FCC Test Report

Report No.: RFBEQF-WTW-P22010504-5

FCC ID: BEJNT-14T90Q

Test Model: 14T90Q

Variant Model: 14TD90Q, 14TG90Q, 14TB90Q (Refer to item 3.1 for more details)

Received Date: Nov. 08, 2021

Test Date: Nov. 10, 2021 ~ Feb. 14, 2022 (For all tests except Contention-based Protocol Test)

Mar. 04 ~ Mar. 08, 2022 (For Contention-based Protocol Test)

Issued Date: Mar. 31, 2022

Applicant: LG Electronics USA

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

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FCC Registration / Designation Number(1): 788550 / TW0003

Test Location(2): No. 70, Wenming Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)

FCC Registration / Designation Number(2): 281270 / TW0032

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Release Control Record

Issue No.	Description	Date Issued
RFBEQF-WTW-P22010504-5	Original release.	Mar. 31, 2022

1 Certificate of Conformity

Product: Notebook Computer

Brand: LG

Test Model: 14T90Q

Variant Model: 14TD90Q, 14TG90Q, 14TB90Q (Refer to item 3.1 for more details)

Sample Status: Engineering sample

Applicant: LG Electronics USA

Test Date: Nov. 10, 2021 ~ Feb. 14, 2022 (For all tests except Contention-based Protocol Test)

Mar. 04 ~ Mar. 08, 2022 (For Contention-based Protocol Test)

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 : Pettie Chen , **Date:** Mar. 31, 2022

Pettie Chen / Senior Specialist

Approved by : Jeremy Lin , **Date:** Mar. 31, 2022

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(b)(9)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -19.40dB at 0.60737MHz.
15.407(b)(6)(9)	Radiated Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -0.52dB at 7125.00MHz.
15.407(b)(7)	In-Band Emission (Mask)	Pass	Meet the requirement of limit.
15.407(a)(6)	Max Average Transmit Power	Pass	Meet the requirement of limit.
15.407(a)(10)	Emission Bandwidth Measurement	Pass	Meet the requirement of limit.
15.407(a)(6)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407 (d)(6)	Contention-based Protocol	Pass	Meet the requirement of limit.
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.407(a)(7)(8)	Dual Client- Proper Power Adjustment	N/A	Device associates with low power indoor AP only.
15.407(d)(5)	Operational restrictions for 6 GHz U-NII devices	Pass	Declaration by applicant
15.203	Antenna Requirement	Pass	Antenna connector is I-PEX not a standard connector.

Note:
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	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.79 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.00 dB
	30MHz ~ 200MHz	2.91 dB
	200MHz ~1000MHz	2.93 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	1.76 dB
	18GHz ~ 40GHz	1.77 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Notebook Computer
Brand	LG
Test Model	14T90Q
Series Model	14TD90Q , 14TG90Q , 14TB90Q
Model Difference	For marketing purpose
Status of EUT	Engineering sample
Power Supply Rating	7.7 Vdc (Battery) 5 Vdc / 20Vdc (Adapter)
Modulation Type	1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDMA
Modulation Technology	OFDMA
Transfer Rate	802.11ax: up to 2402Mbps
Operating Frequency	5.955 ~ 6.415GHz, 6.435 ~ 6.525GHz, 6.525 ~ 6.875GHz, 6.875 ~ 7.115GHz
Number of Channel	802.11ax (HE20): 59 802.11ax (HE40): 29 802.11ax (HE80): 14 802.11ax (HE160): 7
Output Power	**5.955 ~ 6.415GHz:** 22.286 mW (EIRP: 14.58 dBm / 28.708 mW) **6.435 ~ 6.525GHz:** 22.057 mW (EIRP: 13.10 dBm / 20.417 mW) **6.525 ~ 6.855GHz:** 21.881 mW (EIRP: 14.15 dBm / 26.002 mW) **6.875 ~ 7.115GHz:** 21.681 mW (EIRP: 14.86 dBm / 30.620 mW)
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Refer to Note
Data Cable Supplied	NA

Note:

1. The EUT contains following accessory devices.

Product	Brand	Model	Description
Battery	LG	LBS1224E	7.7Vdc, 72Wh or Typ. 9450mAh or Min 9130 mAh
Adapter	LG	ADT-65DSU-D03-2	I/P: 100-240Vac, 50-60Hz,1.6A O/P: 20Vdc, 3.25A, 65W Power cord: 1.5m 1.47m
Module	Intel	AX211D2W	

2. The antenna information is listed as below.

NB:

Ant. Type	Brand	Ant.	Model	Antenna Peak Gain (dBi)				Connector
				5925-6425 MHz	6425-6525 MHz	6525-6875 MHz	6875-7125 MHz	
PIFA	CHILISIN	Main	DQ600111501 (BTEA00111525GC1A02)	0.97	-1.44	-0.67	-0.99	I-PEX
		Aux.	DQ600111501 (BTEA00111525GC1A02)	0.39	-0.53	0.47	0.09	
	Pulse	Main	DQ602118000 (TZ21180)	**1.10**	-1.20	-0.35	-0.35	I-PEX
		Aux.	DQ602118000 (TZ21180)	0.66	**-0.34**	**0.75**	0.17	

Tablet:

Ant. Type	Brand	Ant.	Model	Antenna Peak Gain (dBi)				Connector
				5925-6425 MHz	6425-6525 MHz	6525-6875 MHz	6875-7125 MHz	
PIFA	CHILISIN	Main	DQ600111501 (BTEA00111525GC1A02)	-0.28	-1.87	-1.44	-1.30	I-PEX
		Aux.	DQ600111501 (BTEA00111525GC1A02)	0.35	-0.87	-0.43	1.13	
	Pulse	Main	DQ602118000 (TZ21180)	0.10	-1.82	-1.29	-1.14	I-PEX
		Aux.	DQ602118000 (TZ21180)	0.57	-0.44	-0.29	**1.50**	

* For EIRP: The maximum antenna gain was chosen for final test.

* For EIRP PSD: 5925-6425 MHz, 6425-6525 MHz, 6525-6875 MHz: The Directional Gain of NB mode (Antenna Brand: Plulse) was chosen for final test.
6875-7125 MHz: The Directional Gain of Tablet mode (Antenna Brand: Plulse) was chosen for final test.

3. The above antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

4. The EUT incorporates a MIMO function:

6GHz Band		
Modulation Mode	TX & RX Configuration	
802.11ax (HE20)	2TX	2RX
802.11ax (HE40)	2TX	2RX
802.11ax (HE80)	2TX	2RX
802.11ax (HE160)	2TX	2RX

5. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

3.2 Description of Test Modes

FOR 5925 ~ 6425MHz (U-NII-5 band)

24 channels are provided for 802.11ax (HE20):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
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 channel is 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

FOR 6425 ~ 6525MHz (U-NII-6 band)

5 channels are provided for 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

2 channel are provided for 802.11ax (HE80):

Channel	Frequency	Channel	Frequency
103	6465 MHz	*119	6545 MHz

1 channel is provided for 802.11ax (HE160):

Channel	Frequency
*111	6505 MHz

FOR 6525 ~ 6875MHz (U-NII-7 band)

18 channels are provided for 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	*185	6875 MHz				

9 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
*187	6885 MHz						

4 channels are provided for 802.11ax (HE80):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
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

FOR 6875 ~ 7125MHz (U-NII-8 band):

12 channels are provided for 802.11ax (HE20):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
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

5 channels are provided for 802.11ax (HE40):

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

2 channel is 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 this's straddle channel.

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To						Description
	RE≥1G	RE<1G	IBE	PLC	CBP	APCM	
-	√	√	√	√	√	√	-

Where **RE≥1G:** Radiated Emission above 1GHz **RE<1G:** Radiated Emission below 1GHz
PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement
IBE: In-Band Emission (MASK) **CBP:**Contention Based Protocol

Note: The EUT's antenna (PIFA) had been pre-tested on the positioned of NB mode and each 3 axis of Tablet Mode. The worst case was found when positioned on NB mode.

Radiated Emission Measurement (Above 1GHz):

☒ 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	1, 45, 93	OFDMA	BPSK	MCS0
	6435-6525	97 to 113	97, 105, 113	OFDMA	BPSK	MCS0
	6525-6855	117 to 185	117, 149, 181, 185	OFDMA	BPSK	MCS0
	6875-7115	189 to 233	213, 233	OFDMA	BPSK	MCS0
802.11ax (HE40)	5955-6415	3 to 91	3, 43, 91	OFDMA	BPSK	MCS0
	6435-6525	99 to 115	99, 107, 115	OFDMA	BPSK	MCS0
	6525-6855	123 to 187	123, 155, 179, 187	OFDMA	BPSK	MCS0
	6875-7115	195 to 227	211, 227	OFDMA	BPSK	MCS0
802.11ax (HE80)	5955-6415	7 to 87	7, 39, 87	OFDMA	BPSK	MCS0
	6435-6525	103 to 119	103, 119	OFDMA	BPSK	MCS0
	6525-6855	135 to 183	151, 183	OFDMA	BPSK	MCS0
	6875-7115	199 to 215	199, 215	OFDMA	BPSK	MCS0
802.11ax (HE160)	5955-6415	15 to 79	15, 47, 79	OFDMA	BPSK	MCS0
	6435-6525	111	111	OFDMA	BPSK	MCS0
	6525-6855	143 to 175	143, 175	OFDMA	BPSK	MCS0
	6875-7115	207	207	OFDMA	BPSK	MCS0

Radiated Emission Measurement (Below 1GHz):

☒ 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 (HE80)	5955-6415 6435-6525 6525-6855 6875-7115	7 to 87 103 to 119 135 to 183 199 to 215	39	OFDMA	BPSK	MCS0

In-Band Emission (MASK) Measurement:

☒ 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	1, 45, 93	OFDMA	BPSK	MCS0
	6435-6525	97 to 113	97, 105, 113	OFDMA	BPSK	MCS0
	6525-6855	117 to 185	117, 149, 181, 185	OFDMA	BPSK	MCS0
	6875-7115	189 to 233	213, 233	OFDMA	BPSK	MCS0
802.11ax (HE40)	5955-6415	3 to 91	3, 43, 91	OFDMA	BPSK	MCS0
	6435-6525	99 to 115	99, 107, 115	OFDMA	BPSK	MCS0
	6525-6855	123 to 187	123, 155, 179, 187	OFDMA	BPSK	MCS0
	6875-7115	195 to 227	211, 227	OFDMA	BPSK	MCS0
802.11ax (HE80)	5955-6415	7 to 87	7, 39, 87	OFDMA	BPSK	MCS0
	6435-6525	103 to 119	103, 119	OFDMA	BPSK	MCS0
	6525-6855	135 to 183	151, 183	OFDMA	BPSK	MCS0
	6875-7115	199 to 215	199, 215	OFDMA	BPSK	MCS0
802.11ax (HE160)	5955-6415	15 to 79	15, 47, 79	OFDMA	BPSK	MCS0
	6435-6525	111	111	OFDMA	BPSK	MCS0
	6525-6855	143 to 175	143, 175	OFDMA	BPSK	MCS0
	6875-7115	207	207	OFDMA	BPSK	MCS0

Power Line Conducted Emission Measurement:

☒ 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 (HE80)	5955-6415 6435-6525 6525-6855 6875-7115	7 to 87 103 to 119 135 to 183 199 to 215	39	OFDMA	BPSK	MCS0

Antenna Port Conducted 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	1, 45, 93	OFDMA	BPSK	MCS0
	6435-6525	97 to 113	97, 105, 113	OFDMA	BPSK	MCS0
	6525-6855	117 to 185	117, 149, 181, 185	OFDMA	BPSK	MCS0
	6875-7115	189 to 233	213, 233	OFDMA	BPSK	MCS0
802.11ax (HE40)	5955-6415	3 to 91	3, 43, 91	OFDMA	BPSK	MCS0
	6435-6525	99 to 115	99, 107, 115	OFDMA	BPSK	MCS0
	6525-6855	123 to 187	123, 155, 179, 187	OFDMA	BPSK	MCS0
	6875-7115	195 to 227	211, 227	OFDMA	BPSK	MCS0
802.11ax (HE80)	5955-6415	7 to 87	7, 39, 87	OFDMA	BPSK	MCS0
	6435-6525	103 to 119	103, 119	OFDMA	BPSK	MCS0
	6525-6855	135 to 183	151, 183	OFDMA	BPSK	MCS0
	6875-7115	199 to 215	199, 215	OFDMA	BPSK	MCS0
802.11ax (HE160)	5955-6415	15 to 79	15, 47, 79	OFDMA	BPSK	MCS0
	6435-6525	111	111	OFDMA	BPSK	MCS0
	6525-6855	143 to 175	143, 175	OFDMA	BPSK	MCS0
	6875-7115	207	207	OFDMA	BPSK	MCS0

Contention Based Protocol Measurement:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates 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	53	OFDMA	BPSK	MCS0
	6435-6525	97 to 113	101	OFDMA	BPSK	MCS0
	6525-6855	117 to 185	133	OFDMA	BPSK	MCS0
	6875-7115	189 to 233	197	OFDMA	BPSK	MCS0
802.11ax (HE160)	5955-6415	15 to 79	47	OFDMA	BPSK	MCS0
	6435-6525	111	111	OFDMA	BPSK	MCS0
	6525-6855	143 to 175	143	OFDMA	BPSK	MCS0
	6875-7025	207	207	OFDMA	BPSK	MCS0

Test Condition:

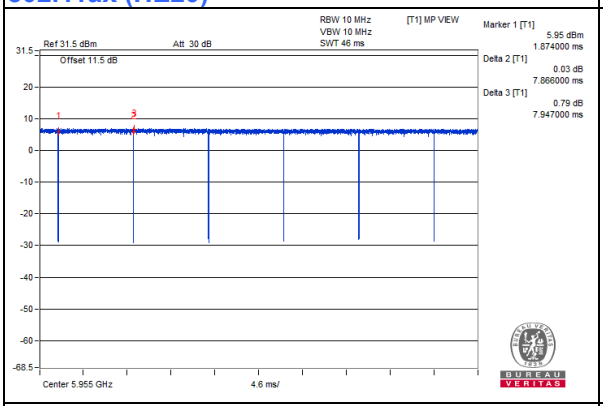
Applicable To	Environmental Conditions	Input Power (System)	Tested By
RE≥1G	23deg. C, 68%RH	120Vac, 60Hz	Edison Lee, Adair Peng
RE<1G	23deg. C, 66%RH	120Vac, 60Hz	Adair Peng
PLC	25deg. C, 75%RH	120Vac, 60Hz	Randy Wu
APCM	25deg. C, 60%RH	120Vac, 60Hz	Chris Lin, Gary Lin

3.3 Duty Cycle of Test Signal

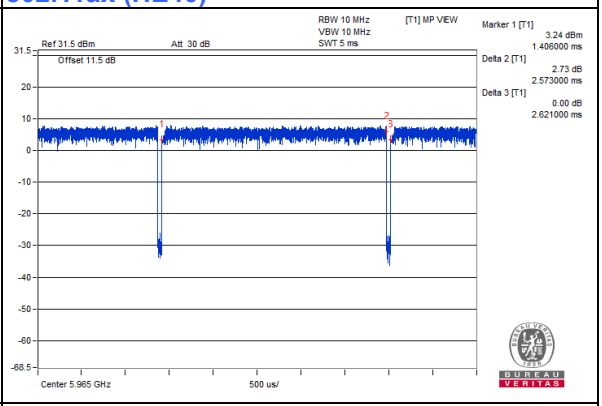
Duty cycle of test signal is ≥ 98%, duty factor is not required.
Duty cycle of test signal is < 98%, duty factor is required.

802.11ax (HE20): Duty cycle = 7.866 ms/7.947 ms= 0.99
802.11ax (HE40): Duty cycle = 2.573 ms/2.621 ms= 0.982
802.11ax (HE80): Duty cycle = 2.587 ms/2.631 ms= 0.983
802.11ax (HE160): Duty cycle = 2.272 ms/2.363 ms= 0.961, Duty factor = 10 * log(1/ Duty cycle) = 0.17 dB

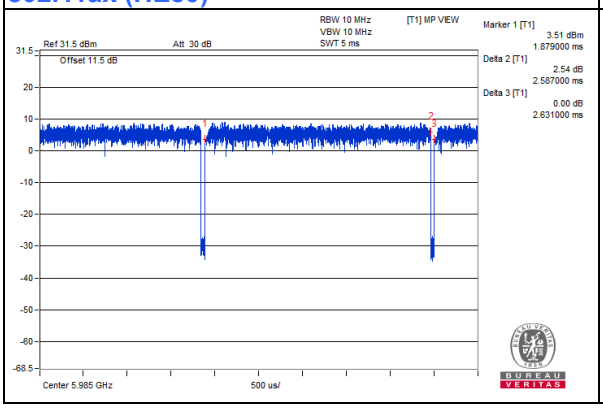
802.11ax (HE20)



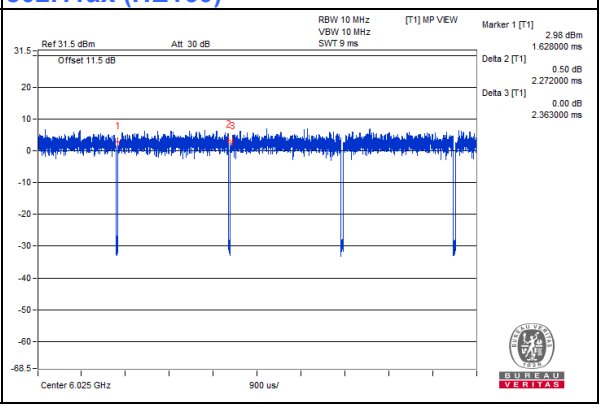
802.11ax (HE40)



802.11ax (HE80)



802.11ax (HE160)



3.4 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Flash	SanDisk	SDDDC3-032G	05	NA	Type-C
B.	Flash	HP	v250W	03	NA	Type-A

3.4.1 Configuration of System under Test

3.5 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 U-NII 6 GHz EMC Measurement v01v01
KDB 789033 D02 General UNII Test Procedure New Rules v02r01
KDB 662911 D01 Multiple Transmitter Output v02r01

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

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 1000MHz, 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 20dB under any condition of modulation.

Limits of unwanted emission out of the restricted bands

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer ROHDE & SCHWARZ	FSV40	100979	Mar. 29, 2021	Mar. 28, 2022
Spectrum Analyzer Rohde & Schwarz	FSW43	101582	Apr. 01, 2021	Mar. 31, 2022
BILOG Antenna SCHWARZBECK	VULB9168	9168-1213	Oct. 27, 2021	Oct. 26, 2022
HORN Antenna RF SPIN	DRH18-E	210103A18E	Jan. 08, 2021	Jan. 07, 2022
			Nov. 14, 2021	Nov. 13, 2022
HORN Antenna SCHWARZBECK	BBHA 9170	9170-995	Nov. 22, 2020	Nov. 21, 2021
			Nov. 14, 2021	Nov. 13, 2022
Loop Antenna TESEQ	HLA 6121	45745	Jul. 21, 2021	Jul. 20, 2022
Preamplifier EMCI	EMC330N	980782	Jan. 12, 2021	Jan. 11, 2022
			Jan. 17, 2022	Jan. 16, 2023
Preamplifier EMCI	EMC118A45SE	980808	Jan. 12, 2021	Jan. 11, 2022
			Dec. 30, 2021	Dec. 29, 2022
Preamplifier EMCI	EMC184045SE	980788	Jan. 12, 2021	Jan. 11, 2022
			Jan. 17, 2022	Jan. 16, 2023
RF signal cable EMCI	EMC104-SM-SM- (9000+2000+1000)	201243+ 201231+ 210102	Jan. 12, 2021	Jan. 11, 2022
			Jan. 17, 2022	Jan. 16, 2023
RF signal cable EMCI	EMCCFD400-NM- NM-(9000+300+500)	201236+ 201235+ 201233	Jan. 12, 2021	Jan. 11, 2022
			Jan. 17, 2022	Jan. 16, 2023
RF signal cable EMCI	EMC101G-KM-KM- (5000+3000+2000)	201260+201257+201254	Jan. 12, 2021	Jan. 11, 2022
			Jan. 17, 2022	Jan. 16, 2023
Software BV ADT	ADT_Radiated_V7.6 .15.9.5	NA	NA	NA
Antenna Tower Max-Full	MFT-151SS-0.5T	NA	NA	NA
Turn Table Max-Full	MF-7802BS	NA	NA	NA
Turn Table Controller Max-Full	MF-7802BS	MF780208674	NA	NA
Peak Power Analyzer KEYSIGHT	8990B	MY51000485	Jan. 19, 2021	Jan. 18, 2022
			Jan. 18, 2022	Jan. 17, 2023
Wideband Power Sensor KEYSIGHT	N1923A	MY58190002	May 05, 2021	May 04, 2022
PXA Signal Analyzer KEYSIGHT	N9030B	MY57140938	Mar. 09, 2021	Mar. 08, 2022
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in WM Chamber 7.

4.1.3 Test Procedure

For Radiated emission below 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.

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

c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

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

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

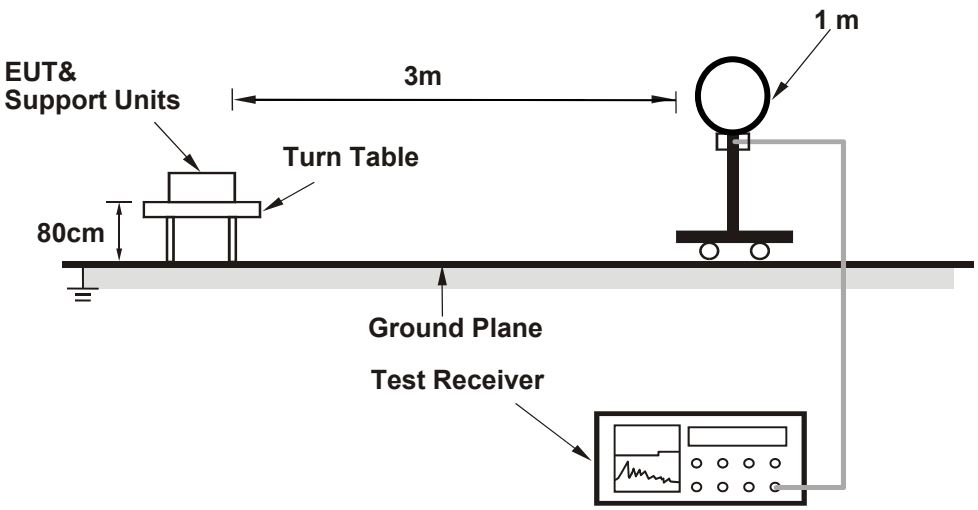
f. The test-receiver system was set to peak detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the RMS detector is unnecessary.

Note:

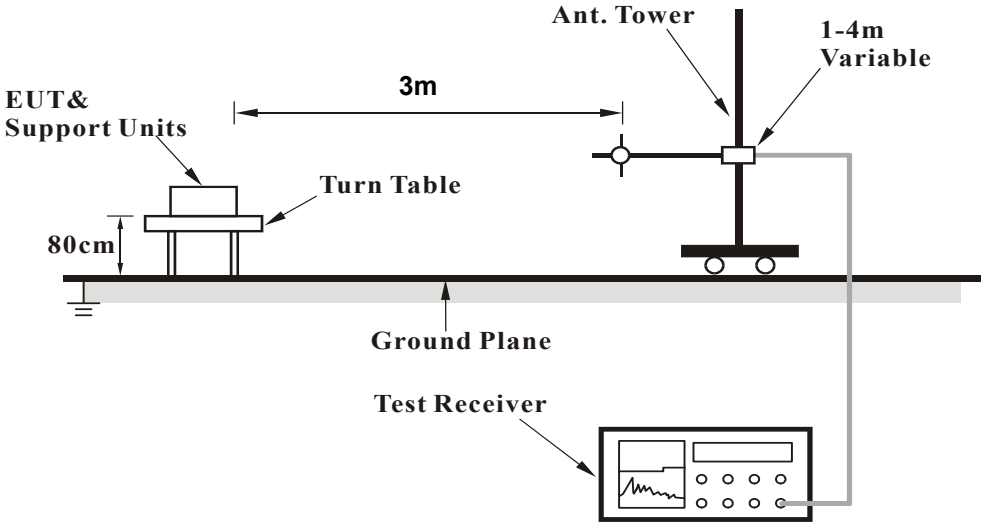
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The detection is peak and the resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 98%) for Average measurement (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Test Setup

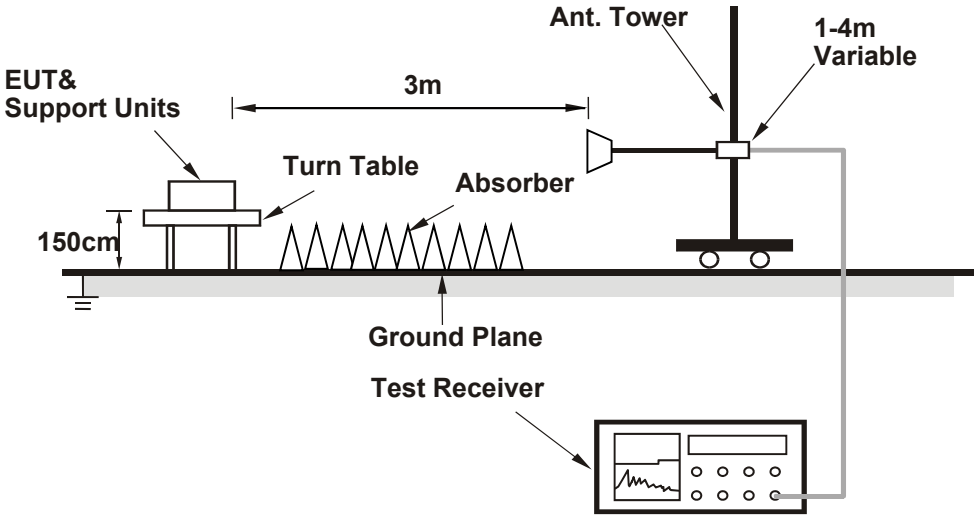
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.5 EUT Operating Condition

a. Set the EUT under transmission condition continuously at specific channel frequency.

