

FCC Test Report

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FCC ID: RAS-MT7922AU22M

Test Model: MT7922A22M

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Test Date: Mar. 16 to May 27, 2021

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Release Control Record

Issue No.	Description	Date Issued
RFBARR-WTW-P21030485A-6	Original release.	July 29, 2021

1 Certificate of Conformity

Product: 2TX 11ax (WiFi6E) BW160 + BT/BLE Combo Card

Brand: MediaTek

Test Model: MT7922A22M

Sample Status: Engineering sample

Applicant: MediaTek Inc.

Test Date: Mar. 16 to May 27, 2021

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 : Vivian Huang, **Date:** July 29, 2021
Vivian Huang / Specialist

Approved by : Clark Lin, **Date:** July 29, 2021
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	PASS	Meet the requirement of limit. Minimum passing margin is -15.03dB at 0.15000MHz.
15.407(b)(5)(8)	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -0.2dB at 5911.94, 5913.34 and 7125.00MHz.
15.407(b)(6)	In-Band Emission (Mask)	PASS	Meet the requirement of limit.
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	PASS	Meet the requirement of limit.
15.407(a)(4/5/6/7/8)	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(MHF) 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	1.9 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	3.1 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	5.5 dB
	6GHz ~ 18GHz	5.1 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) BW160 + BT/BLE Combo Card
Brand	MediaTek
Test Model	MT7922A22M
Status of EUT	Engineering sample
Power Supply Rating	3.3 Vdc from host equipment
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode only 1024QAM for OFDMA in 11ax mode only
Modulation Technology	DSSS, OFDM, OFDMA
Transfer Rate	802.11a: up to 54 Mbps 802.11n: up to 300 Mbps 802.11ac: up to 1733.3 Mbps 802.11ax: up to 2401.9 Mbps
Operating Frequency	5.955 ~ 6.415GHz, 6.435 ~ 6.525GHz, 6.525 ~ 6.875GHz, 6.875 ~ 7.115GHz
Number of Channel	802.11a/ax (HE20): 59 802.11ax (HE40): 29 802.11ax (HE80): 14 802.11ax (HE160): 7
Output Power	5.955 ~ 6.415GHz: 18.221 mW (EIRP: 17.37 dBm / 54.576 mW) 6.435 ~ 6.525GHz: 19.748 mW (EIRP: 17.25 dBm / 53.088 mW) 6.525 ~ 6.855GHz: 17.818 mW (EIRP: 17.12 dBm / 51.523 mW) 6.875 ~ 7.115GHz: 20.356 mW (EIRP: 17.18 dBm / 52.24 mW)
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. Simultaneously transmission condition.

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

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

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

Antenna No.	RF Chain No.	Brand	Model	Antenna Net Gain (dBi)	Frequency Range (GHz)	Antenna Type	Connector Type	Cable Length (mm)
1	Chain0	PSA	RFMTA340718EML B302	3.18 4.92	2.4~2.4835 5.15~5.85	PIFA	i-pex(MHF)	200
2	Chain1	PSA	RFMTA340718EML B302	3.18 4.92	2.4~2.4835 5.15~5.85	PIFA	i-pex(MHF)	200
3	Chain0	PSA	RFMTA311020EM MB301	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
4	Chain1	PSA	RFMTA311020EM MB301	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
6	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
7	Chain0	Cortec	AN2450-4902BRS	2.42 3.87	2.4~2.4835 5.15~5.85	Dipole	R-SMA	150
8	Chain1	Cortec	AN2450-4902BRS	2.42 3.87	2.4~2.4835 5.15~5.85	Dipole	R-SMA	150

Note: For PIFA Antenna, max. gain was selected for the final test.

3. 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
802.11ax (RU26/52/106/242/484/996/1992)	2TX	2RX
Note: For Partial RU, after pre-tested, only the worse cases were chosen for final test and presented in the test report. (Final test mode refer section 3.2.1)		

4. 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.

5. 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.

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				

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 802.11a, 802.11ax (HE20):

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

3 channels are provided for 802.11ax (HE40):

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

1 channel is provided for 802.11ax (HE80):

Channel	Frequency	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 802.11a, 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
*119	6545 MHz	135	6625 MHz	151	6705 MHz	167	6785 MHz

2 channels are provided for 802.11ax (HE160):

Channel	Frequency	Channel	Frequency
143	6665 MHz	*175	6825 MHz

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

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 $\geq$ 1G	RE<1G	IBE	PLC	CBP	APCM	
1	√	√	√	√	√	√	With PIFA antenna
2	√	√	-	-	-	-	With Dipole antenna

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

Note: 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, 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
802.11a	5955-6415	1 to 93	1, 45, 93	OFDM	BPSK	6Mb/s
	6435-6525	97 to 113	97, 105, 113	OFDM	BPSK	6Mb/s
	6525-6855	117 to 181	117, 153, 181	OFDM	BPSK	MCS0
	6875-7115	185 to 233	185, 213, 233	OFDM	BPSK	6Mb/s
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 181	117, 153, 181	OFDMA	BPSK	MCS0
	6875-7115	185 to 233	185, 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	115 to 179	115, 123, 155, 179	OFDMA	BPSK	MCS0
	6875-7115	187 to 227	187, 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	119 to 167	119, 135, 151, 167	OFDMA	BPSK	MCS0
	6875-7115	183 to 215	183, 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

