Partial FCC Test Report

Report No.:	RFBDGE-WTW-P22120075-4
FCC ID:	J9C-QCNFA765
Test Model:	QCNFA765
Received Date:	Dec. 02, 2022
Test Date:	Mar. 21, 2023
Issued Date:	Mar. 24, 2023
Applicant:	Qualcomm Technologies, Inc.
Address:	5775 Morehouse Drive, San Diego, CA 92121-1714
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location:	No.215, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan, R.O.C
FCC Registration / Designation Number:	427177 / TW0011

Testing Laboratory
2021

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Release Control Record

Issue No.	Description	Date Issued
RFBDGE-WTW-P22120075-4	Original Release	Mar. 24, 2023

1 Certificate of Conformity

Product:	Wi-Fi 6E BT 5.2M.2 2230 Module
Brand:	Qualcomm
Test Model:	QCNFA765
Sample Status:	Engineering Sample
Applicant:	Qualcomm Technologies, Inc.
Test Date:	Mar. 21, 2023
Standard:	47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10-2013

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.

Prepared by : Gina Liu , **Date:** Mar. 24, 2023

Gina Liu / Specialist

Approved by : Jeremy Lin , **Date:** Mar. 24, 2023

Jeremy Lin / Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407 (d)(6)	Contention-based Protocol.	Pass	Meet the requirement of limit.

Note:

1. This report is a partial report. According to customer requirements, only test item of Contention-based Protocol were performed for this report.
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Wi-Fi 6E BT 5.2M.2 2230 Module
Brand	Qualcomm
Test Model	QCNFA765
Status of EUT	Engineering Sample
Power Supply Rating	3.3Vdc form host equipment
Modulation Type	1024QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM 4096QAM, 1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDMA
Modulation Technology	OFDM, OFDMA
Transfer Rate	802.11a: up to 54.0 Mbps 802.11ax: up to 2969.7 Mbps
Operating Frequency	**6GHz:** Under control by Standard Power AP: 5.935 ~ 6.415GHz, 6.535 ~ 6.855GHz Under control by Low-powerIndoor AP: 5.935 ~ 6.415GHz, 6.435 ~ 6.525GHz, 6.535 ~ 6.855GHz, 6.865 ~ 7.115GHz
Number of Channel	**6GHz:** 802.11a/ax (HE20): 60 802.11ax (HE40): 29 802.11ax (HE80): 14 802.11ax (HE160): 7
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Refer to Note
Data Cable Supplied	Refer to Note

Note:

1. Test modes for performing RF output power and spurious emission tests according to customer requirements (power, channel, etc.).
2. The EUT is authorized for use in specific End-product. Please refer to below table for more details.

Product Name	Brand Name	Model No.
Portable Computer	ALIENWARE	P124F

3. The End-product contains following accessory devices.

Product	Brand	Model	Description
Adapter	DELL	DA330PM190	I/P: 100-240 Vac, 50-60 Hz, 4.4 A O/P: 19.5Vdc; 16.92A DC Output Cable: 1.7m/ 2 core
Battery	DELL	69KF2	11.4 Vdc, 7167 mAh, 86 Wh

4. The EUT incorporates a MIMO function. Physically, the EUT provides 2 completed transmitters and 2 receivers.

Modulation Mode	TX Function
802.11a	2TX
802.11ax (HE20)	2TX
802.11ax (HE40)	2TX
802.11ax (HE80)	2TX
802.11ax (HE160)	2TX
802.11ax (RU26/52/106/242/484/996/1992)	2TX

5. The antenna information is listed as below.

Brand	Model	Type	Connector
Wistron	0VCJ72	PIFA	IPEX

	Antenna Gain (dBi)									
	2400-2483.5 MHz	5150-5250MHz	5250-5350MHz	5470-5725 MHz	5725-5850 MHz	5850-5895 MHz	5925-6425 MHz	6425-6525 MHz	6525-6875 MHz	6875-7125 MHz
Main	1.11	2.60	2.97	3.80	3.11	3.11	1.34	0.23	0.90	2.01
Aux.	1.95	2.98	2.91	3.48	1.26	1.26	0.55	-1.91	-0.08	2.54

*Detail antenna specification please refer to antenna datasheet.

