

FCC Test Report

Report No.: RFBARR-WTW-P20110181K-5

FCC ID: RAS-MT7921K

Test Model: MT7921K

Received Date: 2021/10/21

Test Date: 2021/1/12 ~ 2022/2/14

Issued Date: 2022/2/16

Applicant: MediaTek Inc.

Address: No. 1, Dusing 1st Rd., Hsinchu Science Park Hsinchu City 30078 Taiwan

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

Lab Address: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
Taiwan

Test Location: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
Taiwan

**FCC Registration /
Designation Number:** 723255 / TW2022



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Release Control Record

Issue No.	Description	Date Issued
RFBARR-WTW-P20110181K-5	Original release.	2022/2/16

1 Certificate of Conformity

Product: 2TX 11ax (WiFi6E) + BT/BLE Combo Card

Brand: MediaTek

Test Model: MT7921K

Sample Status: Engineering sample

Applicant: MediaTek Inc.

Test Date: 2021/1/12 ~ 2022/2/14

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 EMC characteristics under the conditions specified in this report.

Prepared by : Phoenix Huang, **Date:** 2022/2/16
Phoenix Huang / Specialist

Approved by : Clark Lin, **Date:** 2022/2/16
Clark Lin / Technical Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(8)	AC Power Conducted Emissions	NA	Refer to Note 1 below
15.407(b)(5)(8)	Radiated Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -3.2 dB at 35.13 MHz and 299.03 MHz.
15.407(b)(6)	In-Band Emission (Mask)	NA	Refer to Note 1 below
15.407(a)(4/5/6/7/8)	Max Average Transmit Power	Pass	Meet the requirement of limit.
15.407(a)(10)	Emission Bandwidth Measurement	NA	Refer to Note 1 below
15.407(a)(4/5/6/7/8)	Peak Power Spectral Density	NA	Refer to Note 1 below
15.407(d)(6)	Contention-based Protocol.	NA	Refer to Note 1 below
15.407(g)	Frequency Stability	NA	Refer to Note 1 below
15.407(a)(7)(8)	Dual Client- Proper Power Adjustment	NA	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 R-SMA or i-pex(MHF) or RP SMA PLUG or IPEX-4L not a standard connector.

Note:

1. Radiated Emissions and Conducted power were performed for this addendum. The others testing data refer to original test report.
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
3. This report is prepared for supplementary report.

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) (±)
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	3.1 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	5.4 dB
	6GHz ~ 18GHz	5.0 dB
	18GHz ~ 40GHz	5.3 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	2TX 11ax (WiFi6E) + BT/BLE Combo Card
Brand	MediaTek
Test Model	MT7921K
Status of EUT	Engineering sample
Power Supply Rating	3.3Vdc from host equipment
Modulation Type	1024QAM for OFDMA in 11ax HE mode
Modulation Technology	OFDMA
Transfer Rate	802.11ax: up to 1201.0 Mbps
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
Output Power	5.955 ~ 6.415GHz: 10.105 mW (EIRP: 14.81 dBm / 30.269 mW) 6.435 ~ 6.525GHz: 3.021 mW (EIRP: 9.09 dBm / 8.11 mW) 6.525 ~ 6.875GHz: 7.952 mW (EIRP: 13.61 dBm / 22.961 mW) 6.875 ~ 7.115GHz: 4.119 mW (EIRP: 10.24 dBm / 10.568 mW)
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Data Cable Supplied	NA

Note:

- This report is prepared for FCC class II change. The difference compared with the Report No.: RFBARR-WTW-P20110181F-5 as the following:
 - ◆ Enable U-NII-4 and U-NII-3 & -4 span channels through software change.
- According to above condition, only Verify Output Power and Radiated Emission tests according to original report worst channels. And all data were verified to meet the requirements.
- Simultaneously transmission condition.

Condition	Technology	
1	WLAN (2.4GHz)	Bluetooth
2	WLAN (5GHz / 6GHz)	Bluetooth

Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.

4. The antennas provided to the EUT, please refer to the following table:

Ant. Set	RF Chain No.	Brand	Model	Ant. Net Gain (dBi)	Freq. Range (GHz)	Ant. Type	Connector Type	Cable Length (mm)	Cable Loss (dB)	Excluding Cable Loss Ant. Gain (dBi)
1	Chain0	Cortec	AN2450-4902BRS	2.42 3.87	2.4~2.4835 5.15~5.85	Dipole	R-SMA	150	2.4~2.4835GHz: 0.5 5.15~5.85GHz: 0.8	2.92 4.67
	Chain1	Cortec	AN2450-4902BRS	2.42 3.87	2.4~2.4835 5.15~5.85	Dipole	R-SMA	150	2.4~2.4835GHz: 0.5 5.15~5.85GHz: 0.8	2.92 4.67
2	Chain0	PSA	RFMTA340718EM LB302	3.18 4.92	2.4~2.4835 5.15~5.85	PIFA	i-pex(MHF)	200	included cable loss	-
	Chain1	PSA	RFMTA340718EM LB302	3.18 4.92	2.4~2.4835 5.15~5.85	PIFA	i-pex(MHF)	200	included cable loss	-
3	Chain0	PSA	RFMTA311020EM MB301	1.71 4.82 3.31	2.4~2.4835 5.15~5.85 5.92~7.125	PIFA	i-pex(MHF)	200	-	-
	Chain1	PSA	RFMTA311020EM MB301	1.71 4.82 3.31	2.4~2.4835 5.15~5.85 5.92~7.125	PIFA	i-pex(MHF)	200	-	-
4	Chain0	PSA	RFMTA311020EM MB301_V02	1.71 4.82 4.76 4.29 4.61 4.09	2.4~2.4835 5.15~5.85 5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	PIFA	i-pex(MHF)	200	-	-
	Chain1	PSA	RFMTA311020EM MB301_V02	1.71 4.82 4.76 4.29 4.61 4.09	2.4~2.4835 5.15~5.85 5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	PIFA	i-pex(MHF)	200	-	-
5	Chain0	VSO	JR2Q00340-1	1.62 3.2 3.93 3.61 3.61 3.14	2.4~2.4835 5.15~5.85 5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	Dipole	RP SMA PLUG	40	-	-
	Chain1	VSO	JR2Q00340-1	1.62 3.2 3.93 3.61 3.61 3.14	2.4~2.4835 5.15~5.85 5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	Dipole	RP SMA PLUG	40	-	-
6	Chain0	Luxshare-ICT	LA9RF059-CS-H (Main)	0.3 1.3 1.2	2.4~2.4835 5.15~5.85 5.925~7.125	Dipole	RP SMA PLUG	925	-	-
	Chain1	Luxshare-ICT	LA9RF059-CS-H (Aux)	-1.10 -1.10 1.4	2.4~2.4835 5.15~5.85 5.925~7.125	Dipole	RP SMA PLUG	876	-	-
7	Chain0	ASUS	14008-02650500 Main ant.	1.03 2.07 2.80	2.4~2.4835 5.15~5.85 5.925~7.125	Dipole	RP SMA PLUG	800	-	-
	Chain1	ASUS	14008-02650500 Aux ant.	2.27 2.01 3.08	2.4~2.4835 5.15~5.85 5.925~7.125	Dipole	RP SMA PLUG	800	-	-

Note: Max. gain was selected for the final test, except for the radiated emissions test.

5. 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

Note: The EUT doesn't support beamforming function.

6. 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.
7. The above Antenna information is declared by manufacturer, the laboratory shall not be held responsible.

3.2 Description of Test Modes

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

24 channels are provided for 802.11a, 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				

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

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

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

3 channels are provided for 802.11ax (HE40):

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

2 channel is provided for 802.11ax (HE80):

Channel	Frequency	Channel	Frequency
103	6465 MHz	*119	6545 MHz

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

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

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

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

12 channels are provided for 802.11a, 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

Note: * mean this's straddle channel.

