

RADIO PERFORMANCE TEST REPORT

Test Report No. : OT-258-RWD-001
Reception No. : 2507002353
Applicant : Futuristec Corp.
Address : 202-1, 169, Gaetbeol-ro, Yeonsu-gu, Incheon, Republic of Korea
Manufacturer : Futuristec Corp.
Address : 202-1, 169, Gaetbeol-ro, Yeonsu-gu, Incheon, Republic of Korea
Type of Equipment : Ring Mouse
FCC ID. : 2BQZ4-RMWTB200
Model Name : RMWTB200
Multiple Model Name : RMWTW200
Serial number : N/A
Total page of Report : 27 pages (including this page)
Date of Incoming : July 11, 2025
Date of issue : August 01, 2025

SUMMARY

The equipment complies with the regulation; **FCC PART 15 SUBPART C Section 15.247**

This test report only contains the result of a single test of the sample supplied for the examination.

It is not a generally valid assessment of the features of the respective products of the mass-production.

This report is not correlated with the "KS Q ISO/IEC 17025 and KOLAS accreditation" of Korean Laboratory Accreditation Scheme.

한동연




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※ Please refer to the Annex section for All test plots

Revision History

Rev. No.	Issue Report No.	Issued Date	Revisions	Section Affected
0	OT-258-RWD-001	August 01, 2025	Initial Release	All

1. VERIFICATION OF COMPLIANCE

Applicant : Futuristec Corp.
 Address : 202-1, 169, Gaetbeol-ro, Yeonsu-gu, Incheon, Republic of Korea
 Contact Person : Joongkil Kwon / Managing Director
 Telephone No. : +82-10-7420-1517
 FCC ID : 2BQZ4-RMWTB200
 Model Name : RMWTB200
 Brand Name : -
 Serial Number : N/A
 Date : August 01, 2025

EQUIPMENT CLASS	DTS – DIGITAL TRNSMISSION SYSTEM
E.U.T. DESCRIPTION	Ring Mouse
THIS REPORT CONCERNS	Original Grant
MEASUREMENT PROCEDURES	ANSI C63.10: 2020
TYPE OF EQUIPMENT TESTED	Pre-Production
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	Certification
EQUIPMENT WILL BE OPERATED UNDER FCC RULES PART(S)	FCC PART 15 SUBPART C Section 15.247 KDB 558074 D01 15.247 Meas Guidance v05r02
Modifications on the Equipment to Achieve Compliance	None
Final Test was Conducted On	3 m, Semi Anechoic Chamber

-. The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

2. TEST SUMMARY

2.1 Test items and results

SECTION	TEST ITEMS	RESULTS
15.247 (a) (2)	Minimum 6 dB Bandwidth	Met the Limit / PASS
15.247 (b) (3)	Maximum Peak Conducted Output Power	Met the Limit / PASS
15.247 (d)	100 kHz Bandwidth Outside the Frequency Band	Met the Limit / PASS
15.247 (d)	Radiated Emission which fall in the Restricted Band	Met the Limit / PASS
15.247 (e)	Peak Power Spectral Density	Met the Limit / PASS
15.209	Radiated Emission Limits	Met the Limit / PASS
15.207	Conducted Limits	Met the Limit / PASS
15.203	Antenna Requirement	Met requirement / PASS

2.2 Additions, deviations, exclusions from standards

No additions, deviations or exclusions have been made from standard.

2.3 Related Submittal(s) / Grant(s)

Original submittal only

2.4 Purpose of the test

To determine whether the equipment under test fulfills the requirements of the regulation stated in FCC PART 15 SUBPART C Section 15.247.

2.5 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10: 2020. Radiated testing was performed at a distance of 3 m from EUT to the antenna.

2.6 Test Facility

The Onetech Corp. has been designated to perform equipment testing in compliance with ISO/IEC 17025.

The Electromagnetic compatibility measurement facilities are located at 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea.

-. Site Filing:

VCCI (Voluntary Control Council for Interference) – Registration No. R-20122/ C-14617/ G-10666/ T-11842

ISED (Innovation, Science and Economic Development Canada) – Registration No. Site# 3736A-3

KOLAS (Korea Laboratory Accreditation Scheme) - Accreditation NO. KT085

FCC (Federal Communications Commission) - Accreditation No. KR0013

RRA (Radio Research Agency) – Designation No. KR0013

3. GENERAL INFORMATION

3.1 Product Description

The Futuristec Corp., Model RMWTB200 (referred to as the EUT in this report) is a Ring Mouse. The product specification described herein was obtained from product data sheet or user's manual.

