Testing Laboratory 3787

RADIO TEST REPORT

FCC ID	:	MSQ-RTAX5D00
Equipment	:	ROG Rapture Quad-band Gaming Router
Brand Name	:	ASUS
Model Name	:	GT-AXE16000
Applicant	:	ASUSTeK COMPUTER INC. 1F., No. 15, Lide Rd., Beitou Dist., Taipei City 112, Taiwan
Standard	:	47 CFR FCC Part 15.247

The product was received on Aug. 16, 2023, and testing was started from Aug. 18, 2023 and completed on Mar. 04, 2024. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this variant report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Hsinchu Laboratory, the test report shall not be reproduced except in full.

Approved by: Sam Chen

Sporton International Inc. Hsinchu Laboratory
No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Description	Issued Date
FR1N0529-07AA	01	Initial issue of report	Apr. 01, 2024

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.247(d)	Emissions in Restricted Frequency Bands	PASS	-
Note: Reference to Sporton Project No.: 1N0529-05.				

Conformity Assessment Condition:
1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account. 2. The measurement uncertainty please refer to each test result in the chapter "Measurement Uncertainty".
Disclaimer:
The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Sam Chen
Report Producer: Wendy Pan

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
2400-2483.5	b, g, n (HT20), VHT20, ax (HEW20)	2412-2462	1-11 [11]
2400-2483.5	n (HT40), VHT40, ax (HEW40)	2422-2452	3-9 [7]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11b	20	4TX
2.4-2.4835GHz	802.11g	20	4TX
2.4-2.4835GHz	802.11n HT20	20	4TX
2.4-2.4835GHz	802.11n HT20-BF	20	4TX
2.4-2.4835GHz	VHT20	20	4TX
2.4-2.4835GHz	VHT20-BF	20	4TX
2.4-2.4835GHz	802.11ax HEW20	20	4TX
2.4-2.4835GHz	802.11ax HEW20-BF	20	4TX
2.4-2.4835GHz	802.11n HT40	40	4TX
2.4-2.4835GHz	802.11n HT40-BF	40	4TX
2.4-2.4835GHz	VHT40	40	4TX
2.4-2.4835GHz	VHT40-BF	40	4TX
2.4-2.4835GHz	802.11ax HEW40	40	4TX
2.4-2.4835GHz	802.11ax HEW40-BF	40	4TX

Note:
- 11b mode uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
- 11g, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- VHT20, VHT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- HEW20, HEW40 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

For EUT 5

Ant.	Port				Brand Name	Model Name	Antenna Type	Connector	Gain (dBi)
	WLAN 2.4GHz	WLAN 5GHz UNII 1& UNII 2A	WLAN 5GHz UNII 2C& UNII 3	WLAN 6GHz					
1	2	2	-	-	WALSIN	RFPCA311406IMLB901	PCB	I-PEX	Note2
2	1	1	-	-	WALSIN	RFDPA181121IMLB901	Dipole	I-PEX	
3	4	4	-	-	WALSIN	RFDPA181121IMLB902	Dipole	I-PEX	
4	3	3	-	-	WALSIN	RFDPA181105IMLB901	Dipole	I-PEX	
5	-	-	4	-	WALSIN	RFPCA191412IM5B901	PCB	I-PEX	
6	-	-	3	-	WALSIN	RFDPA181108IM5B901	Dipole	I-PEX	
7	-	-	2	-	WALSIN	RFDPA181119IM5B901	Dipole	I-PEX	
8	-	-	1	-	WALSIN	RFDPA181125IM5B901	Dipole	I-PEX	
9	-	-	-	4	WALSIN	RFPCA170920IM6B901	PCB	I-PEX	
10	-	-	-	3	WALSIN	RFPCA222024IMLB901	PCB	I-PEX	
11	-	-	-	2	WALSIN	RFDPA181119IM6B901	Dipole	I-PEX	
12	-	-	-	1	WALSIN	RFDPA181110IM6B901	Dipole	I-PEX	

Note1: The above information was declared by manufacturer.