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To			Description
	RE $\geq$ 1G	RE<1G	APCM	
1	√	√	√	With PIFA antenna
2	√	√	√	With Dipole antenna

Where **RE $\geq$ 1G**: Radiated Emission above 1GHz

RE<1G: Radiated Emission below 1GHz

APCM: Antenna Port Conducted Measurement

Note: In the original report, the EUT's antenna (PIFA) had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane**

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 and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

Mode 1				
Mode	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11ax (HE20)	185	OFDMA	BPSK	MCS0
802.11ax (HE40)	115, 187	OFDMA	BPSK	MCS0
802.11ax (HE80)	119, 183	OFDMA	BPSK	MCS0
Mode 2				
Mode	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11ax (HE20)	93, 113, 185	OFDMA	BPSK	MCS0
802.11ax (HE40)	43, 115, 187	OFDMA	BPSK	MCS0
802.11ax (HE80)	7, 119, 183	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 and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

Mode	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11ax (HE80)	119	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 and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

Mode	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11ax (HE20)	93, 113, 185	OFDMA	BPSK	MCS0
802.11ax (HE40)	43, 115, 187	OFDMA	BPSK	MCS0
802.11ax (HE80)	7, 119, 183	OFDMA	BPSK	MCS0

Test Condition:

Applicable To	Environmental Conditions	Input Power (System)	Tested By
RE $\geq$ 1G	25deg. C, 66%RH	120Vac, 60Hz	Tom Yang
RE<1G	25deg. C, 66%RH	120Vac, 60Hz	Tom Yang
PLC	25deg. C, 66%RH	120Vac, 60Hz	Tom Yang
APCM	23deg. C, 60%RH	120Vac, 60Hz	Eric Peng

3.3 Duty Cycle of Test Signal

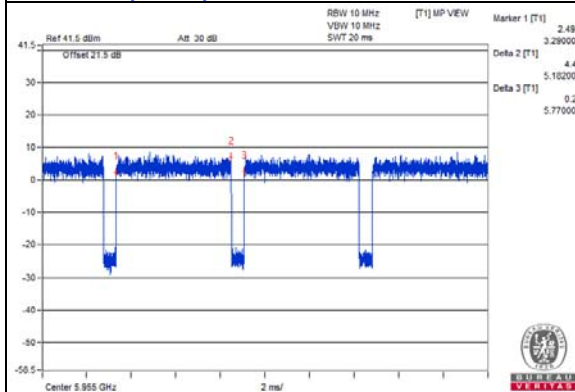
Duty cycle of test signal is < 98 %, duty factor is required

802.11ax (HE20): Duty cycle = 5.182 ms/5.77 ms= 0.898, Duty factor = $10 * \log(1 / \text{Duty cycle}) = 0.47 \text{ dB}$

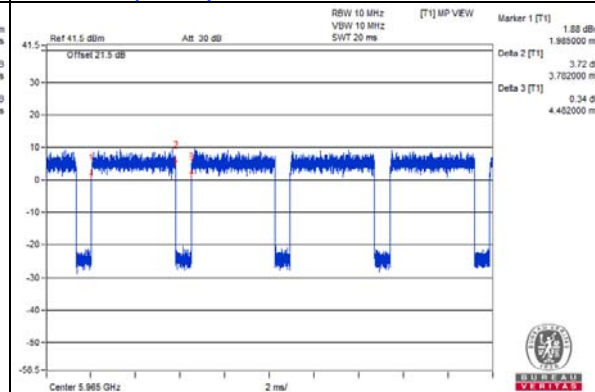
802.11ax (HE40): Duty cycle = 3.782 ms/4.482 ms= 0.844, Duty factor = $10 * \log(1 / \text{Duty cycle}) = 0.74 \text{ dB}$

802.11ax (HE80): Duty cycle = 1.841 ms/2.534 ms= 0.727, Duty factor = $10 * \log(1 / \text{Duty cycle}) = 1.39 \text{ dB}$

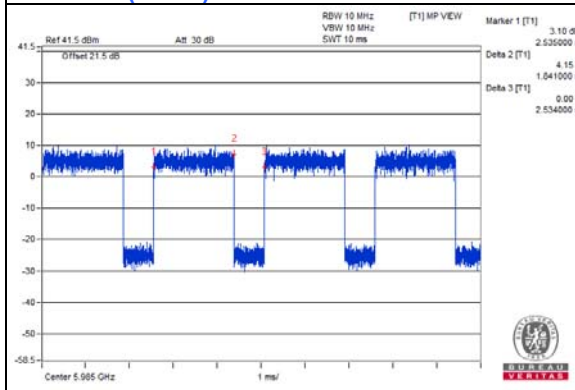
802.11ax (HE20)



802.11ax (HE40)



802.11ax (HE80)



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.

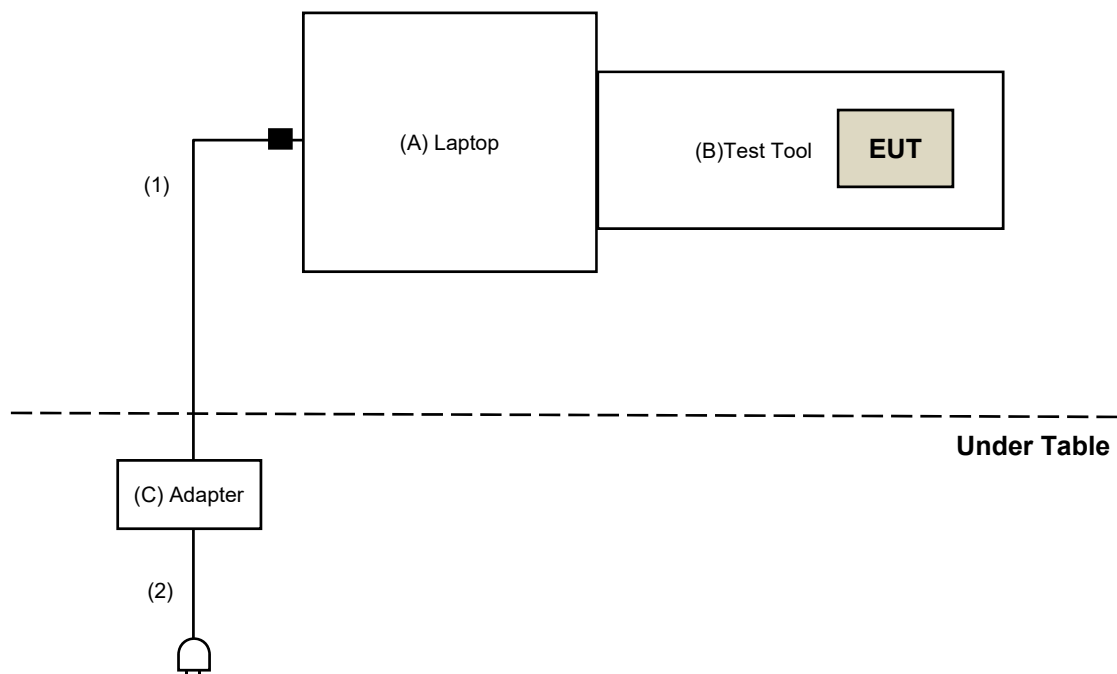
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Laptop	Dell	E6440	H7LYQ32	FCC DoC	Provided by Lab
B.	Test Tool	MTK	NA	NA	NA	Supplied by client
C.	Adapter	Dell	FA65NE0-00	NA	NA	Provided by Lab

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC Cable	1	1.6	No	1	Provided by Lab
2.	AC Cable	1	1	No	0	Provided by Lab

Note: The core is originally attached to the cable.

3.4.1 Configuration of System under Test

For Radiated Emissions 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 EMC Measurement v01r01

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:

- The lower limit shall apply at the transition frequencies.
- Emission level (dBuV/m) = 20 log Emission level (uV/m).
- 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:

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

4.1.2 Test Instruments

For Radiated Emission test (for Straddle Channels):

Description & Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Test Receiver Agilent	N9038A	MY50010156	2021/7/22	2022/7/21
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA
Pre_Amplifier EMCI	EMC001340	980142	2021/5/24	2022/5/23
LOOP ANTENNA Electro-Metrics	EM-6879	264	2021/3/5	2022/3/4
RF Coaxial Cable JYEBO	5D-FB	LOOPCAB-001	2021/1/7	2022/1/6
RF Coaxial Cable JYEBO	5D-FB	LOOPCAB-002	2021/1/7	2022/1/6
Pre_Amplifier Mini-Circuits	ZFL-1000VH2	QA0838008	2021/10/19	2022/10/18
Trilog Broadband Antenna Schwarzbeck	VULB 9168	9168-361	2020/11/5	2021/11/4
RF Coaxial Cable COMMATE/PEWC	8D	966-3-1	2021/3/16	2022/3/15
RF Coaxial Cable COMMATE/PEWC	8D	966-3-2	2021/3/16	2022/3/15
RF Coaxial Cable COMMATE/PEWC	8D	966-3-3	2021/3/16	2022/3/15
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	2021/9/23	2022/9/22
Horn Antenna Schwarzbeck	BBHA9120-D	9120D-406	2020/11/22	2021/11/21
Pre_Amplifier EMCI	EMC12630SE	980384	2021/1/11	2022/1/10
RF Coaxial Cable EMCI	EMC104-SM-SM-1500	180504	2021/4/26	2022/4/25
RF Coaxial Cable EMCI	EMC104-SM-SM-2000	180601	2021/6/8	2022/6/7
RF Coaxial Cable EMCI	EMC104-SM-SM-6000	210201	2021/5/13	2022/5/12
Fix tool for Boresight antenna tower LIOW GUU	FBA-01	FBA_SIP01	NA	NA
Spectrum Analyzer Keysight	N9030A	MY54490679	2021/7/9	2022/7/8
Pre_Amplifier EMCI	EMC184045SE	980387	2021/1/11	2022/1/10
Horn Antenna Schwarzbeck	BBHA 9170	BBHA9170519	2020/11/22	2021/11/21
RF Cable-Frequency range: 1-40GHz EMCI	EMC102-KM-KM-1200	160924	2021/1/11	2022/1/10
RF cable (40GHz) EMCI	EMC-KM-KM-4000	200214	2021/3/10	2022/3/9