Device Type	Ring Mouse	
Temperature Range	10 °C ~ +32 °C	
Operating Frequency	2 402 MHz ~ 2 480 MHz	
MAX. RF OUTPUT POWER	1 Mbps	-9.00 dBm
	2 Mbps	-9.00 dBm
Number of Channel	40 Channels	
Modulation Type	GFSK	
Antenna Type	Chip Antenna	
Antenna Gain	2.36 dBi	
List of each Osc. or crystal Freq.(Freq. >= 1 MHz)	32.768 kHz, 32 MHz	
Rated Supply Voltage	DC 3.70 V	

3.2 Alternative type(s)/model(s); also covered by this test report.

-. The following lists consist of the added model and their differences.

Model Name	Differences	Tested
RMWTB200	Basic Model	☒
RMWTW200	This model is identical to the basic model except for the color. (Basic Model: Black / Multiple Model: White)	☐

Note: 1. Applicant consigns only basic model to test. Therefore this test report just guarantees the units, which have been tested.

2. The Applicant/manufacture is responsible for the compliance of all variants.

4. EUT MODIFICATIONS

-. None

5. SYSTEM TEST CONFIGURATION

5.1 Justification

This device was configured for testing in a typical way as a normal customer is supposed to be used. During the test, the following components were installed inside of the EUT.

DEVICE TYPE	MANUFACTURER	MODEL/PART NUMBER	FCC ID
Main Board	N/A	N/A	N/A

5.2 Peripheral equipment

Defined as equipment needed for correct operation of the EUT, but not considered as tested:

Model	Manufacturer	Description	Connected to
RMWTB200	Futuristec Corp.	Ring Mouse (EUT)	-
IdeaPad L340	LENOVO	Notebook PC	EUT

5.3 Mode of operation during the test

For the testing, software used to control the EUT for staying in continuous transmitting is programmed.

For final testing, the EUT was set at 2 402 MHz, 2 440 MHz, and 2 480 MHz to get a maximum emission levels from the EUT. The EUT was moved throughout the XY, XZ, and YZ planes and the worst case is “XY” axis, but the worst data was recorded in this report.

-. Frequency / Channel Operations

Channel	Frequency
0	2 402
19	2 440
39	2 480

-. Duty Cycle

Mode	Tx On Time [ms]	Tx Off Time [ms]	Duty Cycle [%]	Correction Factor [dB]
Bluetooth LE 1 Mbps	2.137	0.362	85.48	0.68
Bluetooth LE 2 Mbps	1.079	0.795	57.56	2.39

Note – Duty Cycle : (Tx On Time / (Tx On Time + Tx Off Time)) * 100

Correction Factor : $10 * \log(1 / (\text{Duty Cycle} / 100))$

5.4 Configuration of Test System

Line Conducted Test: The EUT was tested in the Transmitting mode. All supporting equipment were connected to another LISN. Preliminary Power line Conducted Emission test was performed by using the procedure in ANSI C63.10: 2020 to determine the worse operating conditions.

Radiated Emission Test: Preliminary radiated emissions test were conducted using the procedure in ANSI C63.10: 2020 to determine the worse operating conditions. Final radiated emission tests were conducted at 3 meter Semi Anechoic Chamber.

The turntable was rotated through 360 degrees and the EUT was tested by positioned three orthogonal planes to obtain the highest reading on the field strength meter. Once maximum reading was determined, the search antenna was raised and lowered in both vertical and horizontal polarization.

5.5 Antenna Requirement

For intentional device, according to section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

Antenna Construction:

The antenna of the EUT is a Chip Antenna on the main board in the EUT, so no consideration of replacement by the user.

6. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2020.

All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95 % level of confidence.

The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty (dB)
Conducted Output Power	1.20
Conducted Spurious Emission < 26.5 GHz	1.26
Power Spectral Density	1.20
Line Conducted Disturbance (150 kHz ~ 30 MHz)	2.00
Radiated Disturbance (9 kHz ~ 30 MHz)	3.30
Radiated Disturbance (30 MHz ~ 1 GHz)	4.42
Radiated Disturbance (1 GHz ~ 18 GHz)	5.10
Radiated Disturbance (18 GHz ~ 40 GHz)	5.65

7. PRELIMINARY TEST

7.1 AC Power line Conducted Emissions Tests

During Preliminary Test, the following operating mode was investigated.

Operation Mode	The Worse operating condition (Please check one only)
Transmitting Mode	X

7.2 General Radiated Emissions Tests

During Preliminary Test, the following operating mode was investigated.

