare used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.



#### 6.2. Measurement Procedure

For Output Power

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter
- 3. Record the max. reading.
- 4. Repeat above procedures until all frequency measured were complete.

For Power Spectral Density

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to Spectrum.
- 3. Set RBW=1MHz,VBW=3MHz, Span=50MHz (Base Mode), Sweep time = Auto, traces 100 sweeps of video averaging for 5150-5725MHz;
- 4. Set RBW=500kHz,VBW=1.5MHz, Span=60MHz (Base Mode), Sweep time = Auto, traces 100 sweeps of video averaging for 5725-5850MHz;
- 5. Record the max. reading.
- 6. Repeat above procedures until all frequency measured were complete.

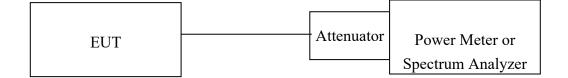
#### Refer to KDB 789033 D02 General UNII Test Procedures New Rules v02r01



# 6.3. Measurement Equipment Used:

Location Conducted	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Conducted	Power Meter	Anritsu	ML2495A	1116010	09/29/2022	09/29/2023
Conducted	Power Sensor	Anritsu	MA2411B	34NKF50	09/29/2022	09/29/2023
Conducted	Power Sensor	DARE	RPR3006W	13I00030SNO33	01/07/2022	01/07/2023
Conducted	Power Sensor	DARE	RPR3006W	13I00030SNO34	01/07/2022	01/07/2023
Conducted	Power Sensor	DARE	RPR3006W	14I00889SNO35	06/29/2022	06/29/2023
Conducted	Power Sensor	DARE	RPR3006W	14I00889SNO36	06/29/2022	06/29/2023
Conducted	Temperature Cham- ber	KSON	THS-B4H100	2287	05/20/2022	05/20/2023
Conducted	DC Power supply	ABM	8185D	N/A	01/06/2022	01/06/2023
Conducted	AC Power supply	EXTECH	CFC105W	NA	N/A	N/A
Conducted	Spectrum analyzer	Keysight	N9010A	MY56070257	09/28/2022	09/28/2023
Conducted	Test Software	DARE	Radiation Ver:2013.1.23	NA	NA	NA
Conducted	Test Software	R&S	CMUGO Ver:2.0.0	N/A	N/A	N/A
Conducted	Universal Digital Radio Communica- tion Tester	R&S	CMU200	111968	11/18/2021	11/18/2022
Conducted	Wideband Radio Communication Tester	R&S	CMW500	1201.002K50108 793-JG	10/26/2021	10/26/2022
Conducted	BT Simulator	Agilent	N4010A	MY48100200	NA	NA
Conducted	GPS Simulator	Welnavigate	GS-50	701523	NA	NA
Conducted (TS8997)	Wideband Radio Communication Tester	R&S	CMW500	168811	09/22/2022	09/22/2023
Conducted (TS8997)	Signal Generator	R&S	SMB100B	101085	09/21/2022	09/21/2023
Conducted (TS8997)	Vector Signal Gen- erator	R&S	SMBV100A	263246	09/21/2022	09/21/2023
Conducted (TS8997)	Signal analyzer 40GHz	R&S	FSV40	101884	09/22/2022	09/22/2023
Conducted (TS8997)	OSP150 extension unit CAM-BUS	R&S	OSP150	101107	09/21/2022	09/21/2023
Conducted (TS8997)	Test Software	R&S	EMC32 Ver:11.10.00	NA	NA	NA

## 6.4. Measurement Equipment Used:





#### 6.5. Measurement Result

According to §15.407(a)

(iv) For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi.

		Freq.		Output Por	wer (dBm)		Duty Factor	Total Output	Output
Band	Mode	(MHz)	Chain 0	Chain 1	Chain 2	Chain 3	(dB)	Power	Power
				/	/	/		(dBm)	Limit (dBm)
	11a	5180	13.357				0.15	13.51	23.35
		5200	13.936				0.15	14.09	23.35
		5240	13.753				0.15	13.91	23.35
		5180	12.550				0.17	12.72	23.35
	HT20	5200	13.030				0.17	13.20	23.35
		5240	13.050				0.17	13.22	23.35
UNII-1	11740	5190	12.750				0.36	13.11	23.35
UNII-I	HT40	5230	13.340				0.36	13.70	23.35
		5180	12.800				0.18	12.98	23.35
	VHT20	5200	13.400				0.18	13.58	23.35
		5240	13.316				0.18	13.50	23.35
	VIIT40	5190	12.280				0.35	12.63	23.35
	VHT40	5230	13.310				0.35	13.66	23.35
	VHT80	5210	10.200				0.51	10.71	23.35

		Freq.		Output Por	wer (dBm)		Duty Factor	Total Output	Output
Band	Mode	de (MHz)	Chain 0	Chain 1	Chain 2	Chain 3	(dB)	Power (dBm)	Power Limit (dBm)
		5260	12.850				0.15	13.00	23.35
	11a	5300	13.700				0.15	13.85	23.35
		5320	13.520				0.15	13.67	23.35
		5260	12.250				0.17	12.42	23.35
	HT20	5300	13.030				0.17	13.20	23.35
		5320	13.480				0.17	13.65	23.35
UNII-2A	11740	5270	11.763		/		0.36	12.12	23.35
UNII-ZA	HT40	5310	12.812				0.36	13.17	23.35
		5260	12.300				0.18	12.48	23.35
	VHT20	5300	13.030		/	/	0.18	13.21	23.35
		5320	13.500				0.18	13.68	23.35
,	VHT40	5270	12.500				0.35	12.85	23.35
	vп140	5310	12.810				0.35	13.16	23.35
	VHT80	5290	9.500				0.51	10.01	23.35



		Freq.		Output Por	wer (dBm)		Duty Factor	Total Output	-
Band	Mode	(MHz)	Chain 0	Chain 1	Chain 2	Chain 3	(dB)	Power (dBm)	Power Limit (dBm)
		5500	13.600				0.15	13.75	23.98
	11a	5580	13.700				0.15	13.85	23.98
		5700	13.400				0.15	13.55	23.98
		5500	13.910				0.17	14.08	23.98
	HT20	5580	14.028	/	/		0.17	14.20	23.98
		5700	13.090				0.17	13.26	23.98
		5510	13.300				0.36	13.66	23.98
	HT40	5550	12.800	/	/		0.36	13.16	23.98
UNII-2C		5670	12.700				0.36	13.06	23.98
	VHT20	5500	13.200				0.18	13.38	23.98
		5580	13.510	/	/		0.18	13.69	23.98
		5700	13.410				0.18	13.59	23.98
		5510	13.420				0.35	13.77	23.98
	VHT40	5550	12.840	/	/		0.35	13.19	23.98
		5670	13.652				0.35	14.00	23.98
	VHT80	5530	9.800	/	/		0.51	10.31	23.98
	V11100	5610	10.400				0.51	10.91	23.98
		Freq.		Output Por	wer (dBm)		Duty Factor	Total Output	
Band	Mode	(MHz)	Chain 0	Chain 1	Chain 2	Chain 3	(dB)	Power (dBm)	Power Limit (dBm)
	İ	5745	13.700				0.15	13.85	30.00
1				/	/				

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		5745	13.700	/		0.15	13.85	30.00
	11a	5785	13.260			0.15	13.41	30.00
		5825	13.275			0.15	13.43	30.00
		5745	13.030			0.17	13.20	30.00
	HT20	5785	13.060			0.17	13.23	30.00
		5825	12.988			0.17	13.16	30.00
UNII-3	HT40	5755	13.300			0.36	13.66	30.00
UNII-5	п140	5795	13.260			0.36	13.62	30.00
		5745	13.268			0.18	13.45	30.00
	VHT20	5785	12.680			0.18	12.86	30.00
		5825	12.700			0.18	12.88	30.00
	VHT40	5755	12.780			0.35	13.13	30.00
	vп140	5795	12.810			0.35	13.16	30.00
	VHT80	5775	10.525			0.51	11.03	30.00

Straddle channels

				Output Po	wer (dBm)			Total Out-	Output
Band	Mode	Freq. (MHz)	Chain 0	Chain 1	Chain 2	Chain 3	Duty Factor (dB)	put Power	Power Limit
			0114111 0	01100111		enani e		(dBm)	(dBm)
	11a	5720	13.410	/	/		0.15	13.56	23.98
	HT20	5720	13.180				0.17	13.35	23.98
UNII-2C	HT40	5710	12.788				0.36	13.15	23.98
UNII-2C	VHT20	5720	13.210				0.18	13.39	23.98
	VHT40	5710	13.370				0.35	13.72	23.98
	VHT80	5690	10.560				0.51	11.07	23.98



Band	Mode	Frequency		PSD (dB	m/MHz)		Duty Factor	Total PSD	PSD Limit
Dana	Mode	(MHz)	Chain 0	Chain 1	Chain 2	Chain 3	(dB)	(dBm/MHz)	(dBm/MHz)
		5180	3.712				0.15	3.87	10.37
	11a	5200	2.841				0.15	2.99	10.37
		5240	3.305				0.15	3.46	10.37
		5180	2.208				0.17	2.38	10.37
	HT20	5200	2.011				0.17	2.18	10.37
		5240	2.600				0.17	2.77	10.37
UNII-1	HT40	5190	-1.967				0.36	-1.61	10.37
UNII-I	П140	5230	-2.014				0.36	-1.65	10.37
		5180	2.031				0.18	2.21	10.37
	VHT20	5200	0.153				0.18	0.33	10.37
		5240	0.569				0.18	0.75	10.37
	VHT40	5190	-2.094				0.35	-1.75	10.37
	VIII40	5230	-2.633				0.35	-2.29	10.37
	VHT80	5210	-5.416				0.51	-4.91	10.37
Band	Mode	Frequency		PSD (dB	m/MHz)		Duty Factor	Total PSD	PSD Limit
Dalid	widde	(MHz)	Chain 0	Chain 1	Chain 2	Chain 3	(dB)	(dBm/MHz)	(dBm/MHz)

# **Power Spectral Density Measurement:**

Band	Mode	Frequency (MHz)	Chain 0	,	m/MHz) Chain 2	Chain 3	Duty Factor (dB)	Total PSD (dBm/MHz)	PSD Limit (dBm/MHz)
		5260	3.245				0.15	3.40	10.37
	11a	5300	3.329	$\backslash$	$\sim$	$\backslash$	0.15	3.48	10.37
		5320	3.610				0.15	3.76	10.37
		5260	2.465		$\sim$	$\backslash$	0.17	2.64	10.37
	HT20	5300	2.785				0.17	2.96	10.37
		5320	3.134				0.17	3.31	10.37
UNII-2A	HT40	5270	-2.020				0.36	-1.66	10.37
UNII-ZA	П140	5310	-1.875				0.36	-1.51	10.37
		5260	0.422				0.18	0.60	10.37
	VHT20	5300	0.847				0.18	1.03	10.37
		5320	1.012				0.18	1.19	10.37
	VHT40	5270	-2.550				0.35	-2.20	10.37
	vn140	5310	-2.391				0.35	-2.04	10.37
	VHT80	5290	-5.650				0.51	-5.14	10.37



Band	Mode	Frequency			8m/MHz)		Duty Factor	Total PSD	PSD Limit
Danu	widue	(MHz)	Chain 0	Chain 1	Chain 2	Chain 3	(dB)	(dBm/MHz)	(dBm/MHz)
		5500	2.799				0.15	2.95	11.00
	11a	5580	3.011				0.15	3.16	11.00
		5700	3.358				0.15	3.51	11.00
		5500	2.037				0.17	2.21	11.00
	HT20	5580	2.160				0.17	2.33	11.00
		5700	2.561				0.17	2.73	11.00
		5510	-2.475			/	0.36	-2.11	11.00
	HT40	5550	-2.367				0.36	-2.01	11.00
UNII-2C		5670	-2.202				0.36	-1.84	11.00
		5500	0.013				0.18	0.19	11.00
	VHT20	5580	-0.134		/		0.18	0.05	11.00
		5700	0.347		$\sim$		0.18	0.53	11.00
		5510	-3.297				0.35	-2.95	11.00
	VHT40	5550	-3.502				0.35	-3.15	11.00
		5670	-2.976				0.35	-2.63	11.00
		5530	-6.235				0.51	-5.73	11.00
	VHT80	5610	-6.034				0.51	-5.53	11.00
Dand	Mode	Frequency	P	SD (dBr	n/500kHz	z)	Duty Factor	Total PSD	PSD Limit
Band	Mode	(MHz)	Chain 0	Chain 1	Chain 2	Chain 3	(dB)	(dBm/500kHz)	(dBm/500kHz)
		5745	0.443				0.15	0.60	30
	11a	5785	0.391			/	0.15	0.54	30
		5825	0.625				0.15	0.78	30
		5745	-0.401		$\backslash$	/	0.17	-0.23	30
	HT20	5785	-0.291			$\backslash$	0.17	-0.12	30
		5825	0.029			$\sim$	0.17	0.20	30
	11740	5755	-4.882	$\backslash$	$\square$	$\sim$	0.36	-4.52	30
UNII-3	HT40	5795	-4.663		$\square$		0.36	-4.30	30
		5745	-2.214				0.18	-2.03	30
	VHT20	5785	-2.127			$\sim$	0.18	-1.95	30
		5825	-1.988			$\sim$	0.18	-1.81	30
			-		$\langle \rangle$				

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Straddle channels

VHT40

VHT80

Band	Mode	Frequency		PSD (dB	m/MHz)		Duty Factor	Total PSD	PSD Limit
Dallu	Widde	(MHz)	Chain 0	Chain 1	Chain 2	Chain 3	(dB)	(dBm/MHz)	(dBm/MHz)
	11a	5720	3.187				0.15	3.34	11.00
	HT20	5720	2.564				0.17	2.74	11.00
UNII-2C	HT40	5710	-1.943				0.36	-1.58	11.00
UNII-2C	VHT20	5720	0.530				0.18	0.71	11.00
	VHT40	5710	-2.751				0.35	-2.40	11.00
	VHT80	5690	-6.177				0.51	-5.67	11.00

0.35

0.35

0.51

International Standards Laboratory Corp.

5755

5795

5775

-5.578

-5.313

-8.395

-5.23

-4.97

-7.89

30

30

30



# Band UNII-1 802.11a Power Spectral Density Data Plot (CH Low)

PNO: Fast ++- IFGain:Low	Trig: Free Run #Atten: 30 dB	Avg Type: RMS Avg Hold: 100/100	TYPE & WARNAWAY DET & A & A & A &	Frequency Auto Tun
		Mkr	1 5.178 98 GHz 3.712 dBm	Auto Tune
	<b>▲</b> 1			Center Fred 5.180000000 GH
				Start Free 5.165000000 GH
				Stop Fre 5.195000000 GH
				CF Ste 3.000000 MH <u>Auto</u> Ma
				Freq Offse 0 H
#VBW 1	3.0 MHz*	#Sweep	Span 30.00 MHz 500 ms (1001 pts)	
	PN0: Fast ++- IFGain:Low	PNO: Fast Ing: Free Run	PRO: Fast Trg: Free Run IFGain:Low #Atten: 30 dB Mkr	PHO: Fast Trg: Free Run IFGain:Low #Atten: 30 dB Mkr1 5.178 99 GHz 3.712 dBm

# Power Spectral Density Data Plot (CH Mid)







# **Power Spectral Density Data Plot (CH High)**

# 802.11n HT20, Power Spectral Density Test Plot (CH-Low)

RL Center F	req 5.18000000	PNO: Fast	Trig: Free Run #Atten: 30 dB	Avg Type: RMS Avg[Hold: 100/100	105:54:39PM Oct 01, 2022 TRACE 2 2 4 0 TYPE A WARAWAY DET A A A A A A	Frequency
0 dB/div	Ref Offset 2 dB Ref 22.00 dBm			Mkr	1 5.178 95 GHz 2.208 dBm	Auto Tune
12.0						Center Free 5.180000000 GH
2.00			↓1			
1.00	- r					Start Free 5.165000000 GH
					$\mathbf{X}$	
29.0						Stop Free 5.195000000 GH
10.0						СF Ste 3.000000 МН <u>Аuto</u> Ма
58.0						Freq Offse 0 H
68.0						
Center 5. #Res BW	18000 GHz 1.0 MHz	#VBW	3.0 MHz*	#Sweep	Span 30.00 MHz 500 ms (1001 pts)	
450				STATU		





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# Power Spectral Density Test Plot (CH-Mid)

# Power Spectral Density Test Plot (CH-High)

	req 5.240000000	PNO: Fast	Trig: Free Run #Atten: 30 dB	Avg Type: RMS Avg[Hold: 100/100	106:00:34PM Oct 01, 2022 TRACE 2 2 4 5 TYPE A WARNAW DET A A A A A A	Frequency
0 dB/div	Ref Offset 2 dB Ref 22.00 dBm			Mkr	1 5.239 01 GHz 2.602 dBm	Auto Tune
i20						Center Free 5.240000000 GH
2.00			<u> </u>			
4.00	$\int$					Start Free 5.22500000 GH
16.0					$\mathbf{X}$	
29.0						Stop Free 6.26500000 GH
38.0 45.0						CF Ste 3.000000 MH <u>Auto</u> Ma
58.0						Freq Offse 0 H
68.0						
Center 5.3 #Res BW	24000 GHz 1.0 MHz	#VBW	3.0 MHz*	#Sweep	Span 30.00 MHz 500 ms (1001 pts)	
150				STATU	s (:	

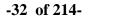


# 802.11ac VHT20, Power Spectral Density Test Plot (CH-Low)

Center F	req 5.180000000	GHz PNO: Fast ++	Trig: Free Run #Atten: 30 dB	Avg Type: RMS Avg Hold: 100/100	06:40-40 FM Oct 01, 2022 TRACE	Frequency
0 dB/div	Ref Offset 2 dB Ref 22.00 dBm			Mkr	1 5.178 98 GHz 2.031 dBm	Auto Tune
t2.0						Center Fred 5.18000000 GH
2.00			↓ <sup>1</sup>			
0.00	F				<u>\</u>	Start Fred 5.16500000 GHz
16.0					$\lambda$	
29.0						Stop Free 5.195000000 GH
30.0 40.0						CF Step 3.000000 MH: Auto Mar
58.0						Freq Offset 0 Hz
68.0						
Center 5. Res BW	18000 GHz 1.0 MHz	#VBW	/ 3.0 MHz*	#Sweep	Span 30.00 MHz 500 ms (1001 pts)	
50				STATU		

# Power Spectral Density Test Plot (CH-Mid)







# **Power Spectral Density Test Plot (CH-High)**



# 802.11n HT40 Power Spectral Density Test Plot (CH-Low)







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# **Power Spectral Density Test Plot (CH-High)**

# 802.11ac VHT40 Power Spectral Density Test Plot (CH-Low)







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# **Power Spectral Density Test Plot (CH-High)**

# 802.11 ac VHT80 Power Spectral Density Test Plot (CH-Low)

Frequency	07:22:11 PM Oct 01, 2022 TRACE 2 2 4 4 TYPE A WWWWW DET A A A A A A	Avg Type: RMS Avg Hold: 100/100	Trig: Free Run #Atten: 30 dB	EG 500 AC EG 5.210000000 GH2 PN0: Fast ↔→ IFGaint.ow	Center Fi
Auto Tuni	1 5.207 7 GHz -5.416 dBm	Mk		Ref Offset 2 dB Ref 22.00 dBm	0 dB/div
Center Fre 5.210000000 GH					12.0
Start Fre 5.16000000 GH			<sup>1</sup>		1.00
Stop Fre 5.26000000 GH					16.0 29.0
CF Ste 10.000000 MH Auto Ma					45.0
Freq Offse 0 H					58.0
5	Span 100.0 MHz 500 ms (1001 pts)	#Sweep	3.0 MHz*	1000 GHz .0 MHz #VBW	_
1	1	STATUS			50



# Band UNII-2A 802.11a Power Spectral Density Data Plot (CH Low)



# Power Spectral Density Data Plot (CH Mid)



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# **Power Spectral Density Data Plot (CH High)**

## 802.11n HT20, Power Spectral Density Test Plot (CH-Low)

Frequency	106:02:18PM Oct 01, 2022 TRACE	Avg Type: RMS Avg Hold: 100/100	Free Run n: 30 dB	HZ PNO: Fast + Trig: Fre Gain:Low #Atten: 3	req 5.260000000	* enter Fi
Auto Tun	5.258 92 GHz 2.466 dBm	Mkr			Ref Offset 2 dB Ref 22.00 dBm	dB/dly
Center Fre 5.260000000 GH			1			2.0
Start Fre 5.245000000 GH					$\square$	0
Stop Fre 5.275000000 GH						0
CF Ste 3.000000 MH <u>Auto</u> Ma						.0
Freq Offse 0 H						8.0
	Span 30.00 MHz 500 ms (1001 pts)	#Sweep	IHz*	#VBW 3.0 MHz	26000 GHz 1.0 MHz	enter 5.2
	1	STATUS				10



#### Agilent Spectrum Analyzer - Swept SA Avg Type: RMS Avg|Held: 100/100 15 PM Oct 01, 2022 Frequency Center Freq 5.300000000 GHz PN0: Fast -+--IFGain:Low #Atten: 30 dB DET A A A A A A Mkr1 5.298 95 GHz 2.786 dBm Auto Tune Ref Offset 2 dB Ref 22.00 dBm 10 dB/dlv Center Freq 5.30000000 GHz 01 Start Freq 5.285000000 GHz Stop Freq 5.315000000 GHz CF Step 3.000000 MHz Man Auto **Freq Offset** 0 Hz Center 5.30000 GHz #Res BW 1.0 MHz Span 30.00 MHz #Sweep 500 ms (1001 pts) #VBW 3.0 MHz\* STATUS

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## Power Spectral Density Test Plot (CH-Mid)

## Power Spectral Density Test Plot (CH-High)





## 802.11ac VHT20, **Power Spectral Density Test Plot (CH-Low)**

Frequency	06:47:16 PM Oct 01, 2022	Avg Type: RMS Avg[Hold: 100/100	Trig: Free Run #Atten: 30 dB	reg 5.26000000 GHz FRGain:Low			
Auto Tune	Ref Offset 2 dB         Mkr1 5.259 04 GHz           0 dB/div         Ref 22.00 dBm         0.419 dBm						
Center Free 5.26000000 GH					i20		
Start Free			• <sup>1</sup>		2.00		
5.245000000 GH					1.00		
Stop Fred 5.275000000 GH					6.0 9.0		
CF Step 3.000000 MH <u>Auto</u> Mar					10.0		
Freq Offse 0 H					58.0		
					68.0		
	Span 30.00 MHz 500 ms (1001 pts)	#Sweep	3.0 MHz*	26000 GHz 1.0 MHz #VBW	enter 5.2 Res BW		
		STATUS			50		

## Power Spectral Density Test Plot (CH-Mid)

Center Freq 5.300000000	PNO: East ++++	Trig: Free Run Matten: 30 dB	Avg Type: RMS Avg[Hold: 100/100	06:40:40:40 PM Oct 01, 2022 TRACE 2:2:4 C TYPE 7 WARMANN DET A A A A A A	Frequency
Ref Offset 2 dB			Mkr	1 5.300 99 GHz 0.845 dBm	Auto Tun
12.0					Center Fre 5.300000000 GH
2.00		<b>^1</b>			Start Fre 5.285000000 GH
28.0				$\mathbf{X}$	Stop Fre 6.315000000 GH
49.0					CF Ste 3.000000 MH Auto Ma
58.0					Freq Offse 0 H
Center 5.30000 GHz #Res BW 1.0 MHz	#VBW 3	.0 MHz*	#Sweep	Span 30.00 MHz 500 ms (1001 pts)	





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## **Power Spectral Density Test Plot (CH-High)**

#### 802.11n HT40 Power Spectral Density Test Plot (CH-Low)







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## **Power Spectral Density Test Plot (CH-High)**

#### 802.11ac VHT40 Power Spectral Density Test Plot (CH-Low)







## **Power Spectral Density Test Plot (CH-High)**

#### 802.11 ac VHT80 Power Spectral Density Test Plot (CH-Low)

Frequency	07:24:49PM Oct 01, 2022 TRACE 1 2 3 4 3 TYPE A WARMANN DET A A A A A A	Avg Type: RMS Avg Hold: 100/100	Trig: Free Run #Atten: 30 dB	5.290000000 GHz PN0: Fast ++- IFGainLow	Center Fr
Auto Tur	1 5.292 4 GHz -5.649 dBm	Mk		f Offset 2 dB f 22.00 dBm	0 dB/div
Center Fre 5.290000000 GH					12.0
Start Fre 5.240000000 GF	~		<sup>1</sup>		1.00
Stop Fre 5.340000000 GH					29.0
CF Ste 10.000000 MH Auto Ma					45.0
Freq Offs 0 F					58 D
	Span 100.0 MHz 500 ms (1001 pts)	#Sweep	3.0 MHz*		Center 5.2
	500 ms (1001 pts)	#Sweep	3.0 MHz*		Res BW