4.1.6 Test Results

Above 1GHz Data:

RF Mode	TX 802.11ax (HE20)	**Channel**	CH 1：5955 MHz
Frequency Range	1GHz ~ 40GHz	**Detector Function**	Peak (PK) Average (AV)

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	57.93 PK	88.20	-30.27	3.94 H	74	54.20	3.73
2	#5925.00	44.63 AV	68.20	-23.57	3.94 H	74	40.90	3.73
3	*5955.00	96.33 PK			3.94 H	74	54.50	41.83
4	*5955.00	83.93 AV			3.94 H	74	42.10	41.83
5	11910.00	55.72 PK	74.00	-18.28	1.96 H	312	47.20	8.52
6	11910.00	43.02 AV	54.00	-10.98	1.96 H	312	34.50	8.52
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	57.93 PK	88.20	-30.27	1.31 V	22	54.20	3.73
2	#5925.00	44.63 AV	68.20	-23.57	1.31 V	22	40.90	3.73
3	*5955.00	100.03 PK			1.31 V	22	58.20	41.83
4	*5955.00	86.73 AV			1.31 V	22	44.90	41.83
5	11910.00	56.02 PK	74.00	-17.98	2.67 V	182	47.50	8.52
6	11910.00	43.32 AV	54.00	-10.68	2.67 V	182	34.80	8.52

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE20)	Channel	CH 45：6175 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6175.00	97.20 PK			3.93 H	72	54.40	42.80
2	*6175.00	84.60 AV			3.93 H	72	41.80	42.80
3	12350.00	55.77 PK	74.00	-18.23	2.02 H	305	47.20	8.57
4	12350.00	43.07 AV	54.00	-10.93	2.02 H	305	34.50	8.57
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	*6175.00	100.50 PK			1.28 V	20	57.70	42.80
2	*6175.00	87.40 AV			1.28 V	20	44.60	42.80
3	12350.00	55.97 PK	74.00	-18.03	2.61 V	190	47.40	8.57
4	12350.00	43.17 AV	54.00	-10.83	2.61 V	190	34.60	8.57

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE20)	Channel	CH 93：6415 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6415.00	99.10 PK			3.90 H	75	54.60	44.50
2	*6415.00	86.40 AV			3.90 H	75	41.90	44.50
3	#12830.00	56.68 PK	88.20	-31.52	1.92 H	311	47.10	9.58
4	#12830.00	44.08 AV	68.20	-24.12	1.92 H	311	34.50	9.58
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	*6415.00	102.40 PK			1.33 V	23	57.90	44.50
2	*6415.00	89.20 AV			1.33 V	23	44.70	44.50
3	#12830.00	56.98 PK	88.20	-31.22	2.72 V	189	47.40	9.58
4	#12830.00	44.28 AV	68.20	-23.92	2.72 V	189	34.70	9.58

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE20)	Channel	CH 97：6435 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6435.00	95.51 PK			3.66 H	66	50.90	44.61
2	*6435.00	83.31 AV			3.66 H	66	38.70	44.61
3	#12870.00	56.74 PK	88.20	-31.46	1.99 H	310	47.20	9.54
4	#12870.00	43.94 AV	68.20	-24.26	1.99 H	310	34.40	9.54
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	*6435.00	99.31 PK			1.16 V	32	54.70	44.61
2	*6435.00	86.51 AV			1.16 V	32	41.90	44.61
3	#12870.00	57.14 PK	88.20	-31.06	2.67 V	188	47.60	9.54
4	#12870.00	44.34 AV	68.20	-23.86	2.67 V	188	34.80	9.54

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE20)	Channel	CH 105：6475 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6475.00	96.97 PK			3.77 H	66	52.20	44.77
2	*6475.00	83.57 AV			3.77 H	66	38.80	44.77
3	#12950.00	56.78 PK	88.20	-31.42	1.98 H	312	47.40	9.38
4	#12950.00	43.88 AV	68.20	-24.32	1.98 H	312	34.50	9.38
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	*6475.00	98.97 PK			1.30 V	34	54.20	44.77
2	*6475.00	86.27 AV			1.30 V	34	41.50	44.77
3	#12950.00	57.28 PK	88.20	-30.92	2.70 V	185	47.90	9.38
4	#12950.00	44.08 AV	68.20	-24.12	2.70 V	185	34.70	9.38

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE20)	Channel	CH 113：6515 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6515.00	97.06 PK			3.81 H	71	52.20	44.86
2	*6515.00	83.76 AV			3.81 H	71	38.90	44.86
3	#13030.00	56.42 PK	88.20	-31.78	1.97 H	310	47.30	9.12
4	#13030.00	43.32 AV	68.20	-24.88	1.97 H	310	34.20	9.12
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	*6515.00	99.56 PK			1.10 V	33	54.70	44.86
2	*6515.00	86.66 AV			1.10 V	33	41.80	44.86
3	#13030.00	56.82 PK	88.20	-31.38	2.68 V	179	47.70	9.12
4	#13030.00	43.72 AV	68.20	-24.48	2.68 V	179	34.60	9.12

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE20)	Channel	CH 117：6535 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6535.00	94.79 PK			3.89 H	71	49.90	44.89
2	*6535.00	82.99 AV			3.89 H	71	38.10	44.89
3	#13070.00	58.19 PK	88.20	-30.01	1.96 H	311	49.20	8.99
4	#13070.00	45.09 AV	68.20	-23.11	1.96 H	311	36.10	8.99
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	*6535.00	97.89 PK			1.29 V	36	53.00	44.89
2	*6535.00	85.49 AV			1.29 V	36	40.60	44.89
3	#13070.00	58.49 PK	88.20	-29.71	2.66 V	181	49.50	8.99
4	#13070.00	45.29 AV	68.20	-22.91	2.66 V	181	36.30	8.99

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE20)	Channel	CH 149：6695 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6695.00	95.72 PK			3.79 H	69	50.50	45.22
2	*6695.00	83.82 AV			3.79 H	69	38.60	45.22
3	13390.00	58.39 PK	74.00	-15.61	1.72 H	302	49.10	9.29
4	13390.00	45.59 AV	54.00	-8.41	1.72 H	302	36.30	9.29
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	*6695.00	98.32 PK			1.28 V	16	53.10	45.22
2	*6695.00	86.22 AV			1.28 V	16	41.00	45.22
3	13390.00	58.79 PK	74.00	-15.21	2.72 V	190	49.50	9.29
4	13390.00	45.79 AV	54.00	-8.21	2.72 V	190	36.50	9.29

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE20)	Channel	CH 181：6855 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6855.00	96.48 PK			3.92 H	73	50.90	45.58
2	*6855.00	84.58 AV			3.92 H	73	39.00	45.58
3	#13710.00	58.03 PK	88.20	-30.17	1.73 H	306	48.90	9.13
4	#13710.00	45.13 AV	68.20	-23.07	1.73 H	306	36.00	9.13
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	*6855.00	98.98 PK			1.31 V	173	53.40	45.58
2	*6855.00	86.38 AV			1.31 V	173	40.80	45.58
3	#13710.00	58.23 PK	88.20	-29.97	2.70 V	185	49.10	9.13
4	#13710.00	45.33 AV	68.20	-22.87	2.70 V	185	36.20	9.13

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE20)	Channel	CH 185：6875 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6875.00	96.49 PK			3.78 H	162	50.90	45.59
2	*6875.00	85.09 AV			3.78 H	162	39.50	45.59
3	#13750.00	58.33 PK	88.20	-29.87	1.75 H	299	49.20	9.13
4	#13750.00	45.23 AV	68.20	-22.97	1.75 H	299	36.10	9.13
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	*6875.00	100.29 PK			1.33 V	172	54.70	45.59
2	*6875.00	86.99 AV			1.33 V	172	41.40	45.59
3	#13750.00	58.73 PK	88.20	-29.47	2.81 V	176	49.60	9.13
4	#13750.00	45.53 AV	68.20	-22.67	2.87 V	176	36.40	9.13

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE20)	Channel	CH 209：6995 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6995.00	95.00 PK			3.67 H	71	49.40	45.60
2	*6995.00	82.20 AV			3.67 H	71	36.60	45.60
3	#13990.00	58.88 PK	88.20	-29.32	1.78 H	317	49.60	9.28
4	#13990.00	46.48 AV	68.20	-21.72	1.78 H	317	37.20	9.28
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	*6995.00	98.30 PK			1.00 V	172	52.70	45.60
2	*6995.00	85.30 AV			1.00 V	172	39.70	45.60
3	#13990.00	59.28 PK	88.20	-28.92	2.71 V	171	50.00	9.28
4	#13990.00	46.78 AV	68.20	-21.42	2.71 V	171	37.50	9.28

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE20)	Channel	CH 233：7115 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	91.51 PK			2.97 H	82	45.40	46.11
2	*7115.00	79.11 AV			2.97 H	82	33.00	46.11
3	#7125.00	78.08 PK	88.20	-10.12	2.97 H	82	70.40	7.68
4	#7125.00	65.08 AV	68.20	-3.12	2.97 H	82	57.40	7.68
5	#14230.00	60.74 PK	88.20	-27.46	1.00 H	302	51.40	9.34
6	#14230.00	46.94 AV	68.20	-21.26	1.00 H	302	37.60	9.34
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	94.71 PK			1.13 V	172	48.60	46.11
2	*7115.00	83.01 AV			1.13 V	172	36.90	46.11
3	#7125.00	84.88 PK	88.20	-3.32	1.13 V	172	77.20	7.68
4	**#7125.00**	**67.68 AV**	**68.20**	**-0.52**	**1.13 V**	**172**	**60.00**	**7.68**
5	#14230.00	60.84 PK	88.20	-27.36	2.76 V	184	51.50	9.34
6	#14230.00	47.24 AV	68.20	-20.96	2.76 V	184	37.90	9.34

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE40)	Channel	CH 3：5965 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	57.83 PK	88.20	-30.37	3.90 H	71	54.10	3.73
2	#5925.00	44.63 AV	68.20	-23.57	3.90 H	71	40.90	3.73
3	*5965.00	96.91 PK			3.90 H	71	55.00	41.91
4	*5965.00	84.61 AV			3.90 H	71	42.70	41.91
5	11930.00	56.09 PK	74.00	-17.91	2.00 H	309	47.50	8.59
6	11930.00	42.79 AV	54.00	-11.21	2.00 H	309	34.20	8.59
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	57.93 PK	88.20	-30.27	1.30 V	22	54.20	3.73
2	#5925.00	44.73 AV	68.20	-23.47	1.30 V	22	41.00	3.73
3	*5965.00	100.11 PK			1.30 V	22	58.20	41.91
4	*5965.00	87.41 AV			1.30 V	22	45.50	41.91
5	11930.00	56.49 PK	74.00	-17.51	2.77 V	190	47.90	8.59
6	11930.00	43.09 AV	54.00	-10.91	2.77 V	190	34.50	8.59

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE40)	Channel	CH 43：6165 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6165.00	97.68 PK			3.89 H	72	54.90	42.78
2	*6165.00	85.48 AV			3.89 H	72	42.70	42.78
3	12330.00	56.07 PK	74.00	-17.93	1.92 H	302	47.50	8.57
4	12330.00	42.77 AV	54.00	-11.23	1.92 H	302	34.20	8.57
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	*6165.00	100.88 PK			1.33 V	23	58.10	42.78
2	*6165.00	88.18 AV			1.33 V	23	45.40	42.78
3	12330.00	56.37 PK	74.00	-17.63	2.82 V	182	47.80	8.57
4	12330.00	42.97 AV	54.00	-11.03	2.82 V	182	34.40	8.57

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE40)	Channel	CH 91：6405 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6405.00	99.15 PK			3.96 H	75	54.70	44.45
2	*6405.00	87.05 AV			3.96 H	75	42.60	44.45
3	#12810.00	57.19 PK	88.20	-31.01	2.04 H	317	47.60	9.59
4	#12810.00	43.89 AV	68.20	-24.31	2.04 H	317	34.30	9.59
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	*6405.00	102.45 PK			1.27 V	21	58.00	44.45
2	*6405.00	89.85 AV			1.27 V	21	45.40	44.45
3	#12810.00	57.49 PK	88.20	-30.71	2.90 V	190	47.90	9.59
4	#12810.00	44.09 AV	68.20	-24.11	2.90 V	190	34.50	9.59

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE40)	Channel	CH 99：6445 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6445.00	97.56 PK			3.90 H	70	52.90	44.66
2	*6445.00	84.26 AV			3.90 H	70	39.60	44.66
3	#12890.00	56.43 PK	88.20	-31.77	2.01 H	307	46.90	9.53
4	#12890.00	43.63 AV	68.20	-24.57	2.01 H	307	34.10	9.53
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	*6445.00	99.26 PK			1.20 V	41	54.60	44.66
2	*6445.00	86.76 AV			1.20 V	41	42.10	44.66
3	#12890.00	56.73 PK	88.20	-31.47	2.67 V	180	47.20	9.53
4	#12890.00	44.43 AV	68.20	-23.77	2.67 V	180	34.90	9.53

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE40)	Channel	CH 107：6485 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6485.00	97.90 PK			3.91 H	69	53.10	44.80
2	*6485.00	84.50 AV			3.91 H	69	39.70	44.80
3	#12970.00	56.22 PK	88.20	-31.98	1.98 H	312	46.90	9.32
4	#12970.00	43.52 AV	68.20	-24.68	1.98 H	312	34.20	9.32
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	*6485.00	99.60 PK			1.15 V	35	54.80	44.80
2	*6485.00	87.00 AV			1.15 V	35	42.20	44.80
3	#12970.00	56.62 PK	88.20	-31.58	2.65 V	183	47.30	9.32
4	#12970.00	44.02 AV	68.20	-24.18	2.65 V	183	34.70	9.32

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE40)	Channel	CH 115：6525 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6525.00	96.97 PK			3.98 H	73	52.10	44.87
2	*6525.00	84.47 AV			3.98 H	73	39.60	44.87
3	#13050.00	55.96 PK	88.20	-32.24	1.93 H	308	46.90	9.06
4	#13050.00	43.26 AV	68.20	-24.94	1.93 H	308	34.20	9.06
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	*6525.00	99.97 PK			1.19 V	36	55.10	44.87
2	*6525.00	87.17 AV			1.19 V	36	42.30	44.87
3	#13050.00	56.56 PK	88.20	-31.64	2.73 V	186	47.50	9.06
4	#13050.00	43.86 AV	68.20	-24.34	2.73 V	186	34.80	9.06

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE40)	Channel	CH 123：6565 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6565.00	96.05 PK			3.81 H	77	51.10	44.95
2	*6565.00	83.55 AV			3.81 H	77	38.60	44.95
3	#13130.00	58.38 PK	88.20	-29.82	1.83 H	311	49.40	8.98
4	#13130.00	45.28 AV	68.20	-22.92	1.83 H	311	36.30	8.98
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	*6565.00	99.45 PK			1.37 V	169	54.50	44.95
2	*6565.00	86.25 AV			1.37 V	169	41.30	44.95
3	#13130.00	58.78 PK	88.20	-29.42	2.74 V	168	49.80	8.98
4	#13130.00	45.58 AV	68.20	-22.62	2.74 V	168	36.60	8.98

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE40)	Channel	CH 155：6725 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6725.00	96.04 PK			3.95 H	79	50.80	45.24
2	*6725.00	83.64 AV			3.95 H	79	38.40	45.24
3	#13450.00	58.42 PK	88.20	-29.78	1.79 H	313	49.20	9.22
4	#13450.00	45.52 AV	68.20	-22.68	1.79 H	313	36.30	9.22
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	*6725.00	99.34 PK			1.25 V	170	54.10	45.24
2	*6725.00	86.44 AV			1.25 V	170	41.20	45.24
3	#13450.00	58.82 PK	88.20	-29.38	2.85 V	193	49.60	9.22
4	#13450.00	45.92 AV	68.20	-22.28	2.85 V	193	36.70	9.22

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE40)	Channel	CH 179：6845 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6845.00	96.75 PK			3.91 H	68	51.20	45.55
2	*6845.00	84.55 AV			3.91 H	68	39.00	45.55
3	#13690.00	58.62 PK	88.20	-29.58	1.76 H	301	49.49	9.13
4	#13690.00	45.32 AV	68.20	-22.88	1.76 H	301	36.19	9.13
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	*6845.00	100.65 PK			1.24 V	172	55.10	45.55
2	*6845.00	87.35 AV			1.24 V	172	41.80	45.55
3	#13690.00	58.82 PK	88.20	-29.38	2.77 V	172	49.69	9.13
4	#13690.00	45.72 AV	68.20	-22.48	2.77 V	172	36.59	9.13

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE40)	Channel	CH 187：6885 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6885.00	97.79 PK			3.84 H	72	52.20	45.59
2	*6885.00	84.19 AV			3.84 H	72	38.60	45.59
3	#13770.00	58.42 PK	88.20	-29.78	1.82 H	319	49.30	9.12
4	#13770.00	45.62 AV	68.20	-22.58	1.82 H	319	36.50	9.12
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	*6885.00	100.59 PK			1.11 V	172	55.00	45.59
2	*6885.00	86.89 AV			1.11 V	172	41.30	45.59
3	#13770.00	59.02 PK	88.20	-29.18	2.70 V	174	49.90	9.12
4	#13770.00	45.92 AV	68.20	-22.28	2.70 V	174	36.80	9.12

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE40)	Channel	CH 211：7005 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*7005.00	96.11 PK			3.57 H	72	50.50	45.61
2	*7005.00	82.71 AV			3.57 H	72	37.10	45.61
3	#14010.00	58.52 PK	88.20	-29.68	1.98 H	309	49.20	9.32
4	#14010.00	46.32 AV	68.20	-21.88	1.98 H	309	37.00	9.32
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	*7005.00	99.41 PK			1.03 V	171	53.80	45.61
2	*7005.00	85.41 AV			1.03 V	171	39.80	45.61
3	#14010.00	60.32 PK	88.20	-27.88	2.92 V	192	51.00	9.32
4	#14010.00	47.02 AV	68.20	-21.18	2.92 V	192	37.70	9.32

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE40)	Channel	CH 227：7085 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*7085.00	96.84 PK			3.65 H	75	50.80	46.04
2	*7085.00	83.24 AV			3.65 H	75	37.20	46.04
3	#7125.00	61.68 PK	88.20	-26.52	3.65 H	75	54.00	7.68
4	#7125.00	48.88 AV	68.20	-19.32	3.65 H	75	41.20	7.68
5	#14170.00	60.22 PK	88.20	-27.98	2.12 H	318	50.80	9.42
6	#14170.00	46.92 AV	68.20	-21.28	2.12 H	318	37.50	9.42
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	*7085.00	100.04 PK			1.03 V	174	54.00	46.04
2	*7085.00	85.94 AV			1.03 V	174	39.90	46.04
3	#7125.00	61.78 PK	88.20	-26.42	1.03 V	174	54.10	7.68
4	#7125.00	49.08 AV	68.20	-19.12	1.03 V	174	41.40	7.68
5	#14170.00	60.62 PK	88.20	-27.58	2.86 V	195	51.20	9.42
6	#14170.00	47.22 AV	68.20	-20.98	2.86 V	195	37.80	9.42

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE80)	Channel	CH 7：5985 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	57.73 PK	88.20	-30.47	3.90 H	70	54.00	3.73
2	#5925.00	44.83 AV	68.20	-23.37	3.90 H	70	41.10	3.73
3	*5985.00	96.94 PK			3.90 H	70	54.90	42.04
4	*5985.00	84.44 AV			3.90 H	70	42.40	42.04
5	11970.00	56.34 PK	74.00	-17.66	1.93 H	299	47.60	8.74
6	11970.00	43.04 AV	54.00	-10.96	1.93 H	299	34.30	8.74
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	57.73 PK	88.20	-30.47	1.29 V	22	54.00	3.73
2	#5925.00	44.93 AV	68.20	-23.27	1.29 V	22	41.20	3.73
3	*5985.00	100.24 PK			1.29 V	22	58.20	42.04
4	*5985.00	87.24 AV			1.29 V	22	45.20	42.04
5	11970.00	56.64 PK	74.00	-17.36	2.78 V	185	47.90	8.74
6	11970.00	43.34 AV	54.00	-10.66	2.78 V	185	34.60	8.74

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE80)	Channel	CH 39：6145 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6145.00	59.66 PK			3.88 H	75	55.00	4.66
2	*6145.00	47.26 AV			3.88 H	75	42.60	4.66
3	12290.00	56.05 PK	74.00	-17.95	2.05 H	307	47.50	8.55
4	12290.00	42.85 AV	54.00	-11.15	2.05 H	307	34.30	8.55
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	*6145.00	101.04 PK			1.30 V	23	58.30	42.74
2	*6145.00	88.04 AV			1.30 V	23	45.30	42.74
3	12290.00	56.55 PK	74.00	-17.45	2.85 V	192	48.00	8.55
4	12290.00	43.25 AV	54.00	-10.75	2.85 V	192	34.70	8.55

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE80)	Channel	CH 87：6385 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6385.00	98.94 PK			3.93 H	74	54.60	44.34
2	*6385.00	86.54 AV			3.93 H	74	42.20	44.34
3	#12770.00	56.79 PK	88.20	-31.41	2.05 H	319	47.30	9.49
4	#12770.00	43.79 AV	68.20	-24.41	2.05 H	319	34.30	9.49
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	*6385.00	102.24 PK			1.22 V	21	57.90	44.34
2	*6385.00	89.24 AV			1.22 V	21	44.90	44.34
3	#12770.00	57.29 PK	88.20	-30.91	2.72 V	193	47.80	9.49
4	#12770.00	43.99 AV	68.20	-24.21	2.72 V	193	34.50	9.49

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE80)	Channel	CH 103：6465 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6465.00	95.33 PK			3.79 H	66	50.60	44.73
2	*6465.00	83.53 AV			3.79 H	66	38.80	44.73
3	#12930.00	58.23 PK	88.20	-29.97	2.64 H	183	48.80	9.43
4	#12930.00	45.53 AV	68.20	-22.67	2.64 H	183	36.10	9.43
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	*6465.00	99.43 PK			1.21 V	35	54.70	44.73
2	*6465.00	86.63 AV			1.21 V	35	41.90	44.73
3	#12930.00	58.63 PK	88.20	-29.57	2.64 V	183	49.20	9.43
4	#12930.00	45.73 AV	68.20	-22.47	2.64 V	183	36.30	9.43

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE80)	Channel	CH 119：6545 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6545.00	96.12 PK			3.80 H	77	51.20	44.92
2	*6545.00	83.22 AV			3.80 H	77	38.30	44.92
3	#13090.00	57.62 PK	88.20	-30.58	1.93 H	301	48.70	8.92
4	#13090.00	55.02 AV	68.20	-13.18	1.93 H	301	46.10	8.92
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	*6545.00	100.72 PK			1.20 V	34	55.80	44.92
2	*6545.00	86.62 AV			1.20 V	34	41.70	44.92
3	#13090.00	58.02 PK	88.20	-30.18	2.66 V	196	49.10	8.92
4	#13090.00	55.32 AV	68.20	-12.88	2.66 V	196	46.40	8.92

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE80)	Channel	CH 151：6705 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6705.00	97.33 PK			3.94 H	77	52.10	45.23
2	*6705.00	83.33 AV			3.94 H	77	38.10	45.23
3	#13410.00	58.75 PK	88.20	-29.45	1.93 H	312	49.50	9.25
4	#13410.00	46.05 AV	68.20	-22.15	1.93 H	312	36.80	9.25
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	*6705.00	99.63 PK			1.10 V	169	54.40	45.23
2	*6705.00	86.33 AV			1.10 V	169	41.10	45.23
3	#13410.00	59.15 PK	88.20	-29.05	2.76 V	168	49.90	9.25
4	#13410.00	46.45 AV	68.20	-21.75	2.76 V	168	37.20	9.25

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE80)	Channel	CH 183：6865 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6865.00	96.68 PK			3.81 H	69	51.10	45.58
2	*6865.00	84.48 AV			3.81 H	69	38.90	45.58
3	#13730.00	58.33 PK	88.20	-29.87	1.89 H	301	49.20	9.13
4	#13730.00	45.63 AV	68.20	-22.57	1.89 H	301	36.50	9.13
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	*6865.00	100.48 PK			1.22 V	172	54.90	45.58
2	*6865.00	86.98 AV			1.22 V	172	41.40	45.58
3	#13730.00	58.83 PK	88.20	-29.37	2.69 V	182	49.70	9.13
4	#13730.00	45.93 AV	68.20	-22.27	2.69 V	182	36.80	9.13

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE80)	Channel	CH 199：6945 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6945.00	95.93 PK			3.77 H	71	50.40	45.53
2	*6945.00	85.23 AV			3.77 H	71	39.70	45.53
3	#13890.00	60.13 PK	88.20	-28.07	2.20 H	311	51.00	9.13
4	#13890.00	46.43 AV	68.20	-21.77	2.20 H	311	37.30	9.13
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	*6945.00	99.23 PK			1.20 V	173	53.70	45.53
2	*6945.00	86.23 AV			1.20 V	173	40.70	45.53
3	#13890.00	60.43 PK	88.20	-27.77	2.98 V	202	51.30	9.13
4	#13890.00	46.73 AV	68.20	-21.47	2.98 V	202	37.60	9.13

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE80)	Channel	CH 215：7025 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*7025.00	95.75 PK			3.90 H	75	50.10	45.65
2	*7025.00	83.25 AV			3.90 H	75	37.60	45.65
3	#7125.00	62.38 PK	88.20	-25.82	3.90 H	75	54.70	7.68
4	#7125.00	48.78 AV	68.20	-19.42	3.90 H	75	41.10	7.68
5	#14050.00	60.21 PK	88.20	-27.99	2.14 H	302	50.80	9.41
6	#14050.00	46.61 AV	68.20	-21.59	2.14 H	302	37.20	9.41
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	*7025.00	99.05 PK			1.02 V	172	53.40	45.65
2	*7025.00	86.05 AV			1.02 V	172	40.40	45.65
3	#7125.00	62.68 PK	88.20	-25.52	1.02 V	172	55.00	7.68
4	#7125.00	48.88 AV	68.20	-19.32	1.02 V	172	41.20	7.68
5	#14050.00	60.51 PK	88.20	-27.69	2.86 V	193	51.10	9.41
6	#14050.00	46.91 AV	68.20	-21.29	2.86 V	193	37.50	9.41

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE160)	Channel	CH 15：6025 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	58.33 PK	88.20	-29.87	3.90 H	70	54.60	3.73
2	#5925.00	44.83 AV	68.20	-23.37	3.90 H	70	41.10	3.73
3	*6025.00	94.39 PK			3.90 H	70	52.10	42.29
4	*6025.00	81.39 AV			3.90 H	70	39.10	42.29
5	12050.00	56.09 PK	74.00	-17.91	2.03 H	314	47.30	8.79
6	12050.00	43.09 AV	54.00	-10.91	2.03 H	314	34.30	8.79
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	58.53 PK	88.20	-29.67	1.27 V	21	54.80	3.73
2	#5925.00	44.93 AV	68.20	-23.27	1.27 V	21	41.20	3.73
3	*6025.00	97.59 PK			1.27 V	21	55.30	42.29
4	*6025.00	84.29 AV			1.27 V	21	42.00	42.29
5	12050.00	56.39 PK	74.00	-17.61	2.80 V	197	47.60	8.79
6	12050.00	43.29 AV	54.00	-10.71	2.80 V	197	34.50	8.79

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE160)	Channel	CH 47：6185 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6185.00	95.33 PK			3.98 H	76	52.50	42.83
2	*6185.00	82.53 AV			3.98 H	76	39.70	42.83
3	12370.00	56.17 PK	74.00	-17.83	1.92 H	302	47.60	8.57
4	12370.00	42.97 AV	54.00	-11.03	1.92 H	302	34.40	8.57
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	*6185.00	98.53 PK			1.25 V	22	55.70	42.83
2	*6185.00	85.33 AV			1.25 V	22	42.50	42.83
3	12370.00	56.67 PK	74.00	-17.33	2.88 V	201	48.10	8.57
4	12370.00	43.27 AV	54.00	-10.73	2.88 V	201	34.70	8.57

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE160)	Channel	CH 79：6345 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6345.00	95.99 PK			3.87 H	76	51.90	44.09
2	*6345.00	83.29 AV			3.87 H	76	39.20	44.09
3	12690.00	56.72 PK	74.00	-17.28	2.01 H	314	47.50	9.22
4	12690.00	43.52 AV	54.00	-10.48	2.01 H	314	34.30	9.22
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	*6345.00	99.19 PK			1.29 V	23	55.10	44.09
2	*6345.00	85.89 AV			1.29 V	23	41.80	44.09
3	12690.00	56.92 PK	74.00	-17.08	2.88 V	194	47.70	9.22
4	12690.00	43.62 AV	54.00	-10.38	2.88 V	194	34.40	9.22

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE160)	Channel	CH 111：6505 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6505.00	95.24 PK			3.92 H	72	50.40	44.84
2	*6505.00	82.84 AV			3.92 H	72	38.00	44.84
3	#13010.00	57.69 PK	88.20	-30.51	1.86 H	312	48.50	9.19
4	#13010.00	45.29 AV	68.20	-22.91	1.86 H	312	36.10	9.19
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	*6505.00	98.54 PK			1.00 V	33	53.70	44.84
2	*6505.00	85.04 AV			1.00 V	33	40.20	44.84
3	#13010.00	58.09 PK	88.20	-30.11	2.71 V	189	48.90	9.19
4	#13010.00	45.79 AV	68.20	-22.41	2.71 V	189	36.60	9.19

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE160)	Channel	CH 143：6665 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6665.00	94.72 PK			3.99 H	86	49.60	45.12
2	*6665.00	81.92 AV			3.99 H	86	36.80	45.12
3	13330.00	59.07 PK	74.00	-14.93	1.86 H	321	49.60	9.47
4	13330.00	45.87 AV	54.00	-8.13	1.86 H	321	36.40	9.47
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	*6665.00	97.42 PK			1.00 V	169	52.30	45.12
2	*6665.00	84.92 AV			1.00 V	169	39.80	45.12
3	13330.00	59.27 PK	74.00	-14.73	2.68 V	189	49.80	9.47
4	13330.00	46.37 AV	54.00	-7.63	2.68 V	189	36.90	9.47

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE160)	Channel	CH 175：6825 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6825.00	93.98 PK			3.81 H	80	48.60	45.38
2	*6825.00	82.28 AV			3.81 H	80	36.90	45.38
3	#13650.00	58.70 PK	88.20	-29.50	1.90 H	308	49.60	9.10
4	#13650.00	45.70 AV	68.20	-22.50	1.90 H	308	36.60	9.10
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	*6825.00	97.38 PK			1.01 V	167	52.00	45.38
2	*6825.00	84.78 AV			1.01 V	167	39.40	45.38
3	#13650.00	59.40 PK	88.20	-28.80	2.78 V	182	50.30	9.10
4	#13650.00	45.80 AV	68.20	-22.40	2.78 V	182	36.70	9.10

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.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE160)	Channel	CH 207：6985 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	*6985.00	95.78 PK			3.69 H	70	50.20	45.58
2	*6985.00	82.48 AV			3.69 H	70	36.90	45.58
3	#7125.00	62.78 PK	88.20	-25.42	3.69 H	70	55.10	7.68
4	#7125.00	49.58 AV	68.20	-18.62	3.69 H	70	41.90	7.68
5	#13970.00	60.15 PK	88.20	-28.05	2.11 H	302	50.90	9.25
6	#13970.00	46.45 AV	68.20	-21.75	2.11 H	302	37.20	9.25
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	*6985.00	98.98 PK			1.02 V	173	53.40	45.58
2	*6985.00	85.28 AV			1.02 V	173	39.70	45.58
3	#7125.00	62.98 PK	88.20	-25.22	1.02 V	173	55.30	7.68
4	#7125.00	49.68 AV	68.20	-18.52	1.02 V	173	42.00	7.68
5	#13970.00	60.45 PK	88.20	-27.75	2.78 V	190	51.20	9.25
6	#13970.00	46.95 AV	68.20	-21.25	2.78 V	190	37.70	9.25

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.
6. " # ": The radiated frequency is out of the restricted band.

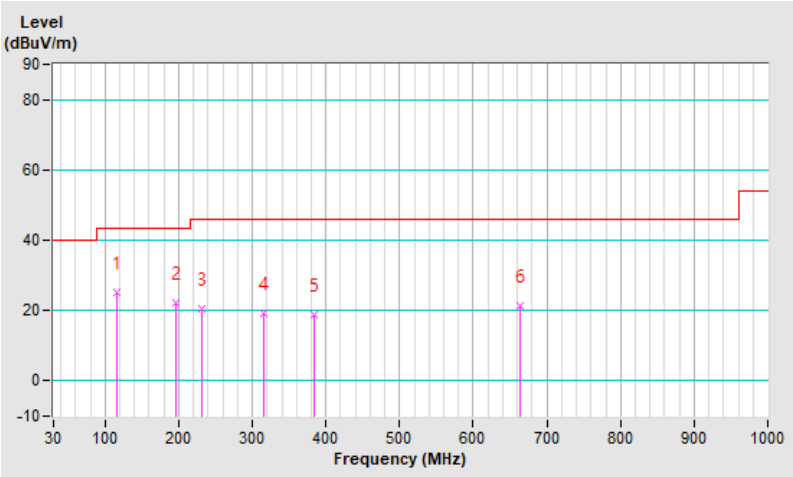
Below 1GHz Data:

RF Mode	TX 802.11ax (HE80)	Channel	CH 39：6145 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	116.33	25.27 QP	43.50	-18.23	1.49 H	148	45.99	-20.72
2	196.84	22.20 QP	43.50	-21.30	1.99 H	2	43.77	-21.57
3	230.79	20.62 QP	46.00	-25.38	1.49 H	271	41.18	-20.56
4	316.15	19.21 QP	46.00	-26.79	1.00 H	269	36.31	-17.10
5	384.05	18.93 QP	46.00	-27.07	1.99 H	9	34.44	-15.51
6	664.38	21.32 QP	46.00	-24.68	1.49 H	187	30.92	-9.60

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 of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

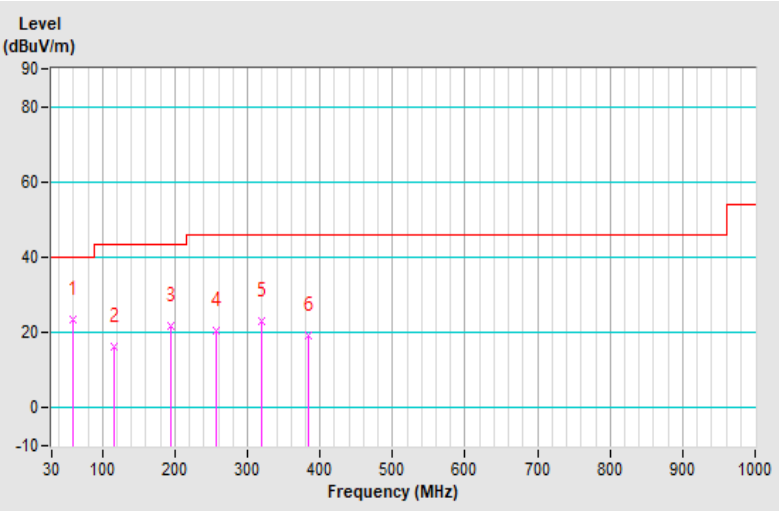


RF Mode	TX 802.11ax (HE80)	Channel	CH 39：6145 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	60.07	23.40 QP	40.00	-16.60	1.01 V	271	42.34	-18.94
2	116.33	16.23 QP	43.50	-27.27	1.51 V	227	36.95	-20.72
3	194.90	21.96 QP	43.50	-21.54	1.01 V	175	43.43	-21.47
4	256.01	20.36 QP	46.00	-25.64	1.51 V	341	39.60	-19.24
5	320.03	22.87 QP	46.00	-23.13	1.51 V	332	39.88	-17.01
6	384.05	19.05 QP	46.00	-26.95	1.01 V	283	34.56	-15.51

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 of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



4.2 In-Band Emission (Mask) Measurement

4.2.1 Limits of In-Band Emission (Mask) Measurement

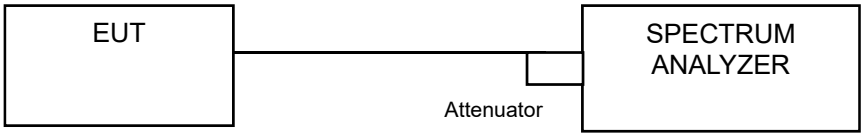
Test Item	Frequencies (MHz)	(X) dBc*1
Emission Mask	At 1 MHz outside of channel edge	20
	At one channel bandwidth from the channel center*2	28
	At one- and one-half times the channel bandwidth away from channel center*3	40
	More than one- and one-half times the channel bandwidth	40

*1 :The power spectral density must be suppressed by “x” dB

*2 : At frequencies between one megahertz outside an unlicensed device’s channel edge and one channel bandwidth from the center of the channel, the limits must be linearly interpolated between 20 dB and 28 dB suppression,

*3 : At frequencies between one and one- and one-half times an unlicensed device’s channel bandwidth, the limits must be linearly interpolated between 28 dB and 40 dB suppression.