Operation Mode	The Worse operating condition (Please check one only)
Transmitting Mode	X

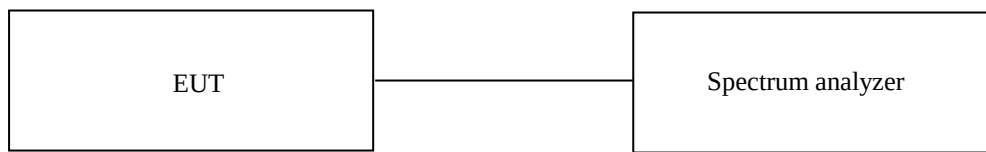
8. MINIMUM 6 dB BANDWIDTH

8.1 Operating environment

Temperature : 24 °C
Relative humidity : 54 % R.H.

8.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer. The resolution bandwidth is set to 100 kHz, and peak detection was used. The 6 dB bandwidth is defined as the total spectrum over which the power is higher than the peak power minus 6 dB.



8.3 Test Date

July 14, 2025 ~ July 16, 2025

8.4 Test data for 1 Mbps

CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (kHz)	LIMIT (kHz)	MARGIN (kHz)
Low	2 402.00	724.30	500.00	224.30
Middle	2 440.00	714.30	500.00	214.30
High	2 480.00	724.30	500.00	224.30

Remark. Margin = Measured Value – Limit

8.5 Test data for 2 Mbps

CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (kHz)	LIMIT (kHz)	MARGIN (kHz)
Low	2 402.00	1 171.00	500.00	671.00
Middle	2 440.00	1 169.00	500.00	669.00
High	2 480.00	1 169.00	500.00	669.00

Remark. Margin = Measured Value - Limit

9. MAXIMUM CONDUCTED (PEAK) OUTPUT POWER

9.1 Operating environment

Temperature : 24 °C
Relative humidity : 54 % R.H.

9.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer.

The resolution bandwidth is set to $\geq$ DTS Bandwidth, the video bandwidth is set to 3 times the resolution bandwidth.



9.3 Test Date

July 14, 2025 ~ July 16, 2025

9.4 Test data for 1 Mbps

-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 402.00	-10.35	30.00	40.35
MIDDLE	2 440.00	-9.84	30.00	39.84
HIGH	2 480.00	-9.00	30.00	39.00

Remark. Margin = Limit – Measured Value

9.5 Test data for 2 Mbps

-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 402.00	-10.34	30.00	40.34
MIDDLE	2 440.00	-9.72	30.00	39.72
HIGH	2 480.00	-9.00	30.00	39.00

Remark. Margin = Limit – Measured Value

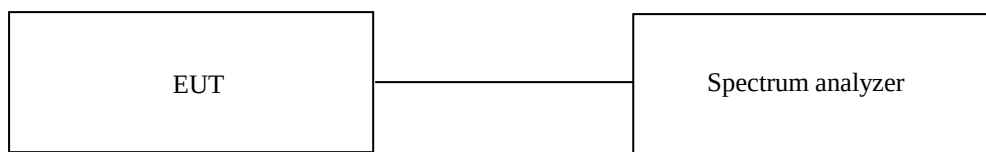
10. 100 kHz BANDWIDTH OUTSIDE THE FREQUENCY BAND

10.1 Operating environment

Temperature : 24 °C
Relative humidity : 54 % R.H.

10.2 Test set-up for conducted measurement

The antenna output of the EUT was connected to the spectrum analyzer. The resolution bandwidth is set to 100 kHz, the video bandwidth is set to 3 times the resolution bandwidth and peak detection was used.



10.3 Test set-up for radiated measurement

The radiated emissions measurements were performed on the 3 m semi anechoic chamber. The EUT was placed on turntable approximately 1.5 m above the ground plane.

The frequency spectrum from 30 MHz to 26.5 GHz was scanned and maximum emission levels at each frequency recorded. The system was rotated 360°, and the antenna was varied in the height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for horizontal and vertical polarization of the receiving antenna.

10.4 Test Date

July 14, 2025 ~ July 16, 2025

10.5 Test data for conducted emission

For Test data for conducted emission, please refer to the Annex.