- Note: 1. The test was performed in 966 Chamber No. 3.
 2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 3. Tested Date: 2021/10/21

For Radiated Emission test (for Other Channels):

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210202	2021/11/19	2022/11/18
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	NA	NA
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-783	2021/11/14	2022/11/13
Pre_Amplifier EMCI	EMC 12630 SE	980638	2021/4/7	2022/4/6
RF Cable-Frequency Range : 1-26.5GHz EMCI	EMC104-SM-SM-1200	160922	2021/12/24	2022/12/23
RF Coaxial Cable EMCI	EMC104-SM-SM-2000	180502	2021/4/26	2022/4/25
RF Coaxial Cable EMCI	EMC104-SM-SM-6000	210704	2021/11/9	2022/11/8
Pre_Amplifier EMCI	EMC184045SE	980387	2022/1/10	2023/1/9
Horn Antenna Schwarzbeck	BBHA 9170	BBHA9170519	2021/11/14	2022/11/13
RF Cable-Frequency range: 1-40GHz EMCI	EMC102-KM-KM-1200	160924	2022/1/10	2023/1/9
RF cable (40GHz) EMCI	EMC-KM-KM-4000	200214	2021/3/10	2022/3/9

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 966 Chamber No. 4.
3. Tested Date: 2022/2/12

For other test items (for Straddle Channels):

Description & Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Spectrum Analyzer R&S	FSV40	101516	2020/3/4	2021/3/3
Power Meter Anritsu	ML2495A	1529002	2020/7/22	2021/7/21
Pulse Power Sensor Anritsu	MA2411B	1339443	2020/7/22	2021/7/21
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2020/4/14	2021/4/13
Software	ADT_RF Test Software V6.6.5.4	NA	NA	NA

- Note: 1. The test was performed in Oven room 2.
 2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 3. Tested Date: 2021/1/12

For other test items (for Other Channels):

Description & Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Spectrum Analyzer R&S	FSV40	101516	2021/3/8	2022/3/7
Power Meter Anritsu	ML2495A	1529002	2021/6/21	2022/6/20
Pulse Power Sensor Anritsu	MA2411B	1339443	2021/5/31	2022/5/30
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2021/4/13	2022/4/12
Software	ADT_RF Test Software V6.6.5.4	NA	NA	NA

- Note: 1. The test was performed in Oven room 2.
 2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 3. Tested Date: 2022/2/14

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

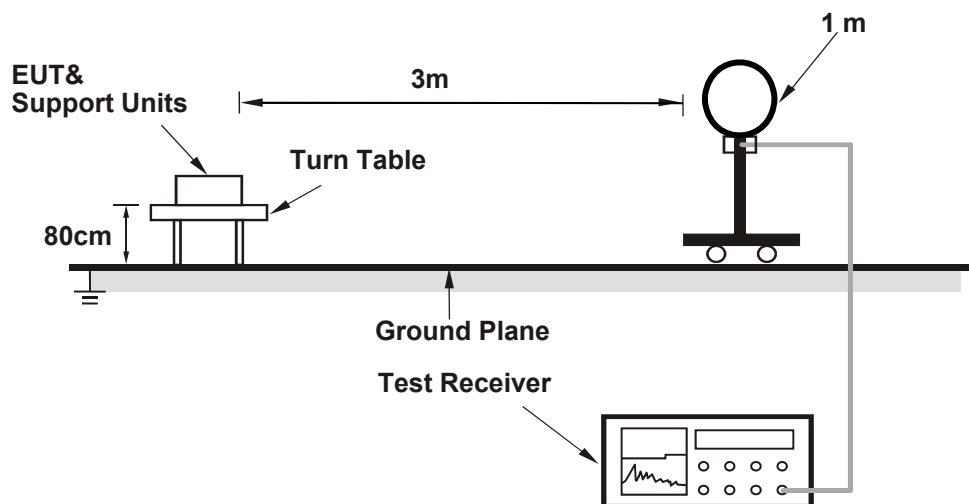
- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving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

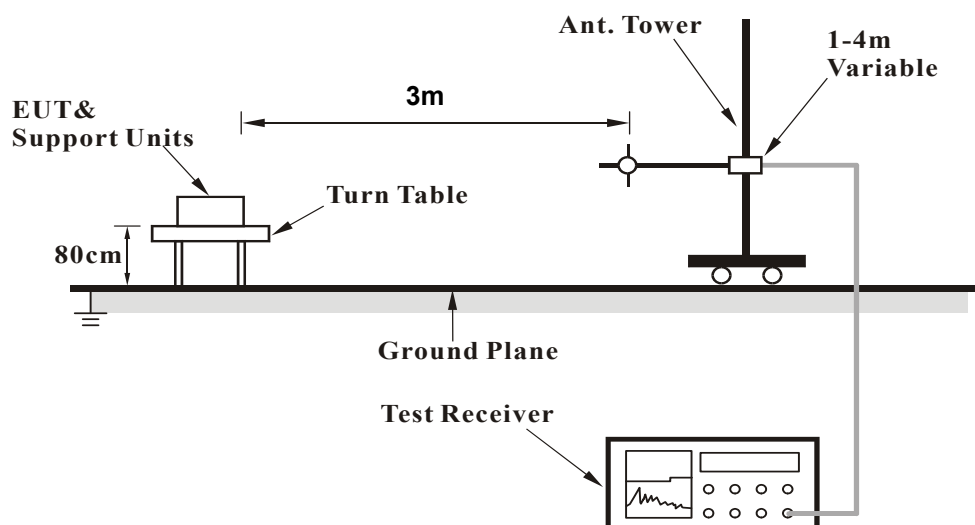
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The detection is peak and the resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle $\geq 98\%$) 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

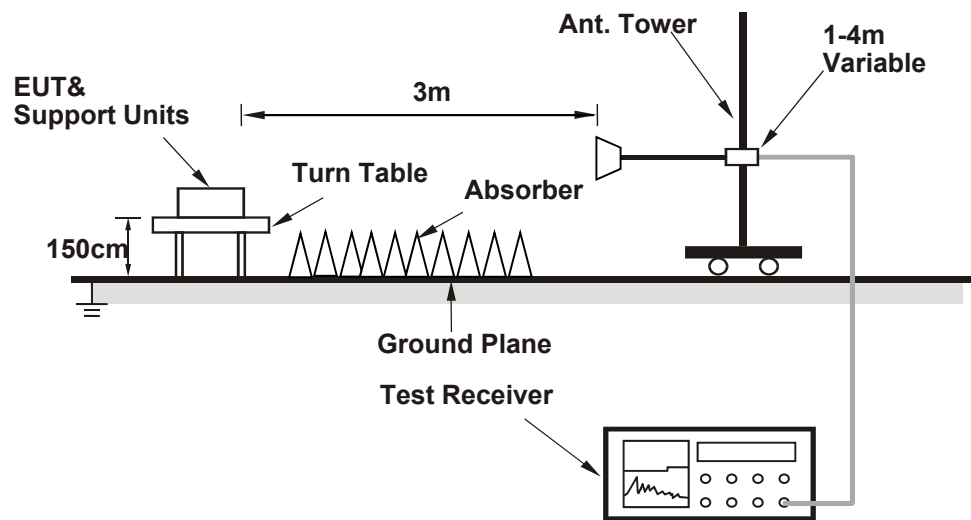
For Radiated emission below 30MHz



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

- Connected the EUT with the Laptop which is placed on the testing table.
- Controlling software (MT7961 QA0.0.2.33) has been activated to set the EUT under transmission condition continuously.