#### Band UNII-2C 802.11a

## **Power Spectral Density Data Plot (CH Low)**



## **Power Spectral Density Data Plot (CH Mid)**

Center Freq 5.580000000	PNO: Fast +++ IFGain:Low #Atten: 30 dB	Avg Type: RMS TRACE TYPE AVg Avg Hold: 100/100 Type: AAAA	Frequency
Ref Offset 2 dB Ref 22.00 dBm		Mkr1 5.579 01 Gł 3.012 dB	Hz Auto Tune m
t20			Center Free 5.580000000 GH
2.03			Start Free 5.56500000 GH
18.0 29.0			Stop Free 5.595000000 GH
40.0			CF Ste 3.000000 MH Auto Ma
53,0			Freq Offse 0 H
Center 5.58000 GHz #Res BW 1.0 MHz	#VBW 3.0 MHz*	Span 30.00 M #Sweep 500 ms (1001 p	Hz

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## **Power Spectral Density Data Plot (CH High)**

#### 802.11n HT20 Power Spectral Density Test Plot (CH-Low)







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## Power Spectral Density Test Plot (CH-Mid)

## Power Spectral Density Test Plot (CH-High)

Frequency	06:12:00 PM O(101, 2022 TRACE	Avg Type: RMS Avg Hold: 100/100	Free Run n: 30 dB	PNO: Fast Trig: Fre	req 5.700000000	
Auto Tuni	1 5.700 99 GHz 2.563 dBm	Mkr			Ref Offset 2 dB Ref 22.00 dBm	0 dB/div
Center Fre 5.700000000 GH			1			12.0
Start Fre 5.68500000 GH						2.05
Stop Fre 5.715000000 GH	$\mathbf{X}$					16.0 29.0
CF Ste 3.000000 MH Auto Ma						10.0
Freq Offse 0 H						53.0
	Span 30.00 MHz 500 ms (1001 pts)	#Sweep	IHz*	#VBW 3.0 MH	70000 GHz 1.0 MHz	_
11	1	STATUS				50



#### 802.11ac VHT20 Power Spectral Density Test Plot (CH-Low)

RL	NF 50 9 AC	0 CH-	DAL HER	Avg Type: RMS	06:52:10 PM Oct 01, 2022	Frequency
enter F	req 5.50000000	PNO: Fast IFGain:Low	Trig: Free Run #Atten: 30 dB	Avg Hold: 100/100	DET A AAAAA	
0 dB/div.	Ref Offset 2 dB Ref 22.00 dBm			Mkr	1 5.499 04 GHz 0.012 dBm	Auto Tune
12:0						Center Free 5.50000000 GH
2.08			• <sup>1</sup>			
0.00	-					Start Free 5.485000000 GH
29.0					$\mathbf{X}$	Stop Fred 5.515000000 GH
36.0						CF Step 3.000000 MH Auto Mar
58 0						Freq Offse 0 H
e 1.						
	50000 GHz 1.0 MHz	#VBW	3.0 MHz*	#Sweep	Span 30.00 MHz 500 ms (1001 pts)	
56				STATU		

## Power Spectral Density Test Plot (CH-Mid)

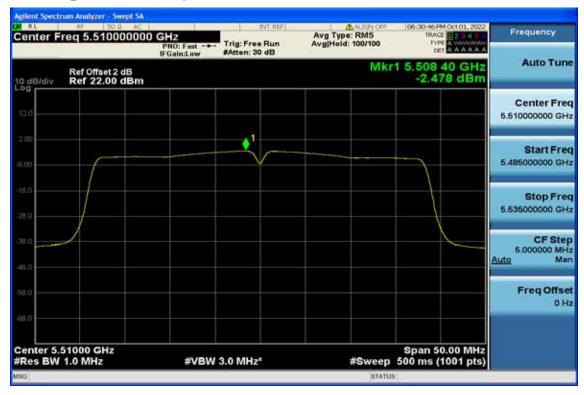




#### **Power Spectral Density Test Plot (CH-High)**



## 802.11n HT40 Power Spectral Density Test Plot (CH-Low)







## Power Spectral Density Test Plot (CH-Mid)

## Power Spectral Density Test Plot (CH-High)

RL MF 50.0 AC Center Freq 5.67000000		Avg Type: RMS Avg Hold: 100/100	06:34:24PM Oct 01, 2022 TRACE	Frequency
Ref Offset 2 dB		Mkr	1 5.671 25 GHz -2.203 dBm	Auto Tune
12.0				Center Free 5.670000000 GH
2.00	•1			Start Fre 5.645000000 GH
160				Stop Fre 5.695000000 GH
40.0				CF Ste 6.000000 MH Auto Ma
58.0				Freq Offse 0 H
Center 5.67000 GHz Res BW 1.0 MHz	#VBW 3.0 MHz*	#Sweep	Span 50.00 MHz 500 ms (1001 pts)	
50		STATUS	1	



#### 802.11ac VHT40 Power Spectral Density Test Plot (CH-Low)



## Power Spectral Density Test Plot (CH-Mid)







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## Power Spectral Density Test Plot (CH-High)

## 802.11 ac VHT80

#### **Power Spectral Density Test Plot (CH-Low)**

RL RF 50.0 M		(INT.807)	ALIGN OFF	07:27:12PM Oct 01, 2022	Frequency
enter Freq 5.5300000	PNO: Fast ++- IFGain:Low	Trig: Free Run #Atten: 30 dB	Avg Type: RMS Avg[Hold: 100/100	TYPE A WWWWWW DET A A A A A A	
Ref Offset 2 dB	n		Mk	r1 5.527 4 GHz -6.234 dBm	Auto Tune
120					Center Fre 5.530000000 GH
1.00		1			Start Fre 5.48000000 GH
29.0					Stop Fre 5.58000000 GH
45.0					CF Ste 10.000000 MH Auto Ma
58.0					Freq Offse 0 H
©.0 Center 5.53000 GHz				Span 100.0 MHz	
Res BW 1.0 MHz	#VBW	3.0 MHz*	#Sweep	500 ms (1001 pts)	
80			STATUS		



## 802.11 ac VHT80 **Power Spectral Density Test Plot (CH-High)**

RL RF 50.9 AC		INT 807	ALISN OFF	07:28:48 PM Oct 01, 2022	Frequency
Center Freq 5.61000000	PNO: Fast	Trig: Free Run #Atten: 30 dB	Avg Type: RMS Avg Hold: 100/100	TYPE A WAAAAAA	Frequency
Ref Offset 2 dB			Mk	r1 5.607 6 GHz -6.031 dBm	Auto Tun
12.0					Center Fre 5.610000000 GH
0.00		<sup>1</sup>			Start Fre 5.560000000 GH
18.0 29.0					Stop Fre 5.66000000 GH
41.0					CF Ste 10.000000 MH <u>Auto</u> Ma
53.0					Freq Offse 0 H
Center 5.61000 GHz #Res BW 1.0 MHz	#VBW	3.0 MHz*	#Sweep	Span 100.0 MHz 500 ms (1001 pts)	
80		olo mili	STATUS		



## Band UNII-3 802.11a Power Spectral Density Data Plot (CH Low)



## **Power Spectral Density Data Plot (CH Mid)**



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## **Power Spectral Density Data Plot (CH High)**

#### 802.11n HT20 Power Spectral Density Test Plot (CH-Low)







## Power Spectral Density Test Plot (CH-Mid)

## **Power Spectral Density Test Plot (CH-High)**

	req 5.82500000	O GHZ PNO: Fast Trig: Free Run #Atten: 30 dB	Avg Type: RMS Avg[Hold: 100/100	06:18:56 PM Oct 01, 2022 TRACE	Frequency
0 dB/div	Ref Offset 2 dB Ref 22.00 dBm		Mkr	1 5.824 34 GHz 0.027 dBm	Auto Tune
120					Center Free 5.825000000 GH
2.00 0.00	ſ				Start Fre 5.810000000 GH
16.0 29.0					Stop Fre 5.840000000 GH
45.0					CF Ste 3.000000 MH Auto Ma
58.0					Freq Offse 0 H
Center 5.1 Res BW	82500 GHz 510 kHz	#VBW 1.6 MHz*	#Sweep	Span 30.00 MHz 500 ms (1001 pts)	
50			STATU	i ( )	



#### 802.11ac VHT20 Power Spectral Density Test Plot (CH-Low)

Center Freq 5.745000000	GHz PNO: Fast	Trig: Free Run #Atten: 30 dB	Avg Type: RMS Avg Hold: 100/100	06:57:32 PM Oct 01, 2022 TRACE 2 2 4 4 TYPE A MANANA DET A A A A A A	Frequency
Ref Offset 2 dB Mkr1 5.745 54 GHz Ref 22,00 dBm -2.214 dBm					
t2.0					Center Free 5.745000000 GH
0.00		<b>1</b>			Start Free 5.73000000 GH
28.0					Stop Free 5.76000000 GH
43.0					CF Step 3.000000 MH <u>Auto</u> Mai
58.0					Freq Offse 0 H
Center 5.74500 GHz #Res BW 510 kHz	#VBW	1.6 MHz*	#Sweep	Span 30.00 MHz 500 ms (1001 pts)	

## Power Spectral Density Test Plot (CH-Mid)







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## **Power Spectral Density Test Plot (CH-High)**

802.11n HT40 Power Spectral Density Test Plot (CH-Low)







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## Power Spectral Density Test Plot (CH-High)

## 802.11ac VHT40 Power Spectral Density Test Plot (CH-Low)

Center Freq	5.755000000	GHz PNO: Fast	Trig: Free Run #Atten: 30 dB	Avg Type: RMS Avg Hold: 100/100	07:19:25FM Oct 01, 2022 TRACE	Frequency
O dB/dly Re	f 22.00 dBm			Mkr	1 5.756 00 GHz -5.582 dBm	Auto Tune
120						Center Free 5.755000000 GH
2.00			1			Start Fre 5.73000000 GH
18.0 29.0			V			Stop Fre 5.78000000 GH
40.0						CF Ste 6.000000 MH Auto Ma
53.0						Freq Offse 0 H
enter 5.7550 Res BW 510		#VBW	1.6 MHz*	#Sweep	Span 50.00 MHz 500 ms (1001 pts)	
50				STATU	6 ( <u> </u>	





## **Power Spectral Density Test Plot (CH-High)**

802.11 ac VHT80, Power Spectral Density Test Plot





#### **Straddle Channels**

Band UNII-2C 802.11a Power Spectral Density Data Plot



#### 802.11n HT20 Power Spectral Density Test Plot



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## 802.11ac VHT20 Power Spectral Density Test Plot

RL RF 500 AC Center Freq 5.720000000	PNO: Fast ++- FGain:Low #Atten: 30 dB	Avg Type: RMS Avg Hold: 100/100	07:37:41 PM Oct 01, 2022 TRACE 12 2 4 5 TYPE A WAYNAWA DET A A A A A A	Frequency
o dB/div Ref 0ffset 2 dB Ref 22.00 dBm		Mkr1	5.720 96 GHz 0.528 dBm	Auto Tune
12.0				Center Fred 5.720000000 GHz
100	▲ <sup>1</sup>			Start Free 5.705000000 GH
29.0				Stop Fred 5.735000000 GHz
45.0				CF Step 3.000000 MH Auto Mar
58.0				Freq Offse 0 H:
Center 5.72000 GHz Res BW 1.0 MHz	#VBW 3.0 MHz*	#Sweep	Span 30.00 MHz 500 ms (1001 pts)	

## 802.11n HT40 Power Spectral Density Test Plot





## 802.11ac VHT40 Power Spectral Density Test Plot



## 802.11 ac VHT80 Power Spectral Density Test Plot

Center Freq 5.6900000	DO GHz PNO: Fast IFGain:Low	Trig: Free Run #Atten: 30 dB	Avg Type: RMS Avg Hold: 100/100	07-41-33 PM Oct 01, 2022 TRACE 2 2 4 10 TYPE A MANANA DET A A A A A A	Frequency
Ref Offset 2 dB			Mk	r1 5.692 3 GHz -6.179 dBm	Auto Tune
i20					Center Free 5.69000000 GH
2.00		^1			Start Fre 5.64000000 GH
29.0					Stop Fre 5.740000000 GH
41.0					CF Ste 10.000000 MH Auto Ma
53,0					Freq Offse 0 H
Center 5.69000 GHz /Res BW 1.0 MHz	#VBW	3.0 MHz*	#Sweep	Span 100.0 MHz 500 ms (1001 pts)	
50			STATUS	1	



#### 7. 26dB /99% Emission Bandwidth Measurement

#### 7.1. Standard Applicable

According to §15.407(a) foe band 1,2,3. No Limit required.

#### 7.2. Measurement Procedure

- 2. Place the EUT on the table and set it in transmitting mode.
- 3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 4. Set the spectrum analyzer as RBW=300kHz, VBW =1MHz, Span= 50MHz, Sweep=auto
- 5. Mark the peak frequency and –26dB (upper and lower) frequency.
- 6. Repeat above procedures until all frequency measured were complete.

# Refer to section D of KDB Document: KDB 789033 D02 General UNII Test Procedures New Rules v01r03

#### 7.3. Measurement Equipment Used:

Refer to section 6.3 for details.

#### 7.4. Test Set-up:

Refer to section 6.4 for details.



#### 7.5. Measurement Result

Band	Mode	Frequency (MHz)	26dB Bandwidth (MHz)	99% OBW (MHz)
		5180	27.62	17.227
	11a	5200	22.06	16.968
		5240	21.68	16.978
		5180	23.80	18.084
	HT20	5200	29.82	18.261
		5240	23.78	18.080
UNII-1	HT40	5190	47.34	36.367
UINII-I	1140	5230	42.28	36.389
		5180	29.71	18.188
	VHT20	5200	27.11	18.170
		5240	27.48	18.207
	VHT40	5190	48.32	36.434
	vп140	5230	40.12	36.305
	VHT80	5210	88.26	75.595

Band	Mode	Frequency (MHz)	26dB Bandwidth (MHz)	99% OBW (MHz)	Power Limit (dBm)	
		5260	21.76	16.952	23.98	
	11a	5300	21.42	16.899	23.98	
		5320	22.06	16.972	23.98	
		5260	24.17	18.117	23.98	
	HT20	5300	25.27	18.019	23.98	
		5320	22.06	18.007	23.98	
UNII-2A	HT40	5270	40.17	36.283	23.98	
UNII-2A		5310	40.05	36.292	23.98	
		5260	21.85	18.049	23.98	
	VHT20	5300	21.49	17.976	23.98	
		5320	21.39	18.004	23.98	
-	VIIT40	5270	39.94	36.315	23.98	
V	VHT40	5310	39.98	36.321	23.98	
	VHT80	5290	81.90	75.540	23.98	

Max. Output Power Limit = 250mW or 11+10\*Log(B), whichever is less. Where B is 26dB BW in MHz.



Band	Mode	Frequency (MHz)	26dB Bandwidth (MHz)	99% OBW (MHz)	Power Limit (dBm)
		5500	21.38	16.933	23.98
	11a	5580	21.37	16.938	23.98
		5700	21.72	16.915	23.98
		5500	21.71	17.986	23.98
	HT20	5580	21.82	18.040	23.98
		5700	21.77	17.997	23.98
	HT40	5510	39.69	36.301	23.98
		5550	40.38	36.289	23.98
UNII-2C		5670	39.76	36.310	23.98
		5500	21.66	18.007	23.98
	VHT20	5580	21.68	17.963	23.98
		5700	21.51	18.000	23.98
		5510	39.84	36.269	23.98
	VHT40	5550	39.91	36.337	23.98
		5670	39.99	36.273	23.98
	VHT80	5530	81.62	75.551	23.98
	V 11 1 0U	5610	81.91	75.524	23.98

For Band UNII-2C:

Max. Output Power Limit = 250 mW or 11+10\*Log(B), whichever is less. Where B is 26dB BW in MHz.

#### Straddle channels

Band	Mode	Frequency (MHz)	26dB Bandwidth (MHz)	99% OBW (MHz)	Power Limit (dBm)
	11a	5720	21.46	16.925	23.98
	HT20	5720	22.37	18.023	23.98
	HT40	5710	39.84	36.311	23.98
UNII-2C	VHT20	5720	21.45	17.986	23.98
	VHT40	5710	39.65	36.257	23.98
	VHT80	5690	81.53	75.404	23.98
For Band UNIL 2C.			•		•

For Band UNII-2C:

Max. Output Power Limit = 250 mW or 11+10\*Log(B), whichever is less. Where B is 26dB BW in MHz.



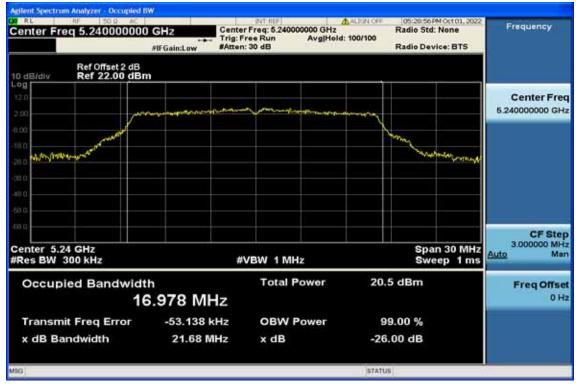
#### Band UNII-1 802.11a 26dB / 99% Band Width Test Data CH-Low

Center Fre	eq 5.18000		Trig: F	r Freq: 6.1800 ree Run : 30 dB	00000 GHz	ALIGN OFF	Radio St	d: None evice: BTS	Frequency
0 dB/div	Ref Offset 2 Ref 22.00								
12.0 2.00		provenes		~~~~~		many			Center Free 5.180000000 GH:
8.00 18.0 26.0	enorthere						S. S	normana	
38.0 48.0									
Center 5.1	8 GHz						Sp	an 30 MHz	CF Step 3.000000 MH Auto Mar
Res BW	300 kHz		#	VBW 1 M	Hz			eep 1ms	Auto Mar
Occup	ied Bandv	ИHz	Total F	Power	21.	0 dBm		Freq Offse 0 H:	
Transm	it Freq Erro	or -109.7	7 kHz	OBW	Power	9	9.00 %		
x dB Ba	ndwidth	27.6	2 MHz	x dB		-26	.00 dB		
						STATU			6

#### 26dB / 99% Band Width Test Data CH-Mid







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## 26dB / 99% Band Width Test Data CH-High

#### 802.11n HT20 26dB / 99% Band Width Test Data CH-Low

Center Fre	eq 5.18000	0000 G	HP3 Gain:Low	Center Fr			100/100	Radio St	d: None avice: BTS	Frequency
10 dB/div	Ref Offset Ref 22.0									
12.0 2.00		mercus		m	, mana		mining			Center Freq 5.180000000 GHz
180 200 Junetal	Wanner							marks.	herranter	
48.0										
68 0 68 0										CF Step
Center 5.1 #Res BW				#VE	SW 1 MH	z			an 30 MHz /eep 1 ms	3.000000 MHz Auto Mar
Occupi	Occupied Bandwidth 18.084 MI				Total P	ower	19.	9 dBm		Freq Offset 0 Hz
	it Freq Err ndwidth	or	-27.262   23.80 N		OBW P x dB	ower		9.00 % .00 dB		
							STATU			





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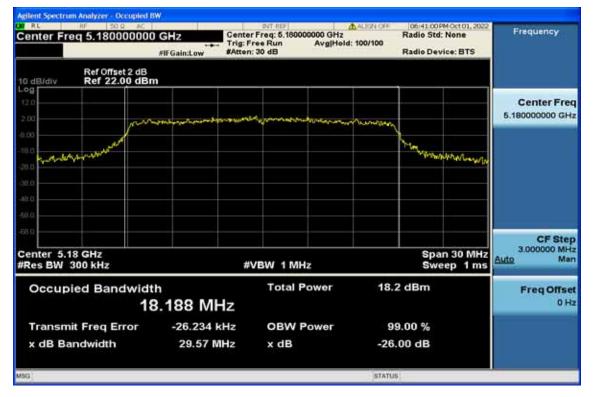
#### 26dB / 99% Band Width Test Data CH-Mid

#### 26dB / 99% Band Width Test Data CH-High

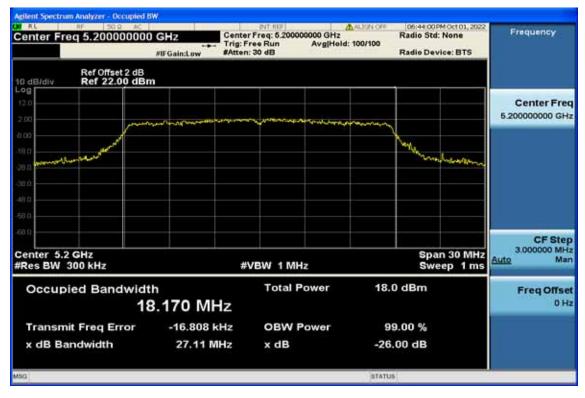
enter Fr	eq 5.2400000	00 GHz #FGain:Low	Center Fr			100/100	Radio St	d: None	Frequency
dB/div	Ref Offset 2 d Ref 22.00 d								
<b>09</b> 12.0 2.60			****	, - normano	1 - January Maga	mm			Center Fred 5.240000000 GH
18.0	1 - An Andrews						and the second		
80 <b>- ///</b>								Wownsh	
180 980									
38 11									CF Step
enter 5.2 Res BW			#VB	SW 1 MH	z		Sp Sv	an 30 MHz /eep 1 ms	3.000000 MH: <u>Auto</u> Mar
Occup	ied Bandwi	<sup>dth</sup> 18.080 Mi	Hz	Total P	ower	20.	3 dBm		Freq Offse 0 H
Transm	it Freq Error	-35.836	kHz	OBW F	ower	9	9.00 %		
x dB Ba	andwidth	23.78	ЛНz	x dB		-26	.00 dB		
96						STATU	5		



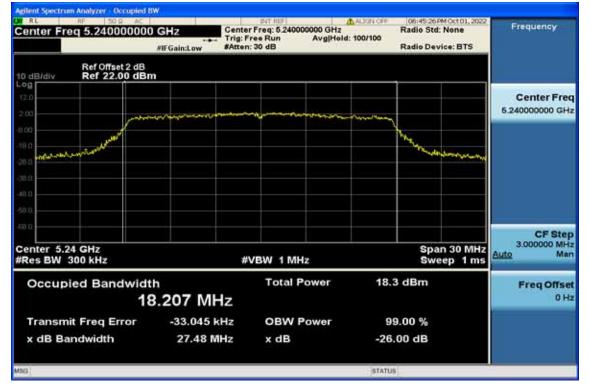
#### 802.11ac VHT20 26dB / 99% Band Width Test Data CH-Low



## 26dB / 99% Band Width Test Data CH-Mid







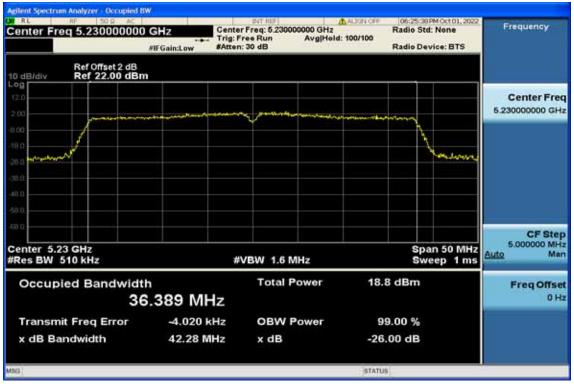
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#### 26dB / 99% Band Width Test Data CH-High

#### 802.11n HT40 26dB / 99% Band Width Test Data CH-Low

enter Fre	eq 5.19000000		Center Fr	Run	00000 GHz Avg Held: 10	0/100	Radio	05PM Oct 01, 2023 Std: None Device: BTS	Frequency
0 dB/div	Ref Offset 2 dB Ref 22.00 dB	m							
<b>9</b> 2.0 2.0			and all and all a	Several Second					Center Free 5.19000000 GH
80	Jama	*****				helan a 4495.		4	
an production	ur l							Munipol	
80. 80.									
80 80									
Center 5.1 Res BW 5			#VE	W 1.6 N	ЛНz			pan 50 MHz weep 1 ms	
Occupi	Occupied Bandwidth 36.367 M			Total P	ower	18.8 dBm			Freq Offset 0 Hz
Transmi	t Freq Error	-14.887	kHz	OBW F	Power	9	9.00 %		
x dB Bai	ndwidth	47.34 N	ЛНz	x dB		-26	00 dB		
86						STATUS	(		





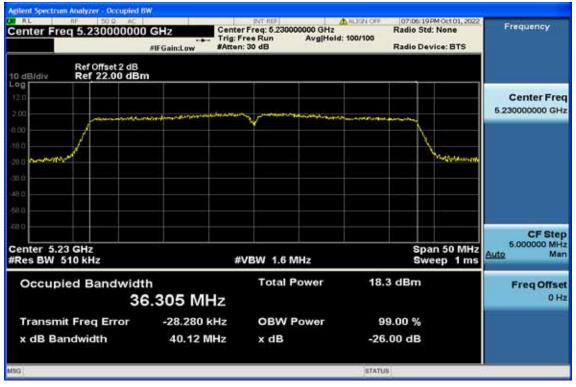
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## 26dB / 99%Band Width Test Data CH-High