Note2:

Mode 1: 2G5GL-external antenna Vertical

Band (MHz)	2400-2483.5	5150-5250	5250-5350
Frequency (Hz)	**2.45G**	**5.2G**	**5.3G**
Ant. 1 Max Gain (dBi)	2.46	3.34	3.41
Ant. 2 Max Gain (dBi)	2.3	4.72	3.84
Ant. 3 Max Gain (dBi)	3.43	3.61	3.43
Ant. 4 Max Gain (dBi)	2.12	4.5	4.7
DG [1SS] (dBi)	4.53	6.17	6.32
DG [2SS] (dBi)	3.43	4.72	4.7
DG [4SS] (dBi)	3.43	4.72	4.7

Mode 2: 2G5GL-external antenna Horizontal

Band (MHz)	2400-2483.5	5150-5250	5250-5350
Frequency (Hz)	**2.45G**	**5.2G**	**5.3G**
Ant. 1 Max Gain (dBi)	2.46	3.34	3.41
Ant. 2 Max Gain (dBi)	3.54	4.16	4.71
Ant. 3 Max Gain (dBi)	4.36	3.44	3.32
Ant. 4 Max Gain (dBi)	3.47	4.31	4.69
DG [1SS] (dBi)	5	4.76	4.75
DG [2SS] (dBi)	4.36	4.31	4.71
DG [4SS] (dBi)	4.36	4.31	4.71

Mode 3: 5GH-external antenna Vertical

Band (MHz)	5470-5725	5725-5850
Frequency (Hz)	**5.6G**	**5.785G**
Ant. 5 Max Gain (dBi)	2.56	1.18
Ant. 6 Max Gain (dBi)	4.83	4.59
Ant. 7 Max Gain (dBi)	4.4	4.62
Ant. 8 Max Gain (dBi)	3.82	3.91
DG [1SS] (dBi)	6.97	6.48
DG [2SS] (dBi)	4.83	4.62
DG [4SS] (dBi)	4.83	4.62

Mode 4: 5GH-external antenna Horizontal

Band (MHz)	5470-5725	5725-5850
Frequency (Hz)	**5.6G**	**5.785G**
Ant. 5 Max Gain (dBi)	2.56	1.18
Ant. 6 Max Gain (dBi)	4.84	4.77
Ant. 7 Max Gain (dBi)	3.62	4.56
Ant. 8 Max Gain (dBi)	4.15	4.12
DG [1SS] (dBi)	5.83	5.27
DG [2SS] (dBi)	4.84	4.77
DG [4SS] (dBi)	4.84	4.77

Mode 5: 6G-external antenna Vertical

Band (MHz)	6175	6475	6695	6995
Frequency (Hz)	**6.175G**	**6.475G**	**6.695G**	**6.995G**
Ant. 9 Max Gain (dBi)	3.1	3.04	2.87	2.01
Ant. 10 Max Gain (dBi)	2.8	2.63	3.57	4.12
Ant. 11 Max Gain (dBi)	4.49	3.97	4.38	4.34
Ant. 12 Max Gain (dBi)	4.65	3.76	4.1	4.29
DG [1SS] (dBi)	5.66	5.2	5.58	5.35
DG [2SS] (dBi)	4.65	3.97	4.38	4.34
DG [4SS] (dBi)	4.65	3.97	4.38	4.34

Mode 6: 6G-external antenna Horizontal

Band (MHz)	6175	6475	6695	6995
Frequency (Hz)	**6.175G**	**6.475G**	**6.695G**	**6.995G**
Ant. 9 Max Gain (dBi)	3.1	3.04	2.87	2.01
Ant. 10 Max Gain (dBi)	2.8	2.63	3.57	4.12
Ant. 11 Max Gain (dBi)	4.88	4.49	4.92	4.59
Ant. 12 Max Gain (dBi)	4.53	4.43	4.26	4.31
DG [1SS] (dBi)	4.99	4.63	4.64	4.41
DG [2SS] (dBi)	4.88	4.49	-	-
DG [4SS] (dBi)	4.88	4.49	-	-

Note3: The directional gain is measured which follows the procedure of KDB 662911 D03.
Only the highest gain antenna was selected from each different antenna mode of antenna to test and record in this report.
For 2.4GHz function:
For IEEE 802.11b/g/n/VHT/ax (4TX/4RX):
Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.
Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.
For 5GHz function:
For IEEE 802.11a/n/ac/ax (4TX/4RX):
Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.
Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.
For 6GHz function:
For IEEE 802.11ax (4TX/4RX):
Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.
Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.

1.1.3 EUT Operational Condition

EUT Power Type	From Power Adapter			
Beamforming Function	☒	With beamforming	☐	Without beamforming
	The product has beamforming function for n/VHT/ax in 2.4GHz, n/ac/ax in 5GHz and ax in 6GHz.			
Function	☒	Point-to-multipoint	☐	Point-to-point
Support RU	☒	Full RU	☐	Partial RU
Test Software Version	Mtool 3.2.1.4			

Note: The above information was declared by manufacturer.