Preamble (MHz)	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter	RU Configuration		
							RU26	RU52	RU106
20	5955-6415	1 to 93	1, 93	OFDMA	BPSK	MCS0	26/0 26/8	-	106/53 106/54
	6435-6525	97 to 113	97	OFDMA	BPSK	MCS0	26/0	-	106/53
	6525-6855	117 to 181	117 181	OFDMA	BPSK	MCS0	26/0 26/8	-	106/53 106/54
	6875-7115	185 to 233	233	OFDMA	BPSK	MCS0	26/8	52/40	106/54

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 (HE160)	5955-6415	15 to 79	79	OFDMA	BPSK	MCS0
	6435-6525	111				
	6525-6855	143				
	6875-7115	207				

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
802.11a	5955-6415	1 to 93	1, 45, 93	OFDM	BPSK	6Mb/s
	6435-6525	97 to 113	97, 105, 113	OFDM	BPSK	6Mb/s
	6525-6855	117 to 181	117, 153, 181	OFDM	BPSK	MCS0
	6875-7115	185 to 233	185, 213, 233	OFDM	BPSK	6Mb/s
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 181	117, 153, 181	OFDMA	BPSK	MCS0
	6875-7115	185 to 233	185, 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	115 to 187	115, 123, 155, 179, 187	OFDMA	BPSK	MCS0
	6875-7115	187 to 227	187, 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	119 to 183	119, 135, 151, 167, 183	OFDMA	BPSK	MCS0
	6875-7115	183 to 215	183, 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	
Preamble (MHz)	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter	RU Configuration		
							RU26	RU52	RU106
20	5955-6415	1 to 93	1, 93	OFDMA	BPSK	MCS0	26/0 26/8	-	106/53 106/54
	6435-6525	97 to 113	97	OFDMA	BPSK	MCS0	26/0	-	106/53
	6525-6855	117 to 181	117 181	OFDMA	BPSK	MCS0	26/0 26/8	-	106/53 106/54
	6875-7115	185 to 233	233	OFDMA	BPSK	MCS0	26/8	52/40	106/54

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 (HE160)	5955-6415 6435-6525 6525-6855 6875-7115	15 to 79 111 143 to 175 207	79	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	
802.11a			5955-6415		1 to 93		1, 45, 93		OFDM		BPSK		6Mb/s	
			6435-6525		97 to 113		97, 105, 113		OFDM		BPSK		6Mb/s	
			6525-6855		117 to 181		117, 153, 181		OFDM		BPSK		MCS0	
			6875-7115		185 to 233		185, 213, 233		OFDM		BPSK		6Mb/s	
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 181		117, 153, 181		OFDMA		BPSK		MCS0	
			6875-7115		185 to 233		185, 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		115 to 179		115, 123, 155, 179		OFDMA		BPSK		MCS0	
			6875-7115		187 to 227		187, 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		119 to 167		119, 135, 151, 167		OFDMA		BPSK		MCS0	
			6875-7115		183 to 215		183, 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	
Preamble (MHz)	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter	RU Configuration							
							RU26	RU52	RU106					
20	5955-6415	1 to 93	1, 93	OFDMA	BPSK	MCS0	26/0 26/8	-	106/53 106/54					
	6435-6525	97 to 113	97	OFDMA	BPSK	MCS0	26/0	-	106/53					
	6525-6855	117 to 181	117 181	OFDMA	BPSK	MCS0	26/0 26/8	-	106/53 106/54					
	6875-7115	185 to 233	233	OFDMA	BPSK	MCS0	26/8	52/40	106/54					

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	1	OFDMA	BPSK	MCS0
	6435-6525	97 to 113	97	OFDMA	BPSK	MCS0
	6525-6855	117 to 181	129	OFDMA	BPSK	MCS0
	6875-7115	185 to 233	193	OFDMA	BPSK	MCS0
802.11ax (HE160)	5955-6415	15 to 79	15	OFDMA	BPSK	MCS0
	6435-6525	111	111	OFDMA	BPSK	MCS0
	6525-6855	143 to 175	143, 175	OFDMA	BPSK	MCS0
	6875-7025	207	207	OFDMA	BPSK	MCS0

Test Condition:

Applicable To	Environmental Conditions	Input Power (System)	Tested By
RE $\geq$ 1G	25deg. C, 67%RH	120Vac, 60Hz	Sampson Chen
RE<1G	22deg. C, 62%RH	120Vac, 60Hz	Sampson Chen
PLC	25deg. C, 68%RH	120Vac, 60Hz	Sampson Chen
APCM	25deg. C, 60%RH	120Vac, 60Hz	Kevin Ko

3.3 Duty Cycle of Test Signal

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

802.11a: Duty cycle = 5.481 ms/5.823 ms = 0.941, Duty factor = $10 \cdot \log(1/\text{Duty cycle}) = 0.26 \text{ dB}$

802.11ax (HE20): Duty cycle = 3.784 ms/4.252 ms = 0.89, Duty factor = $10 \cdot \log(1/\text{Duty cycle}) = 0.51 \text{ dB}$

802.11ax (HE40): Duty cycle = 3.786 ms/4.259 ms = 0.889, Duty factor = $10 \cdot \log(1/\text{Duty cycle}) = 0.51 \text{ dB}$

802.11ax (HE80): Duty cycle = 1.836 ms/3.307 ms = 0.796, Duty factor = $10 \cdot \log(1/\text{Duty cycle}) = 0.99 \text{ dB}$