#### 802.11ac VHT40 26dB / 99% Band Width Test Data CH-Low

enter Fre	eq 5.1900000		Center Freq		Hz Hold: 100/100	Radio	IS1PM Oct 01, 2022 Std: None Device: BTS	Frequency
0 dB/div	Ref Offset 2 de Ref 22.00 de							
.0g 12.0 2.00	Junior					human		Center Freq 5.190000000 GHz
100 18.0 18.0	mark -						Lansand	
30 A								
68 D								
Center 5.1 Res BW			#VBW	1.6 MHz		0 00	pan 50 MHz Sweep 1 ms	CF Step 5.000000 MHz Auto Man
Occupi	Occupied Bandwidth 36.434 MI			otal Power	18.	9 dBrr	12	Freq Offset 0 Hz
	it Freq Error ndwidth	-17.266 48.32 M		BW Power dB		9.00 % 6.00 dE		
NO.					STATU	15		





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## 26dB / 99%Band Width Test Data CH-High

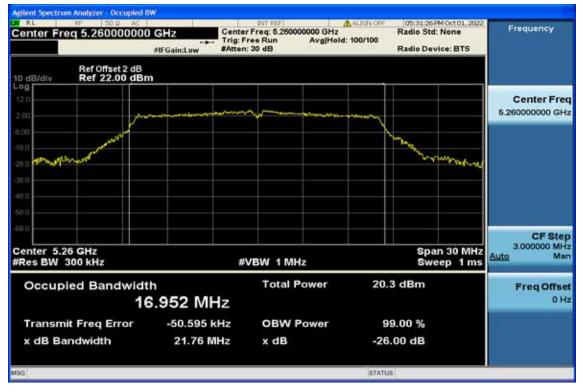
#### 802.11 ac VHT80 26dB / 99% Band Width Test Data

	q 5.2100000		Center Fr			Radio	Std:	None ce: BTS	Frequency
0 dB/div	Ref Offset 2 d Ref 22.00 d								
12.0 2.00			·	, norman			~		Center Fred 5.210000000 GH
18.0 28.0	/						Ì	Where land	
30.0									
580 680									
Center 5.2 #Res BW 1			#VB	W 3 MH	lz			100 MHz ep 1 ms	CF Step 10.000000 MH Auto Mar
Occupi	Occupied Bandwidth 75.595 M			Total P	ower	19.7 dBn	n		Freq Offset 0 Hz
Transmi x dB Bai	t Freq Error ndwidth	22.602 88.26 M		OBW F x dB	ower	99.00 % -26.00 di			
	an a	0.0767703844.03		2.023/06/201704			1710		

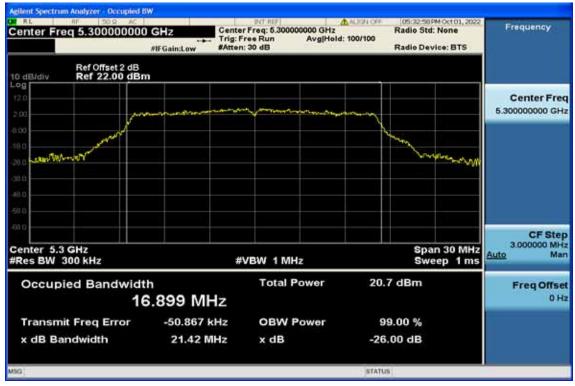


#### Band UNII-2A 802.11a

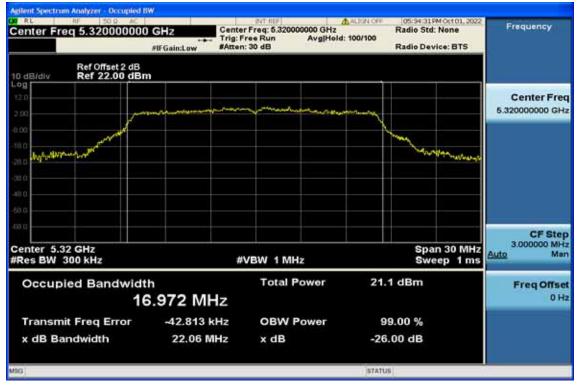
## 26dB / 99% Band Width Test Data CH-Low



## 26dB / 99% Band Width Test Data CH-Mid







## 26dB / 99% Band Width Test Data CH-High

#### 802.11n HT20 26dB / 99% Band Width Test Data CH-Low

Center Fre	aq 5.2600000	Time Ti				iPM Oct 01, 2022 d: None ivice: BTS	Frequency
10 dB/div	Brdiv Ref 22.00 dBm						
12.0 2.00			anter a construction of the second	hanana			Center Fred 5.26000000 GH
18.0	almost March				Trank and	wenner	
20.0							
48.0 68.0							
68.0							CF Step
Center 5.26 GHz Span 30 MHz Sweep 1 ms							3.000000 MHz Auto Man
Occupi	ied Bandwid	<sup>ith</sup> 8.117 MHz		Total Power 20.			Freq Offset 0 Hz
Transmit Freq Error -21.783 kHz				OBW Power 9			
x dB Ba	ndwidth	24.17 MHz	x dB	-2	6.00 dB		
9G STATUS							





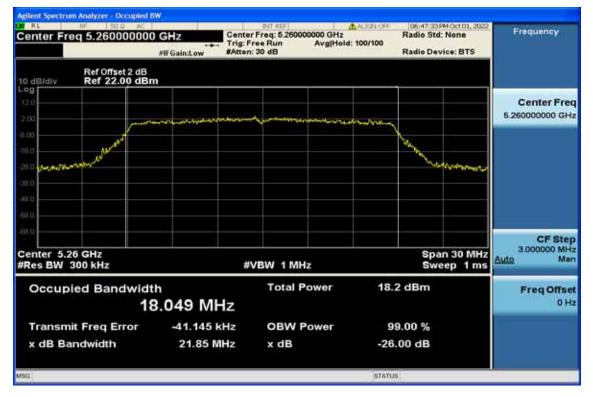
### 26dB / 99% Band Width Test Data CH-Mid

### 26dB / 99% Band Width Test Data CH-High

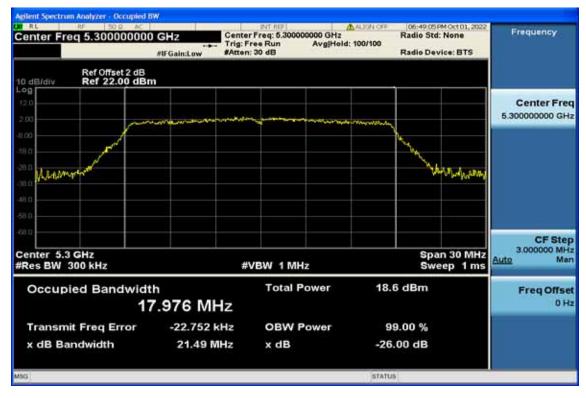
Center Fre	eq 5.3200000	IO GHz	Center Freq: 5.320 Trig: Free Run #Atten: 30 dB	0000000 GHz Avg[Held: 100/1	Radio Std		Frequency
0 dB/div	Ref Offset 2 dB Ref 22.00 dE						
2.00 000		ngunnunnun	an a	nahaman nakan salah nakasar	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		Center Free 5.320000000 GH
180 200 percentat	hay horas horas				and the	H-MAN Mymodell	
48 0 58 0							
Center 5.3 Res BW			#VBW 1 N	1Hz	Spa Swe	in 30 MHz eep 1 ms	CF Stej 3.000000 MH <u>Auto</u> Ma
Occup	ied Bandwic 1	<sup>ith</sup> 8.007 MI		Power	20.9 dBm		Freq Offse 0 H
	it Freq Error Indwidth	6.810 22.06 M		Power	99.00 % -26.00 dB		
96					STATUS		



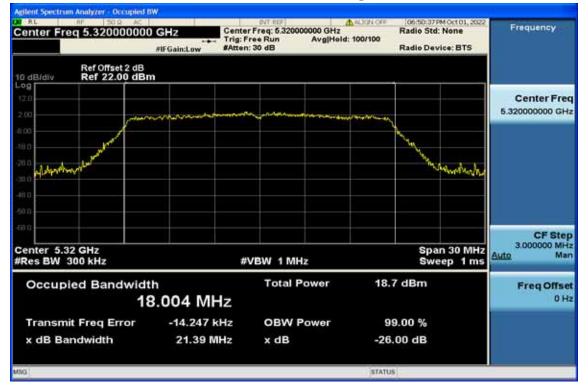
### 802.11ac VHT20 26dB / 99% Band Width Test Data CH-Low



# 26dB / 99% Band Width Test Data CH-Mid





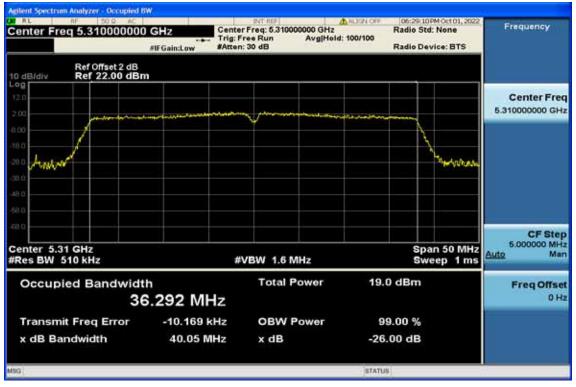


### 26dB / 99% Band Width Test Data CH-High

## 802.11n HT40 26dB / 99% Band Width Test Data CH-Low

enter Fre	eq 5.270000000			270000000 GHz	d: 100/100	Radio Ste	PM Oct 01, 2022 d: None vice: BTS	Frequency
0 dB/div	Ref Offset 2 dB Ref 22.00 dBr							
-0g 12.0 2.00		Louise and a start						Center Free 5.270000000 GH:
18.00			¥			1		
20.0 June 20.00	we want the second s						M. market	
48.0								
8.0								CF Step 5.000000 MH:
Res BW			#VBW 1	.6 MHz			an 50 MHz eep 1 ms	<u>Auto</u> Mar
Occup	ied Bandwidt 36	h 6.283 MI		al Power	18.	9 dBm		Freq Offset 0 Hz
Transm	it Freq Error	-44.785	Hz OB	W Power	9	9.00 %		
x dB Ba	ndwidth	40.17 N	NHz x d	в	-26	.00 dB		
90					STATU	15		





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# 26dB / 99%Band Width Test Data CH-High

### 802.11ac VHT40 26dB / 99% Band Width Test Data CH-Low

Center Fre	aq 5.27000000		Center Fre	Run		00/100	Radio S	46PM Oct 01, 2022 Std: None Device: BTS	Frequency
0 dB/div	Ref Offset 2 dB Ref 22.00 dB	m							
.0g 12.0 2.00	Jayrand Samara	مەرىرىمەل مەرىرىمە ئەرىرىمە مەر		يناونو روجه مناح			-alastas		Center Fred 5.270000000 GH:
100 180 200 مىلامىيە 180								hourse	
10 0 18 0									
58 D 68 D									CF Step 5.00000 MH
Res BW			#VB	N 1.6 M	IHz			pan 50 MHz weep 1 ms	Auto Mar
Occupi	ied Bandwid 3	<sup>th</sup> 6.315 MI		Total P	ower	18.	4 dBm	6	Freq Offset 0 Hi
	it Freq Error ndwidth	-48.617   39.94 N		OBW P x dB	ower		9.00 % .00 dB	2	
90						STATU	5		



### 26dB / 99%Band Width Test Data CH-High



# 802.11 ac VHT80 26dB / 99% Band Width Test Data

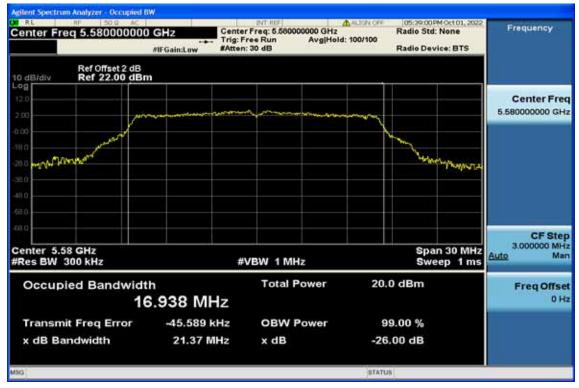




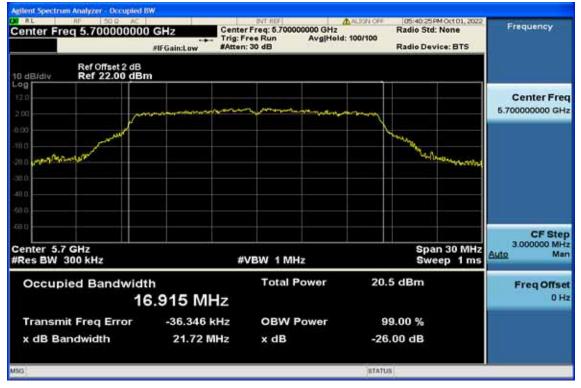
# Band UNII-2C 802.11a 26dB / 99% Band Width Test Data CH-Low

Center Fre	eq 5.50000000	0 GHz #FGain:Low	Center Fr			100/100	Radio St	iPM Oct 01, 2022 d: None vice: BTS	Frequency
10 dB/div	Ref Offset 2 dB Ref 22.00 dB	m							
-08 12.0 2.00	~	and the second	some	m	the second second				Center Freq 5.500000000 GHz
6.00 18.0 20.0 30.0 48.0	and and a second second						20	-time-sour	
Center 5.5			#VE	3W 1 MH	lz		Spi	an 30 MHz eep 1 ms	CF Step 3.000000 MHz <u>Auto</u> Mar
Occupi	ied Bandwid 1	<sup>th</sup> 6.933 MI	Hz	Total P	ower	20.	0 dBm		Freq Offset 0 Hz
	it Freq Error Indwidth	-73.465 21.38 M		OBW F x dB	ower		9.00 % .00 dB		
56						STATU	5		

# 26dB / 99% Band Width Test Data CH-Mid







# 26dB / 99% Band Width Test Data CH-High

### 802.11n HT20 26dB / 99% Band Width Test Data CH-Low

Center Fre	q 5.5000000			500000000 GHz	4: 100/100	Radio Std: None		Frequency
0 dB/div	Ref Offset 2 de Ref 22.00 de							
12.0 2.00	~	anan na anananana		sector and the sector of the	-			Center Freq 5.50000000 GHz
200 200 200	NADANA					A A A	lentre unterfor	
48.0								
Center 5.5 Res BW 3			#VBW 1	MHz		Sp Sw	an 30 MHz /eep 1 ms	CF Step 3.000000 MH2 Auto Mar
Occupi	ed Bandwid	ath 17.986 MH		al Power	19.	6 dBm		Freq Offset 0 Hz
Transmi x dB Bai	t Freq Error ndwidth	-55.566 F 21.71 N		W Power B		9.00 % .00 dB		
496					STATU	5		





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### 26dB / 99% Band Width Test Data CH-Mid

### 26dB / 99% Band Width Test Data CH-High

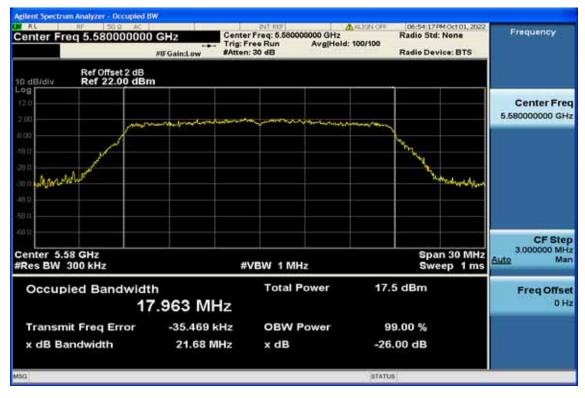
enter Freq 5.	7000000000	GHz #FGain:Low	Walnut Press	req: 5.70000 e Run 0 dB		100/100	Radio St	rpM Oct 01, 2022 d: None wice: BTS	Frequency
0 dB/div Re	Offset 2 dB f 22.00 dBm								
og (2.0 2.00 1.00		المارجة المارسة المرتبي والإرار	shown where	y contraction of the second					Center Fred 5.700000000 GHz
eo Mutulina pa eo							The second	innallant	
enter 5.7 GHz Res BW 300 k	Hz		#VE	SW 1 MH	z			an 30 MHz reep 1 ms	CF Step 3.000000 MH <u>Auto</u> Mar
Occupied E		997 Mł	Ηz	Total P	ower	20.	2 dBm		Freq Offset 0 Hz
Transmit Fre x dB Bandwi		-13.113 H 21.77 N		OBW P x dB	ower		9.00 % .00 dB		
16						STATU			



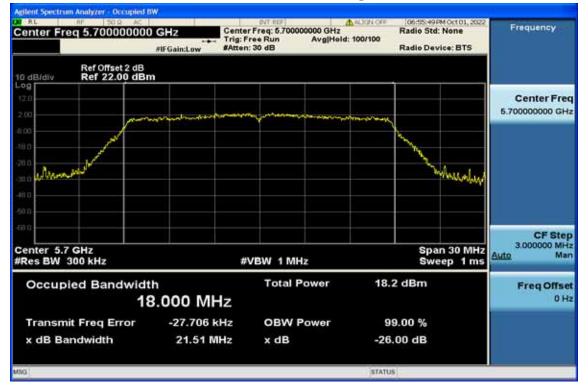
### 802.11ac VHT20 26dB / 99% Band Width Test Data CH-Low



# 26dB / 99% Band Width Test Data CH-Mid







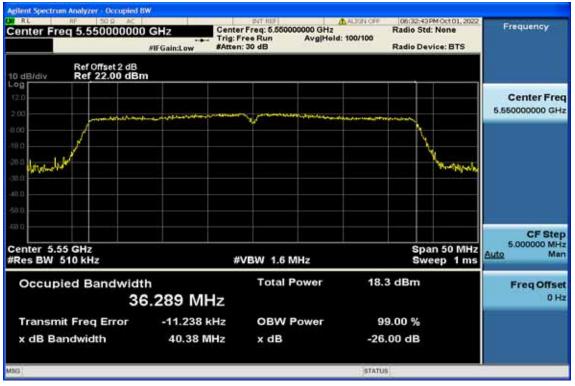
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### 26dB / 99% Band Width Test Data CH-High

### 802.11n HT40 26dB / 99% Band Width Test Data CH-Low

enter Fre	eq 5.51000000	/IGHz //IFGain:Low	and the second	5.51000000 GHz	ALION OFF	Radio St	d: None avice: BTS	Frequency
0 dB/div	Ref Offset 2 dB Ref 22.00 dBr	n						
2.0		مريعوم مريولي در م	hanne an in	www.w.un				Center Free 5.510000000 GH
100	1-1		Y	- Changy	*****			
much	/						Manually	
180 180								
enter 5.5							an 50 MHz	CF Step 6.000000 MH: Auto Mar
Res BW 3				1.6 MHz			eep 1ms	
Occupi	ied Bandwidt 36	h 5.301 MI		otal Power	18.	3 dBm		Freq Offset 0 Hz
Transmi	it Freq Error	-70.856	kHz O	BW Power	9	9.00 %		
x dB Ba	ndwidth	39.69 N	NHz x	dB	-26	.00 dB		
10					STATU	IS		

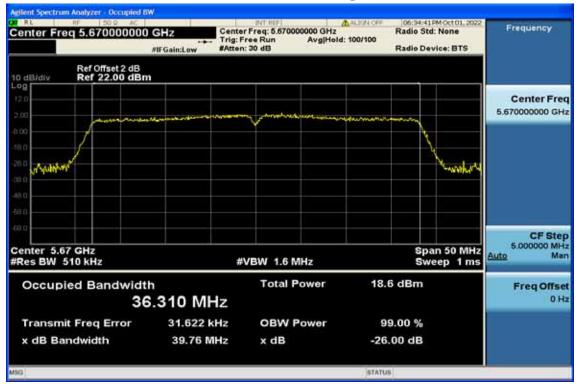




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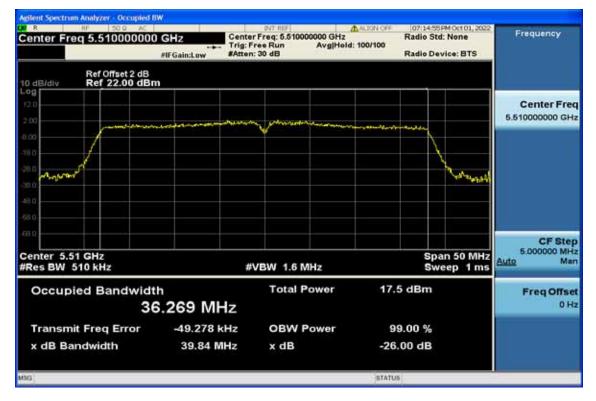
# 26dB / 99%Band Width Test Data CH-Mid

### 26dB / 99%Band Width Test Data CH-High

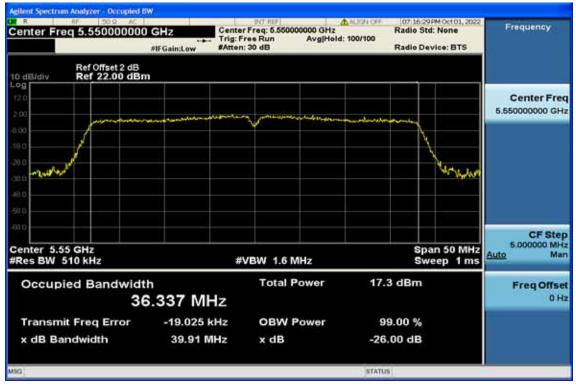




### 802.11ac VHT40 26dB / 99% Band Width Test Data CH-Low



# 26dB / 99%Band Width Test Data CH-Mid





# 26dB / 99%Band Width Test Data CH-High



# 802.11 ac VHT80 26dB / 99% Band Width Test Data CH-Low



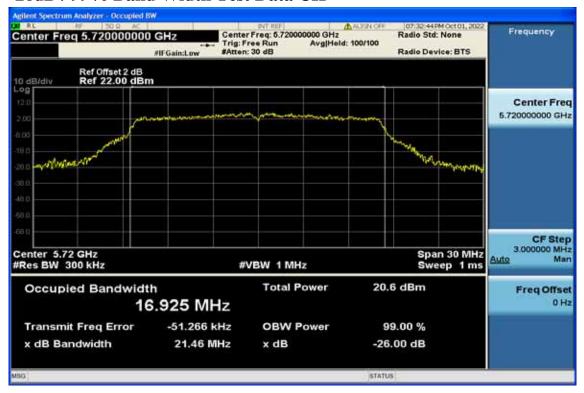


# 802.11 ac VHT80 26dB / 99% Band Width Test Data CH-High

Center Fre	q 5.61000000	- 10 Cold Cold Cold Cold Cold Cold Cold Cold	Trig: Fr	Freq: 5.6100 ee Run	00000 GHz	1 100/100	Radio St		Frequency
0.402464	Ref Offset 2 dB	#IFGain:Low	#Atten:	30 dB	10701		Radio De	rvice: BTS	
10 dB/div -02 2 00 48 0 -28 0 -2	Ref 22.00 dB							Land and a	Center Freq 5.610000000 GHz
Center 5.61 Res BW 1			#\	/BW 3 MI	łz		Spa Sw	n 100 MHz veep 1 ms	CF Step 10.000000 MH <u>Auto</u> Mai
Occupi	ed Bandwid <b>7</b>	<sup>th</sup> 5.524 MI	Hz	Total F	ower	19.	0 dBm		Freq Offse 0 Hi
Transmi x dB Bar	t Freq Error ndwidth	-18.138 81.91 M		OBW F x dB	Power		9.00 % .00 dB		
496						STATU	s :	-	



# Straddle Channels Band UNII-2C 802.11 a 26dB / 99% Band Width Test Data CH-



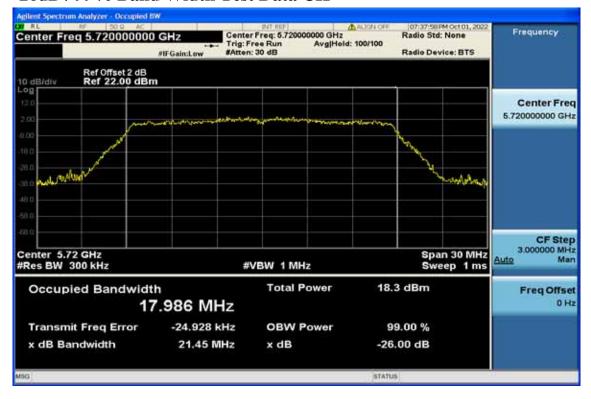


#### Band UNII-2C 802.11n HT20

### 26dB / 99% Band Width Test Data CH-

Center Fre	eq 5.72000000	0 GHz #FGain:Low	and the second second			100/100	Radio St	d: None vice: BTS	Frequency
0 dB/div	Ref Offset 2 dB Ref 22.00 dBr	m					6		
12.0 2.00		hand and an and a second	an terrare	ya <sup>n</sup> an manakan	and the second secon	m			Center Freq 5.720000000 GHz
6.00 18.0 20.0 Hint Mil	We Ward and						A NAK MAN	amplewishesteral	
480 680									
Center 5.7 Res BW			#VI	BW 1 MH	z		Sp: Sw	an 30 MHz reep 1 ms	CF Step 3.000000 MH Auto Mar
Occup	ied Bandwidt	<sup>th</sup> 8.023 MH	Ηz	Total P	ower	20.	3 dBm		Freq Offse 0 H
	it Freq Error Indwidth	-53.972 H 22.37 M		OBW F x dB	ower		9.00 % .00 dB		
50						STATU	s (:		

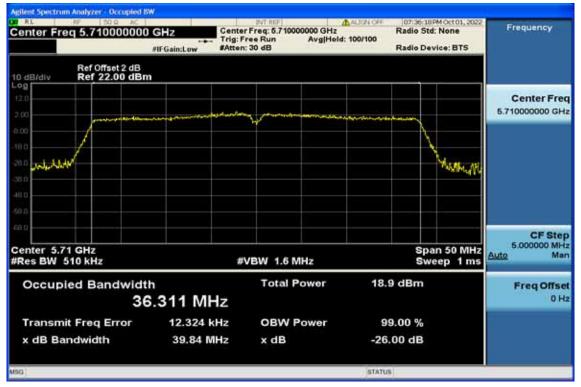
# Band UNII-2C 802.11ac VHT20 26dB / 99% Band Width Test Data CH-





# Band UNII-2C 802.11n HT40

### 26dB / 99% Band Width Test Data CH-



# Band UNII-2C 802.11ac VHT40 26dB / 99% Band Width Test Data CH-

enter Fre	eq 5.71000000	0 GHz #IFGain:Low	and the second second			AUGN OFF	Radio Std: None Radio Device: BTS		Frequency
0 dB/div	Ref Offset 2 dB Ref 22.00 dB	m							
-0g 12.0 2.00	مرور مرور مرور مرور مرور مرور مرور مرور	نەر اللەسىرار بالدې بېلىلار .	www.		*****	**~*12/*~	man		Center Free 5.710000000 GHz
8.00 18.0									
2000 	5							tenon	*
48.0. 68.0 88.0									
Center 5.7 #Res BW 4			#VE	BW 1.6 N	ЛНz		S	pan 50 MH weep 1 m	CF Step 5.000000 MHz Auto Mar
Occupi	ied Bandwid 3	<sup>th</sup> 6.257 MI	Ηz	Total F	Power	18.	2 dBm	12	Freq Offse 0 H:
Transmi	it Freq Error	5.151	кНz	OBW	Power	9	9.00 %	5	
x dB Ba	ndwidth	39.65 N	MHz	x dB		-26	.00 dE	3	
190						STATU	5		



# Band UNII-2C 802.11ac VHT80 26dB / 99% Band Width Test Data CH-

Center Fre	eq 5.690000000	GHz #IFGain:Low		Freq: 5.6900 ree Run 30 dB		1: 100/100	Radio S	opmoeto1, 2022 td: None evice: BTS	Frequency
10 dB/div	Ref Offset 2 dB Ref 22.00 dBn	n							
12.0 2.00 48.0 28.0 38.0 38.0 48.0				······				wanner	Center Free 5.690000000 GH:
Center 5.6			#\	/BW/3 MH	łz		Spa Sv	an 100 MHz veep 1 ms	CF Step 10.000000 MH: Auto Mar
Occup	ied Bandwidt 75	հ 5.404 MH	Ηz	Total P	ower	18.	7 dBm		Freq Offse 0 Hi
	it Freq Error Indwidth	105.53 k 81.53 M		OBW F x dB	Power		9.00 % .00 dB		
496						STATU	5 (C		



### 8. 6dB Emission Bandwidth Measurement

#### 8.1. Standard Applicable

According to §15.407 (e) Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

#### 8.2. Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set the spectrum analyzer as RBW=100kHz, VBW =300MHz, Span= 50MHz, Sweep=auto
- 4. Mark the peak frequency and –6dB (upper and lower) frequency.
- 5. Repeat above procedures until all frequency measured were complete.