3.2 Description of Test Modes

U-NII-5 (5925 ~ 6425MHz): 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	5955 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	6415MHz						

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	6285MHz	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 (6425 ~ 6525MHz): 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 (6525 ~ 6875MHz): 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

4 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

2 channels are provided for 802.11ax (HE160):

Channel	Frequency	Channel	Frequency
143	6665 MHz	175	*6825 MHz

U-NII-8 (6875 ~ 7125MHz): 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
187	6885 MHz	195	6925 MHz	203	6965 MHz
211	7005 MHz	219	7045 MHz	227	7085 MHz

3 channels are provided for 802.11ax (HE80):

Channel	Frequency	Channel	Frequency	Channel	Frequency
*183	6865 MHz	199	6945 MHz	215	7025 MHz

1 channel is provided for 802.11ax (HE160):

Channel	Frequency
207	6985 MHz

Note: * mean these's straddle channels

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To	Description
	CBP	
-	√	-

Where CBP:Contention Based Protocol

NOTE: The EUT is designed to be positioned on the NB Mode only.

Contention Based Protocol Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, RU configurations and antenna ports (if EUT with antenna diversity architecture).

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

Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11ax (HE20)	5955-6415	1 to 93	45	OFDMA	BPSK	MCS0
	6435-6525	97 to 113	105	OFDMA	BPSK	MCS0
	6525-6855	117 to 185	149	OFDMA	BPSK	MCS0
	6875-7115	185 to 233	209	OFDMA	BPSK	MCS0
802.11ax (HE160)	5955-6415	15 to 79	47	OFDMA	BPSK	MCS0
	6435-6525	111	111	OFDMA	BPSK	MCS0
	6525-6855	111 to 175	143	OFDMA	BPSK	MCS0
	6875-7115	207	207	OFDMA	BPSK	MCS0

Test Condition:

Applicable To	Environmental Conditions	Input Power (System)	Tested By
CBP	26 deg. C, 62% RH	120Vac, 60Hz	Matthew Yang

3.3 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units.

3.3.1 Configuration of System under Test

3.4 General Description of Applied Standard

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards and references:

Test Standard:
FCC Part 15, Subpart E (15.407)
ANSI C63.10-2013
All test items have been performed and recorded as per the above standards.

References Test Guidance:
KDB 987594 D02 EMC Measurement v01r01

All test items have been performed as a reference to the above KDB test guidance.

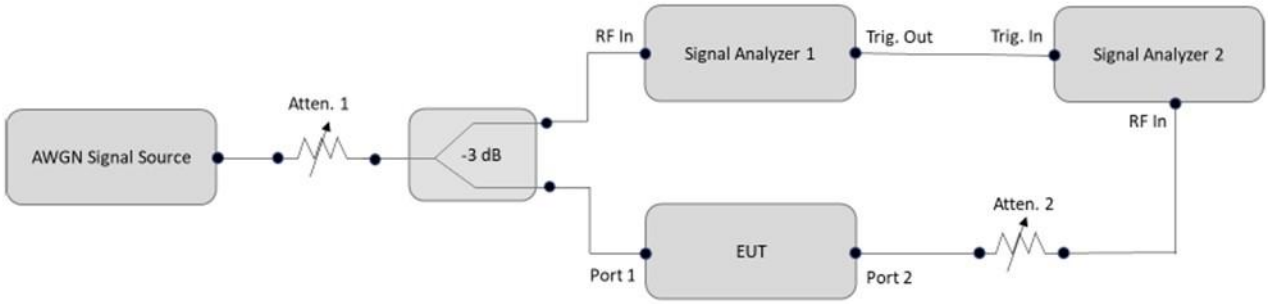
4 Test Types and Results

4.1 Contention Based Protocol Measurement

4.1.1 Limits of Contention Based Protocol Measurement

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.

4.1.2 Test Setup



4.1.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer R&S	FSW	102023	Nov. 08, 2022	Nov. 07, 2023
Spectrum Analyzer R&S	FSV40	101516	Feb. 10, 2023	Feb. 09, 2024
MXG X-Series RF Vector Signal Generator Agilent	N5182B	MY59100182	Apr. 26, 2022	Apr. 25, 2023
N5182BU KEYSIGHT	N5182BX07	MY59360203	Apr. 26, 2022	Apr. 25, 2023
Power Splitter/combiner Mini-Circuits	ZFRSC-123-S+	F698501347_01	Dec. 28, 2022	Dec. 27, 2023

Note: 1. The test was performed in Femtocell room.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. Tested date: Mar. 21, 2023

4.1.4 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.

4.1.5 EUT Operating Condition

Set the EUT to transmit with a constant duty cycle and relative operating parameters which including power level, operating frequency,modulation and bandwidth.

