FCC Test Report (2.4GHz WLAN)

Report No.:	RFBARR-WTW-P21030485
FCC ID:	RAS-MT7922A22M
Test Model:	MT7922A22M
Received Date:	Mar. 12, 2021
Test Date:	Mar. 12 to May 17, 2021
Issued Date:	May 26, 2021
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

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
RFBARR-WTW-P21030485	Original release.	May 26, 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. 12 to May 17, 2021
Standards:	47 CFR FCC Part 15, Subpart C (Section 15.247) 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:** May 26, 2021

Phoenix Huang / Specialist

Approved by : , **Date:** May 26, 2021

Clark Lin / Technical Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
FCC Clause	Test Item	Result	Remarks
15.207	AC Power Conducted Emission	Pass	Meet the requirement of limit. Minimum passing margin is -13.65 dB at 0.15105 MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.1dB at 2390.00 MHz, 2483.50 MHz, 2484.28 MHz and 4874.00 MHz.
15.247(d)	Antenna Port Emission	Pass	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	Pass	Meet the requirement of limit.
15.247(b)	Conducted power	Pass	Meet the requirement of limit.
15.247(e)	Power Spectral Density	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is i-pex(MHF) not a standard connector.

Note:
1. For 2.4 GHz band compliance with rule 15.247(d) of the band-edge items, the test plots were recorded in Annex A.
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.9 dB
Conducted emissions	-	2.5 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.1 dB
	30MHz ~ 1GHz	5.5 dB
Radiated Emissions above 1 GHz	1GHz ~ 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 (2.4GHz WLAN)

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	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode and VHT20/40 in 2.4GHz mode 1024QAM for OFDMA in 11ax mode only
Modulation Technology	DSSS, OFDM, OFDMA
Transfer Rate	802.11b: up to 11 Mbps 802.11g: up to 54 Mbps 802.11n: up to 300 Mbps VHT20/40: up to 400 Mbps 802.11ax: up to 573.5 Mbps
Operating Frequency	2.412 ~ 2.472 GHz
Number of Channel	802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20): 13 802.11n (HT40), VHT40, 802.11ax (HE40): 9
Output Power	769.216 mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. There are Bluetooth and WLAN (2.4GHz & 5GHz) technology used for the EUT.
2. Simultaneously transmission condition.

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

3. 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	RFMTA340718EMLB302	3.18 4.92	2.4~2.4835 5.15~5.85	PIFA	i-pex(MHF)	200
2	Chain1	PSA	RFMTA340718EMLB302	3.18 4.92	2.4~2.4835 5.15~5.85	PIFA	i-pex(MHF)	200
3	Chain0	PSA	RFMTA311020EMMB301	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	RFMTA311020EMMB301	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
Note: Max. gain was selected for the final test.								

4. The EUT incorporates a MIMO function:

2.4GHz Band		
MODULATION MODE	**TX & RX CONFIGURATION**	
802.11b	2TX	2RX
802.11g	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
VHT20	2TX	2RX
VHT40	2TX	2RX
802.11ax (HE20)	2TX	2RX
802.11ax (HE40)	2TX	2RX
802.11ax (RU26/52/106/242/484)	2TX	2RX

Note:
1. The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz) and VHT mode for 20MHz (40MHz), therefore the manufacturer will control the power for 802.11n/VHT mode is the same as the 802.11ax or more lower than it and investigated worst case to representative mode in test report.
2. 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)

5. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.
6. 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

13 channels are provided for 802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	8	2447
2	2417	9	2452
3	2422	10	2457
4	2427	11	2462
5	2432	12	2467
6	2437	13	2472
7	2442		

9 channels are provided for 802.11n (HT40), VHT40, 802.11ax (HE40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
3	2422	8	2447
4	2427	9	2452
5	2432	10	2457
6	2437	11	2462
7	2442		

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where **RE≥1G:** Radiated Emission above 1GHz & Bandedge Measurement **RE<1G:** Radiated Emission below 1GHz

PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement

Note: The EUT's PIFA antenna had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-place.**

Radiated Emission Test (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	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter	RU Configuration
802.11b	1 to 13	1, 6, 11, 12, 13	DSSS	DBPSK	1Mb/s	-
802.11g	1 to 13	1, 6, 11, 12, 13	OFDM	BPSK	6Mb/s	-
802.11ax (HE20)	1 to 13	1, 6, 11, 12, 13	OFDMA	BPSK	MCS0	-
802.11ax (HE40)	3 to 11	3, 6, 9, 10, 11	OFDMA	BPSK	MCS0	-
802.11ax (RU26)	1 to 13	1, 11, 12, 13	OFDMA	BPSK	MCS0	26/0, 26/8, 26/8, 26/8
802.11ax (RU52)	1 to 13	6	OFDMA	BPSK	MCS0	52/37
802.11ax (RU106)	1 to 13	1, 11, 12, 13	OFDMA	BPSK	MCS0	106/53, 106/54, 106/54, 106/54

Radiated Emission Test (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	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11b	1 to 13	1	DSSS	DBPSK	1Mb/s

Power Line Conducted Emission Test:

☒ 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	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11b	1 to 13	1	DSSS	DBPSK	1Mb/s

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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE PARAMETER	RU Configuration
802.11b	1 to 13	1, 6, 11, 12, 13	DSSS	DBPSK	1Mb/s	-
802.11g	1 to 13	1, 6, 11, 12, 13	OFDM	BPSK	6Mb/s	-
VHT20 (output power only)	1 to 13	1, 6, 11, 12, 13	OFDM	BPSK	MCS0	-
VHT40 (output power only)	3 to 11	3, 6, 9, 10, 11	OFDM	BPSK	MCS0	-
802.11ax (HE20)	1 to 13	1, 6, 11, 12, 13	OFDMA	BPSK	MCS0	-
802.11ax (HE40)	3 to 11	3, 6, 9, 10, 11	OFDMA	BPSK	MCS0	-
802.11ax (RU26)	1 to 13	1, 11, 12, 13	OFDMA	BPSK	MCS0	26/0, 26/8, 26/8, 26/8
802.11ax (RU52)	1 to 13	6	OFDMA	BPSK	MCS0	52/37
802.11ax (RU106)	1 to 13	1, 11, 12, 13	OFDMA	BPSK	MCS0	106/53, 106/54, 106/54, 106/54

