TEST REPORT

CERTIFICATE OF CONFORMITY

Standard:	**47 CFR FCC Part 15, Subpart E (Section 15.407)**
Report No.:	RFBENL-WTW-P22070904-3
FCC ID:	RYK-WNFQ269AXBT
Product:	802.11ax/ac/a/b/g/n Wi-Fi + BT M.2 card
Brand:	Sparklan
Model No.:	WNFQ-269AX(BT)
Received Date:	2022/7/31
Test Date:	2022/10/25 ~ 2023/1/11
Issued Date:	2023/2/6
Applicant:	SparkLAN Communications, Inc.
Address:	5F, No. 199, Ruihu St., Neihu Dist.,Taipei City 114067, Taiwan, R.O.C
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan
Test Location:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan
FCC Registration / Designation Number:	723255 / TW2022

Approved by: _____ , **Date:** 2023/2/6

May Chen / Manager

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Prepared by : Vivian Huang / Specialist

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Release Control Record

Issue No.	Description	Date Issued
RFBENL-WTW-P22070904-3	Original release.	2023/2/6

1 Certificate

Product:	802.11ax/ac/a/b/g/n Wi-Fi + BT M.2 card
Brand:	Sparklan
Test Model:	WNFQ-269AX(BT)
Sample Status:	Engineering sample
Applicant:	SparkLAN Communications, Inc.
Test Date:	2022/10/25 ~ 2023/1/11
Standard:	47 CFR FCC Part 15, Subpart E (Section 15.407)
Measurement procedure:	ANSI C63.10-2013 KDB 987594 D02 U-NII 6 GHz EMC Measurement v01v01 KDB 789033 D02 General UNII Test Procedure New Rules v02r01 KDB 662911 D01 Multiple Transmitter Output v02r01

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
Clause	Test Item	Result	Remark
15.407(a)(7)(8)	RF Output Power	Pass	Meet the requirement of limit.
15.407(a)(7)(8)	Power Spectral Density	NA	Refer to Note 1 below
15.407(a)(10)	Occupied Bandwidth	NA	Refer to Note 1 below
15.407(b)(9)	AC Power Conducted Emissions	NA	Refer to Note 1 below
15.407(b)(9)	Unwanted Emissions below 1 GHz	NA	Refer to Note 1 below
15.407(b)(6) 15.407(b)(10)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.5 dB at 7125.00 MHz
15.407(b)(7)	In-Band Emission Mask	NA	Refer to Note 1 below
15.407(d)(6)	Contention-based Protocol	Pass	Meet the requirement of limit.
15.407(g)	Frequency Stability	NA	Refer to Note 1 below
15.407(d)	Operational restrictions for 6 GHz U-NII devices	Pass	Declaration by applicant
15.203	Antenna Requirement	Pass	Antenna connector is i-pex(MHF 4L), RP-SMA (M) not a standard connector.
---	Emission Bandwidth	NA	Refer to Note 1 below

Notes:

1. RF Output Power & Unwanted Emissions above 1 GHz & Contention-based Protocol were performed for this addendum. The others testing data refer to original test report (Original FCC ID: J9C-QCNFA765, Report No.: RF201119E01-6).
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Specification	Expanded Uncertainty (k=2) (±)
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	5.0 dB
	18 GHz ~ 40 GHz	5.3 dB

The other instruments specified are routine verified to remain within the calibrated levels, no measurement uncertainty is required to be calculated.

2.2 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	802.11ax/ac/a/b/g/n Wi-Fi + BT M.2 card
Brand	Sparklan
Test Model	WNFQ-269AX(BT)
Status of EUT	Engineering sample
Power Supply Rating	3.3Vdc from host equipment
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM 4096QAM for OFDMA in 11ax HE mode
Modulation Technology	OFDM, OFDMA
Transfer Rate	802.11a: up to 54Mbps 802.11ax: up to 2969.7Mbps
Operating Frequency	5.935 GHz ~ 6.415 GHz 6.435 GHz ~ 6.525 GHz 6.535 GHz ~ 6.865 GHz 6.875 GHz ~ 7.115 GHz
Number of Channel	802.11a, 802.11ax (HE20): 60 802.11ax (HE40): 29 802.11ax (HE80): 14 802.11ax (HE160): 7
Output Power	**Under control of a Standard Power AP:** 5.935 GHz ~ 6.415 GHz : EIRP: 937.562 mW (29.72 dBm) 6.535 GHz ~ 6.865 GHz : EIRP: 984.011 mW (29.93 dBm) **Under control of a Low-power Indoor AP:** 5.935 GHz ~ 6.415 GHz : EIRP: 72.946 mW (18.63 dBm) 6.435 GHz ~ 6.525 GHz : EIRP: 66.988 mW (18.26 dBm) 6.535 GHz ~ 6.865 GHz : EIRP: 68.865 mW (18.38 dBm) 6.875 GHz ~ 7.115 GHz : EIRP: 69.024 mW (18.39 dBm)
EUT Category	Client Devices (controlled of an standard power AP) Client Devices (controlled of an indoor AP)

Note:

1. This report is prepared for FCC class II permissive change. The difference compared with the original design is as the following:
   - ◆ Add Dipole antenna (Refer to section 3.2).
2. According to above conditions, only RF Output Power & Unwanted Emissions above 1 GHz & Contention-based Protocol needs to be performed. And all data are verified to meet the requirements.
3. This device of WLAN (2.4GHz & 5GHz U-NII-1 Band) can support hotspot mode.
4. Simultaneously transmission condition.

Condition	Technology	
1	WLAN(2.4GHz)	WLAN(6GHz)
2	WLAN(2.4GHz)	WLAN(5GHz)
3	WLAN(2.4GHz)	WLAN(5.9GHz)
4	WLAN(6GHz)	Bluetooth
5	WLAN(5GHz)	Bluetooth
6	WLAN(5.9GHz)	Bluetooth
Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.		

5. The device of WLAN (2.4GHz) and Bluetooth technology can't transmit simultaneously, it was used timely shared coexistence technology.

6. The module has two variant designs as following table:

SKU No.	Description
SKU #1	M.2 2230 E-key
SKU #2	M.2 2230 AE-key
From the above variants designs, the worst case was found in **SKU #1.** Therefore only the test data of the mode was recorded in this report.	

7. The product provides option to depopulate external LNA (Low-Noise amplifier) from 5GHz/6GHz receive path. This test report covers variation of with/without external LNA and test was conducted to confirm not change in RF compliance and EMC. And worst case was found in without external LNA.
8. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Original

Antenna Set	RF Chain No.	Brand	Model	Antenna Net Gain (dBi)	Frequency Range	Cable Loss (dB)	Antenna Type	Connector Type	Cable Length
1	Chain0/1	HONGBO	260-25094	3.53 3.06 3.07 4.81 4.2	2.4~2.4835 GHz 5.15~5.25 GHz 5.25~5.35 GHz 5.47~5.725 GHz 5.725~5.850 GHz	0.76 1.16 1.18 1.2 1.27	PIFA	i-pex(MHF 4L)	300mm
2	Chain0/1	HONGBO	260-25083	5.09 5.14 5.09 5.16 5.12	5.850~5.895 GHz 5.925~6.425 GHz 6.425~6.525 GHz 6.525~6.875 GHz 6.875~7.125 GHz	1.29 1.32 1.35 1.4 1.45	PIFA	i-pex(MHF 4L)	300mm
3	Chain0/1	HONGBO	260-25084	3.22 3.35 3.42 4.77 4.72 4.71 4.75 4.29 4.81 4.74	2.4~2.4835 GHz 5.150~5.250 GHz 5.250~5.350 GHz 5.470~5.725 GHz 5.725~5.850 GHz 5.850~5.895 GHz 5.925~6.425 GHz 6.425~6.525 GHz 6.525~6.875 GHz 6.875~7.125 GHz	0.5 0.76 0.78 0.81 0.85 0.86 0.87 0.91 0.96 0.98	Monopole	i-pex(MHF 4L)	200mm

Newly

Antenna Set	RF Chain No.	Brand	Model	Antenna Net Gain (dBi)	Frequency Range	Antenna Type	Connector Type	Cable Length
4	Chain0/1	SparkLAN	AD-510AX	2.27 2.88 2.6 3.23 3.34 3.52 3.52	2.4~2.4835 GHz 5.150~5.825 GHz 5.850~5.895 GHz 5.925~6.425 GHz 6.425~6.525 GHz 6.525~6.875 GHz 6.875~7.125 GHz	Dipole	RP-SMA (M)	150mm
5	Chain0/1	SparkLAN	AD-103AG (UHW0935A4)	2.02 2.03 1.9	2.4~2.4835 GHz 5.150~5.850 GHz 5.850~5.895 GHz	Dipole	RP-SMA (M)	150mm
6	Chain0/1	SparkLAN	AD-302N	3.14 2.87 1.63	2.4~2.4835 GHz 5.150~5.850 GHz 5.850~5.895 GHz	Dipole	RP-SMA (M)	150mm

* Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.

2. The EUT incorporates a MIMO function:

6GHz Band		
MODULATION MODE	**TX & RX CONFIGURATION**	
802.11a	2TX	2RX
802.11ax (HE20)	2TX	2RX
802.11ax (HE40)	2TX	2RX
802.11ax (HE80)	2TX	2RX
802.11ax (HE160)	2TX	2RX
802.11ax (RU26/52/106/242/484/996/1992)	2TX	2RX
Note: The EUT support Beamforming and non-beamforming mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.		

3.3 Channel List

U-NII-5: Under control of a Low-power Indoor AP and Standard Power AP

25 channels are provided for 802.11a, 802.11ax (HE20):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
2	5935 MHz	1	5955 MHz	5	5975 MHz	9	5995 MHz
13	6015 MHz	17	6035 MHz	21	6055 MHz	25	6075 MHz
29	6095 MHz	33	6115 MHz	37	6135 MHz	41	6155 MHz
45	6175 MHz	49	6195 MHz	53	6215 MHz	57	6235 MHz
61	6255 MHz	65	6275 MHz	69	6295 MHz	73	6315 MHz
77	6335 MHz	81	6355 MHz	85	6375 MHz	89	6395 MHz
93	6415 MHz						

12 channels are provided for 802.11ax (HE40):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
3	5965 MHz	11	6005 MHz	19	6045 MHz	27	6085 MHz
35	6125 MHz	43	6165 MHz	51	6205 MHz	59	6245 MHz
67	6285 MHz	75	6325 MHz	83	6365 MHz	91	6405 MHz

6 channels are provided for 802.11ax (HE80):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
7	5985 MHz	23	6065 MHz	39	6145 MHz	55	6225 MHz
71	6305 MHz	87	6385 MHz				

3 channels are provided for 802.11ax (HE160):

Channel	Frequency	Channel	Frequency	Channel	Frequency
15	6025 MHz	47	6185 MHz	79	6345 MHz

U-NII-6: Under control of a Low-power Indoor AP

5 channels are provided for 802.11a, 802.11ax (HE20):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
97	6435 MHz	101	6455 MHz	105	6475 MHz	109	6495 MHz
113	6515 MHz						

3 channels are provided for 802.11ax (HE40):

Channel	Frequency	Channel	Frequency	Channel	Frequency
99	6445 MHz	107	6485 MHz	*115	6525 MHz

1 channel is provided for 802.11ax (HE80):

Channel	Frequency
103	6465 MHz

1 channel is provided for 802.11ax (HE160):

Channel	Frequency
*111	6505 MHz

U-NII-7: Under control of a Low-power Indoor AP and Standard Power AP

17 channels are provided for 802.11a, 802.11ax (HE20):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
117	6535 MHz	121	6555 MHz	125	6575 MHz	129	6595 MHz
133	6615 MHz	137	6635 MHz	141	6655 MHz	145	6675 MHz
149	6695 MHz	153	6715 MHz	157	6735 MHz	161	6755 MHz
165	6775 MHz	169	6795 MHz	173	6815 MHz	177	6835 MHz
181	6855 MHz						

8 channels are provided for 802.11ax (HE40):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
123	6565 MHz	131	6605 MHz	139	6645 MHz	147	6685 MHz
155	6725 MHz	163	6765 MHz	171	6805 MHz	179	6845 MHz

5 channels are provided for 802.11ax (HE80):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
*119	6545 MHz	135	6625 MHz	151	6705 MHz	167	6785 MHz
*183	6865 MHz						

2 channels are provided for 802.11ax (HE160):

Channel	Frequency	Channel	Frequency
143	6665 MHz	175	*6825 MHz

U-NII-8: Under control of a Low-power Indoor AP

13 channels are provided for 802.11a, 802.11ax (HE20):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
185	6875 MHz	189	6895 MHz	193	6915 MHz	197	6935 MHz
201	6955 MHz	205	6975 MHz	209	6995 MHz	213	7015 MHz
217	7035 MHz	221	7055 MHz	225	7075 MHz	229	7095 MHz
233	7115 MHz						

6 channels are provided for 802.11ax (HE40):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
187	6885 MHz	195	6925 MHz	203	6965 MHz	211	7005 MHz
219	7045 MHz	227	7085 MHz				

2 channels are provided for 802.11ax (HE80):

Channel	Frequency	Channel	Frequency
199	6945 MHz	215	7025 MHz

1 channel is provided for 802.11ax (HE160):

Channel	Frequency
207	6985 MHz

Note: * mean these are straddle channels and operating under control by Low-power indoor AP only.

3.4 Test Mode Applicability and Tested Channel Detail

Worst Case:	1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on X-plane

Following channel(s) was (were) selected for the final test as listed below:

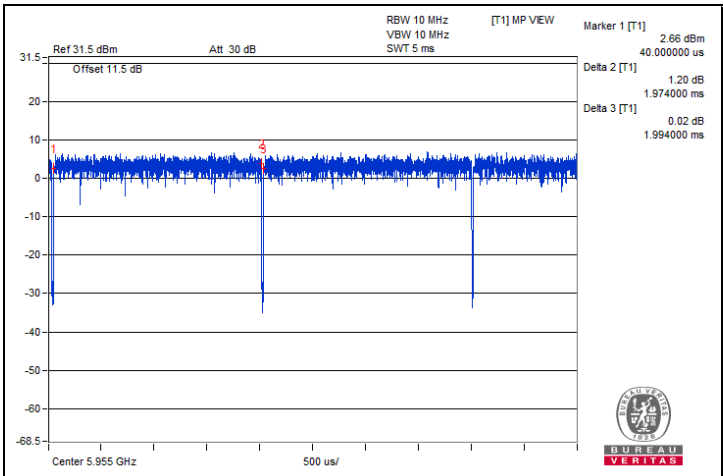
Test Item	Signal Mode	Mode	Tested Channel	Modulation	Data Rate Parameter	RU Configuration
RF Output Power	under control by Standard Power AP	802.11a	2, 1, 45, 93, 117, 149, 181	BPSK	6Mb/s	-
		802.11ax (HE20)	2, 1, 45, 93, 117, 149, 181	BPSK	MCS0	-
		802.11ax (HE40)	3, 43, 91, 123, 155, 179	BPSK	MCS0	-
		802.11ax (HE80)	7, 39, 87, 135, 151, 167	BPSK	MCS0	-
		802.11ax (HE160)	15, 47, 79, 143	BPSK	MCS0	-
		20 MHz Preamble 802.11ax (RU26)	2, 1, 45, 93, 117, 149, 181	BPSK	MCS0	26/0, 26/4, 26/8
		20 MHz Preamble 802.11ax (RU52)	2, 1, 45, 93, 117, 149, 181	BPSK	MCS0	52/37, 52/38, 52/40
		20 MHz Preamble 802.11ax (RU106)	2, 1, 45, 93, 117, 149, 181	BPSK	MCS0	106/53, 106/54
	under control by Low-Power Indoor AP	802.11a	2, 1, 45, 93, 97, 105, 113, 117, 149, 181, 185, 209, 229, 233	BPSK	6Mb/s	-
		802.11ax (HE20)	2, 1, 45, 93, 97, 105, 113, 117, 149, 181, 185, 209, 229, 233	BPSK	MCS0	-
		802.11ax (HE40)	3, 43, 91, 99, 107, 115, 123, 155, 179, 187, 211, 227	BPSK	MCS0	-
		802.11ax (HE80)	7, 39, 87, 103, 119, 151, 183, 199, 215	BPSK	MCS0	-
		802.11ax (HE160)	15, 47, 79, 111, 143, 175, 207	BPSK	MCS0	-
		20 MHz Preamble 802.11ax (RU26)	2, 1, 45, 93, 97, 105, 113, 117, 149, 181, 185, 209, 229, 233	BPSK	MCS0	26/0, 26/4, 26/8

Test Item	Signal Mode	Mode	Tested Channel	Modulation	Data Rate Parameter	RU Configuration
		20 MHz Preamble 802.11ax (RU52)	2, 1, 45, 93, 97, 105, 113, 117, 149, 181, 185, 209, 229, 233	BPSK	MCS0	52/37, 52/38, 52/40
		20 MHz Preamble 802.11ax (RU106)	2, 1, 45, 93, 97, 105, 113, 117, 149, 181, 185, 209, 229, 233	BPSK	MCS0	106/53, 106/54
Contention-based Protocol	under control by Low-Power Indoor AP	802.11ax (HE20)	53, 101, 133, 197	BPSK	MCS0	-
		802.11ax (HE160)	47, 111, 143, 207	BPSK	MCS0	-
Unwanted Emissions above 1 GHz	under control by Standard Power AP	802.11a	2	BPSK	6Mb/s	-
		802.11ax (HE20)	2	BPSK	MCS0	-
	under control by Low-Power Indoor AP	802.11ax (HE20)	2, 233	BPSK	MCS0	-
		20 MHz Preamble 802.11ax (RU26)	2, 233	BPSK	MCS0	26/0, 26/8
		20 MHz Preamble 802.11ax (RU52)	2, 233	BPSK	MCS0	52/37, 52/40
		20 MHz Preamble 802.11ax (RU106)	2, 233	BPSK	MCS0	106/53, 106/54
Note: The unwanted emissions above 1GHz were performed in radiated measurement with maximum antenna gain of dipole antenna.						