4.1.6 Test Results (Mode 1)

Above 1GHz Data:

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	97.4 PK			1.77 H	354	89.5	7.9
2	*6875.00	85.5 AV			1.77 H	354	77.6	7.9
3	#13750.00	45.4 PK	88.2	-42.8	2.37 H	161	29.1	16.3
4	#13750.00	33.2 AV	68.2	-35.0	2.37 H	161	16.9	16.3
5	20625.00	47.9 PK	74.0	-26.1	1.93 H	257	52.8	-4.9
6	20625.00	36.8 AV	54.0	-17.2	1.93 H	257	41.7	-4.9
7	#27500.00	51.8 PK	88.2	-36.4	1.88 H	313	53.2	-1.4
8	#27500.00	40.8 AV	68.2	-27.4	1.88 H	313	42.2	-1.4
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	93.7 PK			2.31 V	266	85.8	7.9
2	*6875.00	82.3 AV			2.31 V	266	74.4	7.9
3	#13750.00	43.5 PK	88.2	-44.7	2.94 V	273	27.2	16.3
4	#13750.00	32.7 AV	68.2	-35.5	2.94 V	273	16.4	16.3
5	20625.00	48.4 PK	74.0	-25.6	1.79 V	171	53.3	-4.9
6	20625.00	37.5 AV	54.0	-16.5	1.79 V	171	42.4	-4.9
7	#27500.00	52.2 PK	88.2	-36.0	1.54 V	77	53.6	-1.4
8	#27500.00	40.7 AV	68.2	-27.5	1.54 V	77	42.1	-1.4

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	99.0 PK			1.76 H	4	91.7	7.3
2	*6525.00	87.1 AV			1.76 H	4	79.8	7.3
3	#13050.00	45.0 PK	88.2	-43.2	2.36 H	170	30.2	14.8
4	#13050.00	33.1 AV	68.2	-35.1	2.36 H	170	18.3	14.8
5	19575.00	47.9 PK	74.0	-26.1	1.91 H	261	54.2	-6.3
6	19575.00	36.9 AV	54.0	-17.1	1.91 H	261	43.2	-6.3
7	#26100.00	51.7 PK	88.2	-36.5	1.90 H	311	52.7	-1.0
8	#26100.00	40.9 AV	68.2	-27.3	1.90 H	311	41.9	-1.0
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	95.9 PK			2.35 V	255	88.6	7.3
2	*6525.00	85.6 AV			2.35 V	255	78.3	7.3
3	#13050.00	43.3 PK	88.2	-44.9	2.96 V	262	28.5	14.8
4	#13050.00	32.5 AV	68.2	-35.7	2.96 V	262	17.7	14.8
5	19575.00	48.4 PK	74.0	-25.6	1.76 V	179	54.7	-6.3
6	19575.00	37.3 AV	54.0	-16.7	1.76 V	179	43.6	-6.3
7	#26100.00	51.6 PK	88.2	-36.6	1.48 V	79	52.6	-1.0
8	#26100.00	40.3 AV	68.2	-27.9	1.48 V	79	41.3	-1.0

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	99.1 PK			1.85 H	346	91.1	8.0
2	*6885.00	87.2 AV			1.85 H	346	79.2	8.0
3	#13770.00	45.9 PK	88.2	-42.3	2.33 H	158	29.5	16.4
4	#13770.00	33.4 AV	68.2	-34.8	2.33 H	158	17.0	16.4
5	20655.00	47.8 PK	74.0	-26.2	1.93 H	269	52.7	-4.9
6	20655.00	36.8 AV	54.0	-17.2	1.93 H	269	41.7	-4.9
7	#27540.00	52.0 PK	88.2	-36.2	1.90 H	303	53.5	-1.5
8	#27540.00	41.0 AV	68.2	-27.2	1.90 H	303	42.5	-1.5
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	96.7 PK			2.30 V	276	88.7	8.0
2	*6885.00	86.1 AV			2.30 V	276	78.1	8.0
3	#13770.00	43.7 PK	88.2	-44.5	2.89 V	263	27.3	16.4
4	#13770.00	32.8 AV	68.2	-35.4	2.89 V	263	16.4	16.4
5	20655.00	49.0 PK	74.0	-25.0	1.79 V	184	53.9	-4.9
6	20655.00	37.8 AV	54.0	-16.2	1.79 V	184	42.7	-4.9
7	#27540.00	52.1 PK	88.2	-36.1	1.50 V	70	53.6	-1.5
8	#27540.00	40.5 AV	68.2	-27.7	1.50 V	70	42.0	-1.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
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	100.9 PK			1.79 H	9	93.5	7.4
2	*6545.00	89.3 AV			1.79 H	9	81.9	7.4
3	#13090.00	45.4 PK	88.2	-42.8	2.36 H	176	30.5	14.9
4	#13090.00	33.5 AV	68.2	-34.7	2.36 H	176	18.6	14.9
5	19635.00	48.3 PK	74.0	-25.7	1.97 H	253	54.6	-6.3
6	19635.00	37.0 AV	54.0	-17.0	1.97 H	253	43.3	-6.3
7	#26180.00	51.8 PK	88.2	-36.4	1.84 H	324	52.8	-1.0
8	#26180.00	41.1 AV	68.2	-27.1	1.84 H	324	42.1	-1.0
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	99.3 PK			2.30 V	279	91.9	7.4
2	*6545.00	88.1 AV			2.30 V	279	80.7	7.4
3	#13090.00	43.3 PK	88.2	-44.9	2.91 V	275	28.4	14.9
4	#13090.00	32.4 AV	68.2	-35.8	2.91 V	275	17.5	14.9
5	19635.00	48.6 PK	74.0	-25.4	1.83 V	158	54.9	-6.3
6	19635.00	37.6 AV	54.0	-16.4	1.83 V	158	43.9	-6.3
7	#26180.00	52.3 PK	88.2	-35.9	1.56 V	77	53.3	-1.0
8	#26180.00	40.6 AV	68.2	-27.6	1.56 V	77	41.6	-1.0

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	100.6 PK			1.68 H	7	92.8	7.8
2	*6865.00	91.9 AV			1.68 H	7	84.1	7.8
3	#13730.00	44.9 PK	88.2	-43.3	2.41 H	154	28.6	16.3
4	#13730.00	32.8 AV	68.2	-35.4	2.41 H	154	16.5	16.3
5	20595.00	47.8 PK	74.0	-26.2	1.98 H	257	52.7	-4.9
6	20595.00	36.5 AV	54.0	-17.5	1.98 H	257	41.4	-4.9
7	#27460.00	51.9 PK	88.2	-36.3	1.82 H	301	53.4	-1.5
8	#27460.00	41.0 AV	68.2	-27.2	1.82 H	301	42.5	-1.5
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	97.0 PK			2.35 V	271	89.2	7.8
2	*6865.00	88.9 AV			2.35 V	271	81.1	7.8
3	#13730.00	43.9 PK	88.2	-44.3	3.00 V	273	27.6	16.3
4	#13730.00	32.9 AV	68.2	-35.3	3.00 V	273	16.6	16.3
5	20595.00	49.0 PK	74.0	-25.0	1.77 V	184	53.9	-4.9
6	20595.00	37.8 AV	54.0	-16.2	1.77 V	184	42.7	-4.9
7	#27460.00	51.4 PK	88.2	-36.8	1.50 V	92	52.9	-1.5
8	#27460.00	40.2 AV	68.2	-28.0	1.50 V	92	41.7	-1.5

Remarks:

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

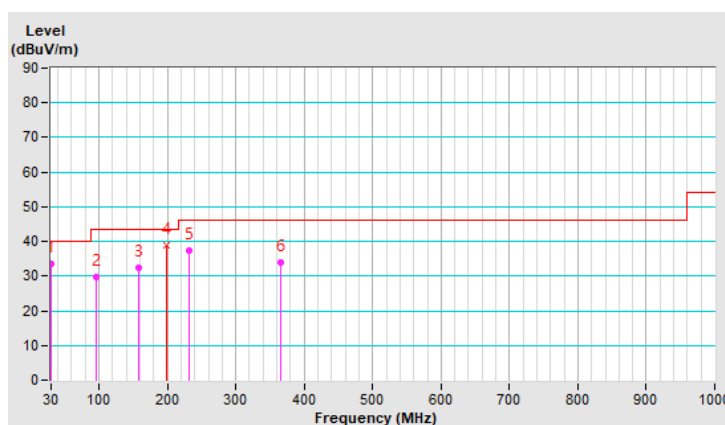
Below 1GHz Data:

RF Mode	TX 802.11ax (HE80)	Channel	CH 119 : 6545 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	30.45	33.7 QP	40.0	-6.3	1.00 H	21	43.1	-9.4
2	95.20	29.6 QP	43.5	-13.9	1.50 H	231	42.7	-13.1
3	158.05	32.3 QP	43.5	-11.2	1.50 H	297	40.1	-7.8
4	199.52	39.0 QP	43.5	-4.5	1.00 H	358	49.6	-10.6
5	232.03	37.3 QP	46.0	-8.7	1.50 H	201	47.1	-9.8
6	366.06	33.8 QP	46.0	-12.2	2.00 H	137	38.5	-4.7

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.