4.2.2 Test Setup



4.2.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.2.4 Test Procedure

a. Connect output of the antenna port to a spectrum analyzer and adjust appropriate attenuation.

b. Measure the 26 dB EBW using the test procedure 12.4.1 of ANSI C63.10-2013. (Determine the channel edge.)

c. Measure the power spectral density (for emissions mask reference) using the following procedure:

   a) Set the span to encompass the entire 26 dB EBW of the signal.

   b) Set RBW = same RBW used for 26 dB EBW measurement.

   c) Set VBW ≥ 3 X RBW

   d) Number of points in sweep ≥ [2 X span / RBW].

   e) Sweep time = auto.

   f) Detector = RMS (i.e., power averaging)

   g) Trace average at least 100 traces in power averaging (rms) mode.

   h) Use the peak search function on the instrument to find the peak of the spectrum.

d. Using the measuring equipment limit line function, develop the emissions mask based on the following requirements. The emissions power spectral density must be reduced below the peak power spectral density (in dB) as follows:

   a) Suppressed by 20 dB at 1 MHz outside of the channel edge. (The channel edge is defined as the 26-dB point on either side of the carrier center frequency.)

   b) Suppressed by 28 dB at one channel bandwidth from the channel center.

   c) Suppressed by 40 dB at one- and one-half times the channel bandwidth from the channel center.

e. Adjust the span to encompass the entire mask as necessary and clear trace.

f. Trace average at least 100 traces in power averaging (rms) mode.

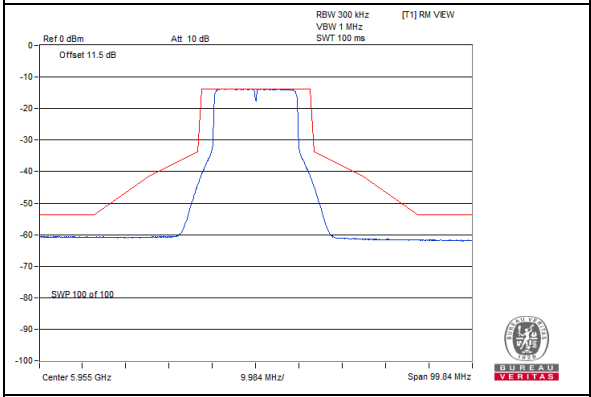
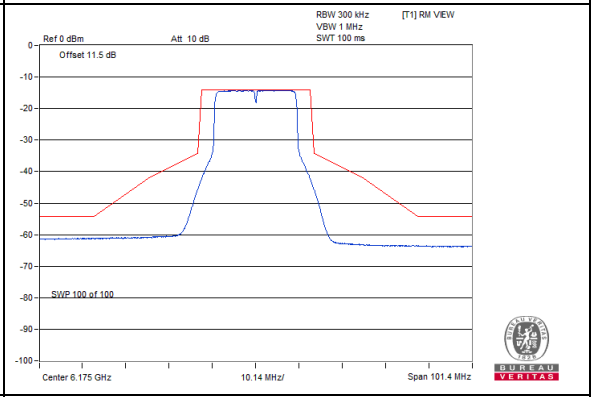
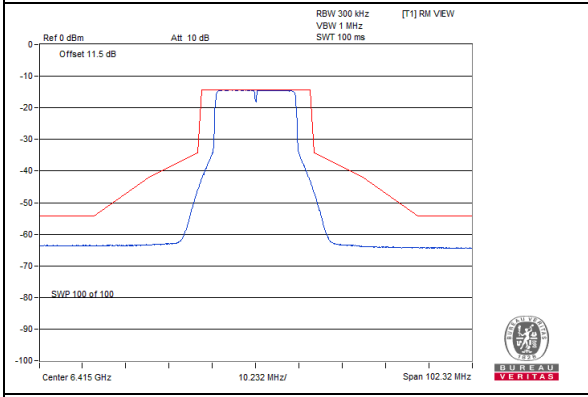
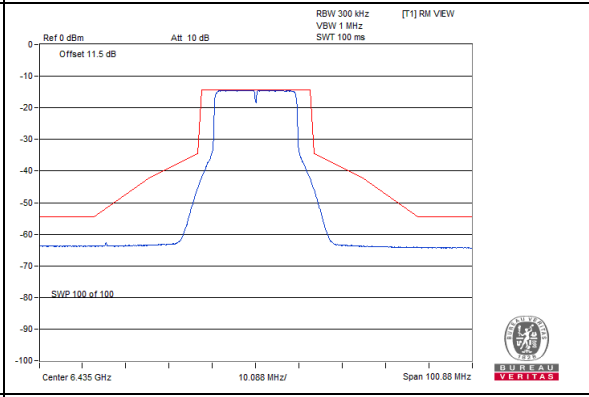
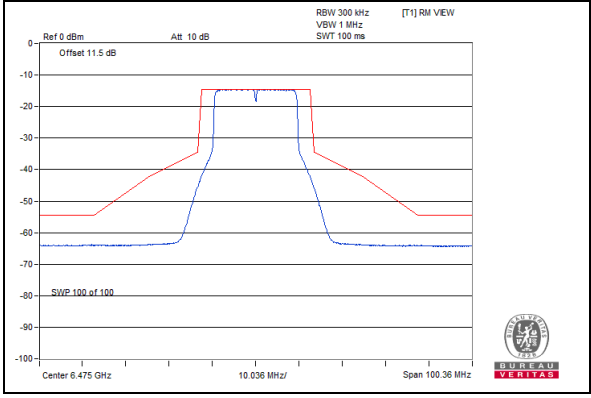
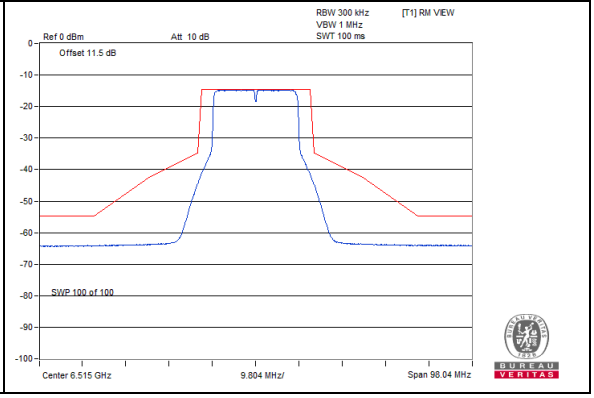
g. Adjust the reference level as necessary so that the crest of the channel touches the top of the emission mask

4.2.5 EUT Operating Condition

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.2.6 Test Results

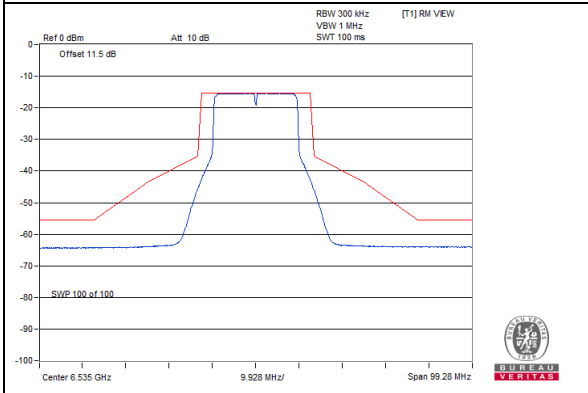
802.11ax (HE20)

Spectrum Plot of Worst Value	
Chain 0	
CH1	**CH45**
	
CH93	**CH97**
	
CH105	**CH113**
	

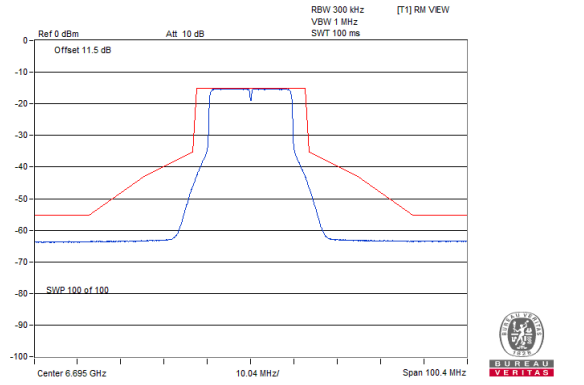
Spectrum Plot of Worst Value

Chain 0

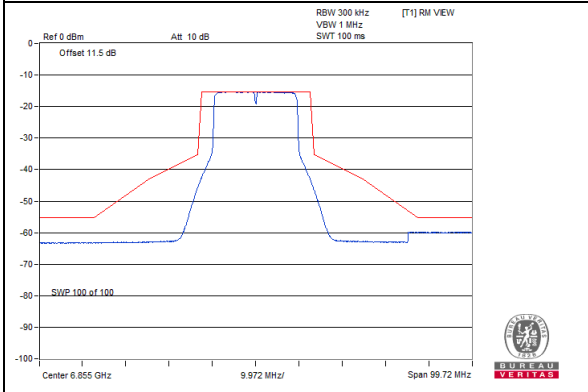
CH117



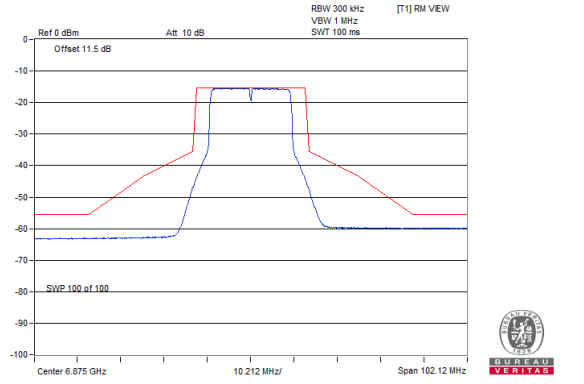
CH149



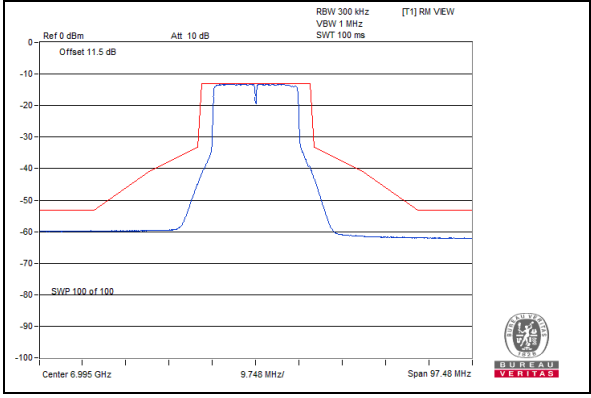
CH181



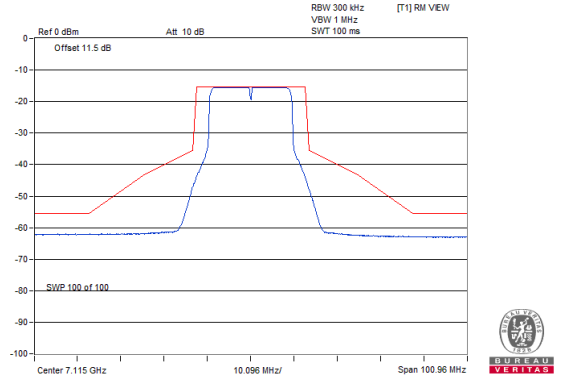
CH185



CH209



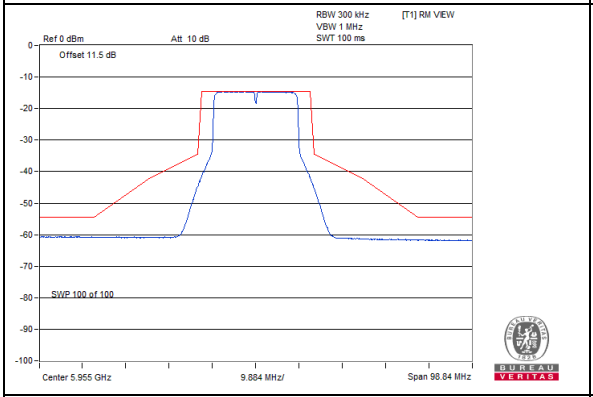
CH233



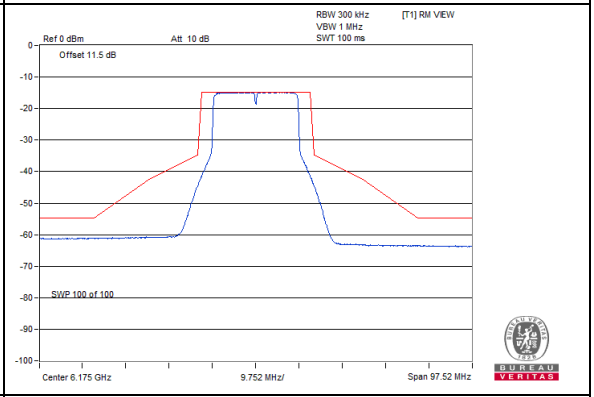
Spectrum Plot of Worst Value

Chain 1

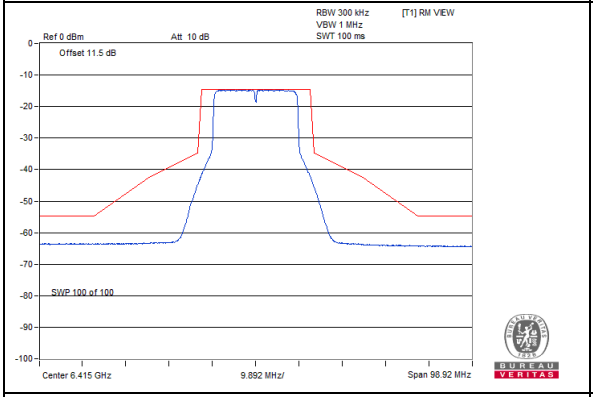
CH1



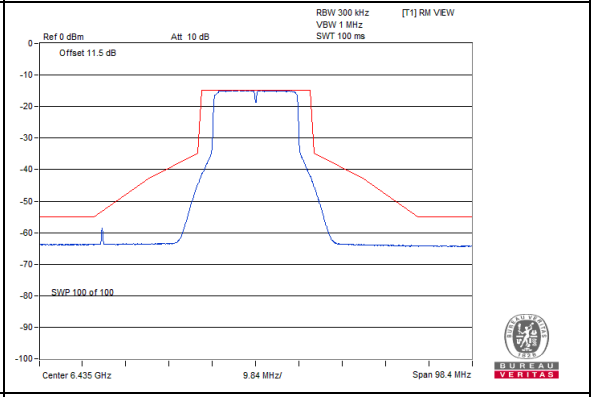
CH45



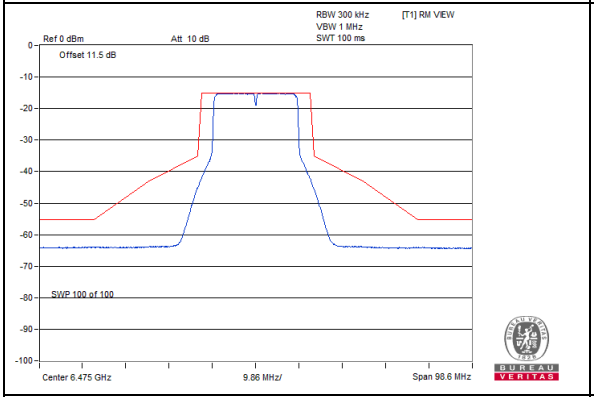
CH93



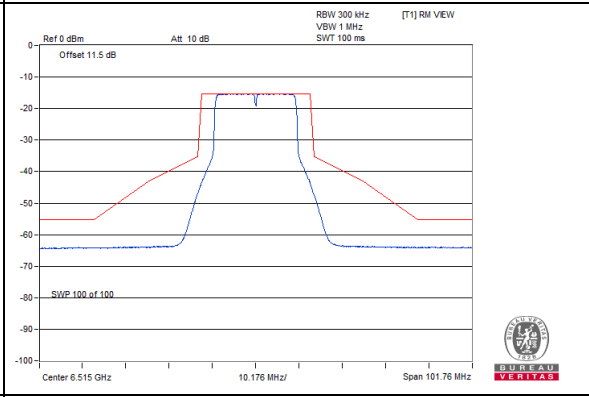
CH97



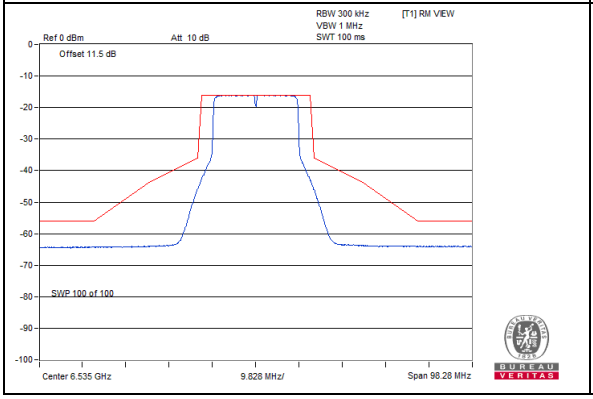
CH105



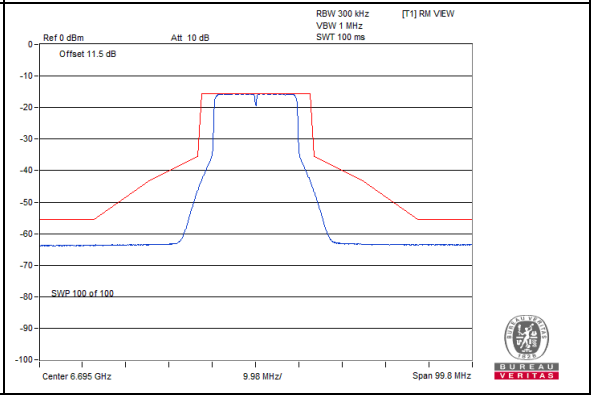
CH113

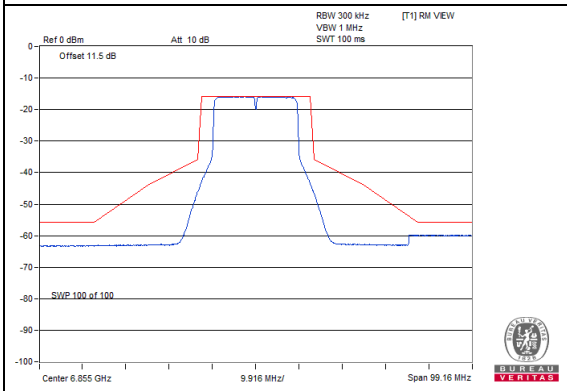
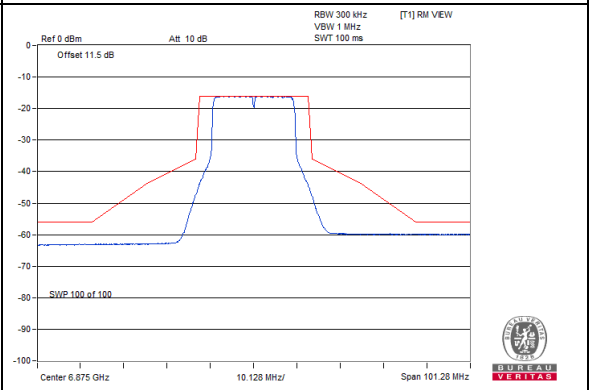
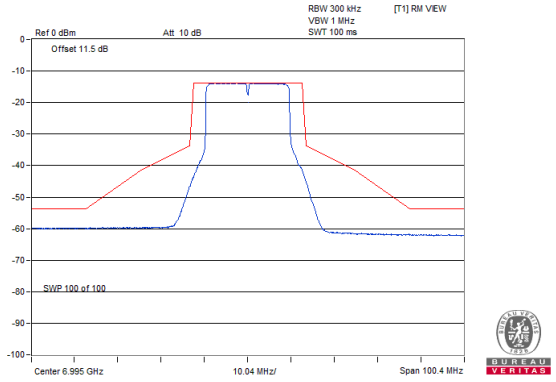
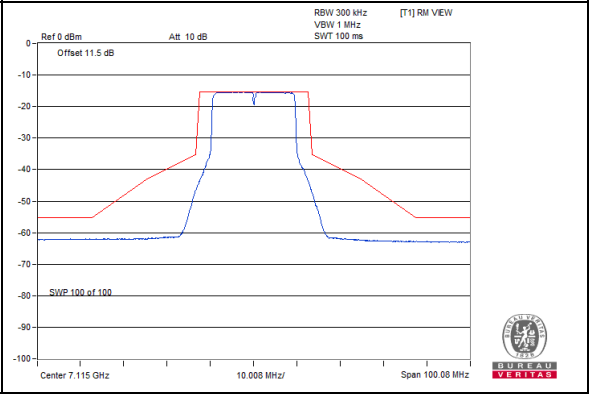


CH117

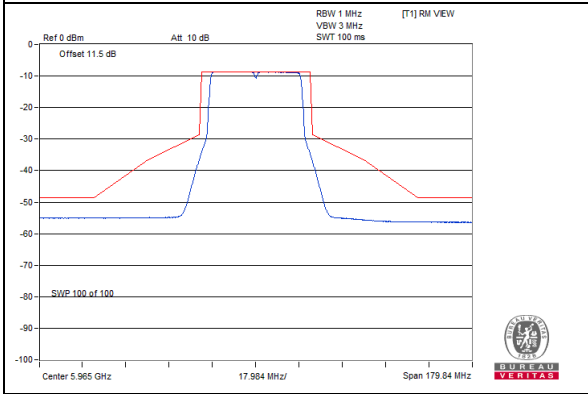
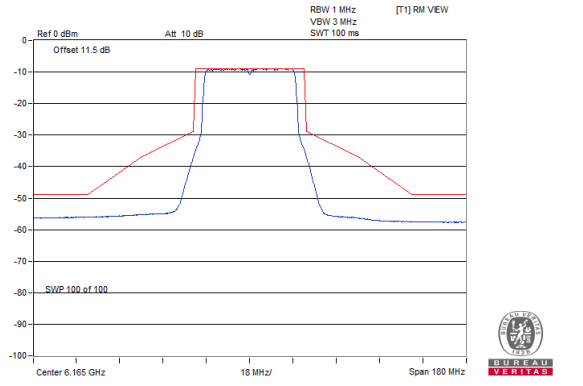
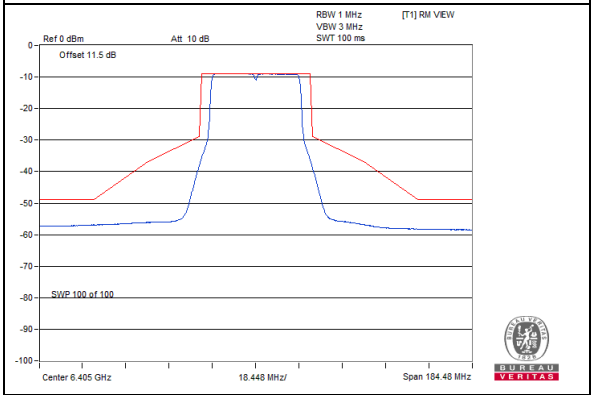
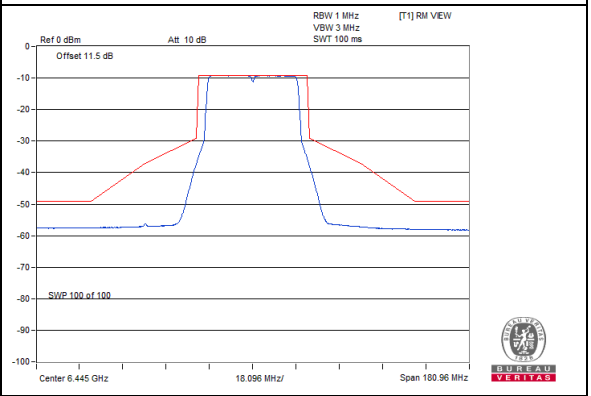
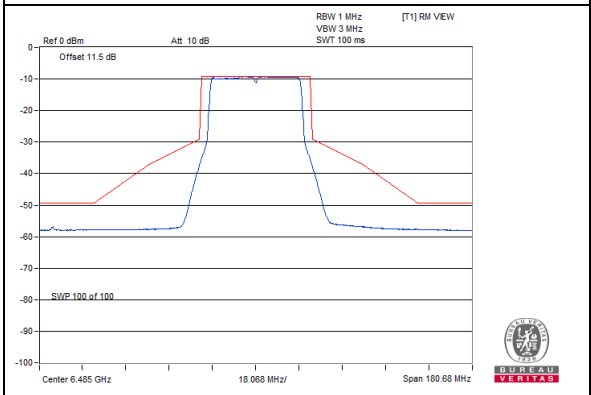
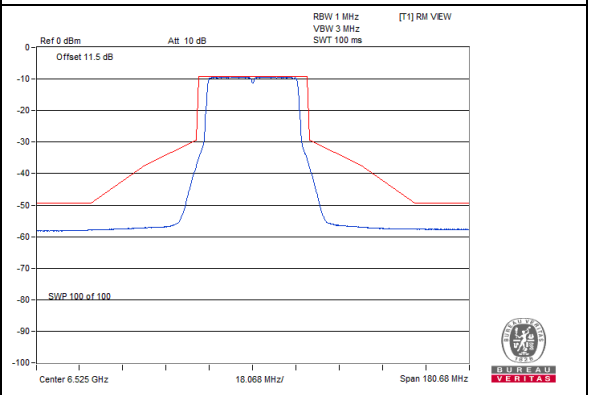
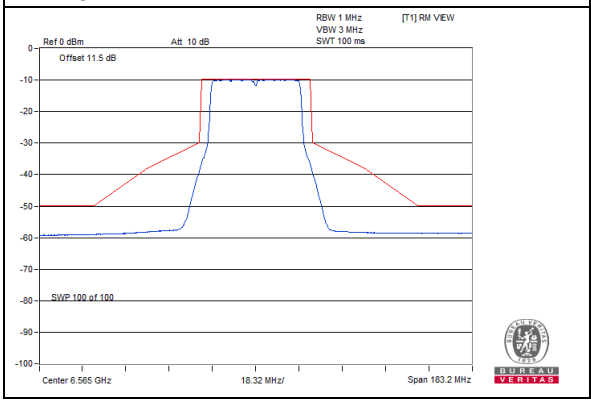
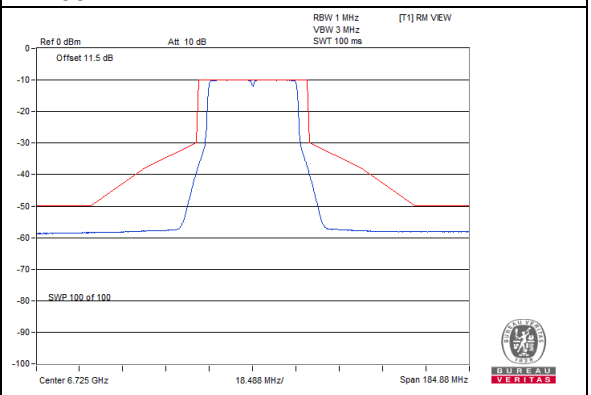


CH149



Spectrum Plot of Worst Value	
Chain 1	
CH181	**CH185**
	
CH209	**CH233**
	

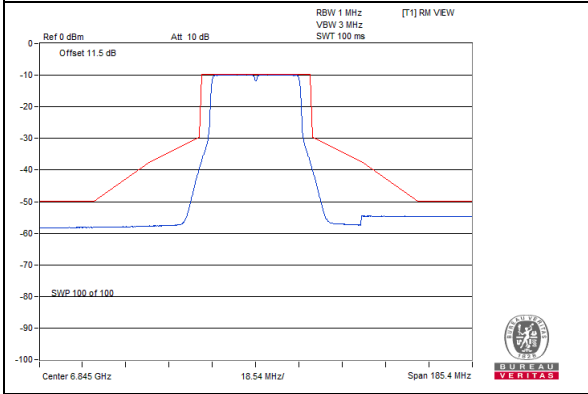
802.11ax (HE40)