Test Condition:

Applicable to	Environmental Conditions	Input Power (System)	Tested By
RE≥1G	25deg. C, 66%RH, 25deg. C, 75%RH, 25deg. C, 65%RH	120Vac, 60Hz	Sampson Chen, Sampson Chen, Carter Lin
RE<1G	22deg. C, 62%RH	120Vac, 60Hz	Sampson Chen
PLC	25deg. C, 75%RH	120Vac, 60Hz	Sampson Chen
APCM	21deg. C, 60%RH	120Vac, 60Hz	Kevin.Ko

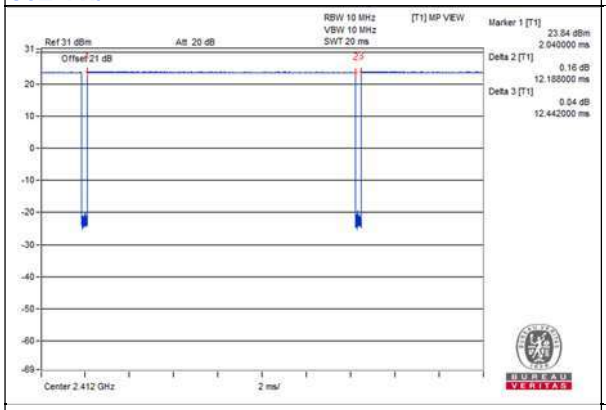
3.3 Duty Cycle of Test Signal

If duty cycle of test signal is ≥ 98 %, duty factor is not required.
If duty cycle of test signal is < 98%, duty factor shall be considered.

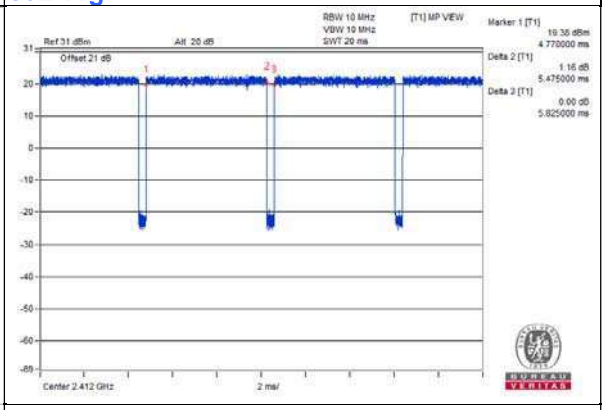
For Legacy mode:

802.11b: Duty cycle = 12.188 ms/12.442 ms = 0.98
802.11g: Duty cycle = 5.475 ms/5.825 ms = 0.94, Duty factor = 10 * log (1/Duty cycle) = 0.27 dB
802.11ax (HE20): Duty cycle = 3.783 ms/4.263 ms = 0.887, Duty factor = 10 * log (1/Duty cycle) = 0.52 dB
802.11ax (HE40): Duty cycle = 3.785 ms/4.26 ms = 0.888, Duty factor = 10 * log (1/Duty cycle) = 0.51 dB

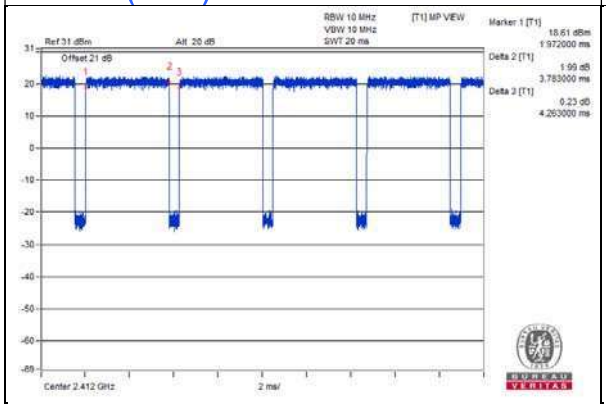
802.11b



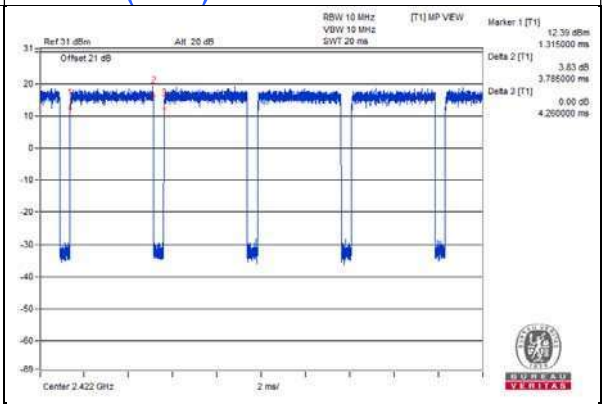
802.11g



802.11ax (HE20)

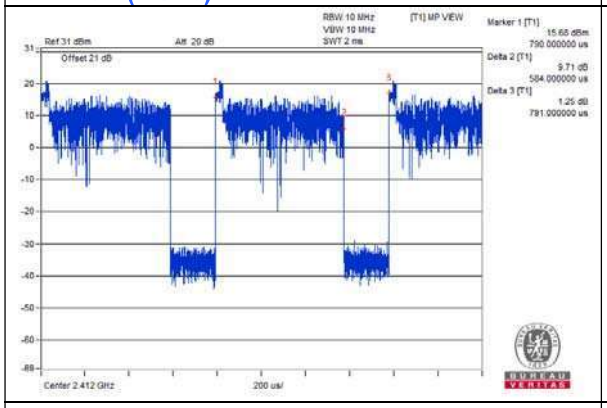
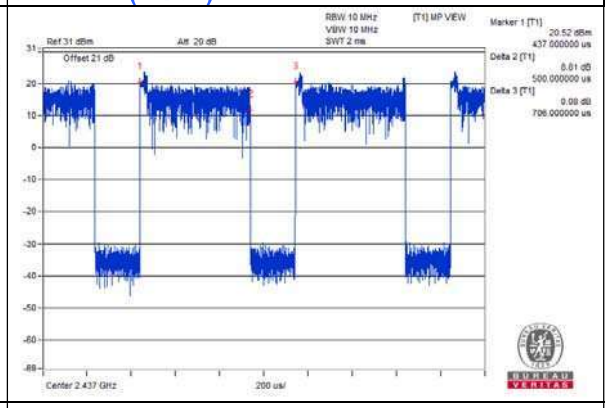
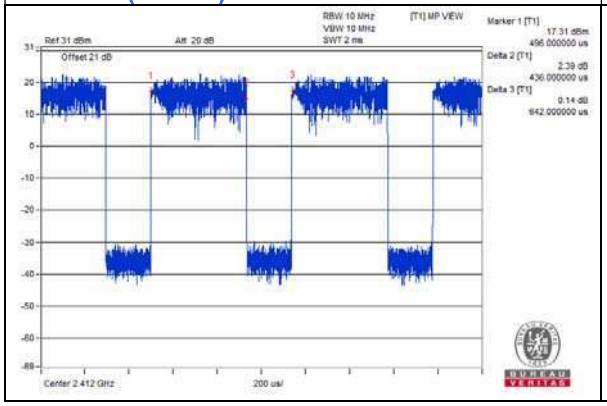


