





Prüfbericht-Nr.: <i>Test report no.:</i>	CN232OYL (P15E-WiFi) 001	Auftrags-Nr.: <i>Order no.:</i>	48224241	Seite 1 von 59 Page 1 of 59
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	2023-09-23	
Auftraggeber: <i>Client:</i>	Getac Technology Corporation. 5F., Building A, No. 209, Sec.1, Nangang Rd.,Nangang Dist., Taipei City 11568, Taiwan, R.O.C.			
Prüfgegenstand: <i>Test item:</i>	Tablet PC			
Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i>	F110,F110-501			
Auftrags-Inhalt: <i>Order content:</i>	FCC Part 15E Test report (WiFi 5GHz)			
Prüfgrundlage: <i>Test specification:</i>	FCC 47CFR Part 15: Subpart E Section 15.407			
Wareneingangsdatum: <i>Date of sample receipt:</i>	2023-09-26			
Prüfmuster-Nr.: <i>Test sample no.:</i>	A003570410-001 A003570410-003			
Prüfzeitraum: <i>Testing period:</i>	2023-09-22 - 2023-10-06			
Ort der Prüfung: <i>Place of testing:</i>	EMC/RF Taipei Testing Site			
Prüflaboratorium: <i>Testing laboratory:</i>	Taipei Testing Laboratories			
Prüfergebnis*: <i>Test result*:</i>	Pass			
zusammengestellt von: <i>compiled by:</i>	 David Huang Project Manager		genehmigt von: <i>authorized by:</i>	 Brenda Chen Senior Project Manager
Datum: <i>Date:</i>	2023-10-16		Ausstellungsdatum: <i>Issue date:</i>	2023-10-16
Stellung / Position:	Project Manager		Stellung / Position:	Senior Project Manager
Sonstiges / Other:	Only RF output power, DFS, and radiated spurious emissions tests were evaluated in this report. For other test results, please refer to module report no.: 180717-02.TR02,180717-02.TR03 and 180717-02.TR09.			
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>	Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>			
* Legende:	1 = sehr gut P(ass) = entspricht o.g. Prüfgrundlage(n)	2 = gut F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	3 = befriedigend N/A = nicht anwendbar	4 = ausreichend N/T = nicht getestet
* Legend:	1 = very good P(ass) = passed a.m. test specification(s)	2 = good F(ail) = failed a.m. test specification(s)	3 = satisfactory N/A = not applicable	4 = sufficient N/T = not tested
<p>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i></p>				

TEST SUMMARY

Report Section	FCC Clause	Test Item	Result
5.1.1	15.407(a) & 15.203	Antenna Requirement	Pass
5.1.2	15.407(a)	Maximum Conducted Output Power	Pass
5.1.3	15.407(h)(1)	Transmit Power Control (TPC)	Pass
-	15.407(a)	26 dB Bandwidth	Note 1
-	2.1049	99% Occupied Bandwidth	Note 1
-	15.407(e)	6 dB Bandwidth (U-NII-3 Band only)	Note 1
-	15.407(g)	Frequency Stability	Note 1
-	15.407(a)	Power Spectral Density	Note 1
5.1.4	15.407(b) & 15.205 & 15.209	Radiated Spurious Emissions and Band Edges	Pass
5.1.5	15.407(h) & KDB 905462 D02	Dynamic Frequency Selection	Pass
5.2.1	15.207	Mains Conducted Emission	Pass

Note:

1. Refer to module report for the details.
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

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APPENDIX EP - PHOTOGRAPHS OF EUT

HISTORY OF THIS TEST REPORT

Revision	Description	Date Issued
R01	Original Release	2023-10-16

1. General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A- Test Result of Radiated Emissions & Mains Conducted Emission

Appendix SP - Photographs of Test Setup

Appendix EP - Photographs of EUT

Applied Standard and Test Levels

Radio
FCC 47CFR Part 15: Subpart E Section 15.407
FCC 47CFR Part 2: Subpart J Section 2.1049
ANSI C63.10:2013
KDB 789033 D02 General UNII Test Procedures New Rules v02r01
KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02
KDB 662911 D01 Multiple Transmitter Output v02r01

1.2 Decision Rule of Conformity

The decision rule of conformity of this test report is following the requirements of the requested standard in the quotation, and agreed among testing laboratory and manufacturer (applicant) to exclude the consideration of Measurement Uncertainty, unless it is required by the specific standard.

2. Test Sites

2.1 Test Laboratory

Taipei Testing Laboratories

11F. No.758, Sec. 4, Bade Rd., Songshan Dist.
Taipei City 105
Taiwan (R.O.C.)

2.2 Test Facility

Taipei Testing Laboratories

No.458-18, Sec. 2, Fenliao Rd., Linkou Dist.,
New Taipei City 244
Taiwan (R.O.C.)
FCC Registration No.: 180491
ISED Registration No.: 25563

2.3 Traceability

All measurement equipment calibrations are traceable to NML(Taiwan)/NIST(USA) or where calibration is performed outside Taiwan, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically in a suitably accredited Calibration Lab. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

All measurement uncertainty values are shown with a coverage factor of $k=2$ to indicate a 95% level of confidence.

Emission Measurement Uncertainty

Parameter	Uncertainty
Radiated Emission (9 kHz ~ 30 MHz)	± 1.15 dB
Radiated Emission (30 MHz ~ 200 MHz)	± 1.32 dB
Radiated Emission (200 MHz ~ 1 GHz)	± 1.31 dB
Radiated Emission (1 GHz ~ 18 GHz)	± 1.53 dB
Radiated Emission (18 GHz ~ 40 GHz)	± 2.50 dB
Mains Conducted Emission	± 1.65 dB

3. General Product Information

3.1 Product Function and Intended Use

The EUT is a Tablet PC. It contains a WLAN compatible module enabling the user to communicate data through a Wireless interface.

For details refer to the User Guide, Data Sheet and Circuit Diagram.

3.2 System Details and Ratings

Basic Information of EUT

Item	EUT information
Kind of Equipment/Test Item	Tablet PC
Type Identification	F110,F110-501
FCC ID	QYLAX201NG

Technical Specification of EUT

Item	EUT information
Operating Frequency	Band 1: 5180 MHz ~ 5240 MHz Band 2: 5260 MHz ~ 5320 MHz Band 3: 5500 MHz ~ 5720 MHz Band 4: 5745 MHz ~ 5825 MHz
Channel Number	Band 1: 4 for 802.11a, 802.11n HT20, 802.11ac VHT20, 802.11ax HE20 2 for 802.11n HT40, 802.11ac VHT40, 802.11ax HE40 1 for 802.11ac VHT80, 802.11ax HE80 Band 2: 4 for 802.11a, 802.11n HT20, 802.11ac VHT20, 802.11ax HE20 2 for 802.11n HT40, 802.11ac VHT40, 802.11ax HE40 1 for 802.11ac VHT80, 802.11ax HE80 1 for 802.11ac VHT160, 802.11ax HE160 Band 3: 12 for 802.11a, 802.11n HT20, 802.11ac VHT20, 802.11ax HE20 5 for 802.11n HT40, 802.11ac VHT40, 802.11ax HE40 2 for 802.11ac VHT80, 802.11ax HE80 1 for 802.11ac VHT160, 802.11ax HE160 Band 4: 5 for 802.11a, 802.11n HT20, 802.11ac VHT20, 802.11ax HE20 2 802.11n HT40, 802.11ac VHT40, 802.11ax HE40 1 for 802.11ac VHT80, 802.11ax HE80
Data Rate	802.11a: 54.0 / 48.0 / 36.0 / 24.0 / 18.0 / 12.0 / 9.0 / 6.0 Mbps 802.11n: up to MCS7 802.11ac: up to MCS9 802.11ax: HE0
Operation Voltage	120 Vac
Modulation	OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
Maximum Output Power (mW)	5180 ~ 5240 MHz: 79.07 5260 ~ 5320 MHz: 79.07 5500 ~ 5720 MHz: 125.60 5745 ~ 5825 MHz: 123.31

Maximum EIRP (mW)	5260 ~ 5320 MHz: 127.35 5500 ~ 5720 MHz: 187.50
DFS Mode	Slave without radar detection
Antenna Information	Refer to 5.1.1
Accessory Device	Refer to 4.4

Note:

1. All models are listed as below.

Main Model	Series Model	Difference
F110	F110-501	The purpose of model naming different is for market segmentation purpose only.

3.3 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.4 Submitted Documents

- Circuit Diagram
- Instruction Manual
- Rating Label
- Technical Description

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The test modes were adapted accordingly in reference to the instructions for use.

During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output expected by the customer and is going to be fixed on the firmware of the final end product.

Table for Parameters of Test Software Setting

Mode	Channel	Frequency (MHz)	Power Setting		
			Ant 1	Ant 2	Ant 1 + Ant 2
802.11a	36	5180	16.5	16.5	--
	40	5200	16.5	16.5	--
	44	5220	16.5	16.5	--
	48	5240	16.5	16.5	--
	52	5260	16.5	16.5	--
	56	5280	16.5	16.5	--
	60	5300	16.5	16.5	--
	64	5320	16.5	16.5	--
	100	5500	17.25	17.25	--
	116	5580	17.5	17.5	--
	124	5620	17.5	17.5	--
	132	5660	17.5	17.5	--
	140	5700	17.5	17.5	--
	144	5720	17.5	17.5	--
	144	5720	17.5	17.5	--
	149	5745	16	16	--
157	5785	16	16	--	
165	5825	16.125	16.125	--	
802.11n HT20	36	5180	16.5	16.5	16.25/15.875
	40	5200	16.5	16.5	16.625/16.375
	44	5220	16.5	16.5	16.75/16.5
	48	5240	16.5	16.5	16.75/16.5
	52	5260	16.625	16.625	16.75/16.5
	56	5280	16.5	16.5	16.75/16.5
	60	5300	16.5	16.5	16.625/16.375
	64	5320	16.5	16.5	14/13.5
	100	5500	17.375	17.375	14.625/14.25
	116	5580	17.625	17.625	18.875/18.25
	124	5620	17.5	17.5	18.75/18.125
	132	5660	17.5	17.5	18.875/18
	140	5700	17.625	17.625	15/14
	144	5720	17.625	17.625	18.125/17.625
	144	5720	17.625	17.625	18.125/17.625
	149	5745	16.25	16.25	17.875/17.5
157	5785	16.25	16.25	17.75/17.375	
165	5825	16.25	16.25	17.75/17.375	

802.11n HT40	38	5190	16.5	16.5	15.625/15.25
	46	5230	16.5	16.5	16.5/16.5
	54	5270	16.5	16.5	16.5/16.5
	62	5310	16.5	16.5	13.5/13.25
	102	5510	17.625	17.625	14.375/14
	110	5550	17.625	17.625	17.75/17.375
	126	5630	17.625	17.625	17.75/17.25
	134	5670	17.625	17.625	17.375/16.875
	142	5710	17.625	17.625	18.25/18.25
	142	5710	17.625	17.625	18.25/18.25
	151	5755	16	16	17.5/17.375
	159	5795	16	16	17.5/17.25
802.11ac VHT20	36	5180	16.5	16.5	16.25/15.875
	40	5200	16.5	16.5	16.625/16.375
	44	5220	16.5	16.5	16.75/16.5
	48	5240	16.5	16.5	16.75/16.5
	52	5260	16.625	16.625	16.75/16.5
	56	5280	16.5	16.5	16.75/16.5
	60	5300	16.5	16.5	16.625/16.375
	64	5320	16.5	16.5	14/13.5
	100	5500	17.375	17.375	14.375/13.875
	116	5580	17.625	17.625	18.875/18.25
	124	5620	17.5	17.5	18.75/18.125
	132	5660	17.5	17.5	18.875/18
	140	5700	17.625	17.625	15/14
	144	5720	17.625	17.625	18.75/18.25
	144	5720	17.625	17.625	18.75/18.25
	149	5745	16.25	16.25	17.875/17.5
	157	5785	16.25	16.25	17.75/17.375
165	5825	16.25	16.25	17.75/17.375	
802.11ac VHT40	38	5190	16.5	16.5	15.625/15.25
	46	5230	16.5	16.5	16.5/16.5
	54	5270	16.5	16.5	16.375/16.375
	62	5310	16.5	16.5	13.5/13.25
	102	5510	17.625	17.625	14.375/14
	110	5550	17.625	17.625	18.125/18
	126	5630	17.625	17.625	18.25/18.125
	134	5670	17.625	17.625	17.375/16.875
	142	5710	17.625	17.625	18.25/18.25
	142	5710	17.625	17.625	18.25/18.25
	151	5755	16	16	17.5/17.375
	159	5795	16	16	17.5/17.25
802.11ac VHT80	42	5210	16.375	16.375	15.5/15.375
	58	5290	16	16	14.125/14
	106	5530	17.25	17.25	15/14.875
	122	5610	17.25	17.25	18.25/17.875
	138	5690	17	17	18.25/17.873
	138	5690	17	17	18.25/17.873
	155	5775	15.625	15.625	16.625/16.5
802.11ac VHT160	50	5250	14.75	14.75	12/11.75
	114	5570	14.375	14.375	12/11.75
802.11ax HE20	36	5180	16.625	16.625	16.875/16.25

	40	5200	16.625	16.625	16.5/16.25
	44	5220	16.75	16.75	15.625/16.375
	48	5240	16.75	16.75	16.625/16.375
	52	5260	16.75	16.75	16.625/16.375
	56	5280	16.875	16.875	16.625/16.375
	60	5300	16.875	16.875	16.5/16.25
	64	5320	16.875	16.875	17/16.5
	100	5500	17.75	17.75	17/17
	116	5580	17.75	17.75	18.75/18.25
	124	5620	17.75	17.75	18.5/18
	132	5660	17.75	17.75	18.875/18.25
	140	5700	17.75	17.75	17/16.75
	144	5720	17.75	17.75	18.75/18.25
	144	5720	17.75	17.75	18.75/18.25
	149	5745	16.25	16.25	17.75/17.375
	157	5785	16.25	16.25	17.625/17.25
165	5825	16.375	16.375	17.625/17.25	
802.11ax HE40	38	5190	16.75	16.75	16.5/16.5
	46	5230	16.75	16.75	16.375/16.375
	54	5270	16.75	16.75	16.25/16.25
	62	5310	16.875	16.875	13.75/13.5
	102	5510	17.75	17.75	17/16.75
	110	5550	18	18	18.5/18.25
	126	5630	17.875	17.875	18.5/18.25
	134	5670	18	18	18.625/18.25
	142	5710	18	18	18.75/18.25
	142	5710	18	18	18.75/18.25
	151	5755	16.375	16.375	17.375/17.25
159	5795	16.375	16.375	17.375/17.125	
802.11ax HE80	42	5210	16.5	16.5	15.5/15.5
	58	5290	16.625	16.625	14.375/13.875
	106	5530	17.75	17.75	15.5/15
	122	5610	17.75	17.75	18.625/18
	138	5690	17.75	17.75	18.5/18
	138	5690	17.75	17.75	18.5/18
802.11ax HE160	155	5775	16.25	16.25	16.875/16.375
	50	5250	14.625	14.625	12/12
	114	5570	14.25	14.25	12.375/11.625

Partial RU						
Mode	Channel	Frequency (MHz)	RU Configuration	Power Setting		
				Ant 1	Ant 2	Ant 1 + Ant 2
802.11ax HE20	36	5180	26/0	14.75	14.375	12 / 11.375
			52/37	17	17.125	14.5 / 14
			106/53	17	18.625	16.375 / 16.5
	64	5320	26/8	14.875	14.125	12 / 11.25
			52/40	16.375	15.375	14.625 / 13.875
			106/54	17.25	17.625	16.625 / 16.375
	100	5500	26/0	14.75	14.5	12.125 / 11.375
			52/37	17.625	17	14.5 / 14
			106/53	18.125	17.75	17/16.75
	140	5700	26/8	15	14.125	12 / 11.125
			52/40	17.625	16.75	14 / 13.125
			106/54	18.25	18	17.125/16.625
149	5745	26/0	16.375	16	13.625 / 12.875	
		52/37	16.75	18.375	16.375 / 16	
		106/53	16.75	20.25	17.5 / 17.375	
802.11ax HE40	38	5190	242/61	17	18.25	16.375 / 16
	62	5310	242/62	17.375	16.875	13.875/13.375
	102	5510	242/61	18.25	18.25	15.25 / 14.625
	134	5670	242/62	18.375	20	17.5 / 16.75
	151	5755	242/61	16.75	20.5	17.75 / 17.375
802.11ax HE80	42	5210	484/65	17.125	18.25	15.75 / 15.25
	58	5290	484/66	17	17.625	14.625/14.25
	106	5530	484/65	17.625	17.75	15 / 14.5
	155	5775	484/65	16.5	19.375	16.75/16.5
802.11ax HE160	50	5250	996/67	15.5	14.875	12.875 / 12.125
			996/S67	15.625	15.125	13.125 / 12.25
	114	5570	996/67	14.875	14.375	12.5/12
			996/S67	14.875	14.375	12.75/12.125

4.2 Carrier Frequency and Channel

Band	Channel	Frequency (MHz)	802.11a	802.11n HT40	802.11ac VHT80	802.11ac VHT160
			802.11n HT20 802.11ac HT20 802.11ax HE20	802.11ac HT40 802.11ax HE40	802.11ax HE80	802.11ax HE160
U-NII-1 (Band 1)	36	5180	V			
	38	5190		V		
	40	5200	V			
	42	5210			V	
	44	5220	V			
	46	5230		V		
U-NII-2A (Band 2)	48	5240	V			
	50	5250				V
	52	5260	V			
	54	5270		V		
	56	5280	V			
	58	5290			V	
	60	5300	V			
U-NII-2C (Band 3)	62	5310		V		
	64	5320	V			
	100	5500	V			
	102	5510		V		
	104	5520	V			
	106	5530			V	
	108	5540	V			
	110	5550		V		
	112	5560	V			
	114	5570				V
	116	5580	V			
	118	5590		V		
	120	5600	V			
	122	5610			V	
	124	5620	V			
Straddle Channel	126	5630		V		
	128	5640	V			
	132	5660	V			
U-NII-3 (Band 4)	134	5670		V		
	136	5680	V			
	140	5700	V			
	138	5690			V	
	142	5710		V		
	144	5720	V			
	149	5745	V			
U-NII-3 (Band 4)	151	5755		V		
	153	5765	V			
	155	5775			V	
	157	5785	V			
	159	5795		V		
	161	5805	V			
	165	5825	V			

4.3 Test Operation and Test Software

Setup for testing: Test samples are provided with a USB interface which makes it possible to control them through a test software installed on a notebook computer.

This software was running on the laptop computer connected to the EUT. It was used to enable the operation modes listed as below.

Test Software	DRTU
---------------	------

The samples were used as follows:

A003570410-001

A003570410-003

Full test was applied on all test modes, but only worst case was shown.

Modulation Mode	Tx Function
802.11a	1TX (SISO)
802.11n HT20	2TX (MIMO)
802.11n HT40	2TX (MIMO)
802.11ac VHT20	2TX (MIMO)
802.11ac VHT40	2TX (MIMO)
802.11ac VHT80	2TX (MIMO)
802.11ac VHT160	2TX (MIMO)
802.11ax HE20	2TX (MIMO)
802.11ax HE40	2TX (MIMO)
802.11ax HE80	2TX (MIMO)
802.11ax HE160	2TX (MIMO)

* The modulation and bandwidth are similar for 802.11n mode HT20/HT40 and 802.11ac mode VHT20/VHT40/VHT80/VHT160 and 802.11ax HE20/HE40/HE80/HE160. Therefore, the investigated worst case is the representative mode in the test report.

EUT Configure Mode	Applicable To					Description
	RF Output Power	DFS	Radiated Spurious Emissions above 1 GHz	Radiated Spurious Emissions below 1 GHz	Mains Conducted Emission	
Ant 1	√	√	√	√	√	-
Ant 2	√	-	√	-	-	-
Ant 1 + 2	√	-	√	-	-	-

Note:

- The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when position on **X-plane**.
- "-" means no effect.

RF Output Power

- Pre-Scan full test was applied on all test modes, but only worst case was shown.
- Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency (MHz)	Available Channel	Tested Channel	Date Rate (Mbps)
Ant 1, Ant 2	802.11a	5180-5240	36 to 48	36, 40, 44, 48	6.0
		5260-5320	52 to 64	52, 56, 60, 64	
		5500-5720	100 to 144	100, 116, 124, 132, 140, 144	
		5720-5825	144 to 165	144, 149, 157, 165	
Ant 1, Ant 2, Ant 1+ Ant 2	802.11n HT20	5180-5240	36 to 48	36, 40, 44, 48	MCS0
		5260-5320	52 to 64	52, 56, 60, 64	
		5500-5720	100 to 144	100, 116, 124, 132, 140, 144	
		5720-5825	144 to 165	144, 149, 157, 165	
	802.11n HT40	5180-5240	38 to 46	38, 46	MCS0
		5260-5320	54 to 62	54, 62	
		5500-5710	102 to 142	102, 110, 126, 134, 142	
	802.11ac VHT20	5180-5240	36 to 48	36, 40, 44, 48	NSS1 MCS0
		5260-5320	52 to 64	52, 56, 60, 64	
		5500-5720	100 to 144	100, 116, 124, 132, 140, 144	
		5720-5825	144 to 165	144, 149, 157, 165	
	802.11ac VHT40	5180-5240	38 to 46	38, 46	NSS1 MCS0
		5260-5320	54 to 62	54, 62	
		5500-5710	102 to 142	102, 110, 126, 134, 142	
		5710-5825	142 to 159	142, 151, 159	
	802.11ac VHT80	5180-5240	42	42	NSS1 MCS0
		5260-5320	58	58	
		5500-5720	106 to 138	106, 122, 138	
		5690-5825	138 to 155	138, 155	
	802.11ac VHT160	5250	50	50	NSS1 MCS0
		5570	114	114	
	802.11ax HE20	5180-5240	36 to 48	36, 40, 44, 48	NSS1 MCS0
		5260-5320	52 to 64	52, 56, 60, 64	
		5500-5720	100 to 144	100, 116, 124, 132, 140, 144	
		5720-5825	144 to 165	144, 149, 157, 165	
	802.11ax HE40	5180-5240	38 to 46	38, 46	NSS1 MCS0
		5260-5320	54 to 62	54, 62	
		5500-5710	102 to 142	102, 110, 126, 134, 142	
		5710-5825	142 to 159	142, 151, 159	
	802.11ax HE80	5180-5240	42	42	NSS1 MCS0
		5260-5320	58	58	
		5500-5720	106 to 138	106, 122, 138	
5690-5825		138 to 155	138, 155		
802.11ax HE160	5250	50	50	NSS1 MCS0	
	5570	114	114		

Partial RU					
EUT Configure Mode	Mode	Frequency (MHz)	Available Channel	Tested Channel	Date Rate (Mbps)
Ant 1, Ant 2, Ant 1+ Ant 2	802.11ax HE20	5180-5240	36 to 48	36	HE0
		5260-5320	52 to 64	64	
		5500-5720	100 to 140	100, 140	
		5745-5825	149 to 165	149	
	802.11ax HE40	5180-5240	38 to 46	38	HE0
		5260-5320	54 to 62	62	
		5500-5720	102 to 134	102, 134	
	802.11ax HE80	5180-5240	42	42	HE0
		5260-5320	58	58	
		5500-5720	106 to 122	106	
		5745-5825	155	155	
	802.11ax HE160	5250	50	50	HE0
5570		114	114		

DFS

- Pre-Scan full test was applied on all test modes, but only worst case was shown.
- Following channel(s) was (were) selected for the final test as listed below.