10.6 Test data for radiated emission

10.6.1 Radiated Emission which fall in the Restricted Band

10.6.1.1 Test data for 1 Mbps

- . Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- . Video bandwidth : 3 MHz for Peak and Average Mode
- . Measurement distance : 3 m
- . Duty Cycle : 85.48 %
- . Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	Duty Factor (dB)	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel										
2 335.59	51.62	Peak	H	27.60	2.91	41.74	-	40.39	74.00	33.61
2 318.68	40.75	Average	H	27.60	2.91	41.74	0.68	30.20	54.00	23.80
2 362.52	52.39	Peak	V	27.60	2.91	41.74	-	41.16	74.00	32.84
2 386.88	40.66	Average	V	27.60	2.91	41.74	0.68	30.11	54.00	23.89
Test Data for High Channel										
2 484.40	53.75	Peak	H	27.40	2.93	41.73	-	42.35	74.00	31.65
2 491.89	40.66	Average	H	27.40	2.93	41.73	0.68	29.94	54.00	24.06
2 486.28	52.52	Peak	V	27.40	2.93	41.73	-	41.12	74.00	32.88
2 492.81	40.64	Average	V	27.40	2.93	41.73	0.68	29.92	54.00	24.08

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{AMP Gain} + \text{ATT} + \text{Duty Factor}$$

10.6.1.2 Test data for 2 Mbps

- . Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- . Video bandwidth : 3 MHz for Peak and Average Mode
- . Measurement distance : 3 m
- . Duty Cycle : 57.56 %
- . Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	Duty Factor (dB)	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel										
2 326.40	52.58	Peak	H	27.60	2.91	41.74	-	41.35	74.00	32.65
2 327.23	40.61	Average	H	27.60	2.91	41.74	2.39	31.77	54.00	22.23
2 311.05	52.10	Peak	V	27.60	2.91	41.74	-	40.87	74.00	33.13
2 312.43	40.61	Average	V	27.60	2.91	41.74	2.39	31.77	54.00	22.23
Test Data for High Channel										
2 489.16	52.50	Peak	H	27.40	2.93	41.73	-	41.10	74.00	32.90
2 488.24	40.59	Average	H	27.40	2.93	41.73	2.39	31.58	54.00	22.42
2 485.74	52.44	Peak	V	27.40	2.93	41.73	-	41.04	74.00	32.96
2 488.08	40.69	Average	V	27.40	2.93	41.73	2.39	31.68	54.00	22.32

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{AMP Gain} + \text{Duty Factor}$$

10.6.2 Spurious & Harmonic Radiated Emission

10.6.2.1 Test data for 1 Mbps

- . Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
1 MHz for Peak Mode for the emissions outside restricted band
- . Video bandwidth : 3 MHz for Peak and Average Mode
- . Frequency range : 1 GHz ~ 26.5 GHz
- . Measurement distance : 3 m
- . Duty Cycle : 85.48 %
- . Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	Duty Factor (dB)	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel										
4 804.000	49.74	Peak	H	31.30	3.94	42.62	-	42.36	74.00	31.64
4 804.000	40.36	Average	H	31.30	3.94	42.62	0.68	33.66	54.00	20.34
4 804.000	49.74	Peak	V	31.30	3.94	42.62	-	42.36	74.00	31.64
4 804.000	40.17	Average	V	31.30	3.94	42.62	0.68	33.47	54.00	20.53
7 206.000	49.89	Peak	H	36.00	4.89	43.06	-	47.72	74.00	26.28
7 206.000	37.27	Average	H	36.00	4.89	43.06	0.68	35.78	54.00	18.22
7 206.000	49.75	Peak	V	36.00	4.89	43.06	-	47.58	74.00	26.42
7 206.000	38.80	Average	V	36.00	4.89	43.06	0.68	37.31	54.00	16.69
Test Data for Middle Channel										
4 880.000	49.62	Peak	H	31.30	4.06	42.62	-	42.36	74.00	31.64
4 880.000	40.27	Average	H	31.30	4.06	42.62	0.68	33.69	54.00	20.31
4 880.000	50.51	Peak	V	31.30	4.06	42.62	-	43.25	74.00	30.75
4 880.000	40.78	Average	V	31.30	4.06	42.62	0.68	34.20	54.00	19.80
7 320.000	48.43	Peak	H	36.30	4.92	43.07	-	46.58	74.00	27.42
7 320.000	36.74	Average	H	36.30	4.92	43.07	0.68	35.57	54.00	18.43
7 320.000	49.90	Peak	V	36.30	4.92	43.07	-	48.05	74.00	25.95
7 320.000	38.66	Average	V	36.30	4.92	43.07	0.68	37.49	54.00	16.51