802.11ax (HE40)



For RU mode:
Duty cycle of test signal is < 98%, duty factor shall be considered.

802.11ax (RU26): Duty cycle = 0.584 ms/0.791 ms = 0.738, Duty factor = 10 * log (1/Duty cycle) = 1.32 dB
802.11ax (RU52): Duty cycle = 0.5 ms/0.706 ms = 0.708, Duty factor = 10 * log (1/Duty cycle) = 1.5 dB
802.11ax (RU106): Duty cycle = 0.436 ms/0.642 ms = 0.679, Duty factor = 10 * log (1/Duty cycle) = 1.68 dB

802.11ax (RU26)	802.11ax (RU52)
	
802.11ax (RU106)	
	

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

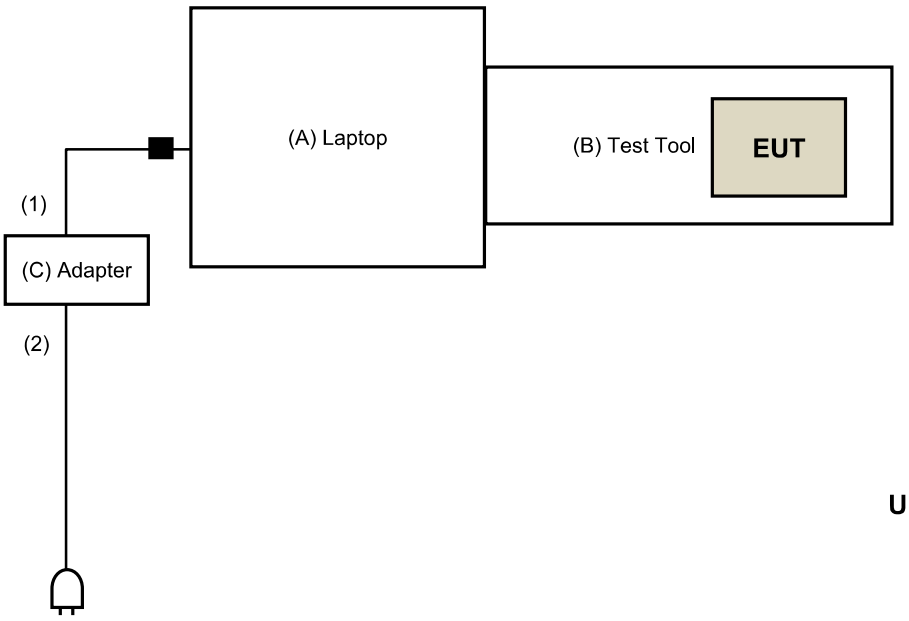
Note:
1. All power cords of the above support units are non-shielded (1.8m).

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).

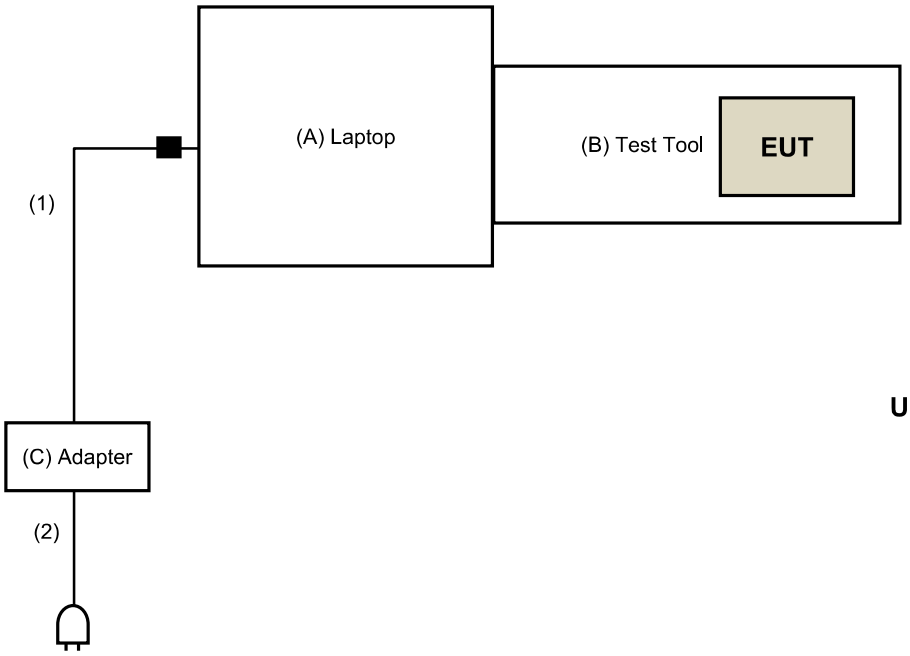
3.4.1 Configuration of System under Test

For AC Power Conducted Emission test:



Under Table

For Radiated Emission test:



Under Table

3.5 General Description of Applied Standards and References

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 C (15.247)
ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

References Test Guidance:
KDB 558074 D01 15.247 Meas Guidance v05r02
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. Other emissions shall be at least 20dB below the highest level of the desired power:

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.