4.1.6 Test Results

UNII Band 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 (dBi)	Detection Limit	EUT TX Status
				Freq. (MHz)	Power (dBm)					
802.11ax	20	45	6175	6175	-66	0.55	0	-66.55	-62	OFF
					-67	0.55	0	-67.55	-62	Minimal
					-81.45	0.55	0	-82	-62	ON
	160	47	6185	6110	-65	0.55	0	-65.55	-62	OFF
					-66	0.55	0	-66.55	-62	Minimal
					-81.45	0.55	0	-82	-62	ON
				6185	-65	0.55	0	-65.55	-62	OFF
					-66	0.55	0	-66.55	-62	Minimal
					-81.45	0.55	0	-82	-62	ON
				6260	-65	0.55	0	-65.55	-62	OFF
					-66	0.55	0	-66.55	-62	Minimal
					-81.45	0.55	0	-82	-62	ON

Note: Adjusted Power = Injected Signal (AWGN) Power - Antenna Gain + Path Loss
*Antenna gain values include all the applicable path losses.

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	6175	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

UNII Band 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 (dBi)	Detection Limit	EUT TX Status
				Freq. (MHz)	Power (dBm)					
802.11ax	20	105	6475	6475	-66	-1.91	0	-64.09	-62	OFF
					-67	-1.91	0	-65.09	-62	Minimal
					-83.91	-1.91	0	-82	-62	ON
	160	111	6505	6430	-65	-1.91	0	-63.09	-62	OFF
					-66	-1.91	0	-64.09	-62	Minimal
					-83.91	-1.91	0	-82	-62	ON
				6505	-65	-1.91	0	-63.09	-62	OFF
					-66	-1.91	0	-64.09	-62	Minimal
					-83.91	-1.91	0	-82	-62	ON
				6580	-65	-1.91	0	-63.09	-62	OFF
					-66	-1.91	0	-64.09	-62	Minimal
					-83.91	-1.91	0	-82	-62	ON

Note: Adjusted Power = Injected Signal (AWGN) Power - Antenna Gain + Path Loss
*Antenna gain values include all the applicable path losses.

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	6475	v	v	v	v	v	v	v	v	v	v	100%	90%	Pass
	160	6430	v	v	v	v	v	v	v	v	v	v	100%	90%	Pass
		6505	v	v	v	v	v	v	v	v	v	v	100%	90%	Pass
		6580	v	v	v	v	v	v	v	v	v	v	100%	90%	Pass

UNII Band 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 (dBi)	Detection Limit	EUT TX Status
				Freq. (MHz)	Power (dBm)					
802.11ax	20	149	6695	6695	-66	-0.08	0	-65.92	-62	OFF
					-67	-0.08	0	-66.92	-62	Minimal
					-82.08	-0.08	0	-82	-62	ON
	160	143	6665	6590	-65	-0.08	0	-64.92	-62	OFF
					-66	-0.08	0	-65.92	-62	Minimal
					-82.08	-0.08	0	-82	-62	ON
				6665	-65	-0.08	0	-64.92	-62	OFF
					-66	-0.08	0	-65.92	-62	Minimal
					-82.08	-0.08	0	-82	-62	ON
				6740	-65	-0.08	0	-64.92	-62	OFF
					-66	-0.08	0	-65.92	-62	Minimal
					-82.08	-0.08	0	-82	-62	ON

Note: Adjusted Power = Injected Signal (AWGN) Power - Antenna Gain + Path Loss
*Antenna gain values include all the applicable path losses.

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	6695	v	v	v	v	v	v	v	v	v	v	100%	90%	Pass
	160	6590	v	v	v	v	v	v	v	v	v	v	100%	90%	Pass
		6665	v	v	v	v	v	v	v	v	v	v	100%	90%	Pass
		6740	v	v	v	v	v	v	v	v	v	v	100%	90%	Pass

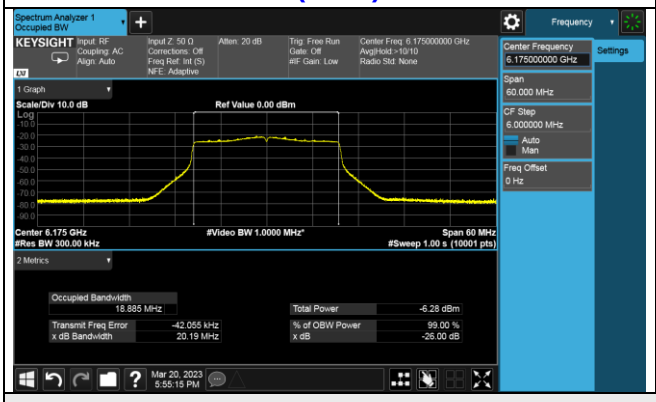
UNII Band 8:

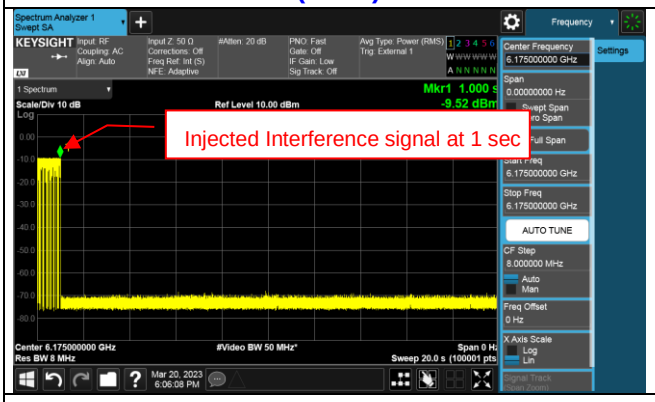
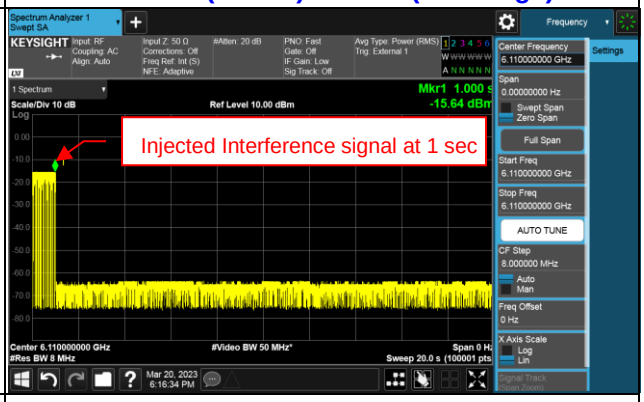
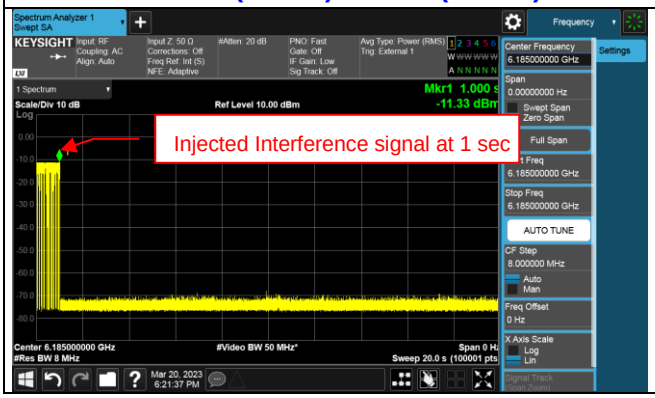
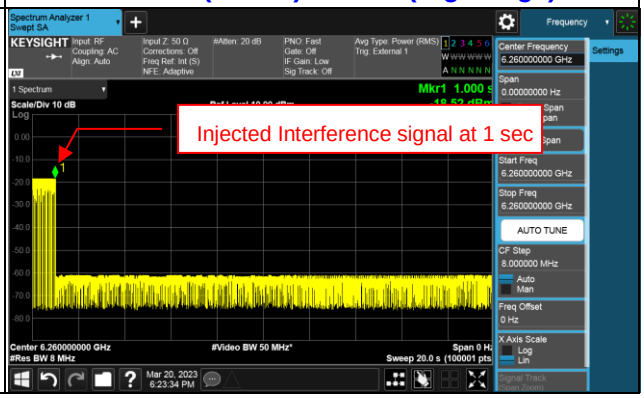
Contention Based Protocol Measurement										
Operation Mode	Channel Bandwidth (MHz)	Channel Number	Channel Freq. (MHz)	Injected Signal (AWGN)		Antenna Gain (dBi)	Path Loss (dB)	Adjusted Power (dBi)	Detection Limit	EUT TX Status
				Freq. (MHz)	Power (dBm)					
802.11ax	20	209	6995	6995	-64	2.01	0	-66.01	-62	OFF
					-65	2.01	0	-67.01	-62	Minimal
					-79.99	2.01	0	-82	-62	ON
	160	207	6985	6910	-63	2.01	0	-65.01	-62	OFF
					-64	2.01	0	-66.01	-62	Minimal
					-79.99	2.01	0	-82	-62	ON
				6985	-63	2.01	0	-65.01	-62	OFF
					-64	2.01	0	-66.01	-62	Minimal
					-79.99	2.01	0	-82	-62	ON
				7060	-63	2.01	0	-65.01	-62	OFF
					-64	2.01	0	-66.01	-62	Minimal
					-79.99	2.01	0	-82	-62	ON

Note: Adjusted Power = Injected Signal (AWGN) Power - Antenna Gain + Path Loss
*Antenna gain values include all the applicable path losses.