Spectrum Plot of Worst Value	
Chain 0	
CH3	**CH43**
	
CH91	**CH99**
	
CH107	**CH115**
	
CH123	**CH155**
	

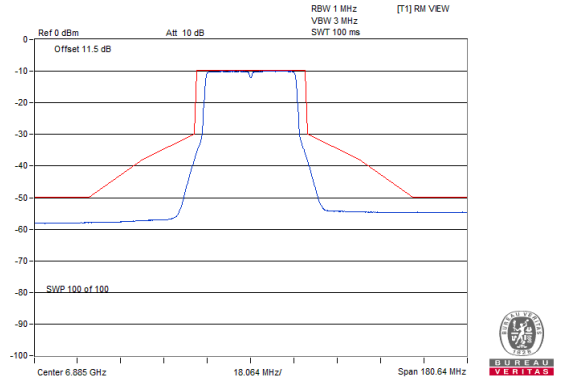
Spectrum Plot of Worst Value

Chain 0

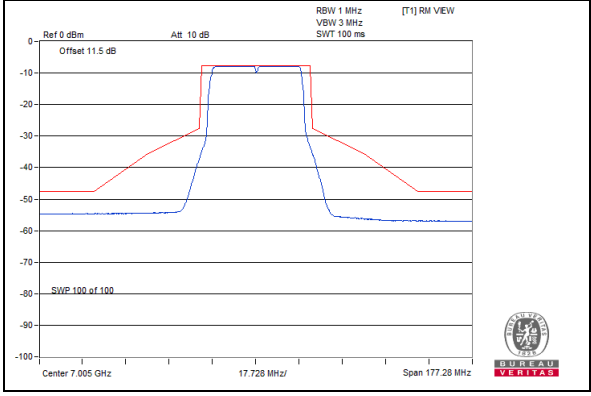
CH179



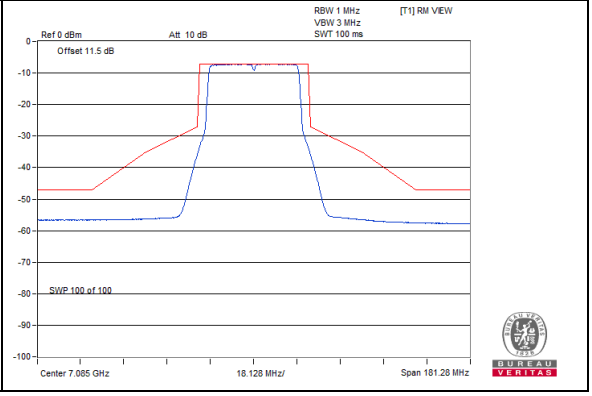
CH187



CH211



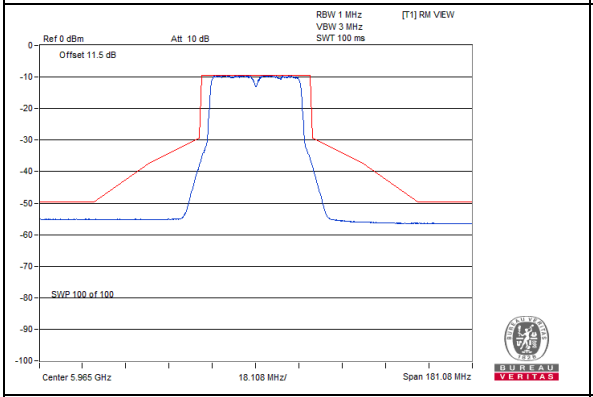
CH227



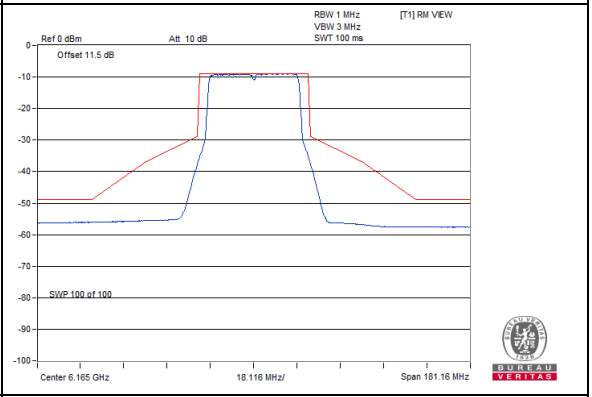
Spectrum Plot of Worst Value

Chain 1

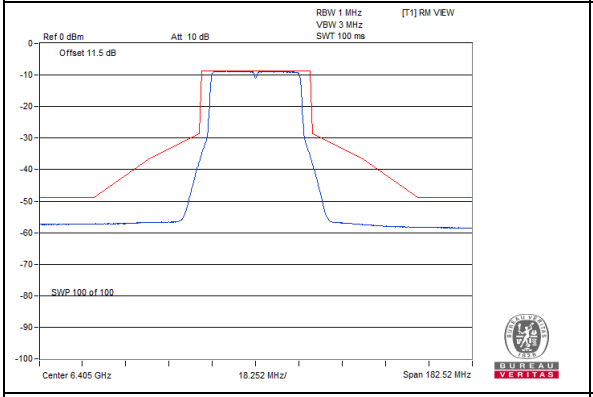
CH3



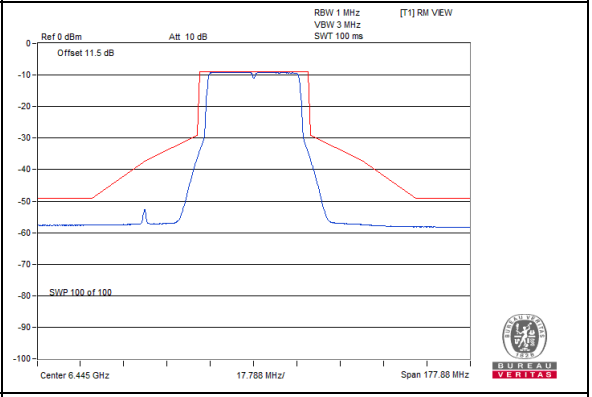
CH43



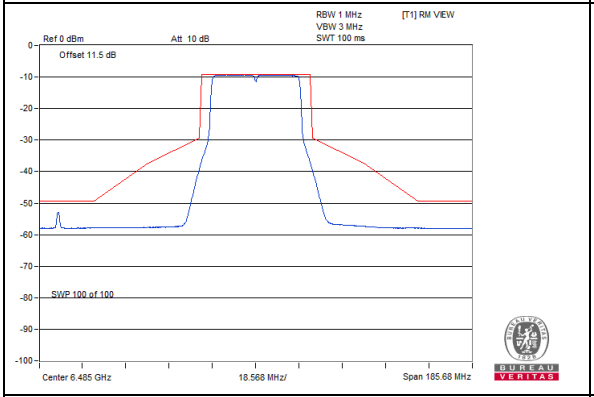
CH91



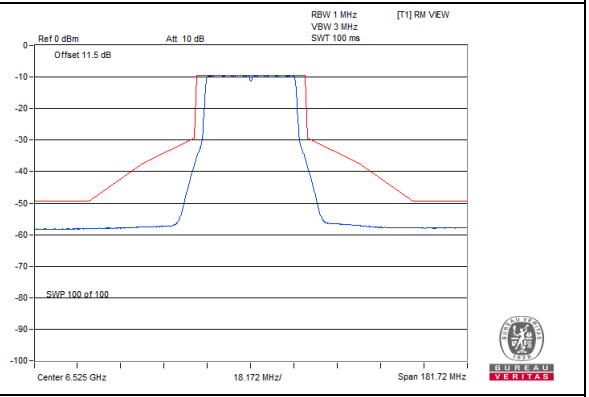
CH99



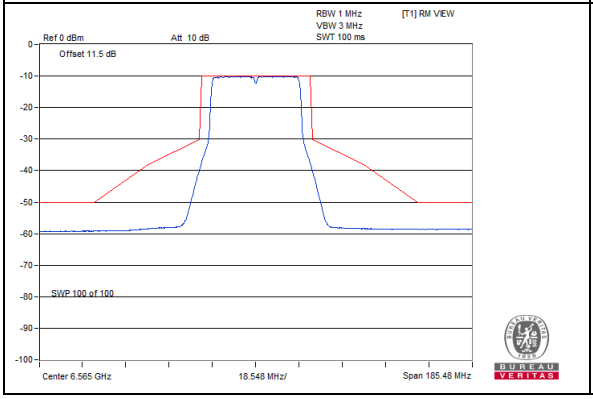
CH107



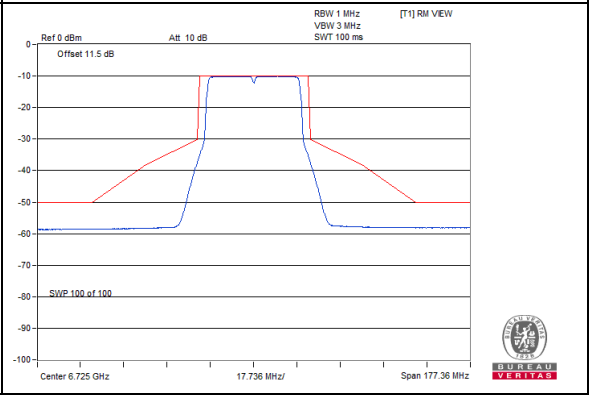
CH115



CH123



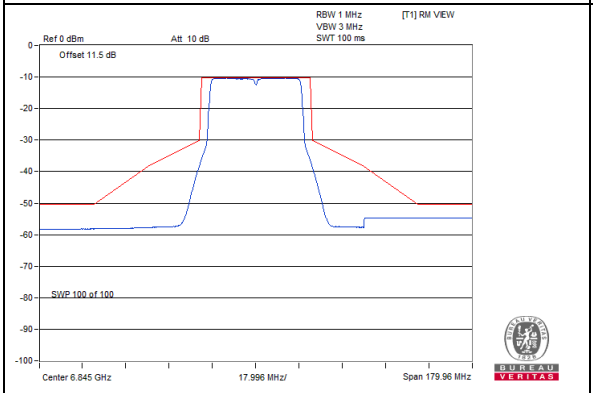
CH155



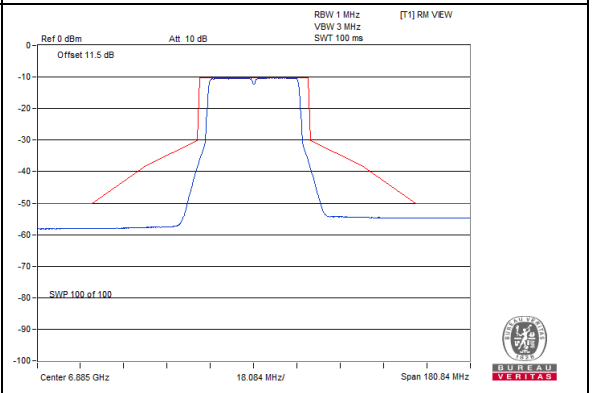
Spectrum Plot of Worst Value

Chain 1

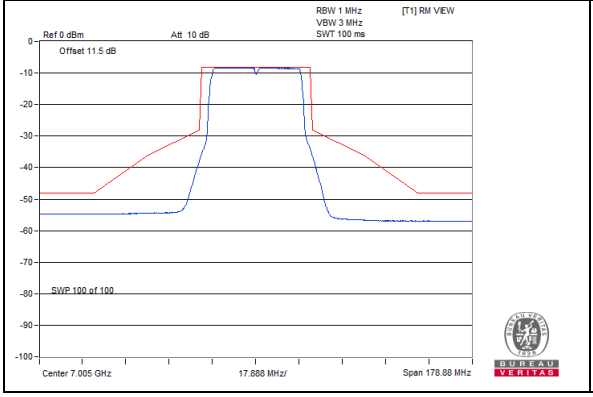
CH179



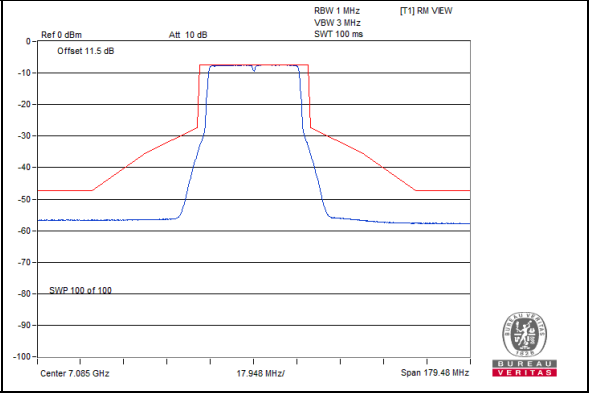
CH187



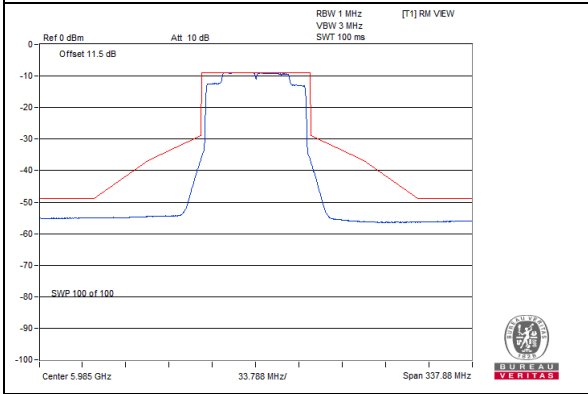
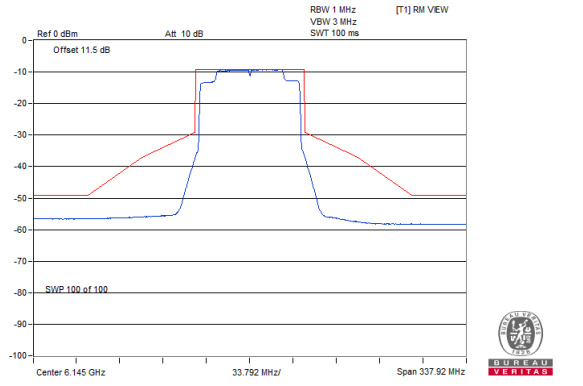
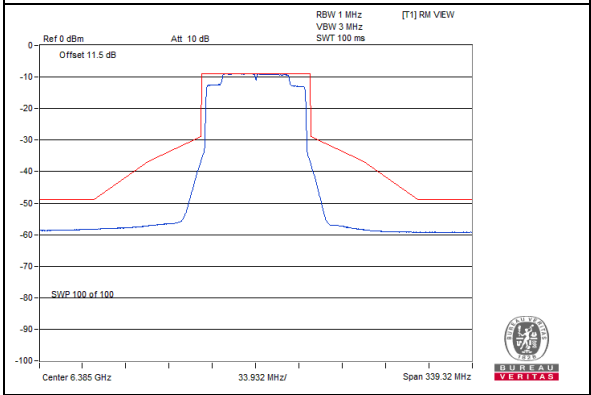
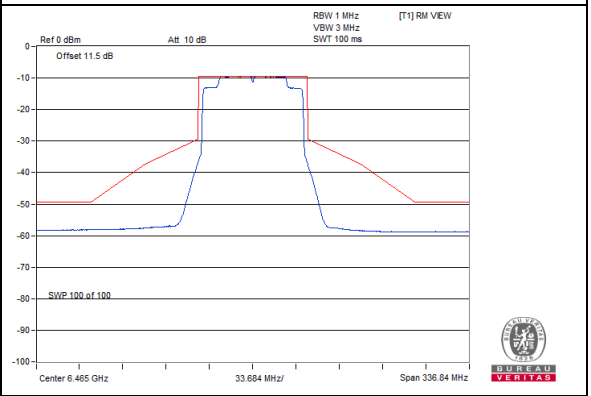
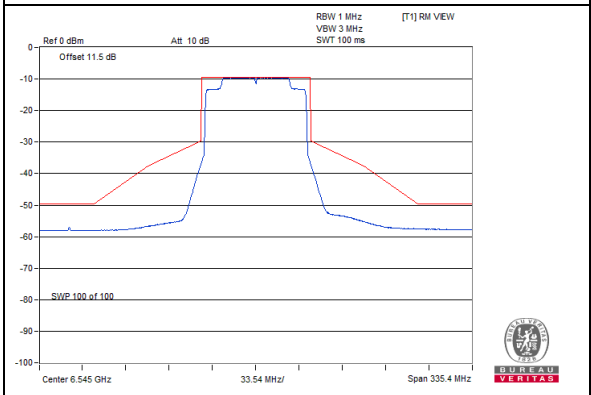
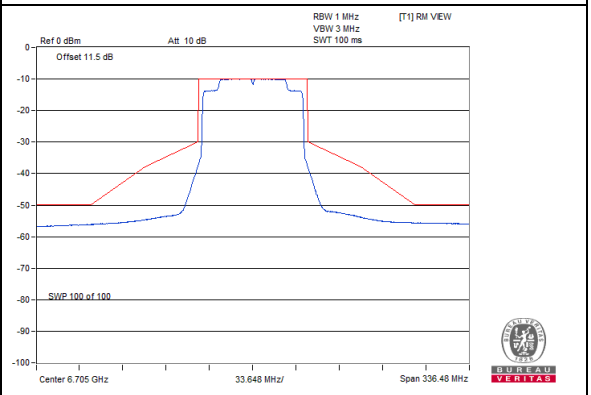
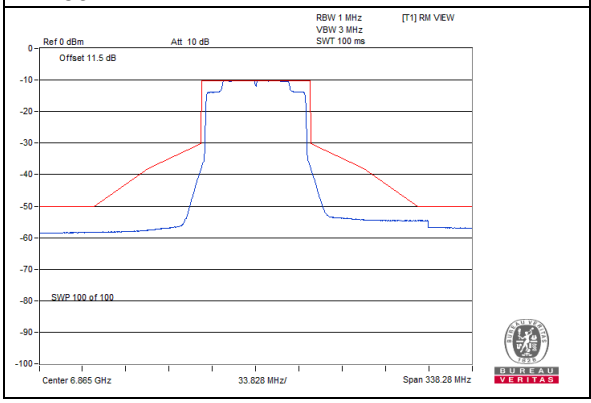
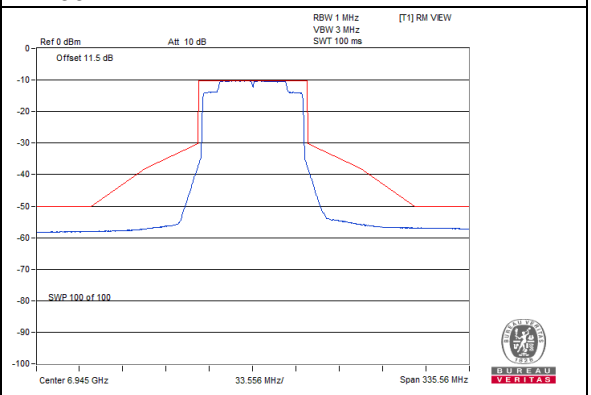
CH211

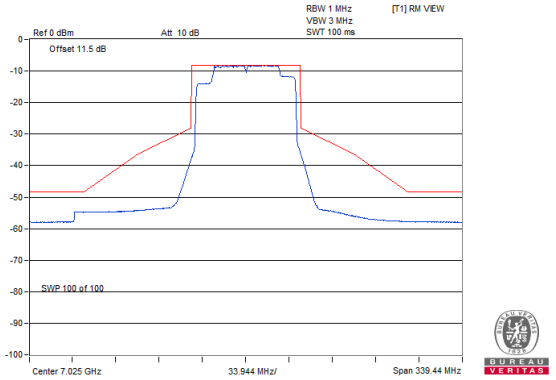


CH227



802.11ax (HE80)

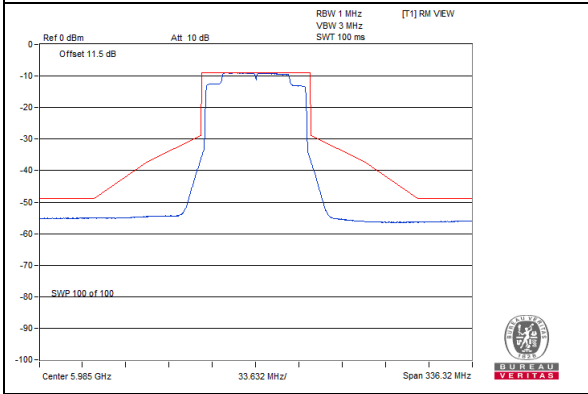
Spectrum Plot of Worst Value	
Chain 0	
CH7	**CH39**
	
CH87	**CH103**
	
CH119	**CH151**
	
CH183	**CH199**
	

Spectrum Plot of Worst Value	
Chain 0	
CH215	
	

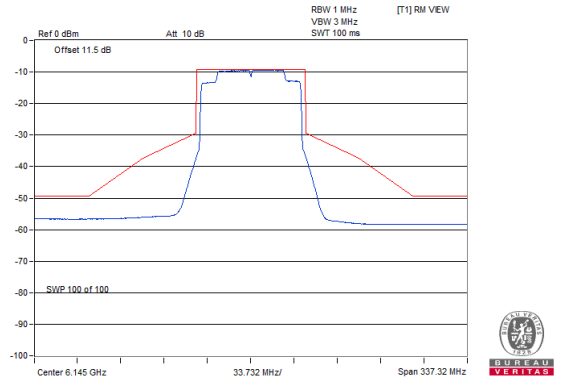
Spectrum Plot of Worst Value

Chain 1

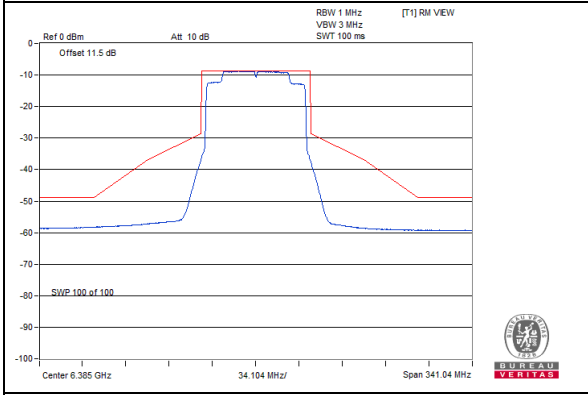
CH7



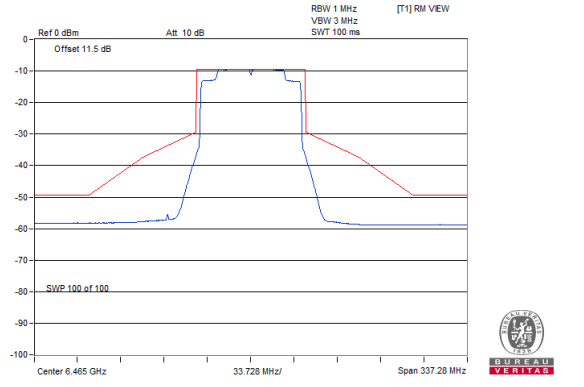
CH39



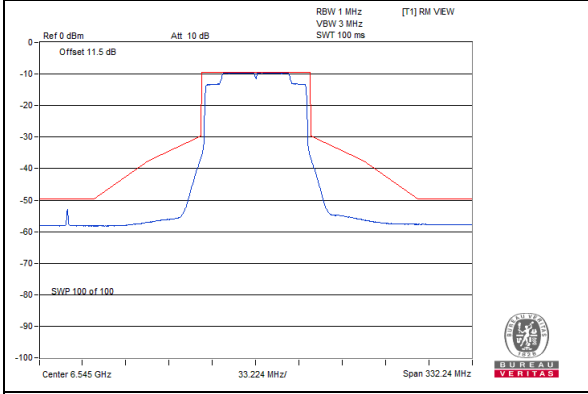
CH87



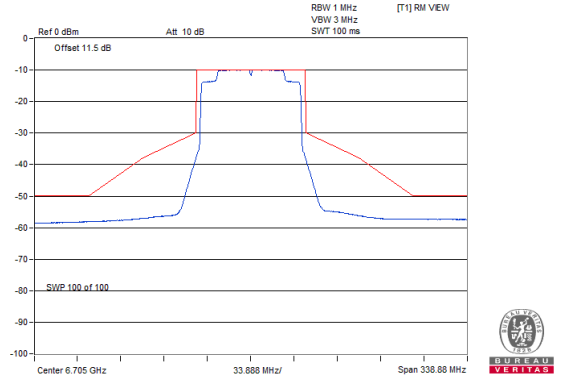
CH103



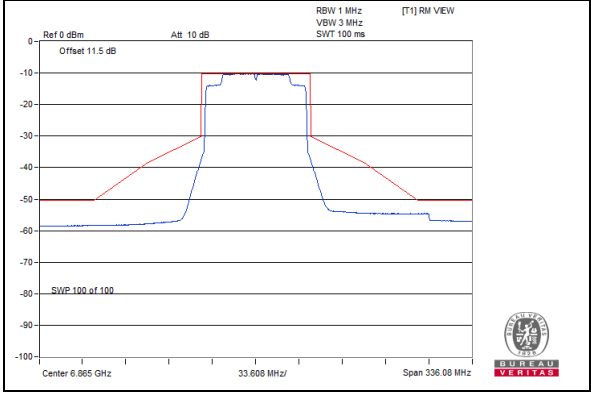
CH119



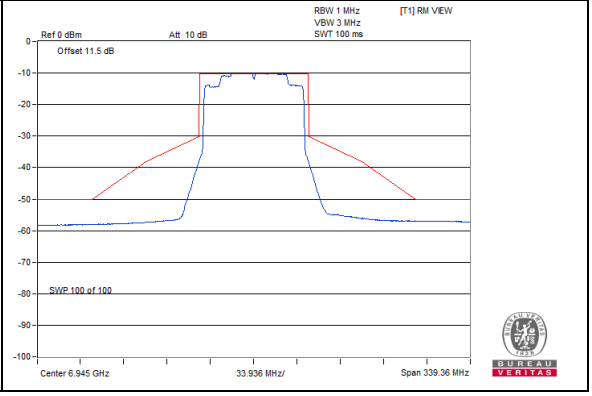
CH151

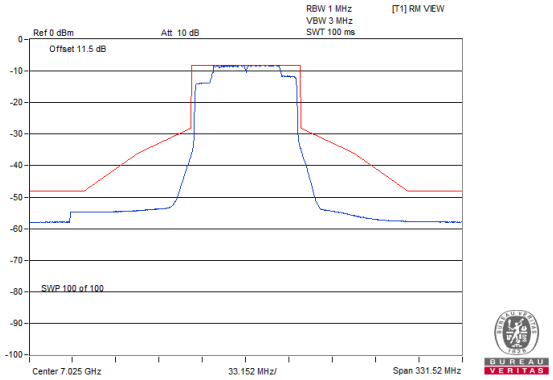


CH183

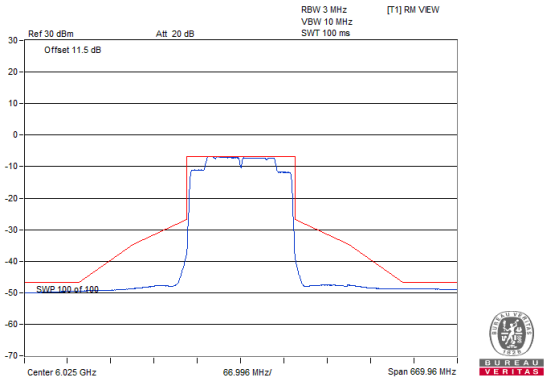
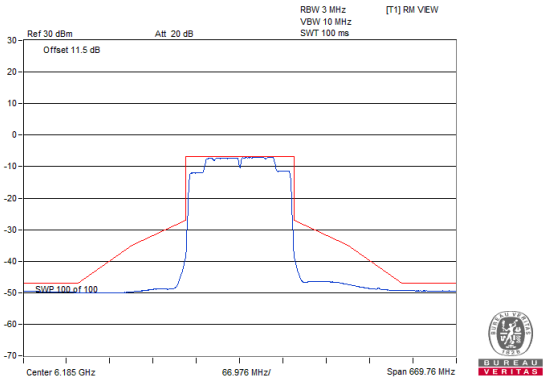
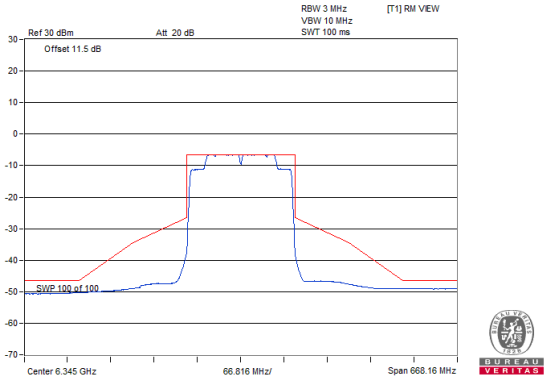
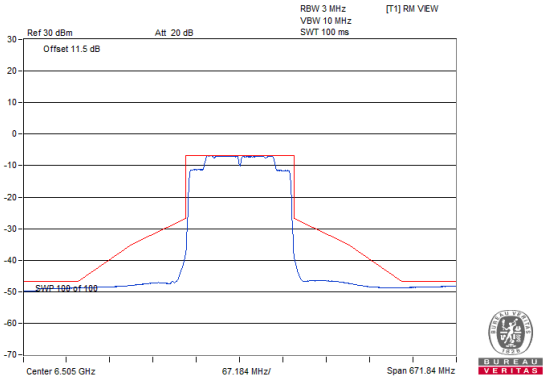
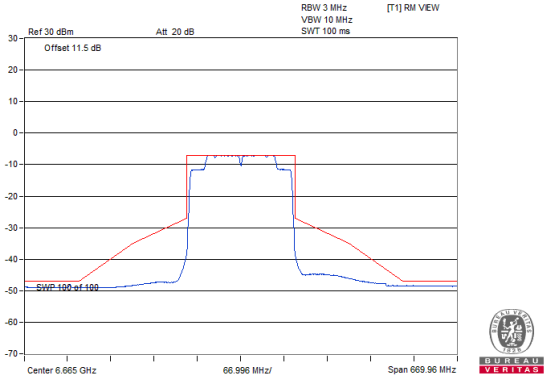
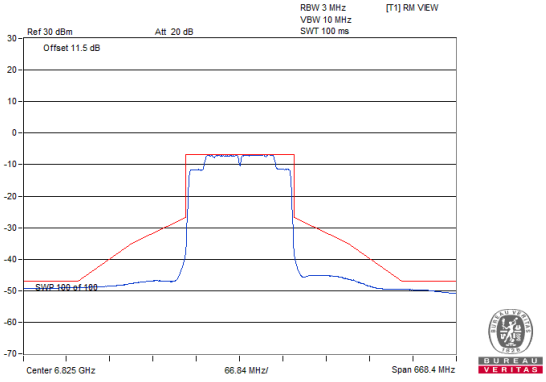
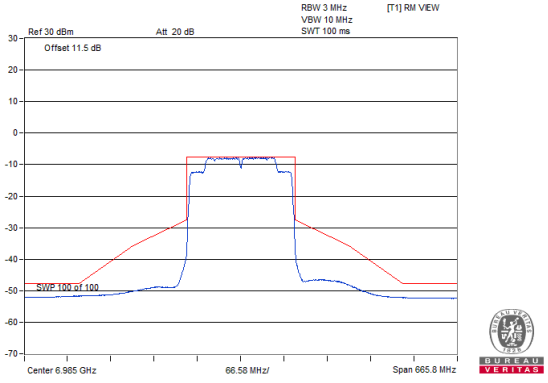