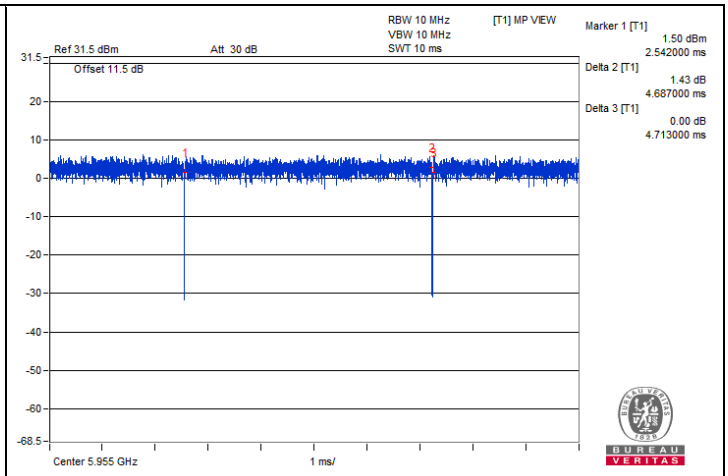
3.5 Duty Cycle of Test Signal

802.11a Under control by Standard Power AP: Duty cycle = 1.974 ms / 1.994 ms x 100% = 99.0%
802.11ax (HE20) Under control by Standard Power AP: Duty cycle = 4.687 ms / 4.713 ms x 100% = 99.4%
802.11ax (HE40) Under control by Standard Power AP: Duty cycle = 5.172 ms / 5.192 ms x 100% = 99.6%
802.11ax (HE80) Under control by Standard Power AP: Duty cycle = 2.965 ms / 2.988 ms x 100% = 99.2%
802.11ax (HE160) Under control by Standard Power AP: Duty cycle = 2.157 ms / 2.176 ms x 100% = 99.1%
802.11ax (HE20) RU26_ Under control by Standard Power AP: Duty cycle = 5.103 ms / 5.125 ms x 100% = 99.6%
802.11ax (HE20) RU52_ Under control by Standard Power AP: Duty cycle = 5.111 ms / 5.133 ms x 100% = 99.6%
802.11ax (HE20) RU106_ Under control by Standard Power AP: Duty cycle = 4.847 ms / 4.869 ms x 100% = 99.5%

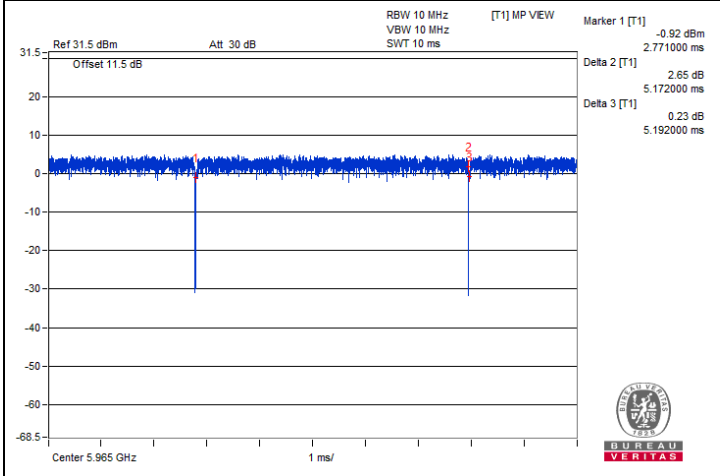
802.11a Under control by Low-Power Indoor AP: Duty cycle = 1.974 ms / 1.994 ms x 100% = 99.0%
802.11ax (HE20) Under control by Low-Power Indoor AP: Duty cycle = 4.687 ms / 4.713 ms x 100% = 99.4%
802.11ax (HE40) Under control by Low-Power Indoor AP: Duty cycle = 5.172 ms / 5.192 ms x 100% = 99.6%
802.11ax (HE80) Under control by Low-Power Indoor AP: Duty cycle = 2.965 ms / 2.988 ms x 100% = 99.2%
802.11ax (HE160) Under control by Low-Power Indoor AP: Duty cycle = 2.157 ms / 2.176 ms x 100% = 99.1%
802.11ax (HE20) RU26_Under control by Low-Power Indoor AP: Duty cycle = 5.104 ms / 5.127 ms x 100% = 99.6%
802.11ax (HE20) RU52_Under control by Low-Power Indoor AP: Duty cycle = 5.112 ms / 5.132 ms x 100% = 99.6%
802.11ax (HE20) RU106_Under control by Low-Power Indoor AP: Duty cycle = 4.849 ms / 4.874 ms x 100% = 99.5%



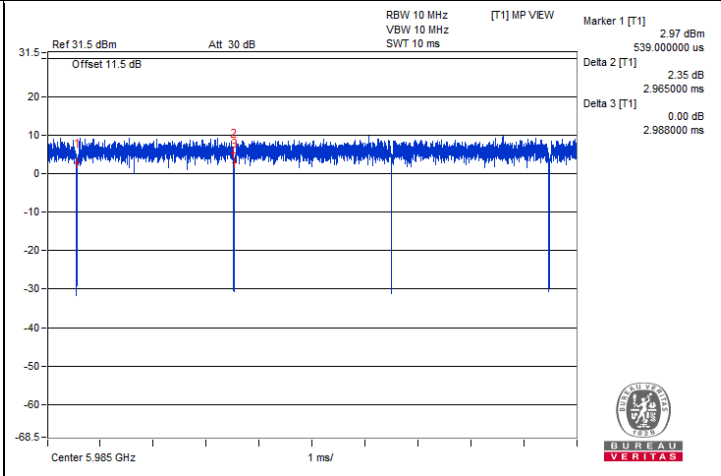
802.11a Under control by Standard Power AP



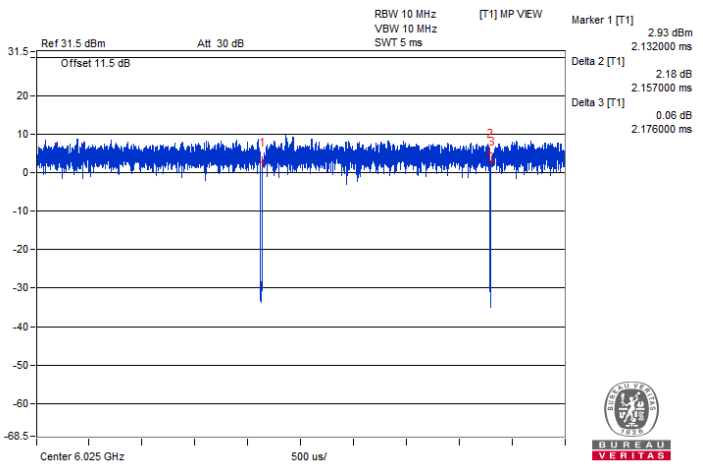
802.11ax (HE20) Under control by Standard Power AP



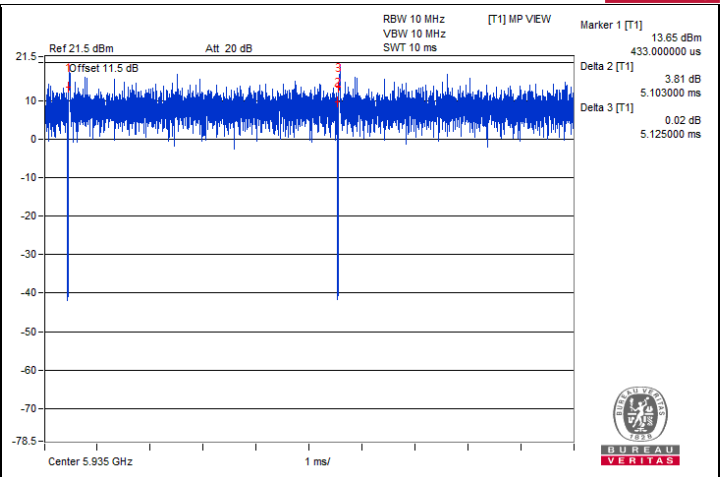
802.11ax (HE40) Under control by Standard Power AP



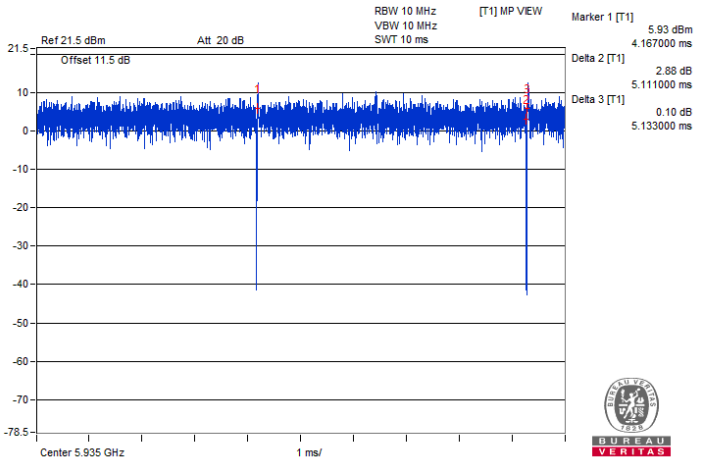
802.11ax (HE80) Under control by Standard Power AP



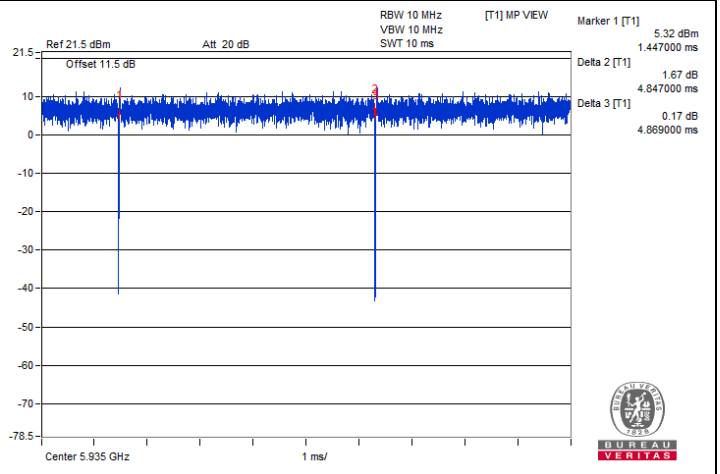
802.11ax (HE160) Under control by Standard Power AP



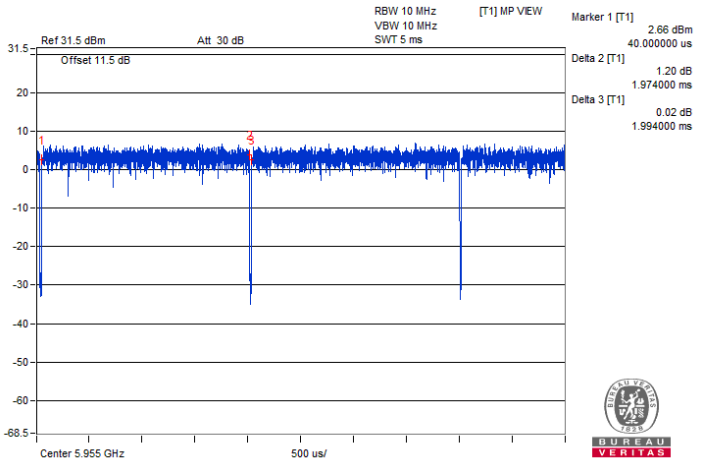
802.11ax (HE20) RU26_ Under control by Standard Power AP



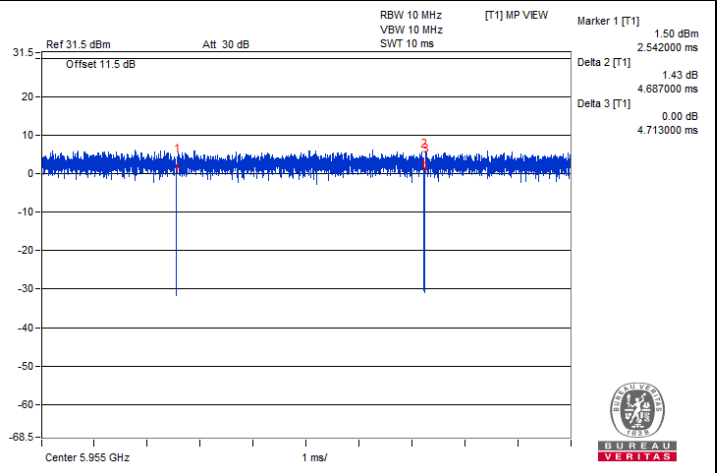
802.11ax (HE20) RU52_ Under control by Standard Power AP



802.11ax (HE20) RU106_ Under control by Standard Power AP



802.11a Under control by Low-Power Indoor AP



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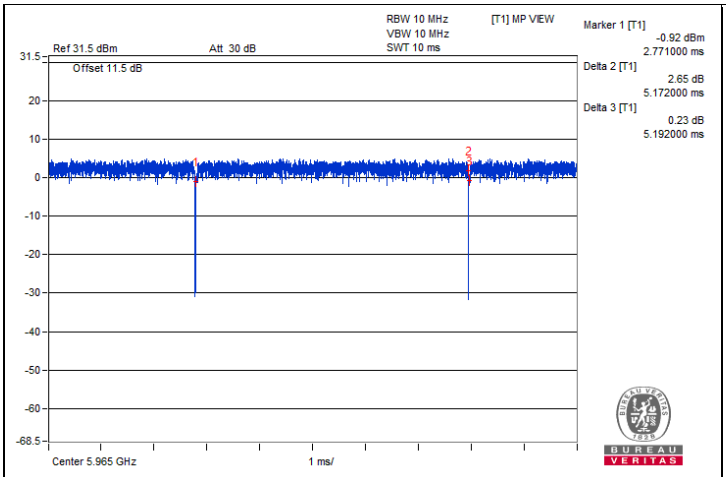
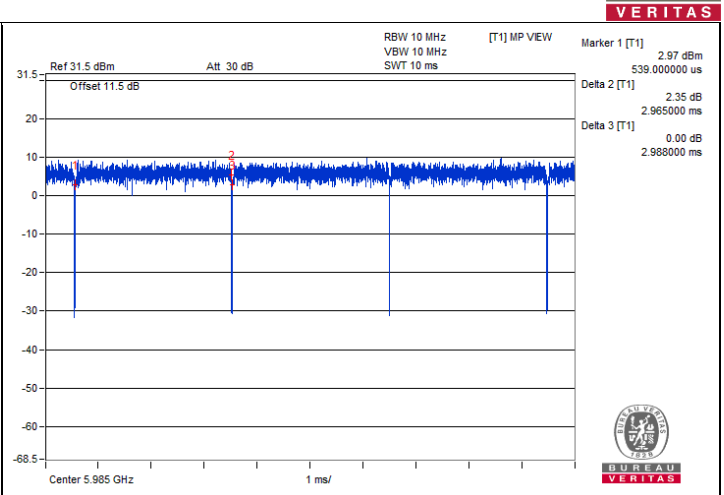
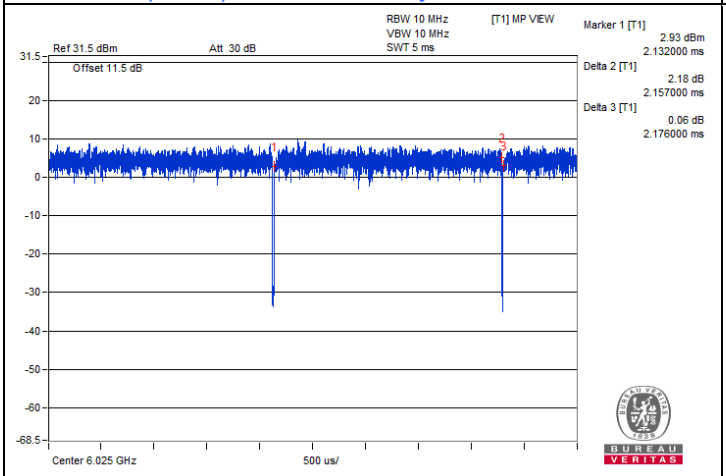


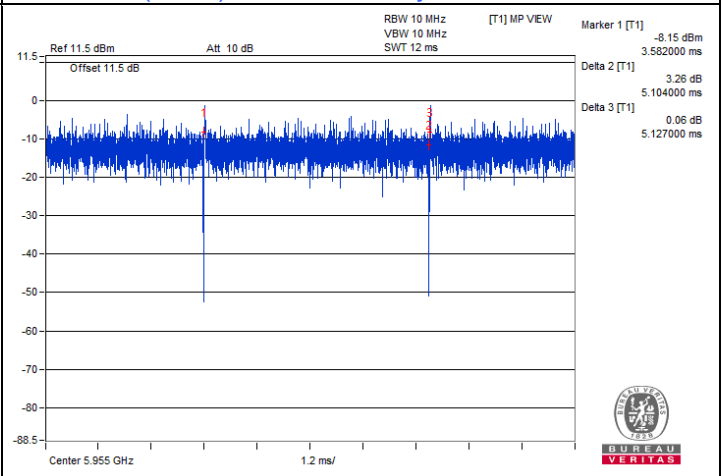
802.11ax (HE40) Under control by Low-Power Indoor AP



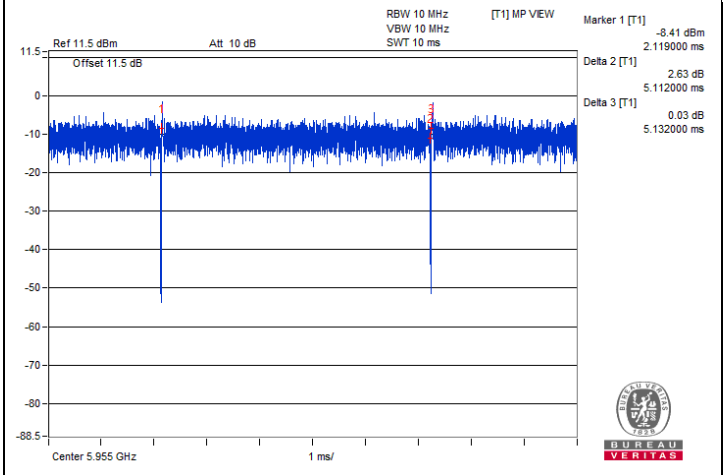
802.11ax (HE80) Under control by Low-Power Indoor AP