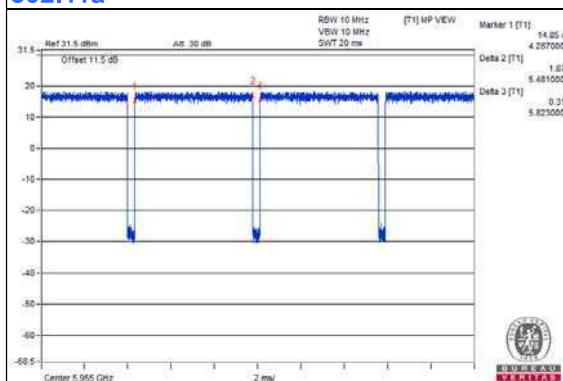
802.11ax (HE160): Duty cycle = 0.955 ms/1.422 ms = 0.672, Duty factor = $10 \cdot \log(1/\text{Duty cycle}) = 1.73 \text{ dB}$

20MHz Preamble (RU26): Duty cycle = 0.579 ms /0.775 ms = 0.747, Duty factor = $10 \cdot \log(1/\text{Duty cycle}) = 1.27 \text{ dB}$

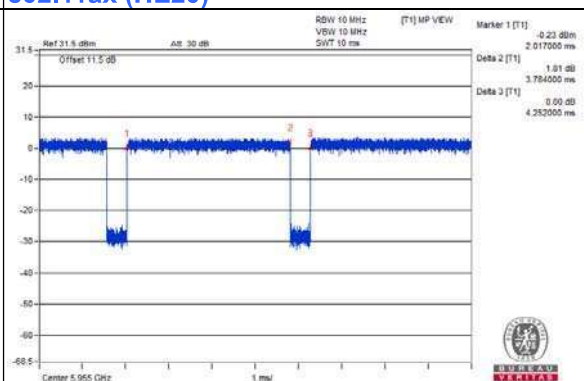
20MHz Preamble (RU52): Duty cycle = 0.498 ms /0.705 ms = 0.706, Duty factor = $10 \cdot \log(1/\text{Duty cycle}) = 1.51 \text{ dB}$

20MHz Preamble (RU106): Duty cycle = 0.434 ms /0.648 ms = 0.67, Duty factor = $10 \cdot \log(1/\text{Duty cycle}) = 1.74 \text{ dB}$

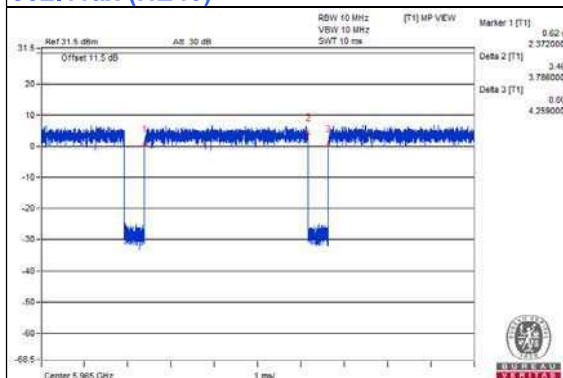
802.11a



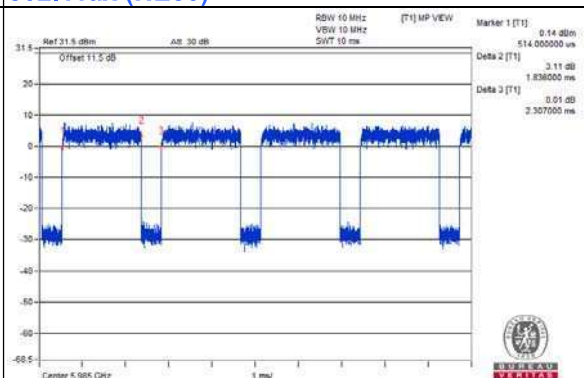
802.11ax (HE20)



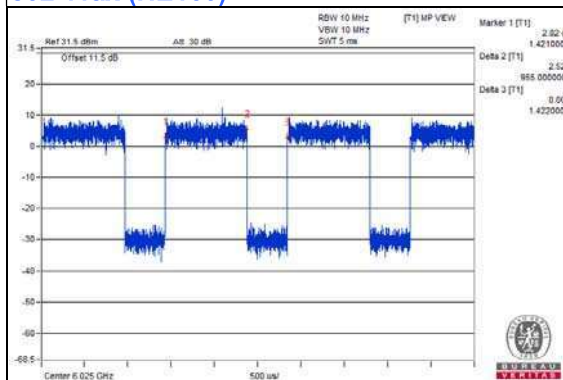
802.11ax (HE40)



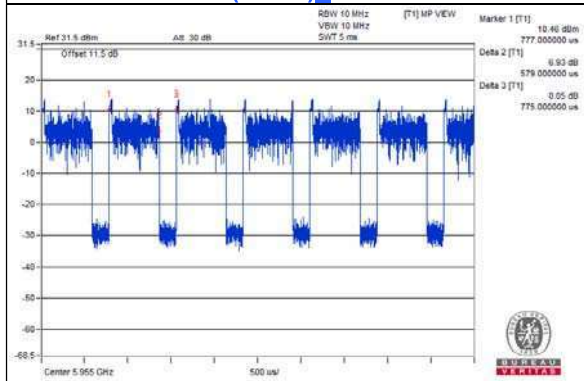
802.11ax (HE80)