CH199



Spectrum Plot of Worst Value	
Chain 1	
CH215	
	

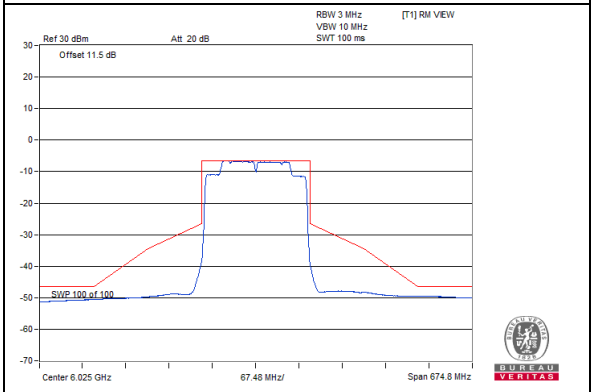
802.11ax (HE160)

Spectrum Plot of Worst Value	
Chain 0	
CH15	**CH47**
	
CH79	**CH111**
	
CH143	**CH175**
	
CH207	
	

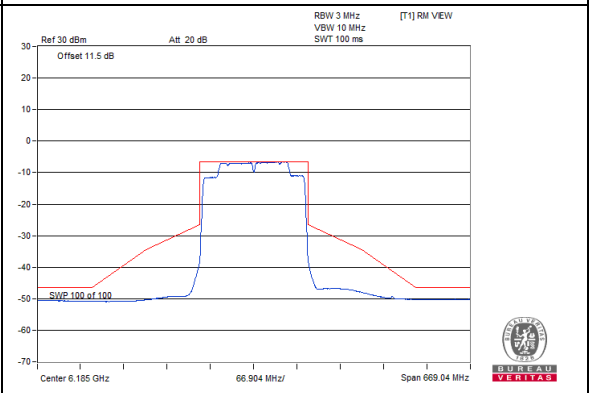
Spectrum Plot of Worst Value

Chain 1

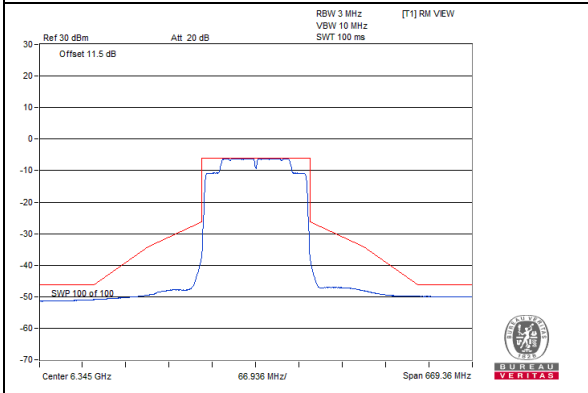
CH15



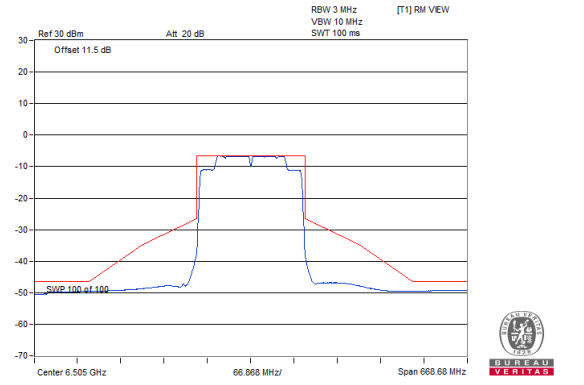
CH47



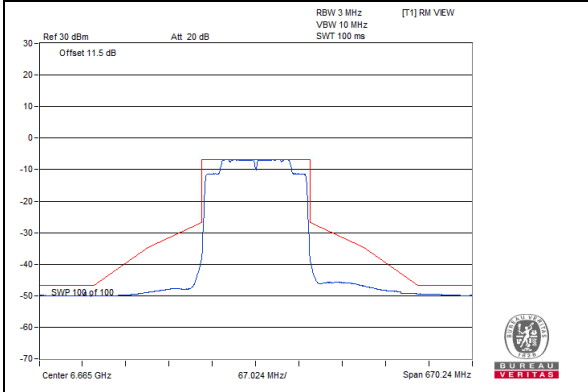
CH79



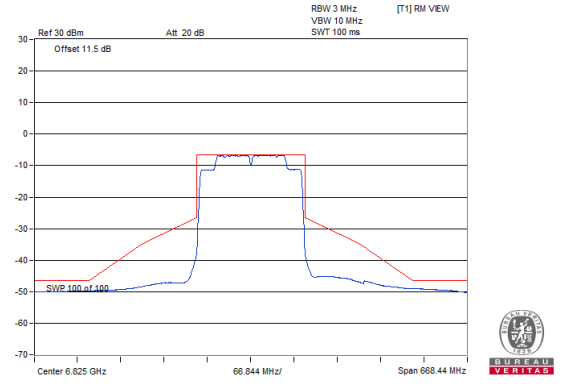
CH111



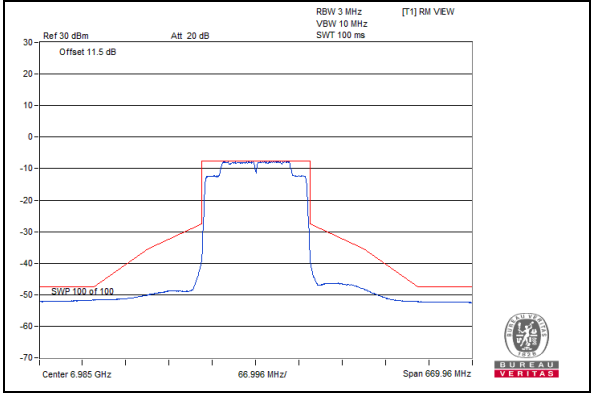
CH143



CH175



CH207



4.3 Conducted Emission Measurement

4.3.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.3.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Dec. 03, 2021	Dec. 02, 2022
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Sep. 04, 2021	Sep. 03, 2022
LISN/AMN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 25, 2021	Feb. 24, 2022
LISN/AMN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Sep. 17, 2021	Sep. 16, 2022
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 2 (Conduction 2).
3. The VCCI Site Registration No. is C-12047.
4. Test Date: Feb. 16, 2022

4.3.3 Test Procedure

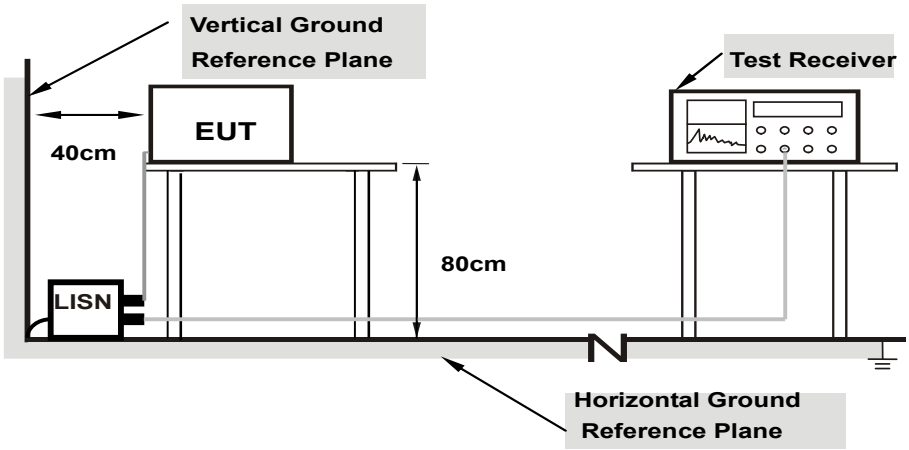
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE: All modes of operation were investigated and the worst-case emissions are reported.

4.3.4 Test Setup



Note: 1.Support units were connected to second LISN.

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

4.3.5 EUT Operating Condition

Same as 4.1.6.

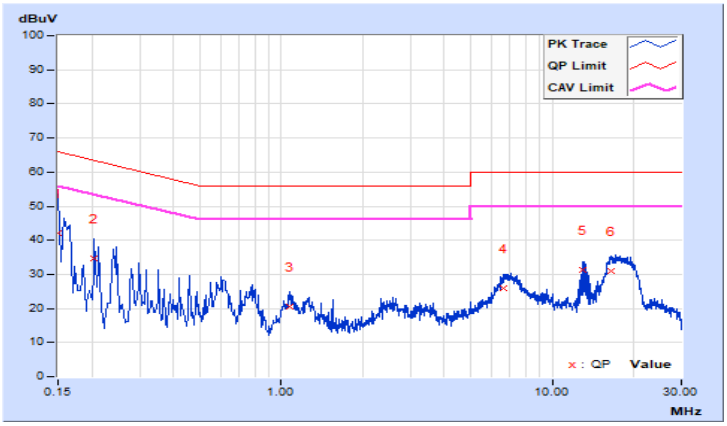
4.3.6 Test Results

RF Mode	TX 802.11ax (HE80)	Channel	CH 39：6145 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.11	31.88	18.25	41.99	28.36	66.00	56.00	-24.01	-27.64
2	0.20474	10.13	24.46	10.58	34.59	20.71	63.42	53.42	-28.83	-32.71
3	1.06885	10.17	10.44	4.09	20.61	14.26	56.00	46.00	-35.39	-31.74
4	6.64060	10.28	15.70	10.05	25.98	20.33	60.00	50.00	-34.02	-29.67
5	13.02954	10.37	21.08	18.81	31.45	29.18	60.00	50.00	-28.55	-20.82
6	16.52508	10.42	20.72	14.76	31.14	25.18	60.00	50.00	-28.86	-24.82

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

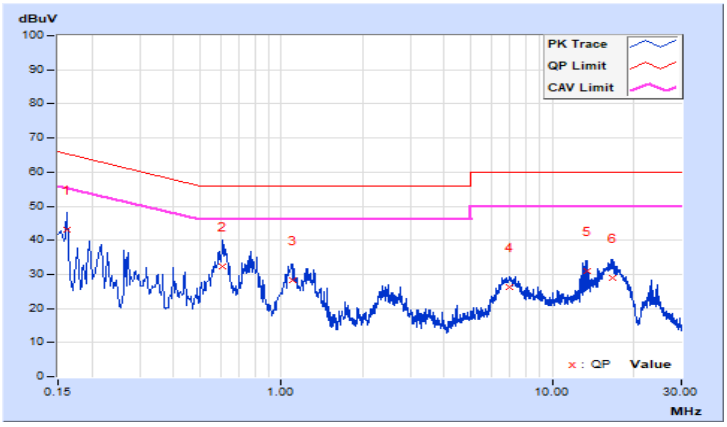


RF Mode	TX 802.11ax (HE80)	Channel	CH 39：6145 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16173	10.12	33.01	21.15	43.13	31.27	65.37	55.37	-22.24	-24.10
2	**0.60737**	**10.16**	**22.26**	**16.44**	**32.42**	**26.60**	**56.00**	**46.00**	**-23.58**	**-19.40**
3	1.09622	10.18	18.01	11.33	28.19	21.51	56.00	46.00	-27.81	-24.49
4	6.96904	10.35	15.93	10.12	26.28	20.47	60.00	50.00	-33.72	-29.53
5	13.45182	10.50	20.63	16.38	31.13	26.88	60.00	50.00	-28.87	-23.12
6	16.82224	10.59	18.49	12.61	29.08	23.20	60.00	50.00	-30.92	-26.80

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



4.4 Transmit Power Measurement

4.4.1 Limits of Transmit Power Measurement

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

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

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

4.4.2 Test Setup

FOR POWER OUTPUT MEASUREMENT

4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedure

FOR POWER OUTPUT MEASUREMENT

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. Duty factor is not added to measured value.

4.4.5 EUT Operating Condition

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.4.6 Test Result

Power Output:

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
1	5955	4.96	5.01	6.303	8.00	1.10	8.128	9.10	24	Pass
45	6175	4.82	4.99	6.189	7.92	1.10	7.980	9.02	24	Pass
93	6415	4.92	5.08	6.326	8.01	1.10	8.147	9.11	24	Pass
97	6435	4.88	5.04	6.268	7.97	-0.34	5.794	7.63	24	Pass
105	6475	4.87	5.07	6.283	7.98	-0.34	5.808	7.64	24	Pass
113	6515	4.88	5.34	6.496	8.13	-0.34	6.012	7.79	24	Pass
117	6535	4.52	4.65	5.749	7.60	0.75	6.839	8.35	24	Pass
149	6695	4.43	4.51	5.598	7.48	0.75	6.653	8.23	24	Pass
181	6855	4.44	4.68	5.717	7.57	0.75	6.792	8.32	24	Pass
185	6875	4.62	4.85	5.952	7.75	1.50	8.414	9.25	24	Pass
209	6995	4.47	4.59	5.676	7.54	1.50	8.017	9.04	24	Pass
233	7115	2.78	2.82	3.811	5.81	1.50	5.383	7.31	24	Pass

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
3	5965	8.61	8.42	14.211	11.53	1.10	18.323	12.63	24	Pass
43	6165	8.59	8.40	14.146	11.51	1.10	18.239	12.61	24	Pass
91	6405	8.55	8.42	14.112	11.50	1.10	18.197	12.60	24	Pass
99	6445	8.62	8.40	14.196	11.52	-0.34	13.122	11.18	24	Pass
107	6485	8.66	8.52	14.457	11.60	-0.34	13.366	11.26	24	Pass
115	6525	8.36	8.48	13.899	11.43	0.75	16.520	12.18	24	Pass
123	6565	7.82	7.28	11.399	10.57	0.75	13.552	11.32	24	Pass
155	6725	7.88	7.31	11.520	10.61	0.75	13.677	11.36	24	Pass
179	6845	7.79	7.22	11.284	10.52	0.75	13.397	11.27	24	Pass
187	6885	7.88	7.28	11.483	10.60	1.50	16.218	12.10	24	Pass
211	7005	7.72	7.20	11.164	10.48	1.50	15.776	11.98	24	Pass
227	7085	7.84	7.23	11.366	10.56	1.50	16.069	12.06	24	Pass

802.11ax (HE80)

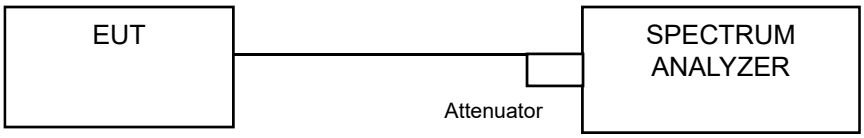
Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
7	5985	10.46	10.44	22.184	13.46	1.10	28.576	14.56	24	Pass
39	6145	10.49	10.45	22.286	13.48	1.10	28.708	14.58	24	Pass
87	6385	10.44	10.41	22.056	13.44	1.10	28.445	14.54	24	Pass
103	6465	10.45	10.40	22.057	13.44	-0.34	20.417	13.10	24	Pass
119	6545	10.44	10.34	21.881	13.40	0.75	26.002	14.15	24	Pass
151	6705	9.98	9.71	19.308	12.86	0.75	22.961	13.61	24	Pass
183	6865	9.89	9.63	18.933	12.77	0.75	22.491	13.52	24	Pass
199	6945	9.99	9.80	19.527	12.91	1.50	27.606	14.41	24	Pass
215	7025	9.89	9.77	19.234	12.84	1.50	27.164	14.34	24	Pass

802.11ax (HE160)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
15	6025	10.40	10.22	21.484	13.32	1.10	27.669	14.42	24	Pass
47	6185	10.44	10.30	21.781	13.38	1.10	28.054	14.48	24	Pass
79	6345	10.39	10.25	21.532	13.33	1.10	27.733	14.43	24	Pass
111	6505	10.41	10.28	21.656	13.36	-0.34	20.045	13.02	24	Pass
143	6665	10.36	10.22	21.384	13.30	0.75	25.410	14.05	24	Pass
175	6825	10.40	10.30	21.680	13.36	0.75	25.763	14.11	24	Pass
207	6985	10.41	10.29	21.681	13.36	1.50	30.620	14.86	24	Pass

4.5 Emission Bandwidth Measurement

4.5.1 Test Setup



4.5.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.3 Test Procedure

FOR 99% OCCUPIED BANDWIDTH

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to SAMPLE. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

FOR 26dB BANDWIDTH

a. Set RBW = approximately 1% of the emission bandwidth.
b. Set the VBW > RBW.
c. Detector = Peak.
d. Trace mode = max hold.
e. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

4.5.4 Test Results

99% Occupied Bandwidth:

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Limit (MHz)
1	5955	19.20	19.32	320
45	6175	19.32	19.20	320
93	6415	19.08	19.20	320
97	6435	19.20	19.20	320
105	6475	19.20	19.32	320
113	6515	19.32	19.20	320
117	6535	19.32	19.20	320
149	6695	19.20	19.32	320
181	6855	19.08	19.08	320
185	6875	19.20	19.20	320
209	6995	19.20	19.08	320
233	7115	19.20	19.20	320

802.11ax (HE40)

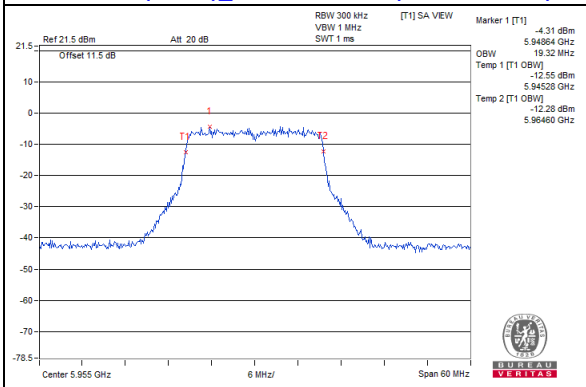
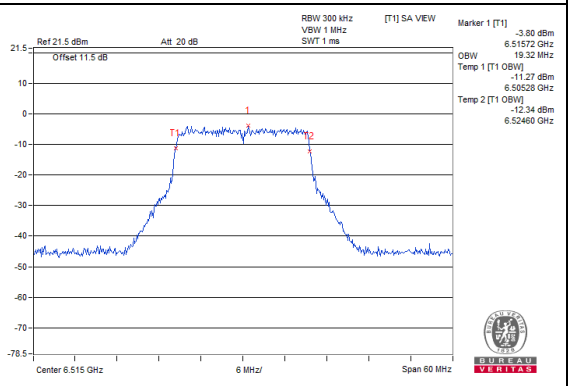
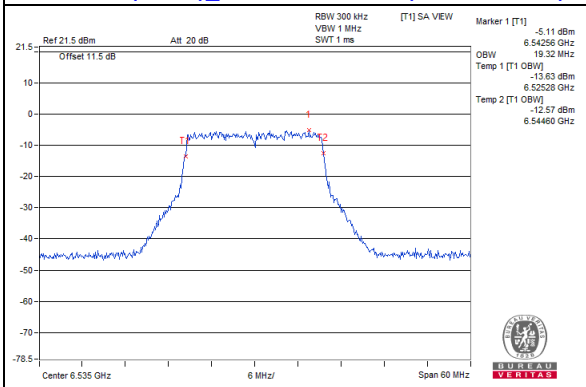
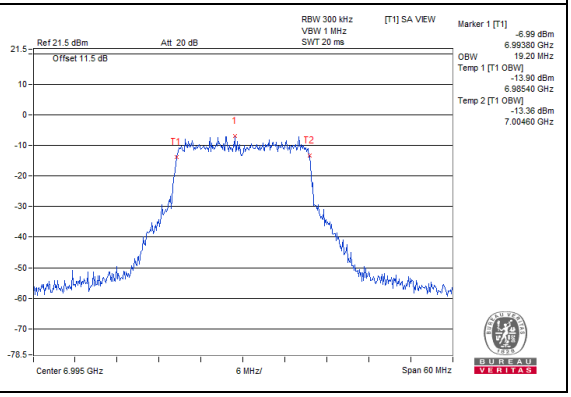
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Limit (MHz)
3	5965	39.12	38.40	320
43	6165	38.40	38.40	320
91	6405	38.16	38.16	320
99	6445	38.16	38.40	320
107	6485	38.16	38.16	320
115	6525	38.40	38.16	320
123	6565	38.40	38.16	320
155	6725	38.40	38.16	320
179	6845	38.16	38.40	320
187	6885	38.16	38.16	320
211	7005	38.16	38.16	320
227	7085	38.16	38.16	320

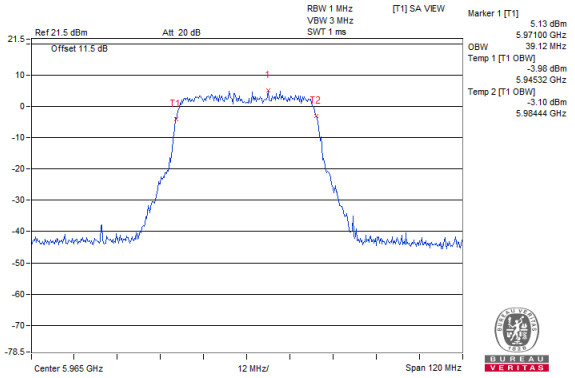
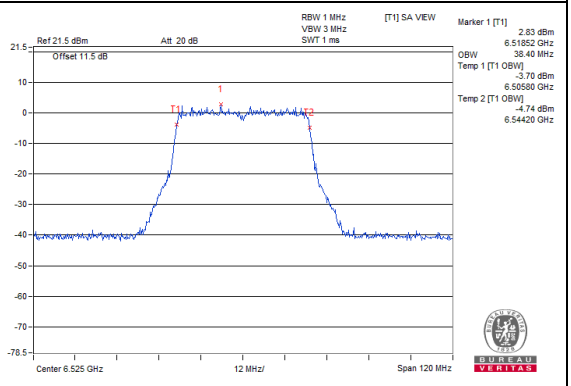
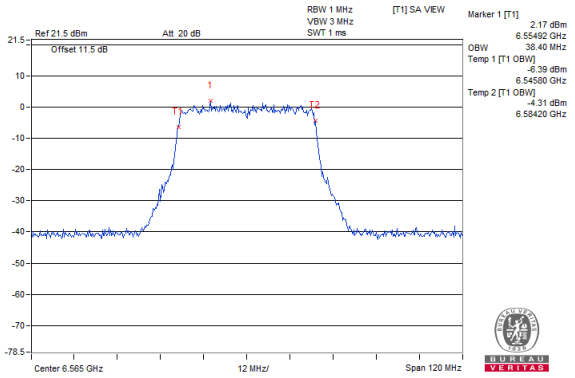
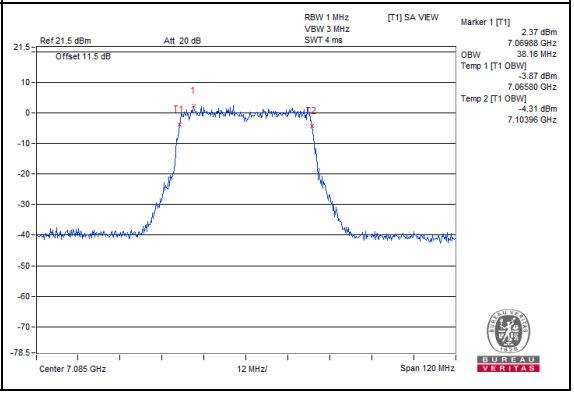
802.11ax (HE80)

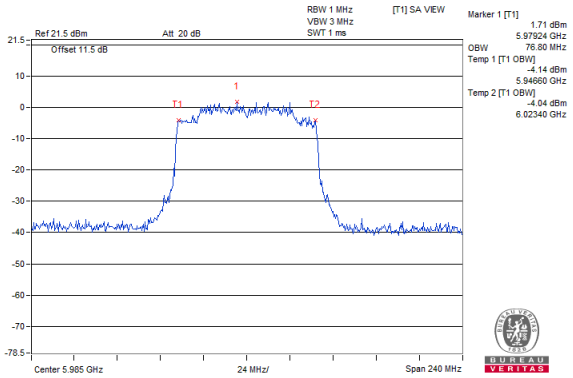
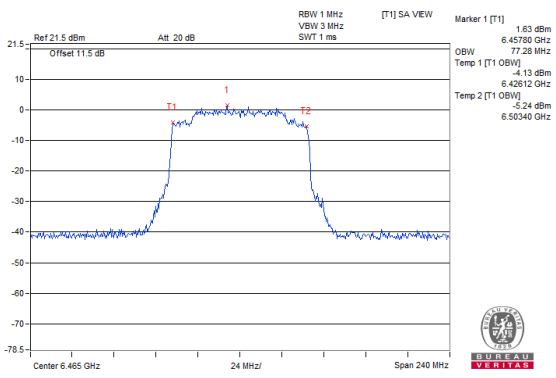
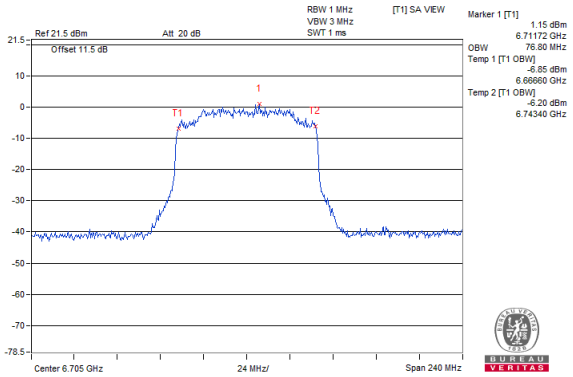
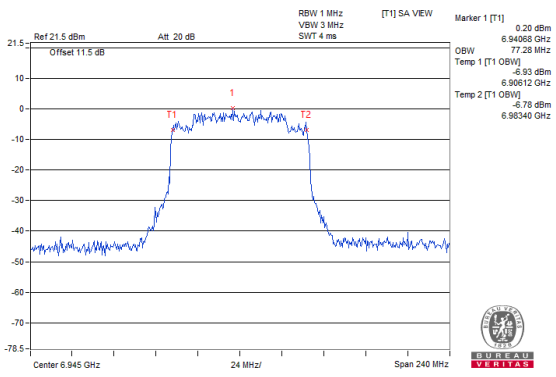
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Limit (MHz)
7	5985	76.80	76.80	320
39	6145	76.80	76.80	320
87	6385	76.80	76.80	320
103	6465	77.28	76.80	320
119	6545	76.80	76.80	320
151	6705	76.80	76.80	320
183	6865	76.80	76.80	320
199	6945	76.80	77.28	320
215	7025	76.80	76.80	320

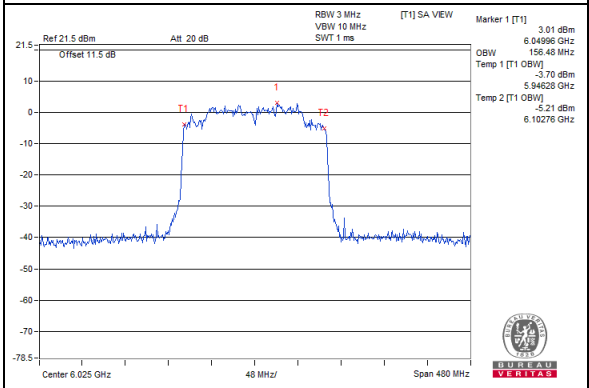
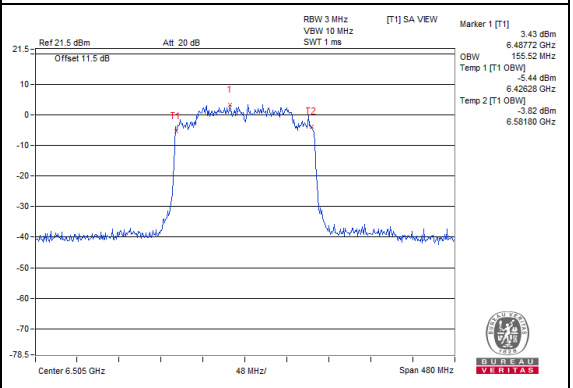
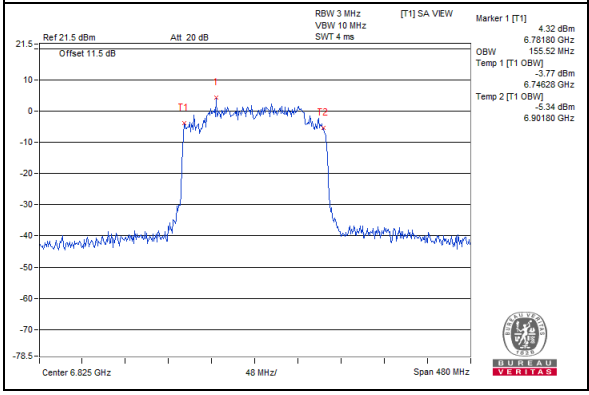
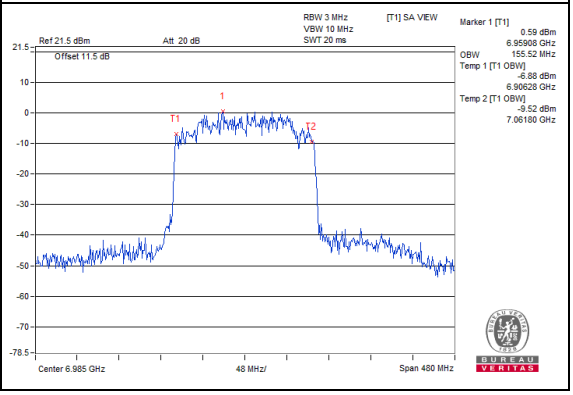
802.11ax (HE160)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Limit (MHz)
15	6025	156.48	155.52	320
47	6185	155.52	155.52	320
79	6345	154.56	154.56	320
111	6505	155.52	155.52	320
143	6665	154.56	154.56	320
175	6825	154.56	155.52	320
207	6985	155.52	155.52	320

Spectrum Plot of Max. Value	
802.11ax (HE20)_Chain 1 / CH1 (U-NII-5 Band)	**802.11ax (HE20)_Chain 0 / CH113 (U-NII-6 Band)**
	