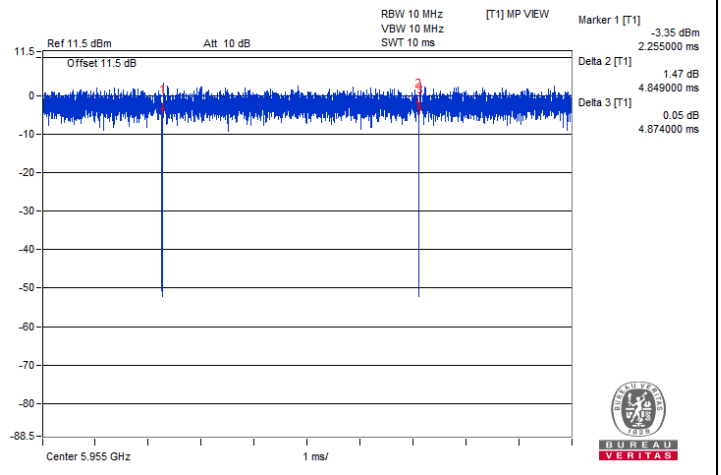
802.11ax (HE160) Under control by Low-Power Indoor AP



802.11ax (HE20) RU26_Under control by Low-Power Indoor AP



802.11ax (HE20) RU52_Under control by Low-Power Indoor AP

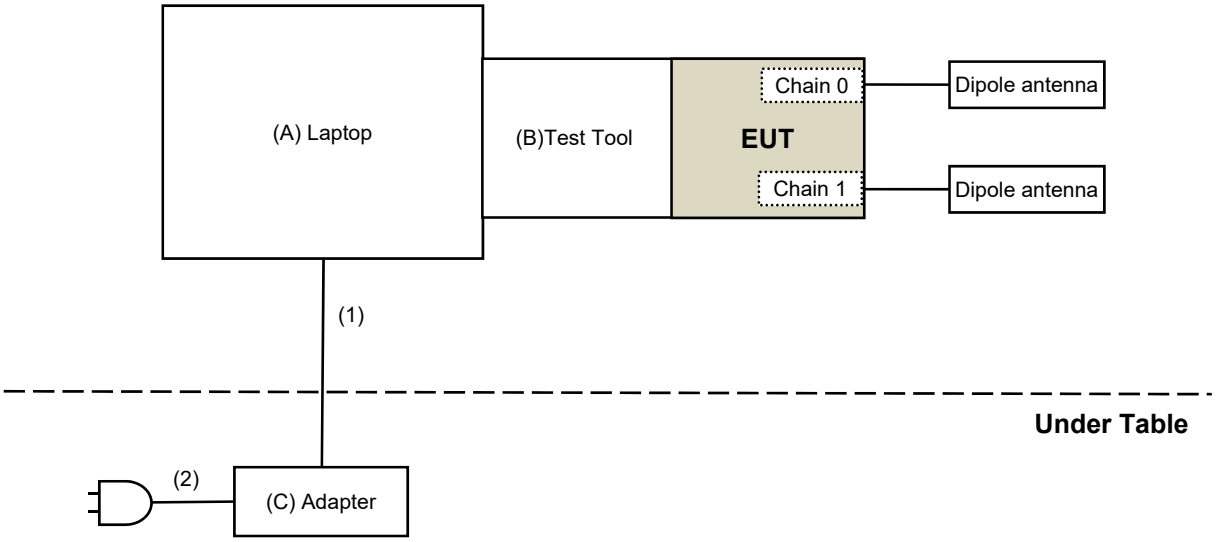


802.11ax (HE20) RU106_Under control by Low-Power Indoor AP

3.6 Test Program Used and Operation Descriptions

Controlling software (qdart_conn.win.1.0_installer_00083.1) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.7 Connection Diagram of EUT and Peripheral Devices



3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Laptop	Dell	E5420	FHP35S1	N/A	Provided by Lab
B	Test Tool	Fast Line	N/A	N/A	N/A	Supplied by applicant
C	Adapter	Dell	FA65NE0-00	N/A	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	DC Cable	1	1.8	No	0	Provided by Lab
2	AC Cable	1	1	No	0	Provided by Lab

4 Test Instruments

The calibration interval of the all test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.1 RF Output Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2022/4/5	2023/4/4
Power Meter Anritsu	ML2495A	1529002	2022/6/22	2023/6/21
Pulse Power Sensor Anritsu	MA2411B	1726434	2022/6/22	2023/6/21
Software	ADT_RF Test Software V6.6.5.4	NA	NA	NA

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2022/10/25

4.2 Contention-based Protocol

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Combiner Mini-Circuits	ZFRSC-123-S+	F698501347_01	2022/1/26	2023/1/25
		F698501347_02	2021/12/22	2022/12/21
Frequency Extender KEYSIGHT	N5182BX07	MY59360198	2022/10/14	2023/10/13
MXG X-Series RF Vector Signal Generator Keysight	N5182B	MY53052647	2022/11/8	2023/11/7
Spectrum Analyzer Keysight	N9030A	MY55410176	2022/6/21	2023/6/20
Spectrum Analyzer R&S	FSV40	101516	2022/3/7	2023/3/6

Notes:

1. The test was performed in Adaptivity room.
2. Tested Date: 2022/11/11

4.3 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	N/A	N/A
Fix tool for Boresight antenna tower BV	FBA-01	FBA_SIP01	N/A	N/A
Horn Antenna Schwarzbeck	BBHA 9170	9170-739	2022/11/13	2023/11/12
	BBHA9120-D	9120D-406	2022/11/13	2023/11/12
Pre_Amplifier EMCI	EMC12630SE	980384	2022/12/28	2023/12/27
	EMC184045SE	980387	2022/12/28	2023/12/27
RF Cable EMCI	EMC104-SM-SM-6000	210201	2022/5/10	2023/5/9
RF Cable-Frequency range: 1-40GHz EMCI	EMC102-KM-KM-1200	160924	2022/12/28	2023/12/27
RF Coaxial Cable EMCI	EMC-KM-KM-4000	200214	2022/3/8	2023/3/7
	EMC104-SM-SM-1500	180504	2022/4/25	2023/4/24
	EMC104-SM-SM-2000	180601	2022/6/6	2023/6/5
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A
Spectrum Analyzer KEYSIGHT	N9030B	MY57142938	2022/4/26	2023/4/25
Test Receiver KEYSIGHT	N9038A	MY59050100	2022/6/20	2023/6/19

Notes:

1. The test was performed in 966 Chamber No. 3.
2. Tested Date: 2023/1/11

5 Limits of Test Items

5.1 RF Output Power

Operation Band	EUT Category	Limit
		Max Average Power
U-NII-5 U-NII-6 U-NII-7 U-NII-8	Dual Client Devices (controlled of an indoor AP)	EIRP 24 dBm
U-NII-5 U-NII-7	Dual Client Devices (controlled of an standard power AP)	EIRP 30 dBm

5.2 Contention-based Protocol

Unlicensed indoor low-power devices must detect co-channel radio frequency power that is at least -62 dBm (The threshold is referenced to a 0 dBi antenna gain.) or lower. Additionally, indoor low-power devices must detect co-channel energy with 90% or greater certainty.

5.3 Unwanted Emissions above 1 GHz

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
Above 960	500	3

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

Limits of unwanted emission out of the restricted bands

Frequencies (MHz)	EIRP Limit	Equivalent Field Strength at 3 m
5925 MHz > F > 7125 MHz	Peak: -7 (dBm/MHz)	88.2 (dBuV/m)
	Average: -27 (dBm/MHz)	68.2 (dBuV/m)

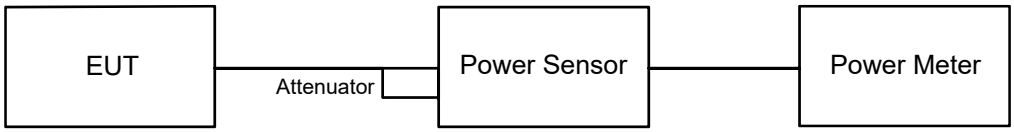
Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

6 Test Arrangements

6.1 RF Output Power

6.1.1 Test Setup

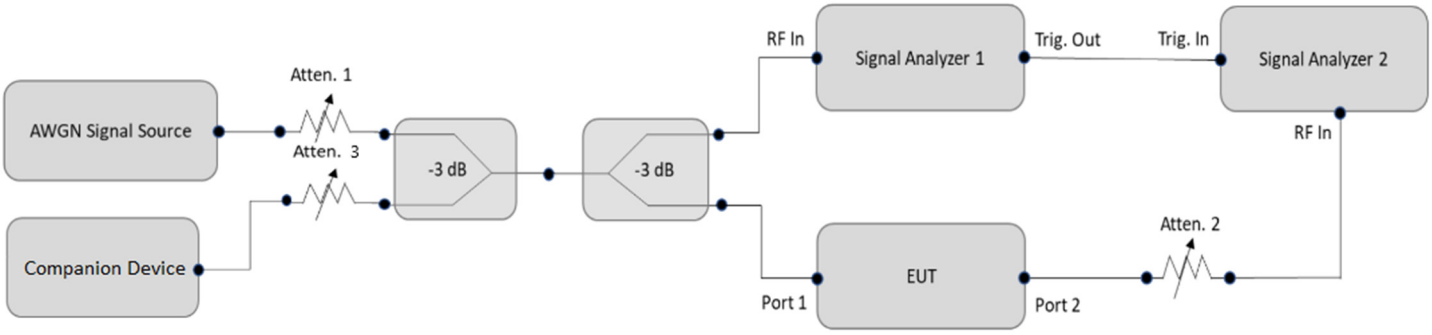


6.1.2 Test Procedure

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.

6.2 Contention-based Protocol

6.2.1 Test Setup



6.2.2 Test Procedure

a. Set the signal analyzer center frequency to the nominal EUT channel center frequency. The span range of the signal analyzer shall be between two times and five times the OBW of the EUT. Connect the output port of the EUT to the signal analyzer 2. Ensure that the attenuator 2 provides enough attenuation to not overload the signal analyzer 2 receiver.

b. Monitoring the signal analyzer 2, verify the EUT is operating and transmitting with the parameters (set as following section 4.7.5 EUT operating condition).

c. Determine number of times detection threshold test as following table,

If	Number of Tests	Placement of Incumbent Transmission
$BW_{EUT} \leqq BW_{Inc}$	Once	Same as EUT transmission
$BW_{Inc} < BW_{EUT} \leqq 2xBW_{Inc}$	Once	Contained within BW_{EUT}
$2xBW_{Inc} < BW_{EUT} \leqq 4xBW_{Inc}$	Twice. (Incumbent transmission is contained within BW_{EUT})	Closely to the lower edge and upper edge of the EUT Channel
$BW_{EUT} > 4xBW_{Inc}$	Three times	Closely to the lower edge ,in the middle and upper edge of the EUT Channel

d. Using an AWGN signal source, generate (but do not transmit, i.e., RF OFF) a 10 MHz-wide AWGN signal. Use step c table to determine the center frequency of the 10 MHz AWGN signal relative to the EUT's channel bandwidth and center frequency.

e. Set the AWGN signal power to an extremely low level (more than 20 dB below the -62 dBm threshold). Connect the AWGN signal source, via a 3-dB splitter, to the signal analyzer 1 and the EUT.

f. Transmit the AWGN signal (RF ON) and verify its characteristics on the signal analyzer 1.

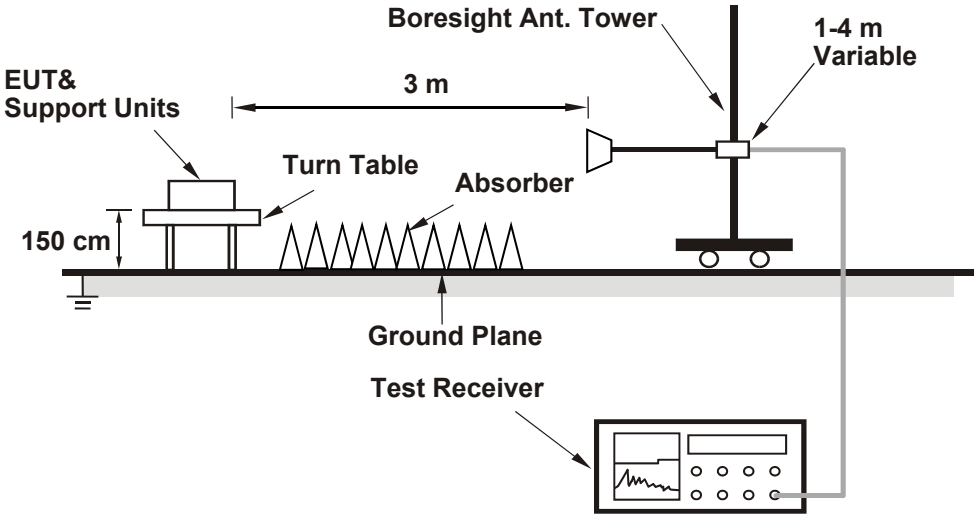
g. Monitor the signal analyzer 2 to verify if the AWGN signal has been detected and the EUT has ceased transmission. If the EUT continues to transmit, then incrementally increase the AWGN signal power level until the EUT stops transmitting.

h. (Including all losses in the RF paths) Determine and record the AWGN signal power level (at the EUT's antenna port) at which the EUT ceased transmission. Repeat the procedure at least 10 times to verify the EUT can detect an AWGN signal with 90% (or better) level of certainty.

i. Refer to step c table to determine number of times the detection threshold testing needs to be repeated. If testing is required more than once, then go back to step d, choose a different center frequency for the AWGN signal and repeat the process.

6.3 Unwanted Emissions above 1 GHz

6.3.1 Test Setup



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

6.3.2 Test Procedure

a. The EUT was placed on the top of a rotating table 1.5 meters 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 peak and average detects 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.

Notes:

1. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) and Average detection (AV) at frequency above 1 GHz.
2. For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10 Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1 GHz.
3. All modes of operation were investigated and the worst-case emissions are reported.

7 Test Results of Test Item

7.1 RF Output Power

Input Power:	3.3 Vdc	Environmental Conditions:	24°C, 60% RH	Tested By:	Eric Peng

802.11a Under control by Standard Power AP

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1							
2	5935	10.51	11.45	25.21	14.02	8.15	164.816	22.17	30	Pass
1	5955	18.43	18.36	138.211	21.41	8.15	903.649	29.56	30	Pass
45	6175	18.25	18.62	139.612	21.45	8.15	912.011	29.6	30	Pass
93	6415	18.59	18.52	143.398	21.57	8.15	937.562	29.72	30	Pass
117	6535	18.42	18.76	144.665	21.60	8.17	948.418	29.77	30	Pass
149	6695	18.42	18.47	139.81	21.46	8.17	918.333	29.63	30	Pass
181	6855	18.57	18.92	149.928	21.76	8.17	984.011	29.93	30	Pass

Notes:

1. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
2. For U-NII-5, The directional gain is 8.15 dBi
3. For U-NII-7, The directional gain is 8.17 dBi

802.11ax (HE20) Under control by Standard Power AP

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1							
2	5935	-5.58	-4.19	0.6578	-1.82	8.15	4.295	6.33	30	Pass
1	5955	15.22	16.20	74.953	18.75	8.15	489.779	26.9	30	Pass
45	6175	15.21	16.26	75.456	18.78	8.15	493.174	26.93	30	Pass
93	6415	15.66	16.06	77.177	18.87	8.15	503.501	27.02	30	Pass
117	6535	15.68	15.81	75.089	18.76	8.17	493.174	26.93	30	Pass
149	6695	15.55	15.75	73.476	18.66	8.17	481.948	26.83	30	Pass
181	6855	15.73	16.01	77.314	18.88	8.17	506.991	27.05	30	Pass

Notes:

1. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
2. For U-NII-5, The directional gain is 8.15 dBi
3. For U-NII-7, The directional gain is 8.17 dBi

802.11ax (HE40) Under control by Standard Power AP

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1							
3	5965	14.42	15.31	61.632	17.90	8.15	402.717	26.05	30	Pass
43	6165	14.86	15.94	69.884	18.44	8.15	456.037	26.59	30	Pass
91	6405	14.79	15.09	62.415	17.95	8.15	407.38	26.1	30	Pass
123	6565	15.29	15.35	68.083	18.33	8.17	446.684	26.5	30	Pass
155	6725	15.36	15.16	67.165	18.27	8.17	440.555	26.44	30	Pass
179	6845	15.51	15.31	69.526	18.42	8.17	456.037	26.59	30	Pass

Notes:

1. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
2. For U-NII-5, The directional gain is 8.15 dBi
3. For U-NII-7, The directional gain is 8.17 dBi

802.11ax (HE80) Under control by Standard Power AP

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1							
7	5985	14.21	15.19	59.4	17.74	8.15	388.15	25.89	30	Pass
39	6145	14.29	15.02	58.622	17.68	8.15	382.825	25.83	30	Pass
87	6385	14.46	15.15	60.66	17.83	8.15	396.278	25.98	30	Pass
135	6625	14.56	14.35	55.803	17.47	8.17	366.438	25.64	30	Pass
151	6705	14.72	14.68	59.025	17.71	8.17	387.258	25.88	30	Pass
167	6785	15.12	14.71	62.089	17.93	8.17	407.38	26.1	30	Pass

Notes:

1. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
2. For U-NII-5, The directional gain is 8.15 dBi
3. For U-NII-7, The directional gain is 8.17 dBi

802.11ax (HE160) Under control by Standard Power AP

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1							
15	6025	14.01	14.53	53.556	17.29	8.15	349.945	25.44	30	Pass
47	6185	13.88	14.86	55.054	17.41	8.15	359.749	25.56	30	Pass
79	6345	13.73	14.77	53.596	17.29	8.15	349.945	25.44	30	Pass
143	6665	14.22	13.91	51.028	17.08	8.17	334.965	25.25	30	Pass

Notes:

1. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
2. For U-NII-5, The directional gain is 8.15 dBi
3. For U-NII-7, The directional gain is 8.17 dBi