1.1.4 Table for Components Source Information

Component	Main Source	Second Source
5G pre filter	Brand: Qorvo Model: QPQ1904	-
DDR4	Brand: SAMSUNG Density: 512MB	Brand: SAMSUNG Density: 1GB
Transformer of 1Gbps LAN	Brand: NETSWAP Model: NS777202	Brand: MINGTEK Model: HN8001VG
MLCC on the path of the CPU (Location: C124, C126, C127, C128)	Brand: WALSIN Model: 0201X104K160CT	Brand: TAIYO YUDEN Model: EMK063BJ104KP-F

Note: The above information was declared by manufacturer.

1.1.5 Table for EUT Information

EUT	5G pre filter	DDR4	Transformer of 1Gbps LAN	MLCC on the path of the CPU (Location: C124, C126, C127, C128)
EUT 1	Second Source	Main Source	Main Source	Main Source
EUT 2	Main Source	Main 0Source	Main Source	Main Source
EUT 3	Second Source	Second Source	Main Source	Main Source
EUT 4	Second Source	Second Source	Second Source	Main Source
EUT 5	Main Source	Second Source	Main Source	Second Source

Note1: From the above, EUT 4~5 has been selected as representative mode for the test and its data was recorded in this report.
Note2: The above information was declared by manufacturer.

1.1.6 Table for EUT Supports Function

Function	Support Type	Remark
AP Router	Master	Support 2.4GHz/5GHz/6GHz
Bridge	Slave without radar detection	Support 2.4GHz/5GHz
Repeater	Master	Support 2.4GHz/5GHz
Mesh	Master	Support 2.4GHz/5GHz/6GHz

Note: The above information was declared by manufacturer.

1.1.7 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: FR1N0529AA

Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
1. Adding a second transformer source of 1Gbps LAN and combination as EUT 4. (Brand name: MINGTEK / Model name: HN8001VG) 2. Adding EUT 5, the difference with EUT 3 is the following: a. With 5G pre filter. b. Add the second source for MLCC on the path of the CPU (Location: C124, C126, C127, C128).	Emissions in Restricted Frequency Bands below 1GHz test
c. Updating the measurement method of antenna gain for EUT 5.	After evaluating, it does not affect the test.
3. Removing Manufacturer name and address. 4. Updating the Components Source information of main source (512MB) and Second source (1GB) for DDR4.	After evaluating, it does not affect the test.

1.2 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR FCC Part 15.247
- ANSI C63.10-2013

The following reference test guidance is not within the scope of accreditation of TAF.

- FCC KDB 558074 D01 v05r02
- FCC KDB 662911 D03 v01
- FCC KDB 414788 D01 v01r01

1.3 Testing Location Information

Testing Location Information	
Test Lab.：Sporton International Inc. Hsinchu Laboratory	
Hsinchu (TAF: 3787)	ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.) TEL: 886-3-656-9065 FAX: 886-3-656-9085 Test site Designation No. TW3787 with FCC. Conformity Assessment Body Identifier (CABID) TW3787 with ISED.

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
Radiated	03CH05-CB	Jackson Peng	21.8~23.3 / 59~60	Aug. 18, 2023
	03CH06-CB		21.9-22.4 / 55-58	Mar. 04, 2024

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Test Items	Uncertainty	Remark
Radiated Emission (9kHz ~ 30MHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	5.1 dB	Confidence levels of 95%

2 Test Configuration of EUT

2.1 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emissions in Restricted Frequency Bands
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	CTX
	1. After evaluating, the worst case was found at Z axis. So the measurement will follow this same test configuration. 2. The EUT has two types for setting the antenna. One is antenna in horizontal and the other is antenna in vertical, 3. The EUT was performed at 2.4GHz, UNII 1+UNII 2A, UNII 2C+UNII 3, 6GHz, the worst case was found at 2.4GHz. Thus, the measurement will follow this same test configuration. 4. The EUT was performed at Adapter 1, Adapter 3 and Adapter 4, the worst case was found at Adapter 1. Thus, the measurement will follow this same test configuration.
1	EUT 4 in Z axis + antenna in horizontal + Adapter 1 + WLAN 2.4GHz
2	EUT 5 in Z axis + antenna in horizontal + Adapter 1 + WLAN 2.4GHz
For operating mode 2 is the worst case and it was record in this test report.	