802.11ax (HE20)_Chain 0 / CH117 (U-NII-7 Band)	**802.11ax (HE20)_Chain 0 / CH209 (U-NII-8 Band)**
	

Spectrum Plot of Max. Value	
802.11ax (HE40)_Chain 0 / CH3 (U-NII-5 Band)	**802.11ax (HE40)_Chain 0 / CH115 (U-NII-6 Band)**
	
802.11ax (HE40)_Chain 0 / CH123 (U-NII-7 Band)	**802.11ax (HE40)_Chain 0 / CH227 (U-NII-8 Band)**
	

Spectrum Plot of Max. Value	
802.11ax (HE80)_Chain 0 / CH7 (U-NII-5 Band)	**802.11ax (HE80)_Chain 0 / CH103 (U-NII-6 Band)**
	
802.11ax (HE80)_Chain 0 / CH151 (U-NII-7 Band)	**802.11ax (HE80)_Chain 1 / CH199 (U-NII-8 Band)**
	

Spectrum Plot of Max. Value	
802.11ax (HE160)_Chain 0 / CH15 (U-NII-5 Band)	**802.11ax (HE160)_Chain 0 / CH111 (U-NII-6 Band)**
	
802.11ax (HE160)_Chain 1 / CH175 (U-NII-7 Band)	**802.11ax (HE160)_Chain 0 / CH207 (U-NII-8 Band)**
	

26dB Bandwidth:

802.11ax (HE20)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
		Chain0	Chain1	Limit (MHz)
1	5955	24.96	24.71	320
45	6175	25.35	24.38	320
93	6415	25.58	24.73	320
97	6435	25.22	24.60	320
105	6475	25.09	24.65	320
113	6515	24.51	25.44	320
117	6535	24.82	24.57	320
149	6695	25.10	24.95	320
181	6855	24.93	24.79	320
185	6875	25.53	25.32	320
209	6995	24.37	25.10	320
233	7115	25.24	25.02	320

802.11ax (HE40)

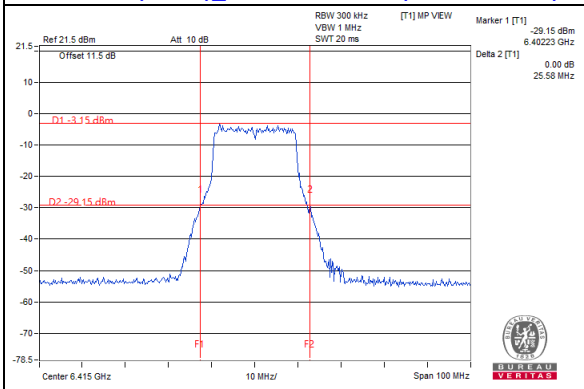
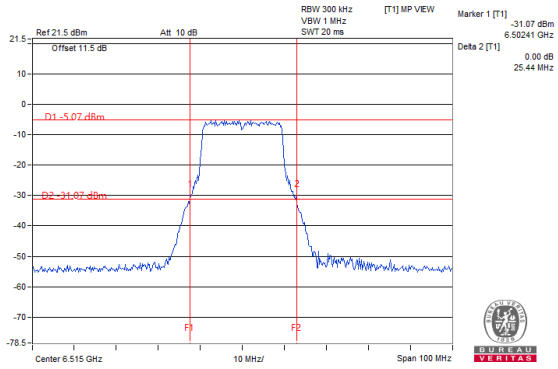
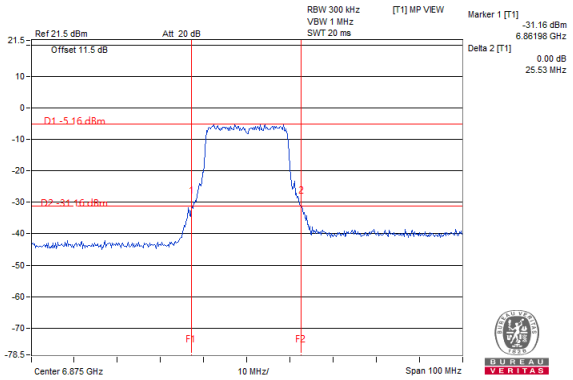
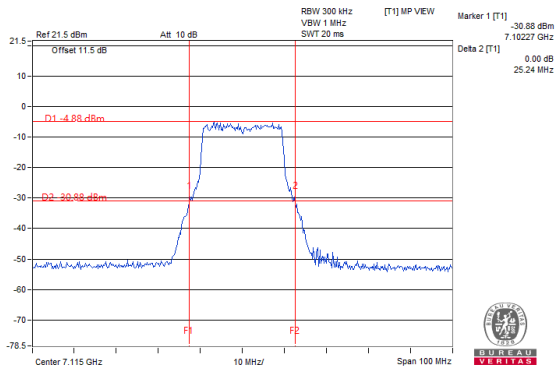
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
		Chain0	Chain1	Limit (MHz)
3	5965	44.96	45.27	320
43	6165	45.00	45.29	320
91	6405	46.12	45.63	320
99	6445	45.24	44.47	320
107	6485	45.17	46.42	320
115	6525	45.17	45.43	320
123	6565	45.80	46.37	320
155	6725	46.22	44.34	320
179	6845	46.35	44.99	320
187	6885	45.16	45.21	320
211	7005	44.32	44.72	320
227	7085	45.32	44.87	320

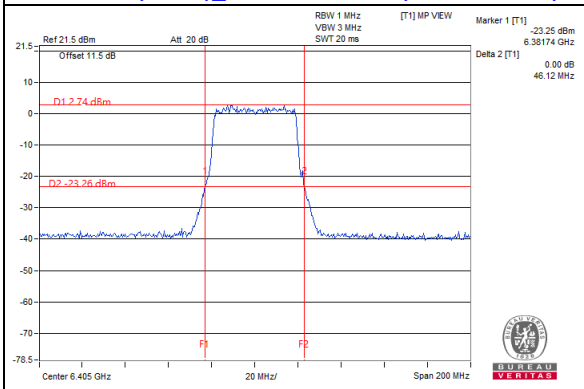
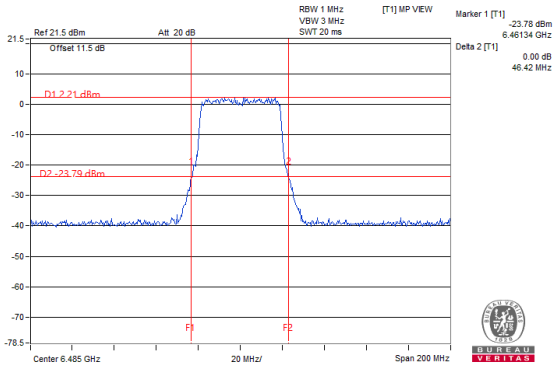
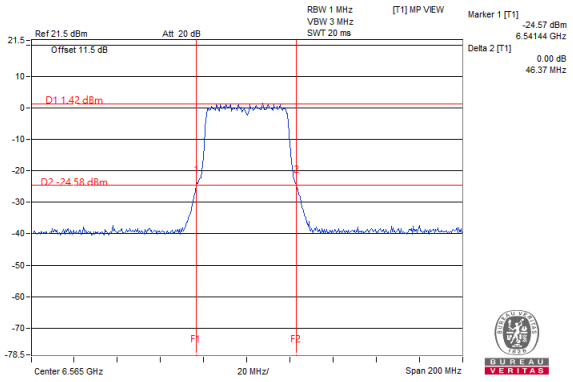
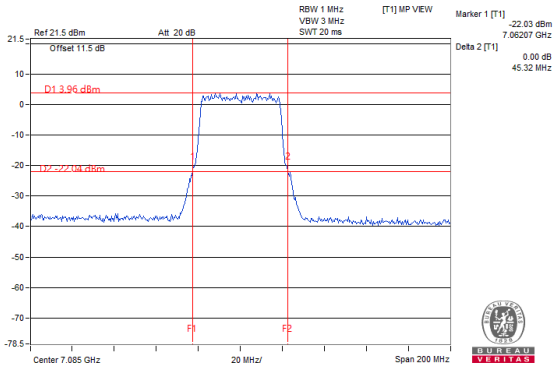
802.11ax (HE80)

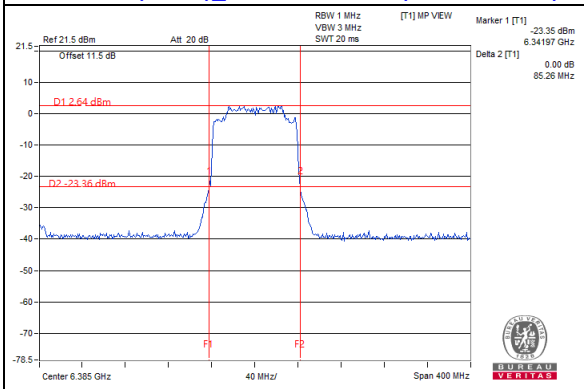
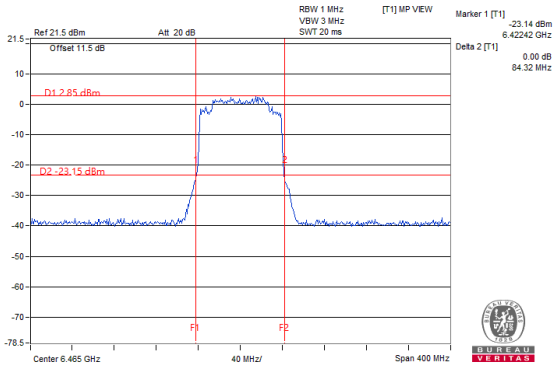
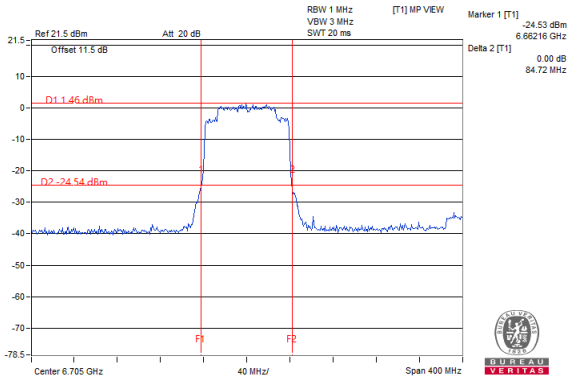
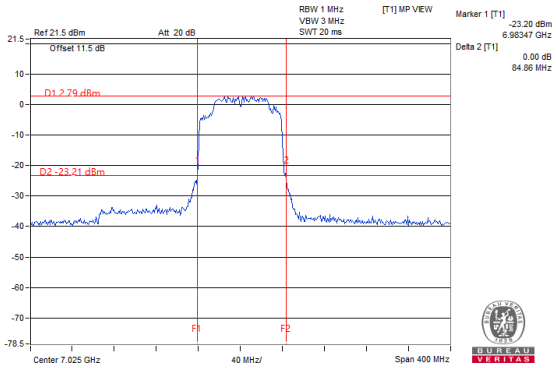
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
		Chain0	Chain1	Limit (MHz)
7	5985	84.47	84.08	320
39	6145	84.48	84.33	320
87	6385	84.83	85.26	320
103	6465	84.21	84.32	320
119	6545	83.85	83.06	320
151	6705	84.12	84.72	320
183	6865	84.57	84.02	320
199	6945	83.89	84.84	320
215	7025	84.86	82.88	320

802.11ax (HE160)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
		Chain0	Chain1	Limit (MHz)
15	6025	167.49	168.70	320
47	6185	167.44	167.26	320
79	6345	167.04	167.34	320
111	6505	168.12	167.90	320
143	6665	167.49	167.56	320
175	6825	167.50	167.02	320
207	6985	166.45	167.49	320

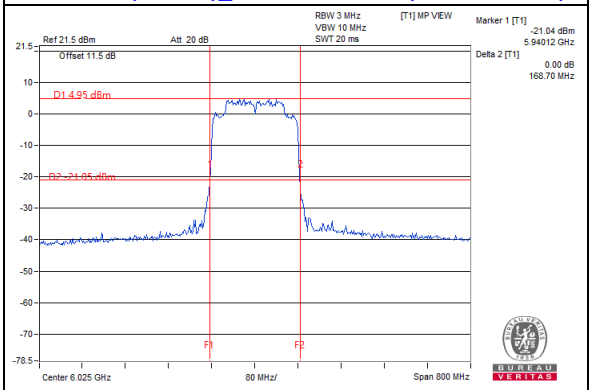
Spectrum Plot of Max. Value	
802.11ax (HE20)_Chain 0 / CH93 (U-NII-5 Band)	**802.11ax (HE20)_Chain 1 / CH113 (U-NII-6 Band)**
	
802.11ax (HE20)_Chain 0 / CH185 (U-NII-7 Band)	**802.11ax (HE20)_Chain 0 / CH233 (U-NII-8 Band)**
	

Spectrum Plot of Max. Value	
802.11ax (HE40)_Chain 0 / CH91 (U-NII-5 Band)	**802.11ax (HE40)_Chain 1 / CH107 (U-NII-6 Band)**
	
802.11ax (HE40)_Chain 1 / CH123 (U-NII-7 Band)	**802.11ax (HE40)_Chain 0 / CH227 (U-NII-8 Band)**
	

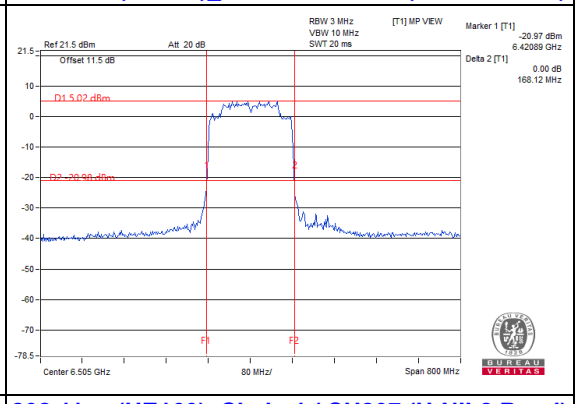
Spectrum Plot of Max. Value	
802.11ax (HE80)_Chain 1 / CH87 (U-NII-5 Band)	**802.11ax (HE80)_Chain 1 / CH103 (U-NII-6 Band)**
	
802.11ax (HE80)_Chain 1 / CH151 (U-NII-7 Band)	**802.11ax (HE80)_Chain 0 / CH215 (U-NII-8 Band)**
	

Spectrum Plot of Max. Value

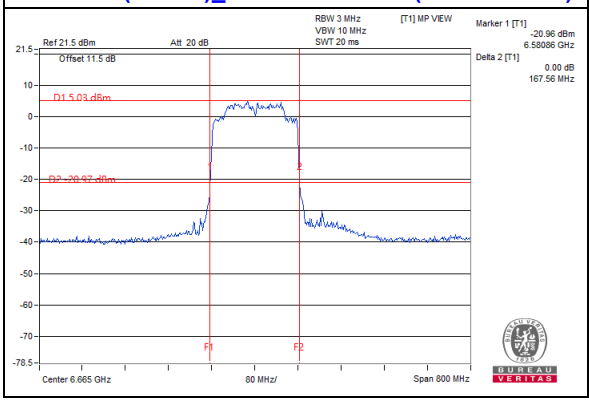
802.11ax (HE160)_Chain 1 / CH15 (U-NII-5 Band)



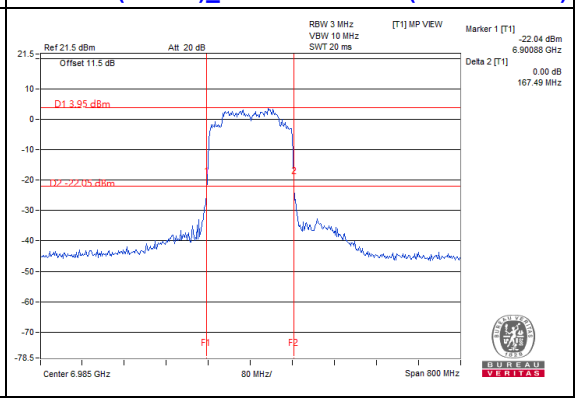
802.11ax (HE160)_Chain 0 / CH111 (U-NII-6 Band)



802.11ax (HE160)_Chain 1 / CH143 (U-NII-7 Band)



802.11ax (HE160)_Chain 1 / CH207 (U-NII-8 Band)



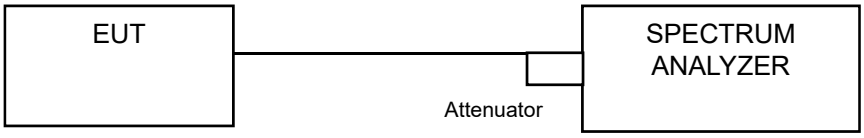
4.6 Peak Power Spectral Density Measurement

4.6.1 Limits of Peak Power Spectral Density Measurement

Operation Band	EUT Category	Limit
		Peak Power Density (EIRP)
U-NII-5 U-NII-6 U-NII-7 U-NII-8	Client Devices (controlled of an indoor AP)	-1 dBm/MHz

4.6.2 Test Setup

For Conducted Method



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

Using method SA-2

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
b. Set RBW = 1 MHz, Set VBW ≥ 3 MHz
c. Sweep time = auto, trigger set to “free run”.
d. Detector = RMS
e. Trace average at least 100 traces in power averaging mode.
f. Record the max value and add 10 log (1/duty cycle)

4.6.5 EUT Operating Condition

Same as Item 4.3.6.

4.6.6 Test Results

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Total PSD (dBm/MHz)	Directional Gain (dBi)	EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1					
1	5955	-9.77	-10.73	-7.21	3.89	-3.32	-1.00	Pass
45	6175	-10.42	-11.05	-7.71	3.89	-3.82	-1.00	Pass
93	6415	-9.97	-10.70	-7.31	3.89	-3.42	-1.00	Pass
97	6435	-10.09	-10.87	-7.45	2.25	-5.20	-1.00	Pass
105	6475	-10.24	-10.86	-7.53	2.25	-5.28	-1.00	Pass
113	6515	-10.27	-10.98	-7.60	2.25	-5.35	-1.00	Pass
117	6535	-11.33	-11.78	-8.54	3.23	-5.31	-1.00	Pass
149	6695	-11.41	-12.05	-8.71	3.23	-5.48	-1.00	Pass
181	6855	-11.16	-11.78	-8.45	3.23	-5.22	-1.00	Pass
185	6875	-11.16	-11.81	-8.46	3.63	-4.83	-1.00	Pass
209	6995	-11.45	-11.92	-8.67	3.63	-5.04	-1.00	Pass
233	7115	-13.98	-13.69	-10.82	3.63	-7.19	-1.00	Pass

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. U-NII-5: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N] = 3.89$dBi
3. U-NII-6: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N] = 2.25$dBi
4. U-NII-7: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N] = 3.23$dBi
5. U-NII-8: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N] = 3.63$dBi

6. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Total PSD (dBm/MHz)	Directional Gain (dBi)	EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1					
3	5965	-9.76	-9.54	-6.64	3.89	-2.75	-1.00	Pass
43	6165	-10.20	-9.82	-7.00	3.89	-3.11	-1.00	Pass
91	6405	-10.01	-9.34	-6.65	3.89	-2.76	-1.00	Pass
99	6445	-10.19	-9.62	-6.89	2.25	-4.64	-1.00	Pass
107	6485	-9.92	-9.63	-6.76	2.25	-4.51	-1.00	Pass
115	6525	-10.17	-9.65	-6.89	3.23	-3.66	-1.00	Pass
123	6565	-11.03	-10.58	-7.79	3.23	-4.56	-1.00	Pass
155	6725	-11.36	-10.95	-8.14	3.23	-4.91	-1.00	Pass
179	6845	-11.25	-10.70	-7.96	3.23	-4.73	-1.00	Pass
187	6885	-10.86	-10.71	-7.77	3.63	-4.14	-1.00	Pass
211	7005	-11.71	-11.67	-8.68	3.63	-5.05	-1.00	Pass
227	7085	-11.25	-11.18	-8.20	3.63	-4.57	-1.00	Pass

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. U-NII-5: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N] = 3.89$dBi
3. U-NII-6: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N] = 2.25$dBi
4. U-NII-7: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N] = 3.23$dBi
5. U-NII-8: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N] = 3.63$dBi

6. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Total PSD (dBm/MHz)	Directional Gain (dBi)	EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1					
7	5985	-10.22	-9.91	-7.05	3.89	-3.16	-1.00	Pass
39	6145	-10.48	-10.21	-7.33	3.89	-3.44	-1.00	Pass
87	6385	-9.92	-9.75	-6.82	3.89	-2.93	-1.00	Pass
103	6465	-10.38	-9.95	-7.15	2.25	-4.90	-1.00	Pass
119	6545	-10.27	-9.87	-7.06	3.23	-3.83	-1.00	Pass
151	6705	-11.32	-10.93	-8.11	3.23	-4.88	-1.00	Pass
183	6865	-11.04	-10.73	-7.87	3.23	-4.64	-1.00	Pass
199	6945	-10.94	-10.74	-7.83	3.63	-4.20	-1.00	Pass
215	7025	-10.73	-10.63	-7.67	3.63	-4.04	-1.00	Pass

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. U-NII-5: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N] = 3.89$dBi
3. U-NII-6: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N] = 2.25$dBi
4. U-NII-7: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N] = 3.23$dBi
5. U-NII-8: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N] = 3.63$dBi

6. Refer to section 3.3 for duty cycle spectrum plot.

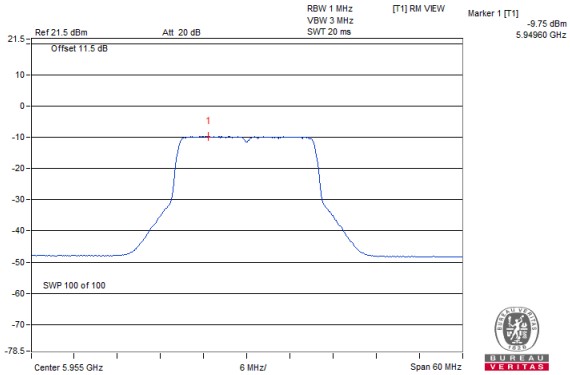
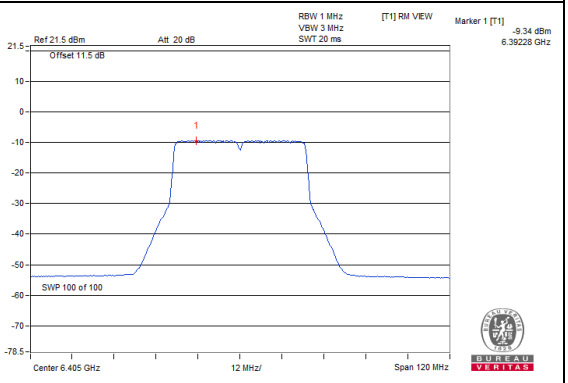
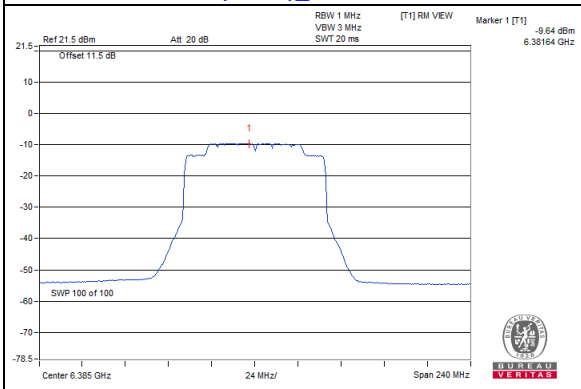
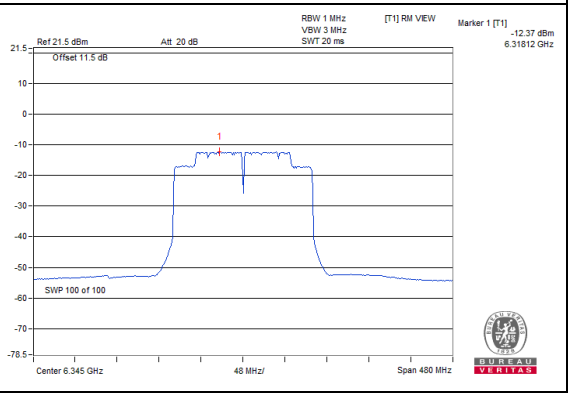
802.11ax (HE160)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD (dBm/MHz)	Directional Gain (dBi)	EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1						
15	6025	-12.89	-12.74	0.17	-9.63	3.89	-5.74	-1.00	Pass
47	6185	-13.14	-12.73	0.17	-9.75	3.89	-5.86	-1.00	Pass
79	6345	-12.70	-12.40	0.17	-9.37	3.89	-5.48	-1.00	Pass
111	6505	-13.32	-12.94	0.17	-9.95	2.25	-7.70	-1.00	Pass
143	6665	-13.44	-12.96	0.17	-10.01	3.23	-6.78	-1.00	Pass
175	6825	-13.31	-12.92	0.17	-9.93	3.23	-6.70	-1.00	Pass
207	6985	-13.04	-13.35	0.17	-10.01	3.63	-6.38	-1.00	Pass

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. U-NII-5: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N] = 3.89$dBi
3. U-NII-6: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N] = 2.25$dBi
4. U-NII-7: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N] = 3.23$dBi
5. U-NII-8: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N] = 3.63$dBi

6. Refer to section 3.3 for duty cycle spectrum plot.

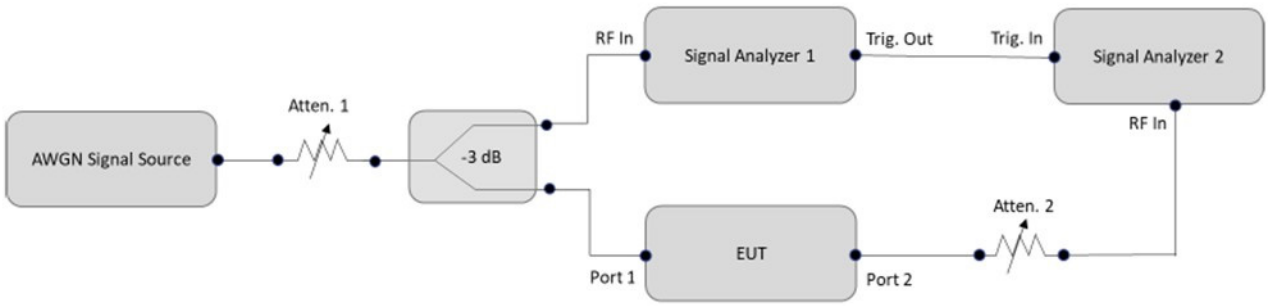
Spectrum Plot of Worst Value	
802.11ax (HE20)_Chain 0 / CH1	**802.11ax (HE40)_Chain 1 / CH91**
	
802.11ax (HE80)_Chain 1 / CH87	**802.11ax (HE160)_Chain 1 / CH79**
	

4.7 Contention Based Protocol Measurement

4.7.1 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.

4.7.2 Test Setup



4.7.3 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSW8	101497	Oct. 25, 2021	Oct. 24, 2022
Spectrum Analyzer R&S	FSV40	100980	Apr. 14, 2021	Apr. 13, 2022
MXG X-Series RF Vector Signal Generator Agilent	N5182B	MY59100182	Apr. 22, 2021	Apr. 21, 2022
N5182BU KEYSIGHT	N5182BX07	MY59360203	Dec. 10, 2021	Dec. 09, 2022
Power Splitter/combiner Mini-Circuits	ZFRSC-123-S+	F698501347_01	Jan. 26, 2022	Jan. 25, 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. Test Date: Mar. 04 ~ Mar. 08, 2022

4.7.4 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.

4.7.5 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.

4.7.6 Test Results

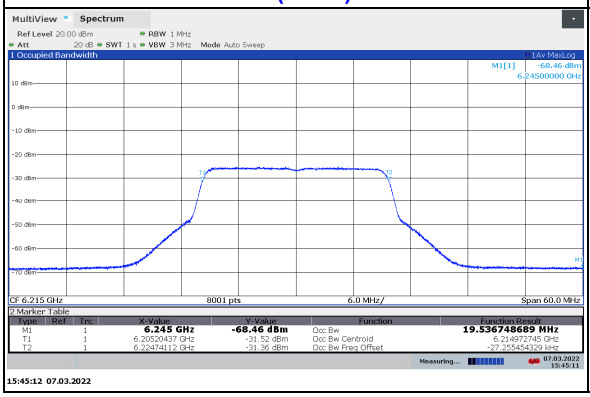
For U-NII-5 band

Contention Based Protocol Measurement										
Operation Mode	**Channel Bandwidth (MHz)**	**Channel Number**	**Channel Frequency (MHz)**	**Incumbent Signal Frequency (MHz)**	**Detection Level (dBm)**	**Detection Criterion (dBm)**	**Number of Trail**	**Number of Detected**	**Detection Ratio**	**Test Result**
802.11ax	20	53	6215	6215	-68	-62	10	10	100%	Pass
	160	47	6185	6110	-67	-62	10	10	100%	Pass
				6185	-63	-62	10	9	90%	Pass
				6260	-65	-62	10	10	100%	Pass

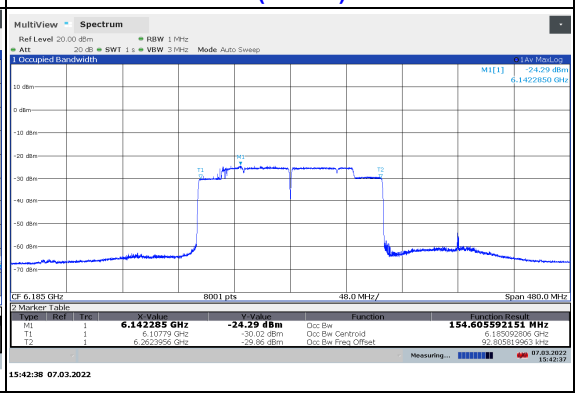
Note: Detection criterion = -62 dBm, assumed antenna gain is 0 dBi.