802.11ax (HE20) RU26_Under control by Standard Power AP

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1							
2	5935	-14.96	-16.07	0.05663	-12.47	8.15	0.37	-4.32	30	Pass
1	5955	10.09	10.48	21.378	13.30	8.15	139.637	21.45	30	Pass
45	6175	9.34	10.95	21.035	13.23	8.15	137.404	21.38	30	Pass
93	6415	9.92	10.68	21.512	13.33	8.15	140.605	21.48	30	Pass
117	6535	10.35	10.24	21.407	13.31	8.17	140.605	21.48	30	Pass
149	6695	9.77	10.25	20.077	13.03	8.17	131.826	21.2	30	Pass
181	6855	9.84	10.24	20.206	13.05	8.17	132.434	21.22	30	Pass

Notes:

1. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
2. For U-NII-5, The directional gain is 8.15 dBi
3. For U-NII-7, The directional gain is 8.17 dBi

802.11ax (HE20) RU52_Under control by Standard Power AP

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1							
2	5935	-12.17	-12.95	0.11137	-9.53	8.15	0.728	-1.38	30	Pass
1	5955	13.02	13.43	42.074	16.24	8.15	274.789	24.39	30	Pass
45	6175	11.68	12.96	34.493	15.38	8.15	225.424	23.53	30	Pass
93	6415	12.32	12.86	36.381	15.61	8.15	237.684	23.76	30	Pass
117	6535	12.79	12.16	35.455	15.50	8.17	232.809	23.67	30	Pass
149	6695	12.57	12.93	37.705	15.76	8.17	247.172	23.93	30	Pass
181	6855	12.28	12.64	35.27	15.47	8.17	231.206	23.64	30	Pass

Notes:

1. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
2. For U-NII-5, The directional gain is 8.15 dBi
3. For U-NII-7, The directional gain is 8.17 dBi

802.11ax (HE20) RU106_Under control by Standard Power AP

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1							
2	5935	-11.52	-11.80	0.13654	-8.65	8.15	0.891	-0.5	30	Pass
1	5955	13.81	14.62	53.017	17.24	8.15	345.939	25.39	30	Pass
45	6175	13.40	14.58	50.585	17.04	8.15	330.37	25.19	30	Pass
93	6415	13.92	14.20	50.963	17.07	8.15	332.66	25.22	30	Pass
117	6535	13.86	13.78	48.2	16.83	8.17	316.228	25	30	Pass
149	6695	14.06	13.90	50.015	16.99	8.17	328.095	25.16	30	Pass
181	6855	14.34	14.20	53.467	17.28	8.17	350.752	25.45	30	Pass

Notes:

1. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
2. For U-NII-5, The directional gain is 8.15 dBi
3. For U-NII-7, The directional gain is 8.17 dBi

802.11a Under control by Low-Power Indoor AP

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1							
2	5935	-2.33	-1.98	1.2187	0.86	8.15	7.962	9.01	24	Pass
1	5955	-1.08	-0.79	1.6135	2.08	8.15	10.544	10.23	24	Pass
45	6175	-1.12	-1.13	1.5436	1.89	8.15	10.093	10.04	24	Pass
93	6415	-0.49	-0.79	1.727	2.37	8.15	11.272	10.52	24	Pass
97	6435	-0.58	-0.85	1.6972	2.30	8.10	10.965	10.4	24	Pass
105	6475	-2.17	-2.09	1.2248	0.88	8.10	7.907	8.98	24	Pass
113	6515	-1.27	-1.53	1.4495	1.61	8.10	9.354	9.71	24	Pass
117	6535	-0.97	-1.34	1.5343	1.86	8.17	10.069	10.03	24	Pass
149	6695	-1.51	-0.81	1.5362	1.86	8.17	10.069	10.03	24	Pass
181	6855	-1.59	-1.71	1.368	1.36	8.17	8.974	9.53	24	Pass
185	6875	-0.83	-0.74	1.6694	2.23	8.13	10.864	10.36	24	Pass
209	6995	-1.75	-0.16	1.6322	2.13	8.13	10.617	10.26	24	Pass
229	7095	-1.54	0.42	1.803	2.56	8.13	11.722	10.69	24	Pass
233	7115	-2.02	0.48	1.7449	2.42	8.13	11.35	10.55	24	Pass

Notes:

1. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
2. For U-NII-5, The directional gain is 8.15 dBi
3. For U-NII-6, The directional gain is 8.1 dBi
4. For U-NII-7, The directional gain is 8.17 dBi
5. For U-NII-8, The directional gain is 8.13 dBi

802.11ax (HE20) Under control by Low-Power Indoor AP

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1							
2	5935	-5.83	-4.06	0.6539	-1.84	8.15	4.276	6.31	24	Pass
1	5955	0.26	0.44	2.168	3.36	8.15	14.158	11.51	24	Pass
45	6175	-0.61	-0.42	1.7768	2.50	8.15	11.614	10.65	24	Pass
93	6415	0.33	-0.10	2.0562	3.13	8.15	13.428	11.28	24	Pass
97	6435	0.09	-0.15	1.987	2.98	8.10	12.823	11.08	24	Pass
105	6475	-0.62	1.66	2.3325	3.68	8.10	15.066	11.78	24	Pass
113	6515	0.77	0.40	2.29	3.60	8.10	14.791	11.7	24	Pass
117	6535	1.19	-0.14	2.2835	3.59	8.17	14.997	11.76	24	Pass
149	6695	-0.83	-0.51	1.7152	2.34	8.17	11.246	10.51	24	Pass
181	6855	-0.46	-0.54	1.7826	2.51	8.17	11.695	10.68	24	Pass
185	6875	-0.13	-0.12	1.9433	2.89	8.13	12.647	11.02	24	Pass
209	6995	-1.09	-0.11	1.753	2.44	8.13	11.402	10.57	24	Pass
229	7095	0.04	1.60	2.455	3.90	8.13	15.959	12.03	24	Pass
233	7115	-3.61	-2.72	0.9701	-0.13	8.13	6.31	8	24	Pass

Notes:

1. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
2. For U-NII-5, The directional gain is 8.15 dBi
3. For U-NII-6, The directional gain is 8.1 dBi
4. For U-NII-7, The directional gain is 8.17 dBi
5. For U-NII-8, The directional gain is 8.13 dBi

802.11ax (HE40) Under control by Low-Power Indoor AP

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1							
3	5965	1.79	2.85	3.438	5.36	8.15	22.439	13.51	24	Pass
43	6165	2.72	4.01	4.388	6.42	8.15	28.642	14.57	24	Pass
91	6405	3.54	3.86	4.692	6.71	8.15	30.62	14.86	24	Pass
99	6445	3.78	4.22	5.03	7.02	8.10	32.509	15.12	24	Pass
107	6485	4.02	4.15	5.124	7.10	8.10	33.113	15.2	24	Pass
115	6525	4.15	3.65	4.918	6.92	8.17	32.285	15.09	24	Pass
123	6565	3.73	3.74	4.726	6.74	8.17	30.974	14.91	24	Pass
155	6725	3.04	2.68	3.867	5.87	8.17	25.351	14.04	24	Pass
179	6845	3.07	3.31	4.171	6.20	8.17	27.353	14.37	24	Pass
187	6885	3.82	3.63	4.717	6.74	8.13	30.69	14.87	24	Pass
211	7005	2.98	3.96	4.475	6.51	8.13	29.107	14.64	24	Pass
227	7085	3.11	4.22	4.689	6.71	8.13	30.479	14.84	24	Pass

Notes:

1. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
2. For U-NII-5, The directional gain is 8.15 dBi
3. For U-NII-6, The directional gain is 8.1 dBi
4. For U-NII-7, The directional gain is 8.17 dBi
5. For U-NII-8, The directional gain is 8.13 dBi

802.11ax (HE80) Under control by Low-Power Indoor AP

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1							
7	5985	4.96	5.65	6.806	8.33	8.15	44.463	16.48	24	Pass
39	6145	5.59	6.20	7.791	8.92	8.15	50.933	17.07	24	Pass
87	6385	5.61	6.35	7.954	9.01	8.15	52	17.16	24	Pass
103	6465	6.24	6.97	9.185	9.63	8.10	59.293	17.73	24	Pass
119	6545	5.89	6.01	7.872	8.96	8.17	51.642	17.13	24	Pass
151	6705	5.43	5.32	6.895	8.39	8.17	45.29	16.56	24	Pass
183	6865	5.94	5.21	7.245	8.60	8.17	47.534	16.77	24	Pass
199	6945	5.88	5.59	7.495	8.75	8.13	48.753	16.88	24	Pass
215	7025	6.18	5.17	7.438	8.71	8.13	48.306	16.84	24	Pass

Notes:

1. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
2. For U-NII-5, The directional gain is 8.15 dBi
3. For U-NII-6, The directional gain is 8.1 dBi
4. For U-NII-7, The directional gain is 8.17 dBi
5. For U-NII-8, The directional gain is 8.13 dBi

802.11ax (HE160) Under control by Low-Power Indoor AP

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1							
15	6025	7.78	6.95	10.952	10.39	8.15	71.45	18.54	24	Pass
47	6185	6.52	7.43	10.021	10.01	8.15	65.464	18.16	24	Pass
79	6345	6.95	7.93	11.163	10.48	8.15	72.946	18.63	24	Pass
111	6505	6.94	7.35	10.376	10.16	8.10	66.988	18.26	24	Pass
143	6665	7.34	7.05	10.49	10.21	8.17	68.865	18.38	24	Pass
175	6825	7.05	7.01	10.093	10.04	8.17	66.222	18.21	24	Pass
207	6985	7.52	6.96	10.615	10.26	8.13	69.024	18.39	24	Pass

Notes:

1. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
2. For U-NII-5, The directional gain is 8.15 dBi
3. For U-NII-6, The directional gain is 8.1 dBi
4. For U-NII-7, The directional gain is 8.17 dBi
5. For U-NII-8, The directional gain is 8.13 dBi

802.11ax (HE20) RU26_Under control by Low-Power Indoor AP

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1							
2	5935	-14.96	-16.07	0.05663	-12.47	8.15	0.37	-4.32	24	Pass
1	5955	-6.91	-7.19	0.3947	-4.04	8.15	2.576	4.11	24	Pass
45	6175	-6.58	-7.24	0.4086	-3.89	8.15	2.667	4.26	24	Pass
93	6415	-7.91	-7.08	0.3577	-4.46	8.15	2.339	3.69	24	Pass
97	6435	-7.55	-7.34	0.3603	-4.43	8.10	2.328	3.67	24	Pass
105	6475	-7.09	-6.54	0.4173	-3.80	8.10	2.692	4.3	24	Pass
113	6515	-7.43	-7.13	0.3744	-4.27	8.10	2.415	3.83	24	Pass
117	6535	-6.79	-7.17	0.4013	-3.97	8.17	2.63	4.2	24	Pass
149	6695	-7.28	-5.74	0.4538	-3.43	8.17	2.979	4.74	24	Pass
181	6855	-8.17	-6.53	0.3747	-4.26	8.17	2.46	3.91	24	Pass
185	6875	-8.24	-6.57	0.3703	-4.31	8.13	2.41	3.82	24	Pass
209	6995	-7.28	-7.13	0.3807	-4.19	8.13	2.477	3.94	24	Pass
229	7095	-7.20	-4.90	0.5141	-2.89	8.13	3.342	5.24	24	Pass
233	7115	-16.27	-15.52	0.05166	-12.87	8.13	0.336	-4.74	24	Pass

Notes:

1. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
2. For U-NII-5, The directional gain is 8.15 dBi
3. For U-NII-6, The directional gain is 8.1 dBi
4. For U-NII-7, The directional gain is 8.17 dBi
5. For U-NII-8, The directional gain is 8.13 dBi

802.11ax (HE20) RU52_Under control by Low-Power Indoor AP

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1							
2	5935	-12.17	-12.95	0.11137	-9.53	8.15	0.728	-1.38	24	Pass
1	5955	-4.14	-4.63	0.7298	-1.37	8.15	4.764	6.78	24	Pass
45	6175	-4.73	-4.53	0.6889	-1.62	8.15	4.498	6.53	24	Pass
93	6415	-4.97	-4.73	0.6549	-1.84	8.15	4.276	6.31	24	Pass
97	6435	-4.98	-5.15	0.6232	-2.05	8.10	4.027	6.05	24	Pass
105	6475	-4.90	-4.62	0.6687	-1.75	8.10	4.315	6.35	24	Pass
113	6515	-4.69	-4.93	0.661	-1.80	8.10	4.266	6.3	24	Pass
117	6535	-4.72	-5.36	0.6284	-2.02	8.17	4.121	6.15	24	Pass
149	6695	-5.88	-4.35	0.6255	-2.04	8.17	4.102	6.13	24	Pass
181	6855	-4.65	-4.30	0.7143	-1.46	8.17	4.688	6.71	24	Pass
185	6875	-5.18	-4.79	0.6353	-1.97	8.13	4.13	6.16	24	Pass
209	6995	-4.92	-4.71	0.6602	-1.80	8.13	4.295	6.33	24	Pass
229	7095	-5.62	-3.11	0.7628	-1.18	8.13	4.955	6.95	24	Pass
233	7115	-12.92	-13.08	0.10025	-9.99	8.13	0.652	-1.86	24	Pass

Notes:

1. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
2. For U-NII-5, The directional gain is 8.15 dBi
3. For U-NII-6, The directional gain is 8.1 dBi
4. For U-NII-7, The directional gain is 8.17 dBi
5. For U-NII-8, The directional gain is 8.13 dBi

802.11ax (HE20) RU106_Under control by Low-Power Indoor AP

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1							
2	5935	-11.52	-11.80	0.13654	-8.65	8.15	0.891	-0.5	24	Pass
1	5955	-1.77	-2.01	1.2948	1.12	8.15	8.453	9.27	24	Pass
45	6175	-1.67	-0.94	1.4861	1.72	8.15	9.705	9.87	24	Pass
93	6415	-1.78	-1.97	1.2991	1.14	8.15	8.492	9.29	24	Pass
97	6435	-1.85	-1.97	1.2885	1.10	8.10	8.318	9.2	24	Pass
105	6475	-1.28	-1.44	1.4625	1.65	8.10	9.441	9.75	24	Pass
113	6515	-1.53	-1.99	1.3355	1.26	8.10	8.63	9.36	24	Pass
117	6535	-1.16	-1.71	1.4401	1.58	8.17	9.441	9.75	24	Pass
149	6695	-1.75	-1.41	1.3911	1.43	8.17	9.12	9.6	24	Pass
181	6855	-1.55	-1.60	1.3917	1.44	8.17	9.141	9.61	24	Pass
185	6875	-1.72	-1.66	1.3553	1.32	8.13	8.81	9.45	24	Pass
209	6995	-1.28	-1.63	1.4318	1.56	8.13	9.311	9.69	24	Pass
229	7095	-1.54	0.05	1.713	2.34	8.13	11.143	10.47	24	Pass
233	7115	-11.87	-11.84	0.13048	-8.84	8.13	0.849	-0.71	24	Pass

Notes:

1. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
2. For U-NII-5, The directional gain is 8.15 dBi
3. For U-NII-6, The directional gain is 8.1 dBi
4. For U-NII-7, The directional gain is 8.17 dBi
5. For U-NII-8, The directional gain is 8.13 dBi

7.2 Contention-based Protocol

Input Power:	3.3 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Tobey Chen

For Companion Device

Companion Device Information			
Product	**Brand**	**Model No.**	**Software/Firmware Version**
Wifi 6E TRI-Band Gaming Router	ASUS	GT-AXE11000	3.0.0.4.386_4398

For U-NII-5

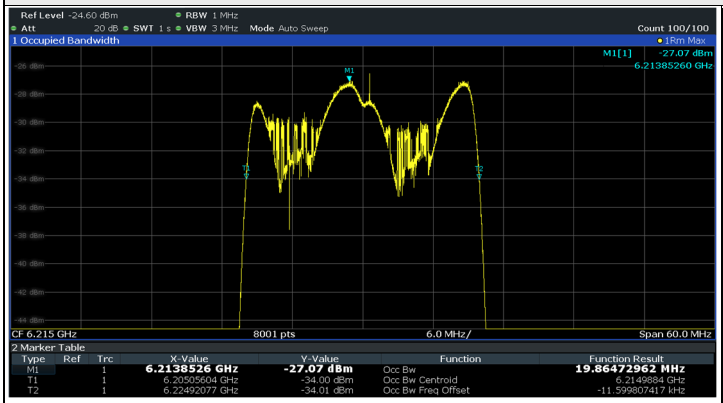
Contention Based Protocol Measurement										
Operation Mode	Channel Bandwidth (MHz)	Channel Number	Channel Freq. (MHz)	Injected Signal (AWGN)		Antenna Gain (dBi)	Path Loss (dB)	Adjusted Power (dBm)	Detection Limit	EUT TX Status
				Freq. (MHz)	Power (dBm)					
802.11ax	20	53	6215	6215	-64.55	3.23	1.9	-65.88	-62	OFF
					-65.05	3.23	1.9	-66.38	-62	Minimal
					-80.96	3.23	1.9	-82.29	-62	ON
	160	47	6185	6110	-69.66	3.23	1.9	-70.99	-62	OFF
					-70.16	3.23	1.9	-71.49	-62	Minimal
					-80.96	3.23	1.9	-82.29	-62	ON
				6185	-62.57	3.23	1.9	-63.9	-62	OFF
					-63.07	3.23	1.9	-64.4	-62	Minimal
					-80.96	3.23	1.9	-82.29	-62	ON
				6260	-62.79	3.23	1.9	-64.12	-62	OFF
					-63.29	3.23	1.9	-64.62	-62	Minimal
					-80.96	3.23	1.9	-82.29	-62	ON

Notes:

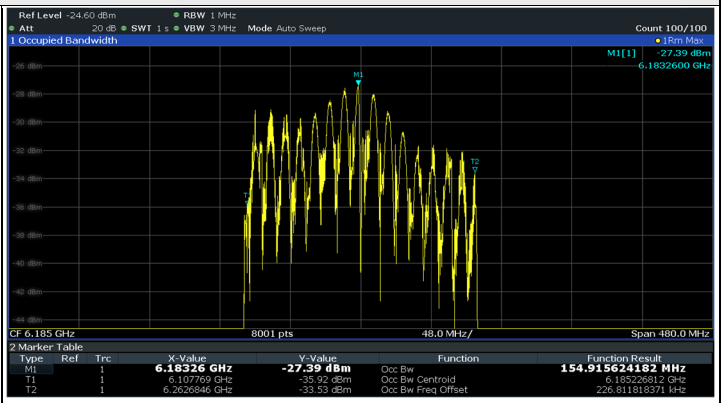
1. Adjusted Power (dBm) = Injected Signal (AWGN) Power (dBm) - Antenna Gain (dBi) + Path Loss (dB)
2. After evaluation, only the Chain1 was chosen for test and presented in the test report.