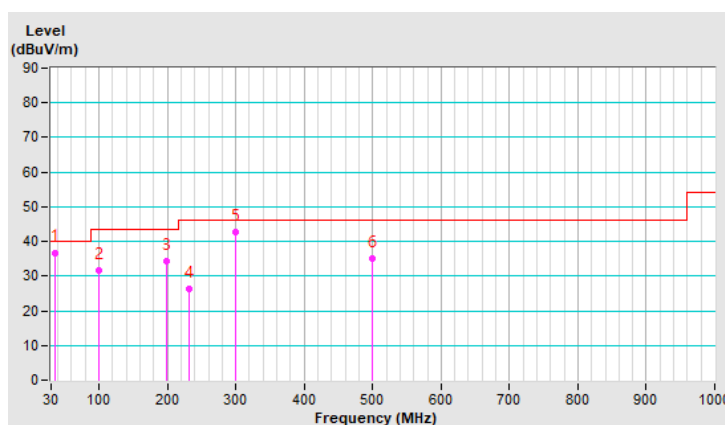


RF Mode	TX 802.11ax (HE80)	Channel	CH 119 : 6545 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	35.13	36.8 QP	40.0	-3.2	1.00 V	23	46.1	-9.3
2	99.99	31.8 QP	43.5	-11.7	1.50 V	188	44.1	-12.3
3	199.14	34.4 QP	43.5	-9.1	1.50 V	289	45.0	-10.6
4	232.03	26.3 QP	46.0	-19.7	2.00 V	215	36.1	-9.8
5	299.03	42.8 QP	46.0	-3.2	1.00 V	194	49.5	-6.7
6	499.06	34.9 QP	46.0	-11.1	1.00 V	303	35.9	-1.0

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.



4.1.7 Test Results (Mode 2)

Above 1GHz Data:

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	96.7 PK			1.54 H	3	93.7	3.0
2	*6415.00	86.3 AV			1.54 H	3	83.3	3.0
3	#12830.00	46.0 PK	88.2	-42.2	2.70 H	195	35.5	10.5
4	#12830.00	36.0 AV	68.2	-32.2	2.70 H	195	25.5	10.5
5	19245.00	51.7 PK	74.0	-22.3	1.65 H	262	75.4	-23.7
6	19245.00	39.5 AV	54.0	-14.5	1.65 H	262	63.2	-23.7
7	#25660.00	55.2 PK	88.2	-33.0	1.64 H	256	76.8	-21.6
8	#25660.00	42.7 AV	68.2	-25.5	1.64 H	256	64.3	-21.6

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	93.2 PK			2.95 V	304	90.2	3.0
2	*6415.00	83.2 AV			2.95 V	304	80.2	3.0
3	#12830.00	44.1 PK	88.2	-44.1	2.91 V	317	33.6	10.5
4	#12830.00	35.2 AV	68.2	-33.0	2.91 V	317	24.7	10.5
5	19245.00	51.9 PK	74.0	-22.1	2.05 V	193	75.6	-23.7
6	19245.00	40.3 AV	54.0	-13.7	2.05 V	193	64.0	-23.7
7	#25660.00	55.2 PK	88.2	-33.0	1.91 V	150	76.8	-21.6
8	#25660.00	43.6 AV	68.2	-24.6	1.91 V	150	65.2	-21.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * " : Fundamental frequency.
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	95.2 PK			1.44 H	25	91.6	3.6
2	*6515.00	84.5 AV			1.44 H	25	80.9	3.6
3	#13030.00	46.4 PK	88.2	-41.8	2.57 H	176	35.8	10.6
4	#13030.00	36.2 AV	68.2	-32.0	2.57 H	176	25.6	10.6
5	19545.00	52.3 PK	74.0	-21.7	1.79 H	272	75.5	-23.2
6	19545.00	40.1 AV	54.0	-13.9	1.79 H	272	63.3	-23.2
7	#26060.00	54.7 PK	88.2	-33.5	1.65 H	300	76.0	-21.3
8	#26060.00	42.5 AV	68.2	-25.7	1.65 H	300	63.8	-21.3
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	91.3 PK			3.36 V	336	87.7	3.6
2	*6515.00	81.2 AV			3.36 V	336	77.6	3.6
3	#13030.00	43.8 PK	88.2	-44.4	2.83 V	308	33.2	10.6
4	#13030.00	34.8 AV	68.2	-33.4	2.83 V	308	24.2	10.6
5	19545.00	52.1 PK	74.0	-21.9	2.09 V	218	75.3	-23.2
6	19545.00	40.7 AV	54.0	-13.3	2.09 V	218	63.9	-23.2
7	#26060.00	55.8 PK	88.2	-32.4	1.87 V	132	77.1	-21.3
8	#26060.00	43.9 AV	68.2	-24.3	1.87 V	132	65.2	-21.3

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	95.6 PK			1.81 H	54	87.7	7.9
2	*6875.00	84.9 AV			1.81 H	54	77.0	7.9
3	#13750.00	42.0 PK	88.2	-46.2	1.41 H	163	25.7	16.3
4	#13750.00	31.0 AV	68.2	-37.2	1.41 H	163	14.7	16.3
5	20625.00	45.3 PK	74.0	-28.7	2.35 H	13	50.2	-4.9
6	20625.00	34.2 AV	54.0	-19.8	2.35 H	13	39.1	-4.9
7	#27500.00	49.7 PK	88.2	-38.5	1.88 H	206	51.1	-1.4
8	#27500.00	37.8 AV	68.2	-30.4	1.88 H	206	39.2	-1.4

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	90.2 PK			3.54 V	289	82.3	7.9
2	*6875.00	80.4 AV			3.54 V	289	72.5	7.9
3	#13750.00	44.0 PK	88.2	-44.2	3.72 V	164	27.7	16.3
4	#13750.00	33.0 AV	68.2	-35.2	3.72 V	164	16.7	16.3
5	20625.00	48.5 PK	74.0	-25.5	1.33 V	91	53.4	-4.9
6	20625.00	37.6 AV	54.0	-16.4	1.33 V	91	42.5	-4.9
7	#27500.00	52.2 PK	88.2	-36.0	2.17 V	264	53.6	-1.4
8	#27500.00	40.4 AV	68.2	-27.8	2.17 V	264	41.8	-1.4

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	97.2 PK			1.50 H	29	95.2	2.0
2	*6165.00	87.7 AV			1.50 H	29	85.7	2.0
3	12330.00	45.8 PK	74.0	-28.2	2.70 H	184	35.5	10.3
4	12330.00	35.6 AV	54.0	-18.4	2.70 H	184	25.3	10.3
5	18495.00	51.6 PK	74.0	-22.4	1.73 H	275	76.3	-24.7
6	18495.00	39.7 AV	54.0	-14.3	1.73 H	275	64.4	-24.7
7	#24660.00	54.8 PK	88.2	-33.4	1.66 H	281	76.3	-21.5
8	#24660.00	42.4 AV	68.2	-25.8	1.66 H	281	63.9	-21.5
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	95.9 PK			3.73 V	337	93.9	2.0
2	*6165.00	86.2 AV			3.73 V	337	84.2	2.0
3	12330.00	44.0 PK	74.0	-30.0	2.85 V	326	33.7	10.3
4	12330.00	35.0 AV	54.0	-19.0	2.85 V	326	24.7	10.3
5	18495.00	51.8 PK	74.0	-22.2	2.04 V	212	76.5	-24.7
6	18495.00	40.5 AV	54.0	-13.5	2.04 V	212	65.2	-24.7
7	#24660.00	55.8 PK	88.2	-32.4	1.84 V	130	77.3	-21.5
8	#24660.00	43.9 AV	68.2	-24.3	1.84 V	130	65.4	-21.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
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	96.6 PK			1.85 H	37	89.3	7.3
2	*6525.00	87.5 AV			1.85 H	37	80.2	7.3
3	#13050.00	42.2 PK	88.2	-46.0	1.37 H	168	27.4	14.8
4	#13050.00	31.1 AV	68.2	-37.1	1.37 H	168	16.3	14.8
5	19575.00	45.9 PK	74.0	-28.1	2.30 H	0	52.2	-6.3
6	19575.00	34.6 AV	54.0	-19.4	2.30 H	0	40.9	-6.3
7	#26100.00	50.5 PK	88.2	-37.7	1.86 H	217	51.5	-1.0
8	#26100.00	38.1 AV	68.2	-30.1	1.86 H	217	39.1	-1.0
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	94.0 PK			3.53 V	291	86.7	7.3
2	*6525.00	84.3 AV			3.53 V	291	77.0	7.3
3	#13050.00	44.3 PK	88.2	-43.9	3.77 V	174	29.5	14.8
4	#13050.00	33.3 AV	68.2	-34.9	3.77 V	174	18.5	14.8
5	19575.00	49.5 PK	74.0	-24.5	1.28 V	101	55.8	-6.3
6	19575.00	38.3 AV	54.0	-15.7	1.28 V	101	44.6	-6.3
7	#26100.00	51.7 PK	88.2	-36.5	2.22 V	272	52.7	-1.0
8	#26100.00	40.2 AV	68.2	-28.0	2.22 V	272	41.2	-1.0