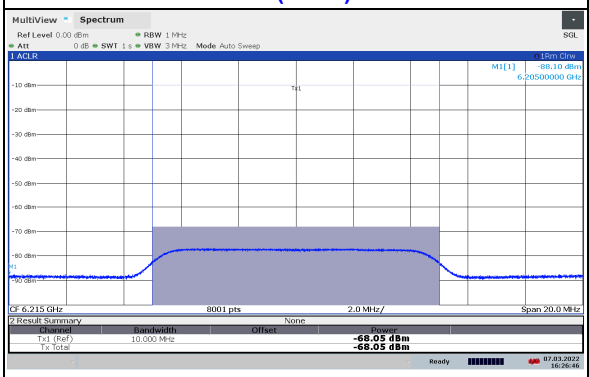
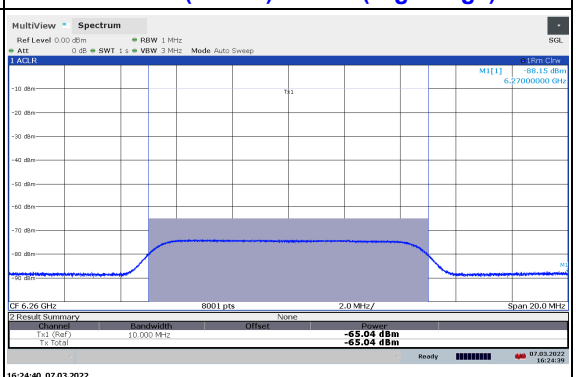
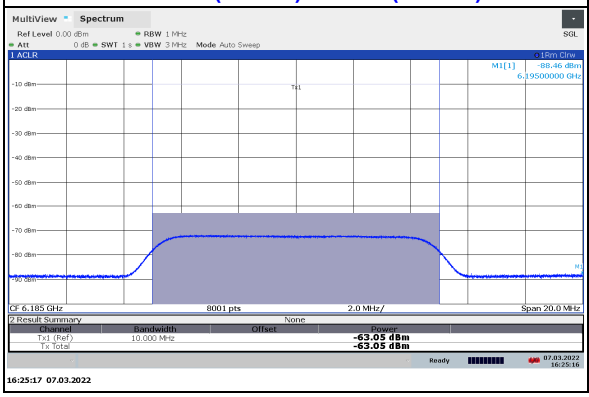
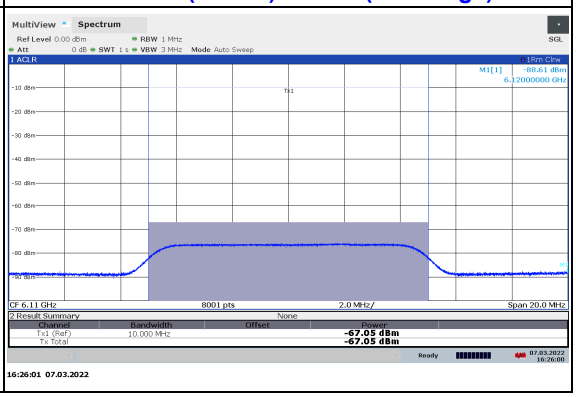
Plots of EUT Tx waveform

802.11ax (HE20) / CH1



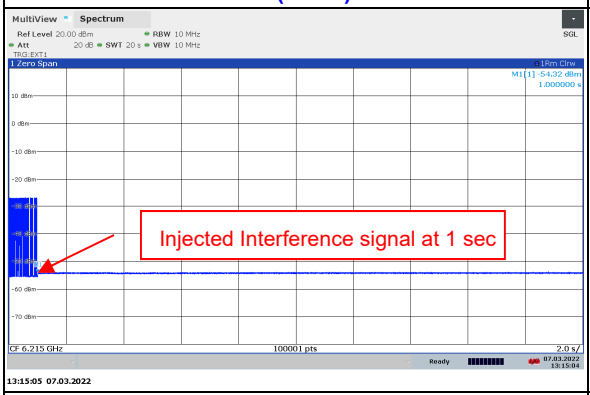
802.11ax (HE160) / CH15



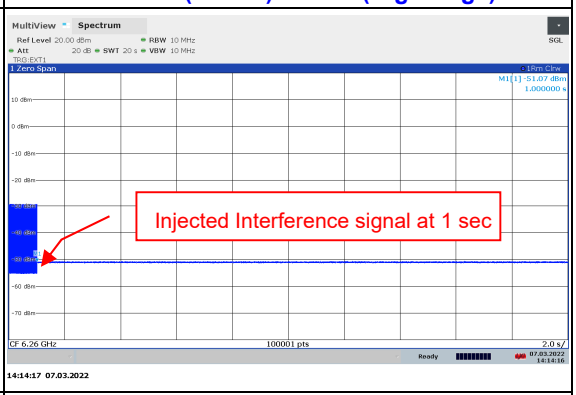
Plots of Incumbent signal(AWGN) Level	
802.11ax (HE20) / CH1	**802.11ax (HE160) / CH15 (High Edge)**
	
802.11ax (HE160) / CH15 (Middle)	**802.11ax (HE160) / CH15 (Low Edge)**
	

Plots of EUT ceased transmission in the time domain

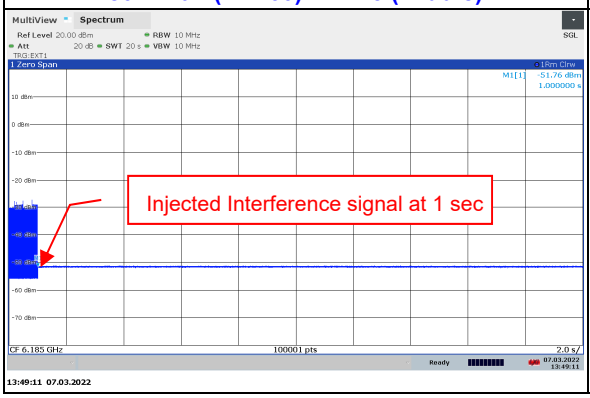
802.11ax (HE20) / CH1



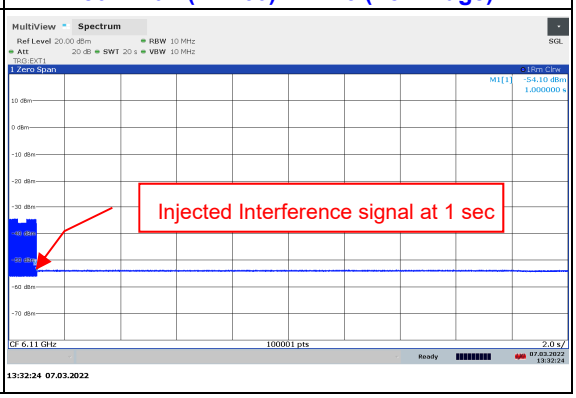
802.11ax (HE160) / CH15 (High Edge)



802.11ax (HE160) / CH15 (Middle)



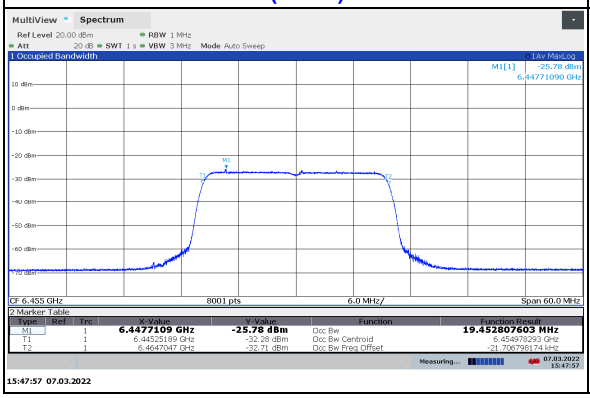
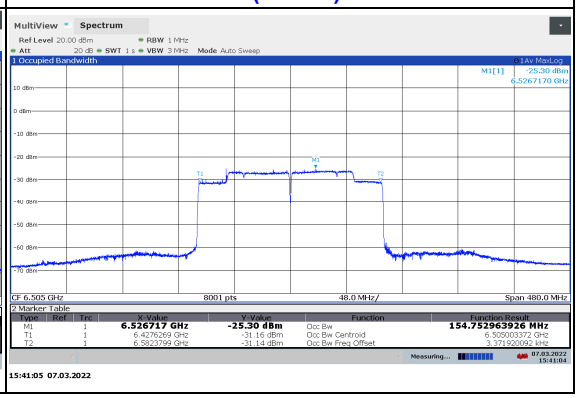
802.11ax (HE160) / CH15 (Low Edge)



For U-NII-6 band

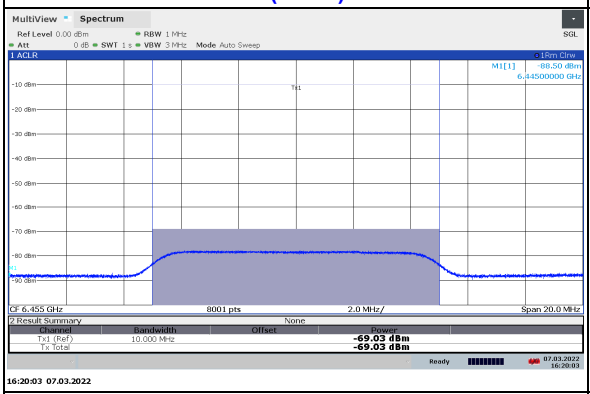
Contention Based Protocol Measurement										
Operation Mode	Channel Bandwidth (MHz)	Channel Number	Channel Frequency (MHz)	Incumbent Signal Frequency (MHz)	Detection Level (dBm)	Detection Criterion (dBm)	Number of Trail	Number of Detected	Detection Ratio	Test Result
802.11ax	20	101	6455	6455	-69	-62.34	10	10	100%	Pass
	160	111	6505	6430	-67	-62.34	10	10	100%	Pass
				6505	-63	-62.34	10	10	100%	Pass
				6580	-65	-62.34	10	10	100%	Pass

Note: Detection criterion = -62 dBm, assumed antenna gain is 0 dBi.

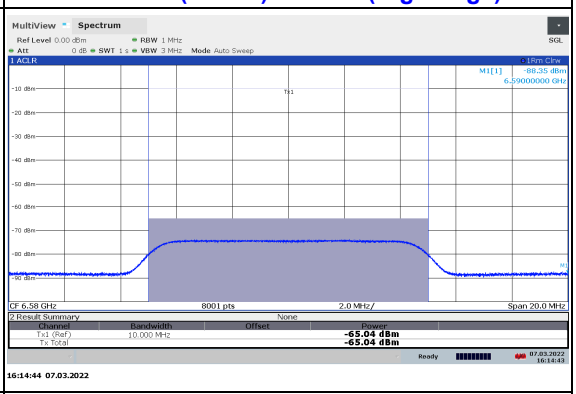
Plots of EUT Tx waveform	
802.11ax (HE20) / CH97	802.11ax (HE160) / CH111
	

Plots of Incumbent signal(AWGN) Level

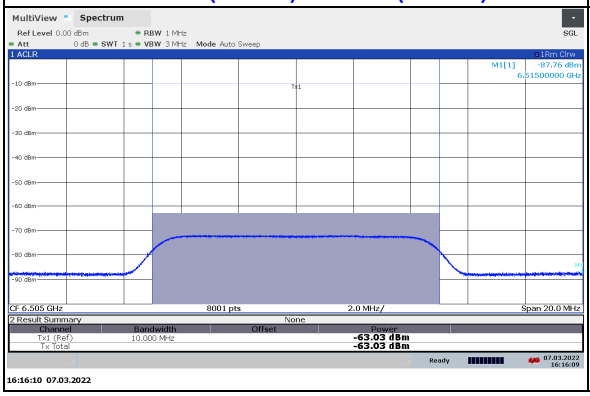
802.11ax (HE20) / CH97



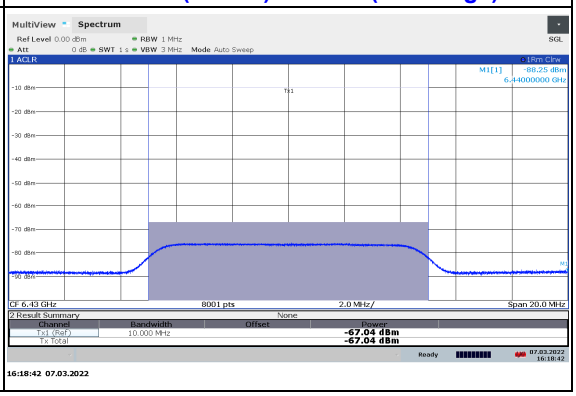
802.11ax (HE160) / CH111 (High Edge)



802.11ax (HE160) / CH111 (Middle)

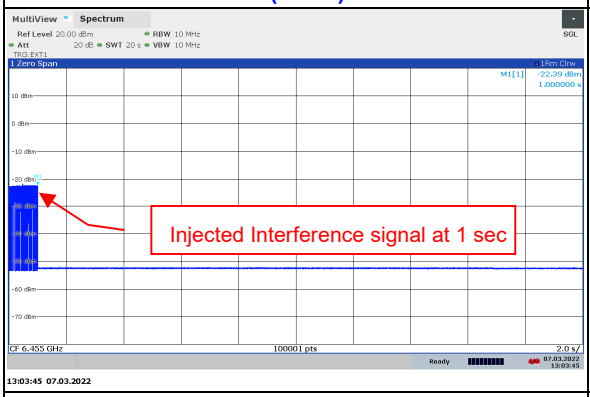


802.11ax (HE160) / CH111 (Low Edge)

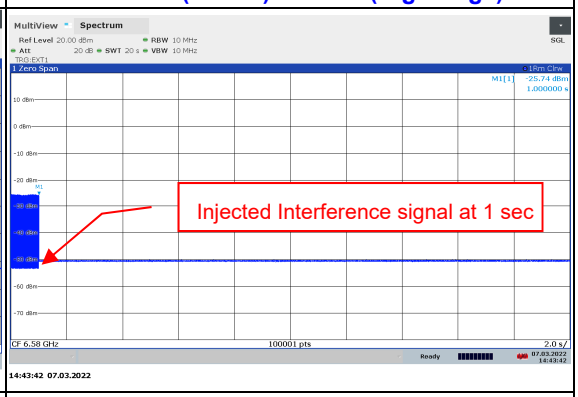


Plots of EUT ceased transmission in the time domain

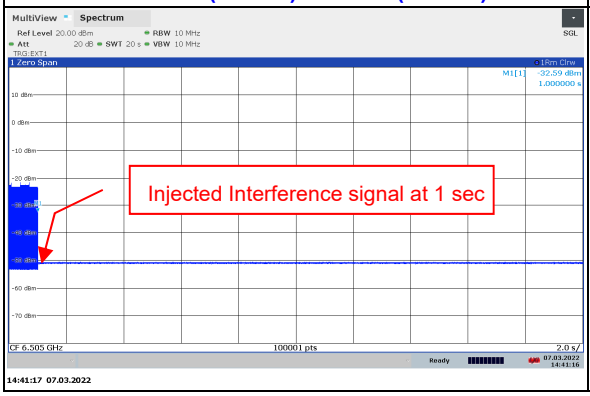
802.11ax (HE20) / CH97



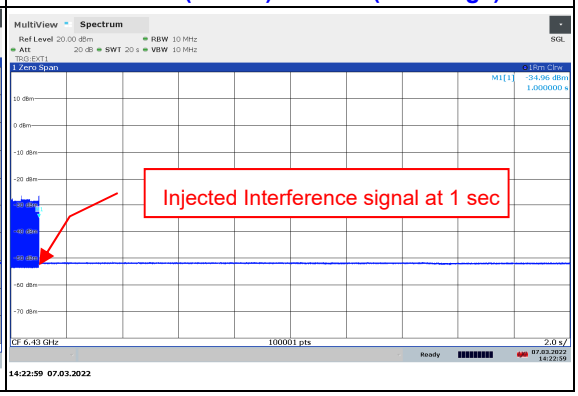
802.11ax (HE160) / CH111 (High Edge)



802.11ax (HE160) / CH111 (Middle)



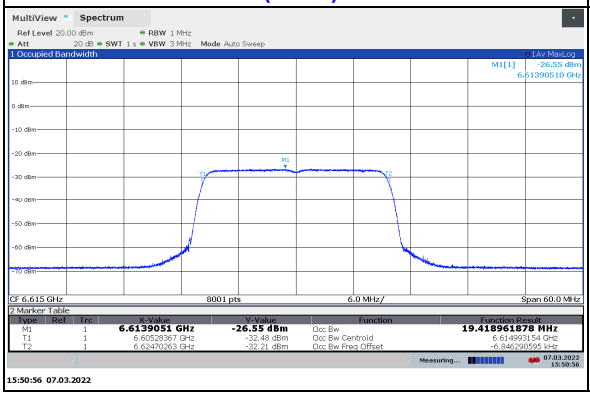
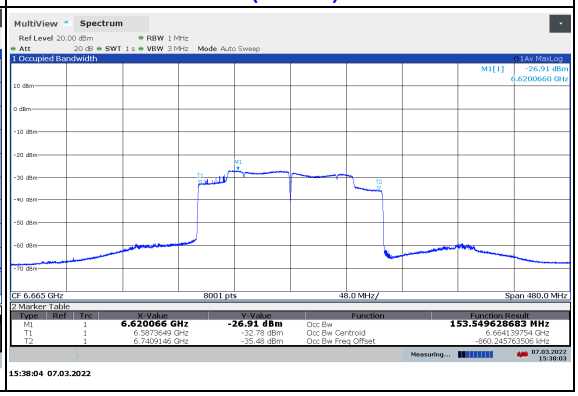
802.11ax (HE160) / CH111 (Low Edge)



For U-NII-7 band

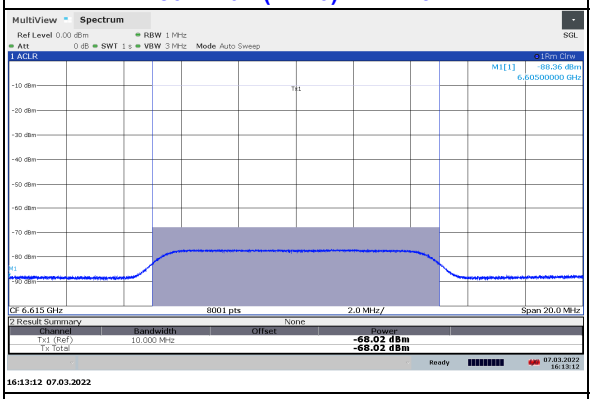
Contention Based Protocol Measurement										
Operation Mode	Channel Bandwidth (MHz)	Channel Number	Channel Frequency (MHz)	Incumbent Signal Frequency (MHz)	Detection Level (dBm)	Detection Criterion (dBm)	Number of Trail	Number of Detected	Detection Ratio	Test Result
802.11ax	20	133	6615	6615	-68	-62	10	9	90%	Pass
	160	143	6665	6590	-67	-62	10	10	100%	Pass
				6665	-63	-62	10	10	100%	Pass
				6740	-64	-62	10	10	100%	Pass

Note: Detection criterion = -62 dBm, assumed antenna gain is 0 dBi.

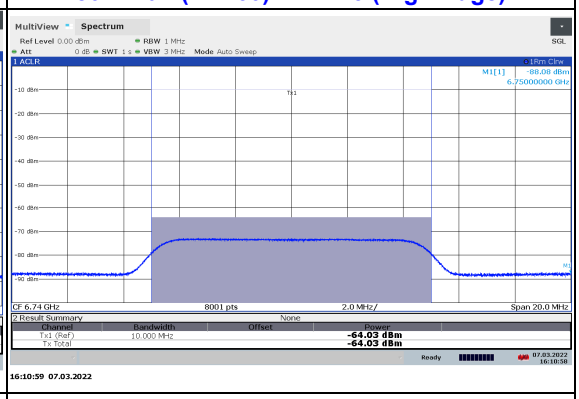
Plots of EUT Tx waveform	
802.11ax (HE20) / CH129	**802.11ax (HE160) / CH143**
	

Plots of Incumbent signal(AWGN) Level

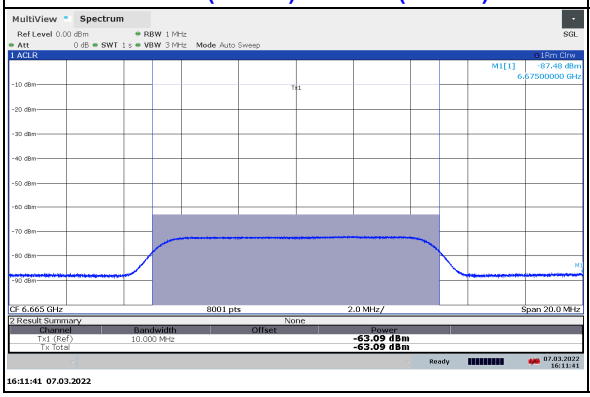
802.11ax (HE20) / CH129



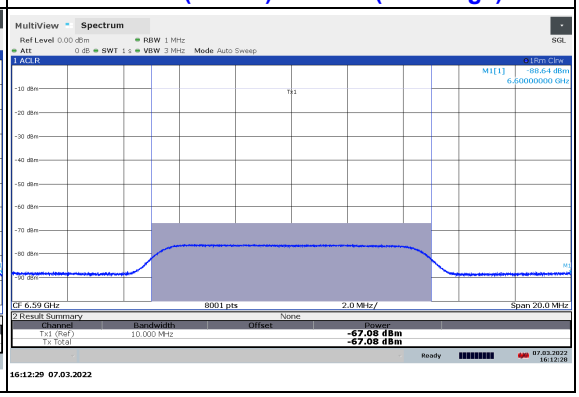
802.11ax (HE160) / CH143 (High Edge)

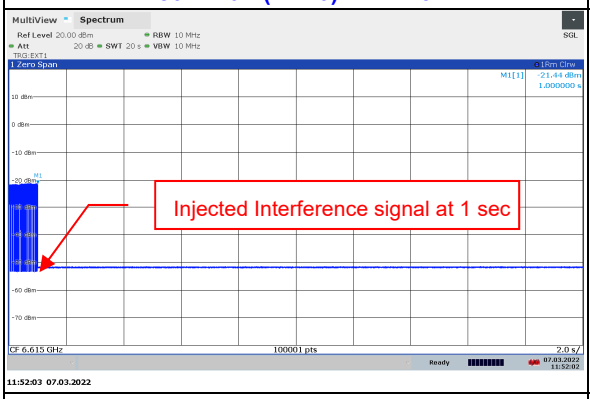
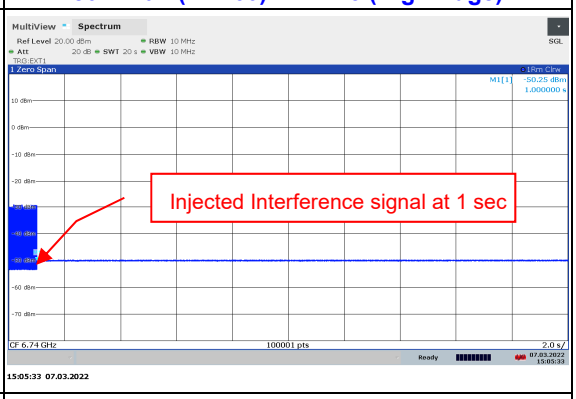
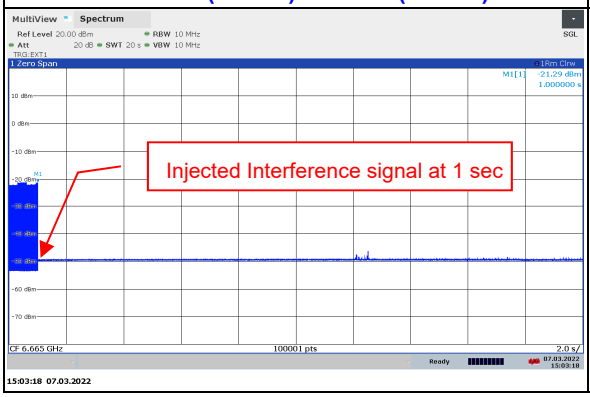
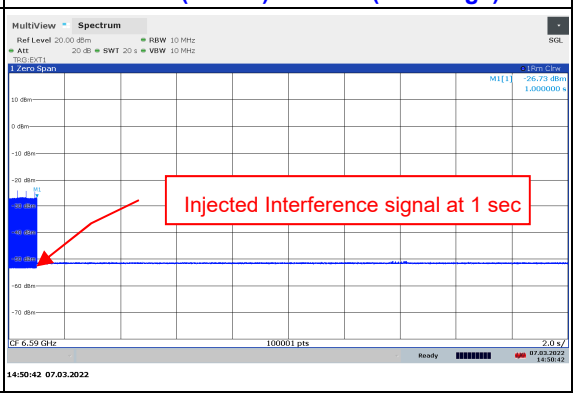


802.11ax (HE160) / CH151 (Middle)



802.11ax (HE160) / CH143 (Low Edge)

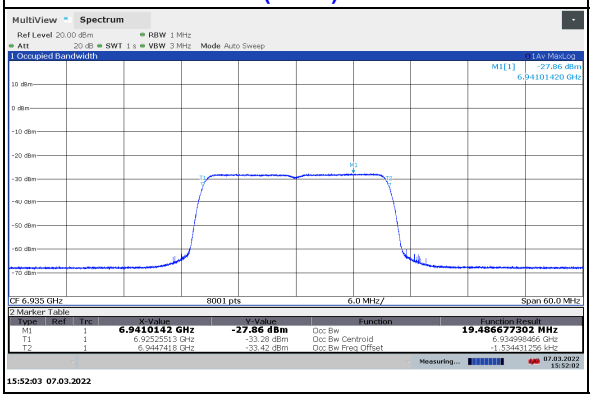
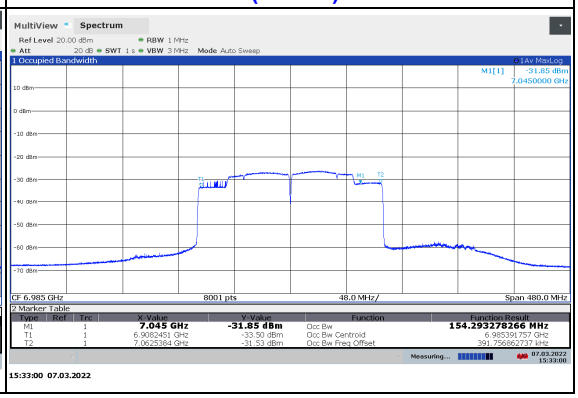


Plots of EUT ceased transmission in the time domain	
802.11ax (HE20) / CH129	**802.11ax (HE160) / CH143 (High Edge)**
	
802.11ax (HE160) / CH143 (Middle)	**802.11ax (HE160) / CH143 (Low Edge)**
	

For U-NII-8 band

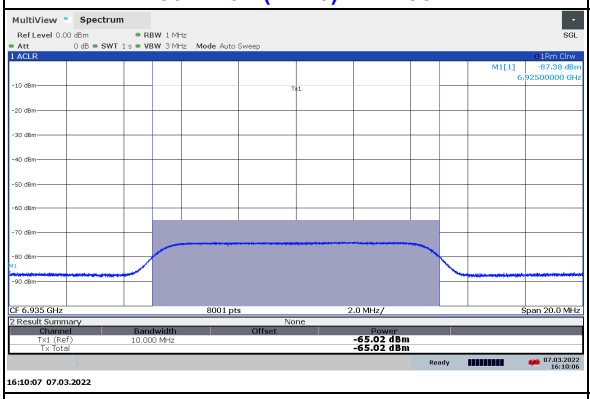
Contention Based Protocol Measurement										
Operation Mode	Channel Bandwidth (MHz)	Channel Number	Channel Frequency (MHz)	Incumbent Signal Frequency (MHz)	Detection Level (dBm)	Detection Criterion (dBm)	Number of Trail	Number of Detected	Detection Ratio	Test Result
802.11ax	20	197	6935	6935	-65	-62	10	9	90%	Pass
	160	207	6985	6910	-68	-62	10	10	100%	Pass
				6985	-64	-62	10	10	100%	Pass
				7060	-65	-62	10	10	100%	Pass

Note: Detection criterion = -62 dBm, assumed antenna gain is 0 dBi.