Partial RU					
EUT Configure Mode	Mode	Frequency (MHz)	Available Channel	Tested Channel	Date Rate (Mbps)
Ant 1	802.11ax HE20	5500-5720	100 to 140	100	NSS1 MCS0
	802.11ax HE80	5500-5720	106 to 122	106	NSS1 MCS0
	802.11ax HE160	5570	114	114	NSS1 MCS0

Radiated Spurious Emissions (Above 1 GHz)

- Pre-Scan full test was applied on all test modes, but only worst case was shown.
 Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency (MHz)	Available Channel	Tested Channel	Date Rate (Mbps)
SISO Antenna					
Ant 2	802.11a	5180-5240	36 to 48	40	6.0
Ant 2		5260-5320	52 to 64	64	
Ant 1		5500-5720	100 to 144	140	
Ant 2		5720-5825	144 to 165	149	
Ant 1	802.11n HT20	5180-5240	36 to 48	36	MCS0
Ant 2		5260-5320	52 to 64	64	
Ant 1		5500-5720	100 to 144	140	
Ant 2		5720-5825	144 to 165	157	
Ant 1	802.11n HT40	5180-5240	38 to 46	46	MCS0
Ant 2		5260-5320	54 to 62	62	
Ant 2		5500-5710	102 to 142	134, 142	
Ant 1		5710-5825	142 to 159	159	
Ant 1	802.11ac VHT80	5180-5240	42	42	NSS1 MCS0
Ant 2		5260-5320	58	58	
Ant 1		5690-5825	138 to 155	155	
Ant 1	802.11ac VHT160	5250	50	50	NSS1 MCS0
Ant 1		5570	114	114	
Ant 2	802.11ax HE20	5180-5240	36 to 48	36	NSS1 MCS0
Ant 2		5260-5320	52 to 64	56	
Ant 1		5500-5720	100 to 144	140	
Ant 1		5720-5825	144 to 165	157	
Ant 1	802.11ax HE40	5180-5240	38 to 46	46	NSS1 MCS0
Ant 2		5260-5320	54 to 62	62	
Ant 1		5500-5710	102 to 142 134 142	134, 142	
Ant 1		5710-5825	142 to 159	142, 151	
Ant 1	802.11ax HE80	5180-5240	42	42	NSS1 MCS0
Ant 2		5260-5320	58	58	
Ant 2		5500-5720	106 to 138 122	122	
Ant 1		5690-5825	138 to 155	155	
Ant 1		5250	50	50	
Ant 1	802.11ax HE160	5570	114	114	NSS1 MCS0
MIMO Antenna					
Ant 1 + 2	802.11ac VHT80	5500-5720	106 to 138	122	NSS1 MCS0
	802.11ax HE160	5570	114	114	NSS1 MCS0

Radiated Spurious Emissions (Below 1 GHz)

- Pre-Scan full test was applied on all test modes, but only worst case was shown.
 Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency (MHz)	Available Channel	Tested Channel	Date Rate (Mbps)
Ant 1	802.11ax HE20	5500-5720	100 to 144	140	NSS1 MCS0

Mains Conducted Emission Test

- Pre-Scan full test was applied on all test modes, but only worst case was shown.
 Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency (MHz)	Available Channel	Tested Channel	Date Rate (Mbps)
Ant 1	802.11ax HE20	5500-5720	100 to 144	140	NSS1 MCS0

Test Condition

Test Item	Ambient Temperature	Relative Humidity	Tested by
Conducted Measurement	22-24.1 °C	55-67 %	Andy Chen Zeke Wang Nick Guan
Radiated Spurious Emissions above 1 GHz	22.6-24.5 °C	52-54 %	Ray Huang
Radiated Spurious Emissions below 1 GHz	22.6-24.5 °C	52-54 %	Ray Huang
Mains Conducted Emission	19.1-25.9 °C	50.2-58.9 %	Roger Liao

4.4 Special Accessories and Auxiliary Equipment

The product has been tested together with the following additional accessories:

Accessory of EUT

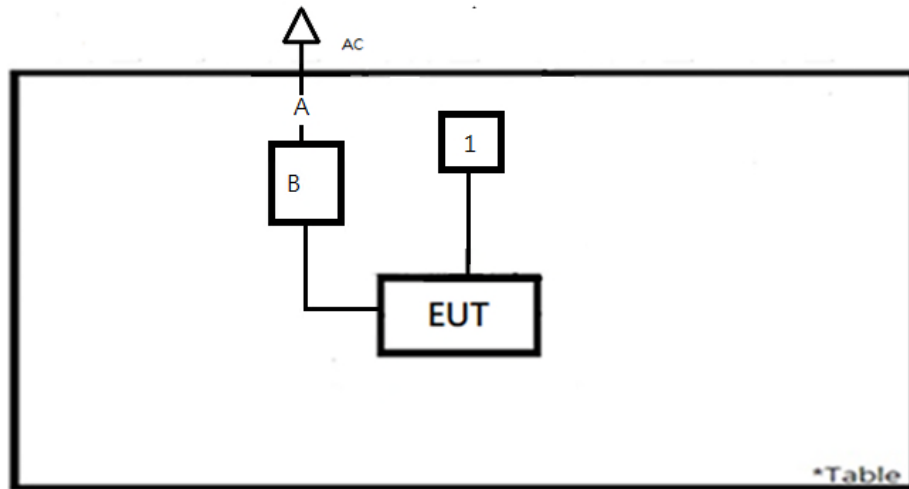
No.	Product	Brand	Model	Description
B	Switching Power Adapter	FSP	FSP090-ABBN3	I/P: 100-240 Vac, 50/60 Hz, 1.2 A O/P: 19 Vdc, 4.74 A A003570410-008

Support Unit

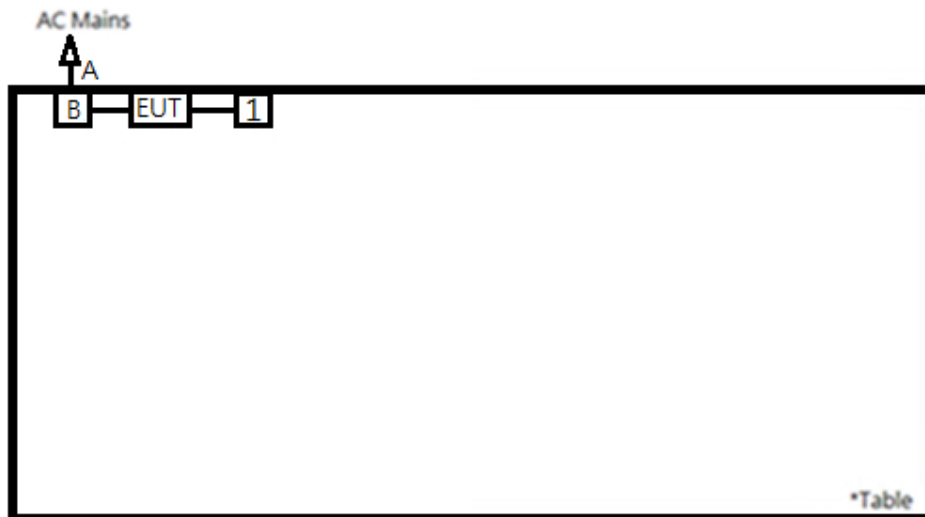
No	Description	Brand	Model	S/N	Shielded	Ferrite Core (Qty)	Length (cm)	Remark
Radiated and Mains Conducted Tests								
A	Power cord	Getac	N/A	N/A	NO	NO	180	--
1	Headset	TUV	N/A	N/A	NO	NO	--	--
DFS Test								
-	Notebook	Lenovo	20CLS3P606	PC0DH09R	--	--	--	NB-06
-	AP 5G	ASUS	GT-AXE11000	M8IG0X400 91032C	--	--	--	--

4.5 Test Setup Diagram

<Radiated Spurious Emissions Mode>

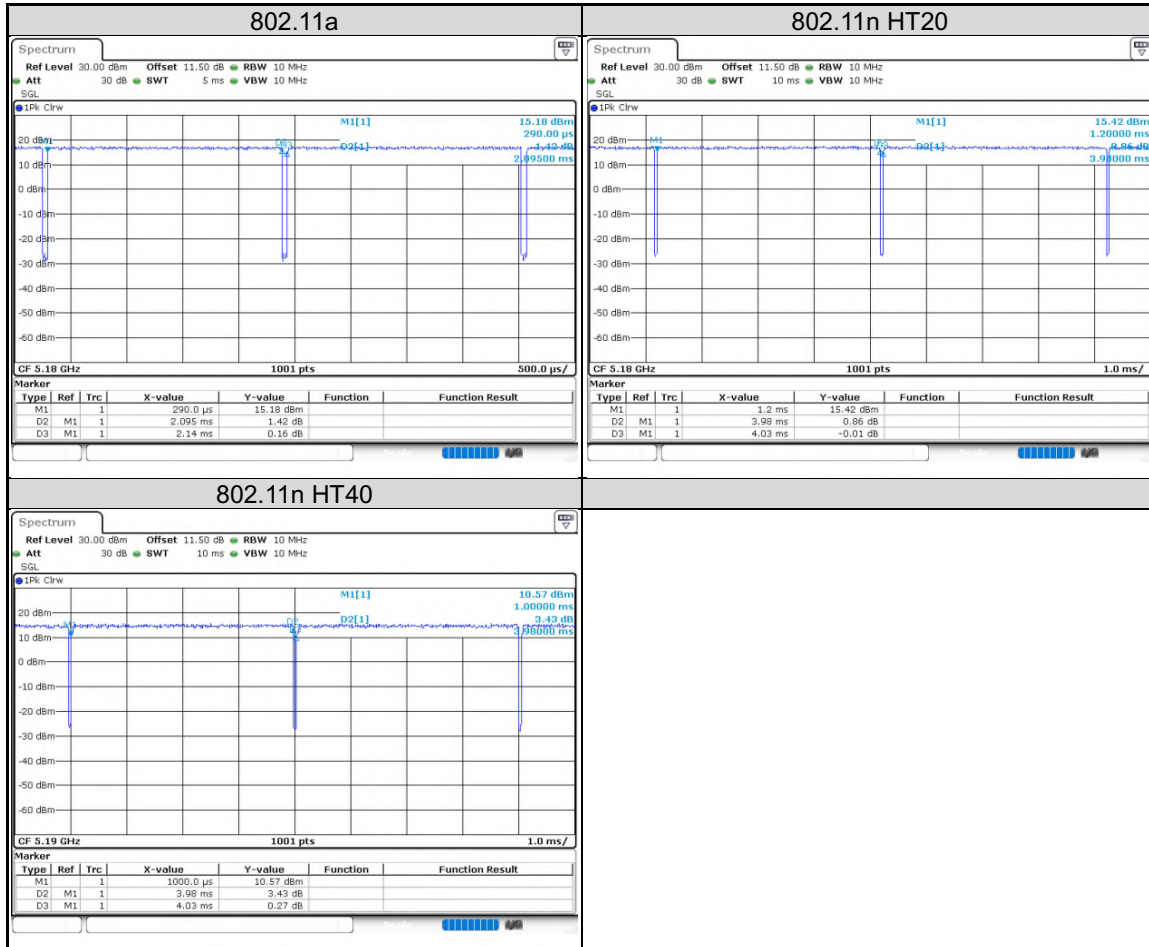


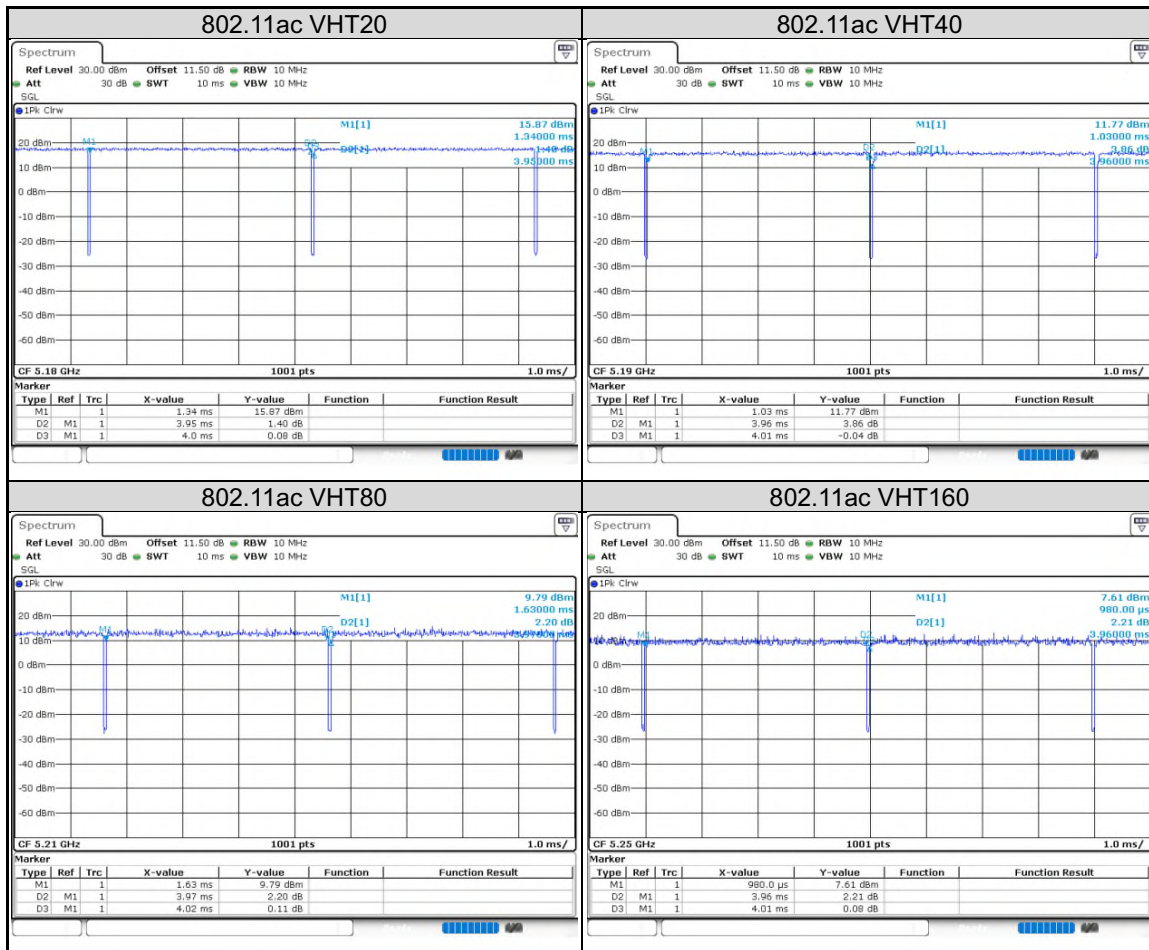
<Mains Conducted Emission Mode>

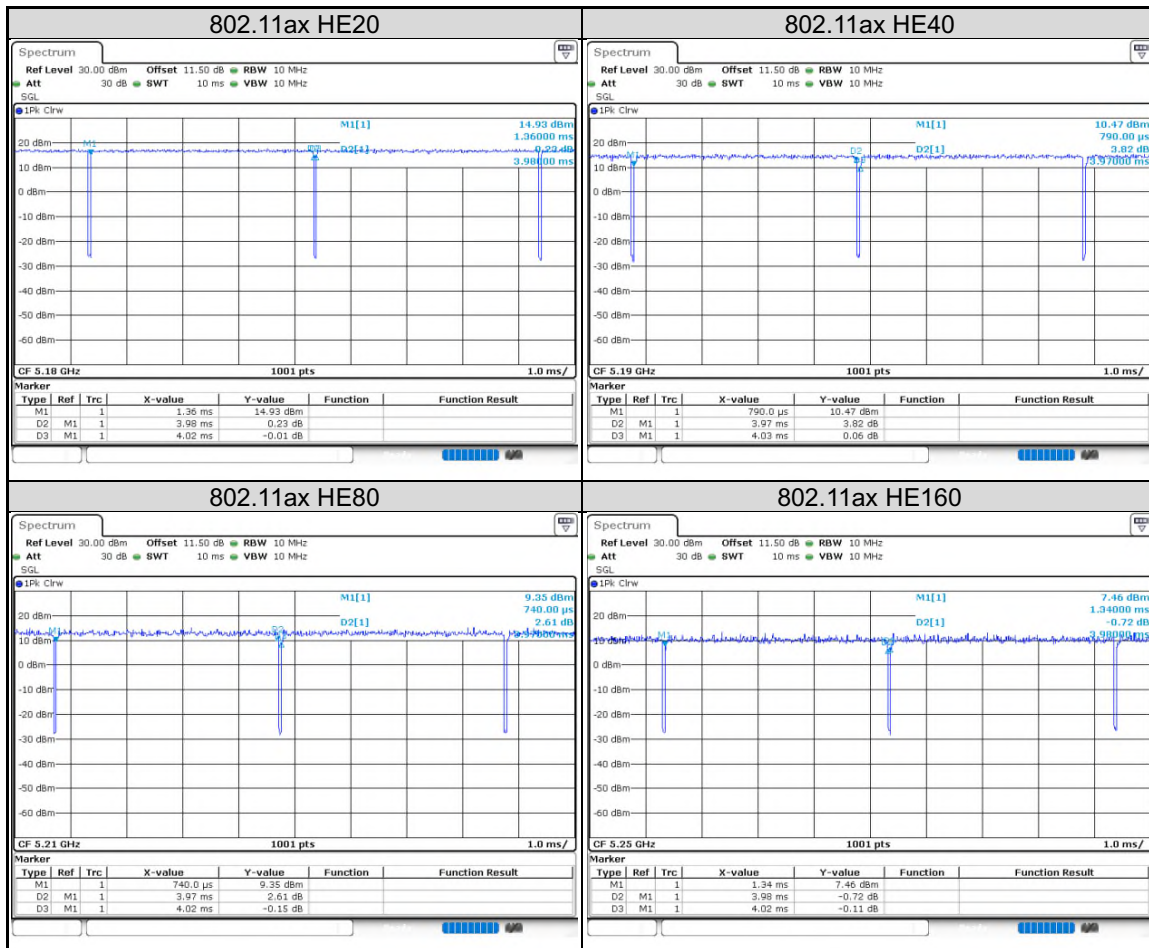


4.6 Duty Cycle of Test Signal

Mode	On + Off Time (ms)	On Time (ms)	Duty Cycle (%)	Duty Factor (dB)
802.11a	2.14	2.095	97.90	0.09
802.11n HT20	4.03	3.98	98.76	0.05
802.11n HT40	4.03	3.98	98.76	0.05
802.11ac VHT20	4	3.95	98.75	0.05
802.11ac VHT40	4.01	3.96	98.75	0.05
802.11ac VHT80	4.02	3.97	98.76	0.05
802.11ac VHT160	4.01	3.96	98.75	0.05
802.11ax HE20	4.02	3.98	99.00	0.04
802.11ax HE40	4.03	3.97	98.51	0.07
802.11ax HE80	4.02	3.97	98.76	0.05
802.11ax HE160	4.02	3.98	99.00	0.04







5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

Requirement Use of approved antennas only

According to the manufacturer declaration, the EUT's antenna specifications are described as below. The antenna is used with no possibility of replacement with a non-approved antenna by the end-user. Therefore, the EUT is considered to comply with this provision.

ANT	Antenna Type	Gain (dBi)			
		5180~5240 MHz	5260~5320 MHz	5500~5720 MHz	5720~5825 MHz
1	PIFA	0.58	0.58	0.80	1.11
2	PIFA	2.15	2.07	1.74	1.40
Max Peak Gain =		2.15	2.07	1.74	1.40
Power Directional Gain =		2.15	2.07	1.74	1.40
CDD Mode	PSD Directional Gain = $10\log[10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20}]^2 / N_{ANT}$	4.41	4.37	4.29	4.27

Refer to EUT photo for details.

5.1.2 Maximum Conducted Output Power

Limit

Operation Band	EUT Category	Limit
U-NII-1	Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p \leq 125 mW (21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
	Fixed point-to-point Access Point	1 Watt (30 dBm)
	Indoor Access Point	1 Watt (30 dBm)
	Mobile and Portable client device	250 mW (24 dBm)
U-NII-2A	---	250 mW (24 dBm) or 11 dBm + 10 log B*
U-NII-2C	---	250 mW (24 dBm) or 11 dBm + 10 log B*
U-NII-3	---	1 Watt (30 dBm)

Note: B* is the 26 dB emission bandwidth in megahertz

Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

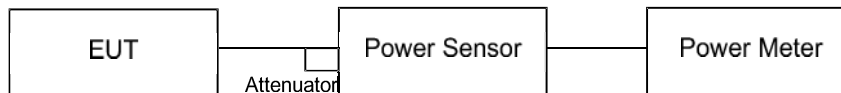
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less for 20 MHz channel widths with $N_{ANT} \geq 5$.

For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

Kind of Test Site Shielded room

Test Setup



Test Instruments

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date	Test Date	
						From	Until
Power Meter	Anritsu	ML2495A	1901008	2023/3/17	2024/3/16	2023/9/22	2023/10/6
Power Sensor	Anritsu	MA2411B	1725269	2023/3/17	2024/3/16	2023/9/22	2023/10/6

Test Procedures

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst and set the detector to AVERAGE. Duty factor is not added to measured value.