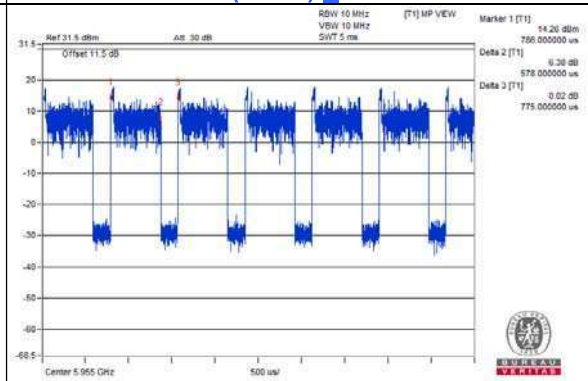
802.11ax (HE160)



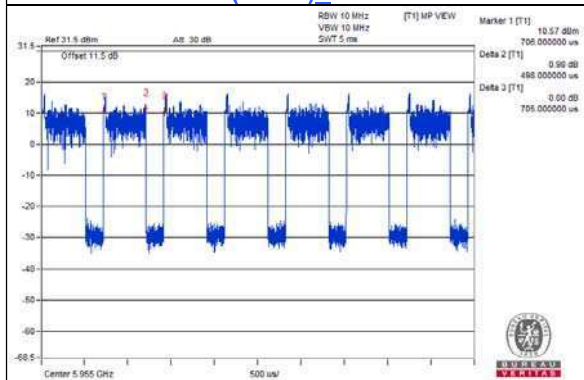
20MHz Preamble (RU26)_Chain 0



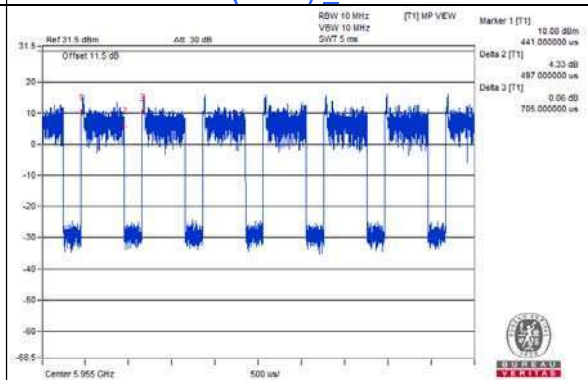
20MHz Preamble (RU26)_Chain 1



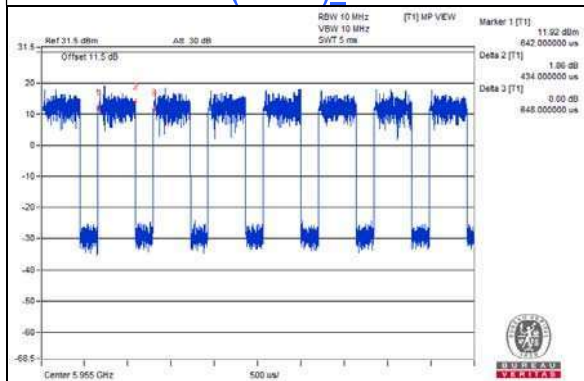
20MHz Preamble (RU52)_Chain 0



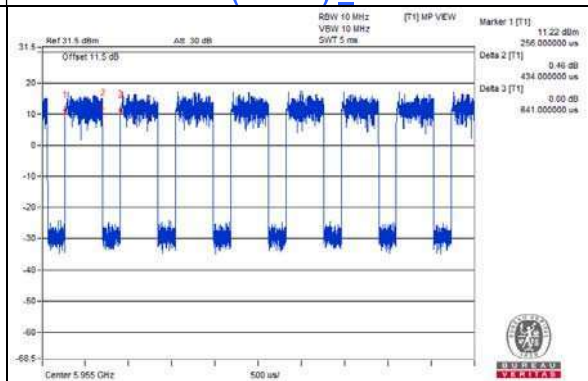
20MHz Preamble (RU52)_Chain 1



20MHz Preamble (RU106)_Chain 0



20MHz Preamble (RU106)_Chain 1



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	E5430	HYV4VY1	DoC	Provided by Lab
B.	Test Tool	MediaTek	MTK1849	NA	NA	Supplied by client
C.	Adapter	Dell	LA65NS2-01	NA	NA	Provided by Lab

Note:

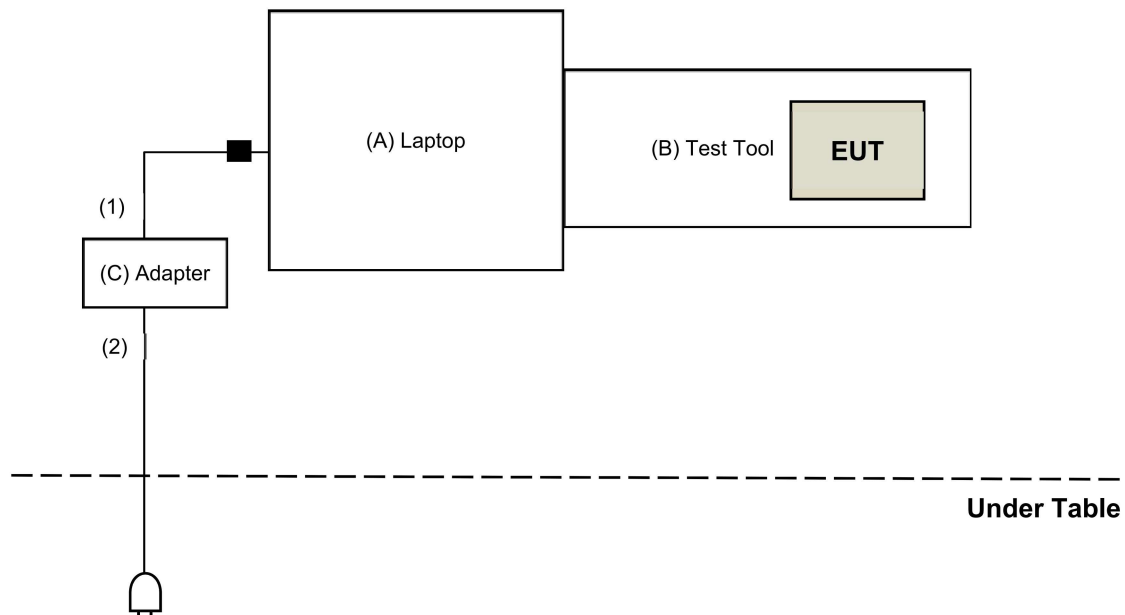
1. All power cords of the above support units are non-shielded (1.8m).

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

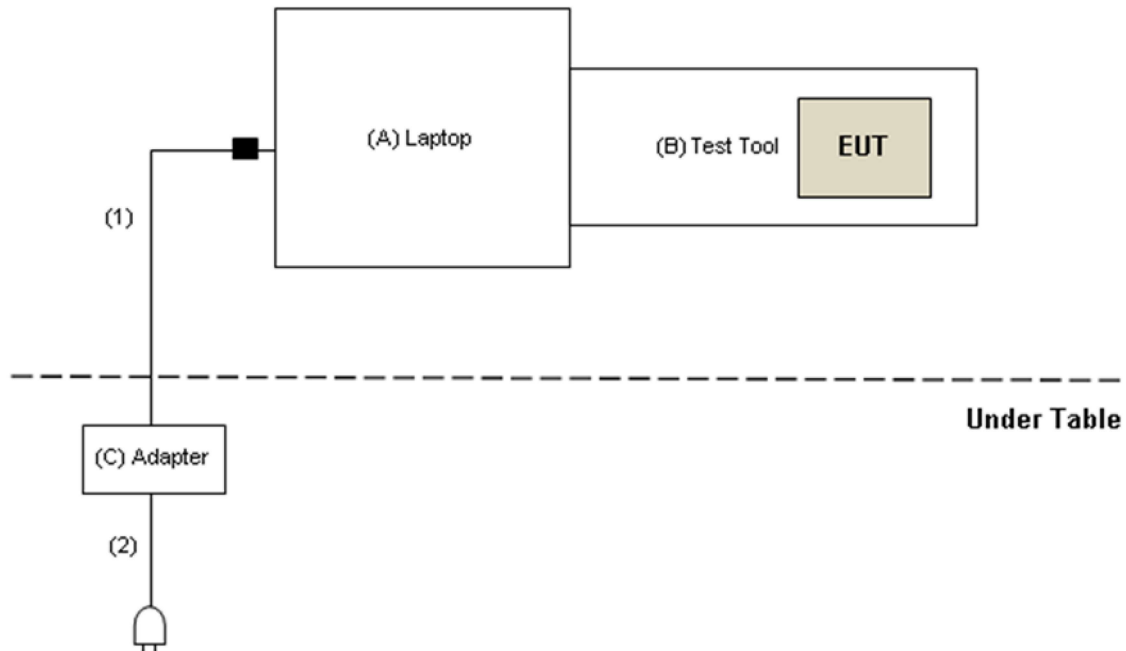
Note: The core(s) is(are) originally attached to the cable(s).

3.4.1 Configuration of System under Test

For AC Power Conducted Emission 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:

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:

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

4.1.2 Test Instruments

For PIFA Antenna:

For Radiated emission (below 1GHz) test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210202	Dec. 01, 2020	Nov. 30, 2021
Pre-Amplifier EMCI	EMC001340	980142	May 25, 2020	May 24, 2021
Loop Antenna Electro-Metrics	EM-6879	264	Mar. 05, 2021	Mar. 04, 2022
RF Cable	5D-FB	LOOPCAB-001	Jan. 07, 2021	Jan. 06, 2022
RF Cable	5D-FB	LOOPCAB-002	Jan. 07, 2021	Jan. 06, 2022
Pre-Amplifier EMCI	EMC330N	980701	Mar. 10, 2021	Mar. 09, 2022
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Nov. 06, 2020	Nov. 05, 2021
RF Cable	8D	966-4-1	Mar. 17, 2021	Mar. 16, 2022
RF Cable	8D	966-4-2	Mar. 17, 2021	Mar. 16, 2022
RF Cable	8D	966-4-3	Mar. 17, 2021	Mar. 16, 2022
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-03	Jan. 11, 2021	Jan. 10, 2022
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	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 966 Chamber No. 4.
3. Tested Date: Mar. 19, 2021