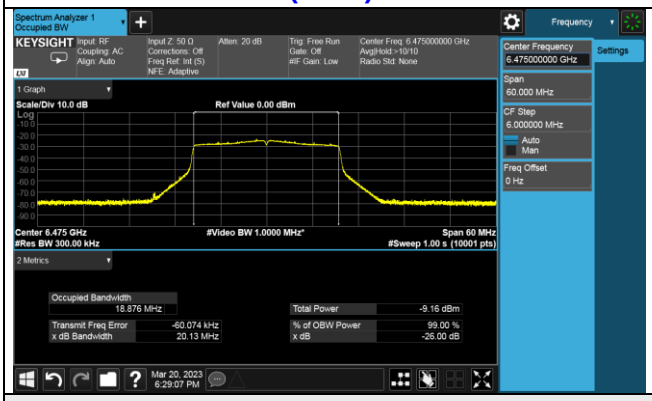
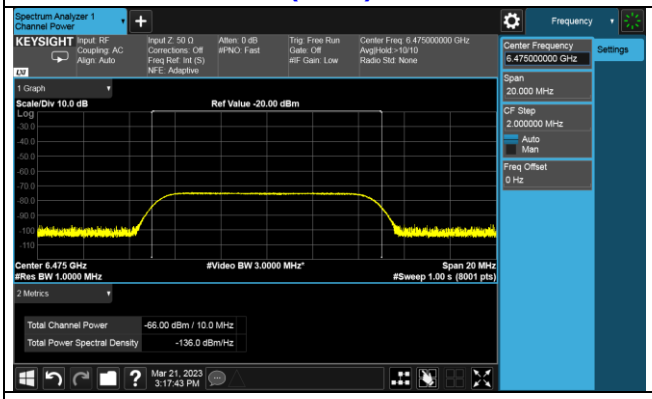
Contention Based Protocol Detection Probability															
Operation Mode	Channel Bandwidth (MHz)	AWGN Signal Freq. (MHz)	#01	#02	#03	#04	#05	#06	#07	#08	#09	#10	Detection Probability	Detection Limit	Test Result
802.11ax	20	6995	v	v	v	v	v	v	v	v	v	v	100%	90%	Pass
	160	6910	v	v	v	v	v	v	v	v	v	v	100%	90%	Pass
		6985	v	v	v	v	v	v	v	v	v	v	100%	90%	Pass
		7060	v	v	v	v	v	v	v	v	v	v	100%	90%	Pass