Test Result
For SISO Antenna 1
<802.11a>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
36	5180	16.47	44.36	24.00
40	5200	16.39	43.55	24.00
44	5220	16.33	42.95	24.00
48	5240	16.29	42.56	24.00
52	5260	16.38	43.45	24.00
56	5280	16.29	42.56	24.00
60	5300	16.44	44.06	24.00
64	5320	16.36	43.25	24.00
100	5500	17.28	53.46	24.00
116	5580	17.27	53.33	24.00
124	5620	17.32	53.95	24.00
132	5660	17.29	53.58	24.00
140	5700	17.33	54.08	24.00
144	5720 (U-NII-2C)	17.25	53.09	24.00
144	5720 (U-NII-3)	17.25	53.09	30.00
149	5745	15.81	38.11	30.00
157	5785	15.88	38.73	30.00
165	5825	15.78	37.84	30.00

<802.11n HT20>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
36	5180	16.47	44.36	24.00
40	5200	16.37	43.35	24.00
44	5220	16.39	43.55	24.00
48	5240	16.31	42.76	24.00
52	5260	16.40	43.65	24.00
56	5280	16.35	43.15	24.00
60	5300	16.36	43.25	24.00
64	5320	16.41	43.75	24.00
100	5500	17.34	54.20	24.00
116	5580	17.47	55.85	24.00
124	5620	17.34	54.20	24.00
132	5660	17.42	55.21	24.00
140	5700	17.40	54.95	24.00
144	5720 (U-NII-2C)	17.38	54.70	24.00
144	5720 (U-NII-3)	17.38	54.70	30.00
149	5745	15.95	39.36	30.00
157	5785	15.90	38.90	30.00
165	5825	15.99	39.72	30.00

<802.11n HT40>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
38	5190	16.48	44.46	24.00
46	5230	16.40	43.65	24.00
54	5270	16.34	43.05	24.00
62	5310	16.41	43.75	24.00
102	5510	17.50	56.23	24.00
110	5550	17.39	54.83	24.00
126	5630	17.44	55.46	24.00
134	5670	17.40	54.95	24.00
142	5710 (U-NII-2C)	17.38	54.70	24.00
142	5710 (U-NII-3)	17.38	54.70	30.00
151	5755	15.89	38.82	30.00
159	5795	15.84	38.37	30.00

<802.11ac VHT20>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
36	5180	16.42	43.85	24.00
40	5200	16.33	42.95	24.00
44	5220	16.37	43.35	24.00
48	5240	16.30	42.66	24.00
52	5260	16.35	43.15	24.00
56	5280	16.35	43.15	24.00
60	5300	16.30	42.66	24.00
64	5320	16.38	43.45	24.00
100	5500	17.28	53.46	24.00
116	5580	17.45	55.59	24.00
124	5620	17.34	54.20	24.00
132	5660	17.40	54.95	24.00
140	5700	17.40	54.95	24.00
144	5720 (U-NII-2C)	17.35	54.33	24.00
144	5720 (U-NII-3)	17.35	54.33	30.00
149	5745	15.90	38.90	30.00
157	5785	15.87	38.64	30.00
165	5825	15.83	38.28	30.00

<802.11ac VHT40>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
38	5190	16.45	44.16	24.00
46	5230	16.36	43.25	24.00
54	5270	16.30	42.66	24.00
62	5310	16.36	43.25	24.00
102	5510	17.43	55.34	24.00
110	5550	17.39	54.83	24.00
126	5630	17.41	55.08	24.00
134	5670	17.40	54.95	24.00
142	5710 (U-NII-2C)	17.35	54.33	24.00
142	5710 (U-NII-3)	17.35	54.33	30.00
151	5755	15.84	38.37	30.00
159	5795	15.84	38.37	30.00

<802.11ac VHT80>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
42	5210	16.43	43.95	24.00
58	5290	16.44	44.06	24.00
106	5530	17.38	54.70	24.00
122	5610	17.49	56.10	24.00
138	5690 (U-NII-2C)	17.48	55.98	24.00
138	5690 (U-NII-3)	17.48	55.98	30.00
155	5775	15.93	39.17	30.00

<802.11ac VHT160>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
50	5250	14.96	31.33	24.00
114	5570	14.47	27.99	24.00

<802.11ax HE20>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
36	5180	16.46	44.26	24.00
40	5200	16.37	43.35	24.00
44	5220	16.41	43.75	24.00
48	5240	16.40	43.65	24.00
52	5260	16.37	43.35	24.00
56	5280	16.45	44.16	24.00
60	5300	16.48	44.46	24.00
64	5320	16.49	44.57	24.00
100	5500	17.50	56.23	24.00
116	5580	17.39	54.83	24.00
124	5620	17.41	55.08	24.00
132	5660	17.34	54.20	24.00
140	5700	17.40	54.95	24.00
144	5720 (U-NII-2C)	17.35	54.33	24.00
144	5720 (U-NII-3)	17.35	54.33	30.00
149	5745	15.81	38.11	30.00
157	5785	15.88	38.73	30.00
165	5825	15.91	38.99	30.00

<802.11ax HE40>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
38	5190	16.41	43.75	24.00
46	5230	16.37	43.35	24.00
54	5270	14.43	27.73	24.00
62	5310	16.46	44.26	24.00
102	5510	17.41	55.08	24.00
110	5550	17.44	55.46	24.00
126	5630	17.42	55.21	24.00
134	5670	17.48	55.98	24.00
142	5710 (U-NII-2C)	17.47	55.85	24.00
142	5710 (U-NII-3)	17.47	55.85	30.00
151	5755	15.86	38.55	30.00
159	5795	15.81	38.11	30.00

<802.11ax HE80>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
42	5210	16.37	43.35	24.00
58	5290	16.35	43.15	24.00
106	5530	17.46	55.72	24.00
122	5610	17.49	56.10	24.00
138	5690 (U-NII-2C)	17.38	54.70	24.00
138	5690 (U-NII-3)	17.38	54.70	30.00
155	5775	15.93	39.17	30.00

<802.11ax HE160>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
50	5250	14.94	31.19	24.00
114	5570	14.45	27.86	24.00

For SISO Antenna 2
<802.11a>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
36	5180	17.96	62.52	24.00
40	5200	18.97	78.89	24.00
44	5220	18.98	79.07	24.00
48	5240	18.98	79.07	24.00
52	5260	18.94	78.34	24.00
56	5280	18.96	78.70	24.00
60	5300	18.97	78.89	24.00
64	5320	17.27	53.33	24.00
100	5500	17.45	55.59	24.00
116	5580	20.99	125.60	24.00
124	5620	20.93	123.88	24.00
132	5660	20.97	125.03	24.00
140	5700	17.92	61.94	24.00
144	5720 (U-NII-2C)	20.37	108.89	24.00
144	5720 (U-NII-3)	20.37	108.89	30.00
149	5745	19.96	99.08	30.00
157	5785	19.98	99.54	30.00
165	5825	19.97	99.31	30.00

<802.11n HT20>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
36	5180	18.23	66.53	24.00
40	5200	18.97	78.89	24.00
44	5220	18.96	78.70	24.00
48	5240	18.95	78.52	24.00
52	5260	18.98	79.07	24.00
56	5280	18.94	78.34	24.00
60	5300	18.97	78.89	24.00
64	5320	17.25	53.09	24.00
100	5500	17.47	55.85	24.00
116	5580	20.93	123.88	24.00
124	5620	20.90	123.03	24.00
132	5660	20.99	125.60	24.00
140	5700	17.88	61.38	24.00
144	5720 (U-NII-2C)	20.37	108.89	24.00
144	5720 (U-NII-3)	20.37	108.89	30.00
149	5745	19.95	98.86	30.00
157	5785	19.98	99.54	30.00
165	5825	19.96	99.08	30.00

<802.11n HT40>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
38	5190	17.84	60.81	24.00
46	5230	18.98	79.07	24.00
54	5270	18.87	77.09	24.00
62	5310	16.29	42.56	24.00
102	5510	17.61	57.68	24.00
110	5550	19.95	98.86	24.00
126	5630	19.98	99.54	24.00
134	5670	18.95	78.52	24.00
142	5710 (U-NII-2C)	20.76	119.12	24.00
142	5710 (U-NII-3)	20.76	119.12	30.00
151	5755	19.89	97.50	30.00
159	5795	19.92	98.17	30.00

<802.11ac VHT20>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
36	5180	18.24	66.68	24.00
40	5200	18.91	77.80	24.00
44	5220	18.89	77.45	24.00
48	5240	18.87	77.09	24.00
52	5260	18.93	78.16	24.00
56	5280	18.88	77.27	24.00
60	5300	18.92	77.98	24.00
64	5320	17.39	54.83	24.00
100	5500	17.48	55.98	24.00
116	5580	20.91	123.31	24.00
124	5620	20.89	122.74	24.00
132	5660	20.77	119.40	24.00
140	5700	17.64	58.08	24.00
144	5720 (U-NII-2C)	20.42	110.15	24.00
144	5720 (U-NII-3)	20.42	110.15	30.00
149	5745	19.89	97.50	30.00
157	5785	19.92	98.17	30.00
165	5825	19.90	97.72	30.00

<802.11ac VHT40>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
38	5190	17.77	59.84	24.00
46	5230	18.92	77.98	24.00
54	5270	18.81	76.03	24.00
62	5310	16.35	43.15	24.00
102	5510	17.49	56.10	24.00
110	5550	19.94	98.63	24.00
126	5630	19.92	98.17	24.00
134	5670	18.83	76.38	24.00
142	5710 (U-NII-2C)	20.78	119.67	24.00
142	5710 (U-NII-3)	20.78	119.67	30.00
151	5755	19.81	95.72	30.00
159	5795	19.83	96.16	30.00

<802.11ac VHT80>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
42	5210	17.89	61.52	24.00
58	5290	17.43	55.34	24.00
106	5530	17.79	60.12	24.00
122	5610	19.61	91.41	24.00
138	5690 (U-NII-2C)	20.79	119.95	24.00
138	5690 (U-NII-3)	20.79	119.95	30.00
155	5775	19.34	85.90	30.00

<802.11ac VHT160>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
50	5250	14.74	29.79	24.00
114	5570	14.79	30.13	24.00

<802.11ax HE20>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
36	5180	17.89	61.52	24.00
40	5200	18.87	77.09	24.00
44	5220	18.85	76.74	24.00
48	5240	18.82	76.21	24.00
52	5260	18.89	77.45	24.00
56	5280	18.84	76.56	24.00
60	5300	18.88	77.27	24.00
64	5320	17.38	54.70	24.00
100	5500	17.46	55.72	24.00
116	5580	20.98	125.31	24.00
124	5620	21.00	125.89	24.00
132	5660	20.99	125.60	24.00
140	5700	17.71	59.02	24.00
144	5720 (U-NII-2C)	20.48	111.69	24.00
144	5720 (U-NII-3)	20.48	111.69	30.00
149	5745	19.89	97.50	30.00
157	5785	19.92	98.17	30.00
165	5825	19.90	97.72	30.00

<802.11ax HE40>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
38	5190	17.87	61.24	24.00
46	5230	18.86	76.91	24.00
54	5270	18.75	74.99	24.00
62	5310	16.41	43.75	24.00
102	5510	17.81	60.39	24.00
110	5550	20.34	108.14	24.00
126	5630	20.32	107.65	24.00
134	5670	19.36	86.30	24.00
142	5710 (U-NII-2C)	20.91	123.31	24.00
142	5710 (U-NII-3)	20.91	123.31	30.00
151	5755	19.75	94.41	30.00
159	5795	19.78	95.06	30.00

<802.11ax HE80>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
42	5210	17.96	62.52	24.00
58	5290	17.41	55.08	24.00
106	5530	17.47	55.85	24.00
122	5610	19.39	86.90	24.00
138	5690 (U-NII-2C)	20.73	118.30	24.00
138	5690 (U-NII-3)	20.73	118.30	30.00
155	5775	18.89	77.45	30.00

<802.11ax HE160>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
50	5250	14.72	29.65	24.00
114	5570	14.44	27.80	24.00

For MIMO Antenna 1+ 2
<802.11n HT20>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)		Total Power		Limit (dBm)
		Ant 1	Ant 2	(dBm)	(mW)	
36	5180	15.92	15.79	18.87	77.09	24.00
40	5200	15.98	15.87	18.94	78.34	24.00
44	5220	15.97	15.86	18.93	78.16	24.00
48	5240	15.99	15.94	18.98	79.07	24.00
52	5260	15.96	15.94	18.96	78.70	24.00
56	5280	15.91	15.98	18.96	78.70	24.00
60	5300	15.97	15.90	18.95	78.52	24.00
64	5320	13.31	13.43	16.38	43.45	24.00
100	5500	13.93	13.97	16.96	49.66	24.00
116	5580	17.96	17.98	20.98	125.31	24.00
124	5620	17.90	17.98	20.95	124.45	24.00
132	5660	18.05	17.82	20.95	124.45	24.00
140	5700	14.19	14.11	17.16	52.00	24.00
144	5720 (U-NII-2C)	17.33	17.39	20.37	108.89	24.00
144	5720 (U-NII-3)	17.33	17.39	20.37	108.89	30.00
149	5745	16.98	16.93	19.97	99.31	30.00
157	5785	16.88	16.98	19.94	98.63	30.00
165	5825	16.91	16.99	19.96	99.08	30.00

<802.11n HT40>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)		Total Power		Limit (dBm)
		Ant 1	Ant 2	(dBm)	(mW)	
38	5190	15.34	15.00	18.18	65.77	24.00
46	5230	15.99	15.93	18.97	78.89	24.00
54	5270	15.95	15.98	18.98	79.07	24.00
62	5310	12.90	13.01	15.97	39.54	24.00
102	5510	13.95	13.93	16.95	49.55	24.00
110	5550	16.91	16.97	19.95	98.86	24.00
126	5630	16.92	16.98	19.96	99.08	24.00
134	5670	16.89	16.92	19.92	98.17	24.00
142	5710 (U-NII-2C)	18.00	17.48	20.76	119.12	24.00
142	5710 (U-NII-3)	18.00	17.48	20.76	119.12	30.00
151	5755	16.92	16.97	19.96	99.08	30.00
159	5795	16.90	16.94	19.93	98.40	30.00

<802.11ac VHT20>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)		Total Power		Limit (dBm)
		Ant 1	Ant 2	(dBm)	(mW)	
36	5180	15.82	15.71	18.78	75.51	24.00
40	5200	15.92	15.82	18.88	77.27	24.00
44	5220	15.91	15.80	18.87	77.09	24.00
48	5240	15.94	15.89	18.93	78.16	24.00
52	5260	15.89	15.88	18.90	77.62	24.00
56	5280	15.87	15.92	18.91	77.80	24.00
60	5300	15.92	15.84	18.89	77.45	24.00
64	5320	13.20	13.33	16.28	42.46	24.00
100	5500	13.79	13.80	16.81	47.97	24.00
116	5580	17.89	17.82	20.87	122.18	24.00
124	5620	17.84	17.87	20.87	122.18	24.00
132	5660	18.00	17.77	20.90	123.03	24.00
140	5700	14.12	14.05	17.10	51.29	24.00
144	5720 (U-NII-2C)	17.85	18.00	20.94	124.17	24.00
144	5720 (U-NII-3)	17.85	18.00	20.94	124.17	30.00
149	5745	16.92	16.87	19.91	97.95	30.00
157	5785	16.83	16.92	19.89	97.50	30.00
165	5825	16.85	16.94	19.91	97.95	30.00

<802.11ac VHT40>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)		Total Power		Limit (dBm)
		Ant 1	Ant 2	(dBm)	(mW)	
38	5190	15.30	15.00	18.16	65.46	24.00
46	5230	15.92	15.87	18.91	77.80	24.00
54	5270	15.88	15.91	18.91	77.80	24.00
62	5310	12.85	12.99	15.93	39.17	24.00
102	5510	13.95	13.97	16.97	49.77	24.00
110	5550	17.72	17.98	20.86	121.90	24.00
126	5630	17.71	17.96	20.85	121.62	24.00
134	5670	16.93	16.89	19.92	98.17	24.00
142	5710 (U-NII-2C)	17.90	17.44	20.69	117.22	24.00
142	5710 (U-NII-3)	17.90	17.44	20.69	117.22	30.00
151	5755	16.85	16.91	19.89	97.50	30.00
159	5795	16.81	16.89	19.86	96.83	30.00

<802.11ac VHT80>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)		Total Power		Limit (dBm)
		Ant 1	Ant 2	(dBm)	(mW)	
42	5210	15.45	15.44	18.46	70.15	24.00
58	5290	13.92	13.97	16.96	49.66	24.00
106	5530	14.78	15.00	17.90	61.66	24.00
122	5610	18.02	17.90	20.97	125.03	24.00
138	5690 (U-NII-2C)	17.79	18.00	20.91	123.31	24.00
138	5690 (U-NII-3)	17.79	18.00	20.91	123.31	30.00
155	5775	16.43	16.45	19.45	88.10	30.00

<802.11ac VHT160>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)		Total Power		Limit (dBm)
		Ant 1	Ant 2	(dBm)	(mW)	
50	5250	11.96	11.91	14.95	31.26	24.00
114	5570	11.98	11.88	14.94	31.19	24.00

<802.11ax HE20>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)		Total Power		Limit (dBm)
		Ant 1	Ant 2	(dBm)	(mW)	
36	5180	16.11	15.71	18.92	77.98	24.00
40	5200	15.87	15.77	18.83	76.38	24.00
44	5220	15.85	15.74	18.81	76.03	24.00
48	5240	15.89	15.83	18.87	77.09	24.00
52	5260	15.83	15.81	18.83	76.38	24.00
56	5280	15.81	15.87	18.85	76.74	24.00
60	5300	15.87	15.78	18.84	76.56	24.00
64	5320	15.97	15.93	18.96	78.70	24.00
100	5500	16.22	16.50	19.37	86.50	24.00
116	5580	17.89	17.98	20.95	124.45	24.00
124	5620	17.97	17.88	20.94	124.17	24.00
132	5660	18.01	17.83	20.93	123.88	24.00
140	5700	16.18	16.43	19.32	85.51	24.00
144	5720 (U-NII-2C)	17.72	17.85	20.80	120.23	24.00
144	5720 (U-NII-3)	17.72	17.85	20.80	120.23	30.00
149	5745	16.86	16.82	19.85	96.61	30.00
157	5785	16.79	16.86	19.84	96.38	30.00
165	5825	16.80	16.89	19.86	96.83	30.00

<802.11ax HE40>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)		Total Power		Limit (dBm)
		Ant 1	Ant 2	(dBm)	(mW)	
38	5190	15.89	15.77	18.84	76.56	24.00
46	5230	15.85	15.81	18.84	76.56	24.00
54	5270	15.82	15.86	18.85	76.74	24.00
62	5310	12.93	12.97	15.96	39.45	24.00
102	5510	16.33	16.41	19.38	86.70	24.00
110	5550	17.78	17.92	20.86	121.90	24.00
126	5630	17.76	17.90	20.84	121.34	24.00
134	5670	17.97	17.96	20.98	125.31	24.00
142	5710 (U-NII-2C)	17.80	17.80	20.81	120.50	24.00
142	5710 (U-NII-3)	17.80	17.80	20.81	120.50	30.00
151	5755	16.79	16.86	19.84	96.38	30.00
159	5795	16.75	16.82	19.80	95.50	30.00

<802.11ax HE80>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)		Total Power		Limit (dBm)
		Ant 1	Ant 2	(dBm)	(mW)	
42	5210	15.29	15.15	18.23	66.53	24.00
58	5290	13.92	13.85	16.90	48.98	24.00
106	5530	14.80	14.99	17.91	61.80	24.00
122	5610	17.89	17.80	20.86	121.90	24.00
138	5690 (U-NII-2C)	17.83	17.80	20.83	121.06	24.00
138	5690 (U-NII-3)	17.83	17.80	20.83	121.06	30.00
155	5775	15.95	15.91	18.94	78.34	30.00

<802.11ax HE160>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)		Total Power		Limit (dBm)
		Ant 1	Ant 2	(dBm)	(mW)	
50	5250	11.84	12.07	14.97	31.41	24.00
114	5570	11.98	11.93	14.97	31.41	24.00

SISO Ant 1, Partial RU Configuration
<802.11ax HE20>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
36	5180	13.54	22.59	24.00
		16.41	43.75	24.00
		16.39	43.55	24.00
64	5320	13.59	22.86	24.00
		15.07	32.14	24.00
		16.48	44.46	24.00
100	5500	13.66	23.23	24.00
		16.55	45.19	24.00
		17.46	55.72	24.00
140	5700	13.77	23.82	24.00
		16.39	43.55	24.00
		17.38	54.70	24.00
149	5745	15.04	31.92	30.00
		15.69	37.07	30.00
		15.75	37.58	30.00

<802.11ax HE40>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
38	5190	16.39	43.55	24.00
62	5310	16.45	44.16	24.00
102	5510	17.47	55.85	24.00
134	5670	17.38	54.70	24.00
151	5755	15.77	37.76	30.00

<802.11ax HE80>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
42	5210	16.47	44.36	24.00
58	5290	16.30	42.66	24.00
106	5530	17.01	50.23	24.00
155	5775	15.82	38.19	30.00

<802.11ax HE160>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
50	5250	14.92	31.05	24.00
		14.94	31.19	24.00
114	5570	14.28	26.79	24.00
		14.41	27.61	24.00

SISO Ant 2, Partial RU Configuration
<802.11ax HE20>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
36	5180	13.68	23.33	24.00
		16.63	46.03	24.00
		17.97	62.66	24.00
64	5320	13.65	23.17	24.00
		15.07	32.14	24.00
		17.31	53.83	24.00
100	5500	13.73	23.60	24.00
		16.52	44.87	24.00
		17.38	54.70	24.00
140	5700	13.65	23.17	24.00
		16.47	44.36	24.00
		17.69	58.75	24.00
149	5745	15.31	33.96	30.00
		17.91	61.80	30.00
		19.82	95.94	30.00

<802.11ax HE40>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
38	5190	17.85	60.95	24.00
62	5310	16.33	42.95	24.00
102	5510	17.79	60.12	24.00
134	5670	19.30	85.11	24.00
151	5755	19.69	93.11	30.00

<802.11ax HE80>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
42	5210	17.84	60.81	24.00
58	5290	17.35	54.33	24.00
106	5530	17.31	53.83	24.00
155	5775	18.79	75.68	30.00

<802.11ax HE160>

Channel	Channel Frequency (MHz)	Average Output Power		Limit (dBm)
		(dBm)	(mW)	
50	5250	14.66	29.24	24.00
		14.62	28.97	24.00
114	5570	14.31	26.98	24.00
		14.23	26.49	24.00

For MIMO Ant 1 + 2, Partial RU Configuration
<802.11ax HE20>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)		Total Power		Limit (dBm)
		Ant 1	Ant 2	(dBm)	(mW)	
36	5180	10.57	10.68	13.64	23.12	24.00
		13.64	13.56	16.61	45.81	24.00
		15.89	15.74	18.83	76.38	24.00
64	5320	10.69	10.71	13.71	23.50	24.00
		13.61	13.56	16.60	45.71	24.00
		15.93	15.95	18.95	78.52	24.00
100	5500	10.71	10.66	13.70	23.44	24.00
		13.59	13.50	16.56	45.29	24.00
		16.31	16.22	19.28	84.72	24.00
140	5700	10.67	10.59	13.64	23.12	24.00
		12.89	12.84	15.88	38.73	24.00
		16.25	16.30	19.29	84.92	24.00
149	5745	12.16	12.18	15.18	32.96	30.00
		15.51	15.61	18.57	71.94	30.00
		16.77	16.69	19.74	94.19	30.00

<802.11ax HE40>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)		Total Power		Limit (dBm)
		Ant 1	Ant 2	(dBm)	(mW)	
38	5190	15.47	15.49	18.49	70.63	24.00
62	5310	12.96	12.91	15.95	39.36	24.00
102	5510	14.31	14.09	17.21	52.60	24.00
134	5670	16.36	16.22	19.30	85.11	24.00
151	5755	16.72	16.69	19.72	93.76	30.00

<802.11ax HE80>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)		Total Power		Limit (dBm)
		Ant 1	Ant 2	(dBm)	(mW)	
42	5210	14.94	14.88	17.92	61.94	24.00
58	5290	13.85	13.81	16.84	48.31	24.00
106	5530	14.16	14.14	17.16	52.00	24.00
155	5775	15.82	15.90	18.87	77.09	30.00

<802.11ax HE160>

Channel	Channel Frequency (MHz)	Average Output Power (dBm)		Total Power		Limit (dBm)
		Ant 1	Ant 2	(dBm)	(mW)	
50	5250	12.12	12.15	15.15	32.73	24.00
		12.24	12.29	15.28	33.73	24.00
114	5570	11.82	11.85	14.85	30.55	24.00
		11.97	11.93	14.96	31.33	24.00

5.1.3 Transmit Power Control (TPC)

Requirement 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 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.