Test Data for High Channel										
4 960.000	48.52	Peak	H	31.40	4.08	42.68	-	41.32	74.00	32.68
4 960.000	39.17	Average	H	31.40	4.08	42.68	0.68	32.65	54.00	21.35
4 960.000	50.14	Peak	V	31.40	4.08	42.68	-	42.94	74.00	31.06
4 960.000	40.72	Average	V	31.40	4.08	42.68	0.68	34.20	54.00	19.80
7 440.000	49.14	Peak	H	36.50	4.94	43.08	-	47.50	74.00	26.50
7 440.000	37.54	Average	H	36.50	4.94	43.08	0.68	36.58	54.00	17.42
7 440.000	49.30	Peak	V	36.50	4.94	43.08	-	47.66	74.00	26.34
7 440.000	38.03	Average	V	36.50	4.94	43.08	0.68	37.07	54.00	16.93

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + Duty Factor

10.6.2.2 Test data for 2 Mbps

- . Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
1 MHz for Peak Mode for the emissions outside restricted band
- . Video bandwidth : 3 MHz for Peak and Average Mode
- . Frequency range : 1 GHz ~ 26.5 GHz
- . Measurement distance : 3 m
- . Duty Cycle : 57.56 %
- . Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	Duty Factor (dB)	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel										
4 804.000	49.95	Peak	H	31.30	3.94	42.62	-	42.57	74.00	31.43
4 804.000	38.83	Average	H	31.30	3.94	42.62	2.39	33.84	54.00	20.16
4 804.000	49.56	Peak	V	31.30	3.94	42.62	-	42.18	74.00	31.82
4 804.000	38.19	Average	V	31.30	3.94	42.62	2.39	33.20	54.00	20.80
7 206.000	48.50	Peak	H	36.00	4.89	43.06	-	46.33	74.00	27.67
7 206.000	36.98	Average	H	36.00	4.89	43.06	2.39	37.20	54.00	16.80
7 206.000	49.91	Peak	V	36.00	4.89	43.06	-	47.74	74.00	26.26
7 206.000	38.21	Average	V	36.00	4.89	43.06	2.39	38.43	54.00	15.57
Test Data for Middle Channel										
4 880.000	49.16	Peak	H	31.30	4.06	42.62	-	41.90	74.00	32.10
4 880.000	38.65	Average	H	31.30	4.06	42.62	2.39	33.78	54.00	20.22
4 880.000	50.33	Peak	V	31.30	4.06	42.62	-	43.07	74.00	30.93
4 880.000	38.86	Average	V	31.30	4.06	42.62	2.39	33.99	54.00	20.01
7 320.000	48.67	Peak	H	36.30	4.92	43.07	-	46.82	74.00	27.18
7 320.000	36.84	Average	H	36.30	4.92	43.07	2.39	37.38	54.00	16.62
7 320.000	49.94	Peak	V	36.30	4.92	43.07	-	48.09	74.00	25.91
7 320.000	38.00	Average	V	36.30	4.92	43.07	2.39	38.54	54.00	15.46

Test Data for High Channel										
4 960.000	49.33	Peak	H	31.40	4.08	42.68	-	42.13	74.00	31.87
4 960.000	38.06	Average	H	31.40	4.08	42.68	2.39	33.25	54.00	20.75
4 960.000	49.95	Peak	V	31.40	4.08	42.68	-	42.75	74.00	31.25
4 960.000	38.85	Average	V	31.40	4.08	42.68	2.39	34.04	54.00	19.96
7 440.000	49.44	Peak	H	36.50	4.94	43.08	-	47.80	74.00	26.20
7 440.000	37.57	Average	H	36.50	4.94	43.08	2.39	38.32	54.00	15.68
7 440.000	50.13	Peak	V	36.50	4.94	43.08	-	48.49	74.00	25.51
7 440.000	38.42	Average	V	36.50	4.94	43.08	2.39	39.17	54.00	14.83

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dB μ V/m) - Total Level (dB μ V/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + Duty Factor

11. PEAK POWER SPECTRAL DENSITY

11.1 Operating environment

Temperature : 24 °C
Relative humidity : 54 % R.H.

11.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer.

The resolution bandwidth is set to $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$, the video bandwidth is set to 3 times the resolution bandwidth.



11.3 Test Date

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11.4 Test data for 1 Mbps

-. Test Result : Pass

CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 402.00	-26.54	8.00	34.54
Middle	2 440.00	-26.06	8.00	34.06
High	2 480.00	-25.41	8.00	33.41

Remark. Margin = Limit – Measured Value

11.5 Test data for 2 Mbps

-. Test Result : Pass

CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 402.00	-28.92	8.00	36.37
Middle	2 440.00	-27.81	8.00	35.98
High	2 480.00	-27.48	8.00	35.24

Remark. Margin = Limit – Measured Value

12. RADIATED EMISSION TEST

12.1 Operating environment

Temperature : 24 °C
Relative humidity : 54 % R.H.