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	96.3 PK			1.87 H	44	88.3	8.0
2	*6885.00	87.1 AV			1.87 H	44	79.1	8.0
3	#13770.00	41.2 PK	88.2	-47.0	1.39 H	148	24.8	16.4
4	#13770.00	30.3 AV	68.2	-37.9	1.39 H	148	13.9	16.4
5	20655.00	45.1 PK	74.0	-28.9	2.31 H	19	50.0	-4.9
6	20655.00	33.7 AV	54.0	-20.3	2.31 H	19	38.6	-4.9
7	#27540.00	50.1 PK	88.2	-38.1	1.86 H	212	51.6	-1.5
8	#27540.00	38.2 AV	68.2	-30.0	1.86 H	212	39.7	-1.5
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	93.8 PK			3.51 V	294	85.8	8.0
2	*6885.00	84.8 AV			3.51 V	294	76.8	8.0
3	#13770.00	42.9 PK	88.2	-45.3	3.78 V	156	26.5	16.4
4	#13770.00	32.2 AV	68.2	-36.0	3.78 V	156	15.8	16.4
5	20655.00	48.3 PK	74.0	-25.7	1.32 V	94	53.2	-4.9
6	20655.00	37.5 AV	54.0	-16.5	1.32 V	94	42.4	-4.9
7	#27540.00	52.2 PK	88.2	-36.0	2.19 V	258	53.7	-1.5
8	#27540.00	40.5 AV	68.2	-27.7	2.19 V	258	42.0	-1.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
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	53.4 PK	88.2	-34.8	1.36 H	7	51.9	1.5
2	#5925.00	44.3 AV	68.2	-23.9	1.36 H	7	42.8	1.5
3	*5985.00	97.6 PK			1.36 H	7	95.9	1.7
4	*5985.00	88.1 AV			1.36 H	7	86.4	1.7
5	11970.00	45.9 PK	74.0	-28.1	2.64 H	180	34.9	11.0
6	11970.00	35.7 AV	54.0	-18.3	2.64 H	180	24.7	11.0
7	17955.00	51.9 PK	74.0	-22.1	1.74 H	256	29.0	22.9
8	17955.00	39.8 AV	54.0	-14.2	1.74 H	256	16.9	22.9
9	23940.00	55.4 PK	74.0	-18.6	1.66 H	276	77.3	-21.9
10	23940.00	43.3 AV	54.0	-10.7	1.66 H	276	65.2	-21.9

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	52.1 PK	88.2	-36.1	3.61 V	334	50.6	1.5
2	#5925.00	42.7 AV	68.2	-25.5	3.61 V	334	41.2	1.5
3	*5985.00	95.3 PK			3.61 V	334	93.6	1.7
4	*5985.00	85.8 AV			3.61 V	334	84.1	1.7
5	11970.00	44.6 PK	74.0	-29.4	2.86 V	330	33.6	11.0
6	11970.00	35.6 AV	54.0	-18.4	2.86 V	330	24.6	11.0
7	17955.00	51.9 PK	74.0	-22.1	2.17 V	195	29.0	22.9
8	17955.00	40.8 AV	54.0	-13.2	2.17 V	195	17.9	22.9
9	23940.00	55.9 PK	74.0	-18.1	1.90 V	104	77.8	-21.9
10	23940.00	44.0 AV	54.0	-10.0	1.90 V	104	65.9	-21.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
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	96.9 PK			1.76 H	48	89.5	7.4
2	*6545.00	87.1 AV			1.76 H	48	79.7	7.4
3	#13090.00	41.7 PK	88.2	-46.5	1.39 H	155	26.8	14.9
4	#13090.00	30.6 AV	68.2	-37.6	1.39 H	155	15.7	14.9
5	19635.00	45.6 PK	74.0	-28.4	2.37 H	22	51.9	-6.3
6	19635.00	34.2 AV	54.0	-19.8	2.37 H	22	40.5	-6.3
7	#26180.00	50.0 PK	88.2	-38.2	1.90 H	217	51.0	-1.0
8	#26180.00	37.9 AV	68.2	-30.3	1.90 H	217	38.9	-1.0
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	96.0 PK			3.60 V	303	88.6	7.4
2	*6545.00	85.7 AV			3.60 V	303	78.3	7.4
3	#13090.00	44.5 PK	88.2	-43.7	3.68 V	169	29.6	14.9
4	#13090.00	33.6 AV	68.2	-34.6	3.68 V	169	18.7	14.9
5	19635.00	49.5 PK	74.0	-24.5	1.30 V	83	55.8	-6.3
6	19635.00	38.4 AV	54.0	-15.6	1.30 V	83	44.7	-6.3
7	#26180.00	51.4 PK	88.2	-36.8	2.16 V	277	52.4	-1.0
8	#26180.00	40.2 AV	68.2	-28.0	2.16 V	277	41.2	-1.0

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	96.0 PK			1.87 H	31	88.2	7.8
2	*6865.00	86.7 AV			1.87 H	31	78.9	7.8
3	#13730.00	41.8 PK	88.2	-46.4	1.35 H	156	25.5	16.3
4	#13730.00	30.7 AV	68.2	-37.5	1.35 H	156	14.4	16.3
5	20595.00	44.5 PK	74.0	-29.5	2.36 H	26	49.4	-4.9
6	20595.00	33.4 AV	54.0	-20.6	2.36 H	26	38.3	-4.9
7	#27460.00	49.6 PK	88.2	-38.6	1.88 H	207	51.1	-1.5
8	#27460.00	38.0 AV	68.2	-30.2	1.88 H	207	39.5	-1.5
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	96.5 PK			3.54 V	294	88.7	7.8
2	*6865.00	86.7 AV			3.54 V	294	78.9	7.8
3	#13730.00	43.1 PK	88.2	-45.1	3.75 V	165	26.8	16.3
4	#13730.00	32.4 AV	68.2	-35.8	3.75 V	165	16.1	16.3
5	20595.00	48.8 PK	74.0	-25.2	1.38 V	101	53.7	-4.9
6	20595.00	37.8 AV	54.0	-16.2	1.38 V	101	42.7	-4.9
7	#27460.00	52.1 PK	88.2	-36.1	2.20 V	270	53.6	-1.5
8	#27460.00	40.3 AV	68.2	-27.9	2.20 V	270	41.8	-1.5

Remarks:

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

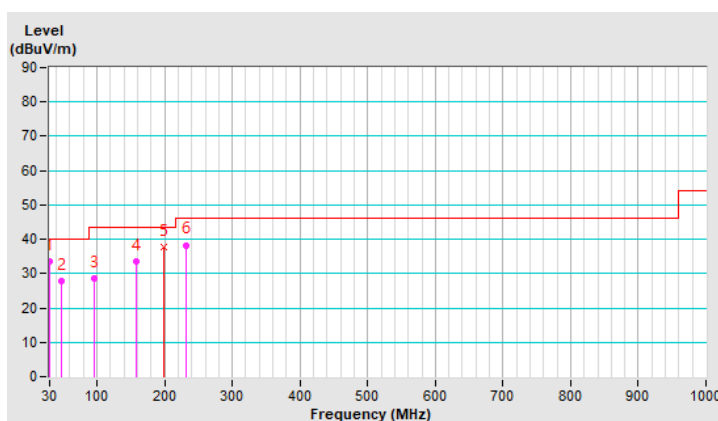
Below 1GHz Data:

RF Mode	TX 802.11ax (HE80)	Channel	CH 119 : 6545 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	30.43	33.6 QP	40.0	-6.4	1.00 H	143	43.0	-9.4
2	47.63	27.7 QP	40.0	-12.3	1.00 H	140	35.8	-8.1
3	95.58	28.5 QP	43.5	-15.0	1.50 H	301	41.6	-13.1
4	158.03	33.6 QP	43.5	-9.9	2.00 H	227	41.4	-7.8
5	199.15	37.8 QP	43.5	-5.7	1.00 H	340	48.4	-10.6
6	232.35	38.3 QP	46.0	-7.7	1.50 H	254	48.0	-9.7

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.