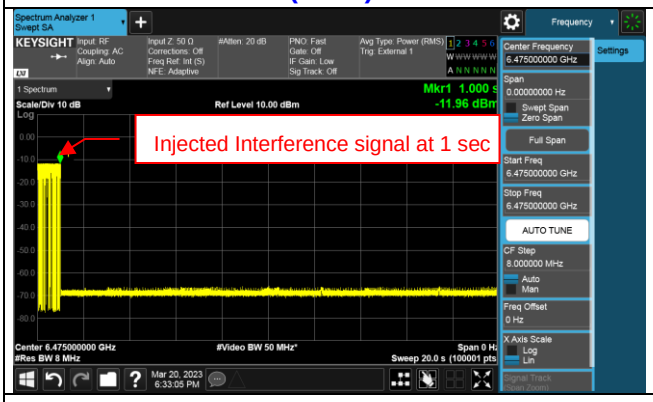
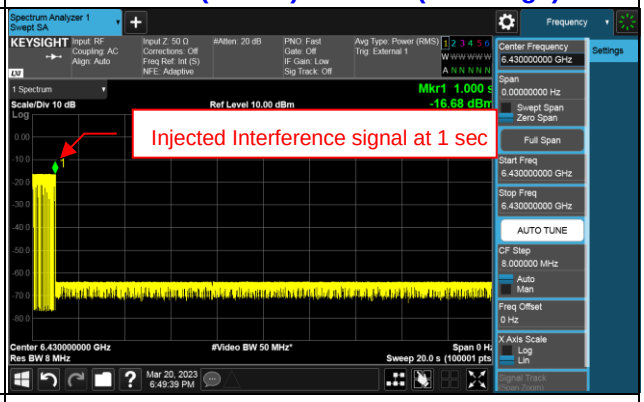
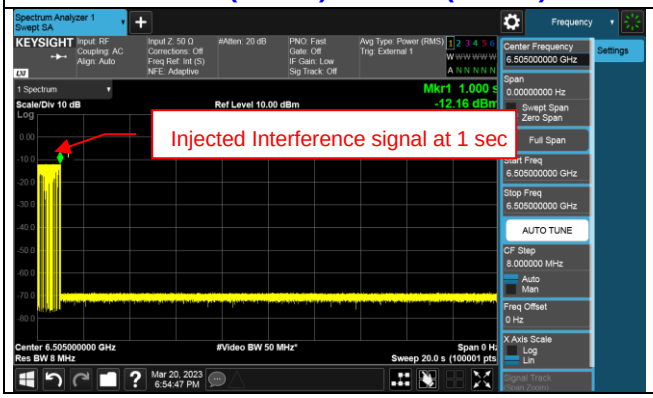
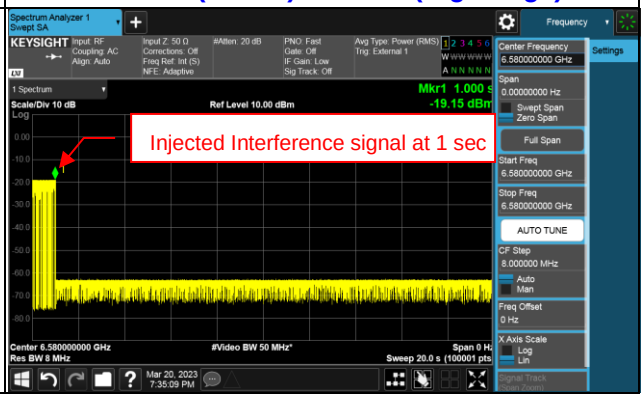
For U-NII-5 band

Plots of EUT Tx waveform	
802.11ax (HE20) / CH 45	**802.11ax (HE160) / CH 47**
	
Plots of Incumbent signal (AWGN) Level	
802.11ax (HE20) / CH 45	**802.11ax (HE160) / CH 47 (Low Edge)**
	
802.11ax (HE160) / CH 47 (Middle)	**802.11ax (HE160) / CH 47 (High Edge)**
	

Plots of EUT ceased transmission in the time domain	
802.11ax (HE20) / CH 45	**802.11ax (HE160) / CH 47 (Low Edge)**
	