12.2 Test set-up

The radiated emissions measurements were on the 3 m semi anechoic chamber. The EUT and other support equipment were placed on a non-conductive turntable above the ground plane. The interconnecting cables from outside test site were inserted into ferrite clamps at the point where the cables reach the turntable.

The frequency spectrum from 30 MHz to 26.5 GHz was scanned and emission levels maximized at each frequency recorded. The system was rotated 360°, and the antenna was varied in height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for both horizontal and vertical polarization of the receiving antenna.

12.3 Test Date

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12.4 Test data for 30 MHz ~ 1 000 MHz

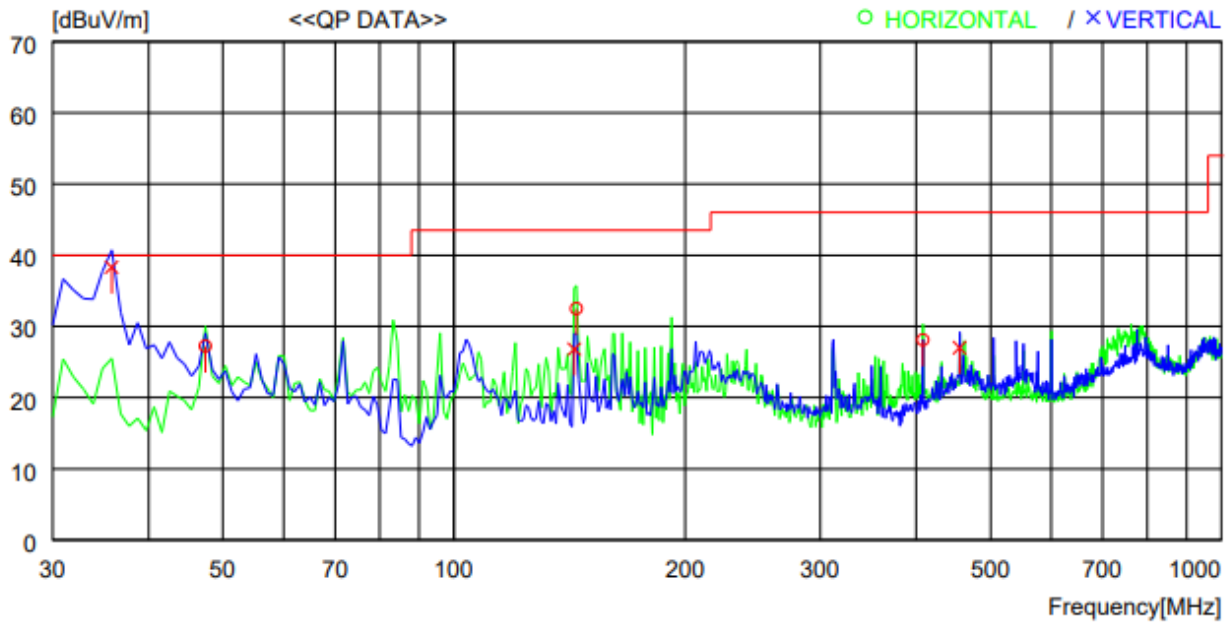
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

Result : PASSED

EUT : Ring Mouse

Test mode : Worst case (Low CH)

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)



No.	FREQ	READING	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	[dBuV]	FACTOR	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
----- Horizontal -----										
1	47.460	45.3	14.1	0.9	33.1	27.2	40.0	12.8	385	348
2	144.460	44.7	19.2	1.6	33.0	32.5	43.5	11.0	224	0
3	408.300	37.2	21.2	2.7	33.0	28.1	46.0	17.9	167	359
----- Vertical -----										
4	35.820	51.6	19.0	0.8	33.1	38.3	40.0	1.7	87	30
5	143.490	38.9	19.3	1.6	33.0	26.8	43.5	16.7	328	0
6	455.831	34.1	23.1	2.9	33.1	27.0	46.0	19.0	143	225

12.4.1 Test data for Below 30 MHz

- . Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)
- . Frequency range : 9 kHz ~ 30 MHz
- . Measurement distance : 3 m
- . Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Height (m)	Angle (°)	Ant. Factor (dB/m)	Cable Loss	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Emission from the EUT more than 20 dB below the limit in each frequency range.									

12.4.2 Test data for above 1 GHz

- . Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- . Video bandwidth : 3 MHz for Peak and Average Mode
- . Frequency range : 1 GHz ~ 26.5 GHz
- . Measurement distance : 3 m
- . Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Height (m)	Angle (°)	Ant. Factor (dB/m)	Cable Loss	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Emission from the EUT more than 20 dB below the limit in each frequency range.									