Refer to section D of KDB Document: KDB 789033 D02 General UNII Test Procedures New Rules v01r03

#### 8.3. Measurement Equipment Used:

Refer to section 6.3 for details.

#### 8.4. Test Set-up:

Refer to section 6.4 for details.



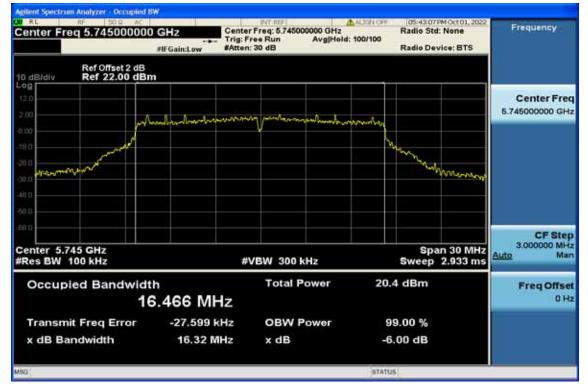
#### 8.5. Measurement Result

Band	Mode	Frequency (MHz)	6dB Bandwidth (MHz)	99% OBW (MHz)	6dB BW Limit (kHz)
		5745	16.32	16.466	> 500
	11a	5785	16.31	16.485	> 500
		5825	16.34	16.482	> 500
		5745	17.55	17.635	> 500
	HT20	5785	17.30	17.667	> 500
		5825	17.34	17.640	> 500
UNII-3	HT40	5755	35.72	36.031	> 500
0111-5	П140	5795	35.54	36.022	> 500
		5745	17.31	17.643	> 500
	VHT20	5785	17.55	17.647	> 500
		5825	17.33	17.648	> 500
	VHT40	5755	36.06	36.035	> 500
	VII140	5795	36.07	36.055	> 500
	VHT80	5775	75.37	75.258	> 500

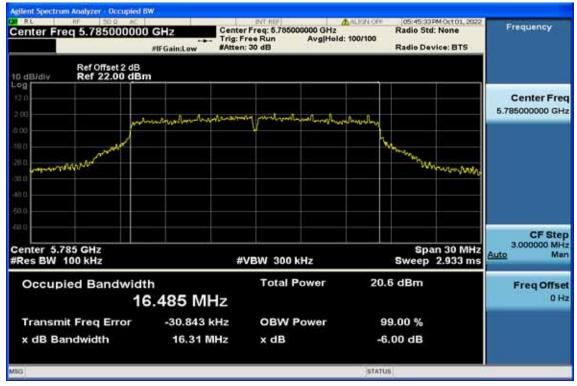


# Band UNII-3 802.11a

### 6dB Band Width Test Data CH-Low

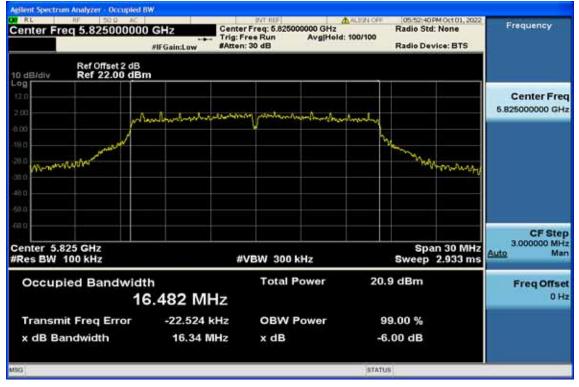


# 6dB Band Width Data CH-Mid





# 6dB Band Width Data CH-High

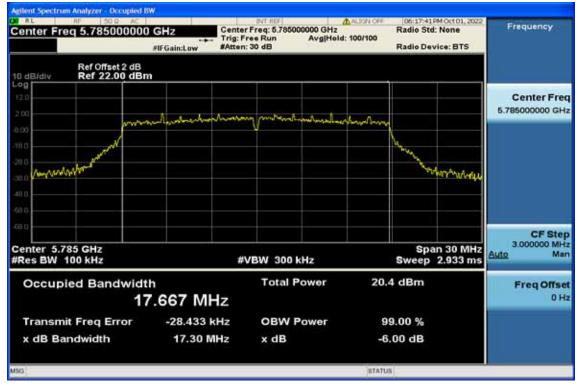


# 802.11n HT20 6dB Band Width Data CH-Low

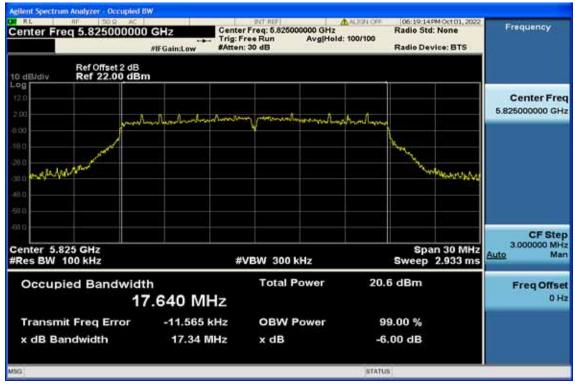
Center Freq	5.745000000	GHz #IFGain:Low	Center Freq: 5.74 Trig: Free Run #Atten: 30 dB	5000000 GHz	1: 100/100	Radio Ste	PM Oct 01, 2022 f: None vice: BTS	Frequency
	Ref Offset 2 dB Ref 22.00 dBn	1						
12.0 2.00 6.00	mh	mandreater	-ambray maka	Minsinali	mahan			Center Fred 5.745000000 GHz
180 280 380 unterholyt	without					And North And	mununlur	
48 0 58 0 68 0 Center 5.745							an 30 MHz	CF Step 3.000000 MH2 <u>Auto</u> Mar
#Res BW 100			#VBW 30				2.933 ms	CIELO MILL
Occupied	d Bandwidt 17	<sup>h</sup> 7.635 Mi		Power	20.	1 dBm		Freq Offset 0 Hz
Transmit f x dB Band		-19.755 H 17.55 N		Power		9.00 % .00 dB		
456					STATU	s		



# 6dB Band Width Data CH-Mid

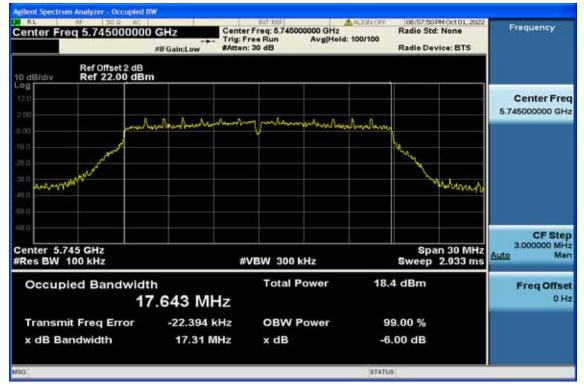


# 6dB Band Width Data CH-High

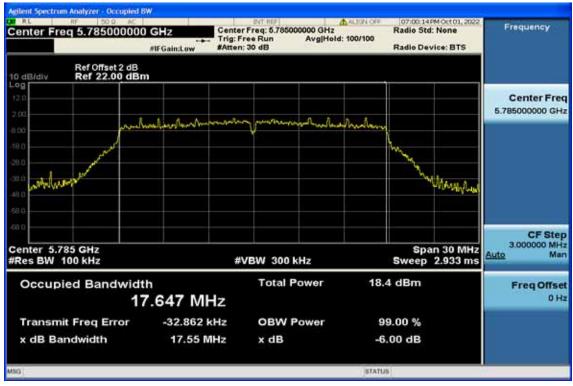




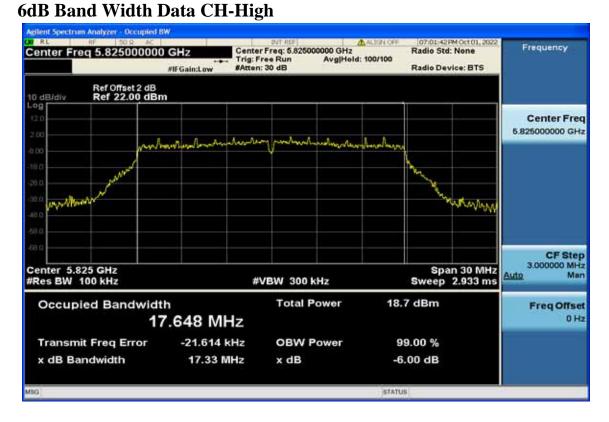
# 802.11ac VHT20 6dB Band Width Data CH-Low



### 6dB Band Width Data CH-Mid





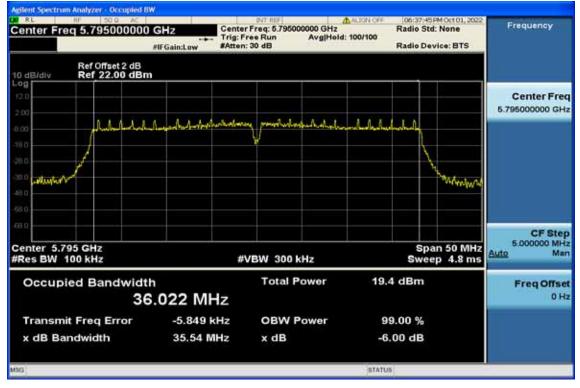


# 802.11n HT40 6dB Band Width Data CH-Low

Center Fre	aq 5.75500000	0 GHz #IFGain:Low	West and Water			100/100	Radio	6:19PM Oct 01, 2022 Std: None Device: BTS	Frequency
10 dB/div	Ref Offset 2 dB Ref 22.00 dBr	m							
09 12:0 2:00 0:00	N 4 4 A 6	. Augustanton to	hundrichung	punchadar	- wheelender				Center Fred 5.755000000 GH:
18.0									
48 0 68 0								WWALTHAN	
Center 5.7 Res BW			#VE	3W 300 I	kHz		Sv	Span 50 MHz veep 4.8 ms	CF Step 5.000000 MH <u>Auto</u> Ma
Occupi	ied Bandwidt 3(	<sup>th</sup> 6.031 M	Hz	Total P	ower	19.	2 dBn	n	Freq Offse 0 H
	it Freq Error ndwidth	-22.095 35.72 I		OBW F x dB	ower		9.00 % .00 di		
196						STATU	5		



# 6dB Band Width Data CH-High

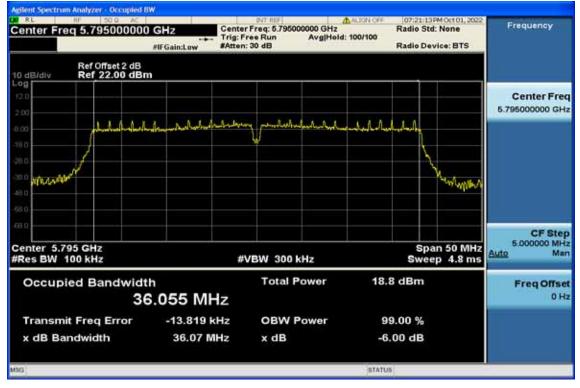


# 802.11ac VHT40 6dB Band Width Data CH-Low

Center Fre	eq 5.755000		Center Fre	Run		100/100	Radio	Std: No Device		Frequency
10 dB/div	Ref Offset 2 Ref 22.00									
12.0		L.L.A.L.L.	Julianter	potenthandra	hornhala		ا			Center Freq 5.755000000 GHz
180 200	J. J		V					Lever to	manut	
48 0 58 0 68 0										CF Step
Center 5.7 #Res BW			#VB	W 300 k	Hz				50 MHz 4.8 ms	6.000000 MH Auto Mar
Occupi	ied Bandw	<sup>idth</sup> 36.035 M		Total P	ower	18.	6 dBn	n		Freq Offset 0 Hi
Transmi x dB Ba	it Freq Erro ndwidth	r -14.077 36.06		OBW P x dB	ower		9.00 % .00 dE			
496						STATU	s :			



# 6dB Band Width Data CH-High



# 802.11 ac VHT80 6dB Band Width Data CH-Low

Center Fre			Gain:Low	Center F			100/100	Radio S	oppionation, 2022 td: None evice: BTS	Frequency
ID dB/div	Ref Offset Ref 22.0									
2.00										Center Free 5.775000000 GH
8.00 18.0	um	. Willing	- and had been	- heteleteleter	prosidents	adolddydyn,	llllllll	mm		
20.0	1								X	
48 0 68 0									*+L-11141.74	
58 D										CF Step
Center 5.77 Res BW 1				#VE	3W 300 k	Hz			an 100 MHz ep 9.6 ms	10.000000 MH Auto Mai
Occupi	ed Band		258 M	Hz	Total P	ower	19.	3 dBm		Freq Offse 0 H
Transmit	t Freq Err	or	7.980	kHz	OBW P	ower	9	9.00 %		
x dB Bar	ndwidth		75.37	ЛНz	x dB		-6	.00 dB		
190							STATU	5		



### 9. Undesirable emission – Radiated Measurement

#### 9.1. Standard Applicable

According to §15.407(b), Undesirable Emission Limits: Except as shown in Paragraph (b)(7) of this section, the peak emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (2) For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (3) For transmitters operating in the 5.47-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (5) The above emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
- (6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in Section 15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in Section 15.207.
- (7) The provisions of Section 15.205 of this part apply to intentional radiators operating under this section.
- (8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.



#### **§15.205- RESTRICTED BANDS OF OPERATIONS**

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
<sup>1</sup> 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 -	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.52525	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	156.7 - 156.9	3260 - 3267	23.6 - 24.0
12.29 - 12.293	162.0125 - 167.17	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	167.72 - 173.2	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	240 - 285	3600 - 4400	( <sup>2</sup> )
13.36 - 13.41	322 - 335.4		

<sup>1</sup> Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

<sup>2</sup> Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.



FCC PART 15.209								
MEASUR	MEASURING DISTANCE OF 3 METER							
FREQUENCY RANGE	FIELD STRENGTH	FIELD STRENGTH						
(MHz)	(Microvolts/m)	(dBuV/m)						
30-88	100	40						
88-216	150	43.5						
216-960	200	46						
Above 960	500	54						

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# **§15.209- RADIATED EMISSION LIMITS: GENERAL REQUIREMENTS**

#### 9.2. EUT Setup

- 1. The radiated emission tests were performed in the 3 meter open-test site, using the setup in accordance with the ANSI C63.10: 2013
- 2. The EUT was put in the front of the test table. The host PC system was placed on the center of the back edge on the test table. The peripherals like modem, monitor printer, K/B, and mouse were placed on the side of the host PC system. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.
- 3. The keyboard was placed directly in the front of the monitor, flushed with the front tabletop. The mouse was placed next to the Keyboard, flushed with the back of keyboard.
- 4. The spacing between the peripherals was 10 centimeters.
- 5. External I/O cables were draped along the edge of the test table and bundle when necessary.
- 6. The host PC system was connected with 120Vac/60Hz power source.



#### 9.3. Measurement Procedure

- 1. The EUT was placed on a turn table which is 0.8m above ground plane.
- 2. The turn table shall rotate 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
- 4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 6. Repeat above procedures until all frequency measured were complete.

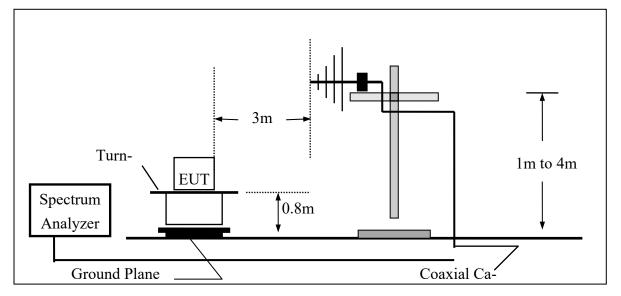
Refer to section F of KDB Document: KDB 789033 D02 General U-NII Test Procedures New Rules v02r01



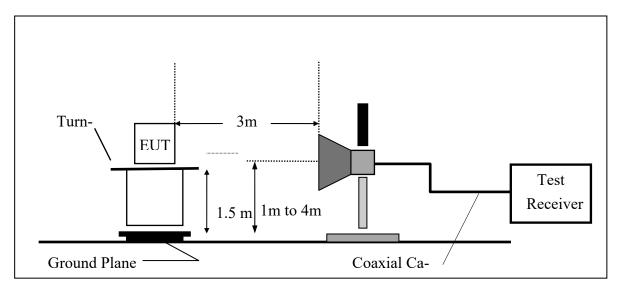


### 9.4. Test SET-UP (Block Diagram of Configuration)

(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(B) Radiated Emission Test Set-UP Frequency Over 1 GHz





9.5. Measurement Equipment Used:

9.5. Meas	urement Equipn	nent Used:		1		
Location	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Chamber 19	Signal analyzer	R&S	FSV40	101919	8/17/2022	8/17/2023
Chamber 19	EMI Receiver	R&S	ESR3	102461	05/10/2022	05/10/2023
Chamber 19	Loop Antenna	EM	EM-6879	271	10/05/2022	10/05/2023
Chamber 19	Bilog Antenna (30MHz-1GHz)	Schwarzbeck	VULB9168 w 6dB Att.	9168-736	03/09/2022	03/09/2023
Chamber 19	Horn antenna (1GHz-18GHz)	ETS	3117	00218718	10/12/2022	10/12/2023
Chamber 19	Horn antenna (18GHz-26GHz)	Com-power	AH-826	081001	11/30/2021	11/30/2022
Chamber 19	Horn antenna (26GHz-40GHz)	Com-power	AH-640	100A	03/18/2022	03/18/2023
Chamber 19	Preamplifier (9kHz-1GHz)	HP	8447F	3113A04621	06/24/2022	06/24/2023
Chamber 19	Preamplifier (1GHz - 26GHz)	EM	EM01M26G	060681	05/12/2022	05/12/2023
Chamber 19	Preamplifier (26GHz-40GHz)	MITEQ	JS4-26004000- 27-5A	818471	05/12/2022	05/12/2023
Chamber 19	RF Cable (100kHz-26.5GHz)	Huber Suhner & Woken	Sucoflex 104A & 18GHz SMA(M)-SM A(M)-10M	MY817/4A & 20200525	12/23/2021	12/23/2022
Chamber 19	RF Cable (18GHz-40GHz)	HUBER SU- HNER	Sucoflex 102	27963/2&374 21/2	11/17/2021	11/17/2022
Chamber 19	Signal Generator	Anritsu	MG3692A	20311	12/28/2021	12/28/2022
Chamber 19	Test Software	Audix	E3 Ver:6.120203b	N/A	N/A	N/A



### 9.6. Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

#### FS = RA + AF + CL - AG

Where	FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

#### 9.7. Measurement Result

Refer to attach tabular data sheets.

#### NOTE:

The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 100kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz. And RBW 1MHz for frequency above 1GHz.



