EMC TEST REPORT

Applicant	MeiG Smart Technology Co., Ltd
FCC ID	2APJ4-MT579
Product	4G Mobile WiFi
Brand	MEIGLink
Model	MT579
Report No.	R2402A0143-E1
Issue Date	July 1, 2024

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC Code CFR47 Part15B (2023)/ ANSI C63.4-2014**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Liu Wei

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Summary of measurement results

Number	Test Case	Clause in FCC Rules	Conclusion
1	Radiated Emission	FCC Part15.109, ANSI C63.4-2014	PASS
2	Conducted Emission	FCC Part15.107, ANSI C63.4-2014	PASS
Date of Testing: February 23, 2024 ~ April 10, 2024 Date of Sample Received: February 22, 2024			
Note: All indications of Pass/Fail in this report are opinions expressed by Eurofins TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.			

1 Test Laboratory

1.1 Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **Eurofins TA Technology (Shanghai) Co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2 Test Facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

Eurofins TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

A2LA (Certificate Number: 3857.01)

Eurofins TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform measurement.

1.3 Testing Location

Company:	Eurofins TA Technology (Shanghai) Co., Ltd.
Address:	Building 3, No.145, Jintang Rd, Pudong Shanghai, P.R.China
City:	Shanghai
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E-mail:	Jack.Fan@cpt.eurofinscn.com

2 General Description of Equipment Under Test

2.1 Applicant and Manufacturer Information

Applicant	MeiG Smart Technology Co., Ltd
Applicant address	2nd Floor,Office Building,No.5 Lingxia Road,Fenghuang,Fuyong Street,Bao'an District,Shenzhen
Manufacturer	MeiG Smart Technology Co., Ltd
Manufacturer address	2nd Floor,Office Building,No.5 Lingxia Road,Fenghuang,Fuyong Street,Bao'an District,Shenzhen

2.2 General Information

EUT Description			
Device Type	Portable Device		
Model	MT579		
Lab internal SN	R2402A0143/S01		
HW Version	MT579_PCB_V1.00		
SW Version	MT579-SA_4.0.2_EQ100		
Power Rating	DC 3.8V from battery or DC 5V from Adapter.		
Connecting I/O Port(s)	Please refer to the User's Manual.		
Antenna Type	Internal Antenna		
Frequency	Band	Tx (MHz)	Rx (MHz)
	WCDMA Band II	1850 ~ 1910	1930 ~ 1990
	WCDMA Band IV	1710 ~ 1755	2110 ~ 2155
	WCDMA Band V	824 ~ 849	869 ~ 894
	LTE Band 2	1850 ~ 1910	1930 ~ 1990
	LTE Band 4	1710 ~ 1755	2110 ~ 2155
	LTE Band 5	824 ~ 849	869 ~ 894
	LTE Band 7	2500 ~ 2570	2620 ~ 2690
	LTE Band 40	2300 ~ 2400	2300 ~ 2400
	LTE Band 41	2496 ~ 2690	2496 ~ 2690
	LTE Band 66	1710 ~ 1780	2110 ~ 2180
	Wi-Fi 2.4G	2400 ~ 2483.5	2400 ~ 2483.5
EUT Accessory			
Adapter	Manufacturer: Dongguan Sunun Power Co., Ltd Model: SA68-050100U Input: 100-240V 0.2A		

	Output: 5.0V⎓1.0A
Battery 1	Manufacturer: ShenzhenAerospaceElectronic Co.,Ltd. Model: MG584463 DC 3.8V, 2200mAh
Battery 2	Manufacturer: Zhongshan Tianmao Battery Co.. Ltd Model: MG584463 DC 3.8V, 2200mAh
USB Cable	Manufacturer: Shenzhen Gaohangda Technology Co., LTD Model: /
Note: 1. The EUT is sent from the applicant to Eurofins TA and the information of the EUT is declared by the applicant. 2. Radio equipment in band 40 is only allowed to operate from 2305 MHz to 2315 MHz for Subset 1; 2350 MHz to 2360 MHz for Subset 2 for the transmitter and receiver. 3. There are more than one Batteries, Battery 1 was fully tested and recorded, Battery 2 was verified for Radiated Emission, and did not worsen, so they were not recorded in the report.	

2.3 Applied Standards

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

Test standards
FCC Code CFR47 Part15B (2023)
ANSI C63.4-2014

2.4 Test Mode

Test Mode	
Mode 1:	Adapter + USB +EUT +WCDMA/LTE/WLAN Receiver
Mode 2:	Adapter + USB +EUT + Standby

Test Type	Test Mode	Worst Mode
Radiated Emission	Mode 1, 2	Mode 1
Conducted Emission	Mode 1, 2	Mode 1
During the test, the preliminary test was performed in all modes, the test data of the worst-case condition was recorded in this report.		