Maximum EIRP of this device is 187.50 mW which is less than 500mW, therefore it's not require TPC function.

TPC	E.I.R.P	15.407(h)(1)
	> 500mW	The TPC mechanism is required for system with an E.I.R.P. of above 500mW
V	< 500mW	-

5.1.4 Radiated Spurious Emissions

Limit

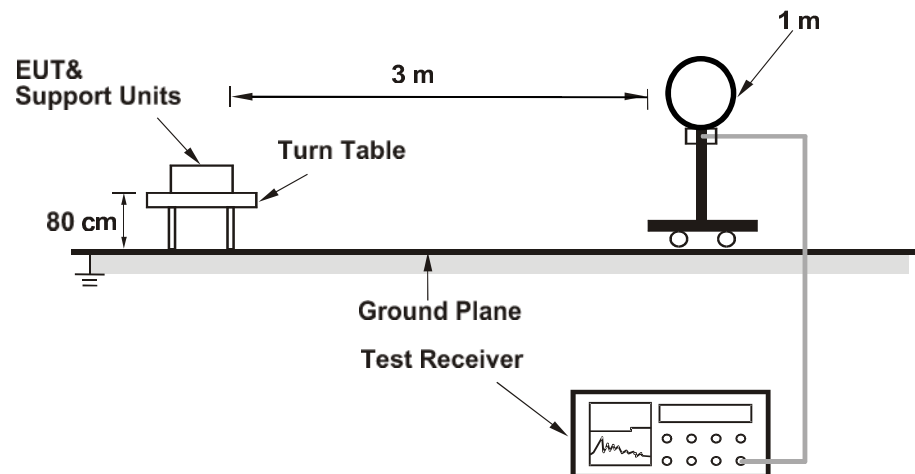
Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must comply with the radiated emission limits specified in §15.209(a).

Emissions radiated outside the restricted and authorized frequency bands must either comply with the radiated emission limits specified for the restricted bands or in §15.407(b).

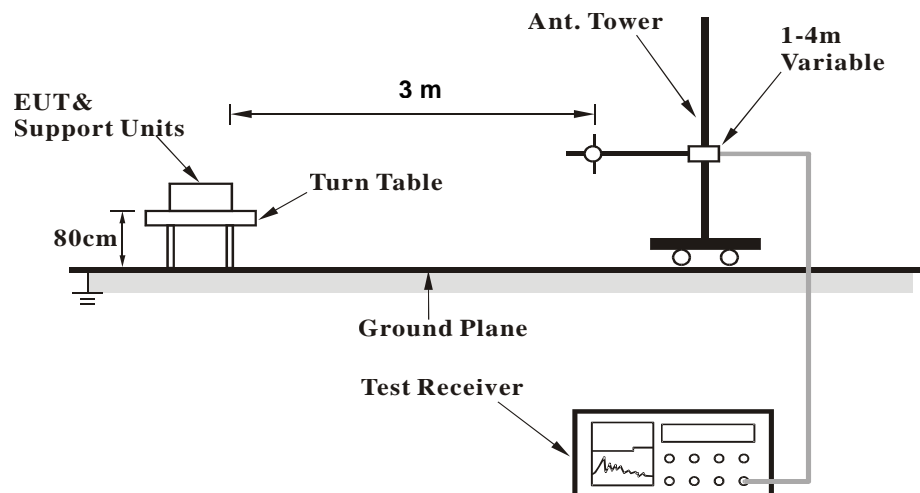
Kind of Test Site 3m Semi-Anechoic Chamber

Test Setup

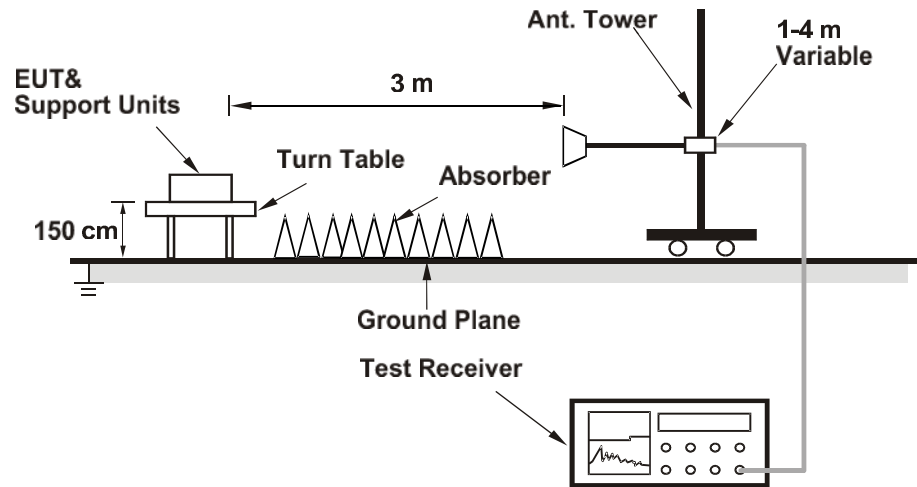
<Radiated Emissions below 30 MHz>



<Radiated Emissions 30 MHz to 1 GHz>



<Radiated Emissions above 1 GHz>



For the actual test configuration, please refer to the attached file (Test Setup Photo).

Test Instruments

Test Date: 2023/9/28 ~ 2023/10/3

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date
Above 1GHz					
Signal Analyzer	R&S	FSV40	101509	2023/4/26	2024/4/24
Horn Antenna	ETS-Lindgren	3117	00218929	2022/11/17	2023/11/16
Horn Antenna	SCHWARZBECK	BBHA 9170	00890	2023/5/4	2024/5/2
HF-AMP + AC source	EMCI	EMC051845SE	980635	2023/2/16	2024/2/15
HF-AMP + AC source	EMCI	EMC051845SE	980656	2023/1/16	2024/1/15
30MHz-1GHz					
Receiver	R&S	ESR7	102109	2023/2/24	2024/2/23
Bilog Antenna	SCHWARZBECK	VULB-9168	00951	2023/3/31	2024/3/29
LF-AMP	Agilent	8447D	2944A107722	2023/3/22	2024/3/20
Below 1GHz					
Receiver	R&S	ESR7	102109	2023/2/24	2024/2/23
Loop Antenna	SCHWARZBECK	FMZB 1519B	00215	2023/1/4	2024/1/3

Test Procedures**For Radiated Emissions below 30 MHz**

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel (OPEN), perpendicular (CLOSE), and ground-parallel (GROUND) orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz at frequency below 30 MHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

For Radiated Emissions above 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30 MHz ~ 1 GHz) / 1.5 meters (for above 1 GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detected function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) or Peak detection (PK) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98 %) or 10 Hz (Duty cycle ≥ 98 %) for Average detection (AV) at frequency above 1 GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.
5. The Radiated Emissions testing was performed in the X(E1), Y(H) and Z(E2) axis orientation. The worst-case Axis orientation is recorded in this test report.
6. The emission levels of other frequencies (including the 10th harmonic of the highest fundamental frequency) are very lower than the limit and are not shown in the test report.

Test Results

Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)
Level (dBuV/m) = Reading (dBuV) + Factor (dB/m)

Please refer to Appendix A.

5.1.5 Dynamic Frequency Selection

Limit

<DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection>

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP \geq 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 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 signal is at or above the detection threshold level to trigger a DFS response.
 Note 3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.

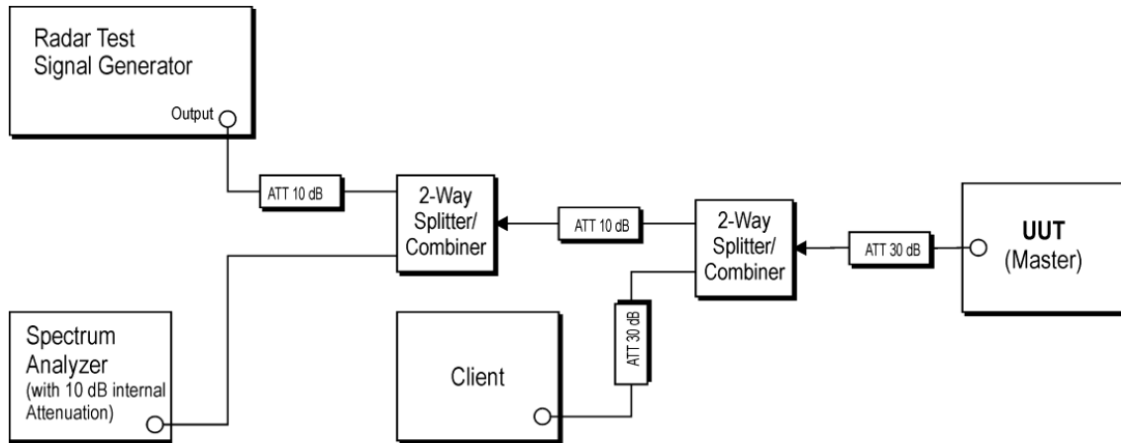
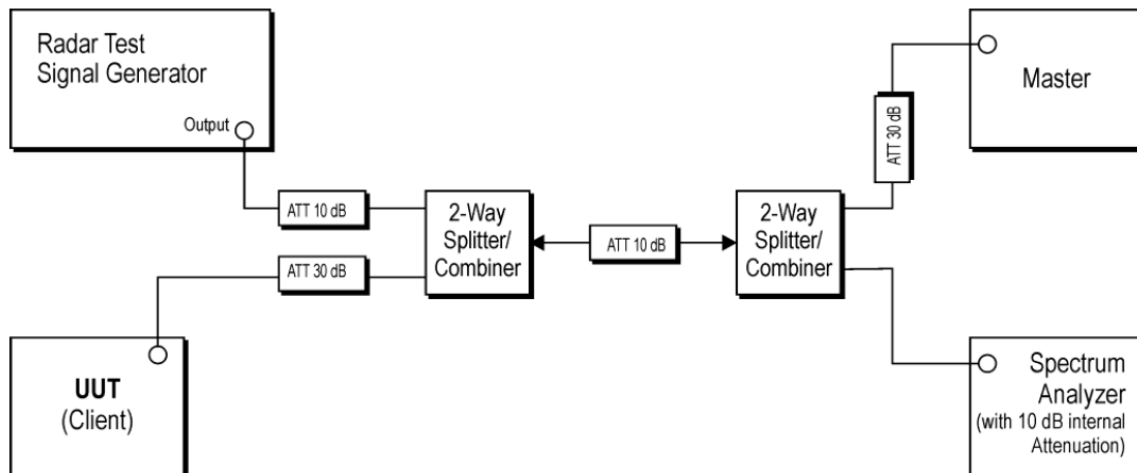
<DFS Response Requirement Values>

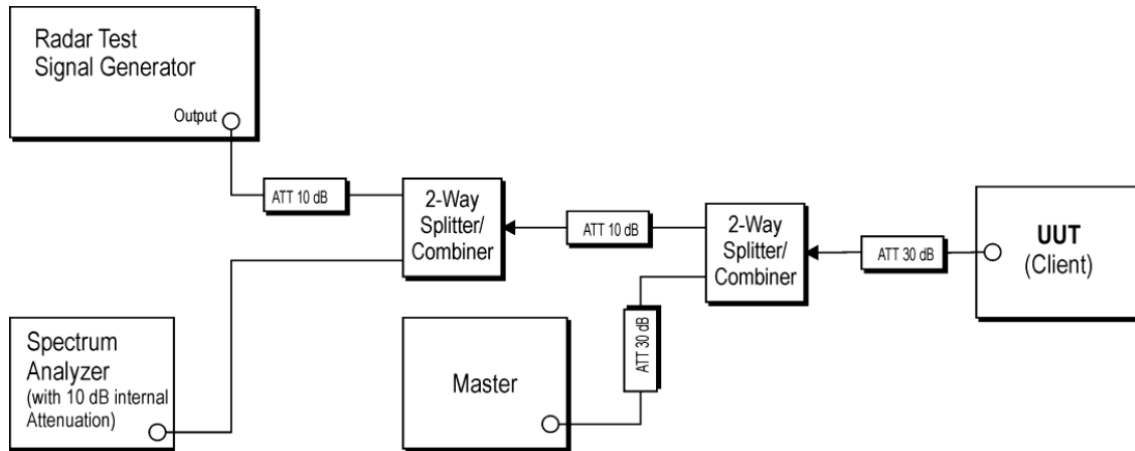
Parameter	Value
<i>Non-occupancy period</i>	Minimum 30 minutes
<i>Channel Availability Check Time</i>	60 seconds
<i>Channel Move Time</i>	10 seconds See Note 1.
<i>Channel Closing Transmission Time</i>	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and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

Note 1: *Channel Move Time* and the *Channel Closing Transmission Time* should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.
 Note 2: The *Channel Closing Transmission Time* is comprised of 200 milliseconds starting at the beginning of the *Channel Move Time* plus any additional intermittent control signals required 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 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

Kind of Test Site

Shielded room

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>

Test Instruments

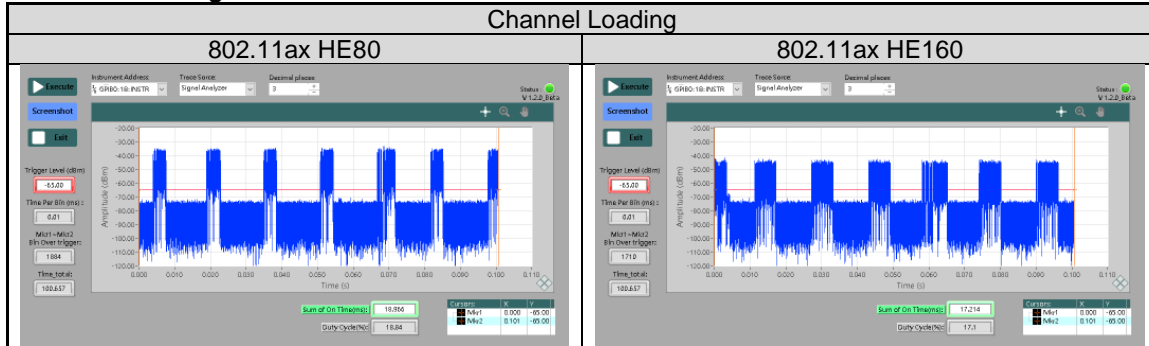
Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date	Test Date	
						From	Until
Spectrum Analyzer	Keysight	N9000B	MY62361339	2023/02/11	2024/02/10	2023/9/27	2023/9/27
MXG Vector Signal Generator	Agilent	N5182B	MY53050524	2023/03/17	2024/03/16	2023/9/27	2023/9/27
Frequency Extender	Keysight	N5182BX07	MY61500182	2023/01/19	2024/01/18	2023/9/27	2023/9/27

Requirement

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

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

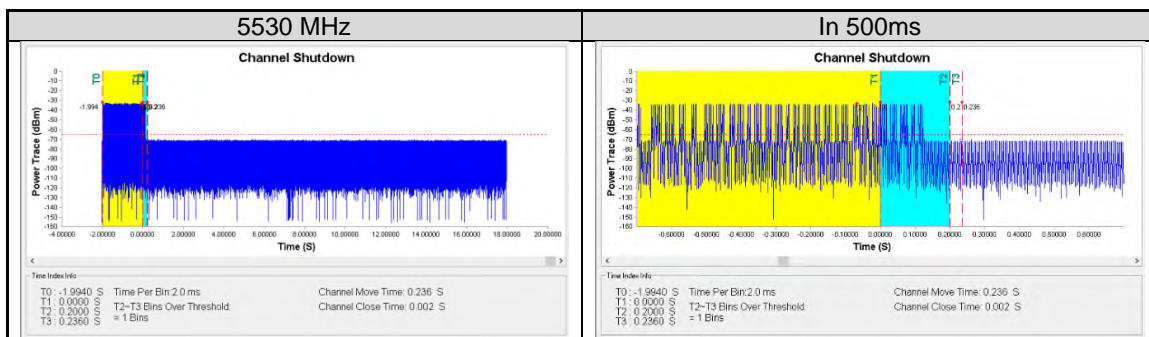
Note: Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels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

Test Results
<Channel Loading>

<802.11ax HE80>
Channel Moving Time (CMT):

Radar Type	Channel (MHz)	Channel Move Time (s)	Limit (s)	Result
R0	5530	0.236	10	Pass

Channel Closing Transmission Time (CCTT):

Radar Type	Channel (MHz)	Channel Closing Transmission Time (s)	Limit (ms)	Result
R0	5530	0.002	< 60	Pass

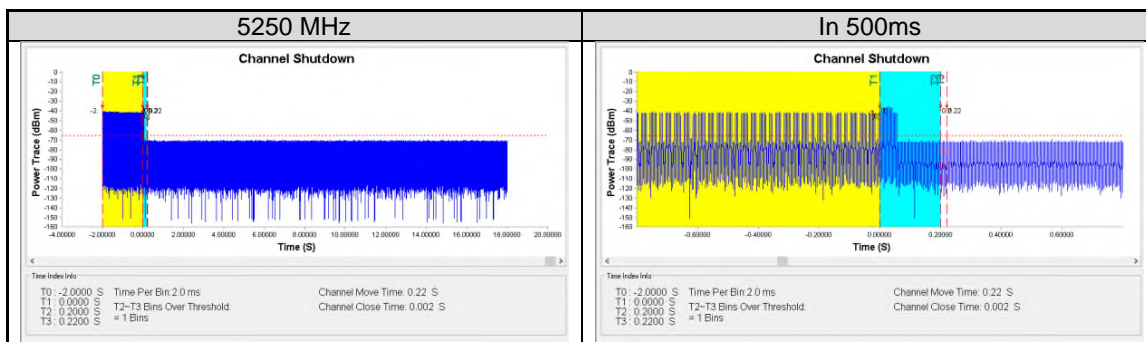


<802.11ax HE160>
Channel Moving Time (CMT):

Radar Type	Channel (MHz)	Channel Move Time (s)	Limit (s)	Result
R0	5250	0.22	10	Pass

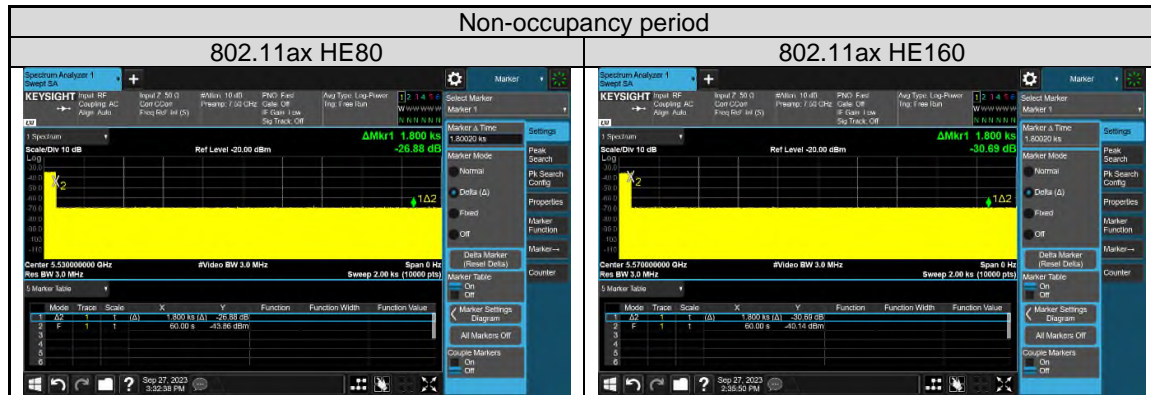
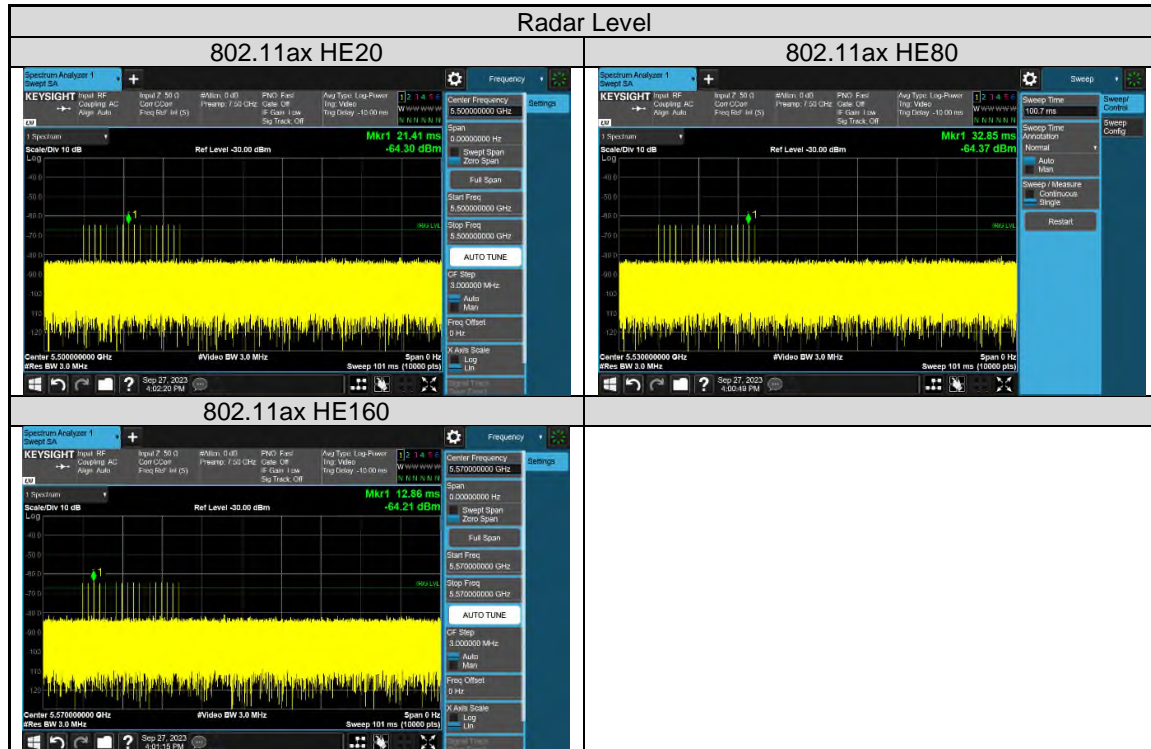
Channel Closing Transmission Time (CCT):

Radar Type	Channel (MHz)	Channel Closing Transmission Time (s)	Limit (ms)	Result
R0	5250	0.002	< 60	Pass



<Non-occupancy period>

Band	Channel (MHz)	Limit (minute)	Result
802.11ax HE80	5530	≥ 30	Pass
802.11ax HE160	5570	≥ 30	Pass


<Radar Waveform Calibration>


5.2 Mains Emission

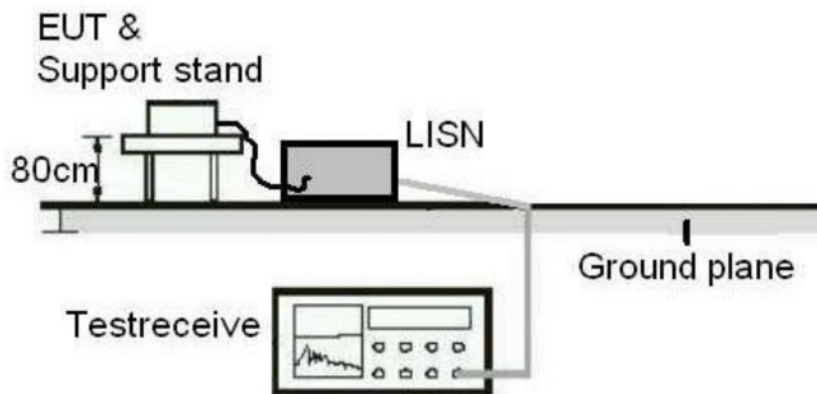
5.2.1 Mains Conducted Emission

Limit

Mains Conducted emissions as defined in §15.207 must comply with the mains conducted emission limits.