802.11ax (HE160) / CH 47 (Middle)	**802.11ax (HE160) / CH 47 (High Edge)**
	

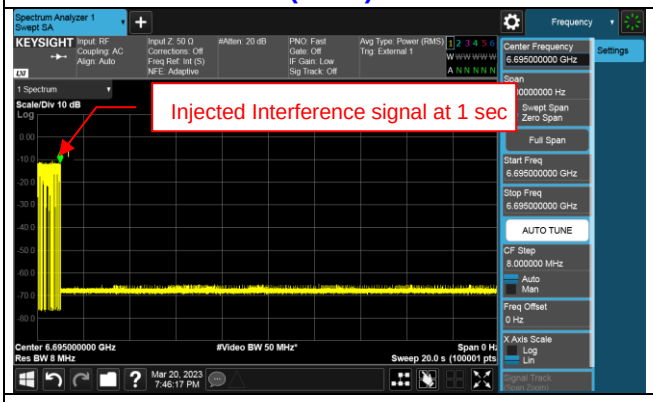
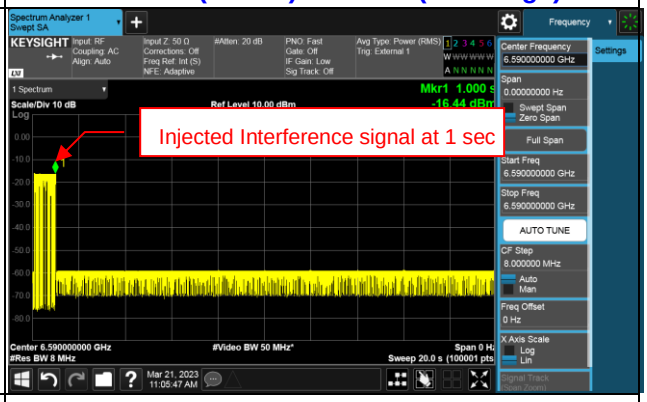
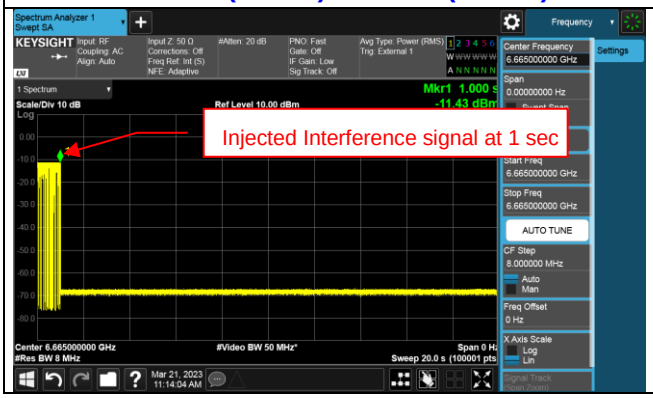
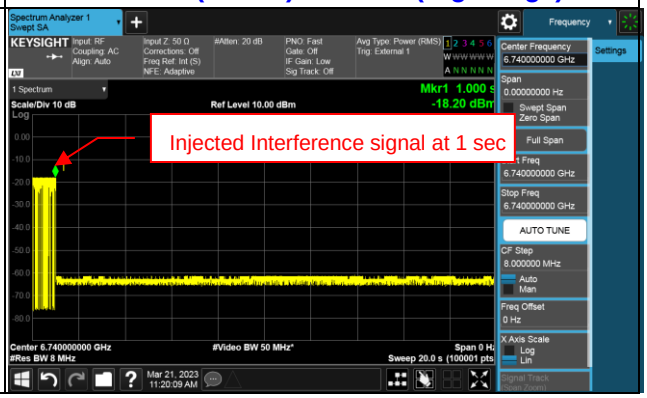
For U-NII-6 band

Plots of EUT Tx waveform	
802.11ax (HE20) / CH 105	**802.11ax (HE160) / CH 111**
	
Plots of Incumbent signal (AWGN) Level	
802.11ax (HE20) / CH 105	**802.11ax (HE160) / CH 111 (Low Edge)**
	
802.11ax (HE160) / CH 111 (Middle)	**802.11ax (HE160) / CH 111 (High Edge)**
	

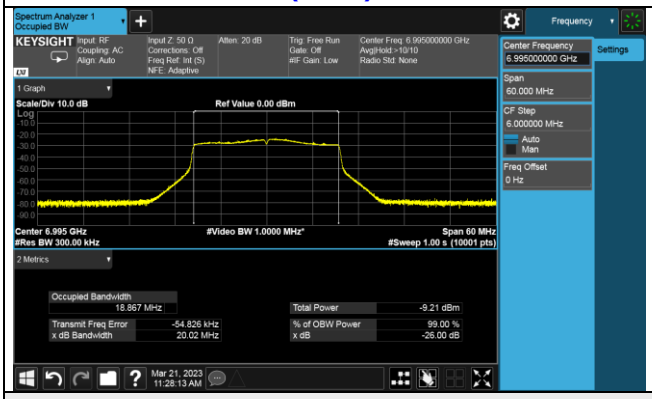
Plots of EUT ceased transmission in the time domain	
802.11ax (HE20) / CH 105	**802.11ax (HE160) / CH 111 (Low Edge)**
	