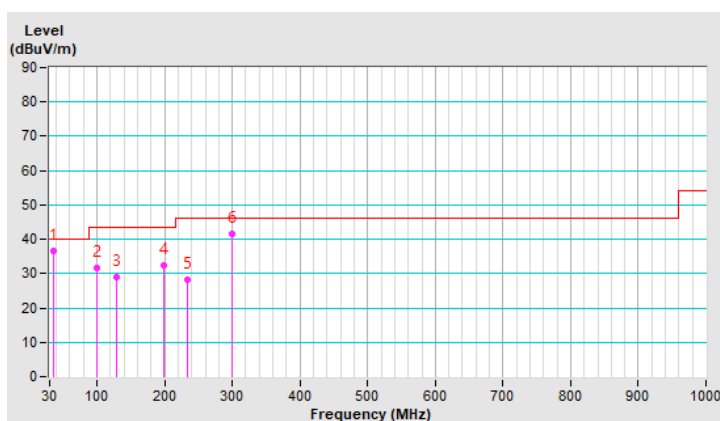


RF Mode	TX 802.11ax (HE80)	Channel	CH 119 : 6545 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	35.33	36.7 QP	40.0	-3.3	1.00 V	63	45.9	-9.2
2	99.91	31.8 QP	43.5	-11.7	1.50 V	219	44.1	-12.3
3	129.33	28.8 QP	43.5	-14.7	2.00 V	206	37.7	-8.9
4	199.01	32.3 QP	43.5	-11.2	1.50 V	27	42.9	-10.6
5	232.87	28.1 QP	46.0	-17.9	1.00 V	139	37.8	-9.7
6	299.00	41.5 QP	46.0	-4.5	1.00 V	214	48.2	-6.7

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 Transmit Power Measurement

4.2.1 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,

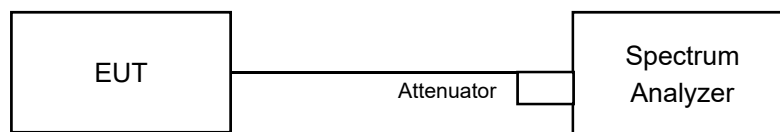
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

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.

4.2.2 Test Setup



4.2.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.2.4 Test Procedure

Method SA-2

- Set span to encompass the emission bandwidth (EBW) of the signal.
- Set RBW = 1MHz.
- Set the VBW $\geq 3 \times$ RBW.
- Number of points in sweep ≥ 2 Span / RBW.
- Sweep time = auto.
- Detector = RMS.
- Trace average at least 100 traces in power averaging mode
- Compute power by integrating the spectrum across the 26 dB EBW of the signal.
- Duty factor need added to measured value (duty cycle < 98 percent).

4.2.5 EUT Operating Condition

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

4.2.6 Test Result

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							
93	6415	0.94	1.15	2.545	4.06	4.76	7.621	8.82	24	Pass
113	6515	1.88	1.70	3.021	4.80	4.29	8.11	9.09	24	Pass
*185 (U-NII-7 Band)	6875	-1.83	-2.11	1.4156	1.51	4.61	4.093	6.12	24	Pass
*185 (U-NII-8 Band)	6875	-1.74	-2.23	1.4122	1.50	4.09	3.622	5.59	24	Pass

Note: *Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

1. Directional gain is the maximum gain of antennas.
2. For U-NII-5, The maximum gain is 4.76 dBi
3. For U-NII-6, The maximum gain is 4.29 dBi
4. For U-NII-7, The maximum gain is 4.61 dBi
5. For U-NII-8, The maximum gain is 4.09 dBi

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							
43	6165	3.73	3.98	4.861	6.87	4.76	14.555	11.63	24	Pass
*115 (U-NII-6 Band)	6525	0.04	0.21	2.44	3.87	4.29	6.546	8.16	24	Pass
*115 (U-NII-7 Band)	6525	0.03	0.27	2.454	3.90	4.61	7.096	8.51	24	Pass
*187 (U-NII-7 Band)	6885	-4.62	-4.37	0.8423	-0.75	4.61	2.432	3.86	24	Pass
*187 (U-NII-8 Band)	6885	2.36	2.44	4.119	6.15	4.09	10.568	10.24	24	Pass

Note: *Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

1. Directional gain is the maximum gain of antennas.
2. For U-NII-5, The maximum gain is 4.76 dBi
3. For U-NII-6, The maximum gain is 4.29 dBi
4. For U-NII-7, The maximum gain is 4.61 dBi
5. For U-NII-8, The maximum gain is 4.09 dBi

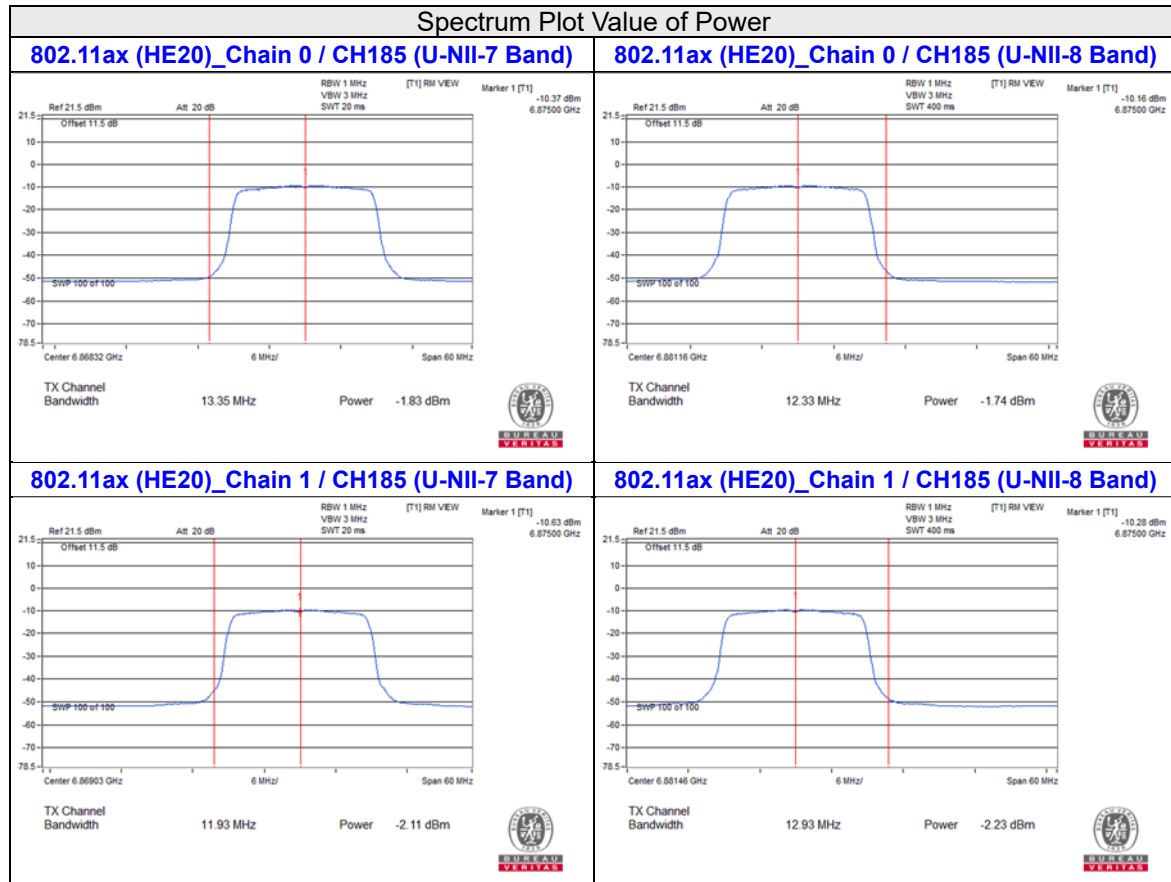
802.11ax (HE80)