Contention Based Protocol Detection Probability														
Operation Mode	Channel Bandwidth (MHz)	AWGN Signal Freq. (MHz)	#01	#02	#03	#04	#05	#06	#07	#08	#09	#10	Detection Probability	Detection Limit	Test Result
802.11ax	20	6215	v	v	v	v	v	v	v	v	v	v	100%	90%	Pass
	160	6110	v	v	v	v	v	v	v	v	v	v	100%	90%	Pass
		6185	v	v	v	v	v	v	v	v	v	v	100%	90%	Pass
		6260	v	v	v	v	v	v	v	v	v	v	100%	90%	Pass

Plots of EUT Tx waveform

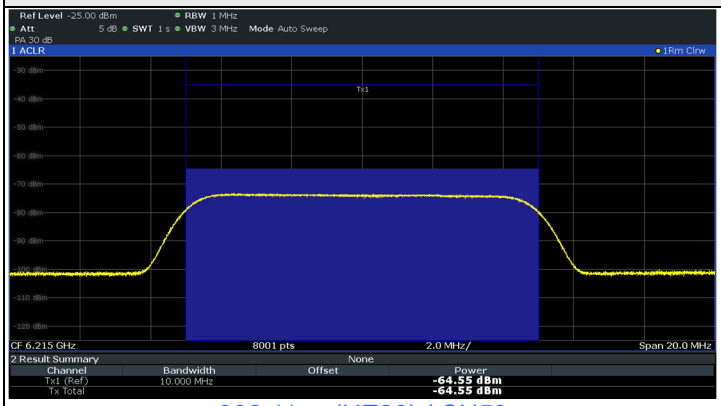


802.11ax (HE20) / CH53

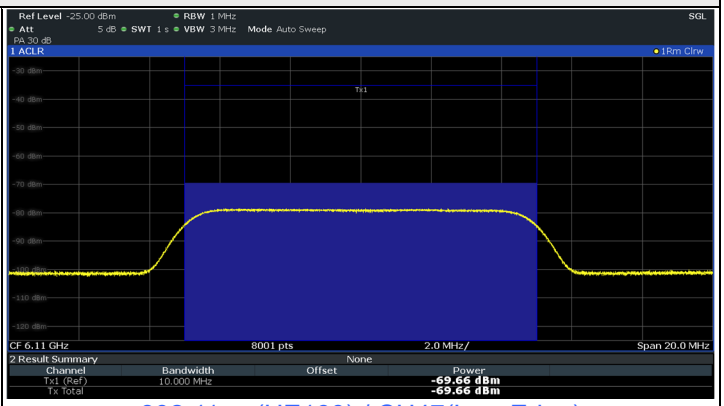


802.11ax (HE160) / CH47

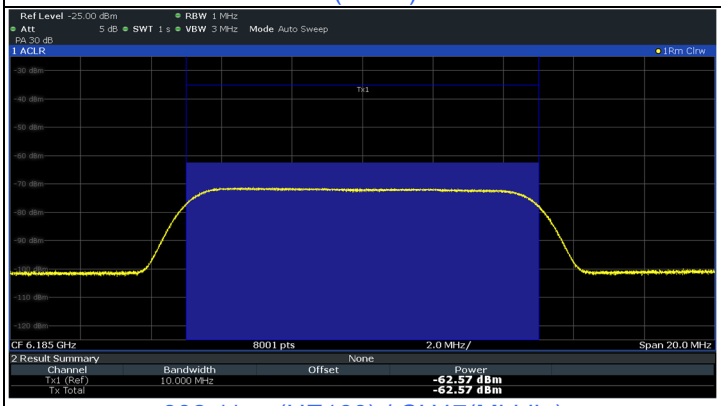
Plots of Injected signal (AWGN) level



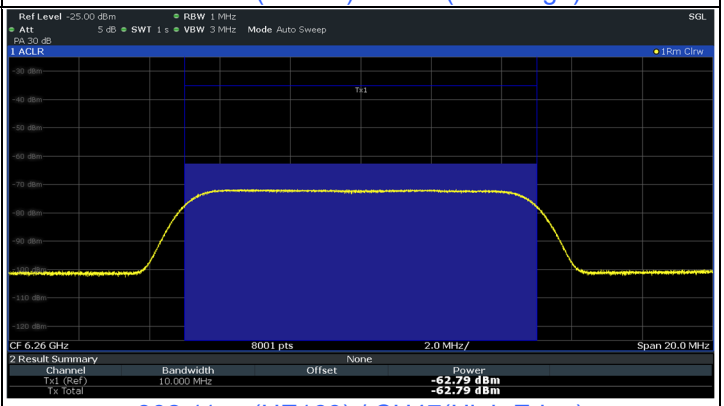
802.11ax (HE20) / CH53



802.11ax (HE160) / CH47(Low Edge)

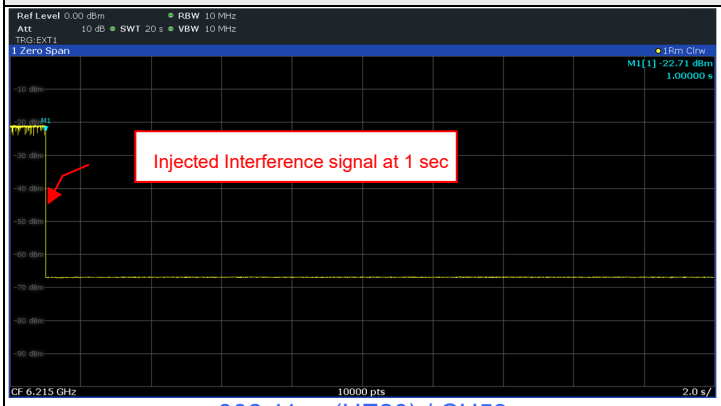


802.11ax (HE160) / CH47(Middle)

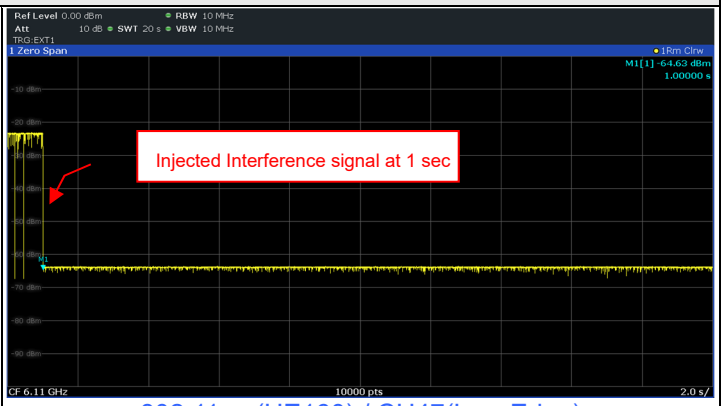


802.11ax (HE160) / CH47(High Edge)

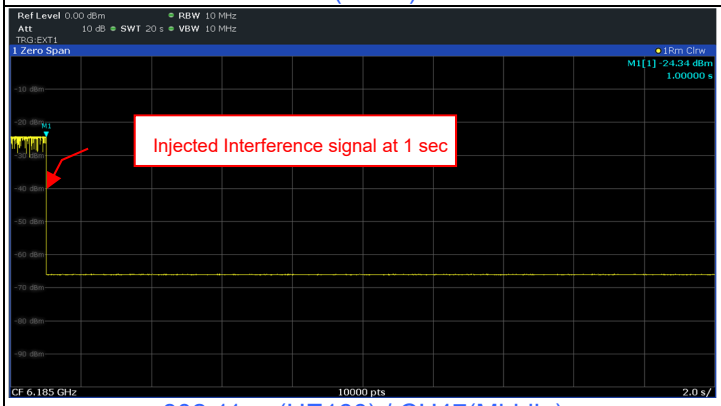
Plots of EUT ceased transmission in the time domain



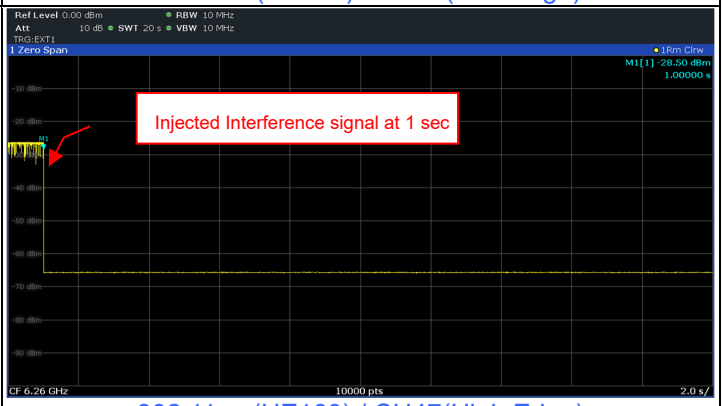
802.11ax (HE20) / CH53



802.11ax (HE160) / CH47(Low Edge)



802.11ax (HE160) / CH47(Middle)



802.11ax (HE160) / CH47(High Edge)

For U-NII-6

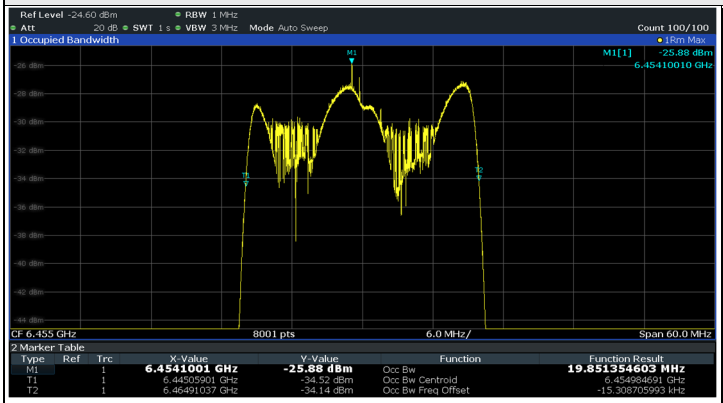
Contention Based Protocol Measurement										
Operation Mode	Channel Bandwidth (MHz)	Channel Number	Channel Freq. (MHz)	Injected Signal (AWGN)		Antenna Gain (dBi)	Path Loss (dB)	Adjusted Power (dBm)	Detection Limit	EUT TX Status
				Freq. (MHz)	Power (dBm)					
802.11ax	20	101	6455	6455	-64.85	3.34	1.9	-66.29	-62	OFF
					-65.34	3.34	1.9	-66.78	-62	Minimal
					-78.77	3.34	1.9	-80.21	-62	ON
	160	111	6505	6430	-64.55	3.34	1.9	-65.99	-62	OFF
					-65.06	3.34	1.9	-66.5	-62	Minimal
					-78.77	3.34	1.9	-80.21	-62	ON
				6505	-65.69	3.34	1.9	-67.13	-62	OFF
					-66.19	3.34	1.9	-67.63	-62	Minimal
					-78.77	3.34	1.9	-80.21	-62	ON
				6580	-66.58	3.34	1.9	-68.02	-62	OFF
					-67.08	3.34	1.9	-68.52	-62	Minimal
					-78.77	3.34	1.9	-80.21	-62	ON

Notes:

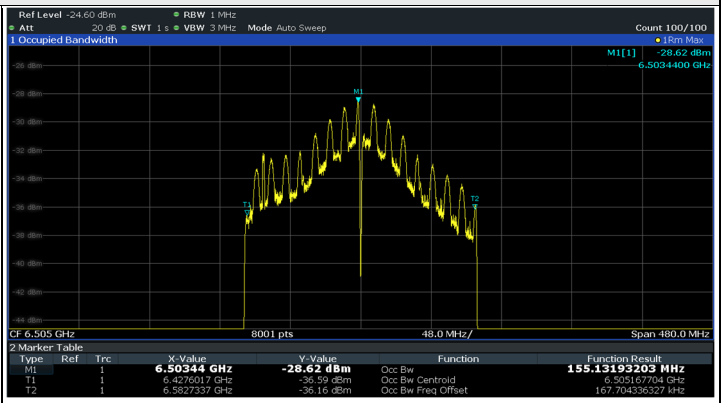
1. Adjusted Power (dBm) = Injected Signal (AWGN) Power (dBm) - Antenna Gain (dBi) + Path Loss (dB)
2. After evaluation, only the Chain1 was chosen for test and presented in the test report.

Contention Based Protocol Detection Probability														
Operation Mode	Channel Bandwidth (MHz)	AWGN Signal Freq. (MHz)	#01	#02	#03	#04	#05	#06	#07	#08	#09	#10	Detection Probability	Detection Limit	Test Result
802.11ax	20	6455	v	v	v	v	v	v	v	v	v	v	100%	90%	Pass
	160	6430	v	v	v	v	v	v	v	v	x	v	90%	90%	Pass
		6505	v	v	v	v	v	v	x	v	v	v	90%	90%	Pass
		6580	v	v	v	v	v	v	v	v	v	v	100%	90%	Pass

Plots of EUT Tx waveform

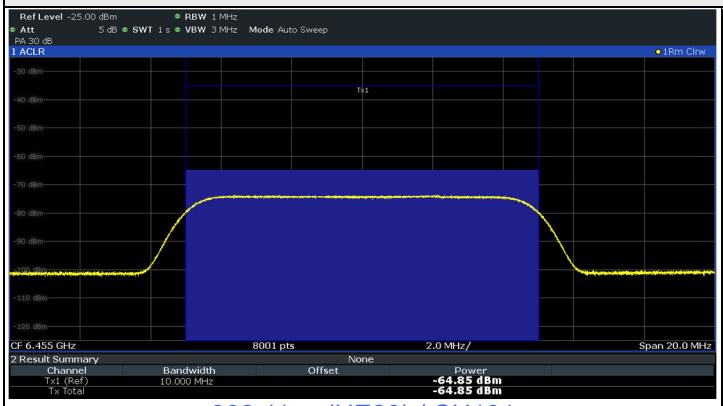


802.11ax (HE20) / CH101

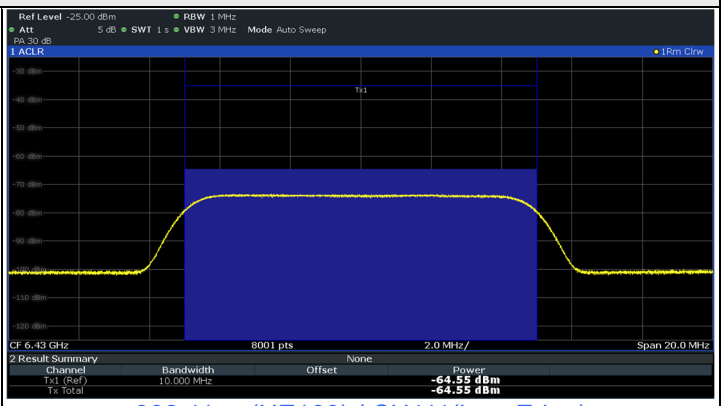


802.11ax (HE160) / CH111

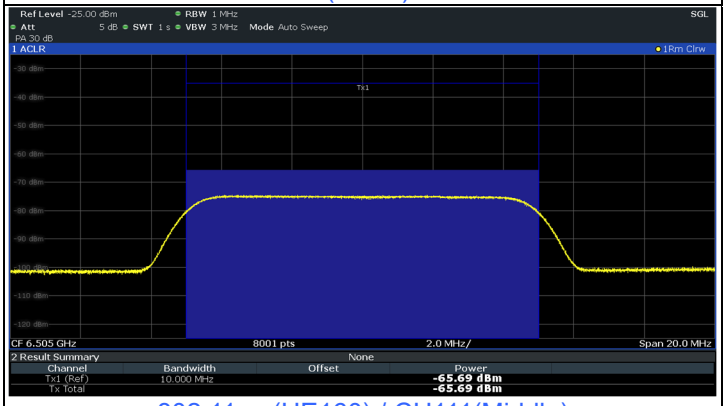
Plots of Injected signal (AWGN) level



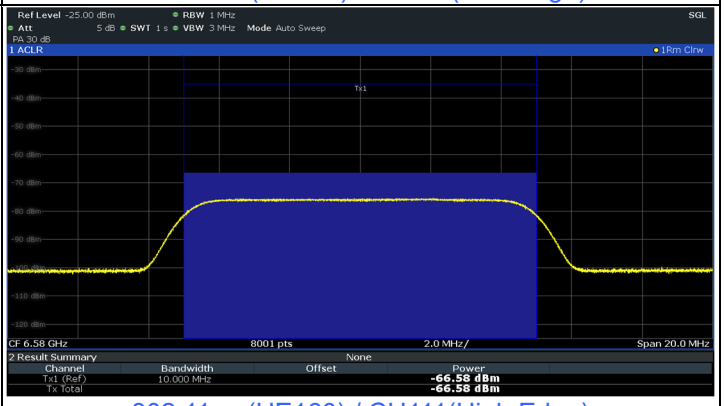
802.11ax (HE20) / CH101



802.11ax (HE160) / CH111(Low Edge)

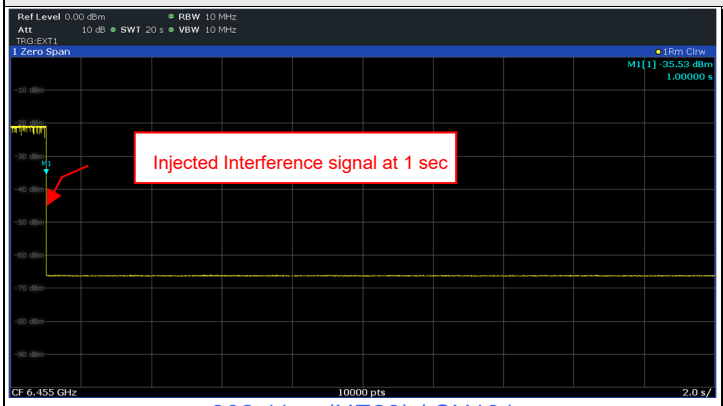


802.11ax (HE160) / CH111(Middle)