Kind of Test Site Shielded room

Test Setup



Test Instruments

Test Date: 2023/9/27

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date
Two-Line V-Network	Rohde & Schwarz	ENV216	101938	2022/10/17	2023/10/16
EMI Test Receiver	R&S	ESCI	101094	2022/11/24	2023/11/23

Test Procedures

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/50 uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

Note: The resolution bandwidth and video bandwidth of test receiver is 9 kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15 MHz – 30 MHz.

Test Results

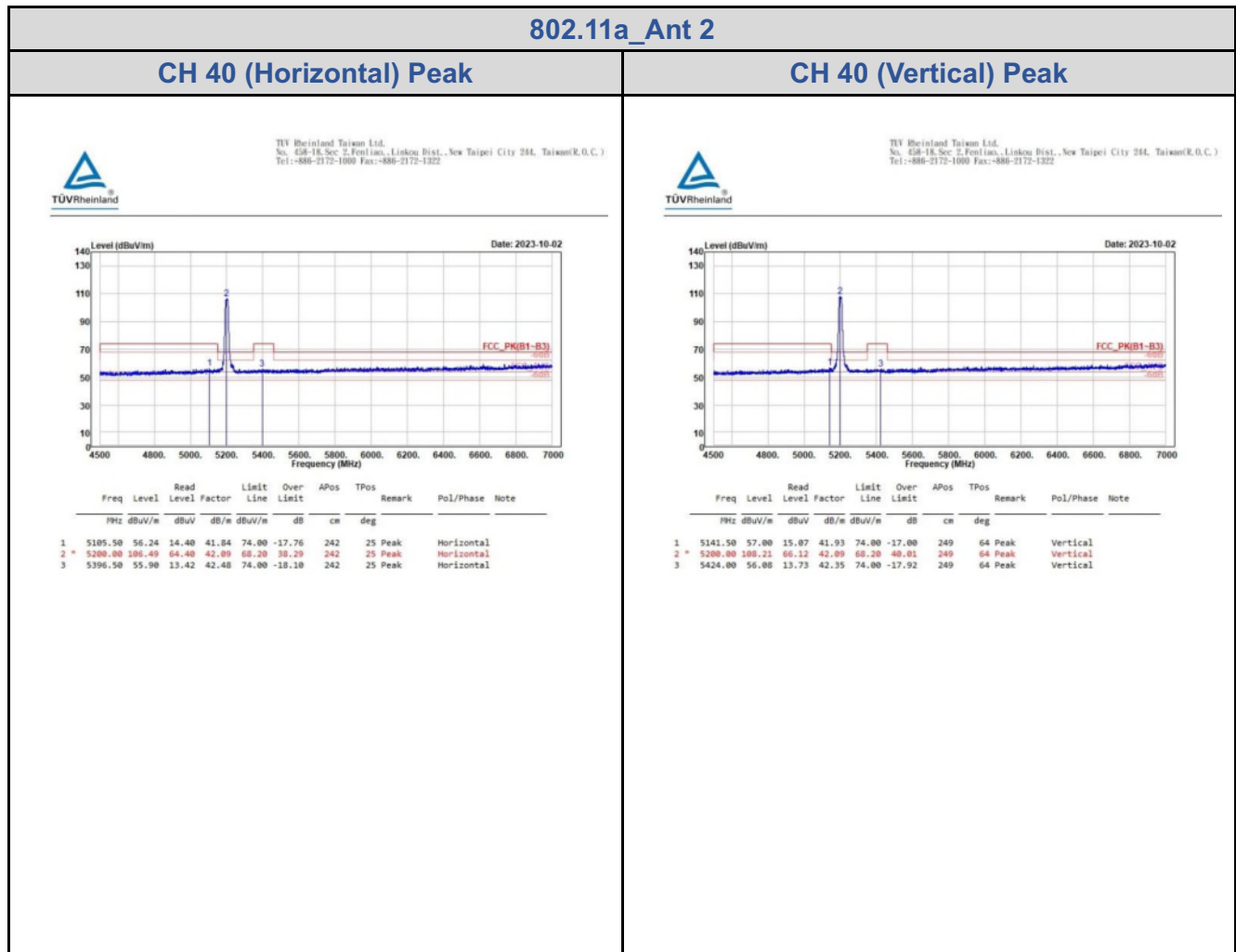
Please refer to Appendix A.

Appendix A: Test Results of Radiation Spurious Emissions & Mains

Conducted Emission

Band Edges, 4.5GHz ~ 7GHz

U-NII-1



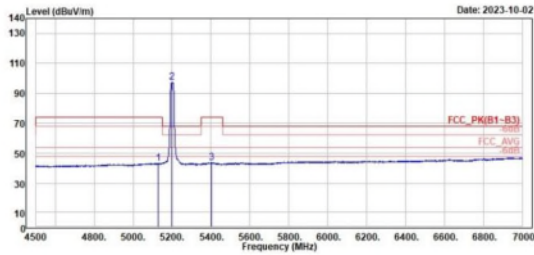
802.11a_Ant 2

CH 40 (Horizontal) Average

CH 40 (Vertical) Average



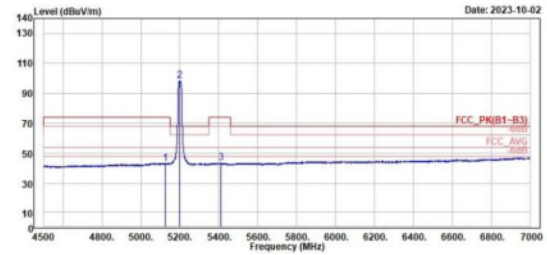
TÜV Rheinland Taiwan Ltd.
No. 65B-18, Sec 2, Fenliang, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



1	2	3	Read Level	Level Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
5129.50	43.35	1.44	41.91	54.00	-10.65	242	25	Average	Horizontal		
5200.00	97.25	55.16	42.09	54.00	43.25	242	25	Average	Horizontal		
5402.50	43.63	1.12	42.51	54.00	-10.37	242	25	Average	Horizontal		



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1	2	3	Read Level	Level Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
5126.50	43.36	1.47	41.89	54.00	-10.64	249	64	Average	Vertical		
5200.00	98.26	56.17	42.09	54.00	44.26	249	64	Average	Vertical		
5409.00	43.58	1.12	42.46	54.00	-10.42	249	64	Average	Vertical		

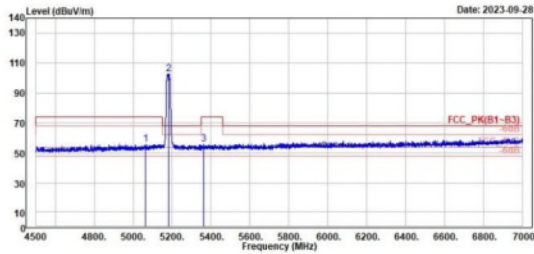
802.11n HT20_Ant 1

CH 36 (Horizontal) Peak

CH 36 (Vertical) Peak



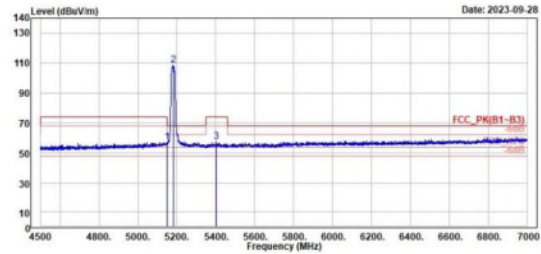
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Peak	Freq (MHz)	Level (dBuV/m)	Read Level (dBuV)	Level Factor (dB/m)	Limit Line (dBuV/m)	Over Limit (dB)	APos (cm)	TPos (deg)	Remark	Pol/Phase	Note
1	5062.50	56.13	14.18	41.95	74.00	-17.87	100	156	Peak	Horizontal	
2 *	5180.00	102.81	60.77	42.04	68.20	34.61	100	156	Peak	Horizontal	
3	5362.00	55.69	13.65	42.04	74.00	-18.31	100	156	Peak	Horizontal	



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Peak	Freq (MHz)	Level (dBuV/m)	Read Level (dBuV)	Level Factor (dB/m)	Limit Line (dBuV/m)	Over Limit (dB)	APos (cm)	TPos (deg)	Remark	Pol/Phase	Note
1	5147.50	57.14	15.19	41.95	74.00	-16.86	225	153	Peak	Vertical	
2 *	5180.00	100.50	66.54	42.04	68.20	40.38	225	153	Peak	Vertical	
3	5403.50	57.45	14.95	42.50	74.00	-16.55	225	153	Peak	Vertical	

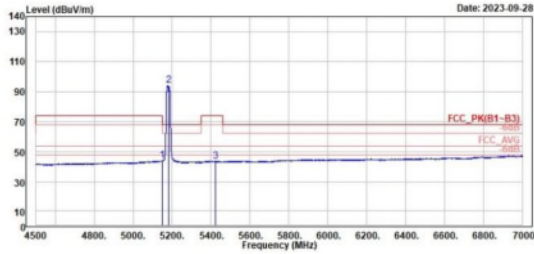
802.11n HT20_Ant 1

CH 36 (Horizontal) Average

CH 36 (Vertical) Average



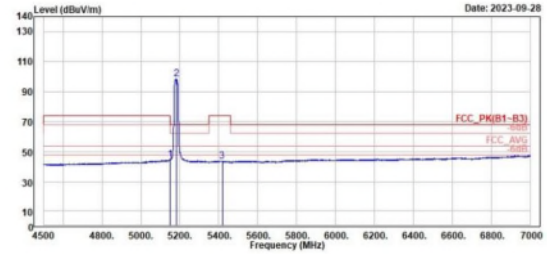
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1	2	3
5149.00	5180.00	5422.00
44.00	94.02	43.00
2.04	51.98	1.44
41.96	42.04	42.36
54.00	54.00	54.00
-10.00	40.02	-10.20
100	100	100
156	156	156
Average	Average	Average
Horizontal	Horizontal	Horizontal



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1	2	3
5150.00	5180.00	5417.00
44.77	90.25	43.08
2.81	56.21	1.48
41.96	42.04	42.40
54.00	54.00	54.00
-9.23	44.25	-10.12
225	225	225
153	153	153
Average	Average	Average
Vertical	Vertical	Vertical

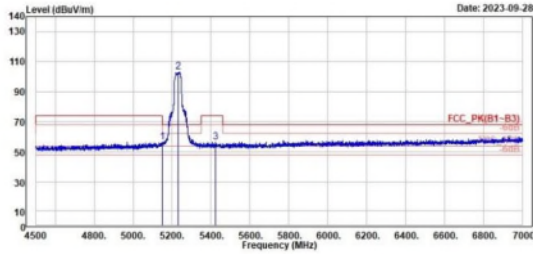
802.11n HT40_Ant 1

CH 46 (Horizontal) Peak

CH 46 (Vertical) Peak



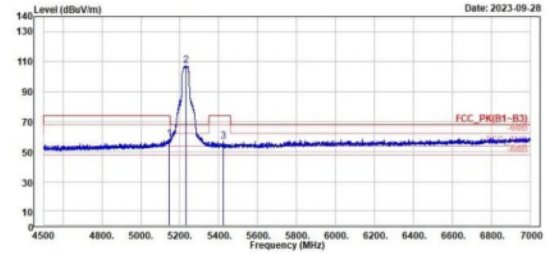
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Peak	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1	5149.00	56.44	14.48	41.96	74.00	-17.56	115	140	Peak	Horizontal		
2 *	5230.00	103.05	61.12	41.93	68.20	34.85	115	140	Peak	Horizontal		
3	5423.00	56.49	14.13	42.36	74.00	-17.51	115	140	Peak	Horizontal		



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Peak	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1	5145.00	58.38	16.43	41.95	74.00	-15.62	105	173	Peak	Vertical		
2 *	5230.00	107.32	65.39	41.93	68.20	39.12	105	173	Peak	Vertical		
3	5424.50	56.83	14.49	42.34	74.00	-17.17	105	173	Peak	Vertical		

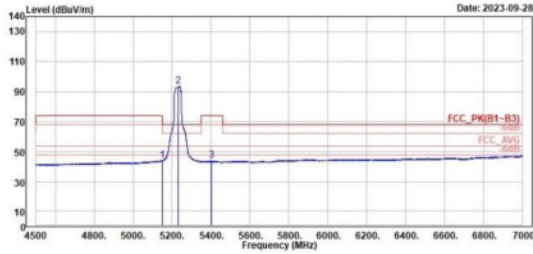
802.11n HT40_Ant 1

CH 46 (Horizontal) Average

CH 46 (Vertical) Average



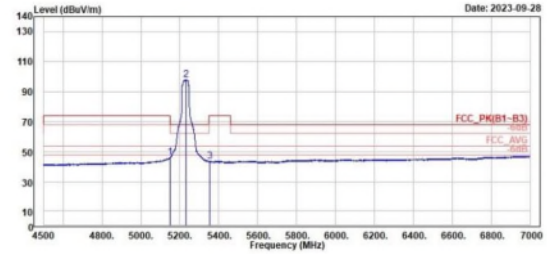
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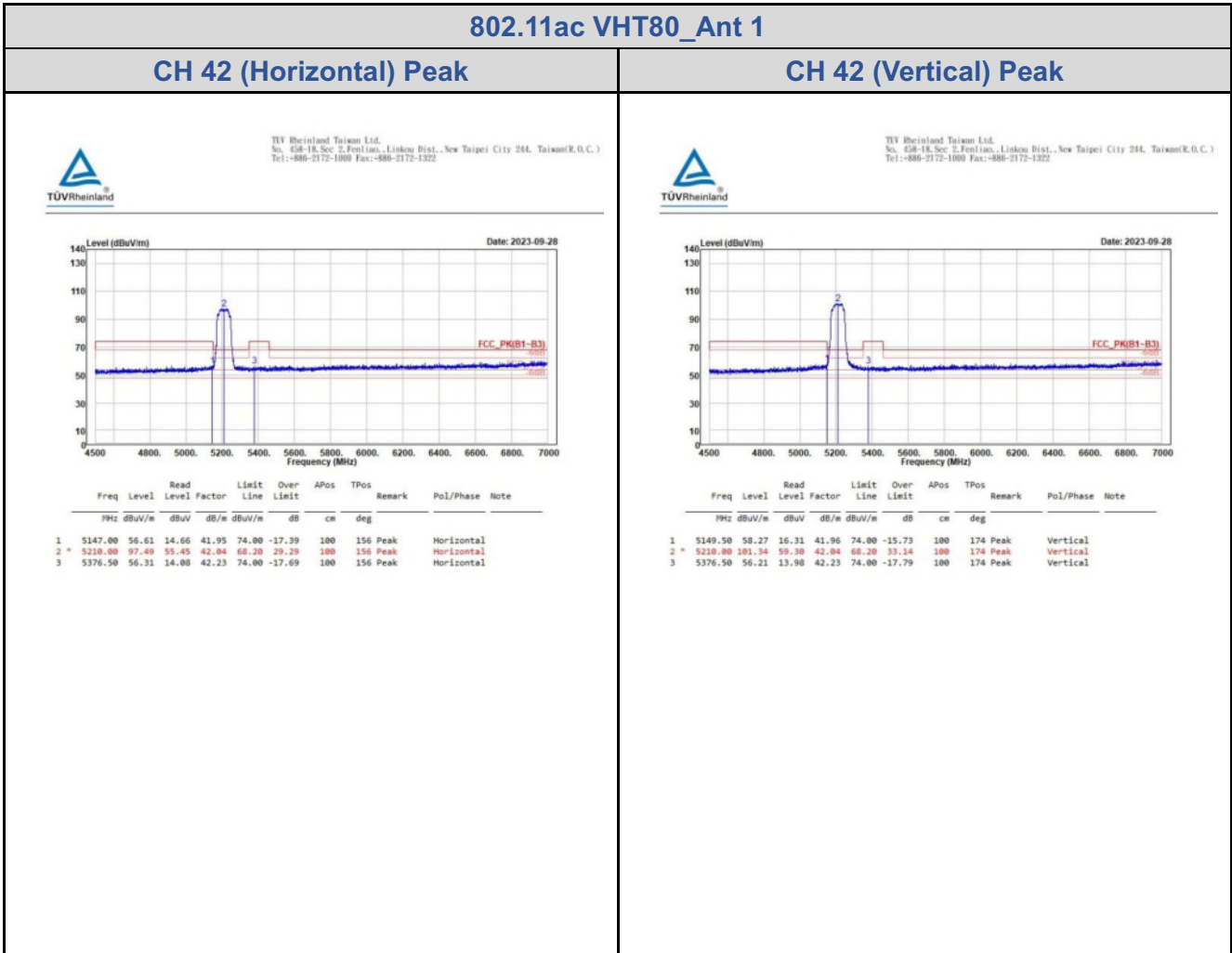
1	2	3
5150.00	5230.00	5404.50
44.22	93.72	43.99
2.26	51.79	1.50
41.96	41.93	42.49
54.00	54.00	54.00
-9.78	39.72	-10.01
115	115	115
140	140	140
Average	Average	Average
Horizontal	Horizontal	Horizontal

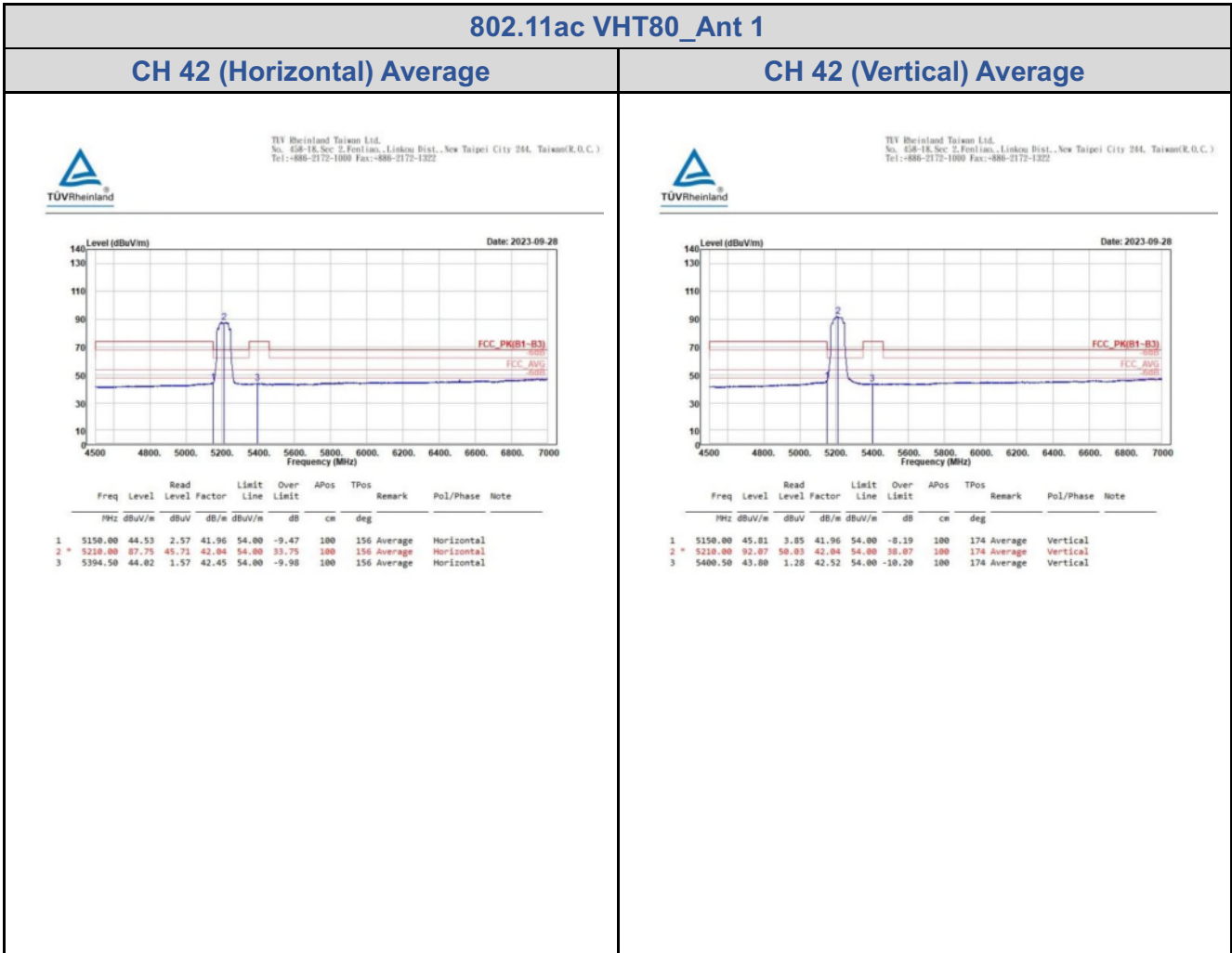


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1	2	3
5149.50	5230.00	5354.50
46.20	97.89	43.68
4.24	55.96	1.74
41.96	41.93	41.94
54.00	54.00	54.00
-7.00	43.89	-10.32
105	105	105
173	173	173
Average	Average	Average
Vertical	Vertical	Vertical





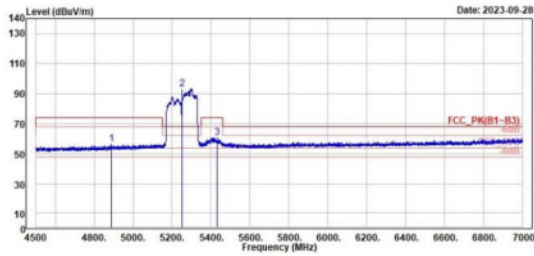
802.11ac VHT160_Ant 1

CH 50 (Horizontal) Peak

CH 50 (Vertical) Peak



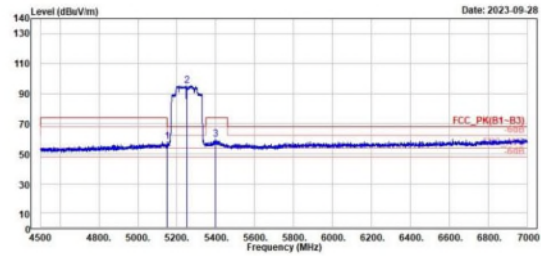
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Peak	Freq (MHz)	Level (dBuV/m)	Read Level (dBuV)	Level Factor (dB/m)	Limit Line (dBuV/m)	Over Limit (dB)	APos (cm)	TPos (deg)	Remark	Pol/Phase	Note
1	4888.00	56.68	15.08	41.60	74.00	-17.32	229	141	Peak	Horizontal	
2 *	5250.00	93.35	51.52	41.83	68.20	25.15	229	141	Peak	Horizontal	
3	5431.00	68.65	18.36	42.29	74.00	-13.35	229	141	Peak	Horizontal	