802.11ax (HE160) / CH 111 (Middle)	**802.11ax (HE160) / CH 111 (High Edge)**
	

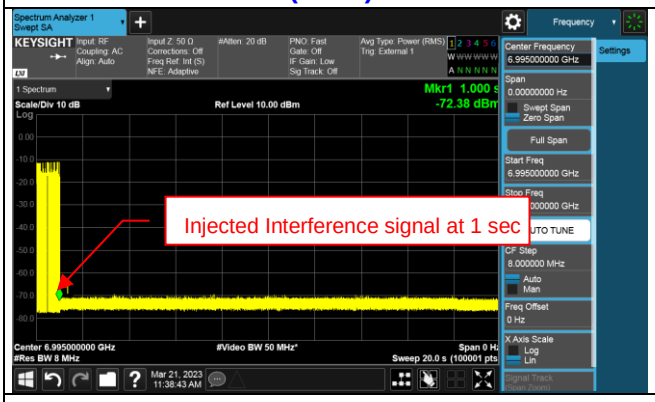
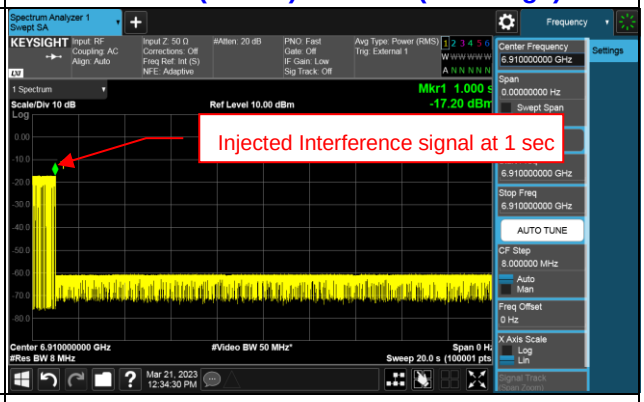
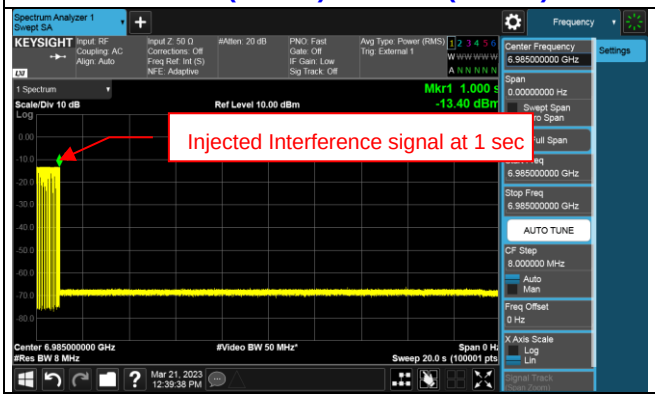
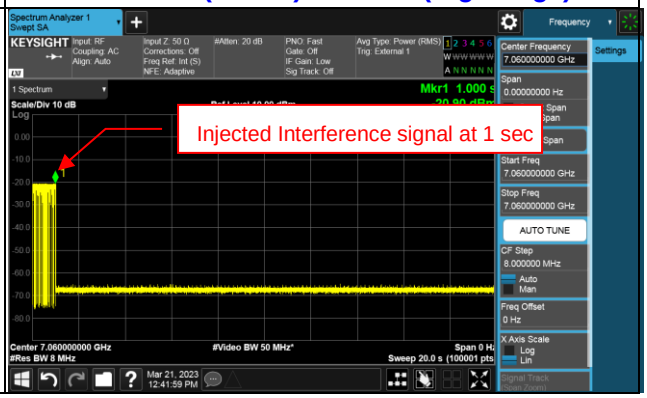
For U-NII-7 band

Plots of EUT Tx waveform	
802.11ax (HE20) / CH 149	**802.11ax (HE160) / CH 143**
	
Plots of Incumbent signal (AWGN) Level	
802.11ax (HE20) / CH 149	**802.11ax (HE160) / CH 143 (Low Edge)**
	
802.11ax (HE160) / CH 143 (Middle)	**802.11ax (HE160) / CH 143 (High Edge)**
	

Plots of EUT ceased transmission in the time domain	
802.11ax (HE20) / CH 149	**802.11ax (HE160) / CH 143 (Low Edge)**
	
802.11ax (HE160) / CH 143 (Middle)	**802.11ax (HE160) / CH 143 (High Edge)**
	

For U-NII-8 band

Plots of EUT Tx waveform	
802.11ax (HE20) / CH 209	**802.11ax (HE160) / CH 207**
	
Plots of Incumbent signal (AWGN) Level	
802.11ax (HE20) / CH 209	**802.11ax (HE160) / CH 207 (Low Edge)**
	
802.11ax (HE160) / CH 207 (Middle)	**802.11ax (HE160) / CH 207 (High Edge)**
	

Plots of EUT ceased transmission in the time domain	
802.11ax (HE20) / CH 209	**802.11ax (HE160) / CH 207 (Low Edge)**
	
802.11ax (HE160) / CH 207 (Middle)	**8802.11ax (HE160) / CH 207 (High Edge)**
	

5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix A– 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:

Lin Kou EMC/RF Lab
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
Tel: 886-3-6668565
Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab
Tel: 886-3-3183232
Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

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

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