### Radiated Spurious Emission Measurement Result (below 1GHz) (Band UNII-1 / Band UNII-2A, 802.11a mode)

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Low	Test By	Barry
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	369.50	45.38	-3.12	42.26	46.00	-3.74	Peak	VERTICAL
2	375.32	43.97	-2.91	41.06	46.00	-4.94	Peak	VERTICAL
3	399.57	44.70	-2.54	42.16	46.00	-3.84	Peak	VERTICAL
4	444.19	44.14	-1.11	43.03	46.00	-2.97	Peak	VERTICAL
5	625.58	41.36	2.00	43.36	46.00	-2.64	Peak	VERTICAL
6	888.45	35.88	5.96	41.84	46.00	-4.16	Peak	VERTICAL
1	369.50	44.97	-3.12	41.85	46.00	-4.15	Peak	HORIZONTAL
2	591.63	40.59	1.55	42.14	46.00	-3.86	Peak	HORIZONTAL
3	600.36	36.09	1.79	37.88	46.00	-8.12	Peak	HORIZONTAL
4	625.58	35.55	2.00	37.55	46.00	-8.45	Peak	HORIZONTAL
5	783.69	36.43	4.65	41.08	46.00	-4.92	Peak	HORIZONTAL
6	888.45	31.60	5.96	37.56	46.00	-8.44	Peak	HORIZONTAL

Remark:

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



Kaulateu Spullous E	Amission Micasul chichi Kesult (Delow 10112)	•	
Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Mid	Test By	Barry
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

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Radiated Spurious Emission Measurement Result (I	below 1GHz)
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No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	369.50	45.31	-3.12	42.19	46.00	-3.81	Peak	VERTICAL
2	375.32	42.64	-2.91	39.73	46.00	-6.27	Peak	VERTICAL
3	399.57	44.33	-2.54	41.79	46.00	-4.21	Peak	VERTICAL
4	444.19	45.48	-1.11	44.37	46.00	-1.63	Peak	VERTICAL
5	625.58	40.53	2.00	42.53	46.00	-3.47	Peak	VERTICAL
6	888.45	36.24	5.96	42.20	46.00	-3.80	Peak	VERTICAL
1	216.24	46.28	-7.77	38.51	46.00	-7.49	Peak	HORIZONTAL
2	222.06	49.37	-7.93	41.44	46.00	-4.56	Peak	HORIZONTAL
3	369.50	43.67	-3.12	40.55	46.00	-5.45	Peak	HORIZONTAL
4	591.63	40.05	1.55	41.60	46.00	-4.40	Peak	HORIZONTAL
5	600.36	34.83	1.79	36.62	46.00	-9.38	Peak	HORIZONTAL
6	888.45	35.65	5.96	41.61	46.00	-4.39	Peak	HORIZONTAL

#### Remark:

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



Radiated Spurious En	institution interastit (below 10112)		
Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH High	Test By	Barry
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

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#### **Radiated Spurious Emission Measurement Result (below 1GHz)**

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	369.50	46.37	-3.12	43.25	46.00	-2.75	Peak	VERTICAL
2	375.32	43.68	-2.91	40.77	46.00	-5.23	Peak	VERTICAL
3	399.57	44.77	-2.54	42.23	46.00	-3.77	Peak	VERTICAL
4	444.19	45.12	-1.11	44.01	46.00	-1.99	Peak	VERTICAL
5	625.58	40.91	2.00	42.91	46.00	-3.09	Peak	VERTICAL
6	888.45	36.71	5.96	42.67	46.00	-3.33	Peak	VERTICAL
1	216.24	47.02	-7.77	39.25	46.00	-6.75	Peak	HORIZONTAL
2	222.06	49.00	-7.93	41.07	46.00	-4.93	Peak	HORIZONTAL
3	243.40	45.25	-6.19	39.06	46.00	-6.94	Peak	HORIZONTAL
4	369.50	44.83	-3.12	41.71	46.00	-4.29	Peak	HORIZONTAL
5	592.60	40.78	1.58	42.36	46.00	-3.64	Peak	HORIZONTAL
6	600.36	39.24	1.79	41.03	46.00	-4.97	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



#### Radiated Spurious Emission Measurement Result (below 1GHz) (Band UNII-1 / Band UNII-2A, 802.11n HT20 mode)

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Low	Test By	Barry
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

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No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	369.50	46.27	-3.12	43.15	46.00	-2.85	Peak	VERTICAL
2	375.32	42.93	-2.91	40.02	46.00	-5.98	Peak	VERTICAL
3	399.57	44.20	-2.54	41.66	46.00	-4.34	Peak	VERTICAL
4	444.19	43.69	-1.11	42.58	46.00	-3.42	Peak	VERTICAL
5	625.58	41.16	2.00	43.16	46.00	-2.84	Peak	VERTICAL
6	888.45	36.32	5.96	42.28	46.00	-3.72	Peak	VERTICAL
1	216.24	48.55	-7.77	40.78	46.00	-5.22	Peak	HORIZONTAL
2	222.06	49.48	-7.93	41.55	46.00	-4.45	Peak	HORIZONTAL
3	243.40	46.61	-6.19	40.42	46.00	-5.58	Peak	HORIZONTAL
4	369.50	45.38	-3.12	42.26	46.00	-3.74	Peak	HORIZONTAL
5	591.63	41.65	1.55	43.20	46.00	-2.80	Peak	HORIZONTAL
6	625.58	40.55	2.00	42.55	46.00	-3.45	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



### Operation ModeTX MODETest Date2022/09/27Channel NumberCH MidTest ByBarryTemperature25PolVer./HorHumidity65 %KerterKerter

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	369.50	45.46	-3.12	42.34	46.00	-3.66	Peak	VERTICAL
2	375.32	44.18	-2.91	41.27	46.00	-4.73	Peak	VERTICAL
3	399.57	44.74	-2.54	42.20	46.00	-3.80	Peak	VERTICAL
4	444.19	44.67	-1.11	43.56	46.00	-2.44	Peak	VERTICAL
5	625.58	39.83	2.00	41.83	46.00	-4.17	Peak	VERTICAL
6	888.45	36.83	5.96	42.79	46.00	-3.21	Peak	VERTICAL
1	189.08	40.30	-7.54	32.76	43.50	-10.74	Peak	HORIZONTAL
2	216.24	47.78	-7.77	40.01	46.00	-5.99	Peak	HORIZONTAL
3	222.06	48.82	-7.93	40.89	46.00	-5.11	Peak	HORIZONTAL
4	369.50	44.55	-3.12	41.43	46.00	-4.57	Peak	HORIZONTAL
5	591.63	41.02	1.55	42.57	46.00	-3.43	Peak	HORIZONTAL
6	625.58	38.99	2.00	40.99	46.00	-5.01	Peak	HORIZONTAL

#### Remark:

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

### Radiated Spurious Emission Measurement Result (below 1GHz)



Radiated Spurious En	inssion measurement Result (below 10112)		
Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH High	Test By	Barry
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

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Radiated Snu	rious Emission	Measurement	Result	(below	1GHz)
Maulaicu Dpu	ii iuus Liinssiun	with a suit thit in	<b>I</b> Coult		

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	369.50	41.24	-3.12	38.12	46.00	-7.88	Peak	VERTICAL
2	399.57	38.82	-2.54	36.28	46.00	-9.72	Peak	VERTICAL
3	444.19	44.41	-1.11	43.30	46.00	-2.70	Peak	VERTICAL
4	625.58	37.30	2.00	39.30	46.00	-6.70	Peak	VERTICAL
5	783.69	36.07	4.65	40.72	46.00	-5.28	Peak	VERTICAL
6	888.45	32.82	5.96	38.78	46.00	-7.22	Peak	VERTICAL
1	216.24	46.71	-7.77	38.94	46.00	-7.06	Peak	HORIZONTAL
2	222.06	46.56	-7.93	38.63	46.00	-7.37	Peak	HORIZONTAL
3	369.50	43.56	-3.12	40.44	46.00	-5.56	Peak	HORIZONTAL
4	591.63	40.36	1.55	41.91	46.00	-4.09	Peak	HORIZONTAL
5	600.36	40.94	1.79	42.73	46.00	-3.27	Peak	HORIZONTAL
6	888.45	35.66	5.96	41.62	46.00	-4.38	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



#### Radiated Spurious Emission Measurement Result (below 1GHz) (Band UNII-1 / Band UNII-2A, 802.11n HT40 mode)

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Low	Test By	Barry
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	369.50	46.33	-3.12	43.21	46.00	-2.79	Peak	VERTICAL
2	399.57	44.44	-2.54	41.90	46.00	-4.10	Peak	VERTICAL
3	444.19	44.59	-1.11	43.48	46.00	-2.52	Peak	VERTICAL
4	625.58	40.03	2.00	42.03	46.00	-3.97	Peak	VERTICAL
5	814.73	35.79	5.08	40.87	46.00	-5.13	Peak	VERTICAL
6	888.45	36.85	5.96	42.81	46.00	-3.19	Peak	VERTICAL
1	216.24	47.29	-7.77	39.52	46.00	-6.48	Peak	HORIZONTAL
2	222.06	47.91	-7.93	39.98	46.00	-6.02	Peak	HORIZONTAL
3	369.50	45.83	-3.12	42.71	46.00	-3.29	Peak	HORIZONTAL
4	591.63	40.47	1.55	42.02	46.00	-3.98	Peak	HORIZONTAL
5	625.58	36.33	2.00	38.33	46.00	-7.67	Peak	HORIZONTAL
6	888.45	36.50	5.96	42.46	46.00	-3.54	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



Kaulateu Spullous El	inssion wiedsurement Kesuit (below 10112)		
Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Mid	Test By	Barry
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

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Radiated Spurious Emission Measurement Result (below 1GHz	<b>Radiated S</b>	purious	Emission	Measurement	<b>Result</b> (	(below 1GHz)
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No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	369.50	44.77	-3.12	41.65	46.00	-4.35	Peak	VERTICAL
2	375.32	43.27	-2.91	40.36	46.00	-5.64	Peak	VERTICAL
3	399.57	43.28	-2.54	40.74	46.00	-5.26	Peak	VERTICAL
4	444.19	43.53	-1.11	42.42	46.00	-3.58	Peak	VERTICAL
5	625.58	39.14	2.00	41.14	46.00	-4.86	Peak	VERTICAL
6	888.45	35.67	5.96	41.63	46.00	-4.37	Peak	VERTICAL
1	216.24	48.19	-7.77	40.42	46.00	-5.58	Peak	HORIZONTAL
2	222.06	46.55	-7.93	38.62	46.00	-7.38	Peak	HORIZONTAL
3	369.50	45.62	-3.12	42.50	46.00	-3.50	Peak	HORIZONTAL
4	592.60	41.35	1.58	42.93	46.00	-3.07	Peak	HORIZONTAL
5	600.36	40.30	1.79	42.09	46.00	-3.91	Peak	HORIZONTAL
6	888.45	36.06	5.96	42.02	46.00	-3.98	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



Radiated Sparrous Emission mediatement Result (below 10112)									
Operation Mode	TX MODE	Test Date	2022/09/27						
Channel Number	CH High	Test By	Barry						
Temperature	25	Pol	Ver./Hor						
Humidity	65 %								

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Radiated Si	purious Emission	Measurement	Result (	(below 1GHz)
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No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	369.50	45.97	-3.12	42.85	46.00	-3.15	Peak	VERTICAL
2	375.32	42.88	-2.91	39.97	46.00	-6.03	Peak	VERTICAL
3	399.57	44.04	-2.54	41.50	46.00	-4.50	Peak	VERTICAL
4	444.19	44.65	-1.11	43.54	46.00	-2.46	Peak	VERTICAL
5	625.58	37.80	2.00	39.80	46.00	-6.20	Peak	VERTICAL
6	888.45	32.61	5.96	38.57	46.00	-7.43	Peak	VERTICAL
1	216.24	46.70	-7.77	38.93	46.00	-7.07	Peak	HORIZONTAL
2	222.06	49.47	-7.93	41.54	46.00	-4.46	Peak	HORIZONTAL
3	243.40	46.33	-6.19	40.14	46.00	-5.86	Peak	HORIZONTAL
4	369.50	43.67	-3.12	40.55	46.00	-5.45	Peak	HORIZONTAL
5	591.63	40.34	1.55	41.89	46.00	-4.11	Peak	HORIZONTAL
6	888.45	35.17	5.96	41.13	46.00	-4.87	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



#### Radiated Spurious Emission Measurement Result (below 1GHz) (Band UNII-1 / Band UNII-2A, 802.11ac VHT80 mode)

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Low	Test By	Barry
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	369.50	44.89	-3.12	41.77	46.00	-4.23	Peak	VERTICAL
2	375.32	42.99	-2.91	40.08	46.00	-5.92	Peak	VERTICAL
3	399.57	43.68	-2.54	41.14	46.00	-4.86	Peak	VERTICAL
4	444.19	44.77	-1.11	43.66	46.00	-2.34	Peak	VERTICAL
5	625.58	40.55	2.00	42.55	46.00	-3.45	Peak	VERTICAL
6	888.45	35.91	5.96	41.87	46.00	-4.13	Peak	VERTICAL
1	216.24	46.98	-7.77	39.21	46.00	-6.79	Peak	HORIZONTAL
2	222.06	48.57	-7.93	40.64	46.00	-5.36	Peak	HORIZONTAL
3	243.40	47.16	-6.19	40.97	46.00	-5.03	Peak	HORIZONTAL
4	369.50	44.99	-3.12	41.87	46.00	-4.13	Peak	HORIZONTAL
5	591.63	40.23	1.55	41.78	46.00	-4.22	Peak	HORIZONTAL
6	888.45	34.29	5.96	40.25	46.00	-5.75	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



#### **Radiated Spurious Emission Measurement Result (below 1GHz)**

Char	ation Mode mel Number perature idity	r Cl 25	X MODE H High 5 5 %				Test Date Test By Pol	2022/09/27 Barry Ver./Hor
No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H

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INO	Freq	Reading	Factor	Level	Limit	Margin	Remark	POI
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	369.50	45.50	-3.12	42.38	46.00	-3.62	Peak	VERTICAL
2	375.32	43.71	-2.91	40.80	46.00	-5.20	Peak	VERTICAL
3	399.57	44.12	-2.54	41.58	46.00	-4.42	Peak	VERTICAL
4	444.19	44.55	-1.11	43.44	46.00	-2.56	Peak	VERTICAL
5	625.58	40.42	2.00	42.42	46.00	-3.58	Peak	VERTICAL
6	888.45	36.11	5.96	42.07	46.00	-3.93	Peak	VERTICAL
1	216.24	47.01	-7.77	39.24	46.00	-6.76	Peak	HORIZONTAL
2	222.06	47.16	-7.93	39.23	46.00	-6.77	Peak	HORIZONTAL
3	369.50	43.98	-3.12	40.86	46.00	-5.14	Peak	HORIZONTAL
4	591.63	42.19	1.55	43.74	46.00	-2.26	Peak	HORIZONTAL
5	600.36	36.09	1.79	37.88	46.00	-8.12	Peak	HORIZONTAL
6	888.45	33.11	5.96	39.07	46.00	-6.93	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



#### Radiated Spurious Emission Measurement Result (below 1GHz) (Band UNII-2C, 802.11a mode)

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Low	Test By	Barry
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	369.50	40.89	-3.12	37.77	46.00	-8.23	Peak	VERTICAL
2	399.57	43.49	-2.54	40.95	46.00	-5.05	Peak	VERTICAL
3	408.30	41.54	-2.29	39.25	46.00	-6.75	Peak	VERTICAL
4	444.19	44.66	-1.11	43.55	46.00	-2.45	Peak	VERTICAL
5	625.58	39.50	2.00	41.50	46.00	-4.50	Peak	VERTICAL
6	888.45	35.19	5.96	41.15	46.00	-4.85	Peak	VERTICAL
1	216.24	45.49	-7.77	37.72	46.00	-8.28	Peak	HORIZONTAL
2	222.06	46.73	-7.93	38.80	46.00	-7.20	Peak	HORIZONTAL
3	243.40	49.92	-6.19	43.73	46.00	-2.27	Peak	HORIZONTAL
4	369.50	43.32	-3.12	40.20	46.00	-5.80	Peak	HORIZONTAL
5	591.63	36.92	1.55	38.47	46.00	-7.53	Peak	HORIZONTAL
6	888.45	31.95	5.96	37.91	46.00	-8.09	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



# Radiated Spurious Emission Measurement Result (below 1GHz)Operation ModeTX MODETest Date2022/09/27Channel NumberCH MidTest ByBarryTemperature25PolVer./HorHumidity65 %KerterKerter

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No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	369.50	45.67	-3.12	42.55	46.00	-3.45	Peak	VERTICAL
2	375.32	42.86	-2.91	39.95	46.00	-6.05	Peak	VERTICAL
3	399.57	44.46	-2.54	41.92	46.00	-4.08	Peak	VERTICAL
4	444.19	44.23	-1.11	43.12	46.00	-2.88	Peak	VERTICAL
5	625.58	40.34	2.00	42.34	46.00	-3.66	Peak	VERTICAL
6	888.45	35.08	5.96	41.04	46.00	-4.96	Peak	VERTICAL
1	216.24	44.89	-7.77	37.12	46.00	-8.88	Peak	HORIZONTAL
2	222.06	47.16	-7.93	39.23	46.00	-6.77	Peak	HORIZONTAL
3	295.78	44.87	-4.21	40.66	46.00	-5.34	Peak	HORIZONTAL
4	369.50	45.49	-3.12	42.37	46.00	-3.63	Peak	HORIZONTAL
5	591.63	41.30	1.55	42.85	46.00	-3.15	Peak	HORIZONTAL
6	888.45	35.05	5.96	41.01	46.00	-4.99	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



Rudiated Sparrous Limssion Medatement Result (below 10112)									
Operation Mode	TX MODE	Test Date	2022/09/27						
Channel Number	CH High	Test By	Barry						
Temperature	25	Pol	Ver./Hor						
Humidity	65 %								

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<b>Radiated Spurious</b>	Emission	Measurement	Result	(below 1GHz)	)
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No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	369.50	46.81	-3.12	43.69	46.00	-2.31	Peak	VERTICAL
2	375.32	44.91	-2.91	42.00	46.00	-4.00	Peak	VERTICAL
3	399.57	44.57	-2.54	42.03	46.00	-3.97	Peak	VERTICAL
4	444.19	44.43	-1.11	43.32	46.00	-2.68	Peak	VERTICAL
5	625.58	41.59	2.00	43.59	46.00	-2.41	Peak	VERTICAL
6	888.45	36.70	5.96	42.66	46.00	-3.34	Peak	VERTICAL
1	216.24	46.00	-7.77	38.23	46.00	-7.77	Peak	HORIZONTAL
2	222.06	50.02	-7.93	42.09	46.00	-3.91	Peak	HORIZONTAL
3	369.50	44.45	-3.12	41.33	46.00	-4.67	Peak	HORIZONTAL
4	591.63	41.21	1.55	42.76	46.00	-3.24	Peak	HORIZONTAL
5	625.58	38.08	2.00	40.08	46.00	-5.92	Peak	HORIZONTAL
6	888.45	35.99	5.96	41.95	46.00	-4.05	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



#### Radiated Spurious Emission Measurement Result (below 1GHz) (Band UNII-2C, 802.11n HT20 mode)

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Low	Test By	Barry
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	369.50	45.50	-3.12	42.38	46.00	-3.62	Peak	VERTICAL
2	375.32	43.40	-2.91	40.49	46.00	-5.51	Peak	VERTICAL
3	399.57	44.10	-2.54	41.56	46.00	-4.44	Peak	VERTICAL
4	444.19	44.69	-1.11	43.58	46.00	-2.42	Peak	VERTICAL
5	625.58	37.94	2.00	39.94	46.00	-6.06	Peak	VERTICAL
6	888.45	36.27	5.96	42.23	46.00	-3.77	Peak	VERTICAL
1	216.24	49.01	-7.77	41.24	46.00	-4.76	Peak	HORIZONTAL
2	222.06	49.33	-7.93	41.40	46.00	-4.60	Peak	HORIZONTAL
3	243.40	48.61	-6.19	42.42	46.00	-3.58	Peak	HORIZONTAL
4	369.50	43.51	-3.12	40.39	46.00	-5.61	Peak	HORIZONTAL
5	591.63	39.93	1.55	41.48	46.00	-4.52	Peak	HORIZONTAL
6	888.45	35.97	5.96	41.93	46.00	-4.07	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



Radiated Spurious En	ission wiedsurement Kesuit (below 10112)		
Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Mid	Test By	Barry
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

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<b>Radiated Spurious Emission Measurement Result (below 1G</b>	Hz)
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No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	369.50	44.76	-3.12	41.64	46.00	-4.36	Peak	VERTICAL
2	375.32	43.30	-2.91	40.39	46.00	-5.61	Peak	VERTICAL
3	399.57	44.47	-2.54	41.93	46.00	-4.07	Peak	VERTICAL
4	444.19	44.23	-1.11	43.12	46.00	-2.88	Peak	VERTICAL
5	625.58	40.57	2.00	42.57	46.00	-3.43	Peak	VERTICAL
6	888.45	35.77	5.96	41.73	46.00	-4.27	Peak	VERTICAL
1	216.24	50.07	-7.77	42.30	46.00	-3.70	Peak	HORIZONTAL
2	222.06	50.27	-7.93	42.34	46.00	-3.66	Peak	HORIZONTAL
3	369.50	42.53	-3.12	39.41	46.00	-6.59	Peak	HORIZONTAL
4	591.63	41.46	1.55	43.01	46.00	-2.99	Peak	HORIZONTAL
5	783.69	36.53	4.65	41.18	46.00	-4.82	Peak	HORIZONTAL
6	888.45	34.63	5.96	40.59	46.00	-5.41	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



Radiated Sparrous En	ission measurement result (below 10112)		
Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH High	Test By	Barry
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

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<b>Radiated Spuriou</b>	s Emission	Measurement	Result	(below 1GHz)
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No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	369.50	45.45	-3.12	42.33	46.00	-3.67	Peak	VERTICAL
2	375.32	44.11	-2.91	41.20	46.00	-4.80	Peak	VERTICAL
3	399.57	44.72	-2.54	42.18	46.00	-3.82	Peak	VERTICAL
4	444.19	45.03	-1.11	43.92	46.00	-2.08	Peak	VERTICAL
5	625.58	37.54	2.00	39.54	46.00	-6.46	Peak	VERTICAL
6	888.45	35.81	5.96	41.77	46.00	-4.23	Peak	VERTICAL
1	216.24	47.22	-7.77	39.45	46.00	-6.55	Peak	HORIZONTAL
2	222.06	48.39	-7.93	40.46	46.00	-5.54	Peak	HORIZONTAL
3	295.78	45.01	-4.21	40.80	46.00	-5.20	Peak	HORIZONTAL
4	369.50	45.82	-3.12	42.70	46.00	-3.30	Peak	HORIZONTAL
5	591.63	40.37	1.55	41.92	46.00	-4.08	Peak	HORIZONTAL
6	888.45	36.62	5.96	42.58	46.00	-3.42	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



#### Radiated Spurious Emission Measurement Result (below 1GHz) (Band UNII-2C, 802.11n HT40 mode)

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Low	Test By	Barry
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	369.50	40.55	-3.12	37.43	46.00	-8.57	Peak	VERTICAL
2	399.57	39.53	-2.54	36.99	46.00	-9.01	Peak	VERTICAL
3	444.19	44.46	-1.11	43.35	46.00	-2.65	Peak	VERTICAL
4	625.58	39.92	2.00	41.92	46.00	-4.08	Peak	VERTICAL
5	783.69	38.37	4.65	43.02	46.00	-2.98	Peak	VERTICAL
6	888.45	37.16	5.96	43.12	46.00	-2.88	Peak	VERTICAL
1	216.24	49.74	-7.77	41.97	46.00	-4.03	Peak	HORIZONTAL
2	222.06	49.74	-7.93	41.81	46.00	-4.19	Peak	HORIZONTAL
3	369.50	44.35	-3.12	41.23	46.00	-4.77	Peak	HORIZONTAL
4	399.57	44.81	-2.54	42.27	46.00	-3.73	Peak	HORIZONTAL
5	592.60	40.22	1.58	41.80	46.00	-4.20	Peak	HORIZONTAL
6	625.58	39.27	2.00	41.27	46.00	-4.73	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



## Qperation ModeTX MODETest Date2022/09/27Channel NumberCH MidTest ByBarryTemperature25PolVer./HorHumidity65 %Kernel New YorkKernel New York

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No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	369.50	44.42	-3.12	41.30	46.00	-4.70	Peak	VERTICAL
2	375.32	45.25	-2.91	42.34	46.00	-3.66	Peak	VERTICAL
3	399.57	44.61	-2.54	42.07	46.00	-3.93	Peak	VERTICAL
4	444.19	44.07	-1.11	42.96	46.00	-3.04	Peak	VERTICAL
5	625.58	37.92	2.00	39.92	46.00	-6.08	Peak	VERTICAL
6	888.45	35.73	5.96	41.69	46.00	-4.31	Peak	VERTICAL
1	216.24	46.29	-7.77	38.52	46.00	-7.48	Peak	HORIZONTAL
2	222.06	47.86	-7.93	39.93	46.00	-6.07	Peak	HORIZONTAL
3	369.50	45.01	-3.12	41.89	46.00	-4.11	Peak	HORIZONTAL
4	591.63	40.12	1.55	41.67	46.00	-4.33	Peak	HORIZONTAL
5	600.36	40.55	1.79	42.34	46.00	-3.66	Peak	HORIZONTAL
6	888.45	36.83	5.96	42.79	46.00	-3.21	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



Radiated Sparrous En	ission measurement result (below 10112)		
Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH High	Test By	Barry
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

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<b>Radiated Spurious</b>	s Emission	Measurement	Result	(below 1GHz)	)
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No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	369.50	47.07	-3.12	43.95	46.00	-2.05	Peak	VERTICAL
2	375.32	44.22	-2.91	41.31	46.00	-4.69	Peak	VERTICAL
3	399.57	44.33	-2.54	41.79	46.00	-4.21	Peak	VERTICAL
4	444.19	44.53	-1.11	43.42	46.00	-2.58	Peak	VERTICAL
5	625.58	40.76	2.00	42.76	46.00	-3.24	Peak	VERTICAL
6	888.45	35.98	5.96	41.94	46.00	-4.06	Peak	VERTICAL
1	216.24	48.17	-7.77	40.40	46.00	-5.60	Peak	HORIZONTAL
2	222.06	48.38	-7.93	40.45	46.00	-5.55	Peak	HORIZONTAL
3	369.50	44.62	-3.12	41.50	46.00	-4.50	Peak	HORIZONTAL
4	591.63	40.11	1.55	41.66	46.00	-4.34	Peak	HORIZONTAL
5	600.36	39.07	1.79	40.86	46.00	-5.14	Peak	HORIZONTAL
6	888.45	34.96	5.96	40.92	46.00	-5.08	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