2.2 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.3 Accessories

Accessories				
Equipment Name	**Brand Name**	**Model Name**	**Rating**	**Remark**
Adapter 1	AcBel	ADD011	INPUT: 100-240V~ 1.7A, 50-60Hz OUTPUT: +19.5V, 3.33A, 65.0W MAX.	With the DC cable: Non-shielded, 1.5m
Adapter 2	AcBel	ADD011	INPUT: 100-240V~ 1.7A, 50-60Hz OUTPUT: +19.5V, 3.33A, 65.0W MAX.	With the DC cable: Non-shielded, 1.5m
Adapter 3	DELTA	ADP-65GD	INPUT: AC100-240V ~ 50-60Hz, 1.5A OUTPUT: +19V, 3.42A.	With the DC cable: Non-shielded, 1.8m
Adapter 4	DELTA	ADP-65DE B	INPUT: 100-240V~1.5A, 50-60Hz OUTPUT: 19.0V, 3.42A, 65.0W	With the DC cable: Non-shielded, 1.5m
Adapter 5	DELTA	ADP-65DE B	INPUT: 100-240V ~ 1.5A, 50-60Hz OUTPUT: 19.0V, 3.42A, 65.0W	With the DC cable: Non-shielded, 1.5m
Others				
RJ-45 cable*1: Shielded, 1.5m				
Power cord*1: Non-shielded, 0.9m				

Note1: Adapter 1 & Adapter 2 and Adapter 4 & Adapter 5 are identical except for the S/N; Therefore, Adapter 1 and Adapter 4 were selected to test and recorded in this report.

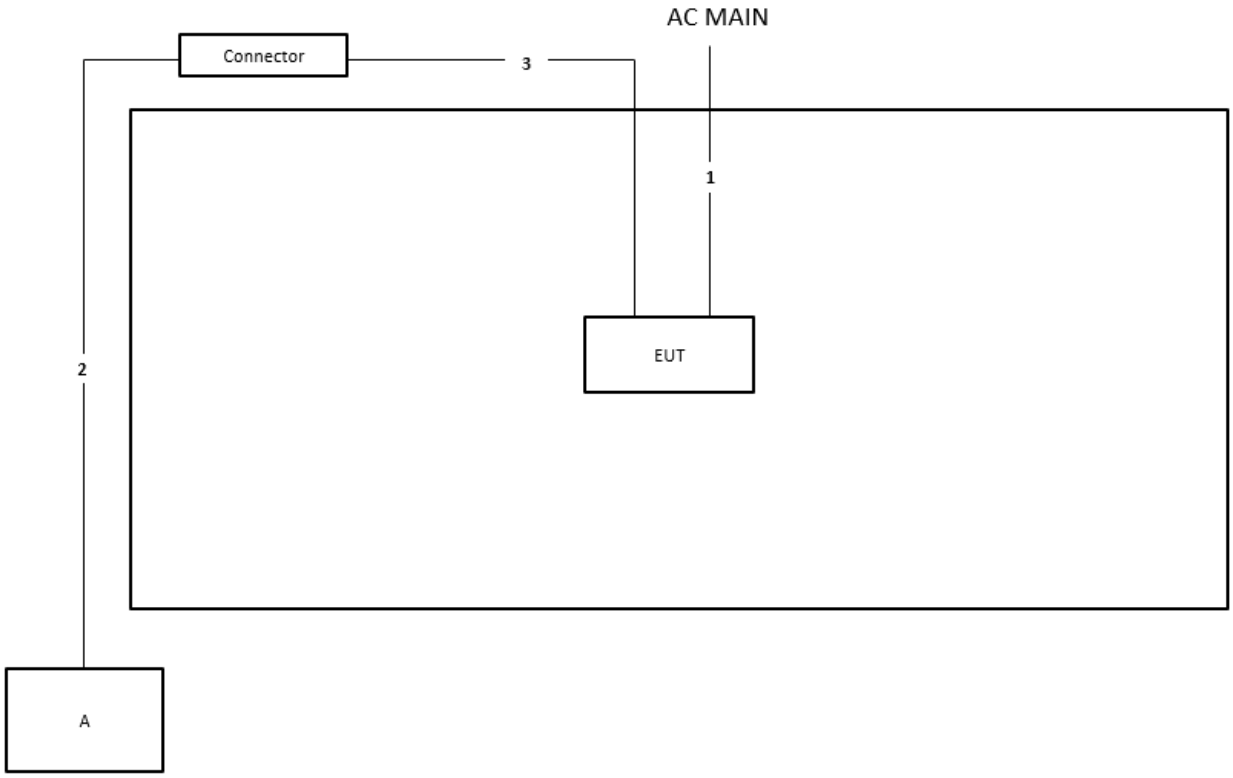
Note2: Refer to photographs of EUT for the detail information of difference between Adapter 1 & Adapter 2 and Adapter 4 & Adapter 5.