For PIFA Antenna:
For Bandedge test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210202	Dec. 01, 2020	Nov. 30, 2021
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Nov. 22, 2020	Nov. 21, 2021
Pre-Amplifier EMCI	EMC 12630 SE	980638	Apr. 08, 2020	Apr. 07, 2021
RF Cable	EMC104-SM-SM-1200	160922	Dec. 25, 2020	Dec. 24, 2021
RF Cable	EMC104-SM-SM-2000	180502	Apr. 29, 2020	Apr. 28, 2021
RF Cable	EMC104-SM-SM-6000	180418	Apr. 29, 2020	Apr. 28, 2021
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 11, 2021	Jan. 10, 2022
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 22, 2020	Nov. 21, 2021
RF Cable	EMC102-KM-KM-1200	160924	Jan. 11, 2021	Jan. 10, 2022
RF Cable	EMC-KM-KM-4000	200214	Mar. 10, 2021	Mar. 09, 2022
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	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 966 Chamber No. 4.
3. Tested Date: Mar. 16, 2021

For Dipole Antenna:
For Radiated emission (below 1GHz) & Radiated emission (RU mode) & Bandedge (RU mode) test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210202	Dec. 01, 2020	Nov. 30, 2021
Pre-Amplifier EMCI	EMC001340	980142	May 24, 2021	May 23, 2022
Loop Antenna Electro-Metrics	EM-6879	264	Mar. 05, 2021	Mar. 04, 2022
RF Cable	5D-FB	LOOPCAB-001	Jan. 07, 2021	Jan. 06, 2022
RF Cable	5D-FB	LOOPCAB-002	Jan. 07, 2021	Jan. 06, 2022
Pre-Amplifier EMCI	EMC330N	980701	Mar. 10, 2021	Mar. 09, 2022
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Nov. 06, 2020	Nov. 05, 2021
RF Cable	8D	966-4-1	Mar. 17, 2021	Mar. 16, 2022
RF Cable	8D	966-4-2	Mar. 17, 2021	Mar. 16, 2022
RF Cable	8D	966-4-3	Mar. 17, 2021	Mar. 16, 2022
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-03	Jan. 11, 2021	Jan. 10, 2022
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Nov. 22, 2020	Nov. 21, 2021
Pre-Amplifier EMCI	EMC 12630 SE	980638	Apr. 07, 2021	Apr. 06, 2022
RF Cable	EMC104-SM-SM-1200	160922	Dec. 25, 2020	Dec. 24, 2021
RF Cable	EMC104-SM-SM-2000	180502	Apr. 26, 2021	Apr. 25, 2022
RF Cable	EMC104-SM-SM-6000	180418	Apr. 26, 2021	Apr. 25, 2022
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 11, 2021	Jan. 10, 2022
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 22, 2020	Nov. 21, 2021
RF Cable	EMC102-KM-KM-1200	160924	Jan. 11, 2021	Jan. 10, 2022
RF Cable	EMC-KM-KM-4000	200214	Mar. 10, 2021	Mar. 09, 2022
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	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 966 Chamber No. 4.
3. Tested Date: May 26 to 27, 2021

For PIFA & Dipole Antenna:
For Radiated emission (above 1GHz) & Bandedge test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210202	Dec. 01, 2020	Nov. 30, 2021
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Nov. 22, 2020	Nov. 21, 2021
Pre-Amplifier EMCI	EMC 12630 SE	980638	Apr. 07, 2021	Apr. 06, 2022
RF Cable	EMC104-SM-SM-1200	160922	Dec. 25, 2020	Dec. 24, 2021
RF Cable	EMC104-SM-SM-2000	180502	Apr. 26, 2021	Apr. 25, 2022
RF Cable	EMC104-SM-SM-6000	180418	Apr. 26, 2021	Apr. 25, 2022
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 11, 2021	Jan. 10, 2022
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 22, 2020	Nov. 21, 2021
RF Cable	EMC102-KM-KM-1200	160924	Jan. 11, 2021	Jan. 10, 2022
RF Cable	EMC-KM-KM-4000	200214	Mar. 10, 2021	Mar. 09, 2022
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	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 966 Chamber No. 4.
3. Tested Date: May 05 to 19, 2021

For other test items:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	100964	May 29, 2020	May 28, 2021
Power meter Anritsu	ML2495A	1529002	July 22, 2020	July 21, 2021
Power sensor Anritsu	MA2411B	1339443	July 22, 2020	July 21, 2021
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 13, 2021	Apr. 12, 2022
DC Power Supply Topward	6603D	795558	NA	NA
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	Jan. 14, 2021	Jan. 13, 2022
True RMS Clamp Meter FLUKE	325	31130711WS	June 06, 2020	June 05, 2021
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: Apr. 15, 2021

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

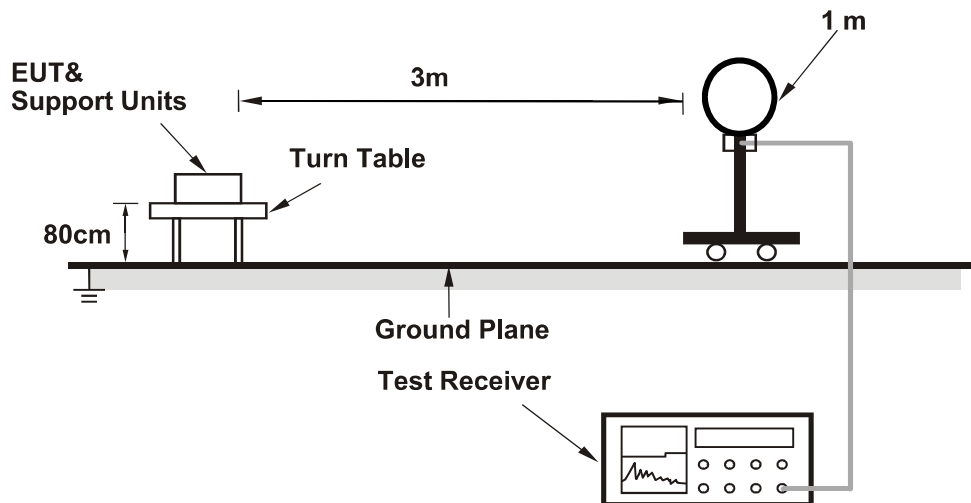
- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving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