#### Radiated Spurious Emission Measurement Result (below 1GHz) (Band UNII-2C, 802.11ac VHT80 mode)

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Low	Test By	Barry
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	369.50	45.27	-3.12	42.15	46.00	-3.85	Peak	VERTICAL
2	375.32	44.27	-2.91	41.36	46.00	-4.64	Peak	VERTICAL
3	399.57	45.79	-2.54	43.25	46.00	-2.75	Peak	VERTICAL
4	444.19	44.21	-1.11	43.10	46.00	-2.90	Peak	VERTICAL
5	625.58	40.54	2.00	42.54	46.00	-3.46	Peak	VERTICAL
6	888.45	36.37	5.96	42.33	46.00	-3.67	Peak	VERTICAL
1	216.24	46.95	-7.77	39.18	46.00	-6.82	Peak	HORIZONTAL
2	222.06	48.55	-7.93	40.62	46.00	-5.38	Peak	HORIZONTAL
3	243.40	45.80	-6.19	39.61	46.00	-6.39	Peak	HORIZONTAL
4	369.50	42.69	-3.12	39.57	46.00	-6.43	Peak	HORIZONTAL
5	591.63	39.52	1.55	41.07	46.00	-4.93	Peak	HORIZONTAL
6	888.45	35.65	5.96	41.61	46.00	-4.39	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	369.50	44.68	-3.12	41.56	46.00	-4.44	Peak	VERTICAL
2	375.32	44.25	-2.91	41.34	46.00	-4.66	Peak	VERTICAL
3	399.57	45.62	-2.54	43.08	46.00	-2.92	Peak	VERTICAL
4	408.30	44.20	-2.29	41.91	46.00	-4.09	Peak	VERTICAL
5	444.19	43.68	-1.11	42.57	46.00	-3.43	Peak	VERTICAL
6	625.58	40.70	2.00	42.70	46.00	-3.30	Peak	VERTICAL
1	216.24	47.65	-7.77	39.88	46.00	-6.12	Peak	HORIZONTAL
2	222.06	49.31	-7.93	41.38	46.00	-4.62	Peak	HORIZONTAL
3	243.40	48.16	-6.19	41.97	46.00	-4.03	Peak	HORIZONTAL
4	369.50	45.63	-3.12	42.51	46.00	-3.49	Peak	HORIZONTAL
5	591.63	39.49	1.55	41.04	46.00	-4.96	Peak	HORIZONTAL
6	888.45	35.58	5.96	41.54	46.00	-4.46	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



#### Radiated Spurious Emission Measurement Result (below 1GHz) (Band UNII-3, 802.11a mode)

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Low	Test By	Barry
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	369.50	45.54	-3.12	42.42	46.00	-3.58	Peak	VERTICAL
2	375.32	42.89	-2.91	39.98	46.00	-6.02	Peak	VERTICAL
3	399.57	45.51	-2.54	42.97	46.00	-3.03	Peak	VERTICAL
4	444.19	44.57	-1.11	43.46	46.00	-2.54	Peak	VERTICAL
5	625.58	40.60	2.00	42.60	46.00	-3.40	Peak	VERTICAL
6	888.45	35.97	5.96	41.93	46.00	-4.07	Peak	VERTICAL
1	216.24	47.20	-7.77	39.43	46.00	-6.57	Peak	HORIZONTAL
2	222.06	50.09	-7.93	42.16	46.00	-3.84	Peak	HORIZONTAL
3	243.40	45.54	-6.19	39.35	46.00	-6.65	Peak	HORIZONTAL
4	369.50	42.91	-3.12	39.79	46.00	-6.21	Peak	HORIZONTAL
5	592.60	40.00	1.58	41.58	46.00	-4.42	Peak	HORIZONTAL
6	888.45	36.84	5.96	42.80	46.00	-3.20	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



# Radiated Spurious Emission Measurement Result (below 1GHz)Operation ModeTX MODETest Date2022/09/27Channel NumberCH MidTest ByBarryTemperature25PolVer./HorHumidity65 %KerterKerter

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No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	369.50	46.50	-3.12	43.38	46.00	-2.62	Peak	VERTICAL
2	375.32	44.00	-2.91	41.09	46.00	-4.91	Peak	VERTICAL
3	399.57	45.46	-2.54	42.92	46.00	-3.08	Peak	VERTICAL
4	444.19	44.19	-1.11	43.08	46.00	-2.92	Peak	VERTICAL
5	625.58	37.77	2.00	39.77	46.00	-6.23	Peak	VERTICAL
6	888.45	36.11	5.96	42.07	46.00	-3.93	Peak	VERTICAL
1	216.24	46.96	-7.77	39.19	46.00	-6.81	Peak	HORIZONTAL
2	222.06	48.44	-7.93	40.51	46.00	-5.49	Peak	HORIZONTAL
3	243.40	47.67	-6.19	41.48	46.00	-4.52	Peak	HORIZONTAL
4	369.50	45.33	-3.12	42.21	46.00	-3.79	Peak	HORIZONTAL
5	591.63	38.58	1.55	40.13	46.00	-5.87	Peak	HORIZONTAL
6	888.45	35.85	5.96	41.81	46.00	-4.19	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



Radiated Sparrous En	ission measurement result (below 10112)		
Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH High	Test By	Barry
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

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<b>Radiated Spuriou</b>	is Emission	Measurement	Result	(below 1GHz)
Maulaicu Opullou	19 12111991011	masurunu	<b>I</b> Coult	

No	Freq	Reading dBuV	Factor	Level	Limit dBuV/m	Margin	Remark	Pol V/II
	MHz	aBuv	dB	dBuV/m	aBuv/m	dB		V/H
1	369.50	45.64	-3.12	42.52	46.00	-3.48	Peak	VERTICAL
2	375.32	43.02	-2.91	40.11	46.00	-5.89	Peak	VERTICAL
3	399.57	44.11	-2.54	41.57	46.00	-4.43	Peak	VERTICAL
4	444.19	45.15	-1.11	44.04	46.00	-1.96	Peak	VERTICAL
5	625.58	38.11	2.00	40.11	46.00	-5.89	Peak	VERTICAL
6	888.45	37.10	5.96	43.06	46.00	-2.94	Peak	VERTICAL
1	216.24	46.15	-7.77	38.38	46.00	-7.62	Peak	HORIZONTAL
2	222.06	47.74	-7.93	39.81	46.00	-6.19	Peak	HORIZONTAL
3	369.50	43.88	-3.12	40.76	46.00	-5.24	Peak	HORIZONTAL
4	399.57	43.72	-2.54	41.18	46.00	-4.82	Peak	HORIZONTAL
5	591.63	40.25	1.55	41.80	46.00	-4.20	Peak	HORIZONTAL
6	888.45	35.91	5.96	41.87	46.00	-4.13	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



#### Radiated Spurious Emission Measurement Result (below 1GHz) (Band UNII-3, 802.11n HT20 mode)

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Low	Test By	Barry
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	369.50	45.56	-3.12	42.44	46.00	-3.56	Peak	VERTICAL
2	375.32	44.44	-2.91	41.53	46.00	-4.47	Peak	VERTICAL
3	399.57	44.90	-2.54	42.36	46.00	-3.64	Peak	VERTICAL
4	444.19	44.62	-1.11	43.51	46.00	-2.49	Peak	VERTICAL
5	625.58	38.12	2.00	40.12	46.00	-5.88	Peak	VERTICAL
6	888.45	36.17	5.96	42.13	46.00	-3.87	Peak	VERTICAL
1	216.24	46.99	-7.77	39.22	46.00	-6.78	Peak	HORIZONTAL
2	222.06	47.27	-7.93	39.34	46.00	-6.66	Peak	HORIZONTAL
3	243.40	46.62	-6.19	40.43	46.00	-5.57	Peak	HORIZONTAL
4	369.50	43.63	-3.12	40.51	46.00	-5.49	Peak	HORIZONTAL
5	592.60	39.59	1.58	41.17	46.00	-4.83	Peak	HORIZONTAL
6	888.45	35.96	5.96	41.92	46.00	-4.08	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



## Qperation ModeTX MODETest Date2022/09/27Channel NumberCH MidTest ByBarryTemperature25PolVer./HorHumidity65 %Kernel StateKernel State

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No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	369.50	44.21	-3.12	41.09	46.00	-4.91	Peak	VERTICAL
2	375.32	42.11	-2.91	39.20	46.00	-6.80	Peak	VERTICAL
3	399.57	44.10	-2.54	41.56	46.00	-4.44	Peak	VERTICAL
4	444.19	44.60	-1.11	43.49	46.00	-2.51	Peak	VERTICAL
5	625.58	40.50	2.00	42.50	46.00	-3.50	Peak	VERTICAL
6	888.45	35.61	5.96	41.57	46.00	-4.43	Peak	VERTICAL
1	216.24	46.99	-7.77	39.22	46.00	-6.78	Peak	HORIZONTAL
2	222.06	48.74	-7.93	40.81	46.00	-5.19	Peak	HORIZONTAL
3	369.50	44.52	-3.12	41.40	46.00	-4.60	Peak	HORIZONTAL
4	592.60	39.10	1.58	40.68	46.00	-5.32	Peak	HORIZONTAL
5	600.36	38.46	1.79	40.25	46.00	-5.75	Peak	HORIZONTAL
6	888.45	32.85	5.96	38.81	46.00	-7.19	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



Radiated Sparrous En	ission measurement result (below 10112)		
Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH High	Test By	Barry
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

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No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	369.50	45.36	-3.12	42.24	46.00	-3.76	Peak	VERTICAL
2	375.32	44.38	-2.91	41.47	46.00	-4.53	Peak	VERTICAL
3	399.57	45.30	-2.54	42.76	46.00	-3.24	Peak	VERTICAL
4	444.19	43.30	-1.11	42.19	46.00	-3.81	Peak	VERTICAL
5	625.58	41.35	2.00	43.35	46.00	-2.65	Peak	VERTICAL
6	888.45	36.50	5.96	42.46	46.00	-3.54	Peak	VERTICAL
1	216.24	47.85	-7.77	40.08	46.00	-5.92	Peak	HORIZONTAL
2	222.06	48.38	-7.93	40.45	46.00	-5.55	Peak	HORIZONTAL
3	369.50	42.96	-3.12	39.84	46.00	-6.16	Peak	HORIZONTAL
4	591.63	37.03	1.55	38.58	46.00	-7.42	Peak	HORIZONTAL
5	625.58	39.96	2.00	41.96	46.00	-4.04	Peak	HORIZONTAL
6	888.45	35.73	5.96	41.69	46.00	-4.31	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



#### Radiated Spurious Emission Measurement Result (below 1GHz) (Band UNII-3, 802.11n HT40 mode)

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Low	Test By	Barry
Temperature	25	Pol	Ver./Hor
Humidity	65 %		
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No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	369.50	46.41	-3.12	43.29	46.00	-2.71	Peak	VERTICAL
2	375.32	42.89	-2.91	39.98	46.00	-6.02	Peak	VERTICAL
3	399.57	44.59	-2.54	42.05	46.00	-3.95	Peak	VERTICAL
4	444.19	45.07	-1.11	43.96	46.00	-2.04	Peak	VERTICAL
5	625.58	37.88	2.00	39.88	46.00	-6.12	Peak	VERTICAL
6	888.45	35.67	5.96	41.63	46.00	-4.37	Peak	VERTICAL
1	216.24	47.69	-7.77	39.92	46.00	-6.08	Peak	HORIZONTAL
2	222.06	49.76	-7.93	41.83	46.00	-4.17	Peak	HORIZONTAL
3	243.40	46.75	-6.19	40.56	46.00	-5.44	Peak	HORIZONTAL
4	369.50	44.04	-3.12	40.92	46.00	-5.08	Peak	HORIZONTAL
5	591.63	40.55	1.55	42.10	46.00	-3.90	Peak	HORIZONTAL
6	888.45	36.20	5.96	42.16	46.00	-3.84	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



Radiated Spurious En	ission Measurement Result (Delow 10112)		
Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH High	Test By	Barry
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

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<b>Radiated Spurious Emission Measurement Result (below 1GHz)</b>
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No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	369.50	46.54	-3.12	43.42	46.00	-2.58	Peak	VERTICAL
2	375.32	44.14	-2.91	41.23	46.00	-4.77	Peak	VERTICAL
3	399.57	45.11	-2.54	42.57	46.00	-3.43	Peak	VERTICAL
4	408.30	44.45	-2.29	42.16	46.00	-3.84	Peak	VERTICAL
5	444.19	45.85	-1.11	44.74	46.00	-1.26	Peak	VERTICAL
6	625.58	39.33	2.00	41.33	46.00	-4.67	Peak	VERTICAL
1	216.24	47.27	-7.77	39.50	46.00	-6.50	Peak	HORIZONTAL
2	222.06	48.13	-7.93	40.20	46.00	-5.80	Peak	HORIZONTAL
3	369.50	45.41	-3.12	42.29	46.00	-3.71	Peak	HORIZONTAL
4	591.63	40.14	1.55	41.69	46.00	-4.31	Peak	HORIZONTAL
5	625.58	38.83	2.00	40.83	46.00	-5.17	Peak	HORIZONTAL
6	888.45	36.03	5.96	41.99	46.00	-4.01	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



#### Radiated Spurious Emission Measurement Result (below 1GHz) (Band UNII-3, 802.11ac VHT80 mode)

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Low	Test By	Barry
Temperature	25	Pol	Ver./Hor
Humidity	65 %		

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	369.50	46.57	-3.12	43.45	46.00	-2.55	Peak	VERTICAL
2	375.32	44.26	-2.91	41.35	46.00	-4.65	Peak	VERTICAL
3	399.57	45.23	-2.54	42.69	46.00	-3.31	Peak	VERTICAL
4	444.19	44.86	-1.11	43.75	46.00	-2.25	Peak	VERTICAL
5	625.58	40.23	2.00	42.23	46.00	-3.77	Peak	VERTICAL
6	888.45	34.97	5.96	40.93	46.00	-5.07	Peak	VERTICAL
1	216.24	46.96	-7.77	39.19	46.00	-6.81	Peak	HORIZONTAL
2	222.06	49.83	-7.93	41.90	46.00	-4.10	Peak	HORIZONTAL
3	369.50	44.61	-3.12	41.49	46.00	-4.51	Peak	HORIZONTAL
4	591.63	40.32	1.55	41.87	46.00	-4.13	Peak	HORIZONTAL
5	625.58	39.34	2.00	41.34	46.00	-4.66	Peak	HORIZONTAL
6	888.45	36.77	5.96	42.73	46.00	-3.27	Peak	HORIZONTAL

- 1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
- 4 Measurement result within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



#### Radiated Spurious Emission Measurement Result (above 1GHz) (Band UNII-1 / Band UNII-2A, 802.11a mode)

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Low	Test By	Barry
Temperature	25	Humidity	60 %

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	10360.00	42.35	3.06	45.41	68.20	-22.79	Peak	VERTICAL
2	15540.00	41.40	9.28	50.68	74.00	-23.32	Peak	VERTICAL
1	10360.00	41.64	3.06	44.70	68.20	-23.50	Peak	HORIZONTAL
2	15540.00	40.91	9.28	50.19	74.00	-23.81	Peak	HORIZONTAL

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



#### **Radiated Spurious Emission Measurement Result (above 1GHz)**

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Mid	Test By	Barry
Temperature	25	Humidity	60 %

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	10400.00	42.39	3.18	45.57	68.20	-22.63	Peak	VERTICAL
2	15600.00	40.51	9.32	49.83	74.00	-24.17	Peak	VERTICAL
1	10400.00	41.93	3.18	45.11	68.20	-23.09	Peak	HORIZONTAL
2	15600.00	39.46	9.32	48.78	74.00	-25.22	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

2 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



#### **Radiated Spurious Emission Measurement Result (above 1GHz)**

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH High	Test By	Barry
Temperature	25	Humidity	60 %

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No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	10480.00	41.57	3.36	44.93	68.20	-23.27	Peak	VERTICAL
2	15720.00	39.86	9.33	49.19	74.00	-24.81	Peak	VERTICAL
1	10480.00	42.40	3.36	45.76	68.20	-22.44	Peak	HORIZONTAL
2	15720.00	39.62	9.33	48.95	74.00	-25.05	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

2 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



#### Radiated Spurious Emission Measurement Result (above 1GHz) (Band UNII-1 / Band UNII-2A, 802.11n HT20 mode)

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Low	Test By	Barry
Temperature	25	Humidity	60 %

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	10360.00	41.67	3.06	44.73	68.20	-23.47	Peak	VERTICAL
2	15540.00	40.21	9.28	49.49	74.00	-24.51	Peak	VERTICAL
1	10360.00	41.89	3.06	44.95	68.20	-23.25	Peak	HORIZONTAL
2	15540.00	40.61	9.28	49.89	74.00	-24.11	Peak	HORIZONTAL

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



#### **Radiated Spurious Emission Measurement Result (above 1GHz)**

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Mid	Test By	Barry
Temperature	25	Humidity	60 %

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	10400.00	42.00	3.18	45.18	68.20	-23.02	Peak	VERTICAL
2	15600.00	39.95	9.32	49.27	74.00	-24.73	Peak	VERTICAL
1	10400.00	41.36	3.18	44.54	68.20	-23.66	Peak	HORIZONTAL
2	15600.00	39.35	9.32	48.67	74.00	-25.33	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

2 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



#### **Radiated Spurious Emission Measurement Result (above 1GHz)**

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH High	Test By	Barry
Temperature	25	Humidity	60 %

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No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	10480.00	41.03	3.36	44.39	68.20	-23.81	Peak	VERTICAL
2	15720.00	39.39	9.33	48.72	74.00	-25.28	Peak	VERTICAL
1	10480.00	41.52	3.36	44.88	68.20	-23.32	Peak	HORIZONTAL
2	15720.00	39.58	9.33	48.91	74.00	-25.09	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

2 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



#### Radiated Spurious Emission Measurement Result (above 1GHz) (Band UNII-1 / Band UNII-2A, 802.11n HT40 mode)

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Low	Test By	Barry
Temperature	25	Humidity	60 %

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	10380.00	40.98	3.12	44.10	68.20	-24.10	Peak	VERTICAL
2	15570.00	40.05	9.30	49.35	74.00	-24.65	Peak	VERTICAL
1	10380.00	40.88	3.12	44.00	68.20	-24.20	Peak	HORIZONTAL
2	15570.00	39.78	9.30	49.08	74.00	-24.92	Peak	HORIZONTAL

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Mid	Test By	Barry
Temperature	25	Humidity	60 %

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	10540.00	42.13	3.55	45.68	68.20	-22.52	Peak	VERTICAL
2	15810.00	40.51	9.43	49.94	74.00	-24.06	Peak	VERTICAL
1	10540.00	41.78	3.55	45.33	68.20	-22.87	Peak	HORIZONTAL
2	15810.00	41.01	9.43	50.44	74.00	-23.56	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.



Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH High	Test By	Barry
Temperature	25	Humidity	60 %

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No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	10620.00	41.55	3.80	45.35	74.00	-28.65	Peak	VERTICAL
2	15930.00	41.17	9.74	50.91	74.00	-23.09	Peak	VERTICAL
1	10620.00	42.22	3.80	46.02	74.00	-27.98	Peak	HORIZONTAL
2	15930.00	42.29	9.74	52.03	74.00	-21.97	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.



### Radiated Spurious Emission Measurement Result (above 1GHz) (Band UNII-1 / Band UNII-2A, 802.11ac VHT80 mode)

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Low	Test By	Barry
Temperature	25	Humidity	60 %

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	10420.00	40.93	3.23	44.16	68.20	-24.04	Peak	VERTICAL
2	15630.00	40.14	9.32	49.46	74.00	-24.54	Peak	VERTICAL
1	10420.00	41.10	3.23	44.33	68.20	-23.87	Peak	HORIZONTAL
2	15630.00	40.38	9.32	49.70	74.00	-24.30	Peak	HORIZONTAL

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



Operation Mode Channel Number Temperature			K MODE H High			,	Test Date Test By Humidity	2022/09/27 Barry 60 %
No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	10580.00	43.55	3.70	47.25	68.20	-20.95	Peak	VERTICAL
2	15870.00	42.73	9.60	52.33	74.00	-21.67	Peak	VERTICAL
1	10580.00	40.91	3.70	44.61	68.20	-23.59	Peak	HORIZONTAL

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### **Radiated Spurious Emission Measurement Result (above 1GHz)**

9.60

Remark:

2 15870.00

42.24

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

74.00

-22.16

Peak

HORIZONTAL

51.84



### Radiated Spurious Emission Measurement Result (above 1GHz) (Band UNII-2C, 802.11a mode)

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Low	Test By	Barry
Temperature	25	Humidity	60 %

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	11000.00	40.50	4.55	45.05	74.00	-28.95	Peak	VERTICAL
2	16500.00	41.70	10.67	52.37	68.20	-15.83	Peak	VERTICAL
1	11000.00	41.04	4.55	45.59	74.00	-28.41	Peak	HORIZONTAL
2	16500.00	40.60	10.67	51.27	68.20	-16.93	Peak	HORIZONTAL

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Mid	Test By	Barry
Temperature	25	Humidity	60 %

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No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	11160.00	40.82	4.95	45.77	74.00	-28.23	Peak	VERTICAL
2	16740.00	42.23	11.14	53.37	68.20	-14.83	Peak	VERTICAL
1	11160.00	41.60	4.95	46.55	74.00	-27.45	Peak	HORIZONTAL
2	16740.00	39.81	11.14	50.95	68.20	-17.25	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.



Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH High	Test By	Barry
Temperature	25	Humidity	60 %

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	11400.00	39.12	5.56	44.68	74.00	-29.32	Peak	VERTICAL
2	17100.00	40.70	11.10	51.80	68.20	-16.40	Peak	VERTICAL
1	11400.00	39.24	5.56	44.80	74.00	-29.20	Peak	HORIZONTAL
2	17100.00	40.59	11.10	51.69	68.20	-16.51	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.



# Radiated Spurious Emission Measurement Result (above 1GHz) (Band UNII-2C, 802.11n HT20 mode)

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Low	Test By	Barry
Temperature	25	Humidity	60 %

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	11000.00	40.31	4.55	44.86	74.00	-29.14	Peak	VERTICAL
2	16500.00	40.31	10.67	50.98	68.20	-17.22	Peak	VERTICAL
1	11000.00	41.34	4.55	45.89	74.00	-28.11	Peak	HORIZONTAL
2	16500.00	41.19	10.67	51.86	68.20	-16.34	Peak	HORIZONTAL

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Mid	Test By	Barry
Temperature	25	Humidity	60 %

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	11160.00	42.69	4.95	47.64	74.00	-26.36	Peak	VERTICAL
2	16740.00	40.49	11.14	51.63	68.20	-16.57	Peak	VERTICAL
1	11160.00	42.18	4.95	47.13	74.00	-26.87	Peak	HORIZONTAL
2	16740.00	40.11	11.14	51.25	68.20	-16.95	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.



Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH High	Test By	Barry
Temperature	25	Humidity	60 %

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	11400.00	38.85	5.56	44.41	74.00	-29.59	Peak	VERTICAL
2	17100.00	39.68	11.10	50.78	68.20	-17.42	Peak	VERTICAL
1	11400.00	37.84	5.56	43.40	74.00	-30.60	Peak	HORIZONTAL
2	17100.00	39.88	11.10	50.98	68.20	-17.22	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.



# Radiated Spurious Emission Measurement Result (above 1GHz) (Band UNII-2C, 802.11n HT40 mode)

Operation Mode	T	X MODE						Test l	Date	2022/09/27
Channel Number	C	H Low						Test l	Зy	Barry
Temperature		25					Humi	dity	60 %	
	<b>D</b> 11	-	-	1	<b>.</b>			-	1	5.1

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	11020.00	41.22	4.60	45.82	74.00	-28.18	Peak	VERTICAL
2	16530.00	42.02	10.68	52.70	68.20	-15.50	Peak	VERTICAL
1	11020.00	41.59	4.60	46.19	74.00	-27.81	Peak	HORIZONTAL
2	16530.00	42.65	10.68	53.33	68.20	-14.87	Peak	HORIZONTAL

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Mid	Test By	Barry
Temperature	25	Humidity	60 %

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No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	11100.00	40.51	4.80	45.31	74.00	-28.69	Peak	VERTICAL
2	16650.00	40.46	10.96	51.42	68.20	-16.78	Peak	VERTICAL
1	11100.00	41.12	4.80	45.92	74.00	-28.08	Peak	HORIZONTAL
2	16650.00	41.05	10.96	52.01	68.20	-16.19	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.



Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH High	Test By	Barry
Temperature	25	Humidity	60 %

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	11340.00	39.30	5.41	44.71	74.00	-29.29	Peak	VERTICAL
2	17010.00	42.34	10.89	53.23	68.20	-14.97	Peak	VERTICAL
1	11340.00	41.46	5.41	46.87	74.00	-27.13	Peak	HORIZONTAL
2	17010.00	40.46	10.89	51.35	68.20	-16.85	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.



### Radiated Spurious Emission Measurement Result (above 1GHz) (Band UNII-2C, 802.11ac VHT80 mode)

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Low	Test By	Barry
Temperature	25	Humidity	60 %

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	11060.00	42.40	4.70	47.10	74.00	-26.90	Peak	VERTICAL
2	16590.00	42.73	10.72	53.45	68.20	-14.75	Peak	VERTICAL
1	11060.00	41.37	4.70	46.07	74.00	-27.93	Peak	HORIZONTAL
2	16590.00	43.14	10.72	53.86	68.20	-14.34	Peak	HORIZONTAL

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH High	Test By	Barry
Temperature	25	Humidity	60 %

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	11380.00	41.11	5.51	46.62	74.00	-27.38	Peak	VERTICAL
2	17070.00	40.69	11.03	51.72	68.20	-16.48	Peak	VERTICAL
1	11380.00	40.83	5.51	46.34	74.00	-27.66	Peak	HORIZONTAL
2	17070.00	40.36	11.03	51.39	68.20	-16.81	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.