3 Test Case Results

3.1 Radiated Emission

Ambient Condition

Temperature	Relative humidity
15°C ~ 35°C	30% ~ 60%

Methods of Measurement

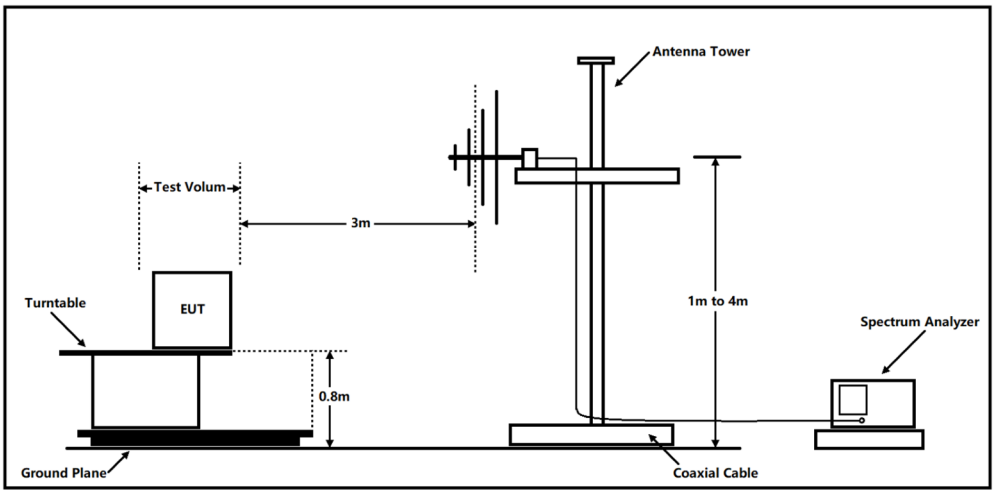
The EUT is placed on a non-metallic table 0.8m above the horizontal metal reference ground plane. The distance between EUT and receive antenna should be 3 meters. During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.4-2014. Sweep the whole frequency band through the range from 30MHz to the 5th harmonic of the carrier. During the test, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turn table shall be rotated from 0 to 360 degrees for detecting the maximum of radiated signal level.
The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing. During the test, the EUT is worked at maximum output power.
Set the spectrum analyzer in the following:

Below 1GHz:
RBW=100 kHz / VBW=300 kHz / Sweep=AUTO
Above 1GHz:
(a) PEAK Detector: RBW=1MHz / VBW=3MHz/ Sweep=AUTO
(b) AVERAGE Detector: RBW=1MHz / VBW=3MHz / Sweep=AUTO

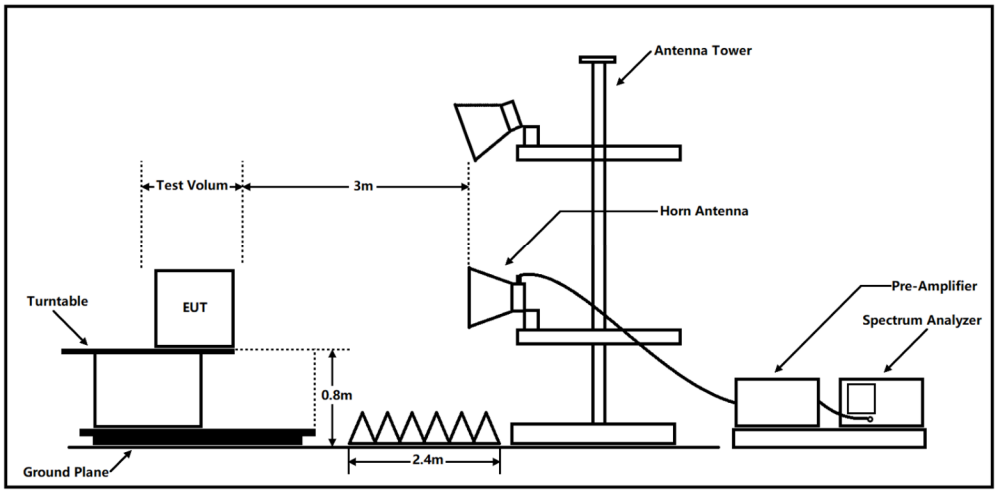
The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in lie-down position (X axis) and the worst case was recorded.

Test Setup

Below 1GHz



Above 1GHz



Note: Area side: 2.4mX3.6m

Antenna Tower meets ANSI C63.4 requirements for measurements above 1 GHz by keeping the antenna aimed at the EUT during the antenna's ascent/ descent along the antenna mast.