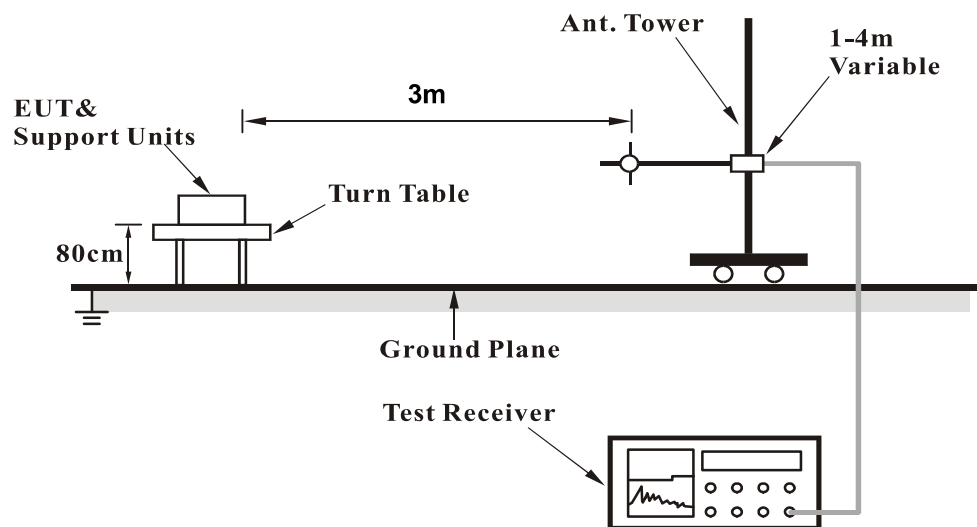
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
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

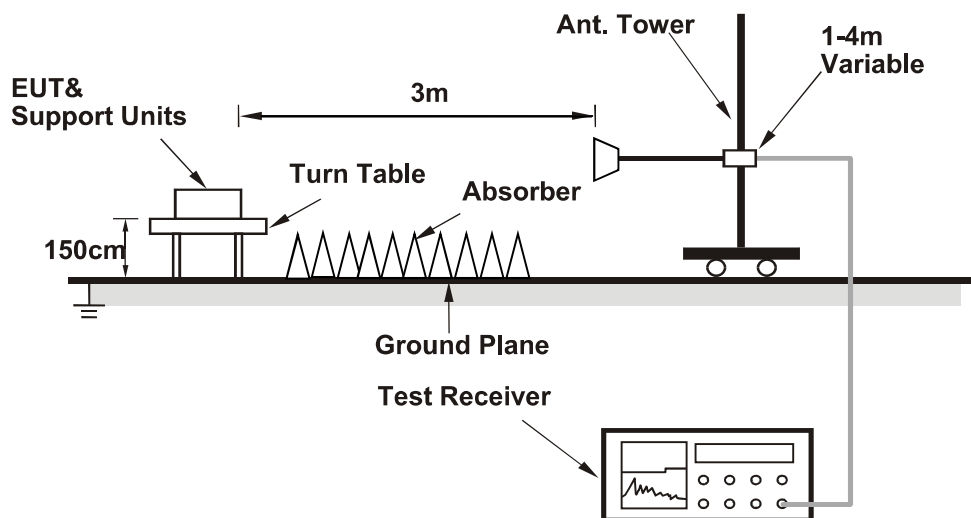
For Radiated emission below 30MHz



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 (MT7922 QAtool_7922_HQA_20210310) has been activated to set the EUT under transmission condition continuously.

4.1.6 Test Results (Mode 1)

Above 1GHz Data:

RF Mode	TX 802.11a 6G	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	63.2 PK	88.2	-25.0	2.05 H	95	61.4	1.8
2	#5925.00	53.8 AV	68.2	-14.4	2.05 H	95	52.0	1.8
3	*5955.00	117.3 PK			2.05 H	95	115.5	1.8
4	*5955.00	109.8 AV			2.05 H	95	108.0	1.8
5	11910.00	55.0 PK	74.0	-19.0	2.15 H	119	43.5	11.5
6	11910.00	44.8 AV	54.0	-9.2	2.15 H	119	33.3	11.5
7	17865.00	54.5 PK	74.0	-19.5	1.57 H	101	32.9	21.6
8	17865.00	44.3 AV	54.0	-9.7	1.57 H	101	22.7	21.6
9	23820.00	45.7 PK	74.0	-28.3	2.14 H	165	49.0	-3.3
10	23820.00	35.5 AV	54.0	-18.5	2.14 H	165	38.8	-3.3
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	#5925.00	68.8 PK	88.2	-19.4	2.35 V	92	67.0	1.8
2	#5925.00	56.7 AV	68.2	-11.5	2.35 V	92	54.9	1.8
3	*5955.00	118.2 PK			2.35 V	92	116.4	1.8
4	*5955.00	110.7 AV			2.35 V	92	108.9	1.8
5	11910.00	56.9 PK	74.0	-17.1	1.26 V	244	45.4	11.5
6	11910.00	45.4 AV	54.0	-8.6	1.26 V	244	33.9	11.5
7	17865.00	59.5 PK	74.0	-14.5	2.41 V	274	37.9	21.6
8	17865.00	47.6 AV	54.0	-6.4	2.41 V	274	26.0	21.6
9	23820.00	47.1 PK	74.0	-26.9	2.21 V	229	50.4	-3.3
10	23820.00	37.3 AV	54.0	-16.7	2.21 V	229	40.6	-3.3