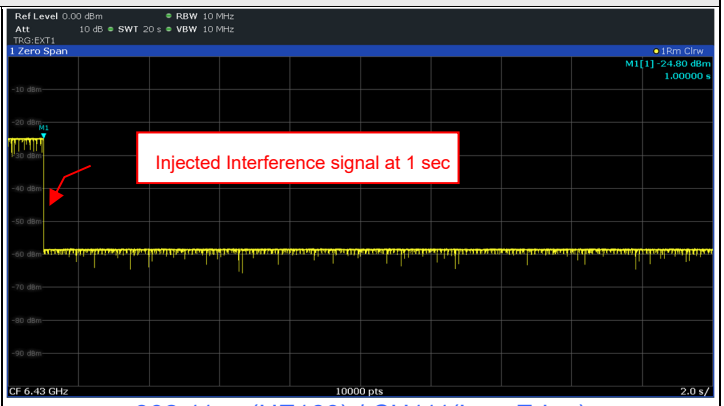


802.11ax (HE160) / CH111(High Edge)

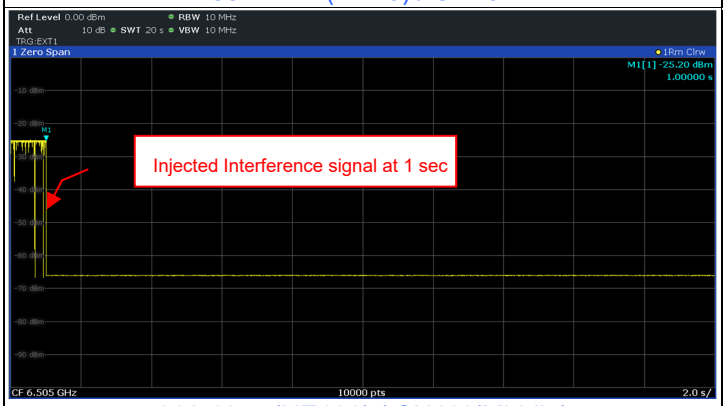
Plots of EUT ceased transmission in the time domain



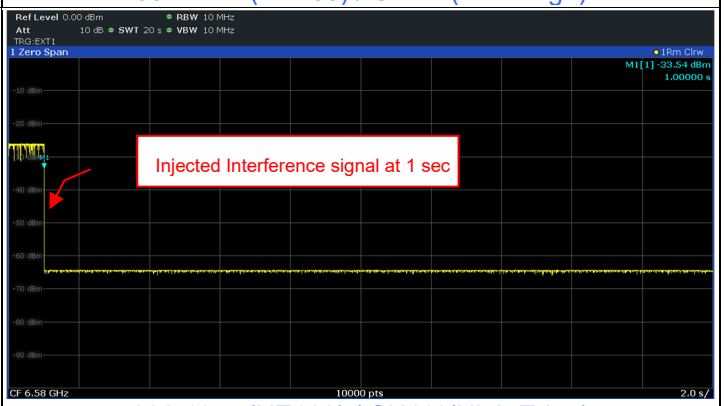
802.11ax (HE20) / CH101



802.11ax (HE160) / CH111(Low Edge)



802.11ax (HE160) / CH111(Middle)



802.11ax (HE160) / CH111(High Edge)

For U-NII-7

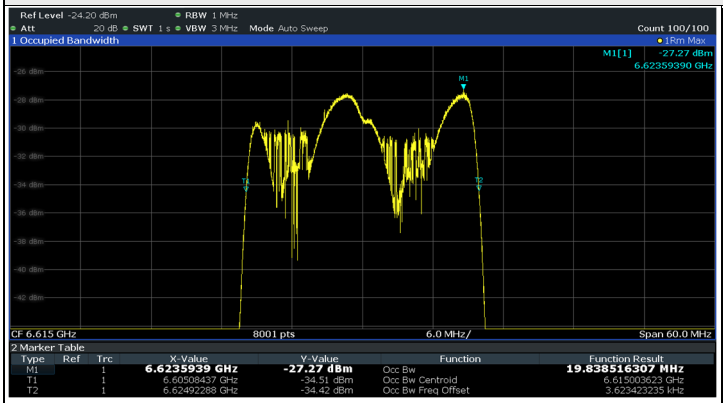
Contention Based Protocol Measurement										
Operation Mode	Channel Bandwidth (MHz)	Channel Number	Channel Freq. (MHz)	Injected Signal (AWGN)		Antenna Gain (dBi)	Path Loss (dB)	Adjusted Power (dBm)	Detection Limit	EUT TX Status
				Freq. (MHz)	Power (dBm)					
802.11ax	20	133	6615	6615	-62.31	3.52	1.9	-63.93	-62	OFF
					-62.81	3.52	1.9	-64.43	-62	Minimal
					-78.48	3.52	1.9	-80.1	-62	ON
	160	143	6665	6590	-63.41	3.52	1.9	-65.03	-62	OFF
					-63.91	3.52	1.9	-65.53	-62	Minimal
					-78.48	3.52	1.9	-80.1	-62	ON
				6665	-67.15	3.52	1.9	-68.77	-62	OFF
					-67.65	3.52	1.9	-69.27	-62	Minimal
					-78.48	3.52	1.9	-80.1	-62	ON
				6740	-70.31	3.52	1.9	-71.93	-62	OFF
					-70.81	3.52	1.9	-72.43	-62	Minimal
					-78.48	3.52	1.9	-80.1	-62	ON

Notes:

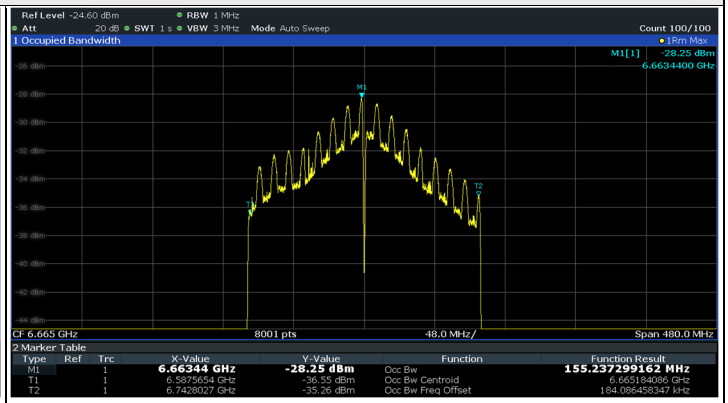
1. Adjusted Power (dBm) = Injected Signal (AWGN) Power (dBm) - Antenna Gain (dBi) + Path Loss (dB)
2. After evaluation, only the Chain1 was chosen for test and presented in the test report.

Contention Based Protocol Detection Probability														
Operation Mode	Channel Bandwidth (MHz)	AWGN Signal Freq. (MHz)	#01	#02	#03	#04	#05	#06	#07	#08	#09	#10	Detection Probability	Detection Limit	Test Result
802.11ax	20	6615	v	v	v	v	v	v	v	v	v	v	100%	90%	Pass
	160	6590	v	v	v	v	v	v	v	x	v	v	90%	90%	Pass
		6665	v	v	v	v	v	v	x	v	v	v	90%	90%	Pass
		6740	v	v	v	v	v	v	v	v	x	v	90%	90%	Pass

Plots of EUT Tx waveform

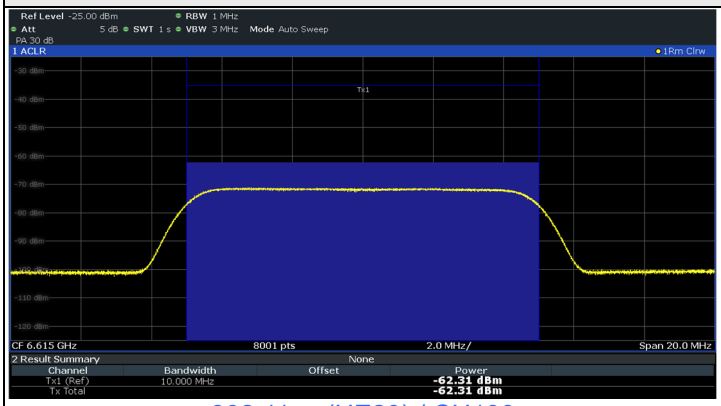


802.11ax (HE20) / CH133

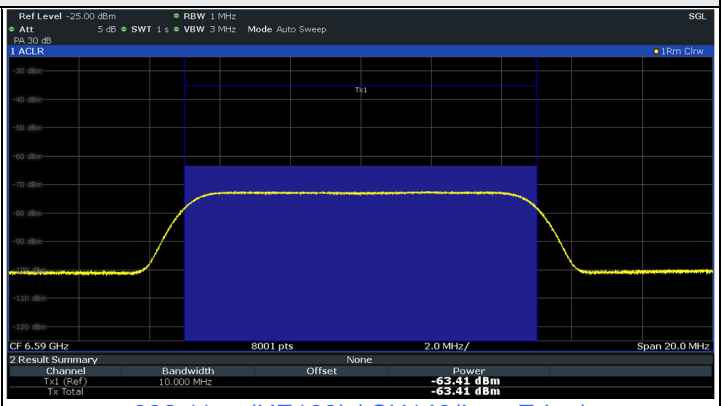


802.11ax (HE160) / CH143

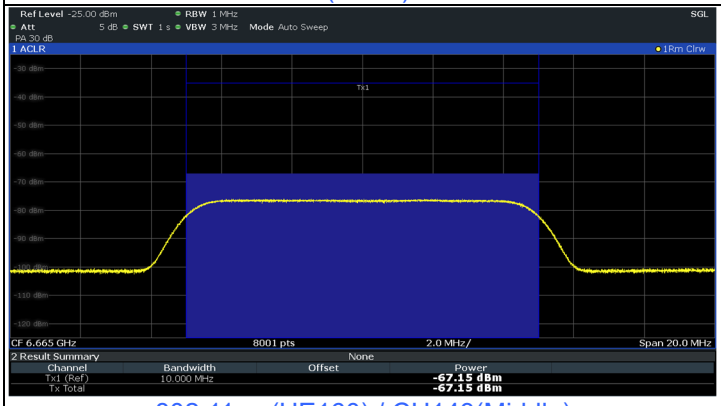
Plots of Injected signal (AWGN) level



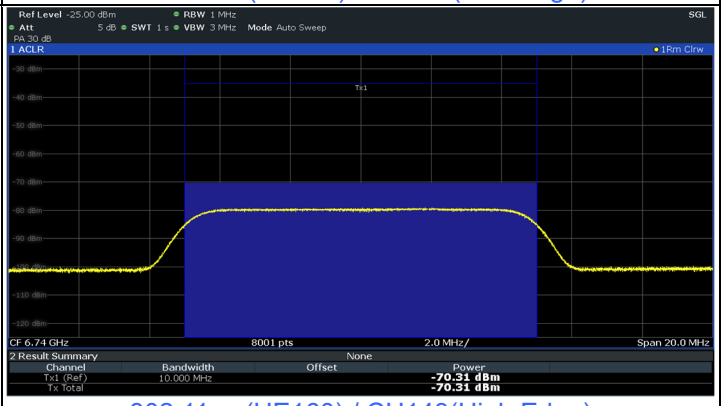
802.11ax (HE20) / CH133



802.11ax (HE160) / CH143(Low Edge)



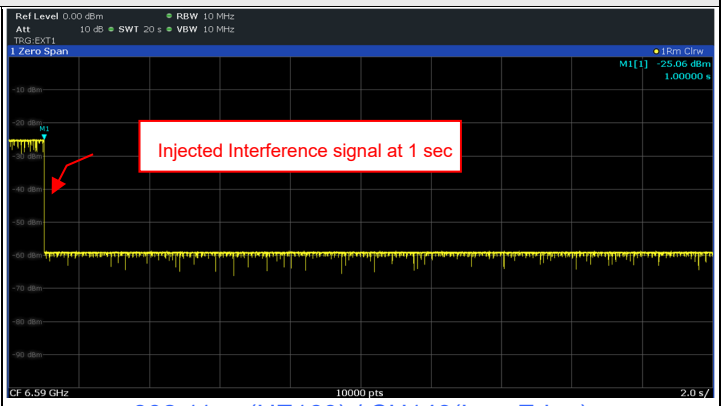
802.11ax (HE160) / CH143(Middle)



802.11ax (HE160) / CH143(High Edge)

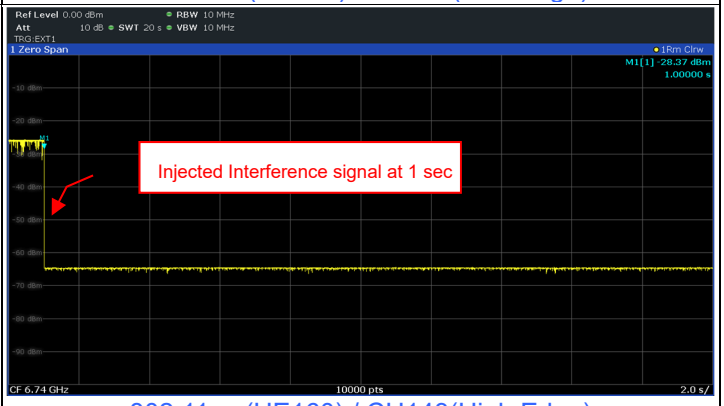
Plots of EUT ceased transmission in the time domain

802.11ax (HE20) / CH133



802.11ax (HE160) / CH143(Low Edge)

802.11ax (HE160) / CH143(Middle)



802.11ax (HE160) / CH143(High Edge)

For U-NII-8

Contention Based Protocol Measurement										
Operation Mode	Channel Bandwidth (MHz)	Channel Number	Channel Freq. (MHz)	Injected Signal (AWGN)		Antenna Gain (dBi)	Path Loss (dB)	Adjusted Power (dBm)	Detection Limit	EUT TX Status
				Freq. (MHz)	Power (dBm)					
802.11ax	20	197	6935	6935	-64.16	3.52	1.9	-65.78	-62	OFF
					-64.66	3.52	1.9	-66.28	-62	Minimal
					-78.48	3.52	1.9	-80.1	-62	ON
	160	207	6985	6910	-64.05	3.52	1.9	-65.67	-62	OFF
					-64.55	3.52	1.9	-66.17	-62	Minimal
					-78.48	3.52	1.9	-80.1	-62	ON
				6985	-66.43	3.52	1.9	-68.05	-62	OFF
					-66.93	3.52	1.9	-68.55	-62	Minimal
					-78.48	3.52	1.9	-80.1	-62	ON
				7060	-68.08	3.52	1.9	-69.7	-62	OFF
					-68.58	3.52	1.9	-70.2	-62	Minimal
					-78.48	3.52	1.9	-80.1	-62	ON

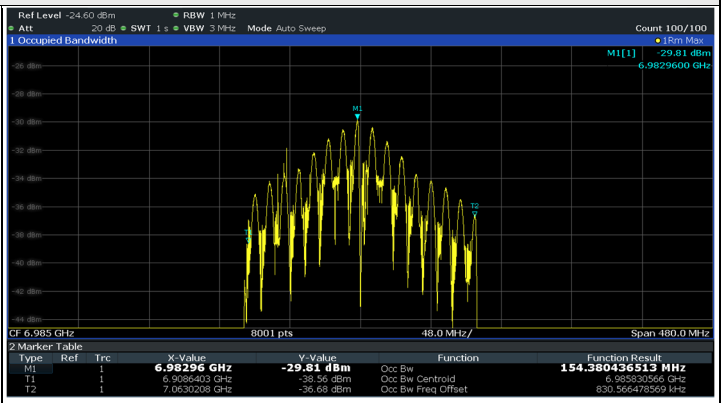
Notes:

1. Adjusted Power (dBm) = Injected Signal (AWGN) Power (dBm) - Antenna Gain (dBi) + Path Loss (dB)
2. After evaluation, only the Chain1 was chosen for test and presented in the test report.