2.4 Support Equipment

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	Notebook	DELL	E4300	N/A

2.5 Test Setup Diagram

Test Setup Diagram - Radiated Test < 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	2.4m
2	RJ-45 cable	Yes	10m
3	RJ-45 cable	Yes	1.5m

3 Transmitter Test Result

3.1 Emissions in Restricted Frequency Bands

3.1.1 Emissions in Restricted Frequency Bands Limit

Restricted Band Emissions Limit			
Frequency Range (MHz)	**Field Strength (uV/m)**	**Field Strength (dBuV/m)**	**Measure Distance (m)**
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

3.1.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

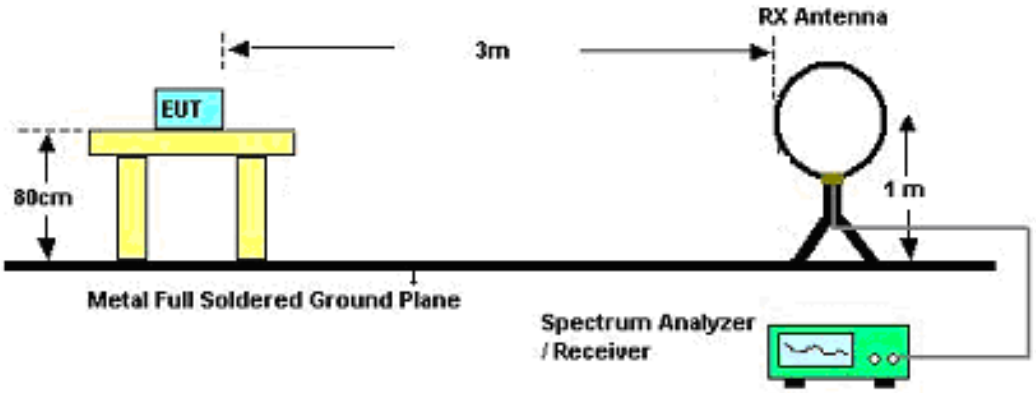
3.1.3 Test Procedures

Test Method			
▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].			
▪ Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.			
▪ For the transmitter unwanted emissions shall be measured using following options below:			
	▪ Refer as FCC KDB 558074, clause 8.6 for unwanted emissions into restricted bands.		
		☐	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.1(trace averaging for duty cycle ≥98%).
		☐	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.2(trace averaging + duty factor).
		☒	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.3(Reduced VBW≥1/T).
		☐	Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.
		☐	Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
		☒	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.4 measurement procedure peak limit.
▪ For the transmitter band-edge emissions shall be measured using following options below:			
	▪ Refer as FCC KDB 558074 clause 8.7 & C63.10 clause 11.13.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below.		
	▪ Refer as FCC KDB 558074, clause 8.7 (ANSI C63.10, clause 6.10.6) for marker-delta method for band-edge measurements.		
	▪ Refer as FCC KDB 558074, clause 8.7 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).		
	▪ For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB		
	▪ For FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.		