Limits

Class B

Frequency (MHz)	Field Strength (dBμV/m)	Detector
30 -88	40.0	Quasi-peak
88-216	43.5	Quasi-peak
216 – 960	46.0	Quasi-peak
960-1000	54.0	Quasi-peak
1000-5th harmonic of the highest frequency or 40GHz, which is lower	54 74	Average Peak

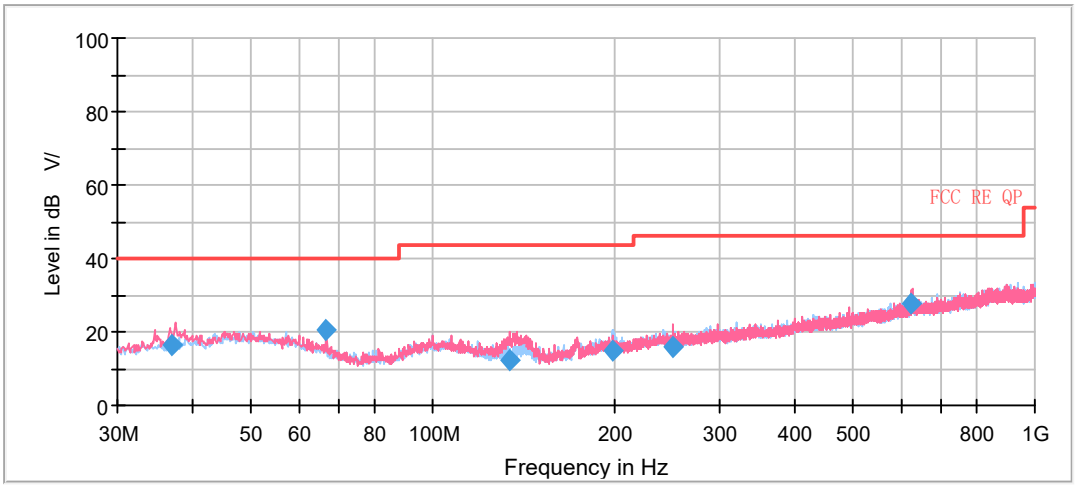
Frequency range of radiated measurements

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705-108	1000
108-500	2000
500-1000	5000
Above 1000	5th harmonic of the highest frequency or 40 GHz, whichever is lower.

Test Results

Sweep the whole frequency band through the range from 30MHz to the 5th harmonic of the carrier.

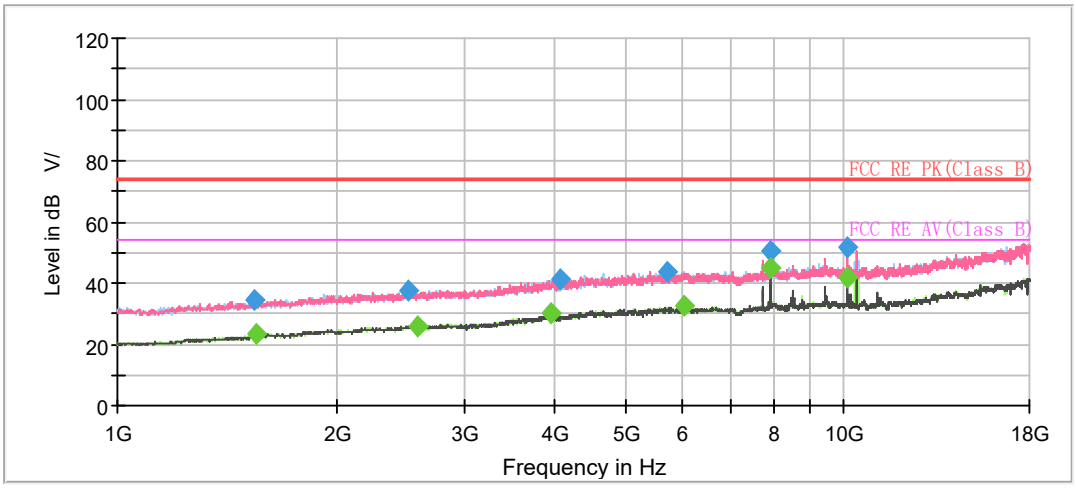
The following graphs display the maximum values of horizontal and vertical by software.
For above 1GHz, Blue trace uses the peak detection, Green trace uses the average detection.
A symbol (dB V/) in the test plot below means (dBμV/m)



Radiated Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
36.996250	16.63	40.00	23.37	101.0	V	207.0	18.8
66.657500	20.64	40.00	19.37	225.0	V	169.0	17.5
134.557500	12.38	43.50	31.12	100.0	V	64.0	15.6
199.143750	14.95	43.50	28.55	125.0	H	0.0	18.8
250.027500	15.83	46.00	30.17	100.0	V	128.0	20.5
625.096250	27.84	46.00	18.16	177.0	V	93.0	27.6