4.1.2 Test Instruments

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 Bandedge of legacy mode test: (Low & High channel)

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. 12, 2021

For Radiated Emission (Above 1GHz) 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 13 to 17, 2021

For other 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. 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: Apr. 20, 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
10dB Attenuator Woken	MDCS18N-10	MDCS18N-10-01	Apr. 13, 2021	Apr. 12, 2022
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. 22, 2021

4.1.3 Test Procedures

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 and average detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

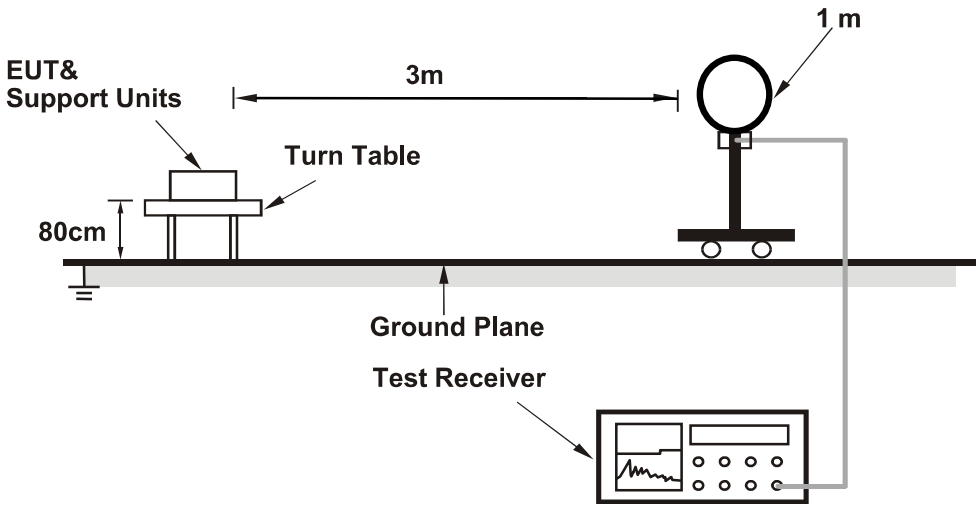
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

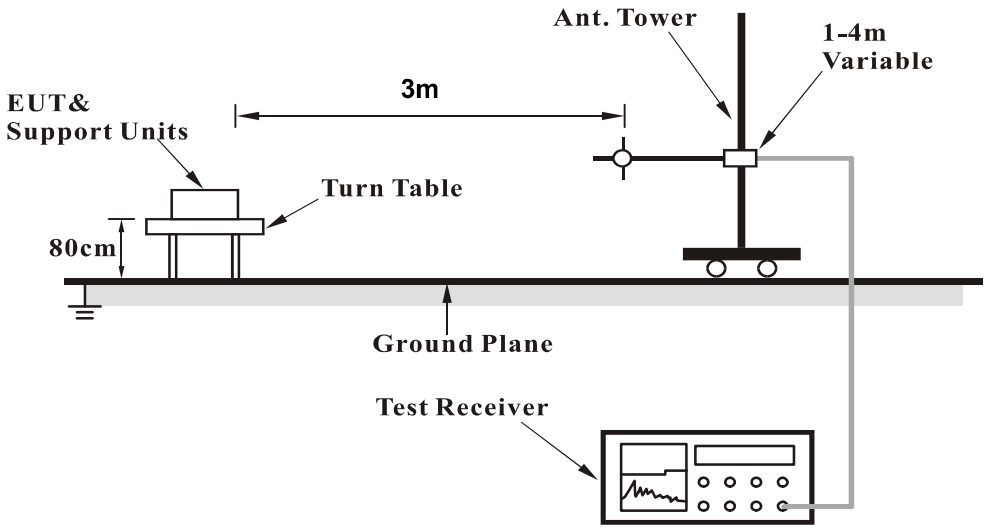
No deviation.

4.1.5 Test Setup

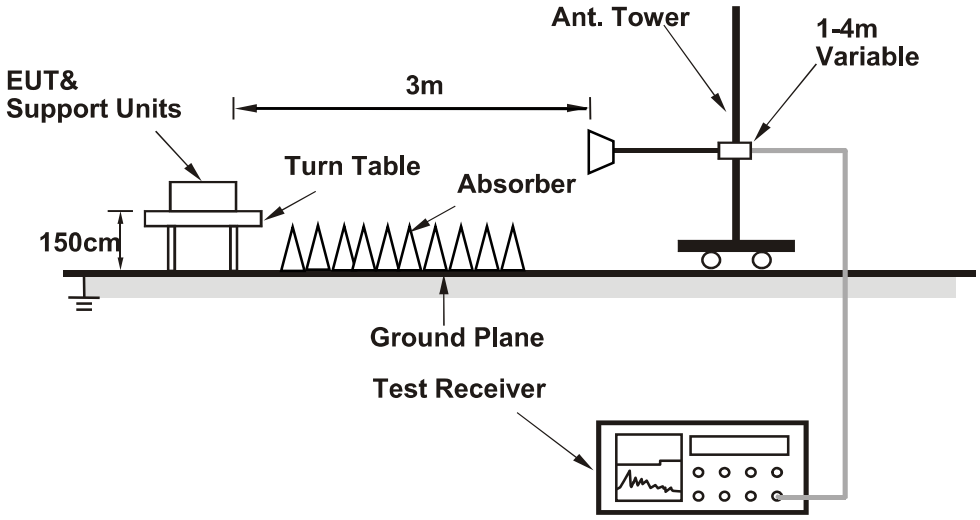
For Radiated emission below 30MHz



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).

4.1.6 EUT Operating Conditions

a. Placed the EUT on the testing table.
b. Controlling software (MT7922 QAtool_7922_HQA_20210310) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz Data:

RF Mode	TX 802.11b	Channel	CH 1：2412 MHz
Frequency Range	1GHz ~ 25GHz	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	2390.00	59.4 PK	74.0	-14.6	2.66 H	60	63.7	-4.3
2	2390.00	53.3 AV	54.0	-0.7	2.66 H	60	57.6	-4.3
3	*2412.00	117.4 PK			2.66 H	60	121.7	-4.3
4	*2412.00	115.2 AV			2.66 H	60	119.5	-4.3
5	4824.00	48.6 PK	74.0	-25.4	2.67 H	271	48.1	0.5
6	4824.00	48.2 AV	54.0	-5.8	2.67 H	271	47.7	0.5
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	2390.00	58.6 PK	74.0	-15.4	1.16 V	274	62.9	-4.3
2	2390.00	50.9 AV	54.0	-3.1	1.16 V	274	55.2	-4.3
3	*2412.00	114.9 PK			1.16 V	274	119.2	-4.3
4	*2412.00	112.9 AV			1.16 V	274	117.2	-4.3
5	4824.00	55.0 PK	74.0	-19.0	1.31 V	210	54.5	0.5
6	4824.00	53.3 AV	54.0	-0.7	1.31 V	210	52.8	0.5

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.