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Peak	Freq (MHz)	Level (dBuV/m)	Read Level (dBuV)	Level Factor (dB/m)	Limit Line (dBuV/m)	Over Limit (dB)	APos (cm)	TPos (deg)	Remark	Pol/Phase	Note
1	5148.50	58.06	16.10	41.96	74.00	-15.94	100	173	Peak	Vertical	
2 *	5250.00	95.23	53.40	41.83	68.20	27.03	100	173	Peak	Vertical	
3	5398.50	59.72	17.22	42.50	74.00	-14.28	100	173	Peak	Vertical	

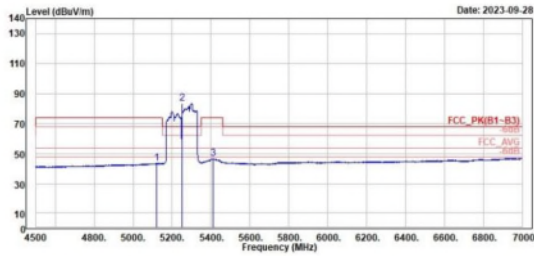
802.11ac VHT160_Ant 1

CH 50 (Horizontal) Average

CH 50 (Vertical) Average



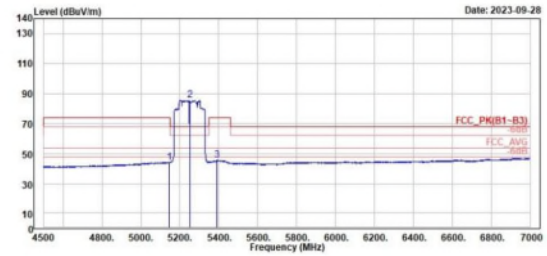
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1	2	3
5121.00	5250.00	5412.50
43.57	83.38	46.59
1.69	41.55	4.16
41.88	41.83	42.43
54.00	54.00	54.00
-10.43	29.38	-7.41
229	229	229
141	141	141
Average	Average	Average
Horizontal	Horizontal	Horizontal



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1	2	3
5147.00	5250.00	5390.00
44.37	85.45	45.58
2.42	43.62	3.18
41.95	41.83	42.40
54.00	54.00	54.00
-9.63	31.45	-8.42
100	100	100
173	173	173
Average	Average	Average
Vertical	Vertical	Vertical

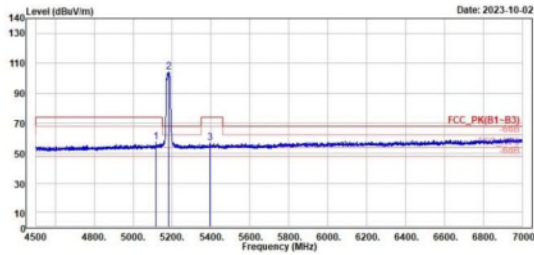
802.11ax HE20_Ant 2

CH 36 (Horizontal) Peak

CH 36 (Vertical) Peak



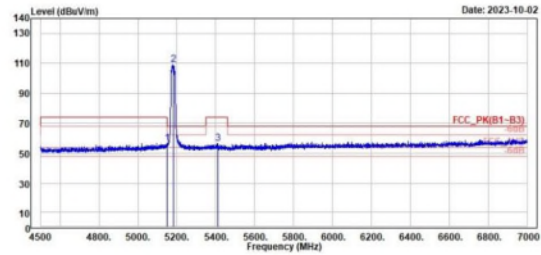
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Peak	Freq MHz	Level dBuV/m	Read Level dBuV	Level Factor dB/m	Factor dBuV/m	Limit Line dB	Over Limit dB	APos cm	TPos deg	Remark	Pol/Phase	Note
1	5118.00	57.36	15.48	41.88	74.00	-16.64	100	278	Peak	Horizontal		
2 *	5180.00	104.54	62.50	42.04	68.20	36.34	100	278	Peak	Horizontal		
3	5395.00	56.85	14.39	42.46	74.00	-17.15	100	278	Peak	Horizontal		



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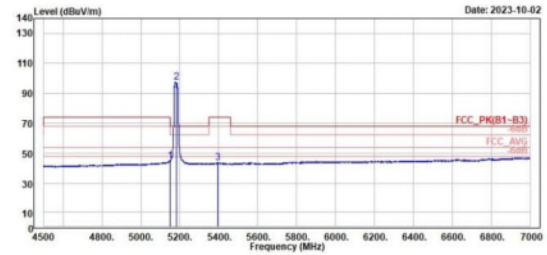
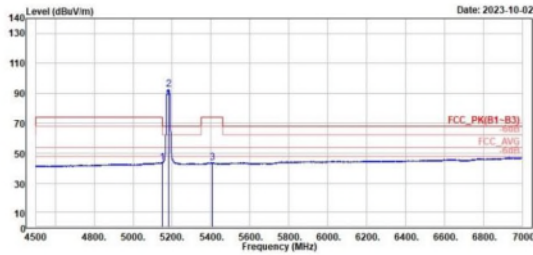


Peak	Freq MHz	Level dBuV/m	Read Level dBuV	Level Factor dB/m	Factor dBuV/m	Limit Line dB	Over Limit dB	APos cm	TPos deg	Remark	Pol/Phase	Note
1	5150.00	56.32	14.36	41.96	68.20	-11.88	214	60	Peak	Vertical		
2 *	5180.00	109.12	67.08	42.04	68.20	40.92	214	60	Peak	Vertical		
3	5409.00	56.41	13.95	42.46	74.00	-17.59	214	60	Peak	Vertical		

802.11ax HE20_Ant 2

CH 36 (Horizontal) Average

CH 36 (Vertical) Average



1	2	3	Read Level	Level Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1	5150.00	43.74	1.78	41.96	54.00	-10.26	100	278	Average	Horizontal	
2 *	5180.00	92.37	50.33	42.04	54.00	38.37	100	278	Average	Horizontal	
3	5406.50	43.56	1.00	42.48	54.00	-10.44	100	278	Average	Horizontal	

1	2	3	Read Level	Level Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1	5147.50	44.93	2.98	41.95	54.00	-9.07	214	60	Average	Vertical	
2 *	5180.00	97.53	55.49	42.04	54.00	43.53	214	60	Average	Vertical	
3	5395.00	43.60	1.14	42.46	54.00	-10.40	214	60	Average	Vertical	

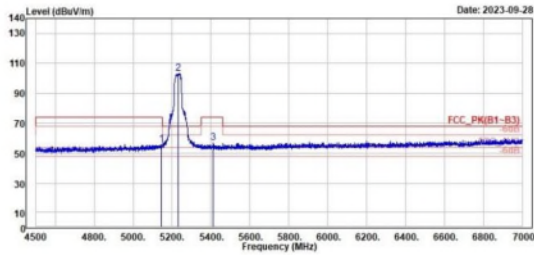
802.11ax HE40_Ant 1

CH 46 (Horizontal) Peak

CH 46 (Vertical) Peak



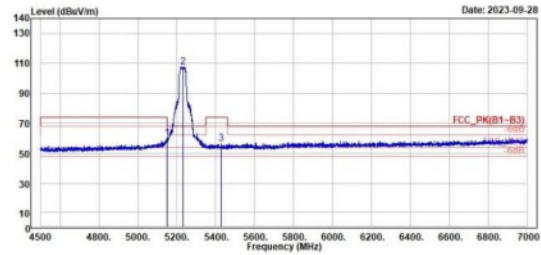
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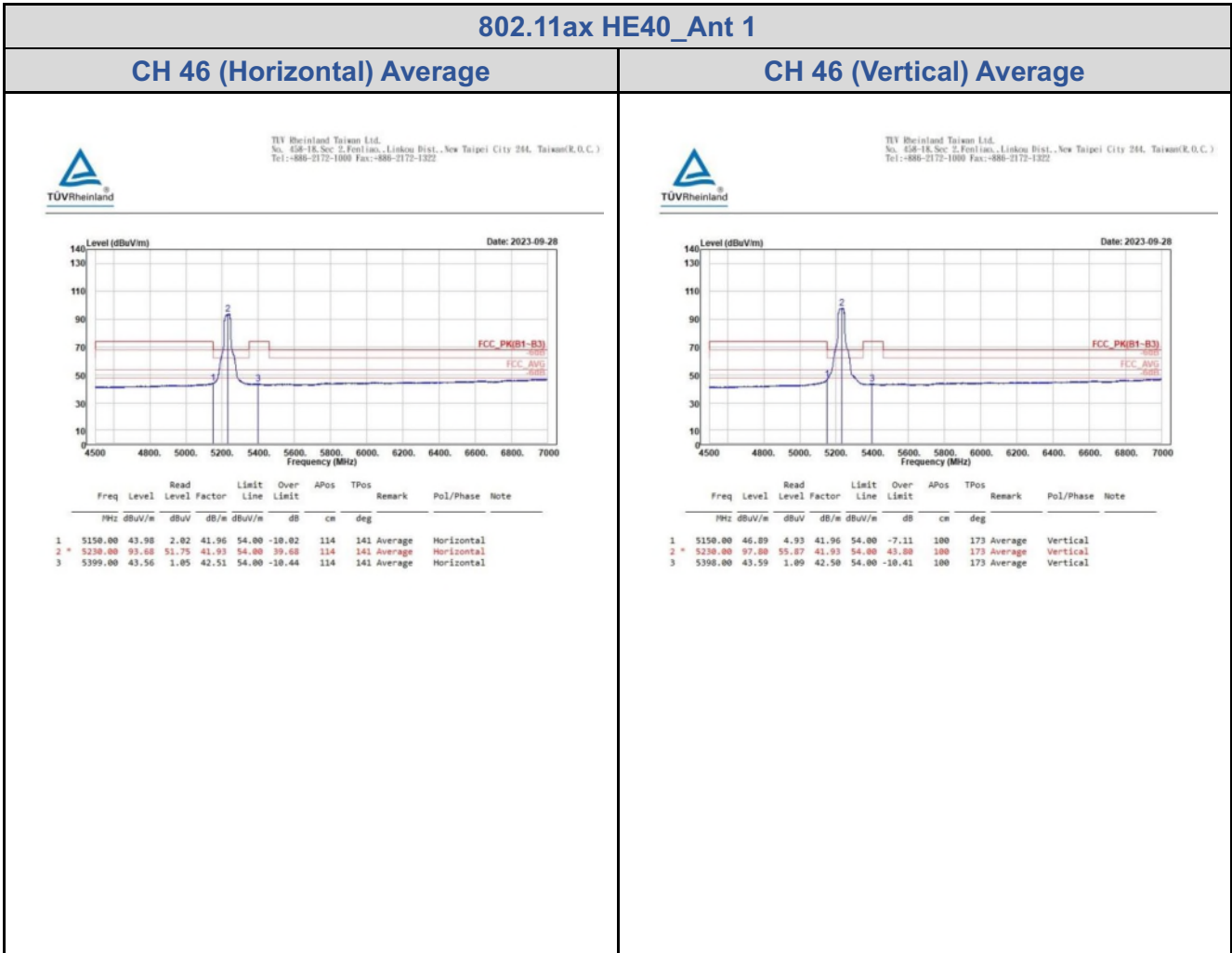
1	2	3	Read Level	Read Level Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
FHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1	5143.50	56.08	14.14	41.94	74.00	-17.92	114	141	Peak	Horizontal	
2 *	5230.00	103.42	61.49	41.93	68.20	35.22	114	141	Peak	Horizontal	
3	5412.50	56.89	14.46	42.43	74.00	-17.11	114	141	Peak	Horizontal	



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1	2	3	Read Level	Read Level Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
FHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1	5150.00	60.02	18.06	41.96	68.20	-8.18	100	173	Peak	Vertical	
2 *	5230.00	107.79	65.86	41.93	68.20	39.59	100	173	Peak	Vertical	
3	5425.50	56.57	14.23	42.34	74.00	-17.43	100	173	Peak	Vertical	



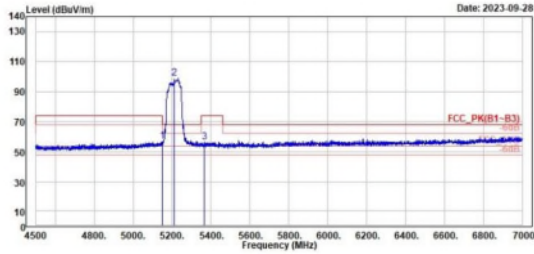
802.11ax HE80_Ant 1

CH 42 (Horizontal) Peak

CH 42 (Vertical) Peak



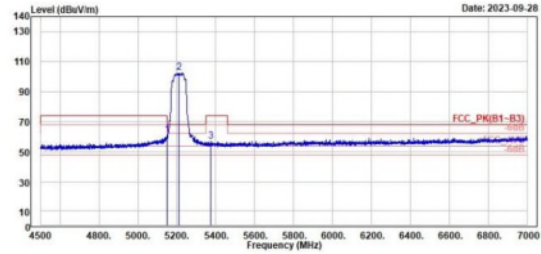
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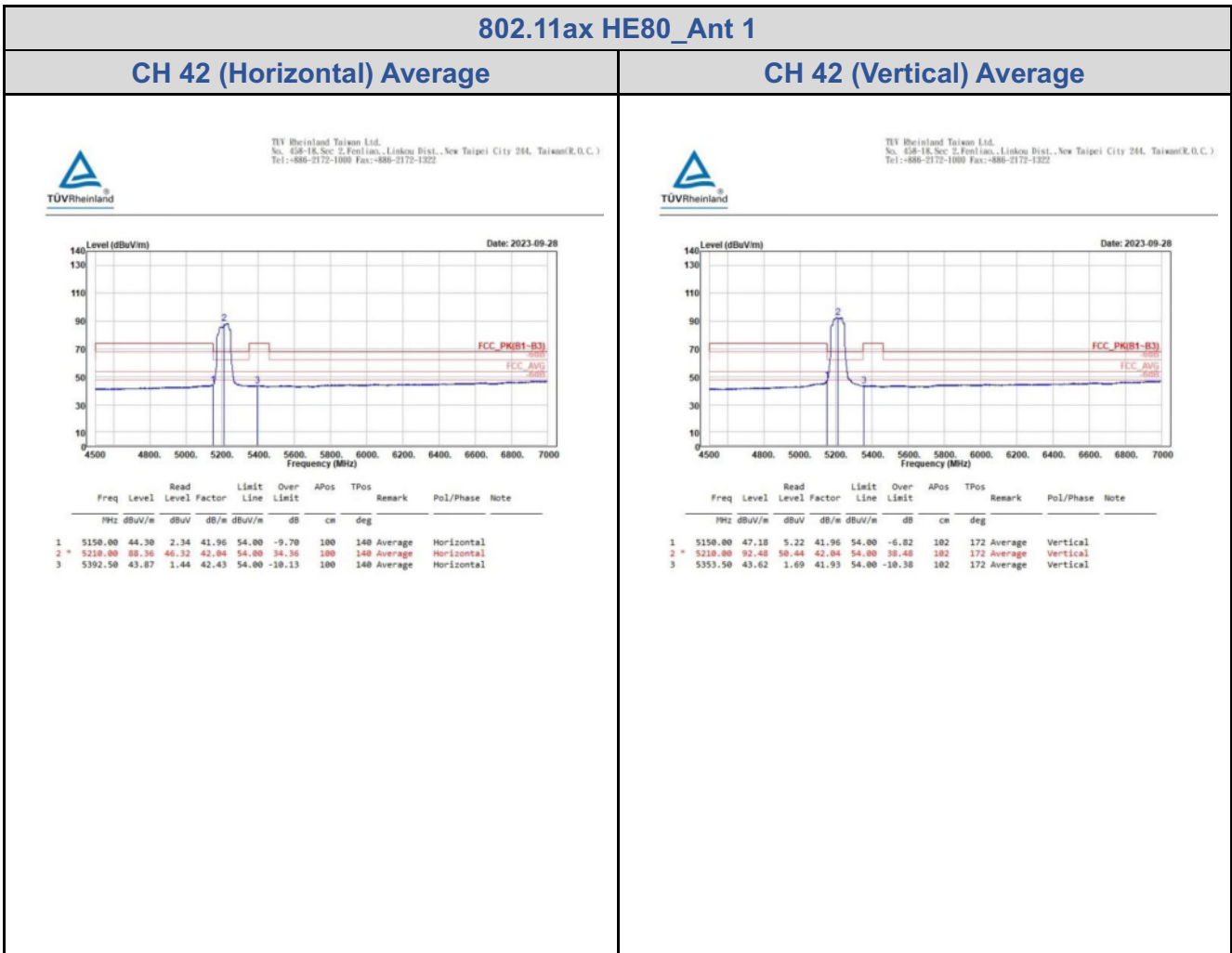
Peak	Freq (MHz)	Level (dBuV/m)	Read Level (dBuV)	Level Factor (dB/m)	Limit Line (dBuV/m)	Over Limit (dB)	APos (cm)	TPos (deg)	Remark	Pol/Phase	Note
1	5150.00	56.00	14.84	41.96	68.20	-11.40	100	140	Peak	Horizontal	
2 *	5210.00	99.15	57.11	42.04	68.20	30.95	100	140	Peak	Horizontal	
3	5367.50	56.42	14.31	42.11	74.00	-17.58	100	140	Peak	Horizontal	



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Peak	Freq (MHz)	Level (dBuV/m)	Read Level (dBuV)	Level Factor (dB/m)	Limit Line (dBuV/m)	Over Limit (dB)	APos (cm)	TPos (deg)	Remark	Pol/Phase	Note
1	5148.50	61.22	19.26	41.96	74.00	-12.78	102	172	Peak	Vertical	
2 *	5210.00	102.49	68.45	42.04	68.20	34.29	102	172	Peak	Vertical	
3	5375.50	56.90	14.68	42.22	74.00	-17.10	102	172	Peak	Vertical	



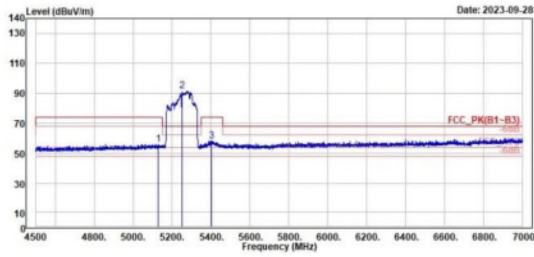
802.11ax HE160_Ant 1

CH 50 (Horizontal) Peak

CH 50 (Vertical) Peak



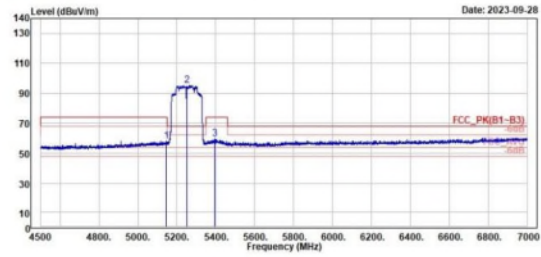
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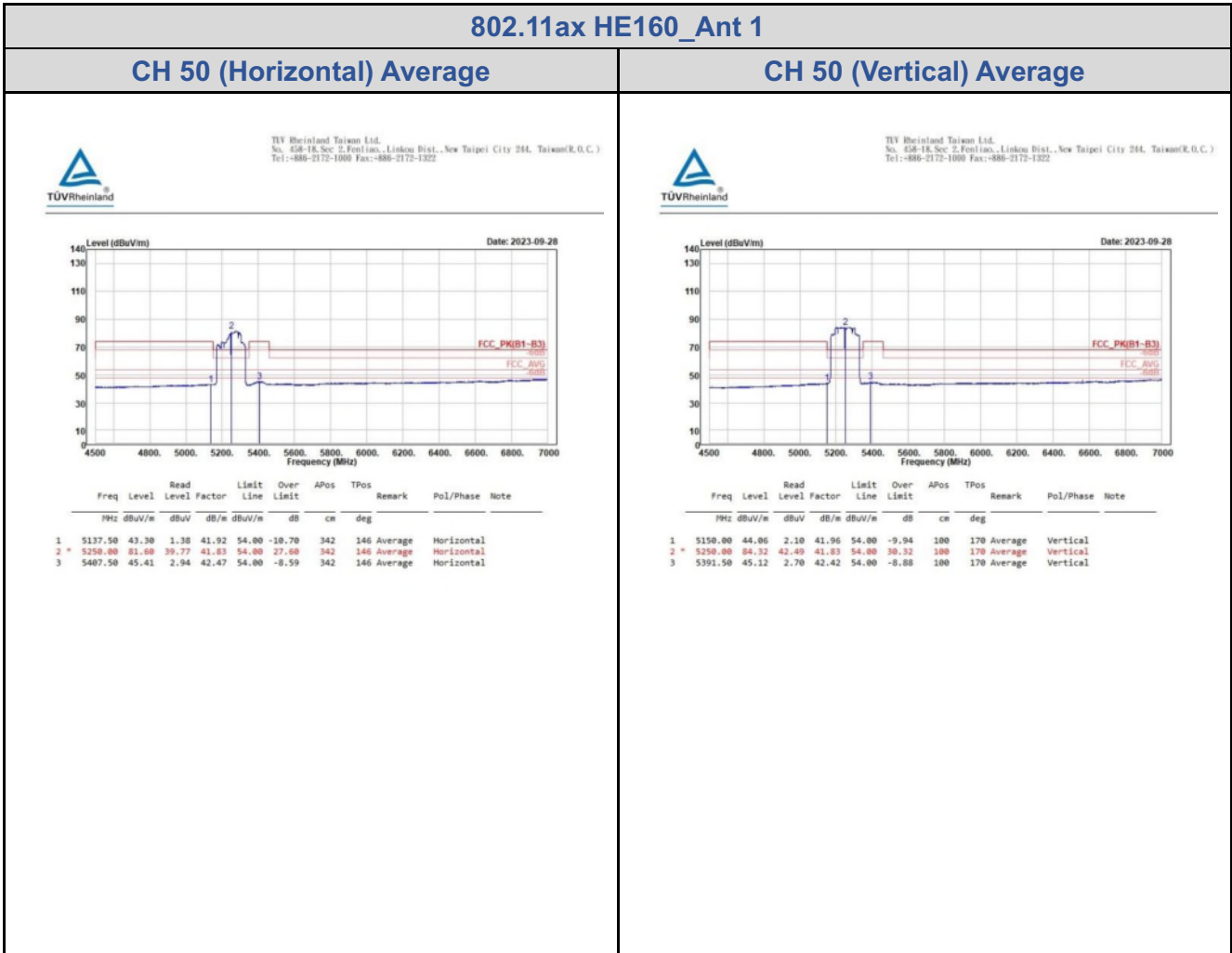
Peak	Freq MHz	Level dBuV/m	Read Level dBuV	Factor	Limit Line dB/m	Over Limit dB	APos cm	TPos deg	Remark	Pol/Phase	Note
1	5129.00	56.14	14.23	41.91	74.00	-17.86	342	146	Peak	Horizontal	
2 *	5250.00	91.73	49.90	41.83	68.20	23.53	342	146	Peak	Horizontal	
3	5404.50	58.26	15.77	42.49	74.00	-15.74	342	146	Peak	Horizontal	