# Radiated Spurious Emission Measurement Result (above 1GHz) (Band UNII-3, 802.11a mode)

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Low	Test By	Barry
Temperature	25	Humidity	60 %

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	11490.00	40.60	5.78	46.38	74.00	-27.62	Peak	VERTICAL
2	17235.00	39.97	11.16	51.13	68.20	-17.07	Peak	VERTICAL
1	11490.00	39.41	5.78	45.19	74.00	-28.81	Peak	HORIZONTAL
2	17235.00	40.42	11.16	51.58	68.20	-16.62	Peak	HORIZONTAL

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Mid	Test By	Barry
Temperature	25	Humidity	60 %

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No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	11570.00	39.75	5.97	45.72	74.00	-28.28	Peak	VERTICAL
2	17355.00	41.38	11.56	52.94	68.20	-15.26	Peak	VERTICAL
1	11570.00	40.54	5.97	46.51	74.00	-27.49	Peak	HORIZONTAL
2	17355.00	40.72	11.56	52.28	68.20	-15.92	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.



Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH High	Test By	Barry
Temperature	25	Humidity	60 %

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No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	11650.00	39.93	6.11	46.04	74.00	-27.96	Peak	VERTICAL
2	17475.00	39.90	12.03	51.93	68.20	-16.27	Peak	VERTICAL
1	11650.00	40.23	6.11	46.34	74.00	-27.66	Peak	HORIZONTAL
2	17475.00	39.14	12.03	51.17	68.20	-17.03	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.



# Radiated Spurious Emission Measurement Result (above 1GHz) (Band UNII-3, 802.11n HT20 mode)

<b>Operation Mode</b>	TX MODE		,	Test Date	2022/09/27
Channel Number	CH Low		,	Test By	Barry
Temperature	25			Humidity	60 %

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	11490.00	39.67	5.78	45.45	74.00	-28.55	Peak	VERTICAL
2	17235.00	41.17	11.16	52.33	68.20	-15.87	Peak	VERTICAL
1	11490.00	39.33	5.78	45.11	74.00	-28.89	Peak	HORIZONTAL
2	17235.00	39.63	11.16	50.79	68.20	-17.41	Peak	HORIZONTAL

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Mid	Test By	Barry
Temperature	25	Humidity	60 %

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No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	11570.00	39.95	5.97	45.92	74.00	-28.08	Peak	VERTICAL
2	17355.00	39.69	11.56	51.25	68.20	-16.95	Peak	VERTICAL
1	11570.00	41.11	5.97	47.08	74.00	-26.92	Peak	HORIZONTAL
2	17355.00	40.33	11.56	51.89	68.20	-16.31	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

HORIZONTAL



Chan	Operation ModeTX MODETest DateChannel NumberCH HighTest ByTemperature25Humidity							2022/09/27 Barry 60 %
No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	11650.00	40.30	6.11	46.41	74.00	-27.59	Peak	VERTICAL
2	17475.00	40.61	12.03	52.64	68.20	-15.56	Peak	VERTICAL
1	11650.00	42.55	6.11	48.66	74.00	-25.34	Peak	HORIZONTAL

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#### **Radiated Spurious Emission Measurement Result (above 1GHz)**

12.03

Remark:

17475.00

38.95

2

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

68.20

-17.22

Peak

50.98



# Radiated Spurious Emission Measurement Result (above 1GHz) (Band UNII-3, 802.11n HT40 mode)

<b>Operation Mode</b>	T	X MODE						Test l	Date	2022/09/27
Channel Number	C	H Low						Test I	Зy	Barry
Temperature	25	i						Humi	dity	60 %
	D 1'	<b>F</b> (	т	1	T · · ·	14	•	р	1	ד 1

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	11510.00	39.15	5.83	44.98	74.00	-29.02	Peak	VERTICAL
2	17265.00	40.73	11.26	51.99	68.20	-16.21	Peak	VERTICAL
1	11510.00	39.16	5.83	44.99	74.00	-29.01	Peak	HORIZONTAL
2	17265.00	40.21	11.26	51.47	68.20	-16.73	Peak	HORIZONTAL

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



Operation ModeTX MODETest DateChannel NumberCH HighTest ByTemperature25Humidity							2022/09/27 Barry 60 %	
No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	11590.00	42.39	6.02	48.41	74.00	-25.59	Peak	VERTICAL
2	17385.00	39.54	11.65	51.19	68.20	-17.01	Peak	VERTICAL
1	11590.00	39.63	6.02	45.65	74.00	-28.35	Peak	HORIZONTAL
_								

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### **Radiated Spurious Emission Measurement Result (above 1GHz)**

40.22 11.65

Remark:

2 17385.00

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

68.20

-16.33

Peak

HORIZONTAL

51.87



# Radiated Spurious Emission Measurement Result (above 1GHz) (Band UNII-3, 802.11ac VHT80 mode)

Operation Mode	TX MODE	Test Date	2022/09/27
Channel Number	CH Low	Test By	Barry
Temperature	25	Humidity	60 %

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	11550.00	40.97	5.92	46.89	74.00	-27.11	Peak	VERTICAL
2	17325.00	39.47	11.46	50.93	68.20	-17.27	Peak	VERTICAL
1	11550.00	39.09	5.92	45.01	74.00	-28.99	Peak	HORIZONTAL
2	17325.00	40.33	11.46	51.79	68.20	-16.41	Peak	HORIZONTAL

- 1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 2 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



Opera	ation Mode	TŽ	X CH Low	v			Test Date	2022/09/27					
Chan	nel Number	51	80 MHz				Test By	Barry					
Temp	erature	25					Humidity	65 %					
							•						
No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol					
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H					
1	5150.00	10.25	42.68	52.93	54.00	-1.07	Average	VERTICAL					
2	5150.00	26.85	42.68	69.53	90.86	-21.33	Peak	VERTICAL					
3	5181.72	67.97	42.89	110.86	F		Peak	VERTICAL					
1	5150.00	10.01	42.68	52.69	54.00	-1.31	Average	HORIZONTAL					
2	5150.00	23.52	42.68	66.20	90.71	-24.51	Peak	HORIZONTAL					
3	5181.72	67.82	42.89	110.71	F		Peak	HORIZONTAL					

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### Band Edges test (Band UNII-1 / Band UNII-2A, 802.11a mode) -Radiated

Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 1kHz, Sweep time= 200 ms.



Operation Mode	TX CH High
Channel Number	5320MHz
Temperature	25

Test Date2022/09/27Test ByBarryHumidity65 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	5318.68	67.17	43.12	110.29	F		Peak	VERTICAL
2	5350.00	9.73	43.01	52.74	54.00	-1.26	Average	VERTICAL
3	5350.00	22.29	43.01	65.30	68.20	-2.90	Peak	VERTICAL
1	5318.68	65.65	43.12	108.77	F		Peak	HORIZONTAL
2	5350.00	9.76	43.01	52.77	54.00	-1.23	Average	HORIZONTAL
3	5350.04	20.81	43.01	63.82	74.00	-10.18	Peak	HORIZONTAL

Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 1kHz, Sweep time= 200 ms.

Average

Peak

Peak

HORIZONTAL

HORIZONTAL

HORIZONTAL



Chan	ation Mode nel Number perature		X CH Low 80 MHz	V			Test Date Test By Humidity	2022/09/27 Barry 65 %
No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	5150.00	9.65	42.68	52.33	54.00	-1.67	Average	VERTICAL
2	5150.00	23.72	42.68	66.40	68.20	-1.80	Peak	VERTICAL
3	5182.41	67.99	42.89	110.88	F		Peak	VERTICAL

### Band Edges test (Band UNII-1 / Band UNII-2A, 802.11n HT20 mode) -Radiated

52.29

65.11

110.44

Remark:

1

2

3

5150.00

5150.00

5181.72

9.61

22.43

67.55

42.68

42.68

42.89

1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency

54.00

68.20

F

-1.71

-3.09

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- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Operation Mode	TX CH High	Test Date	2
1	e		2
Channel Number	5320MHz	Test By	ł
Temperature	25	Humidity	e

Test Date	2022/09/27
Test By	Barry
Humidity	65 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	5318.96	66.63	43.11	109.74	F		Peak	VERTICAL
2	5350.00	8.93	43.01	51.94	54.00	-2.06	Average	VERTICAL
3	5350.00	20.94	43.01	63.95	68.20	-4.25	Peak	VERTICAL
1	5321.62	65.35	43.11	108.46	F		Peak	HORIZONTAL
2	5350.00	9.11	43.01	52.12	54.00	-1.88	Average	HORIZONTAL
3	5350.00	21.00	43.01	64.01	68.20	-4.19	Peak	HORIZONTAL

Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- Measurement of data within this frequency range shown " " in the table above means the 3 reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 4 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Operation Mode Channel Number Temperature		TX CH Low 5190 MHz 25		J			Test Date Test By Humidity	2022/09/27 Barry 65 %
No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5150.00	9.24	42.68	51.92	54.00	-2.08	Average	VERTICAL
2	5150.00	24.35	42.68	67.03	68.20	-1.17	Peak	VERTICAL
3	5189.41	64.01	42.95	106.96	F		Peak	VERTICAL
1	5150.00	9.11	42.68	51.79	54.00	-2.21	Average	HORIZONTAL
2	5150.00	22.53	42.68	65.21	68.20	-2.99	Peak	HORIZONTAL
3	5187.99	63.70	42.94	106.64	F		Peak	HORIZONTAL

#### Band Edges test (Band UNII-1 / Band UNII-2A, 802.11n HT40 mode) -Radiated

Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Operation Mode	TX CH High	Test Date	2
Channel Number	5310MHz	Test By	Е
Temperature	25	Humidity	6

Test Date	2022/09/27
Test By	Barry
Humidity	65 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	5306.16	63.30	43.17	106.47	F		Peak	VERTICAL
2	5350.00	9.64	43.01	52.65	54.00	-1.35	Average	VERTICAL
3	5350.00	21.67	43.01	64.68	68.20	-3.52	Peak	VERTICAL
1	5313.52	62.78	43.14	105.92	F		Peak	HORIZONTAL
2	5350.00	9.74	43.01	52.75	54.00	-1.25	Average	HORIZONTAL
3	5350.00	22.54	43.01	65.55	68.20	-2.65	Peak	HORIZONTAL

Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- Measurement of data within this frequency range shown " " in the table above means the 3 reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 4 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Operation Mode Channel Number Temperature		TX CH Low 5210 MHz 25		V			Test Date Test By Humidity	2022/09/27 Barry 65 %
No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5150.00	9.35	42.68	52.03	54.00	-1.97	Average	VERTICAL
2	5150.00	20.54	42.68	63.22	68.20	-4.98	Peak	VERTICAL
3	5201.25	60.24	43.02	103.26	F		Peak	VERTICAL
1	5150.00	9.44	42.68	52.12	54.00	-1.88	Average	HORIZONTAL
2	5150.25	23.14	42.68	65.82	68.20	-2.38	Peak	HORIZONTAL
3	5206.50	57.76	43.02	100.78	F		Peak	HORIZONTAL

#### Band Edges test (Band UNII-1 / Band UNII-2A, 802.11ac VHT80 mode) -Radiated

Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Operation Mode	TX CH High
Channel Number	5290MHz
Temperature	25

Test Date2022/09/27Test ByBarryHumidity65 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	5280.20	59.06	43.13	102.19	F		Peak	VERTICAL
2	5350.00	9.36	43.01	52.37	54.00	-1.63	Average	VERTICAL
3	5350.00	22.10	43.01	65.11	68.20	-3.09	Peak	VERTICAL
1	5292.40	57.78	43.16	100.94	F		Peak	HORIZONTAL
2	5350.00	9.35	43.01	52.36	54.00	-1.64	Average	HORIZONTAL
3	5350.00	21.78	43.01	64.79	68.20	-3.41	Peak	HORIZONTAL

Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Band Edges test (Band	UNII-2C, 802.11a mode) -Radiated	
0	, , , , , , , , , , , , , , , , , , , ,	

Operation Mode	TX CH Low	Test Date	2022/09/27
Channel Number	5500 MHz	Test By	Barry
Temperature	25	Humidity	65 %

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No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5470.00	19.36	43.37	62.73	68.20	-5.47	Peak	VERTICAL
2	5498.78	65.91	43.51	109.42	F		Peak	VERTICAL
1	5470.00	21.60	43.37	64.97	68.20	-3.23	Peak	HORIZONTAL
2	5501.09	63.72	43.51	107.23	F		Peak	HORIZONTAL

- 1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency
- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 1kHz, Sweep time= 200 ms.



Operation Mode	TX CH High
Channel Number	5700MHz
Temperature	25

Test Date2022/09/27Test ByBarryHumidity65 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
	IVITIZ	uDuv	uD	uDu v/III	uDu v/III	uD		v/11
1	5698.16	63.68	43.93	107.61	F		Peak	VERTICAL
2	5725.00	20.92	43.96	64.88	68.20	-3.32	Peak	VERTICAL
1	5698.16	63.68	43.93	107.61	F		Peak	HORIZONTAL
2	5725.36	22.57	43.96	66.53	68.20	-1.67	Peak	HORIZONTAL

Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 1kHz, Sweep time= 200 ms.



Danu Euges test (Danu	01111-2C, 002.1111 11120 moue) - Naulateu		
Operation Mode	TX CH Low	Test Date	2022/09/27
Channel Number	5500 MHz	Test By	Barry
Temperature	25	Humidity	65 %

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### Band Edges test (Band UNII-2C, 802.11n HT20 mode) -Radiated

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	5470.00	22.72	43.37	66.09	68.20	-2.11	Peak	VERTICAL
2	5498.89	65.86	43.51	109.37	F		Peak	VERTICAL
1	5470.00	23.39	43.37	66.76	68.20	-1.44	Peak	HORIZONTAL
2	5499.88	63.85	43.51	107.36	F		Peak	HORIZONTAL

- 1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency
- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Operation Mode	TX CH High	Т
Channel Number	5700MHz	Т
Temperature	25	Н

Test Date2022/09/27Test ByBarryHumidity65 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
	IVIIIZ	uDuv	чD	uDu v/m	uDu v/III	uD		¥/11
1	5701.04	67.72	43.95	111.67	F		Peak	VERTICAL
2	5725.00	22.51	43.96	66.47	68.20	-1.73	Peak	VERTICAL
1	5702.32	63.21	43.95	107.16	F		Peak	HORIZONTAL
2	5725.00	21.22	43.96	65.18	68.20	-3.02	Peak	HORIZONTAL

Remark:

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Chan	ation Mode nel Number perature		X CH Low 510 MHz	V			Test Date Test By Humidity	2022/09/27 Barry 65 %
No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5470.00	22.83	43.37	66.20	68.20	-2.00	Peak	VERTICAL
2	5511.54	62.44	43.54	105.98	F		Peak	VERTICAL
1	5470.00	22.47	43.37	65.84	68.20	-2.36	Peak	HORIZONTAL
2	5511.93	60.83	43.54	104.37	F		Peak	HORIZONTAL

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### Band Edges test (Band UNII-2C, 802.11n HT40 mode) -Radiated

Remark:

1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Operation Mode	TX CH High	Test I
Channel Number	5670MHz	Test I
Temperature	25	Humi

Test Date2022/09/27Test ByBarryHumidity65 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
<u> </u>						uD		
1	5671.40	63.84	43.70	107.54	F		Peak	VERTICAL
2	5725.00	20.23	43.96	64.19	68.20	-4.01	Peak	VERTICAL
1	5666.20	61.44	43.65	105.09	F		Peak	HORIZONTAL
2	5725.00	20.84	43.96	64.80	68.20	-3.40	Peak	HORIZONTAL

Remark:

1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.



Chan	ation Mode nel Number perature		X CH Low 30 MHz				Test Date Test By Humidity	2022/09/27 Barry 65 %
No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5470.00	22.40	43.37	65.77	68.20	-2.43	Peak	VERTICAL
2	5533.28	57.19	43.60	100.79	F		Peak	VERTICAL
1	5470.00	20.87	43.37	64.24	68.20	-3.96	Peak	HORIZONTAL
2	5520.02	55.17	43.56	98.73	F		Peak	HORIZONTAL

-183 of 214-

#### Band Edges test (Band UNII-2C, 802.11ac VHT80 mode) -Radiated

Remark:

1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency

- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 Measurement of data within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 2kHz, Sweep time= 200 ms.



Operation Mode	TX CH High	Test Date	20
Channel Number	5610MHz	Test By	B
Temperature	25	Humidity	65

Test Date	2022/09/27
Test By	Barry
Humidity	65 %

No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		V/H
1	5601.08	57.60	43.77	101.37	F		Peak	VERTICAL
2	5725.00	20.84	43.96	64.80	68.20	-3.40	Peak	VERTICAL
1	5615.92	55.17	43.69	98.86	F		Peak	HORIZONTAL
2	5725.00	20.99	43.96	64.95	68.20	-3.25	Peak	HORIZONTAL

-184 of 214-

Remark:

- 1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency
- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- Measurement of data within this frequency range shown " " in the table above means the 3 reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 4 ms., the VBW setting was 3 MHz.
- Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 2kHz, Sweep 5 time= 200 ms.



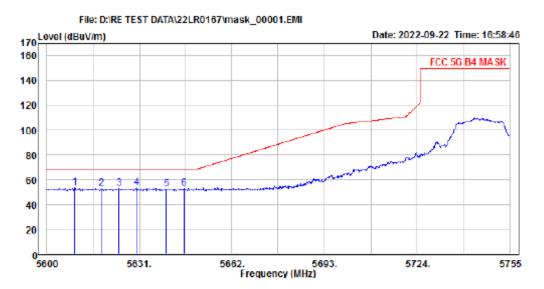
EUT

Mode Note

\$

#### Band Edges test (Band UNII-3, 802.11a mode) - Radiated

Operation Mode	TX CH Low	Test Date	2022/09/22
Channel Number	5745 MHz	Test By	Barry
Temperature	25	Humidity	65 %

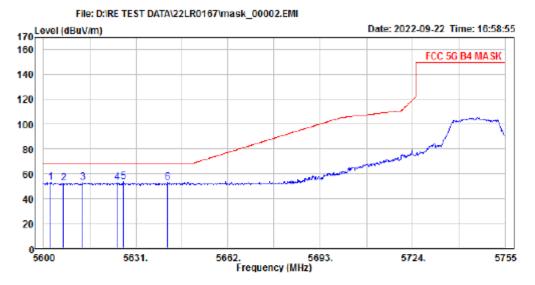


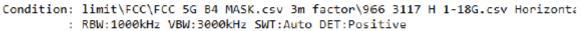
Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	5609.300	58.10	-4.62	53.48	68.20	-14.72	Vertical
2	5618.290	57.59	-4.64	52.95	68.20	-15.25	Vertical
з	5624.025	57.45	-4.66	52.79	68.20	-15.41	Vertical
4 PP	5630.070	58.58	-4.67	53.91	68.20	-14.29	Vertical
5	5639.990	57.32	-4.69	52.63	68.20	-15.57	Vertical
6	5645.880	57.62	-4.70	52.92	68.20	-15.28	Vertical

: 5G Mask B4 a Mode Low Ch







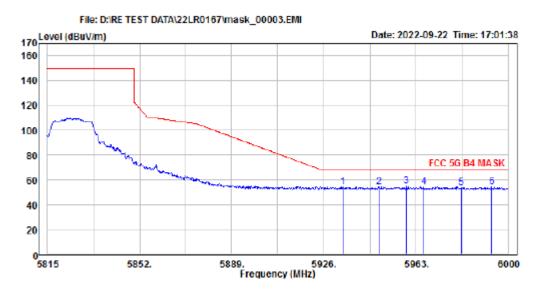
EUT	2							
Mode	÷.	5G	Mask	B4	а	Mode	Low	Ch
Note								

	Freq	Read Level	Factor	Level	<b>Limi</b> t Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 2 3 4 5 PP 6	5602.325 5606.665 5613.175 5624.645 5626.815 5641.695	57.24 57.73		52.62 53.10 53.05 53.75	68.20 68.20 68.20 68.20	-15.58 -15.10 -15.15 -14.45	Horizontal Horizontal Horizontal Horizontal Horizontal Horizontal



Operation Mode	TX CH High
Channel Number	5825MHz
Temperature	25

Test Date	2022/09/22
Test By	Barry
Humidity	65 %

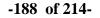


Condition: limit\FCC\FCC 5G 84 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive EUT : Mode : 5G Mask B4 a Mode High Ch

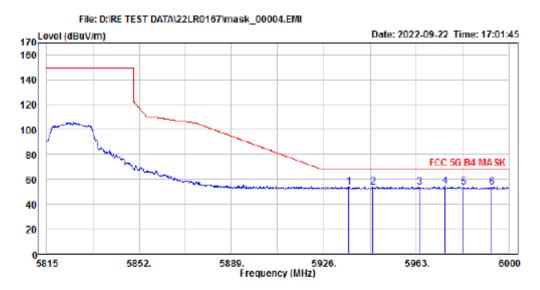
Note

1

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 2 3 PP 4 5 6	5933.770 5948.015 5959.115 5965.960 5981.315 5993.340	58.01 58.48 57.87 57.46	-3.88 -3.84 -3.82 -3.76	54.13 54.64 54.05 53.70	68.20 68.20 68.20 68.20	-14.07 -13.56 -14.15 -14.50	Vertical Vertical Vertical Vertical







Condition: limit/FCC/FCC 5G B4 MASK.csv 3m factor/966 3117 H 1-18G.csv Horizont: : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

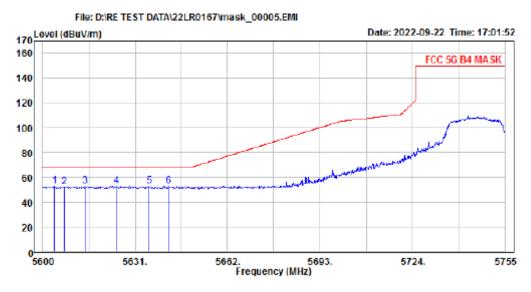
EUT	2							
Mode	2	5 <b>G</b>	Mask	<b>B4</b>	а	Mode	High	Ch
Note	;							

		Read			Limit	0ver	
	Freq	Level	Factor	Level	Line	Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	5935.990	57.84	-3.87	53.97	68.20	-14.23	Horizontal
2	5945.610	57.51	-3.87	53.64	68.20	-14.56	Horizontal
3	5964.295	57.60	-3.83	53.77	68.20	-14.43	Horizontal
4 PP	5974.285	57.88	-3.79	54.09	68.20	-14.11	Horizontal
5 6	5981.685 5993.155		-3.76 -3.72				Horizontal Horizontal



#### Band Edges test (Band UNII-3, 802.11n HT20 mode) –Radiated

Operation Mode	TX CH Low	Test Date	2022/09/22
Channel Number	5745 MHz	Test By	Barry
Temperature	25	Humidity	65 %



Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive EUT :

Mode	:	5 <mark>G</mark>	Mask	<b>B4</b>	⊓ <b>20</b>	Mode	Low	Ch
Note	:							

	Freq	Read Level	Factor	Level	<b>Limi</b> t Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 2 3 4 PP 5 6	5614.260 5624.800 5635.650	57.40 56.70 57.51 57.63 57.41 57.55	-4.62 -4.62 -4.64 -4.66 -4.67 -4.70	52.08 52.87 52.97	68.20 68.20 68.20 68.20 68.20	-16.12 -15.33 -15.23 -15.46	Vertical Vertical Vertical Vertical Vertical Vertical





File: D:\RE TEST DATA\22LR0167\mask\_00006.EMI 170 Level (dBuV/m) Date: 2022-09-22 Time: 17:02:04 160 FCC 56 B4 MASK 140 120 100 80 to marrie 60 4 5 6 2 40 20 0 5600 5662. 5693. Frequency (MHz) 5631. 5724. 5755

Condition: limit/FCC/FCC 5G B4 MASK.csv 3m factor/966 3117 H 1-18G.csv Horizonta : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

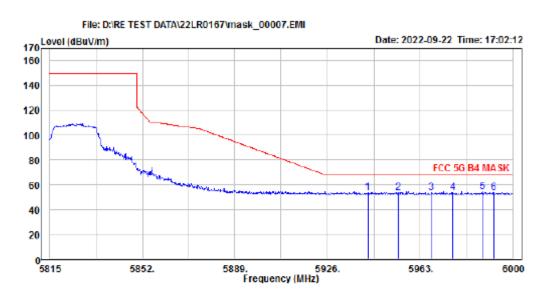
EUT	2								
Mode	2	5G	Mask	<b>B4</b>	⊓ <b>20</b>	Mode	Low	Ch	
Note	\$								

	Freq	Read Level	Factor	Level	<b>Limi</b> t Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 PF 2 3 4 5 6	5605.890 5613.330 5617.360 5628.675 5632.395 5638.130	57.85 56.91 57.38 57.35 57.38 57.38 57.38	-4.61 -4.63 -4.64 -4.68 -4.68 -4.68	53.24 52.28 52.74 52.69 52.70 52.45	68.20 68.20 68.20 68.20	-15.92 -15.46 -15.51 -15.50	Horizontal Horizontal Horizontal Horizontal Horizontal Horizontal



Operation Mode	TX CH High	Τ¢
Channel Number	5825 MHz	T
Temperature	25	Η

Test Date	2022/09/22
Test By	Barry
Humidity	65 %

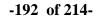


Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive EUT : Mode : 5G Mask B4 n20 Mode High Ch