RF Mode	TX 802.11b	Channel	CH 6：2437 MHz
Frequency Range	1GHz ~ 25GHz	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	2390.00	60.7 PK	74.0	-13.3	2.69 H	64	65.0	-4.3
2	2390.00	49.5 AV	54.0	-4.5	2.69 H	64	53.8	-4.3
3	*2437.00	117.1 PK			2.69 H	64	121.4	-4.3
4	*2437.00	115.1 AV			2.69 H	64	119.4	-4.3
5	2483.50	61.0 PK	74.0	-13.0	2.69 H	64	65.4	-4.4
6	2483.50	50.0 AV	54.0	-4.0	2.69 H	64	54.4	-4.4
7	4874.00	49.2 PK	74.0	-24.8	2.62 H	277	48.7	0.5
8	4874.00	48.7 AV	54.0	-5.3	2.62 H	277	48.2	0.5
9	7311.00	45.8 PK	74.0	-28.2	1.82 H	52	39.0	6.8
10	7311.00	41.2 AV	54.0	-12.8	1.82 H	52	34.4	6.8
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	2390.00	60.6 PK	74.0	-13.4	1.18 V	282	64.9	-4.3
2	2390.00	49.5 AV	54.0	-4.5	1.18 V	282	53.8	-4.3
3	*2437.00	115.2 PK			1.18 V	282	119.5	-4.3
4	*2437.00	113.4 AV			1.18 V	282	117.7	-4.3
5	2483.50	60.7 PK	74.0	-13.3	1.18 V	282	65.1	-4.4
6	2483.50	49.9 AV	54.0	-4.1	1.18 V	282	54.3	-4.4
7	4874.00	54.4 PK	74.0	-19.6	1.37 V	217	53.9	0.5
8	**4874.00**	**53.9 AV**	**54.0**	**-0.1**	**1.37 V**	**217**	**53.4**	**0.5**
9	7311.00	46.6 PK	74.0	-27.4	1.14 V	37	39.8	6.8
10	7311.00	41.5 AV	54.0	-12.5	1.14 V	37	34.7	6.8

Remarks:

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

RF Mode	TX 802.11b	Channel	CH 11 : 2462 MHz
Frequency Range	1GHz ~ 25GHz	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	*2462.00	115.8 PK			2.83 H	243	120.1	-4.3
2	*2462.00	113.9 AV			2.83 H	243	118.2	-4.3
3	2483.50	59.6 PK	74.0	-14.4	2.83 H	243	64.0	-4.4
4	2483.50	53.7 AV	54.0	-0.3	2.83 H	243	58.1	-4.4
5	4924.00	47.3 PK	74.0	-26.7	2.63 H	280	46.6	0.7
6	4924.00	46.0 AV	54.0	-8.0	2.63 H	280	45.3	0.7
7	7386.00	44.8 PK	74.0	-29.2	1.81 H	68	37.6	7.2
8	7386.00	40.2 AV	54.0	-13.8	1.81 H	68	33.0	7.2
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	*2462.00	112.9 PK			1.21 V	271	117.2	-4.3
2	*2462.00	110.9 AV			1.21 V	271	115.2	-4.3
3	2483.50	55.7 PK	74.0	-18.3	1.21 V	271	60.1	-4.4
4	2483.50	45.9 AV	54.0	-8.1	1.21 V	271	50.3	-4.4
5	4924.00	52.6 PK	74.0	-21.4	1.40 V	219	51.9	0.7
6	4924.00	52.3 AV	54.0	-1.7	1.40 V	219	51.6	0.7
7	7386.00	44.5 PK	74.0	-29.5	1.11 V	47	37.3	7.2
8	7386.00	40.1 AV	54.0	-13.9	1.11 V	47	32.9	7.2

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.

RF Mode	TX 802.11b	Channel	CH 12：2467 MHz
Frequency Range	1GHz ~ 25GHz	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	*2467.00	112.9 PK			2.82 H	242	117.2	-4.3
2	*2467.00	111.0 AV			2.82 H	242	115.3	-4.3
3	2483.50	60.7 PK	74.0	-13.3	2.82 H	242	65.1	-4.4
4	**2483.50**	**53.9 AV**	**54.0**	**-0.1**	**2.82 H**	**242**	**58.3**	**-4.4**
5	4934.00	47.8 PK	74.0	-26.2	2.60 H	296	47.0	0.8
6	4934.00	46.4 AV	54.0	-7.6	2.60 H	296	45.6	0.8
7	7401.00	45.1 PK	74.0	-28.9	1.81 H	54	37.8	7.3
8	7401.00	40.5 AV	54.0	-13.5	1.81 H	54	33.2	7.3
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	*2467.00	109.7 PK			1.17 V	287	114.0	-4.3
2	*2467.00	108.5 AV			1.17 V	287	112.8	-4.3
3	2484.77	56.7 PK	74.0	-17.3	1.17 V	287	61.1	-4.4
4	2484.77	49.5 AV	54.0	-4.5	1.17 V	287	53.9	-4.4
5	4934.00	50.0 PK	74.0	-24.0	1.40 V	229	49.2	0.8
6	4934.00	49.8 AV	54.0	-4.2	1.40 V	229	49.0	0.8
7	7401.00	44.7 PK	74.0	-29.3	1.10 V	62	37.4	7.3
8	7401.00	40.4 AV	54.0	-13.6	1.10 V	62	33.1	7.3

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.