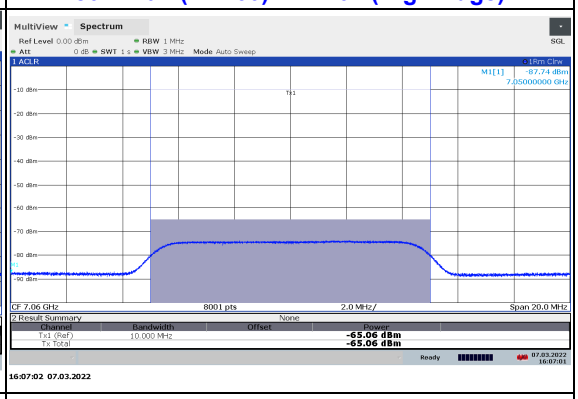
Plots of EUT Tx waveform	
802.11ax (HE20) / CH193	**802.11ax (HE160) / CH207**
	

Plots of Incumbent signal(AWGN) Level

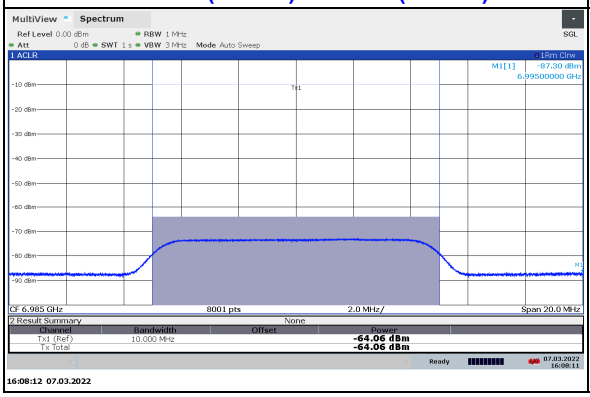
802.11ax (HE20) / CH193



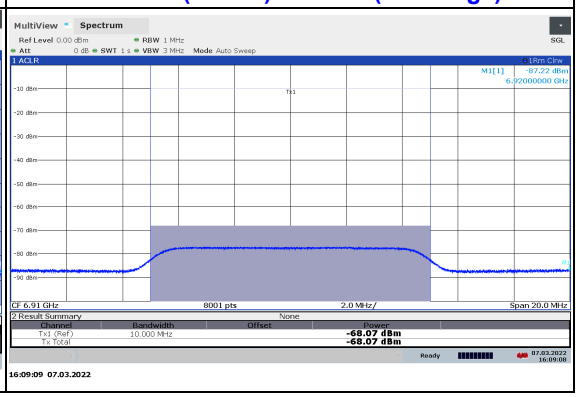
802.11ax (HE160) / CH207 (High Edge)



802.11ax (HE160) / CH207 (Middle)

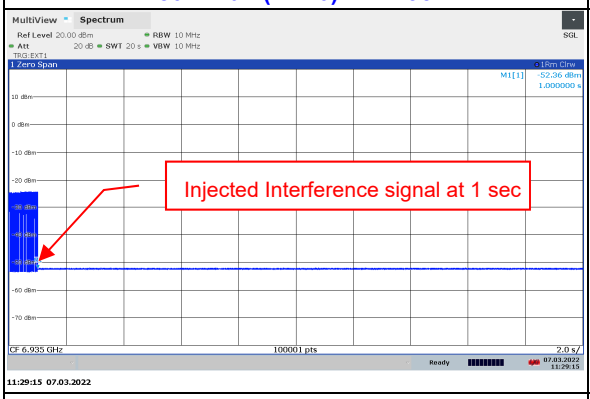


802.11ax (HE160) / CH207 (Low Edge)

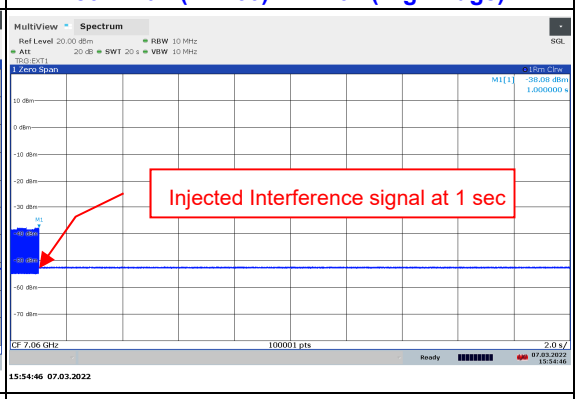


Plots of EUT ceased transmission in the time domain

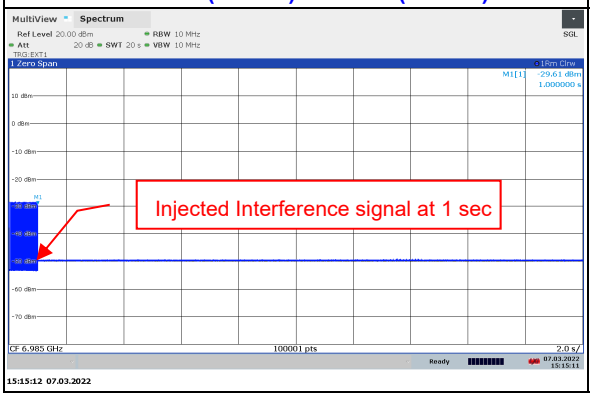
802.11ax (HE20) / CH193



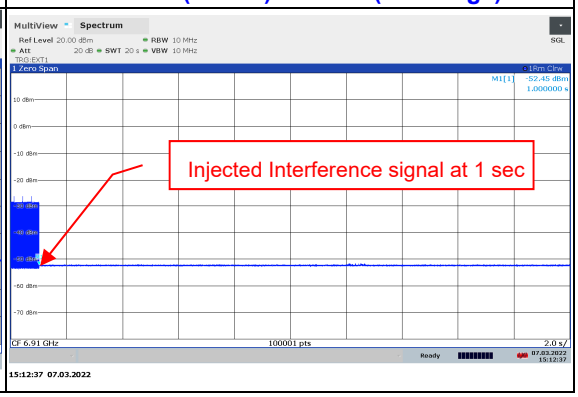
802.11ax (HE160) / CH207 (High Edge)



802.11ax (HE160) / CH207 (Middle)



802.11ax (HE160) / CH207 (Low Edge)

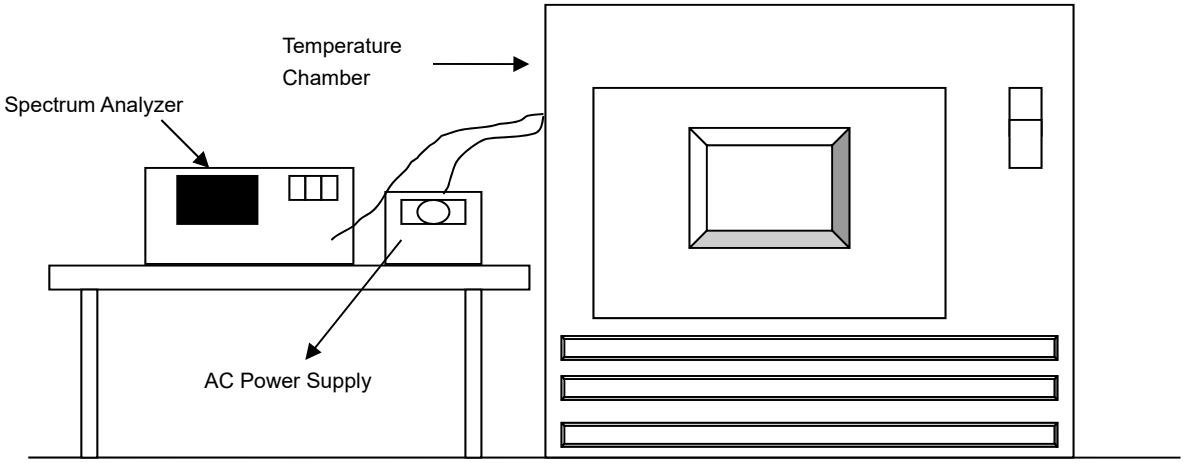


4.8 Frequency Stability Measurement

4.8.1 Limits of Frequency Stability Measurement

The frequency of the carrier signal shall be maintained within band of operation

4.8.2 Test Setup



4.8.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.8.4 Test Procedure

a. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
b. Turn the EUT on and couple its output to a spectrum analyzer.
c. Turn the EUT off and set the chamber to the highest temperature specified.
d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 Minutes.
e. Repeat step (d) with the temperature chamber set to the next desired temperature until measurements down to the lowest specified temperature have been completed..
f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 Minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

.

4.8.5 EUT Operating Condition

Set the EUT transmit at un-modulation mode to test frequency stability.

4.8.6 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5955MHz									
TEMP. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
55	120	5954.9885	Pass	5954.9888	Pass	5954.9871	Pass	5954.9872	Pass
50	120	5955.0086	Pass	5955.0116	Pass	5955.0102	Pass	5955.0088	Pass
40	120	5955.0198	Pass	5955.0145	Pass	5955.0201	Pass	5955.0175	Pass
30	120	5954.9838	Pass	5954.9813	Pass	5954.9796	Pass	5954.9794	Pass
20	120	5955.0150	Pass	5955.0101	Pass	5955.0093	Pass	5955.0146	Pass
10	120	5955.0092	Pass	5955.0113	Pass	5955.0089	Pass	5955.0094	Pass
0	120	5955.0052	Pass	5955.0049	Pass	5955.0040	Pass	5955.0073	Pass
-10	120	5954.9683	Pass	5954.9705	Pass	5954.9704	Pass	5954.9714	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5955MHz									
TEMP. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	138	5955.0157	Pass	5955.0139	Pass	5955.0154	Pass	5955.0145	Pass
	120	5955.0150	Pass	5955.0101	Pass	5955.0093	Pass	5955.0146	Pass
	102	5955.0242	Pass	5955.0234	Pass	5955.0233	Pass	5955.0249	Pass

4.9 Operational Restrictions for 6 GHz U-NII Devices

4.9.1 Limits of Operational Restrictions for 6 GHz U-NII Devices

In the 5.925-7.125 GHz band, client devices, except fixed client devices, must operate under the control of a standard power access point, indoor access point or subordinate devices; Subordinate devices must operate under the control of an indoor access point.

4.9.2 Test Setup

N/A

4.9.3 Test Instruments

N/A

4.9.4 Test Procedure

N/A.

4.9.5 Test Results

Device is an indoor client device under the control of a low power indoor access point. Please refer to the declaration letter exhibit supplied within this application.

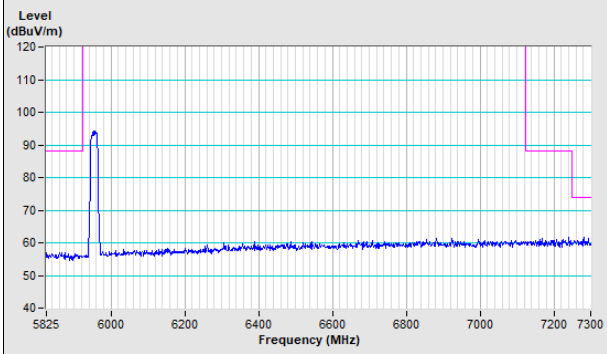
5 Pictures of Test Arrangements

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

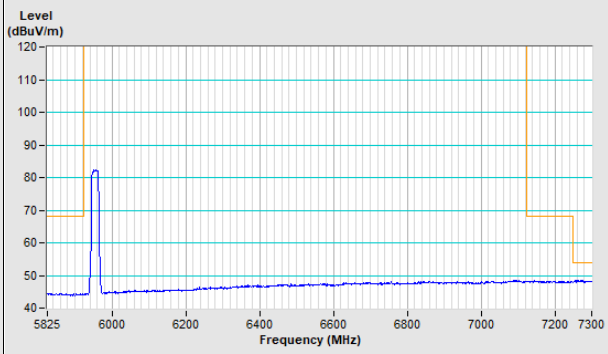
Annex A - Band-Edge Measurement

802.11ax (HE20) Channel 1

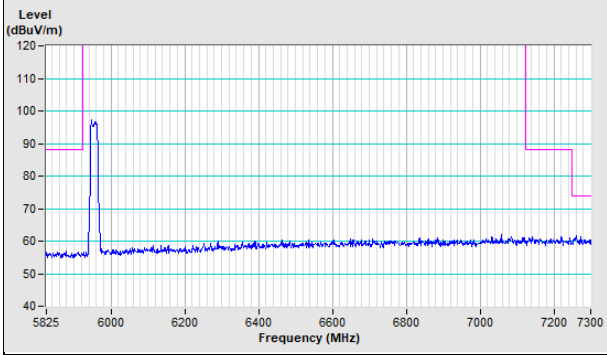
Horizontal (Peak)



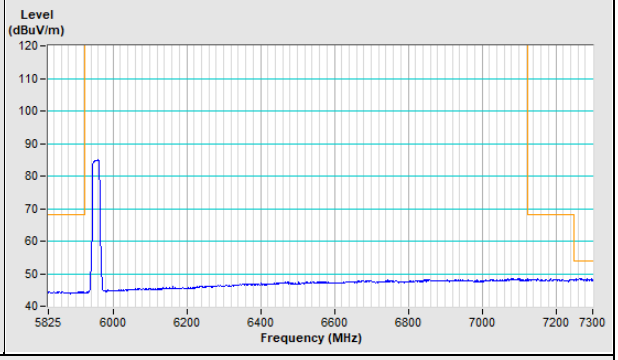
Horizontal (Average)



Vertical (Peak)

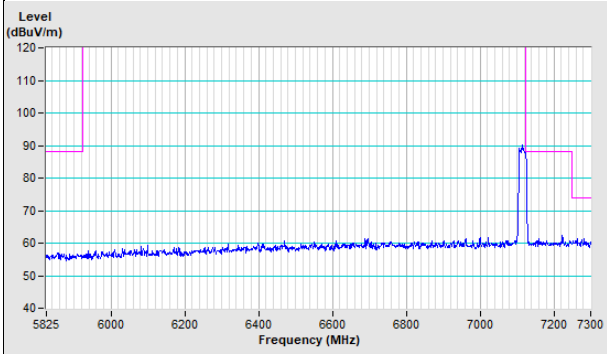


Vertical (Average)

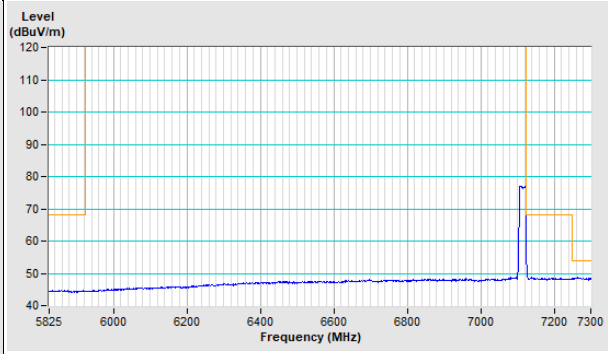


802.11ax (HE20) Channel 233

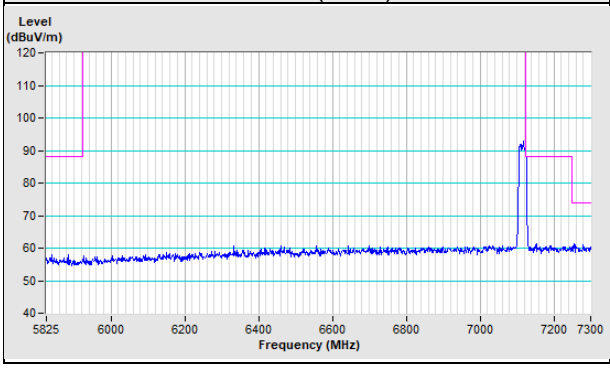
Horizontal (Peak)



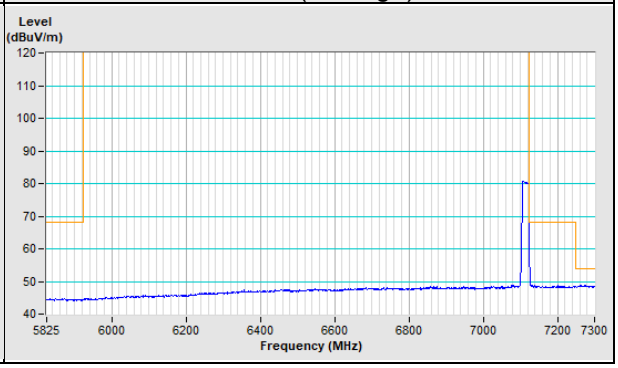
Horizontal (Average)

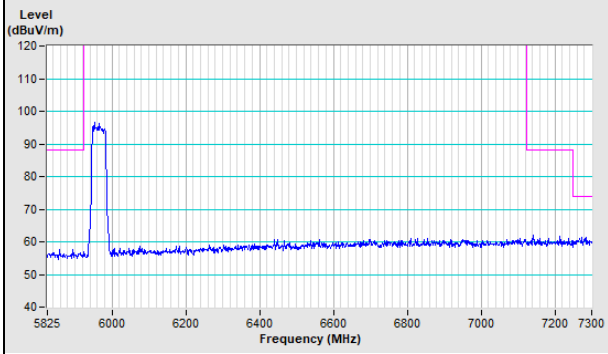
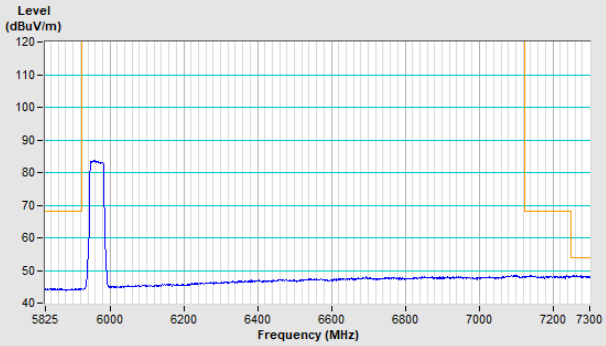
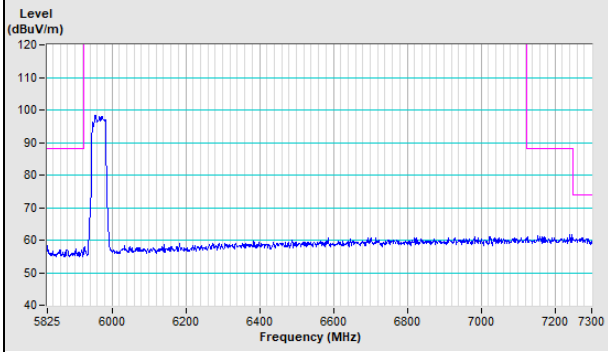
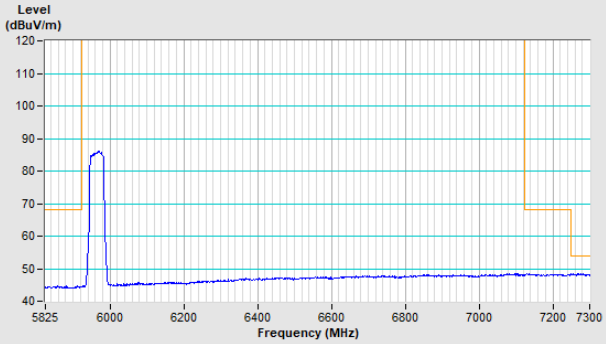


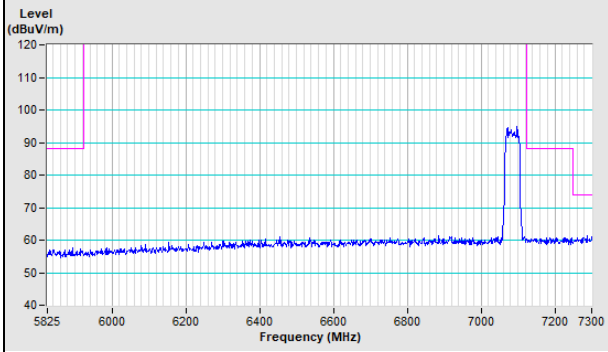
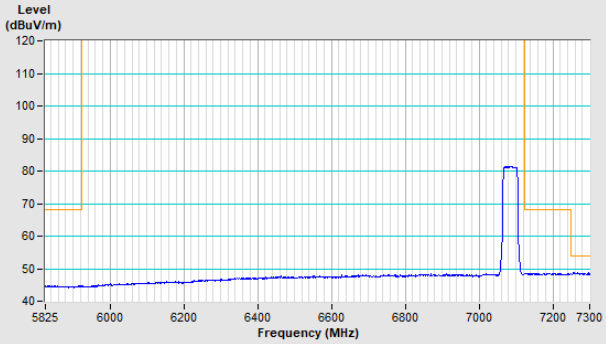
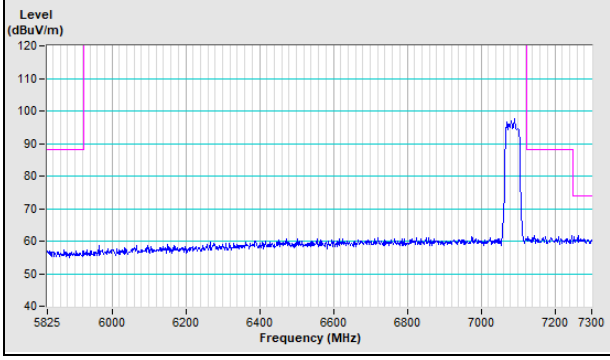
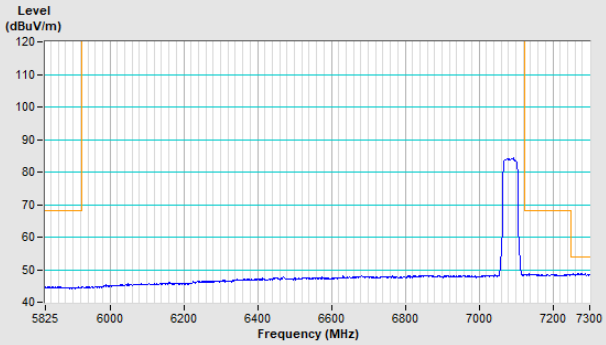
Vertical (Peak)

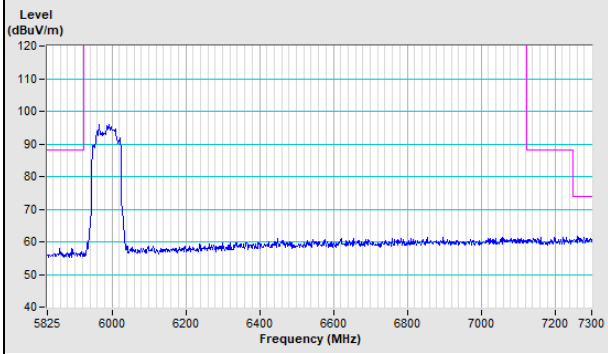
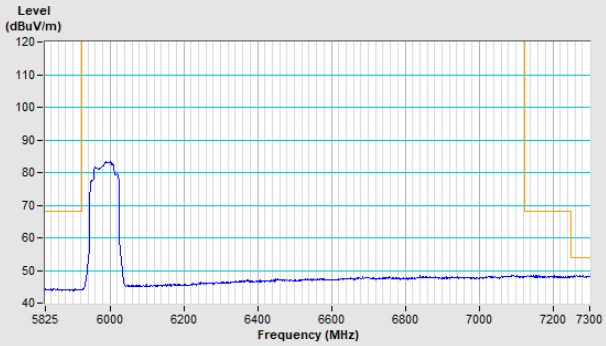
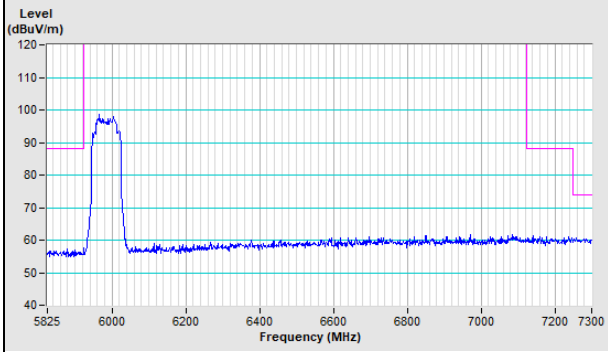
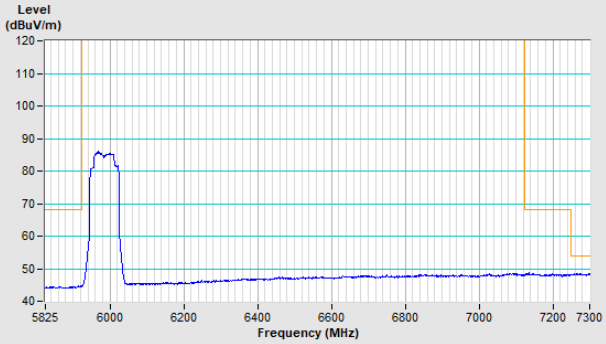


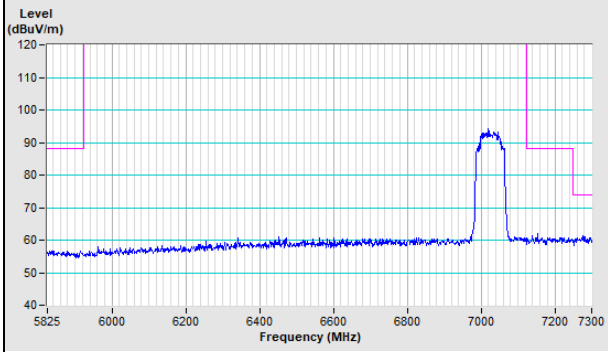
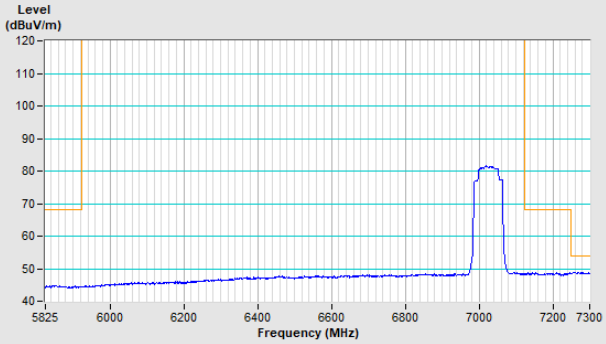
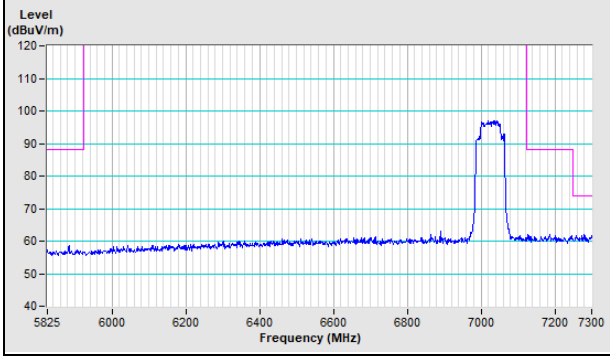
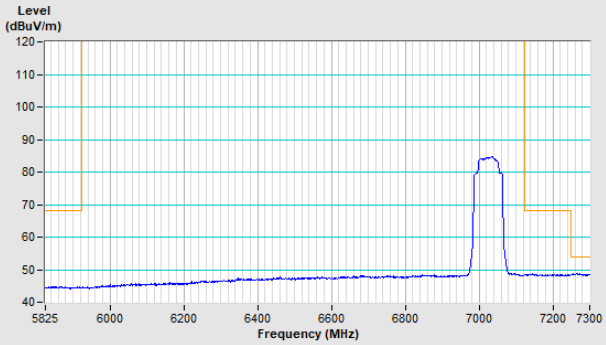
Vertical (Average)

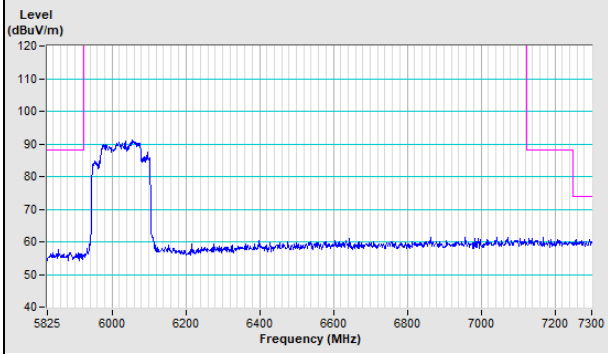
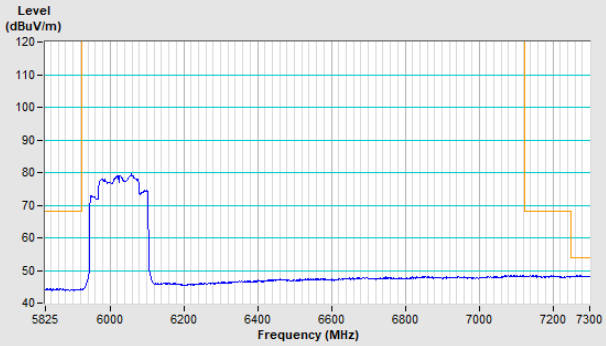
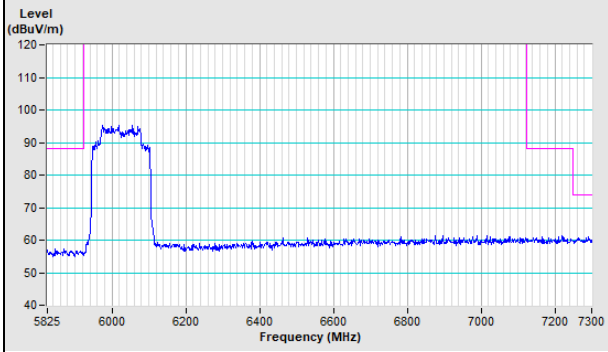
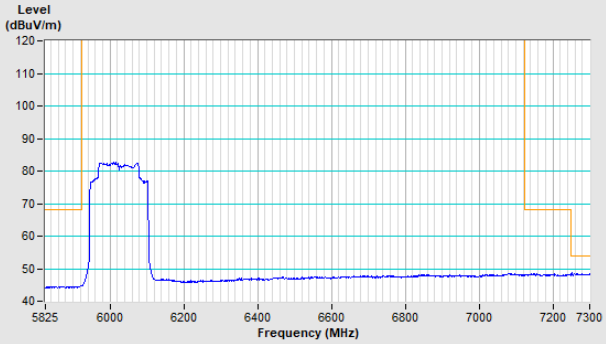


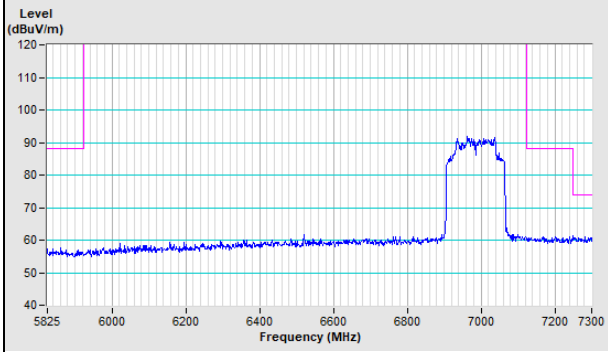
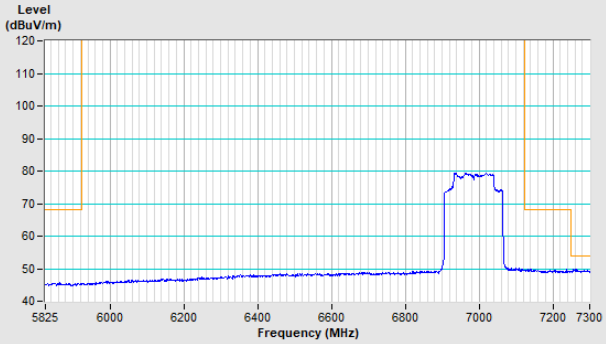
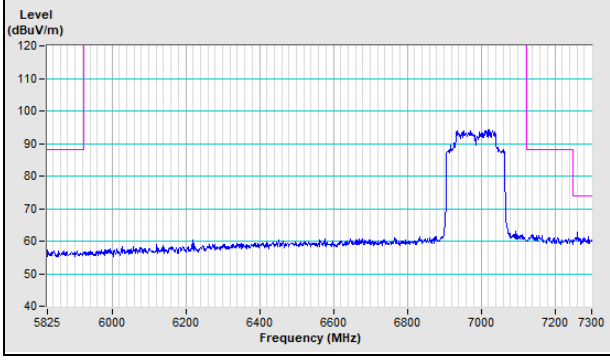
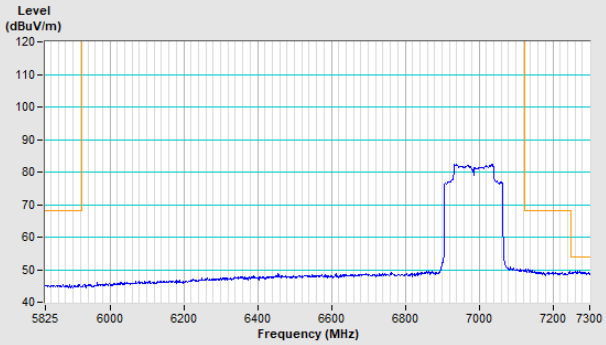
802.11ax (HE40) Channel 3	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11ax (HE40) Channel 227	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11ax (HE80) Channel 7	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11ax (HE80) Channel 215	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11ax (HE160) Channel 15	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11ax (HE160) Channel 207	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

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.

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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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