Contention Based Protocol Detection Probability														
Operation Mode	Channel Bandwidth (MHz)	AWGN Signal Freq. (MHz)	#01	#02	#03	#04	#05	#06	#07	#08	#09	#10	Detection Probability	Detection Limit	Test Result
802.11ax	20	6935	v	v	v	v	v	v	v	v	v	v	100%	90%	Pass
	160	6910	v	v	v	v	v	v	v	v	v	v	100%	90%	Pass
		6985	v	v	v	v	v	v	v	v	x	v	90%	90%	Pass
		7060	v	v	v	v	v	v	v	x	v	v	90%	90%	Pass

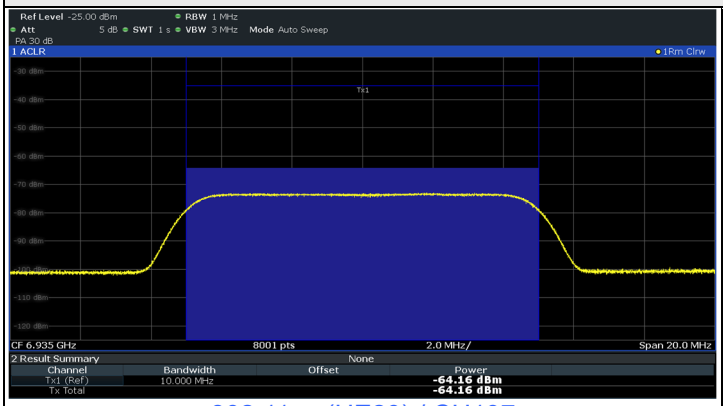
Plots of EUT Tx waveform

802.11ax (HE20) / CH197

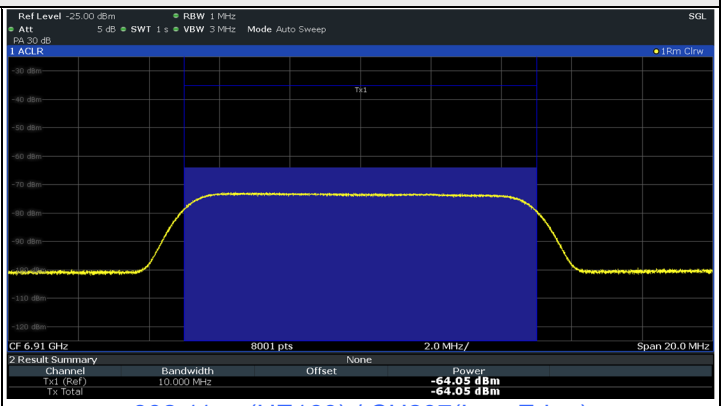


802.11ax (HE160) / CH207

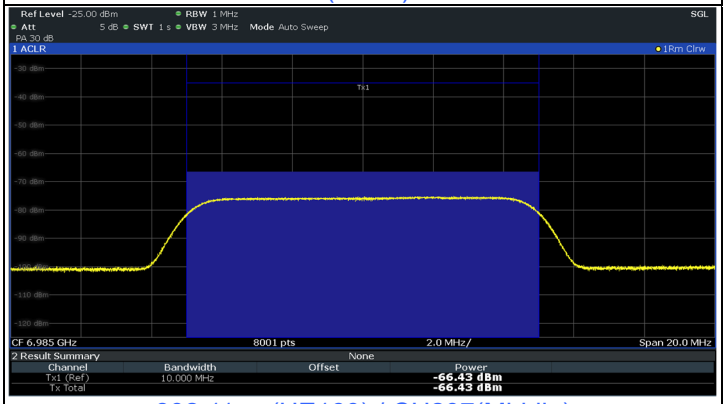
Plots of Injected signal (AWGN) level



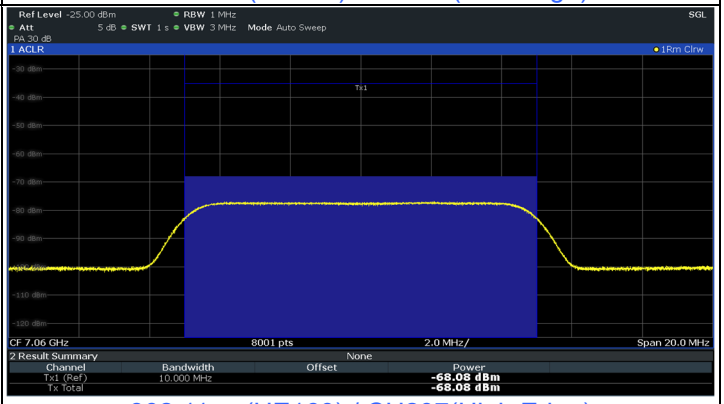
802.11ax (HE20) / CH197



802.11ax (HE160) / CH207(Low Edge)

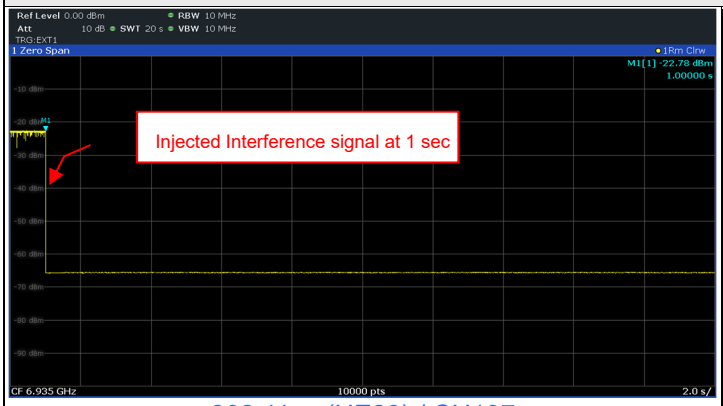


802.11ax (HE160) / CH207(Middle)

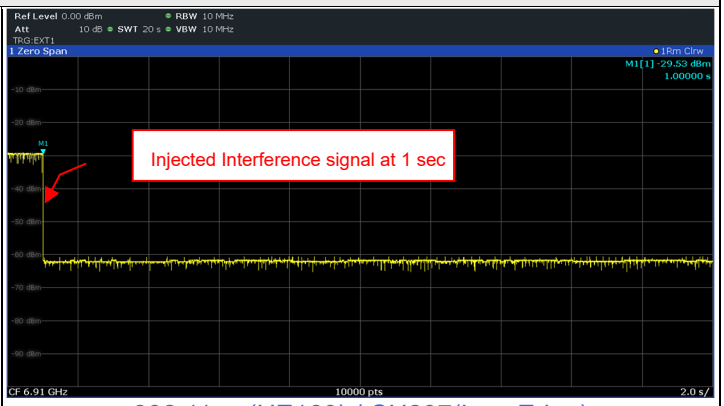


802.11ax (HE160) / CH207(High Edge)

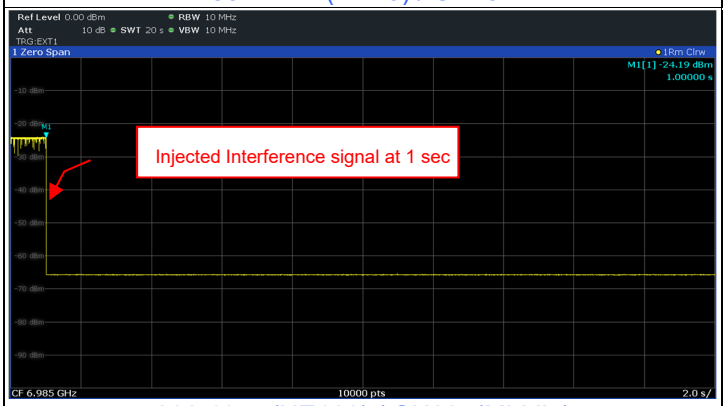
Plots of EUT ceased transmission in the time domain



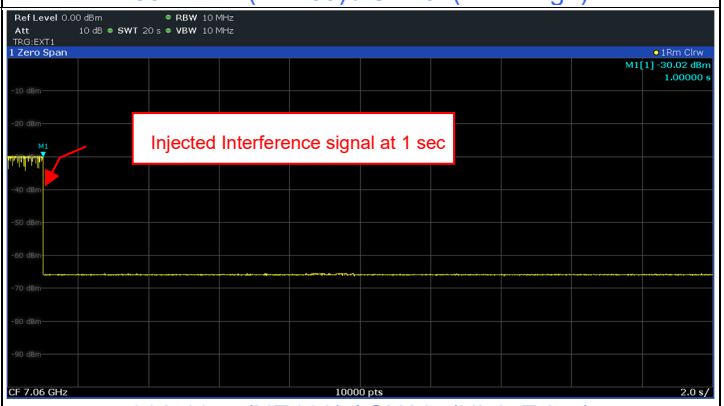
802.11ax (HE20) / CH197



802.11ax (HE160) / CH207(Low Edge)



802.11ax (HE160) / CH207(Middle)



802.11ax (HE160) / CH207(High Edge)

7.3 Unwanted Emissions above 1 GHz

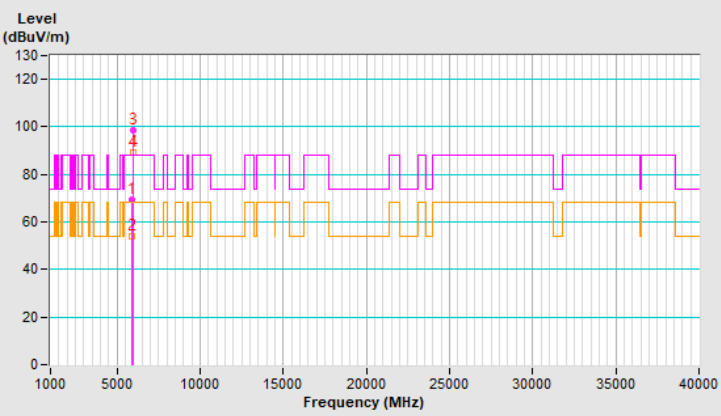
Under control by Standard Power AP

RF Mode	802.11a	**Channel**	CH 2：5935 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 65% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	#5925.00	69.3 PK	88.2	-18.9	1.10 H	199	65.7	3.6
2	#5925.00	54.0 AV	68.2	-14.2	1.10 H	199	50.4	3.6
3	*5935.00	98.5 PK			1.10 H	199	94.9	3.6
4	*5935.00	89.4 AV			1.10 H	199	85.8	3.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

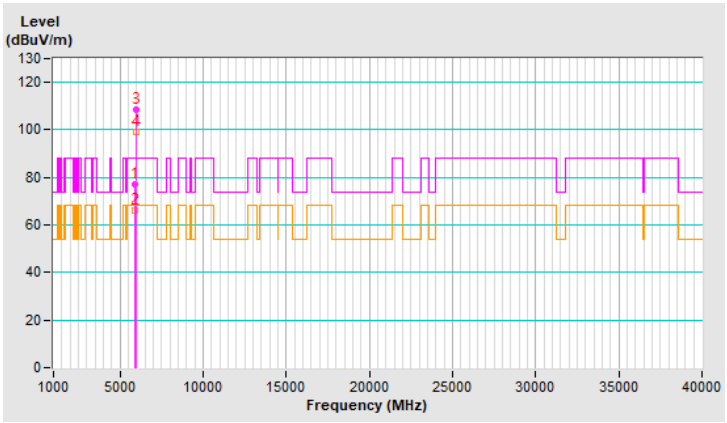


RF Mode	802.11a	Channel	CH 2：5935 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 65% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5925.00	77.3 PK	88.2	-10.9	2.35 V	241	73.7	3.6
2	#5925.00	66.3 AV	68.2	-1.9	2.35 V	241	62.7	3.6
3	*5935.00	108.7 PK			2.35 V	241	105.1	3.6
4	*5935.00	99.1 AV			2.35 V	241	95.5	3.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

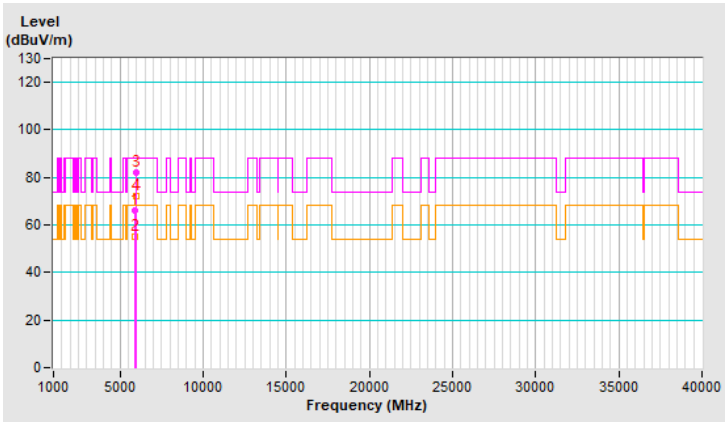


RF Mode	802.11ax (HE20)	**Channel**	CH 2：5935 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 65% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	#5925.00	66.3 PK	88.2	-21.9	1.10 H	196	62.7	3.6
2	#5925.00	55.1 AV	68.2	-13.1	1.10 H	196	51.5	3.6
3	*5935.00	82.1 PK			1.10 H	196	78.5	3.6
4	*5935.00	72.2 AV			1.10 H	196	68.6	3.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

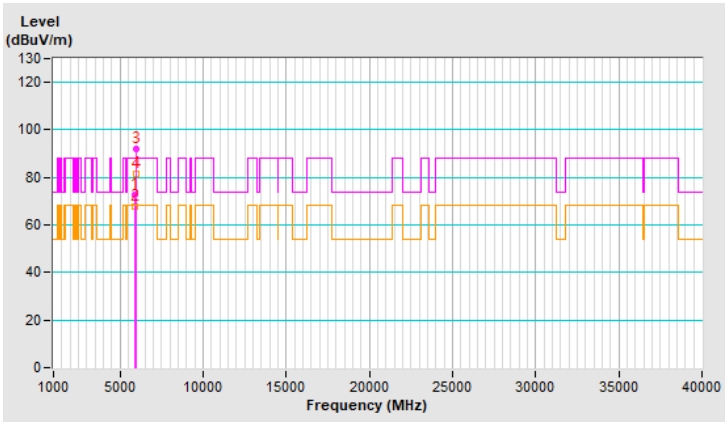


RF Mode	802.11ax (HE20)	Channel	CH 2：5935 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 65% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5925.00	72.9 PK	88.2	-15.3	2.02 V	211	69.3	3.6
2	#5925.00	67.6 AV	68.2	-0.6	2.02 V	211	64.0	3.6
3	*5935.00	91.9 PK			2.02 V	211	88.3	3.6
4	*5935.00	81.7 AV			2.02 V	211	78.1	3.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.



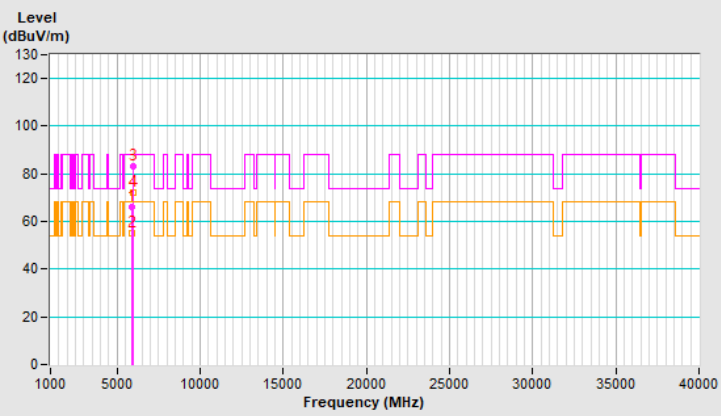
Under control by Low-Power Indoor AP

RF Mode	802.11ax (HE20)	**Channel**	CH 2：5935 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 65% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	#5925.00	66.3 PK	88.2	-21.9	1.10 H	196	62.7	3.6
2	#5925.00	55.1 AV	68.2	-13.1	1.10 H	196	51.5	3.6
3	*5935.00	83.3 PK			1.10 H	196	79.7	3.6
4	*5935.00	71.9 AV			1.10 H	196	68.3	3.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

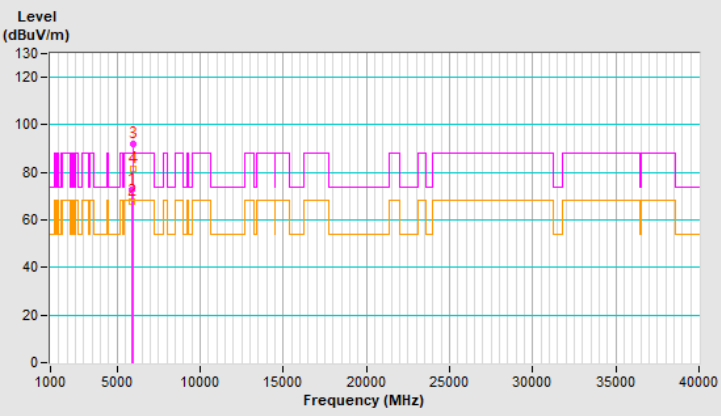


RF Mode	802.11ax (HE20)	Channel	CH 2：5935 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 65% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5925.00	72.9 PK	88.2	-15.3	2.02 V	211	69.3	3.6
2	#5925.00	67.6 AV	68.2	-0.6	2.02 V	211	64.0	3.6
3	*5935.00	91.9 PK			2.02 V	211	88.3	3.6
4	*5935.00	81.7 AV			2.02 V	211	78.1	3.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

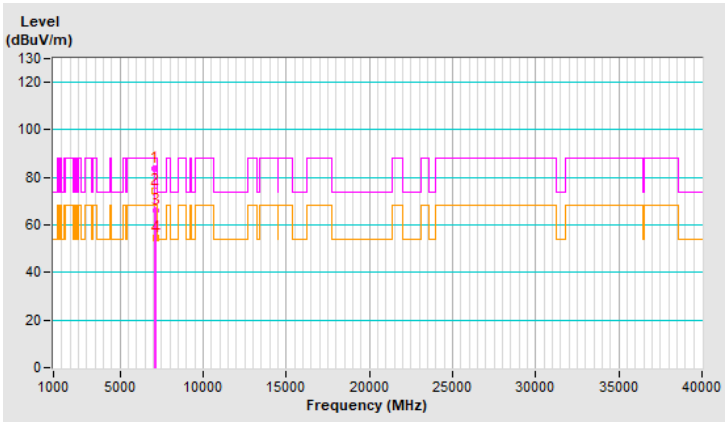


RF Mode	802.11ax (HE20)	Channel	CH 233：7115 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 65% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*7115.00	83.8 PK			1.15 H	192	76.2	7.6
2	*7115.00	74.1 AV			1.15 H	192	66.5	7.6
3	#7125.00	66.0 PK	88.2	-22.2	1.15 H	192	58.2	7.8
4	#7125.00	54.7 AV	68.2	-13.5	1.15 H	192	46.9	7.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

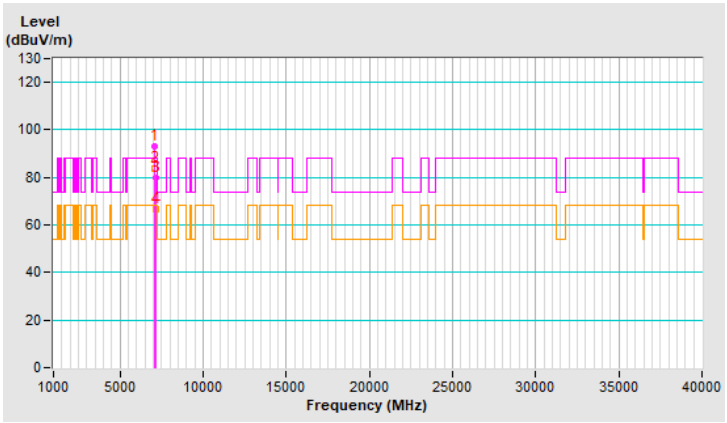


RF Mode	802.11ax (HE20)	**Channel**	CH 233：7115 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 65% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*7115.00	93.1 PK			3.04 V	94	85.5	7.6
2	*7115.00	83.6 AV			3.04 V	94	76.0	7.6
3	#7125.00	80.0 PK	88.2	-8.2	3.04 V	94	72.2	7.8
4	#7125.00	66.8 AV	68.2	-1.4	3.04 V	94	59.0	7.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