RF Mode	TX 802.11b	Channel	CH 13：2472 MHz
Frequency Range	1GHz ~ 25GHz	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	*2472.00	111.5 PK			2.25 H	41	115.8	-4.3
2	*2472.00	109.2 AV			2.25 H	41	113.5	-4.3
3	2487.68	59.1 PK	74.0	-14.9	2.25 H	41	63.5	-4.4
4	2487.68	53.2 AV	54.0	-0.8	2.25 H	41	57.6	-4.4
5	4944.00	47.5 PK	74.0	-26.5	2.67 H	265	46.7	0.8
6	4944.00	46.3 AV	54.0	-7.7	2.67 H	265	45.5	0.8
7	7416.00	45.1 PK	74.0	-28.9	1.79 H	83	37.8	7.3
8	7416.00	40.3 AV	54.0	-13.7	1.79 H	83	33.0	7.3
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	*2472.00	108.7 PK			1.11 V	284	113.0	-4.3
2	*2472.00	106.5 AV			1.11 V	284	110.8	-4.3
3	2486.73	59.4 PK	74.0	-14.6	1.11 V	284	63.8	-4.4
4	2486.73	52.5 AV	54.0	-1.5	1.11 V	284	56.9	-4.4
5	4944.00	50.9 PK	74.0	-23.1	1.35 V	233	50.1	0.8
6	4944.00	50.1 AV	54.0	-3.9	1.35 V	233	49.3	0.8
7	7416.00	44.5 PK	74.0	-29.5	1.09 V	62	37.2	7.3
8	7416.00	40.5 AV	54.0	-13.5	1.09 V	62	33.2	7.3

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.

RF Mode	TX 802.11g	Channel	CH 1：2412 MHz
Frequency Range	1GHz ~ 25GHz	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	2388.96	66.3 PK	74.0	-7.7	2.38 H	69	70.5	-4.2
2	2388.96	53.1 AV	54.0	-0.9	2.38 H	69	57.3	-4.2
3	*2412.00	115.3 PK			2.38 H	69	119.6	-4.3
4	*2412.00	107.2 AV			2.38 H	69	111.5	-4.3
5	4824.00	47.3 PK	74.0	-26.7	2.62 H	261	46.8	0.5
6	4824.00	46.5 AV	54.0	-7.5	2.62 H	261	46.0	0.5
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	2387.86	61.2 PK	74.0	-12.8	1.12 V	266	65.4	-4.2
2	2387.86	49.1 AV	54.0	-4.9	1.12 V	266	53.3	-4.2
3	*2412.00	112.8 PK			1.12 V	266	117.1	-4.3
4	*2412.00	104.7 AV			1.12 V	266	109.0	-4.3
5	4824.00	47.2 PK	74.0	-26.8	1.35 V	242	46.7	0.5
6	4824.00	46.2 AV	54.0	-7.8	1.35 V	242	45.7	0.5

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.

RF Mode	TX 802.11g	Channel	CH 6：2437 MHz
Frequency Range	1GHz ~ 25GHz	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	2390.00	64.4 PK	74.0	-9.6	2.48 H	229	68.7	-4.3
2	2390.00	53.1 AV	54.0	-0.9	2.48 H	229	57.4	-4.3
3	*2437.00	119.4 PK			2.48 H	229	123.7	-4.3
4	*2437.00	111.2 AV			2.48 H	229	115.5	-4.3
5	2483.50	68.2 PK	74.0	-5.8	2.48 H	229	72.6	-4.4
6	2483.50	50.4 AV	54.0	-3.6	2.48 H	229	54.8	-4.4
7	4874.00	47.3 PK	74.0	-26.7	2.66 H	256	46.8	0.5
8	4874.00	46.3 AV	54.0	-7.7	2.66 H	256	45.8	0.5
9	7311.00	45.3 PK	74.0	-28.7	1.76 H	82	38.5	6.8
10	7311.00	40.3 AV	54.0	-13.7	1.76 H	82	33.5	6.8
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	2390.00	60.9 PK	74.0	-13.1	1.15 V	278	65.2	-4.3
2	2390.00	50.0 AV	54.0	-4.0	1.15 V	278	54.3	-4.3
3	*2437.00	116.8 PK			1.15 V	278	121.1	-4.3
4	*2437.00	108.3 AV			1.15 V	278	112.6	-4.3
5	2483.50	60.7 PK	74.0	-13.3	1.15 V	278	65.1	-4.4
6	2483.50	49.6 AV	54.0	-4.4	1.15 V	278	54.0	-4.4
7	4874.00	47.5 PK	74.0	-26.5	1.34 V	239	47.0	0.5
8	4874.00	46.4 AV	54.0	-7.6	1.34 V	239	45.9	0.5
9	7311.00	44.9 PK	74.0	-29.1	1.04 V	65	38.1	6.8
10	7311.00	40.1 AV	54.0	-13.9	1.04 V	65	33.3	6.8

Remarks:

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

RF Mode	TX 802.11g	Channel	CH 11：2462 MHz
Frequency Range	1GHz ~ 25GHz	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	*2462.00	116.2 PK			2.83 H	243	120.5	-4.3
2	*2462.00	107.2 AV			2.83 H	243	111.5	-4.3
3	2483.50	66.5 PK	74.0	-7.5	2.83 H	243	70.9	-4.4
4	2483.50	53.4 AV	54.0	-0.6	2.83 H	243	57.8	-4.4
5	4924.00	48.0 PK	74.0	-26.0	2.66 H	267	47.3	0.7
6	4924.00	46.6 AV	54.0	-7.4	2.66 H	267	45.9	0.7
7	7386.00	44.8 PK	74.0	-29.2	1.74 H	92	37.6	7.2
8	7386.00	40.2 AV	54.0	-13.8	1.74 H	92	33.0	7.2
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	*2462.00	113.2 PK			1.15 V	288	117.5	-4.3
2	*2462.00	104.8 AV			1.15 V	288	109.1	-4.3
3	2484.00	58.7 PK	74.0	-15.3	1.15 V	288	63.1	-4.4
4	2484.00	47.9 AV	54.0	-6.1	1.15 V	288	52.3	-4.4
5	4924.00	47.3 PK	74.0	-26.7	1.34 V	246	46.6	0.7
6	4924.00	46.2 AV	54.0	-7.8	1.34 V	246	45.5	0.7
7	7386.00	44.6 PK	74.0	-29.4	1.10 V	69	37.4	7.2
8	7386.00	39.8 AV	54.0	-14.2	1.10 V	69	32.6	7.2

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.