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Peak	Freq MHz	Level dBuV/m	Read Level dBuV	Factor	Limit Line dB/m	Over Limit dB	APos cm	TPos deg	Remark	Pol/Phase	Note
1	5145.50	58.20	16.25	41.95	74.00	-15.80	100	170	Peak	Vertical	
2 *	5250.00	95.34	53.51	41.83	68.20	27.14	100	170	Peak	Vertical	
3	5392.50	59.68	17.25	42.43	74.00	-14.32	100	170	Peak	Vertical	



Band Edges, 5.35GHz

U-NII-2A

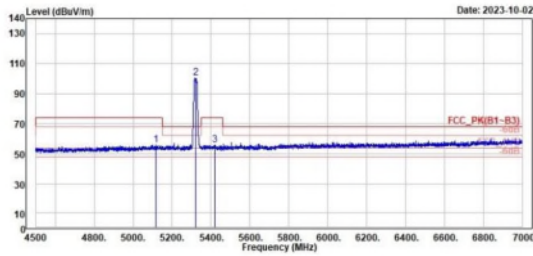
802.11a_Ant 2

CH 64 (Horizontal) Peak

CH 64 (Vertical) Peak



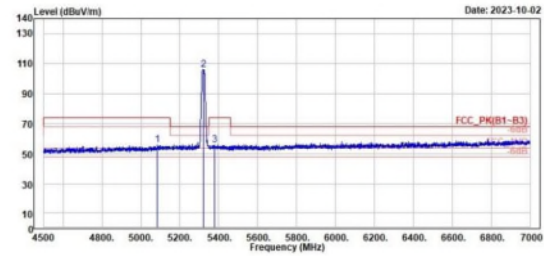
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Peak	Freq (MHz)	Level (dBuV/m)	Read Level (dBuV)	Level Factor (dB/m)	Limit Line (dBuV/m)	Over Limit (dB)	APos (cm)	TPos (deg)	Remark	Pol/Phase	Note
1	5116.00	55.82	13.95	41.87	74.00	-18.18	100	281	Peak	Horizontal	
2 *	5320.00	108.84	58.67	42.17	68.20	32.64	100	281	Peak	Horizontal	
3	5418.50	55.85	13.46	42.39	74.00	-18.15	100	281	Peak	Horizontal	



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Peak	Freq (MHz)	Level (dBuV/m)	Read Level (dBuV)	Level Factor (dB/m)	Limit Line (dBuV/m)	Over Limit (dB)	APos (cm)	TPos (deg)	Remark	Pol/Phase	Note
1	5084.00	55.66	13.78	41.88	74.00	-18.34	100	62	Peak	Vertical	
2 *	5320.00	106.19	64.82	42.17	68.20	37.99	100	62	Peak	Vertical	
3	5380.00	55.79	13.52	42.27	74.00	-18.21	100	62	Peak	Vertical	

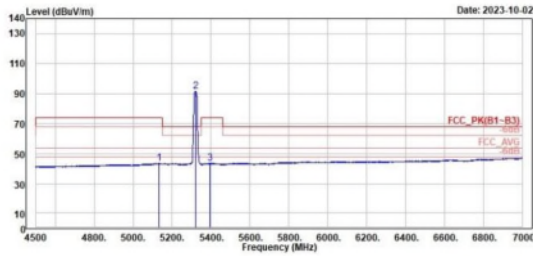
802.11a_Ant 2

CH 64 (Horizontal) Average

CH 64 (Vertical) Average



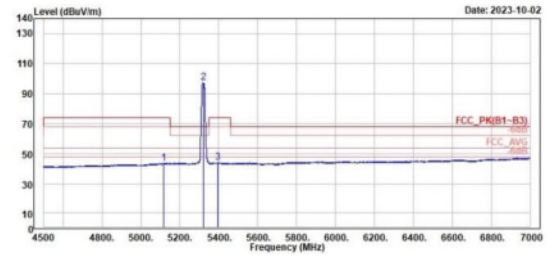
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1	2	3	4	5	6	7	8	9	10	11	12
Hz	Level	Level Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note		
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
5132.50	43.52	1.61	41.91	54.00	-10.48	100	281 Average	Horizontal			
5320.00	91.73	49.56	42.17	54.00	37.73	100	281 Average	Horizontal			
5395.00	43.67	1.21	42.46	54.00	-10.33	100	281 Average	Horizontal			



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1	2	3	4	5	6	7	8	9	10	11	12
Hz	Level	Level Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note		
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
5118.00	43.67	1.79	41.88	54.00	-10.33	100	62 Average	Vertical			
5320.00	97.23	55.06	42.17	54.00	43.23	100	62 Average	Vertical			
5395.50	43.98	1.54	42.44	54.00	-10.02	100	62 Average	Vertical			

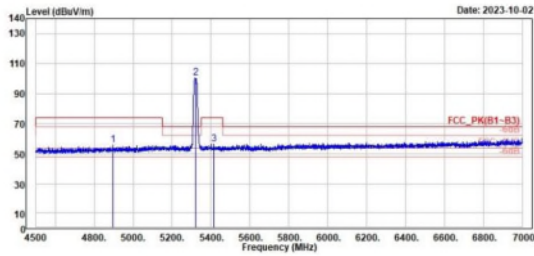
802.11n HT20_Ant 2

CH 64 (Horizontal) Peak

CH 64 (Vertical) Peak



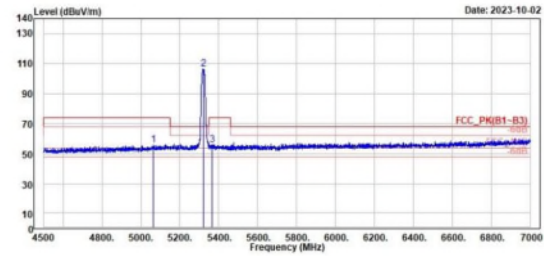
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Peak	Freq (MHz)	Level (dBuV/m)	Read Level (dBuV)	Level Factor (dB/m)	Limit Line (dBuV/m)	Over Limit (dB)	APos (cm)	TPos (deg)	Remark	Pol/Phase	Note
1	4895.50	55.69	14.09	41.60	74.00	-18.31	100	281	Peak	Horizontal	
2 *	5320.00	100.00	58.63	42.17	68.20	32.60	100	281	Peak	Horizontal	
3	5413.50	56.47	14.05	42.42	74.00	-17.53	100	281	Peak	Horizontal	



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Peak	Freq (MHz)	Level (dBuV/m)	Read Level (dBuV)	Level Factor (dB/m)	Limit Line (dBuV/m)	Over Limit (dB)	APos (cm)	TPos (deg)	Remark	Pol/Phase	Note
1	5065.00	55.73	13.79	41.94	74.00	-18.27	100	64	Peak	Vertical	
2 *	5320.00	106.45	64.28	42.17	68.20	38.25	100	64	Peak	Vertical	
3	5366.50	56.07	13.97	42.10	74.00	-17.93	100	64	Peak	Vertical	

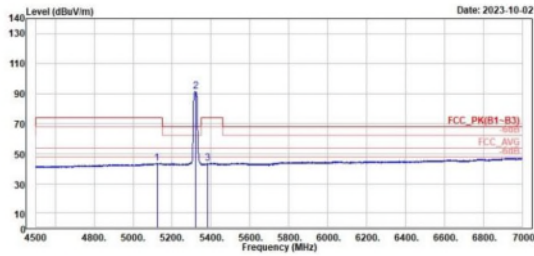
802.11n HT20_Ant 2

CH 64 (Horizontal) Average

CH 64 (Vertical) Average



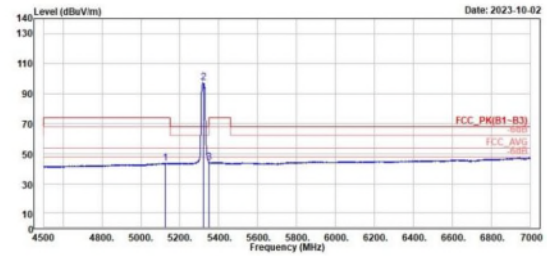
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1	2	3
5122.50	5320.00	5382.50
43.49	91.59	43.63
1.61	49.42	1.33
41.88	42.17	42.30
54.00	54.00	54.00
-10.51	37.59	-10.37
100	100	100
281	281	281
Average	Average	Average
Horizontal	Horizontal	Horizontal



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1	2	3
5126.00	5320.00	5350.00
43.69	97.22	44.44
1.80	55.85	2.55
41.89	42.17	41.89
54.00	54.00	54.00
-10.31	43.22	-9.56
100	100	100
64	64	64
Average	Average	Average
Vertical	Vertical	Vertical

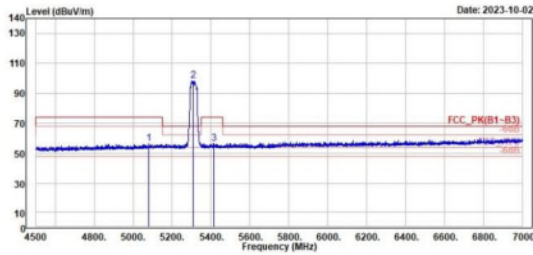
802.11n HT40_Ant 2

CH 62 (Horizontal) Peak

CH 62 (Vertical) Peak



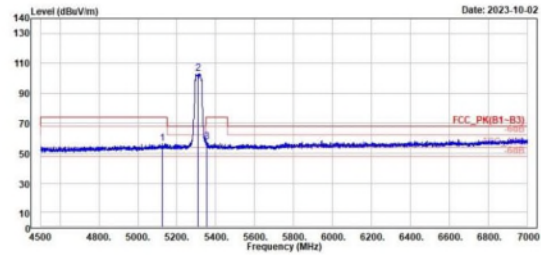
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Peak	Freq MHz	Level dBuV/m	Read Level dBuV	Level Factor dB/m	Limit Line dBuV/m	Over Limit dB	APos cm	TPos deg	Remark	Pol/Phase	Note
1	5081.00	56.39	14.50	41.89	74.00	-17.61	100	281	Peak	Horizontal	
2 *	5310.00	98.55	56.29	42.26	68.20	30.35	100	281	Peak	Horizontal	
3	5413.50	56.55	14.13	42.42	74.00	-17.45	100	281	Peak	Horizontal	



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Peak	Freq MHz	Level dBuV/m	Read Level dBuV	Level Factor dB/m	Limit Line dBuV/m	Over Limit dB	APos cm	TPos deg	Remark	Pol/Phase	Note
1	5124.00	56.28	14.39	41.89	74.00	-17.72	100	64	Peak	Vertical	
2 *	5310.00	103.02	60.76	42.26	68.20	34.82	100	64	Peak	Vertical	
3	5354.50	57.36	15.42	41.94	74.00	-16.64	100	64	Peak	Vertical	

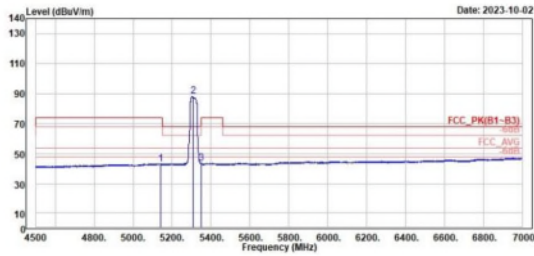
802.11n HT40_Ant 2

CH 62 (Horizontal) Average

CH 62 (Vertical) Average



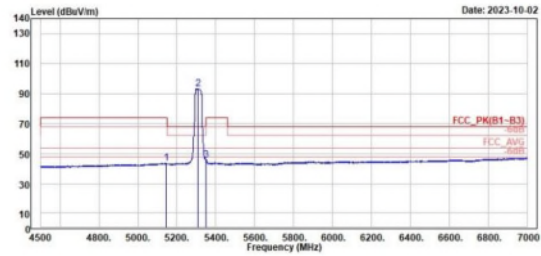
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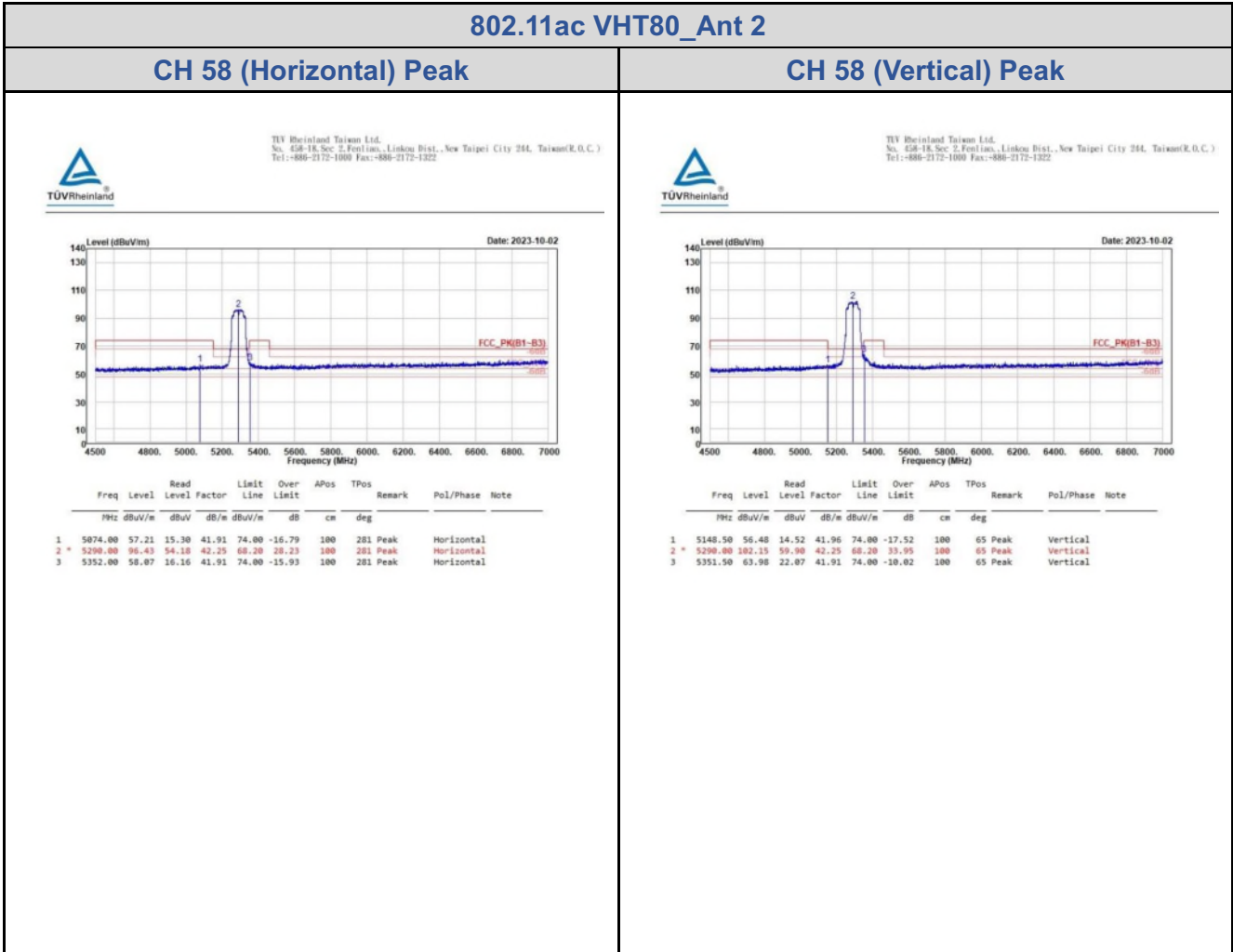
1	2	3									
Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
5140.50	43.36	1.43	41.93	54.00	-10.64	100	281	Average	Horizontal		
5310.00	88.19	45.93	42.26	54.00	34.19	100	281	Average	Horizontal		
5350.00	43.52	1.63	41.89	54.00	-10.48	100	281	Average	Horizontal		



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1	2	3									
Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
5144.50	43.43	1.48	41.95	54.00	-10.57	100	64	Average	Vertical		
5310.00	93.28	51.02	42.26	54.00	39.28	100	64	Average	Vertical		
5350.00	45.82	1.93	41.89	54.00	-8.18	100	64	Average	Vertical		



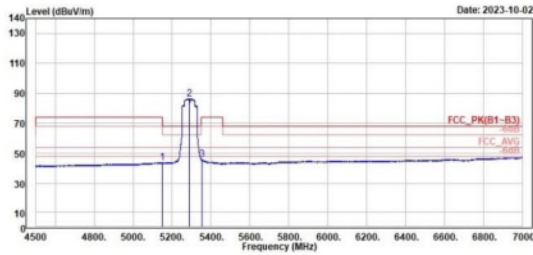
802.11ac VHT80_Ant 2

CH 58 (Horizontal) Average

CH 58 (Vertical) Average



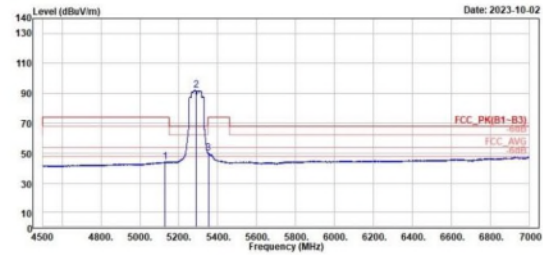
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1	2	3	4	5	6	7	8	9	10	11	12	13
Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note	
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg					
5149.00	43.71	1.75	41.96	54.00	-10.29	100	281	Average	Horizontal			
5290.00	86.19	43.94	42.25	54.00	32.19	100	281	Average	Horizontal			
5355.00	45.78	3.83	41.95	54.00	-8.22	100	281	Average	Horizontal			



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1	2	3	4	5	6	7	8	9	10	11	12	13
Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note	
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg					
5127.00	44.15	2.26	41.89	54.00	-9.85	100	65	Average	Vertical			
5290.00	92.16	49.91	42.25	54.00	38.16	100	65	Average	Vertical			
5351.50	49.80	7.89	41.91	54.00	-4.20	100	65	Average	Vertical			

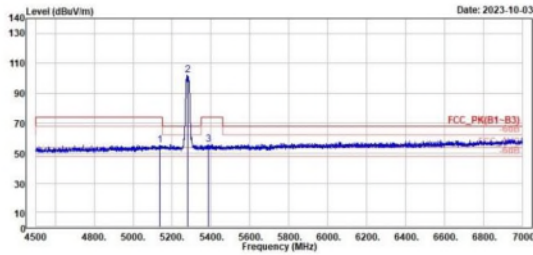
802.11ax HE20_Ant 2

CH 56 (Horizontal) Peak

CH 56 (Vertical) Peak



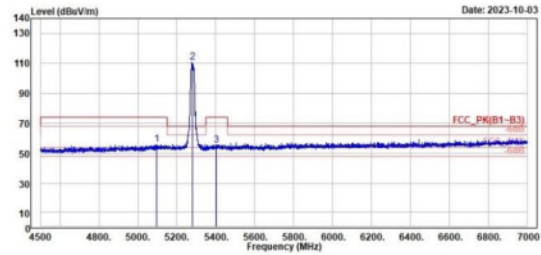
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Peak	Freq	Level	Read Level	Level Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	5135.00	55.40	13.48	41.92	74.00	-18.60	109	238	Peak	Horizontal	
2 *	5200.00	102.06	59.92	42.14	68.20	33.86	109	238	Peak	Horizontal	
3	5384.50	55.87	13.55	42.32	74.00	-18.13	109	238	Peak	Horizontal	



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Peak	Freq	Level	Read Level	Level Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	5097.50	56.14	14.31	41.83	74.00	-17.86	244	66	Peak	Vertical	
2 *	5200.00	110.50	68.36	42.14	68.20	42.30	244	66	Peak	Vertical	
3	5404.50	55.50	13.01	42.49	74.00	-18.50	244	66	Peak	Vertical	

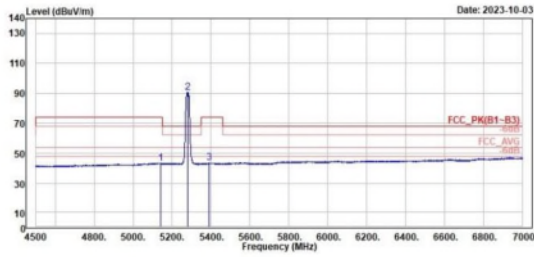
802.11ax HE20_Ant 2

CH 56 (Horizontal) Average

CH 56 (Vertical) Average



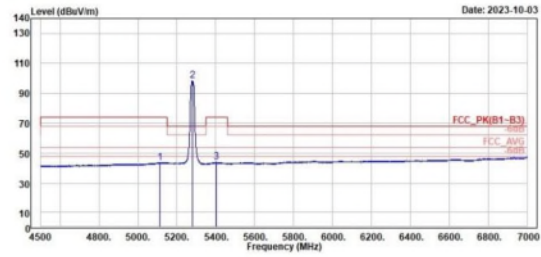
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1	2	3	Read Level	Level Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
5141.00	43.37	1.44	41.93	54.00	-10.63	109	238	Average	Horizontal		
5200.00	90.59	48.45	42.14	54.00	36.59	109	238	Average	Horizontal		
5390.50	43.39	0.98	42.41	54.00	-10.61	109	238	Average	Horizontal		



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1	2	3	Read Level	Level Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
5113.00	43.69	1.83	41.86	54.00	-10.31	244	66	Average	Vertical		
5200.00	90.23	56.09	42.14	54.00	44.23	244	66	Average	Vertical		
5404.00	43.94	1.44	42.50	54.00	-10.06	244	66	Average	Vertical		

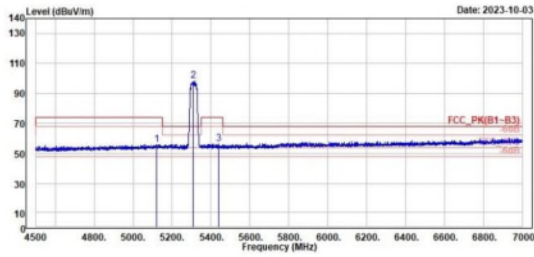
802.11ax HT40_Ant 2

CH 62 (Horizontal) Peak

CH 62 (Vertical) Peak



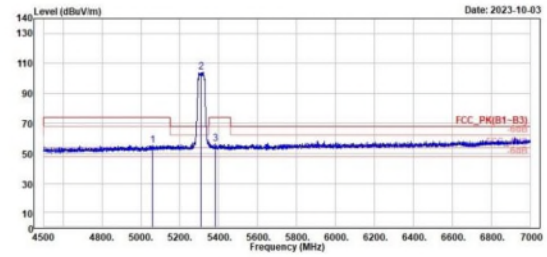
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1	2	3							
Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
5121.50	56.15	14.27	41.88	74.00	-17.85	220	238 Peak	Horizontal	
5318.00	98.65	56.39	42.26	68.20	30.45	220	238 Peak	Horizontal	
5439.00	56.42	14.18	42.24	74.00	-17.58	220	238 Peak	Horizontal	