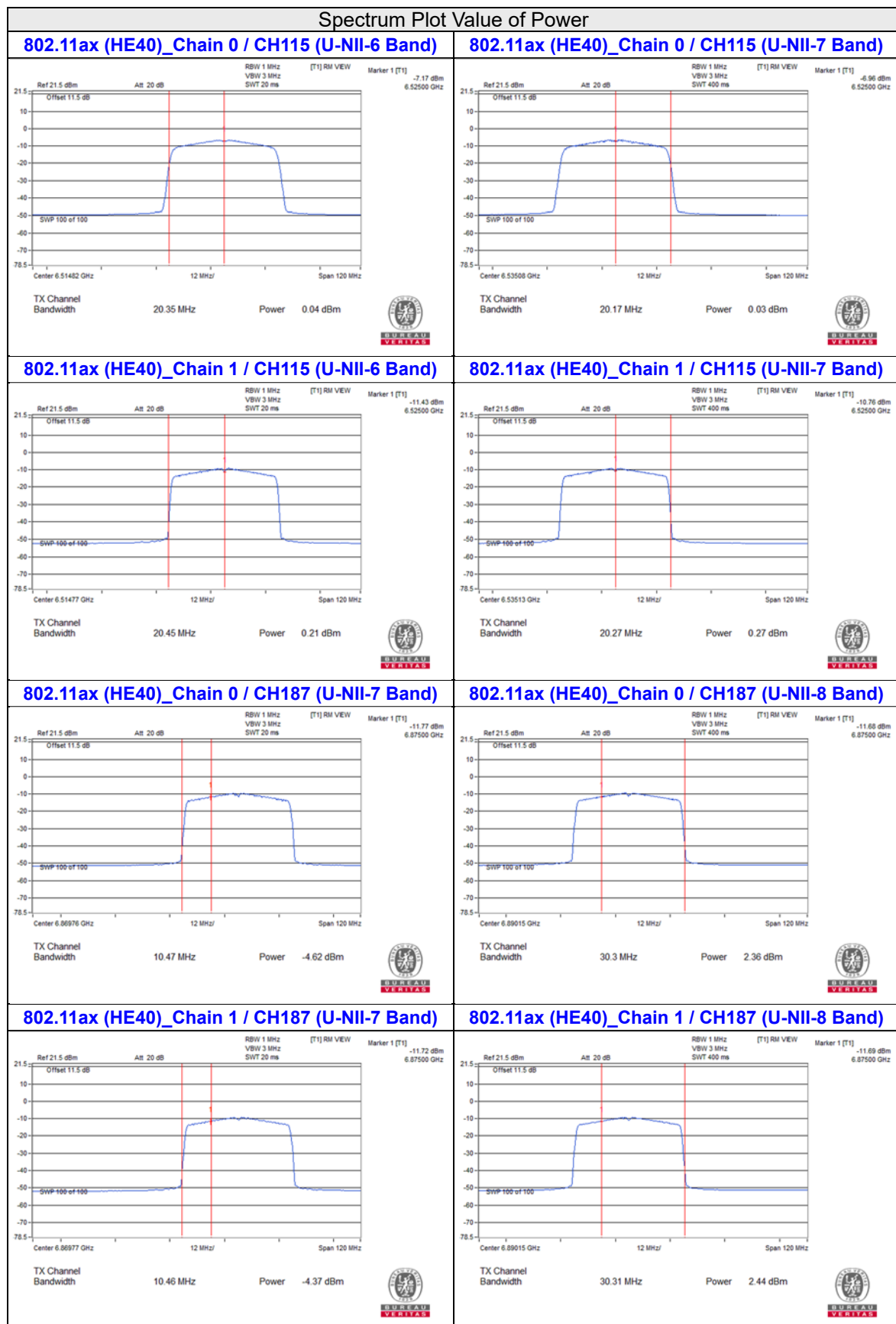
Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
7	5985	6.82	7.24	10.105	10.05	4.76	30.269	14.81	24	Pass
*119 (U-NII-6 Band)	6545	-2.27	-2.77	1.5435	1.89	4.29	4.15	6.18	24	Pass
*119 (U-NII-7 Band)	6545	4.47	4.74	7.952	9.00	4.61	22.961	13.61	24	Pass
*183 (U-NII-7 Band)	6865	3.52	3.33	6.059	7.82	4.61	17.498	12.43	24	Pass
*183 (U-NII-8 Band)	6865	0.30	0.05	2.867	4.57	4.61	8.279	9.18	24	Pass

Note: *Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

1. Directional gain is the maximum gain of antennas.
2. For U-NII-5, The maximum gain is 4.76 dBi
3. For U-NII-6, The maximum gain is 4.29 dBi
4. For U-NII-7, The maximum gain is 4.61 dBi
5. For U-NII-8, The maximum gain is 4.09 dBi

For channel straddling 6525MHz & 6875MHz of Power



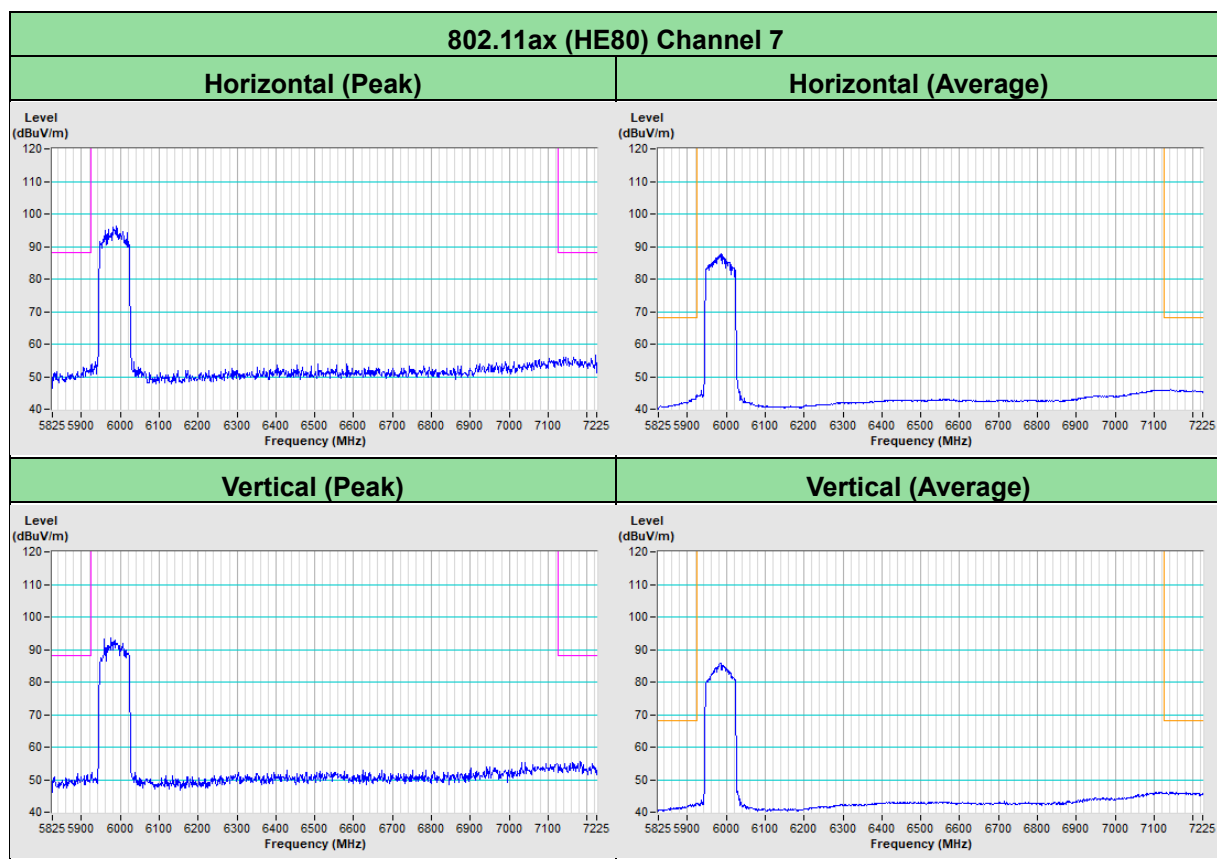




5 Pictures of Test Arrangements

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

Annex A - Band-Edge Measurement



Appendix – Information of the Testing Laboratories

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

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

Lin Kou EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

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