RF Mode	TX 802.11g	Channel	CH 12：2467 MHz
Frequency Range	1GHz ~ 25GHz	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	*2467.00	114.4 PK			2.78 H	243	118.7	-4.3
2	*2467.00	105.1 AV			2.78 H	243	109.4	-4.3
3	2483.50	65.0 PK	74.0	-9.0	2.78 H	243	69.4	-4.4
4	2483.50	53.8 AV	54.0	-0.2	2.78 H	243	58.2	-4.4
5	4934.00	47.3 PK	74.0	-26.7	2.62 H	269	46.5	0.8
6	4934.00	46.2 AV	54.0	-7.8	2.62 H	269	45.4	0.8
7	7401.00	45.4 PK	74.0	-28.6	1.74 H	77	38.1	7.3
8	7401.00	40.7 AV	54.0	-13.3	1.74 H	77	33.4	7.3
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	*2467.00	110.2 PK			1.11 V	279	114.5	-4.3
2	*2467.00	102.9 AV			1.11 V	279	107.2	-4.3
3	2483.50	60.3 PK	74.0	-13.7	1.11 V	279	64.7	-4.4
4	2483.50	49.6 AV	54.0	-4.4	1.11 V	279	54.0	-4.4
5	4934.00	47.7 PK	74.0	-26.3	1.40 V	231	46.9	0.8
6	4934.00	46.7 AV	54.0	-7.3	1.40 V	231	45.9	0.8
7	7401.00	44.8 PK	74.0	-29.2	1.05 V	53	37.5	7.3
8	7401.00	39.7 AV	54.0	-14.3	1.05 V	53	32.4	7.3

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.

RF Mode	TX 802.11g	Channel	CH 13：2472 MHz
Frequency Range	1GHz ~ 25GHz	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	*2472.00	109.6 PK			2.59 H	67	113.9	-4.3
2	*2472.00	101.5 AV			2.59 H	67	105.8	-4.3
3	2485.18	63.9 PK	74.0	-10.1	2.59 H	67	68.3	-4.4
4	2485.18	53.6 AV	54.0	-0.4	2.59 H	67	58.0	-4.4
5	4944.00	47.2 PK	74.0	-26.8	2.71 H	279	46.4	0.8
6	4944.00	46.2 AV	54.0	-7.8	2.71 H	279	45.4	0.8
7	7416.00	44.8 PK	74.0	-29.2	1.83 H	89	37.5	7.3
8	7416.00	40.2 AV	54.0	-13.8	1.83 H	89	32.9	7.3
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	*2472.00	106.6 PK			1.10 V	270	110.9	-4.3
2	*2472.00	98.9 AV			1.10 V	270	103.2	-4.3
3	2484.23	61.9 PK	74.0	-12.1	1.10 V	270	66.3	-4.4
4	2484.23	52.1 AV	54.0	-1.9	1.10 V	270	56.5	-4.4
5	4944.00	47.4 PK	74.0	-26.6	1.34 V	253	46.6	0.8
6	4944.00	46.6 AV	54.0	-7.4	1.34 V	253	45.8	0.8
7	7416.00	44.1 PK	74.0	-29.9	1.07 V	58	36.8	7.3
8	7416.00	39.6 AV	54.0	-14.4	1.07 V	58	32.3	7.3

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.

RF Mode	TX 802.11ax (HE20)	Channel	CH 1：2412 MHz
Frequency Range	1GHz ~ 25GHz	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	2390.00	66.7 PK	74.0	-7.3	2.87 H	250	71.0	-4.3
2	2390.00	53.7 AV	54.0	-0.3	2.87 H	250	58.0	-4.3
3	*2412.00	118.0 PK			2.87 H	250	122.3	-4.3
4	*2412.00	107.4 AV			2.87 H	250	111.7	-4.3
5	4824.00	47.4 PK	74.0	-26.6	2.70 H	266	46.9	0.5
6	4824.00	46.3 AV	54.0	-7.7	2.70 H	266	45.8	0.5
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	2390.00	63.3 PK	74.0	-10.7	1.17 V	285	67.6	-4.3
2	2390.00	50.6 AV	54.0	-3.4	1.17 V	285	54.9	-4.3
3	*2412.00	116.1 PK			1.17 V	285	120.4	-4.3
4	*2412.00	104.6 AV			1.17 V	285	108.9	-4.3
5	4824.00	47.8 PK	74.0	-26.2	1.39 V	246	47.3	0.5
6	4824.00	46.9 AV	54.0	-7.1	1.39 V	246	46.4	0.5

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.

RF Mode	TX 802.11ax (HE20)	Channel	CH 6：2437 MHz
Frequency Range	1GHz ~ 25GHz	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	2390.00	66.0 PK	74.0	-8.0	2.77 H	250	70.3	-4.3
2	2390.00	53.3 AV	54.0	-0.7	2.77 H	250	57.6	-4.3
3	*2437.00	119.7 PK			2.77 H	250	124.0	-4.3
4	*2437.00	109.9 AV			2.77 H	250	114.2	-4.3
5	2483.50	67.6 PK	74.0	-6.4	2.77 H	250	72.0	-4.4
6	2483.50	51.5 AV	54.0	-2.5	2.77 H	250	55.9	-4.4
7	4874.00	47.6 PK	74.0	-26.4	2.70 H	261	47.1	0.5
8	4874.00	46.6 AV	54.0	-7.4	2.70 H	261	46.1	0.5
9	7311.00	45.3 PK	74.0	-28.7	1.75 H	92	38.5	6.8
10	7311.00	40.5 AV	54.0	-13.5	1.75 H	92	33.7	6.8
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	2390.00	61.2 PK	74.0	-12.8	1.14 V	291	65.5	-4.3
2	2390.00	50.1 AV	54.0	-3.9	1.14 V	291	54.4	-4.3
3	*2437.00	116.3 PK			1.14 V	291	120.6	-4.3
4	*2437.00	106.4 AV			1.14 V	291	110.7	-4.3
5	2483.50	61.1 PK	74.0	-12.9	1.14 V	291	65.5	-4.4
6	2483.50	49.9 AV	54.0	-4.1	1.14 V	291	54.3	-4.4
7	4874.00	47.9 PK	74.0	-26.1	1.40 V	240	47.4	0.5
8	4874.00	46.8 AV	54.0	-7.2	1.40 V	240	46.3	0.5
9	7311.00	45.1 PK	74.0	-28.9	1.05 V	62	38.3	6.8
10	7311.00	40.5 AV	54.0	-13.5	1.05 V	62	33.7	6.8