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1	2	3							
Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
5058.00	55.34	13.37	41.97	74.00	-18.66	100	64 Peak	Vertical	
5318.00	104.46	62.20	42.26	68.20	36.26	100	64 Peak	Vertical	
5381.00	56.52	14.24	42.28	74.00	-17.48	100	64 Peak	Vertical	

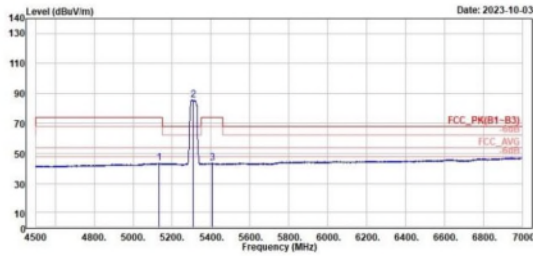
802.11ax HT40_Ant 2

CH 62 (Horizontal) Average

CH 62 (Vertical) Average



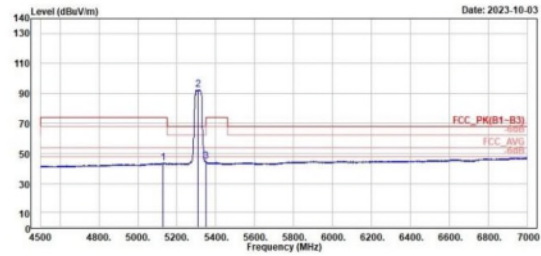
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Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
Level	Line	Limit					
dBuV	dB/m	dBuV/m	dB	cm	deg		
5131.50	43.43	1.52	41.91	54.00	-10.57	220	238 Average Horizontal
5310.00	85.69	43.43	42.26	54.00	31.69	220	238 Average Horizontal
5405.00	43.50	1.01	42.49	54.00	-10.50	220	238 Average Horizontal



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Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
Level	Line	Limit					
dBuV	dB/m	dBuV/m	dB	cm	deg		
5127.50	43.54	1.64	41.90	54.00	-10.46	100	64 Average Vertical
5310.00	92.38	50.12	42.26	54.00	38.38	100	64 Average Vertical
5350.00	44.52	2.63	41.89	54.00	-9.48	100	64 Average Vertical

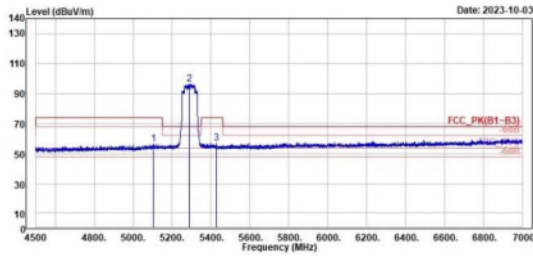
802.11ax HE80_Ant 2

CH 58 (Horizontal) Peak

CH 58 (Vertical) Peak



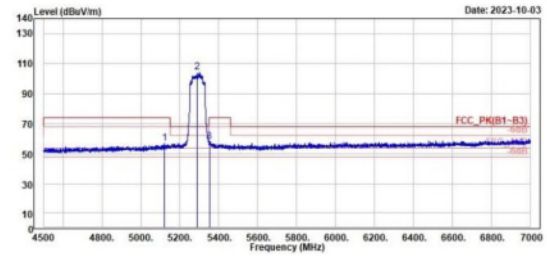
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Peak	Freq	Level	Read Level	Level Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	5104.50	56.51	14.67	41.84	74.00	-17.49	188	238	Peak	Horizontal	
2 *	5290.00	96.40	54.15	42.25	68.20	28.20	188	238	Peak	Horizontal	
3	5425.50	57.09	14.75	42.34	74.00	-16.91	188	238	Peak	Horizontal	



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Peak	Freq	Level	Read Level	Level Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	5119.00	56.73	14.85	41.88	74.00	-17.27	230	69	Peak	Vertical	
2 *	5290.00	104.35	62.10	42.25	68.20	36.15	230	69	Peak	Vertical	
3	5351.50	58.22	16.31	41.91	74.00	-15.78	230	69	Peak	Vertical	

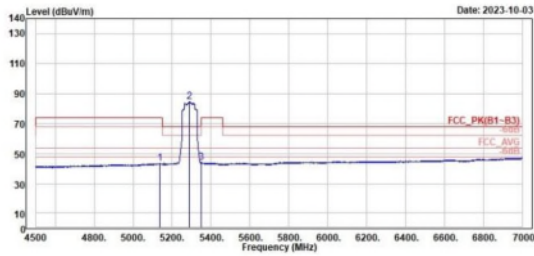
802.11ax HE80_Ant 2

CH 58 (Horizontal) Average

CH 58 (Vertical) Average



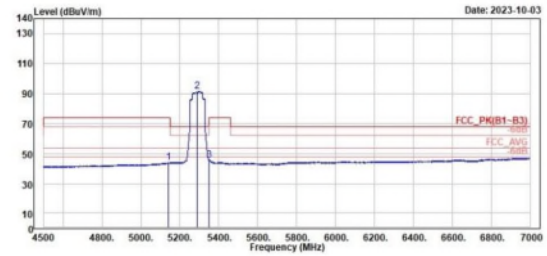
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1	2	3
5138.50	5290.00	5350.50
43.47	84.48	44.15
1.54	42.23	2.25
41.93	42.25	41.90
54.00	54.00	54.00
-10.53	30.48	-9.85
188	188	188
238	238	238
Average	Average	Average
Horizontal	Horizontal	Horizontal

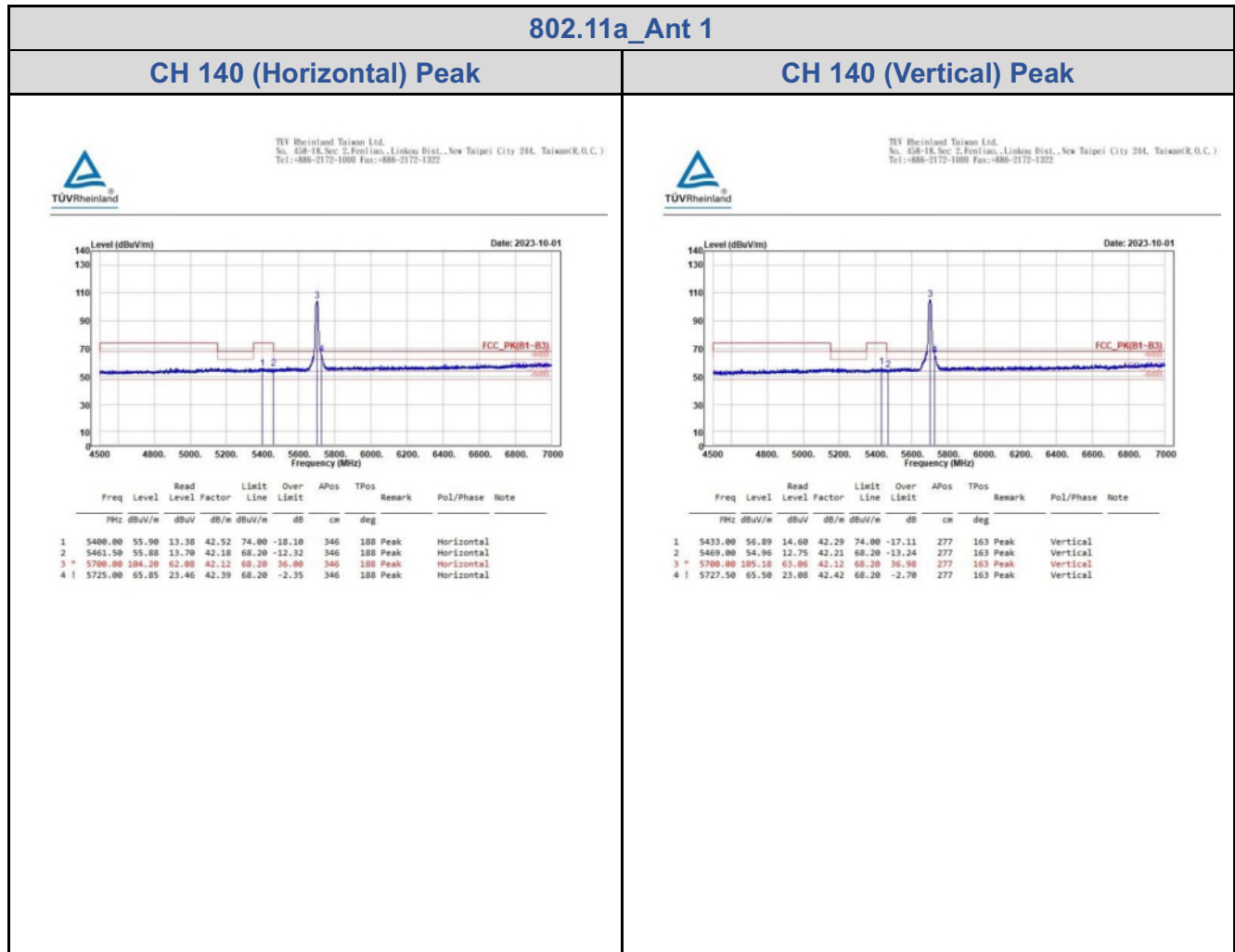


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1	2	3
5140.50	5290.00	5350.00
44.21	91.51	45.89
2.28	49.26	4.00
41.93	42.25	41.89
54.00	54.00	54.00
-9.79	37.51	-8.11
230	230	230
69	69	69
Average	Average	Average
Vertical	Vertical	Vertical

Band Edges, 5.3GHz ~ 5.47GHz, 5.725GHz
U-NII-2C



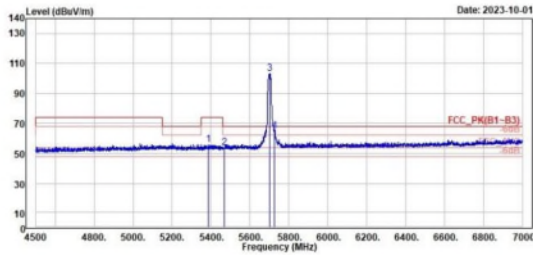
802.11n HT20_Ant 1

CH 140 (Horizontal) Peak

CH 140 (Vertical) Peak



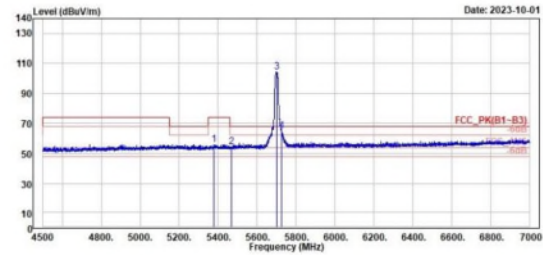
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	Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	5388.00	55.67	13.29	42.38	74.00	-18.33	302	189 Peak	Horizontal	
2	5467.00	53.75	11.55	42.20	68.20	-14.45	302	189 Peak	Horizontal	
3 *	5700.00	183.29	61.17	42.12	68.20	35.09	302	189 Peak	Horizontal	
4 †	5727.50	65.09	22.67	42.42	68.20	-3.11	302	189 Peak	Horizontal	



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	Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	5377.50	56.01	13.77	42.24	74.00	-17.99	156	163 Peak	Vertical	
2	5468.00	54.26	12.05	42.21	68.20	-13.94	156	163 Peak	Vertical	
3 *	5700.00	184.37	62.25	42.12	68.20	36.17	156	163 Peak	Vertical	
4 †	5725.00	65.00	22.69	42.39	68.20	-3.12	156	163 Peak	Vertical	

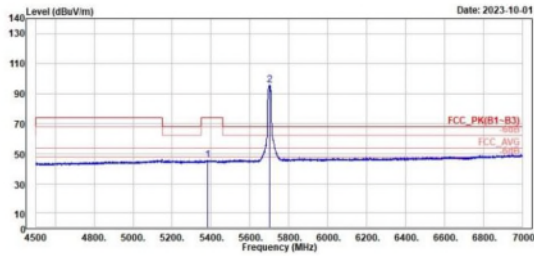
802.11n HT20_Ant 1

CH 140 (Horizontal) Average

CH 140 (Vertical) Average



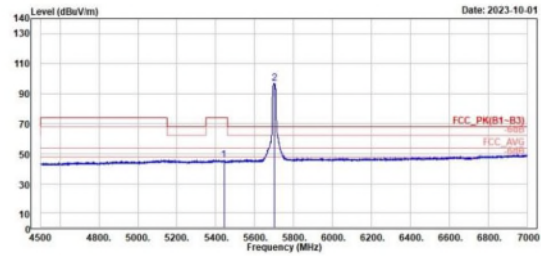
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1	2 *
5382.00	5700.00
45.62	95.59
3.33	53.47
42.29	42.12
54.00	54.00
-8.38	41.59
302	302
189	189
Average	Average
Horizontal	Horizontal



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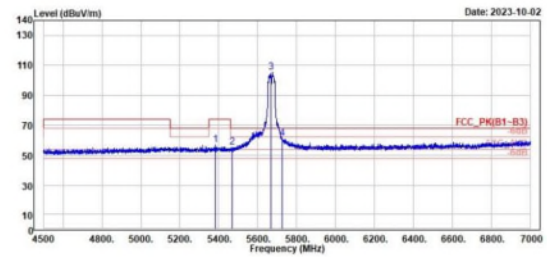
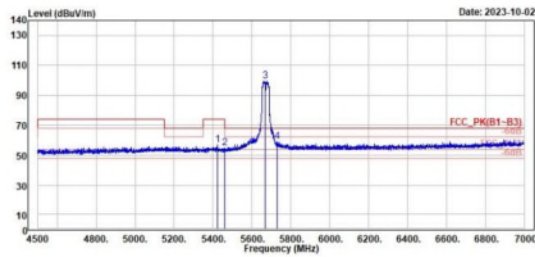


1	2 *
5441.50	5700.00
45.75	96.79
3.53	54.67
42.22	42.12
54.00	54.00
-8.25	42.79
156	156
163	163
Average	Average
Vertical	Vertical

802.11n HT40_Ant 2

CH 134 (Horizontal) Peak

CH 134 (Vertical) Peak



Peak	Freq MHz	Level dBuV/m	Read dBuV	Level Factor dB/m	Limit Line dBuV/m	Over Limit dB	APos cm	TPos deg	Remark	Pol/Phase	Note
1	5421.50	57.09	14.72	42.37	74.00	-16.91	100	277	Peak	Horizontal	
2	5460.50	54.65	12.47	42.18	68.20	-13.55	100	277	Peak	Horizontal	
3 *	5670.00	99.74	57.52	42.22	68.20	31.54	100	277	Peak	Horizontal	
4	5720.50	58.88	16.45	42.43	68.20	-9.32	100	277	Peak	Horizontal	

Peak	Freq MHz	Level dBuV/m	Read dBuV	Level Factor dB/m	Limit Line dBuV/m	Over Limit dB	APos cm	TPos deg	Remark	Pol/Phase	Note
1	5383.50	57.15	14.04	42.31	74.00	-16.85	100	64	Peak	Vertical	
2	5469.50	55.11	12.90	42.21	68.20	-13.09	100	64	Peak	Vertical	
3 *	5670.00	105.41	63.19	42.22	68.20	37.21	100	64	Peak	Vertical	
4	5725.00	61.06	18.67	42.39	68.20	-7.14	100	64	Peak	Vertical	

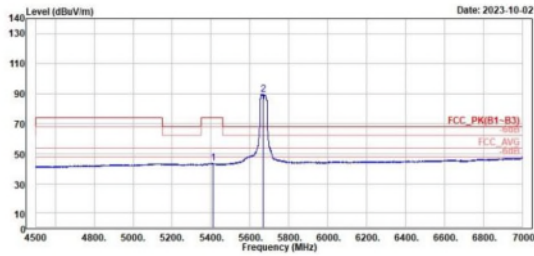
802.11n HT40_Ant 2

CH 134 (Horizontal) Average

CH 134 (Vertical) Average



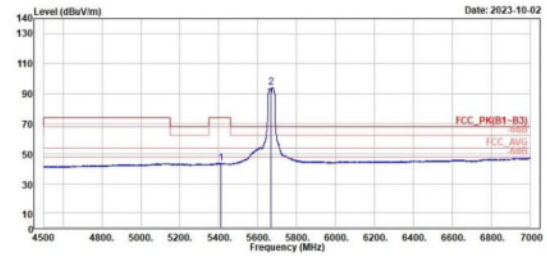
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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
MHz	Level	Level Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note										
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg												
5411.00	43.55	1.11	42.44	54.00	-10.45	100	277 Average	Horizontal											
5670.00	89.51	47.29	42.22	54.00	35.51	100	277 Average	Horizontal											



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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
MHz	Level	Level Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note										
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg												
5409.00	43.65	1.19	42.46	54.00	-10.35	100	64 Average	Vertical											
5670.00	94.03	51.81	42.22	54.00	40.03	100	64 Average	Vertical											

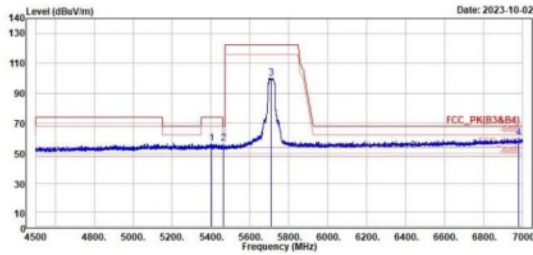
802.11n HT40_Ant 2

CH 142 (Horizontal) Peak

CH 142 (Vertical) Peak



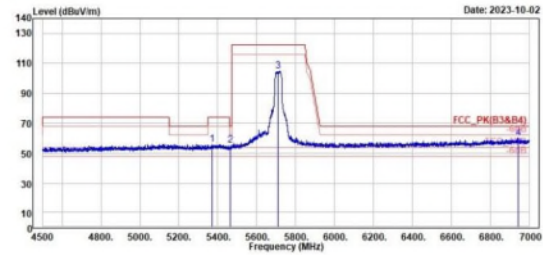
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Peak	Freq MHz	Level dBuV/m	Read Level dBuV	Factor	Limit Line dB/m	Over Limit dB	APos cm	TPos deg	Remark	Pol/Phase	Note
1	5404.00	56.36	13.86	42.50	74.00	-17.64	100	277	Peak	Horizontal	
2	5464.50	56.18	13.98	42.20	68.20	-12.02	100	277	Peak	Horizontal	
3	5710.00	100.30	58.07	42.23	122.20	-21.90	100	277	Peak	Horizontal	
4	6981.00	60.10	15.90	44.20	68.20	-8.10	100	277	Peak	Horizontal	



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Peak	Freq MHz	Level dBuV/m	Read Level dBuV	Factor	Limit Line dB/m	Over Limit dB	APos cm	TPos deg	Remark	Pol/Phase	Note
1	5370.50	56.10	13.95	42.15	74.00	-17.90	100	64	Peak	Vertical	
2	5463.50	55.42	13.22	42.20	68.20	-12.78	100	64	Peak	Vertical	
3	5710.00	104.95	62.72	42.23	122.20	-17.25	100	64	Peak	Vertical	
4	6942.00	59.98	15.85	44.13	68.20	-8.22	100	64	Peak	Vertical	

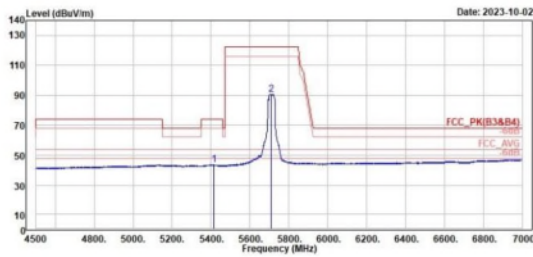
802.11n HT40_Ant 2

CH 142 (Horizontal) Average

CH 142 (Vertical) Average



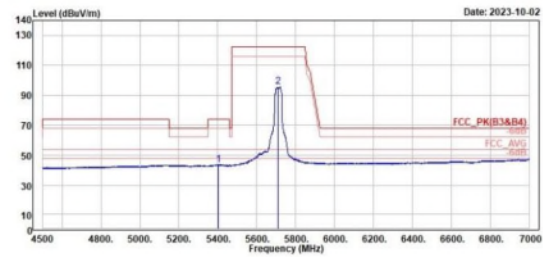
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1	2 *	Freq	Level	Read Level	Level Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
		MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1		5415.00	43.76	1.35	42.41	54.00	-10.24	100	277	Average	Horizontal	
2 *		5710.00	90.73	48.50	42.23	54.00	36.73	100	277	Average	Horizontal	



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1	2 *	Freq	Level	Read Level	Level Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
		MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1		5403.50	43.68	1.18	42.50	54.00	-10.32	100	64	Average	Vertical	
2 *		5710.00	95.57	53.34	42.23	54.00	41.57	100	64	Average	Vertical	

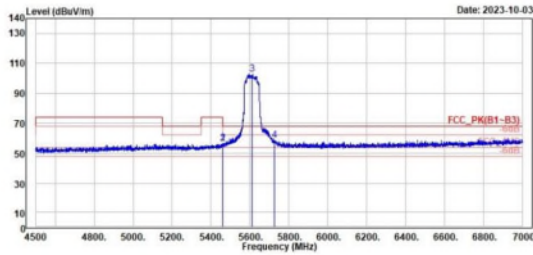
802.11ac VHT80_Ant 1+ Ant 2

CH 122 (Horizontal) Peak

CH 122 (Vertical) Peak



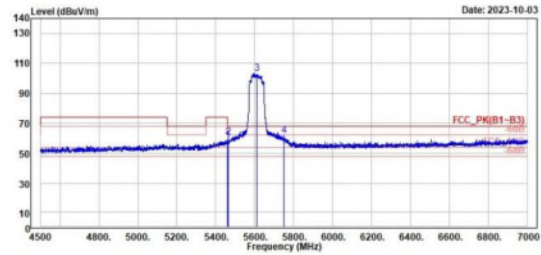
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	Freq	Level	Read Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	5468.00	56.37	14.19	42.18	68.20	-11.83	100	175	Peak	Horizontal	
2	5461.50	56.64	14.46	42.18	68.20	-11.56	100	175	Peak	Horizontal	
3 *	5610.00	102.69	60.43	42.26	68.20	34.49	100	175	Peak	Horizontal	
4	5727.50	58.33	15.91	42.42	68.20	-9.87	100	175	Peak	Horizontal	



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	Freq	Level	Read Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	5459.50	58.49	16.31	42.18	74.00	-15.51	257	149	Peak	Vertical	
2	5463.00	60.44	18.24	42.20	68.20	-7.76	257	149	Peak	Vertical	
3 *	5610.00	103.11	60.85	42.26	68.20	34.91	257	149	Peak	Vertical	
4	5751.00	61.97	19.31	42.66	68.20	-6.23	257	149	Peak	Vertical	