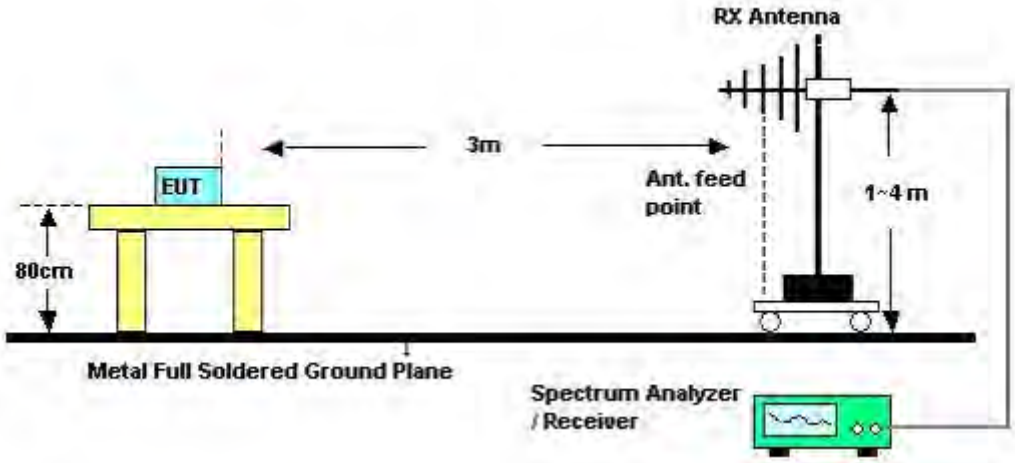
3.1.4 Test Setup

Radiated - Emissions in Restricted Frequency Bands

9kHz ~30MHz



30MHz~1GHz



3.1.5 Measurement Results Calculation

The measured Level is calculated using:
Corrected Reading: Antenna factor (AF) + Cable loss (CL) + Read level (Raw) - Preamp factor (PA)(if applicable) = Level.

3.1.6 Emissions in Restricted Frequency Bands (Below 30MHz)

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to KDB414788 Radiated Test Site, and the result came out very similar.
All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.
The radiated emissions were investigated from 9 kHz or the lowest frequency generated within the device, up to the 10th harmonic or 40 GHz, whichever is appropriate.

3.1.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix A

4 Test Equipment and Calibration Data

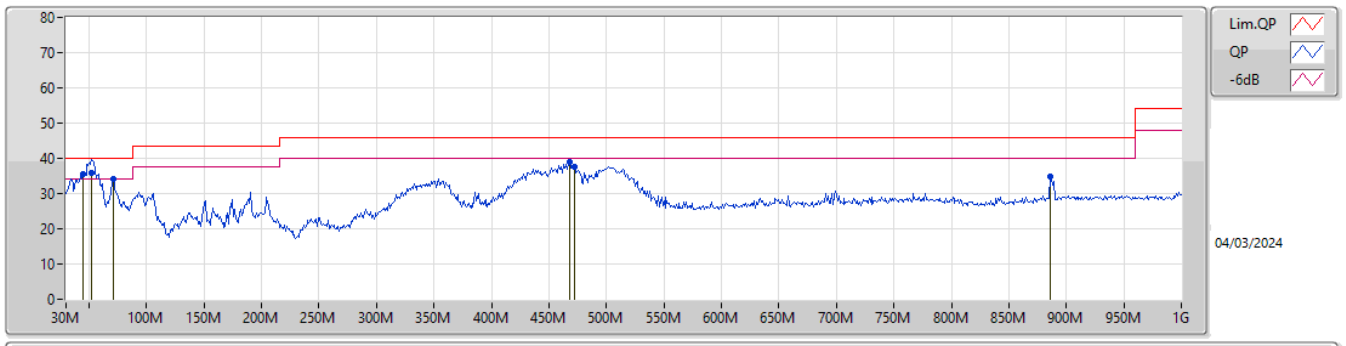
Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Loop Antenna	Teseq	HLA 6120	31244	9kHz - 30 MHz	Mar. 23, 2023	Mar. 22, 2024	Radiation (03CH05-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH05-CB	30 MHz ~ 1 GHz	Aug. 02, 2023	Aug. 01, 2024	Radiation (03CH05-CB)
Bilog Antenna with 6dB Attenuator	TESEQ & EMCI	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 24, 2023	Mar. 23, 2024	Radiation (03CH05-CB)
Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	May 03, 2023	May 02, 2024	Radiation (03CH05-CB)
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	Apr. 18, 2023	Apr. 17, 2024	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	Jun. 13, 2023	Jun. 12, 2024	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	Low Cable-04+23	30MHz~1GHz	Aug. 16, 2023	Aug. 15, 2024	Radiation (03CH05-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH05-CB)
Loop Antenna	Teseq	HLA 6120	31244	9kHz - 30 MHz	Mar. 23, 2023	Mar. 22, 2024	Radiation (03CH06-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH06-CB	30 MHz ~ 1 GHz	Aug. 03, 2023	Aug. 02, 2024	Radiation (03CH06-CB)
Bilog Antenna with 6 dB attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37878 & AT-N0606	20MHz ~ 2GHz	Jul. 30, 2023	Jul. 29, 2024	Radiation (03CH06-CB)
Pre-Amplifier	Agilent	310N	187290	0.1MHz ~ 1GHz	Nov. 03, 2023	Nov. 02, 2024	Radiation (03CH06-CB)
Signal Analyzer	R&S	FSV40	101904	9kHz ~ 40GHz	Apr. 21, 2023	Apr. 20, 2024	Radiation (03CH06-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	Jun. 13, 2023	Jun. 12, 2024	Radiation (03CH06-CB)
RF Cable-low	Woken	RG402	Low Cable-24+68	30MHz~1GHz	Oct. 02, 2023	Oct. 01, 2024	Radiation (03CH06-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH06-CB)