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 11：2462 MHz
Frequency Range	1GHz ~ 25GHz	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	*2462.00	116.1 PK			2.84 H	244	120.4	-4.3
2	*2462.00	106.4 AV			2.84 H	244	110.7	-4.3
3	2483.50	65.3 PK	74.0	-8.7	2.84 H	244	69.7	-4.4
4	2483.50	53.7 AV	54.0	-0.3	2.84 H	244	58.1	-4.4
5	4924.00	47.2 PK	74.0	-26.8	2.66 H	268	46.5	0.7
6	4924.00	46.1 AV	54.0	-7.9	2.66 H	268	45.4	0.7
7	7386.00	45.3 PK	74.0	-28.7	1.73 H	76	38.1	7.2
8	7386.00	40.7 AV	54.0	-13.3	1.73 H	76	33.5	7.2
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	*2462.00	114.1 PK			1.13 V	301	118.4	-4.3
2	*2462.00	103.3 AV			1.13 V	301	107.6	-4.3
3	2483.50	64.5 PK	74.0	-9.5	1.13 V	301	68.9	-4.4
4	2483.50	50.7 AV	54.0	-3.3	1.13 V	301	55.1	-4.4
5	4924.00	48.1 PK	74.0	-25.9	1.33 V	225	47.4	0.7
6	4924.00	46.8 AV	54.0	-7.2	1.33 V	225	46.1	0.7
7	7386.00	44.1 PK	74.0	-29.9	1.00 V	50	36.9	7.2
8	7386.00	39.6 AV	54.0	-14.4	1.00 V	50	32.4	7.2

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.

RF Mode	TX 802.11ax (HE20)	Channel	CH 12：2467 MHz
Frequency Range	1GHz ~ 25GHz	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	*2467.00	114.3 PK			2.82 H	236	118.6	-4.3
2	*2467.00	104.5 AV			2.82 H	236	108.8	-4.3
3	2485.86	63.6 PK	74.0	-10.4	2.82 H	236	68.0	-4.4
4	2485.86	53.7 AV	54.0	-0.3	2.82 H	236	58.1	-4.4
5	4934.00	46.7 PK	74.0	-27.3	2.61 H	257	45.9	0.8
6	4934.00	45.8 AV	54.0	-8.2	2.61 H	257	45.0	0.8
7	7401.00	45.6 PK	74.0	-28.4	1.81 H	71	38.3	7.3
8	7401.00	40.6 AV	54.0	-13.4	1.81 H	71	33.3	7.3
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	*2467.00	111.9 PK			1.20 V	299	116.2	-4.3
2	*2467.00	100.7 AV			1.20 V	299	105.0	-4.3
3	2487.21	61.5 PK	74.0	-12.5	1.20 V	299	65.9	-4.4
4	2487.21	49.3 AV	54.0	-4.7	1.20 V	299	53.7	-4.4
5	4934.00	47.4 PK	74.0	-26.6	1.35 V	228	46.6	0.8
6	4934.00	46.6 AV	54.0	-7.4	1.35 V	228	45.8	0.8
7	7401.00	44.6 PK	74.0	-29.4	1.09 V	59	37.3	7.3
8	7401.00	39.6 AV	54.0	-14.4	1.09 V	59	32.3	7.3

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.

RF Mode	TX 802.11ax (HE20)	Channel	CH 13：2472 MHz
Frequency Range	1GHz ~ 25GHz	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	*2472.00	106.2 PK			2.78 H	245	110.5	-4.3
2	*2472.00	96.4 AV			2.78 H	245	100.7	-4.3
3	2484.28	63.3 PK	74.0	-10.7	2.78 H	245	67.7	-4.4
4	**2484.28**	**53.9 AV**	**54.0**	**-0.1**	**2.78 H**	**245**	**58.3**	**-4.4**
5	4944.00	48.0 PK	74.0	-26.0	2.61 H	257	47.2	0.8
6	4944.00	46.7 AV	54.0	-7.3	2.61 H	257	45.9	0.8
7	7416.00	45.7 PK	74.0	-28.3	1.74 H	83	38.4	7.3
8	7416.00	40.6 AV	54.0	-13.4	1.74 H	83	33.3	7.3
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	*2472.00	104.1 PK			1.20 V	288	108.4	-4.3
2	*2472.00	94.3 AV			1.20 V	288	98.6	-4.3
3	2484.96	60.8 PK	74.0	-13.2	1.20 V	288	65.2	-4.4
4	2484.96	49.8 AV	54.0	-4.2	1.20 V	288	54.2	-4.4
5	4944.00	48.1 PK	74.0	-25.9	1.29 V	254	47.3	0.8
6	4944.00	46.9 AV	54.0	-7.1	1.29 V	254	46.1	0.8
7	7416.00	45.2 PK	74.0	-28.8	1.06 V	69	37.9	7.3
8	7416.00	40.2 AV	54.0	-13.8	1.06 V	69	32.9	7.3

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.

RF Mode	TX 802.11ax (HE40)	Channel	CH 3：2422 MHz
Frequency Range	1GHz ~ 25GHz	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	2389.44	62.9 PK	74.0	-11.1	2.42 H	63	67.1	-4.2
2	2389.44	53.4 AV	54.0	-0.6	2.42 H	63	57.6	-4.2
3	*2422.00	111.9 PK			2.42 H	63	116.2	-4.3
4	*2422.00	101.2 AV			2.42 H	63	105.5	-4.3
5	4844.00	48.0 PK	74.0	-26.0	2.60 H	266	47.5	0.5
6	4844.00	46.6 AV	54.0	-7.4	2.60 H	266	46.1	0.5
7	7266.00	45.7 PK	74.0	-28.3	1.80 H	79	39.0	6.7
8	7266.00	40.8 AV	54.0	-13.2	1.80 H	79	34.1	6.7
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	2388.75	60.8 PK	74.0	-13.2	1.12 V	300	65.0	-4.2
2	2388.75	49.5 AV	54.0	-4.5	1.12 V	300	53.7	-4.2
3	*2422.00	109.8 PK			1.12 V	300	114.1	-4.3
4	*2422.00	98.3 AV			1.12 V	300	102.6	-4.3
5	4844.00	47.0 PK	74.0	-27.0	1.39 V	242	46.5	0.5
6	4844.00	46.0 AV	54.0	-8.0	1.39 V	242	45.5	0.5
7	7266.00	44.9 PK	74.0	-29.1	1.04 V	67	38.2	6.7
8	7266.00	40.1 AV	54.0	-13.9	1.04 V	67	33.4	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.
5. " * ": Fundamental frequency.