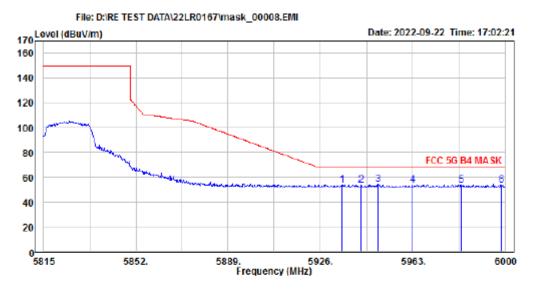
Note

: 5G Mask B4 n20 Mode High Ch :

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 2 3 4 5 PP	5942.095 5954.120 5967.440 5975.950 5987.790 5992.415	57.68 57.76 57.28 58.09	-3.87 -3.82 -3.78 -3.73	53.81 53.94 53.50 54.36	68.20 68.20 68.20 68.20	-14.39 -14.26 -14.70 -13.84	Vertical Vertical Vertical Vertical Vertical Vertical







Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizont@ : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

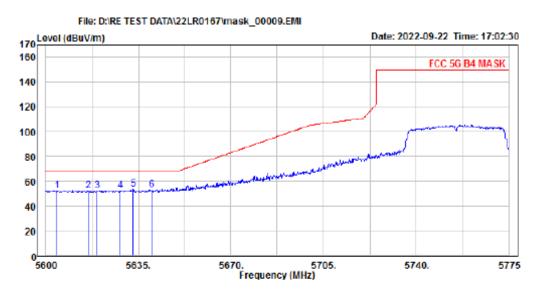
EUT	2								
Mode	2	5 <b>G</b>	Mask	B4	⊓ <b>20</b>	Mode	High	Ch	
Note	\$								

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 2 3 PP 4 5 6	5934.880 5942.280 5948.940 5963.000 5982.425 5998.520	57.80 57.30 58.07 57.73 57.51 57.48	-3.88 -3.88 -3.88 -3.83 -3.76 -3.69	53.42 54.19 53.90 53.75	68.20 68.20 68.20 68.20	-14.78 -14.01 -14.30 -14.45	Horizontal Horizontal Horizontal Horizontal Horizontal Horizontal



#### Band Edges test (Band UNII-3, 802.11n HT40 mode) -Radiated

Operation Mode	TX CH Low	Test Date	2022/09/22
Channel Number	5755 MHz	Test By	Barry
Temperature	25	Humidity	65 %

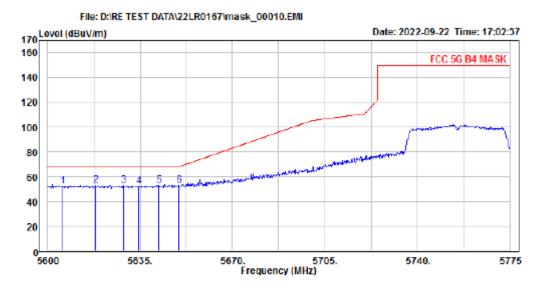


Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

EUT	Ξ.							
Mode	2	5G	Mask	<b>B4</b>	⊓ <b>40</b>	Mode	Low	Ch
Note	;							

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	5604.025	57.30	-4.62	52.68	68.20	-15.52	Vertical
2	5615.925	56.97	-4.63	52.34	68.20	-15.86	Vertical
3	5619.250	57.29	-4.65	52.64	68.20	-15.56	Vertical
4	5628.175	57.08	-4.66	52.42	68.20	-15.78	Vertical
5 PP 6	5632.900 5639.900	58.34 57.60					Vertical Vertical





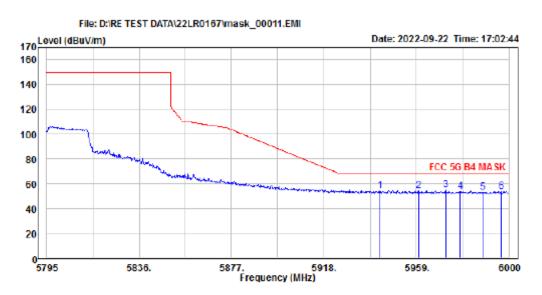
Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizont: RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

EUT	2							
Mode	2	5G	Mask	<b>B4</b>	⊓ <b>40</b>	Mode	Low	Ch
Note	÷							

-	Freq MHz	Read Level dBuV		Level		Over Limit 	Pol/Phase
1 2 3 4 5 6 PP	5642.175	56.88 57.50 57.37 57.12 57.70 57.90	-4.61 -4.64 -4.66 -4.69 -4.70 -4.71	52.86 52.71 52.43 53.00	68.20 68.20 68.20 68.20	-15.34 -15.49 -15.77 -15.20	Horizontal Horizontal Horizontal Horizontal Horizontal Horizontal



Operation Mode	TX CH High	Test Date	2022/09/22
Channel Number	5795MHz	Test By	Barry
Temperature	25	Humidity	65 %



Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

EUT	
Mode	

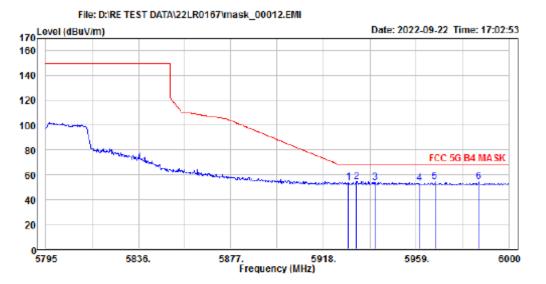
5

2	5G	Mask	B4	п <b>40</b>	Mode	High	Ch

Note

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 2 3 PP 4 5 6	5942.805 5960.025 5971.915 5978.475 5988.315 5996.515	57.90 58.82 57.70 56.98	-3.84 -3.80 -3.77 -3.73	54.06 55.02 53.93 53.25	68.20 68.20 68.20 68.20	-14.14 -13.18 -14.27 -14.95	Vertical Vertical Vertical Vertical Vertical Vertical





Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizont: RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

EUT	2								
Mode	2	5G	Mask	<b>B4</b>	⊓ <b>40</b>	Mode	High	Ch	
Note	\$								

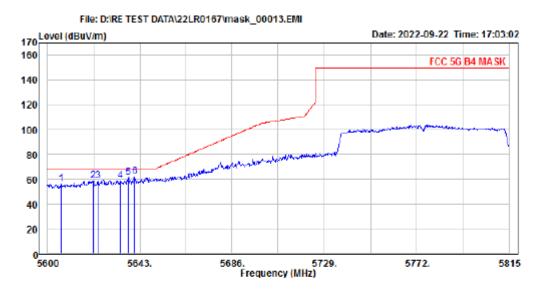
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 2 3 4 5 PP 6	5929.070 5932.965 5940.755 5960.435 5967.200 5986.675	57.62 58.03 57.62 56.76 58.03 57.83	-3.88 -3.88 -3.88 -3.84 -3.82 -3.74	53.74 54.15 53.74 52.92 54.21 54.09	68.20 68.20 68.20 68.20	-14.05 -14.46 -15.28 -13.99	Horizontal Horizontal Horizontal Horizontal Horizontal Horizontal



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### Band Edges test (Band UNII-3, 802.11ac VHT80 mode) –Radiated

Operation Mode	TX CH Low	Test Date	2022/09/22
Channel Number	5775 MHz	Test By	Barry
Temperature	25	Humidity	65 %

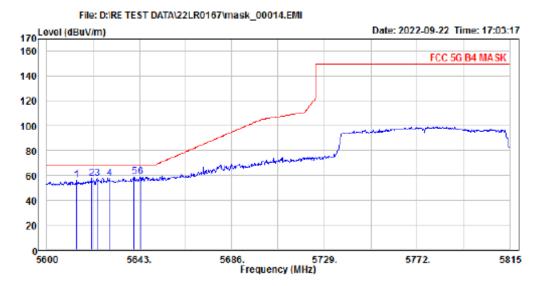


Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

EUT	2							
Mode	2	5G	Mask	<b>B4</b>	ac <mark>80</mark>	Mode	Low	Ch
Note	;							

	<b>5</b>	Read	<b>F 1</b>	1	Limit	0ver	D-1 (Dh
	Freq	Level	Factor	Level	Line	Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	5606.235	61.00	-4.61	56.39	68.20	-11.81	Vertical
2	5621.285	63.41	-4.66	58.75	68.20	-9.45	Vertical
3	5623.220	63.52	-4.65	58.87	68.20	-9.33	Vertical
4	5633.970	63.83	-4.69	59.14	68.20	-9.06	Vertical
5	5637.625	66.35	-4.68	61.67	68.20	-6.53	Vertical
6 F	P 5640.420	66.62	-4.69	61.93	68.20	-6.27	Vertical





Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizont: RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

EUT Mode Note

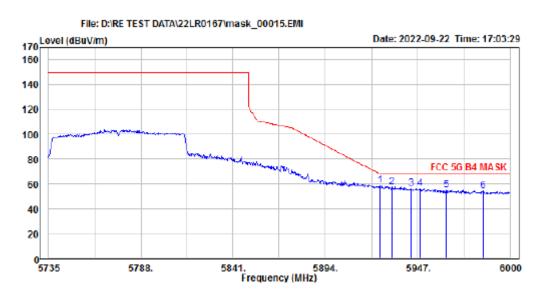
: 5G Mask B4 ac80 Mode Low Ch :

Freq MHz			Level		Over Limit dB	Pol/Phase
1 5613.760 2 5620.640 3 5623.220 4 5629.025 5 PP 5640.420 6 5643.430	62.14 62.15 62.39 63.77	-4.65 -4.65 -4.67 -4.69	57.49 57.50 57.72	68.20 68.20 68.20 68.20	-10.71 -10.70 -10.48 -9.12	Horizontal Horizontal Horizontal Horizontal Horizontal Horizontal



Operation Mode	TX CH High	Tes
Channel Number	5775MHz	Tes
Temperature	25	Hur

Test Date	2022/09/27
Test By	Barry
Humidity	65 %



Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive EUT : Mode : 5G Mask B4 ac80 Mode High Ch

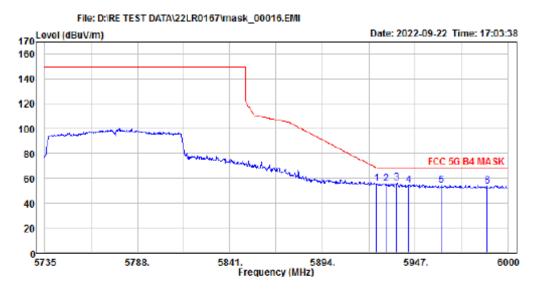
		-	
NI	<u></u>		
11	0	Le	

1.1

	Freq	Read Level		Level	Limit Line	Over Limit	Pol/Phase
-	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 PP 2 3 4 5 6	5948.060 5963.430	61.28 60.35 60.23 58.52	-3.87 -3.88	57.41 56.47 56.35 54.69	68.20 68.20 68.20 68.20	-10.79 -11.73 -11.85 -13.51	







Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizont@ : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive

EUT	2							
Mode	2	5 <b>G</b>	Mask	B4	ac80	Mode	High	Ch
Note	:							

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 2 3 PP 4 5 6	5924.475 5930.040 5936.400 5943.025 5962.105 5988.340	59.62 59.54 59.95 58.36 58.00 57.09	-3.88 -3.87 -3.87 -3.88 -3.84 -3.73		68.20 68.20 68.20 68.20	-12.53 -12.12 -13.72 -14.04	Horizontal Horizontal Horizontal Horizontal Horizontal Horizontal



## 10. Transmission in the Absence of Data

### **10.1. Standard Applicable**

According to §15.407(c)

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

### 10.2. Result:

Pass, the device is compliance with 802.11 a/ b/g/n ac standard, the short control signal is appear during no transmission period.



# 11. Antenna Requirement

### **11.1. Standard Applicable**

According to §15.203, Antenna requirement.

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Section 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this Part are not exceeded.

# 11.2. Antenna Connected Construction

The directional gins of antenna used for transmitting is below table, and the antenna connector is designed with unique type RF connector and no consideration of replacement. Please see EUT photo and antenna spec. for details.

	Antenna Type	Brand	Model	Peak Gain	Frequency Range	Con- nector Type
		TSKY CO.,	A8-A006-00509	6.63dBi 6.63dBi	5150MHz ~ 5250MHz 5250MHz ~ 5350MHz	
1	PCB	LTD.		5.78dBi	5470MHz ~ 5725MHz	i-pex
				5.55dBi	5725MHz ~ 5825MHz	

Antenna Designation:



# 12. TPC and DFS Measurement

### 12.1. TPC: Standard Applicable

According to §15.407(h)(1), Transmit power control (TPC). U-NII devices operating in the 5.25-5.35 GHz band and the 5.47-5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

### 12.2. DFS: Standard Applicable

According to §15.407(h)(2), Radar Detection Function of Dynamic Frequency Selection (DFS). U-NII devices operating in the 5.25-5.35 GHz and 5.47-5.725 GHz bands shall employ a DFS radar detection.



# 13.2.1. Limit

 Table 1: Applicability of DFS requirements prior to use of a channel

	Operational Mode				
Requirement	Slave	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		
Uniform Spreading	Yes	Not required	Not required		
U-NII Detection Band- width	Yes	Not required	Yes		

# Table 2: Applicability of DFS requirements during normal operation

	Operational Mode					
Requirement	Slave	Client(without radar detection)	Client(with radar detection)			
DFS Detection Threshold	Yes	Not required	Yes			
Channel Closing Transmis- sion Time	Yes	Yes	Yes			
Channel Move Time	Yes	Yes	Yes			
U-NII Detection Bandwidth	Yes	Not required	Yes			



# Refer to KDB Number: 905462 APPENDIX B COMPLIANCE MEASUREMENT PROCE-DURES FOR UNLICENSED-NATIONAL INFORMATION INFRASTRUCTURE DEVICES OPERATING IN THE 5.25-5.35 GHz AND 5.47-5.725 GHz BANDS INCORPORATING DYNAMIC FREQUENCY SELECTION.

#### Table 3: Interference Threshold values, Master or Client incorporating In-Service Monitoring

Maximum Transmit Power	Value				
	(see note)				
≥ 200 milliwatt	-64 dBm				
< 200 milliwatt	-62 dBm				
Note 1: This is the level at the input of the receiver assuming a 0 dBi 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 s	ignal is at or above the detection threshold level				

#### **Table 4: DFS Response requirement values**

to trigger a DFS response.

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 80% of the U-
	NII 99% transmission
	power bandwidth. See
	Note 3.

Note 1: The instant that the Channel Move Time and the Channel Closing Transmission Time begins is as follows:

- · For the Short Pulse Radar Test Signals this instant is the end of the Burst.
- For the Frequency Hopping radar Test Signal, this instant is the end of the last radar Burst generated.
- For the Long Pulse Radar Test Signal this instant is the end of the 12 second period defining the Radar Waveform.

**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 to facilitate 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 1 is used and for each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.



### **Table 5: Radar Test Waveforms**

### Short Pulse Radar

Radar	Pulse Width	PRI	Number of Pulses	Minimum	Minimum
Туре	(µsec)	(µsec)		Percentage of	Number of
				Successful	Trials
				Detection	
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a 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	$\frac{\text{Roundup}}{\left\{ \begin{pmatrix} \frac{1}{360} \end{pmatrix}, \\ \left( \frac{19 \cdot 10^6}{\text{PRI}_{\mu \text{sec}}} \right) \right\}}$	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
Aggregate (I	Radar Types 1-	80%	120		
	ort Pulse Rada		sed for the detection ba	ndwidth test, ch	annel move

A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. For Short Pulse Radar Type 1, the same waveform is used a minimum of 30 times. 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

### Long Pulse Radar

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

The parameters for this waveform 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 waveforms, then each additional waveform must also be unique and not repeated from the previous waveforms.



#### **Frequency Hopping Radar**

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

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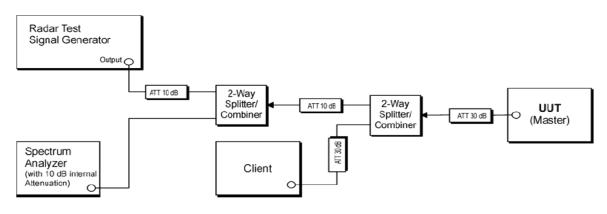
For the Frequency Hopping Radar Type, the same *Burst* parameters are used for each waveform. The hopping sequence is different for each waveform and a 100-length segment is selected from the hopping sequence defined by the following algorithm: 3

The first frequency in a hopping sequence is selected randomly from the group of 475 integer frequencies from 5250 - 5724 MHz. 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.

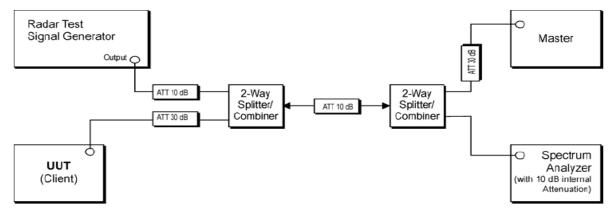


## 13.2.2. Test Setup

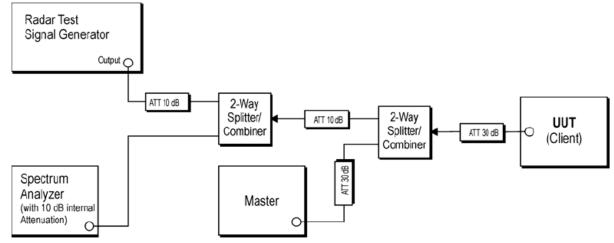
#### Setup for Master with injection at the Master



#### Setup for Client with injection at the Master



#### Setup for Client with injection at the Client



Note: device under test are configured with AP as IP based by streaming MPEG video, 30 frames per seconds

#### International Standards Laboratory Corp.

12.3. Test Equipment	Used:

Location Conducted	Equipment Name	Brand Model		S/N	Last Cal. Date	Next Cal. Date
Conducted (DFS)	Signal Generator	Agilent	Agilent E4438C		12/29/2021	12/29/2022
Conducted (DFS)	Signal Generator	Keysight	N5182B	MY53052399	12/29/2021	12/29/2022
Conducted (DFS)	Spectrum analyzer	Keysight	N9010A	MY56070257	09/28/2022	09/28/2023
Conducted (DFS)	AP Router	Synology	RT1900ac	15B0N3N369502	NA	NA
Conducted (DFS)	USB Adapter	D-Link	DWA-182	QBYS1D800007 3	NA	NA
Conducted (DFS)	Direction Coupler	Krytar	Krytar 1821S		NA	NA
Conducted (DFS)	Splitter	Mini-Circuits	ZN2PD-63-S	UU97201111	NA	NA
Conducted (DFS)	Attenuator	Woken	Watt-65m3502	11051601	NA	NA
Conducted (DFS)	Cable	Draka	NA	NA	NA	NA
Conducted (TS8997)	Wideband Radio Communication Tester	R&S	CMW500	168811	09/22/2022	09/22/2023
Conducted (TS8997)	Signal Generator	R&S	SMB100B	101085	09/21/2022	09/21/2023
Conducted (TS8997)	Vector Signal Gen- erator	R&S	SMBV100A	263246	09/21/2022	09/21/2023
Conducted (TS8997)	Signal analyzer 40GHz	R&S	FSV40	101884	09/22/2022	09/22/2023
Conducted (TS8997)	OSP150 extension unit CAM-BUS	R&S	OSP150	101107	09/21/2022	09/21/2023
Conducted (TS8997)	Test Software	R&S	EMC32 Ver:11.10.00	NA	NA	NA



### 12.3.1. Description of EUT :

EUT operates over the 5250-5350MHz and 5470-5725MHz ranges and EUT is a slave device (client equipment) w/o radar detection and DFS capability.

The EUT utilizes the 802.11n architecture, with a nominal channel bandwidth of 80MHz WLAN traffic is generated by streaming the mpeg file from the master to slave in full monitor video mode using the media player.

The rated output power of the master unit is >23dBm(EIRP).therefore the required interference threshold level is -64dBm. The master device as employed for the applicable DFS test is router whose FCC ID= YOR-RT1900AC for Synology

### 12.4. Test results

Requirement	Operational Mode: Client	(without radar detection)
	Test Result	Remark
Non-occupancy Period	No transmission in 30mins. (test results), pass (Remark)	Pass
DFS Detection Threshold	N/A	N/A
Channel Closing Transmis- sion Time	Less than 200ms, Refer to next page for plots.	Pass
Channel Move Time	Less than 10s, Refer to next page for plots.	Pass
U-NII Detection Bandwidth	N/A	N/A

### Applicability of DFS requirements during normal operation

Input Level to Master AP= -64dBm



# DFS In-Service Monitoring (5290 MHz; 80 MHz)

# Measurement Summary

DUT Frequency	Radar Type	Type of Measurement value	Overall
(MHz)	No.		Result
5290.000000	0	First of all Transmitt Test	
5290.000000	0	Channel Move Time	PASS
5290.000000	0	Channel Closing Transmission Time	PASS
5290.000000	0	Non-occupancy period	PASS

## **Channel Move Time Detailed Results**

DUT Frequency (MHz)	Radar Type No.	CMT Tx Time (s)	CMT Limit (s)	CMT Result	CMT Comment
5290.000000	0	4.012	10.000	PASS	Tx Time value is last trailing edge found within sweep. See Note 1.

# **Channel Closing Transmission Time Detailed Results**

_				1	
	DUT Frequency (MHz)	Radar Type No.	CCTT Type of Value	CCTT No. of Pulses found	CCTT Tx Time
					(ms)
	5290.000000	0	first 200 ms	7	1.132
	5290.000000	0	remaining 10.0 second(s) period	120	35.520

(continuation of the "Channel Closing Transmission Time Detailed Results" table from column 5 ...)

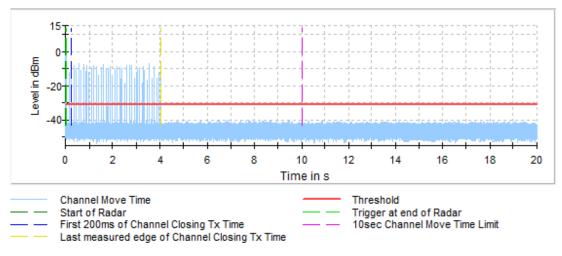
DUT Frequency (MHz)	CCTT Tx Time Limit (ms)	CCTT Result	CCTT Comment	
5290.000000	200.000	PASS	See Note 1.	
5290.000000	60.000	PASS	See Note 1.	

# Non-occupancy period Detailed Results

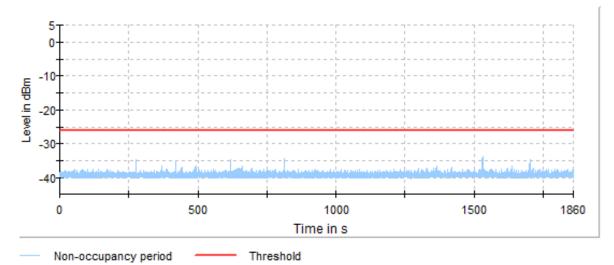
DUT Frequency (MHz)	Radar Type No.	NOP No. of Pulses found	NOP No. of Pulses Limit	NOP Tx Time (s)	NOP Tx Time Limit (s)	NOP Result
5290.000000	0	0	0	0.000	0.000	PASS



Channel Move Time



Non-occupancy period





# **Measurement Summary**

DUT Frequency	Radar Type	Type of Measurement value	Overall
(MHz)	No.		Result
5530.000000	0	First of all Transmitt Test	
5530.000000	0	Channel Move Time	PASS
5530.000000	0	Channel Closing Transmission Time	PASS
5530.000000	0	Non-occupancy period	PASS

# **Channel Move Time Detailed Results**

DUT Frequency (MHz)	Radar Type No.	CMT Tx Time (s)	CMT Limit (s)	CMT Result	CMT Comment
5530.000000	0	4.018	10.000	PASS	Tx Time value is last trailing edge found within sweep. See Note 1.

# **Channel Closing Transmission Time Detailed Results**

DUT Frequency (MHz)	Radar Type No.	CCTT Type of Value	CCTT No. of Pulses found	CCTT Tx Time (ms)
5530.000000	0	first 200 ms	6	1.232
5530.000000	0	remaining 10.0 second(s) period	107	27.880

(continuation of the "Channel Closing Transmission Time Detailed Results" table from column 5 ...)

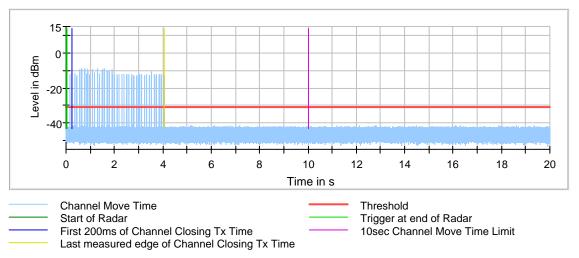
DUT Frequency (MHz)	CCTT Tx Time Limit (ms)	CCTT Result	CCTT Comment	
5530.000000	200.000	PASS	See Note 1.	
5530.000000	60.000	PASS	See Note 1.	

# **Non-occupancy period Detailed Results**

DUT Frequency (MHz)	Radar Type No.	NOP No. of Pulses found	NOP No. of Pulses Limit	NOP Tx Time (s)	NOP Tx Time Limit (s)	NOP Result
5530.000000	0	0	0	0.000	0.000	PASS



Channel Move Time



Non-occupancy period