13. CONDUCTED EMISSION TEST

13.1 Operating environment

Temperature : 24 °C
Relative humidity : 54 % R.H.

13.2 Test set-up

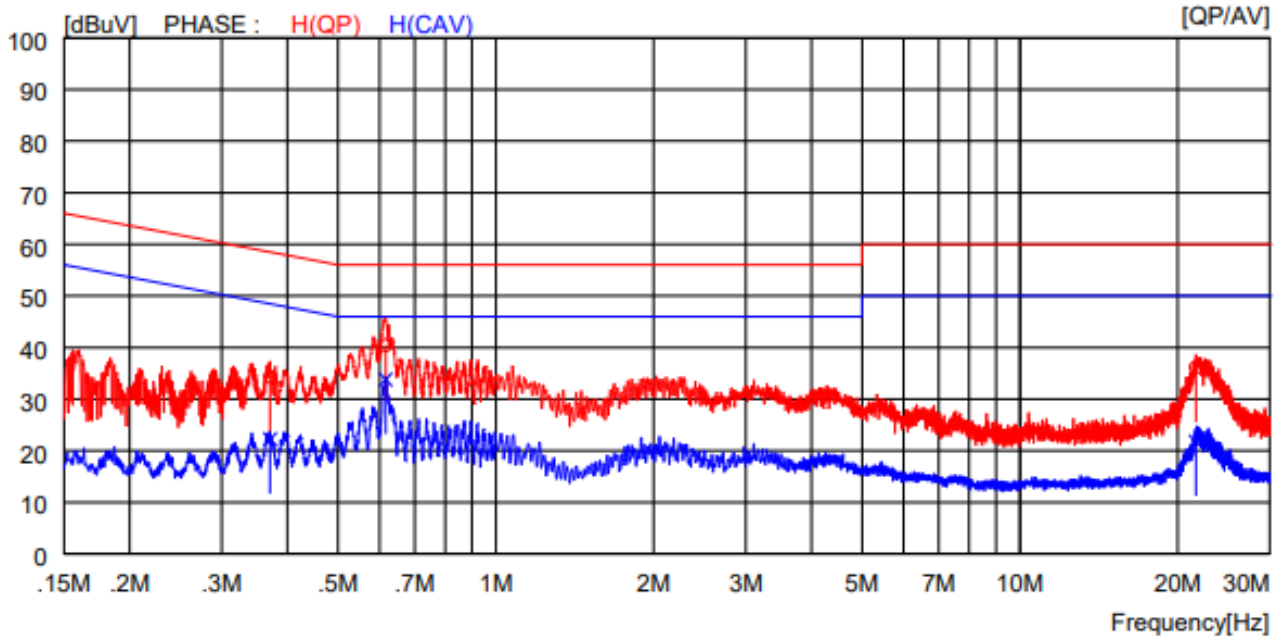
The EUT was placed on a wooden table, 0.8 m height above the floor. Power was fed to the EUT through a 50 Ω / 50 μ H + 5 Ω Artificial Mains Network (AMN). The ground plane was electrically bonded to the reference ground system and all power lines were filtered from ambient.