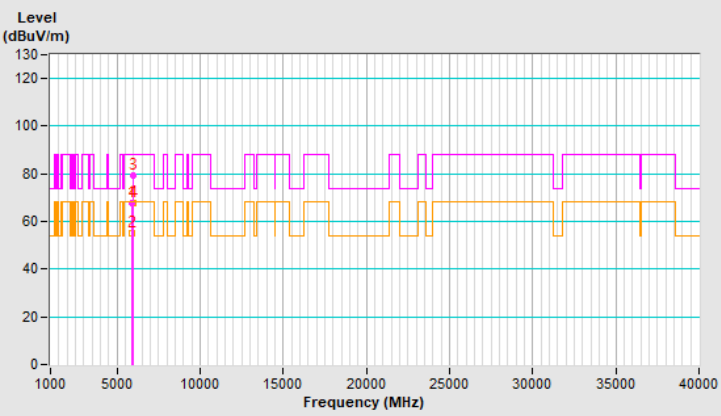


RF Mode	20 MHz Preamble 802.11ax (RU26)	Channel	CH 2：5935 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	20°C, 72% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5925.00	67.7 PK	88.2	-20.5	1.02 H	149	64.1	3.6
2	#5925.00	54.9 AV	68.2	-13.3	1.02 H	149	51.3	3.6
3	*5935.00	79.2 PK			1.02 H	149	75.6	3.6
4	*5935.00	67.8 AV			1.02 H	149	64.2	3.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

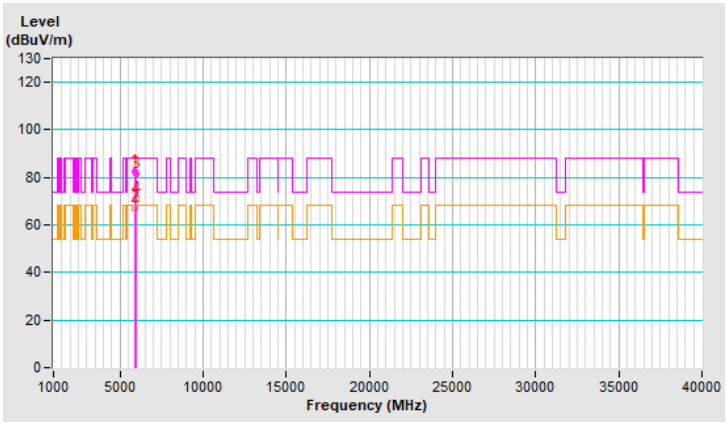


RF Mode	20 MHz Preamble 802.11ax (RU26)	**Channel**	CH 2：5935 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 72% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	#5925.00	82.7 PK	88.2	-5.5	1.86 V	197	79.1	3.6
2	#5925.00	67.2 AV	68.2	-1.0	1.86 V	197	63.6	3.6
3	*5935.00	81.7 PK			1.86 V	197	78.1	3.6
4	*5935.00	71.2 AV			1.86 V	197	67.6	3.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

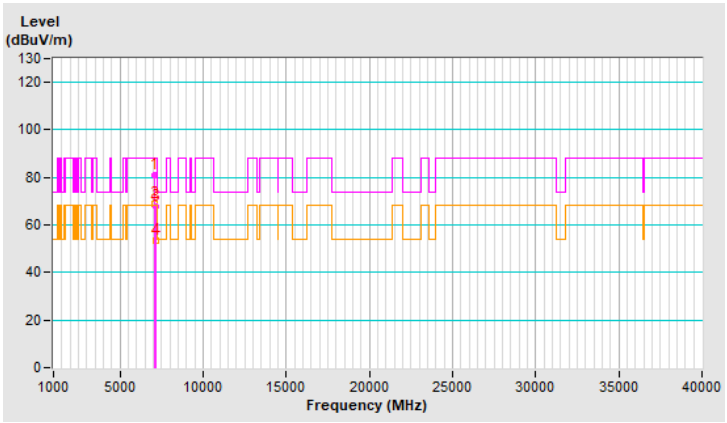


RF Mode	20 MHz Preamble 802.11ax (RU26)	**Channel**	CH 233：7115 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 72% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*7115.00	80.7 PK			1.02 H	34	70.9	9.8
2	*7115.00	68.7 AV			1.02 H	34	58.9	9.8
3	#7125.00	67.9 PK	88.2	-20.3	1.02 H	34	58.0	9.9
4	#7125.00	53.6 AV	68.2	-14.6	1.02 H	34	43.7	9.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

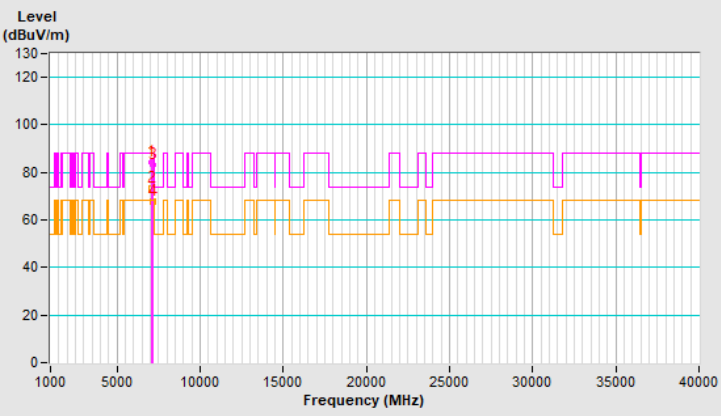


RF Mode	20 MHz Preamble 802.11ax (RU26)	**Channel**	CH 233：7115 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 72% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*7115.00	84.1 PK			1.91 V	214	74.3	9.8
2	*7115.00	73.4 AV			1.91 V	214	63.6	9.8
3	#7125.00	83.2 PK	88.2	-5.0	1.91 V	214	73.3	9.9
4	#7125.00	67.5 AV	68.2	-0.7	1.91 V	214	57.6	9.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

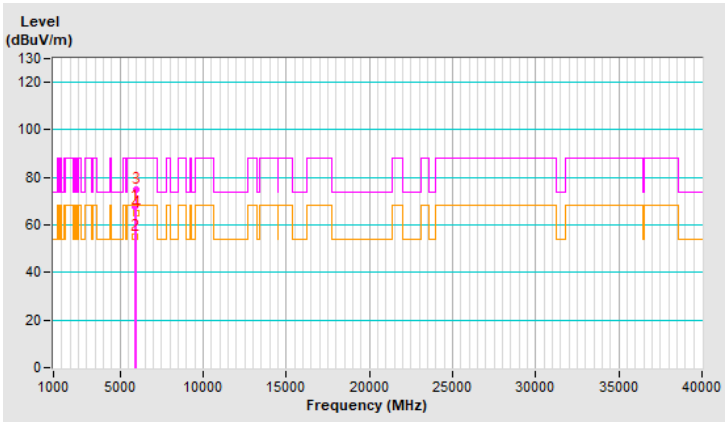


RF Mode	20 MHz Preamble 802.11ax (RU52)	**Channel**	CH 2：5935 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 72% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	#5925.00	67.9 PK	88.2	-20.3	1.06 H	163	64.3	3.6
2	#5925.00	55.2 AV	68.2	-13.0	1.06 H	163	51.6	3.6
3	*5935.00	74.8 PK			1.06 H	163	71.2	3.6
4	*5935.00	65.0 AV			1.06 H	163	61.4	3.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

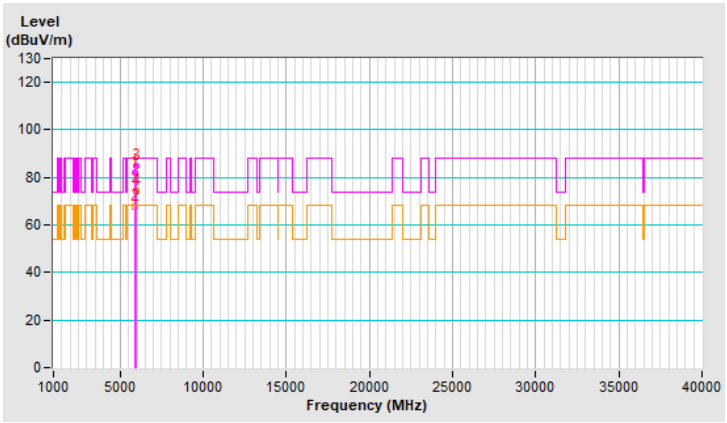


RF Mode	20 MHz Preamble 802.11ax (RU52)	**Channel**	CH 2：5935 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 72% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	#5925.00	82.2 PK	88.2	-6.0	1.43 V	189	76.7	5.5
2	#5925.00	67.5 AV	68.2	-0.7	1.43 V	189	62.0	5.5
3	*5935.00	84.9 PK			1.43 V	189	79.4	5.5
4	*5935.00	74.4 AV			1.43 V	189	68.9	5.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

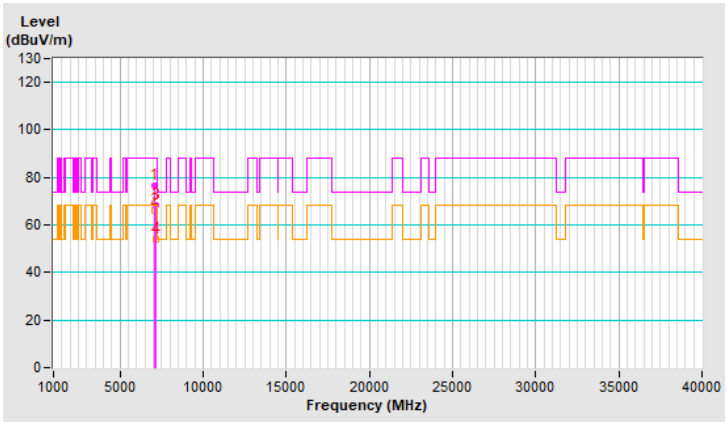


RF Mode	20 MHz Preamble 802.11ax (RU52)	**Channel**	CH 233：7115 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 72% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*7115.00	76.4 PK			1.01 H	33	68.8	7.6
2	*7115.00	66.2 AV			1.01 H	33	58.6	7.6
3	#7125.00	68.2 PK	88.2	-20.0	1.01 H	33	60.4	7.8
4	#7125.00	53.8 AV	68.2	-14.4	1.01 H	33	46.0	7.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

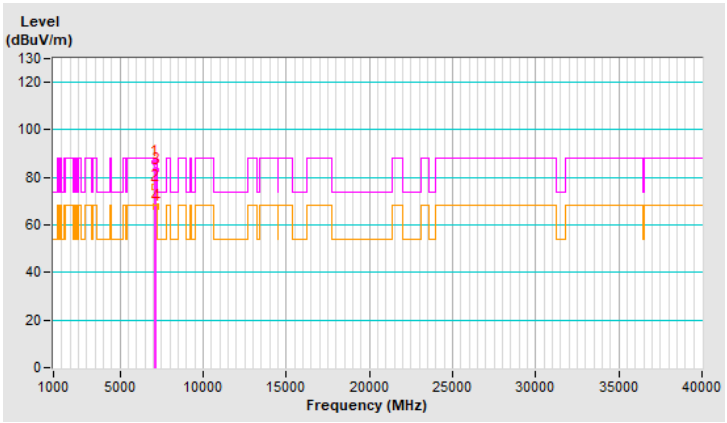


RF Mode	20 MHz Preamble 802.11ax (RU52)	**Channel**	CH 233：7115 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 72% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*7115.00	86.6 PK			1.97 V	202	76.8	9.8
2	*7115.00	75.8 AV			1.97 V	202	66.0	9.8
3	#7125.00	83.1 PK	88.2	-5.1	1.97 V	202	73.2	9.9
4	**#7125.00**	**67.7 AV**	**68.2**	**-0.5**	**1.97 V**	**202**	**57.8**	**9.9**

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

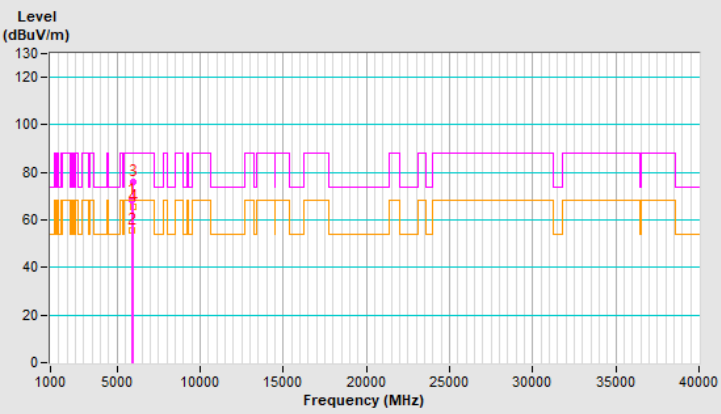


RF Mode	20 MHz Preamble 802.11ax (RU106)	**Channel**	CH 2：5935 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 72% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	#5925.00	68.5 PK	88.2	-19.7	1.04 H	148	64.9	3.6
2	#5925.00	55.4 AV	68.2	-12.8	1.04 H	148	51.8	3.6
3	*5935.00	75.8 PK			1.04 H	148	72.2	3.6
4	*5935.00	65.7 AV			1.04 H	148	62.1	3.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

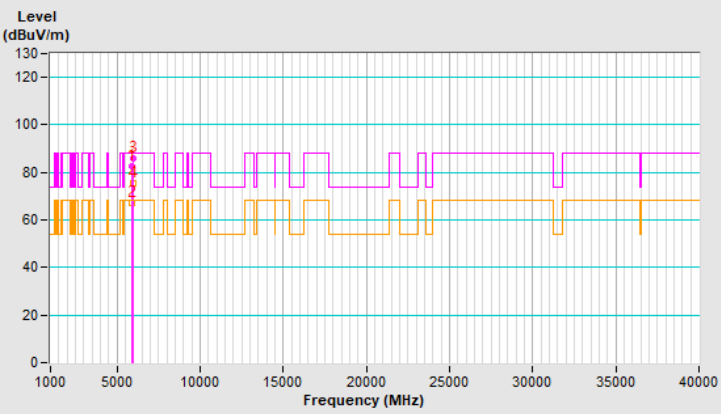


RF Mode	20 MHz Preamble 802.11ax (RU106)	**Channel**	CH 2：5935 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 72% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	#5925.00	82.5 PK	88.2	-5.7	1.67 V	189	77.0	5.5
2	#5925.00	67.3 AV	68.2	-0.9	1.67 V	189	61.8	5.5
3	*5935.00	85.9 PK			1.67 V	189	80.4	5.5
4	*5935.00	75.2 AV			1.67 V	189	69.7	5.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

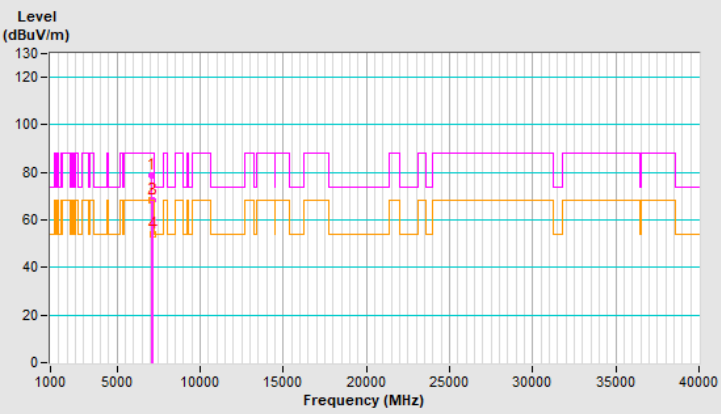


RF Mode	20 MHz Preamble 802.11ax (RU106)	**Channel**	CH 233：7115 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 72% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*7115.00	78.5 PK			1.07 H	42	70.9	7.6
2	*7115.00	68.2 AV			1.07 H	42	60.6	7.6
3	#7125.00	68.4 PK	88.2	-19.8	1.07 H	42	60.6	7.8
4	#7125.00	54.1 AV	68.2	-14.1	1.07 H	42	46.3	7.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

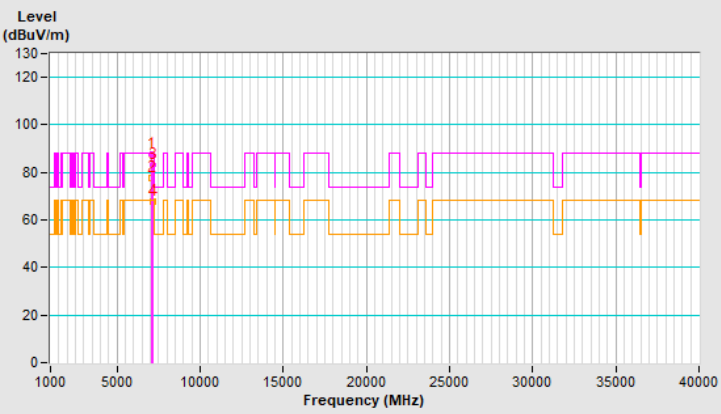


RF Mode	20 MHz Preamble 802.11ax (RU106)	**Channel**	CH 233：7115 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 72% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*7115.00	87.8 PK			1.90 V	199	78.0	9.8
2	*7115.00	77.4 AV			1.90 V	199	67.6	9.8
3	#7125.00	83.3 PK	88.2	-4.9	1.90 V	199	73.4	9.9
4	#7125.00	67.6 AV	68.2	-0.6	1.90 V	199	57.7	9.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.



8 Operational Restrictions for 6 GHz U-NII Devices

(1) Operation of transmitters in the 5.925-7.125 GHz band is prohibited for control of or communications with unmanned aircraft systems.

(2) Transmitters operating under indoor client are limited to indoor locations.

(3) In the 5.925-7.125 GHz band, client devices must operate under the control of a standard power access point, indoor access point or subordinate devices; In all cases, an exception exists for transmitting brief messages to an access point when attempting to join its network after detecting a signal that confirms that an access point is operating on a particular channel. Client devices are prohibited from connecting directly to another client device.

(4) Dual client devices operating in the 5.925-7.125 GHz band must employ a contention-based protocol.

Device is a Client Devices (controlled of an standard power AP)

Client Devices (controlled of an indoor AP), all restrictions are meet the §15.407 (d) requirements.

9 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)

10 Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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The address and road map of all our labs can be found in our web site also.

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