Note: Calibration Interval of instruments listed above is one year.
NCR means Non-Calibration required.

Summary

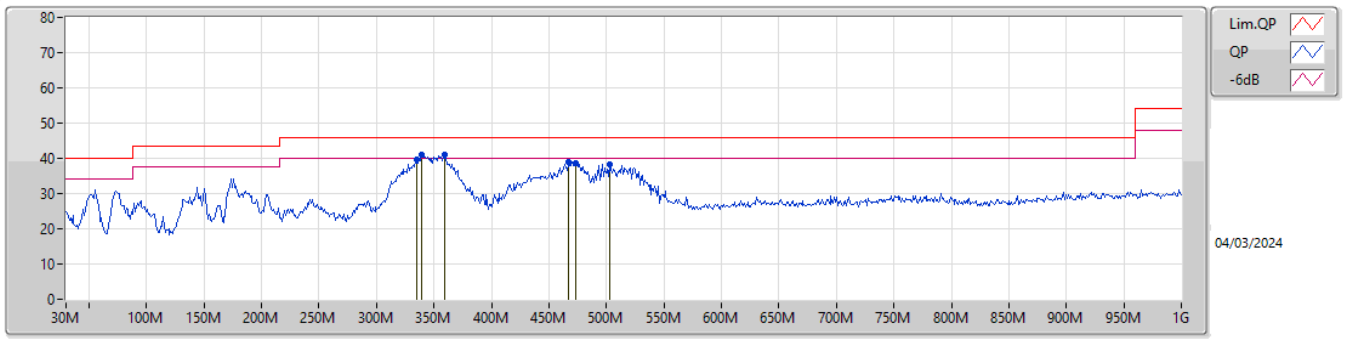
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 2	Pass	QP	52.31M	35.87	40.00	-4.13	Vertical

Mode 2



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV/m)	(dB/m)	(dB)	(dB)
QP	44.55M	35.50	40.00	-4.50	-14.20	3	Vertical	308	1.00	-	49.70	16.86	1.30	32.36
QP	52.31M	35.87	40.00	-4.13	-17.23	3	Vertical	356	3.00	"Worst"	53.10	13.74	1.35	32.32
PK	70.74M	34.14	40.00	-5.86	-18.42	3	Vertical	360	3.00	-	52.56	12.39	1.48	32.29
PK	468.44M	38.86	46.00	-7.14	-5.89	3	Vertical	92	1.25	-	44.75	23.01	3.16	32.06
PK	472.32M	37.60	46.00	-8.40	-5.81	3	Vertical	101	1.25	-	43.41	23.07	3.17	32.05
PK	885.54M	35.00	46.00	-11.00	-1.11	3	Vertical	306	1.25	-	36.11	26.33	4.27	31.71

Mode 2



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV/m)	(dB/m)	(dB)	(dB)
PK	334.58M	39.71	46.00	-6.29	-9.55	3	Horizontal	154	1.00	-	49.26	19.59	2.73	31.87
PK	339.43M	41.20	46.00	-4.80	-9.39	3	Horizontal	154	1.00	"Worst"	50.59	19.72	2.75	31.86
PK	358.83M	40.91	46.00	-5.09	-8.42	3	Horizontal	171	1.25	-	49.33	20.62	2.83	31.87
PK	467.47M	39.02	46.00	-6.98	-5.92	3	Horizontal	326	1.00	-	44.94	22.98	3.16	32.06
PK	473.29M	38.76	46.00	-7.24	-5.78	3	Horizontal	309	1.00	-	44.54	23.09	3.18	32.05
PK	502.39M	38.35	46.00	-7.65	-5.35	3	Horizontal	309	1.00	-	43.70	23.43	3.26	32.04