13.3 Test Date

July 14, 2025 ~ July 16, 2025

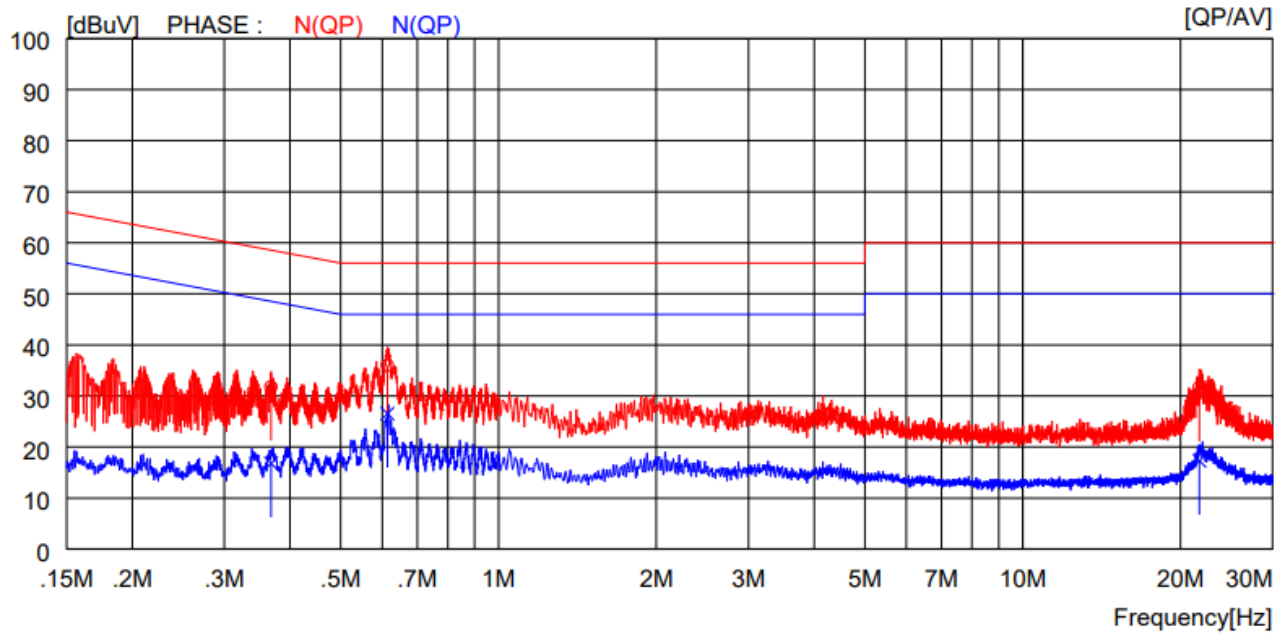
13.4 Test data

- Resolution bandwidth : 9 kHz
- Frequency range : 0.15 MHz ~ 30 MHz
- Test mode : Charging mode
- Tested Line : HOT LINE



NO	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.37100	24.2	----	10.1	34.3	----	58.5	----	24.2	----	H (QP)
2	0.61600	30.3	----	10.1	40.4	----	56.0	----	15.6	----	H (QP)
3	21.65000	24.9	----	11.2	36.1	----	60.0	----	23.9	----	H (QP)
4	0.37100	----	12.1	10.1	----	22.2	----	48.5	----	26.3	H (CAV)
5	0.61600	----	23.7	10.1	----	33.8	----	46.0	----	12.2	H (CAV)
6	21.65000	----	10.6	11.2	----	21.8	----	50.0	----	28.2	H (CAV)

-. Tested Line : NEUTRAL LINE



NO	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.36800	21.7	----	10.1	31.8	----	58.5	----	26.7	----	N (QP)
2	0.61400	25.9	----	10.1	36.0	----	56.0	----	20.0	----	N (QP)
3	21.74000	20.4	----	11.2	31.6	----	60.0	----	28.4	----	N (QP)
4	0.36800	----	6.7	10.1	----	16.8	----	48.5	----	31.7	N (CAV)
5	0.61400	----	16.4	10.1	----	26.5	----	46.0	----	19.5	N (CAV)
6	21.74000	----	6.1	11.2	----	17.3	----	50.0	----	32.7	N (CAV)

Remark: Margin (dB) = Limit – Level (Result)

The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

14. LIST OF TEST EQUIPMENT

Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
ESR	Rohde & Schwarz	EMI Test Receiver	101470	Mar.11, 2025(1Y)
FSVA40	Rohde & Schwarz	Signal Analyzer	101598	Jan.13, 2025(1Y)
310N	Sonoma Instrument	AMPLIFIER	312545	Mar.11.2025(1Y)
SCU18	Rohde & Schwarz	Signal Conditioning unit	102266	Jul. 02, 2025(1Y)
SCU40A	Rohde & Schwarz	Signal Conditioning unit	100436	Jan. 15, 2025(1Y)
FMZB 1519-60D	Schwarzbeck	Active Magnetic Loop Antenna	00113	Jan.07,2025(2Y)
HLP-2008	TDK RF Solutions	TRILOG BROADBAND ANTENNA	131314	Mar.01, 2025(2Y)
BBHA9120D	Rohde & Schwarz	Horn Antenna	9120D-1349	Jun. 27, 2025(1Y)
BBHA9170	Rohde & Schwarz	Horn Antenna	BBHA9170178	Jan. 04, 2025(1Y)
FMZB 1519-60D	Schwarzbeck	Active Magnetic Loop Antenna	00113	Jan.07,2025(2Y)
HPF 3GHz	Rohde & Schwarz	High Pass Filter	N/A	Jan. 13, 2025(1Y)
ESCI	Rohde & Schwarz	TEST Receiver	101012	Set. 26, 2024(1Y)
NSLK8126	Schwarzbeck	AMN	8126404	Mar. 12, 2025(1Y)
ESH3-Z2	Rohde & Schwarz	Pulse Limiter	100655	Mar. 12, 2025(1Y)