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 802.11a 6G	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	116.9 PK			2.01 H	86	114.5	2.4
2	*6175.00	109.5 AV			2.01 H	86	107.1	2.4
3	12350.00	55.8 PK	74.0	-18.2	2.13 H	126	45.2	10.6
4	12350.00	45.6 AV	54.0	-8.4	2.13 H	126	35.0	10.6
5	18525.00	54.8 PK	74.0	-19.2	1.58 H	100	61.4	-6.6
6	18525.00	44.3 AV	54.0	-9.7	1.58 H	100	50.9	-6.6
7	#24700.00	45.9 PK	88.2	-42.3	2.13 H	157	48.0	-2.1
8	#24700.00	35.9 AV	68.2	-32.3	2.13 H	157	38.0	-2.1
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	118.3 PK			2.29 V	96	115.9	2.4
2	*6175.00	110.6 AV			2.29 V	96	108.2	2.4
3	12350.00	56.8 PK	74.0	-17.2	1.28 V	240	46.2	10.6
4	12350.00	45.7 AV	54.0	-8.3	1.28 V	240	35.1	10.6
5	18525.00	59.0 PK	74.0	-15.0	2.40 V	278	65.6	-6.6
6	18525.00	47.1 AV	54.0	-6.9	2.40 V	278	53.7	-6.6
7	#24700.00	47.1 PK	88.2	-41.1	2.18 V	225	49.2	-2.1
8	#24700.00	37.0 AV	68.2	-31.2	2.18 V	225	39.1	-2.1

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 802.11a 6G	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	117.6 PK			2.03 H	97	114.4	3.2
2	*6415.00	110.0 AV			2.03 H	97	106.8	3.2
3	#12830.00	55.1 PK	88.2	-33.1	2.14 H	122	44.3	10.8
4	#12830.00	44.9 AV	68.2	-23.3	2.14 H	122	34.1	10.8
5	19245.00	53.5 PK	74.0	-20.5	1.60 H	114	60.1	-6.6
6	19245.00	43.5 AV	54.0	-10.5	1.60 H	114	50.1	-6.6
7	#25660.00	45.1 PK	88.2	-43.1	2.05 H	163	46.4	-1.3
8	#25660.00	35.2 AV	68.2	-33.0	2.05 H	163	36.5	-1.3
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	*6415.00	117.7 PK			2.35 V	101	114.5	3.2
2	*6415.00	110.4 AV			2.35 V	101	107.2	3.2
3	#12830.00	56.8 PK	88.2	-31.4	1.26 V	259	46.0	10.8
4	#12830.00	45.9 AV	68.2	-22.3	1.26 V	259	35.1	10.8
5	19245.00	59.5 PK	74.0	-14.5	2.41 V	266	66.1	-6.6
6	19245.00	47.6 AV	54.0	-6.4	2.41 V	266	54.2	-6.6
7	#25660.00	47.2 PK	88.2	-41.0	2.14 V	231	48.5	-1.3
8	#25660.00	36.9 AV	68.2	-31.3	2.14 V	231	38.2	-1.3

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 802.11a 6G	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	117.3 PK			2.01 H	94	114.0	3.3
2	*6435.00	109.7 AV			2.01 H	94	106.4	3.3
3	#12870.00	55.0 PK	88.2	-33.2	2.13 H	121	44.3	10.7
4	#12870.00	45.3 AV	68.2	-22.9	2.13 H	121	34.6	10.7
5	19305.00	54.7 PK	74.0	-19.3	1.59 H	91	61.2	-6.5
6	19305.00	44.2 AV	54.0	-9.8	1.59 H	91	50.7	-6.5
7	#25740.00	46.2 PK	88.2	-42.0	2.12 H	170	47.5	-1.3
8	#25740.00	35.8 AV	68.2	-32.4	2.12 H	170	37.1	-1.3

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	*6435.00	118.3 PK			2.39 V	94	115.0	3.3
2	*6435.00	110.7 AV			2.39 V	94	107.4	3.3
3	#12870.00	57.0 PK	88.2	-31.2	1.27 V	249	46.3	10.7
4	#12870.00	45.7 AV	68.2	-22.5	1.27 V	249	35.0	10.7
5	19305.00	58.9 PK	74.0	-15.1	2.41 V	273	65.4	-6.5
6	19305.00	47.0 AV	54.0	-7.0	2.41 V	273	53.5	-6.5
7	#25740.00	46.9 PK	88.2	-41.3	2.17 V	215	48.2	-1.3
8	#25740.00	37.0 AV	68.2	-31.2	2.17 V	215	38.3	-1.3

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.