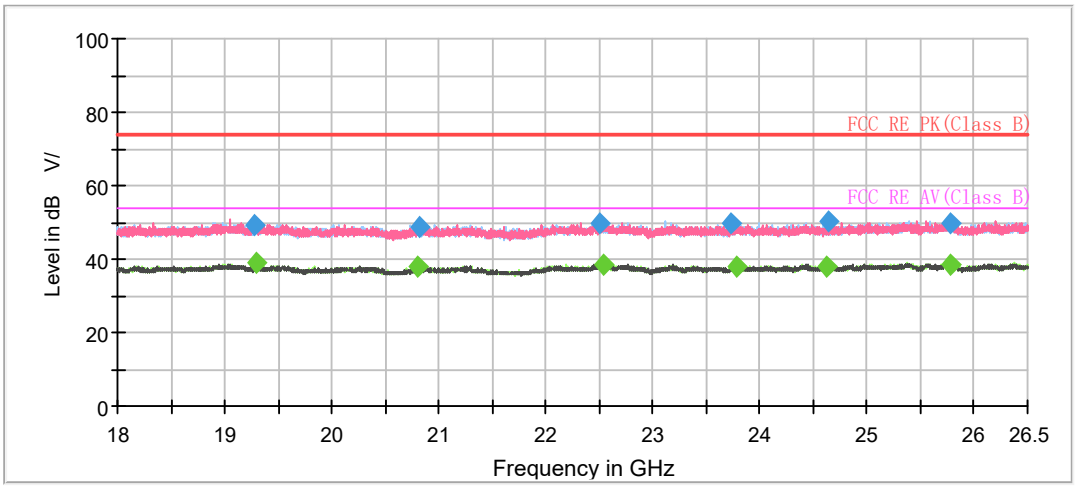
Remark: 1. Correction Factor = Antenna factor + Insertion loss(cable loss+amplifier gain)
2. Margin = Limit – Quasi-Peak



Radiated Emission from 1GHz to 18GHz

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dB µ V/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1541.875000	34.41	---	74.00	39.59	500.0	200.0	V	174.0	-16.6
1552.500000	---	23.10	54.00	30.90	500.0	100.0	V	236.0	-16.5
2513.000000	37.39	---	74.00	36.61	500.0	100.0	V	45.0	-12.4
2595.875000	---	26.09	54.00	27.91	500.0	200.0	H	184.0	-12.2
3960.125000	---	30.00	54.00	24.00	500.0	200.0	V	279.0	-7.3
4070.625000	41.11	---	74.00	32.89	500.0	100.0	V	156.0	-6.9
5728.125000	43.95	---	74.00	30.05	500.0	100.0	H	0.0	-3.8
6032.000000	---	32.38	54.00	21.62	500.0	200.0	H	79.0	-3.7
7927.500000	50.33	---	74.00	23.68	500.0	100.0	V	230.0	-1.8
7927.500000	---	44.65	54.00	9.35	500.0	100.0	V	230.0	-1.8
10131.125000	---	41.55	54.00	12.45	500.0	200.0	V	21.0	-0.8
10131.125000	51.43	---	74.00	22.57	500.0	200.0	V	21.0	-0.8

Remark: 1. Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)
2. Peak Margin = Limit –MAX Peak/ Average



Radiated Emission from 18GHz to 26.5GHz

Frequency (MHz)	MaxPeak (dB µV/m)	Average (dB µV/m)	Limit (dB µV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
19277.125000	49.11	---	74.00	24.89	500.0	200.0	V	101.0	-4.5
19295.187500	---	39.07	54.00	14.93	500.0	100.0	V	196.0	-4.5
20798.625000	---	38.00	54.00	16.00	500.0	200.0	H	195.0	-4.3
20825.187500	48.67	---	74.00	25.33	500.0	200.0	H	150.0	-4.3
22502.875000	49.84	---	74.00	24.16	500.0	200.0	V	158.0	-3.0
22533.687500	---	38.63	54.00	15.37	500.0	200.0	H	283.0	-2.9
23722.625000	49.68	---	74.00	24.32	500.0	200.0	H	288.0	-2.5
23782.125000	---	37.74	54.00	16.26	500.0	200.0	H	207.0	-2.4
24628.937500	---	37.77	54.00	16.23	500.0	200.0	V	187.0	-2.2
24645.937500	50.35	---	74.00	23.65	500.0	200.0	H	329.0	-2.2
25779.625000	49.96	---	74.00	24.04	500.0	200.0	H	283.0	-1.3
25781.750000	---	38.61	54.00	15.39	500.0	100.0	H	52.0	-1.3

Remark: 1. Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)
2. Peak Margin = Limit –MAX Peak/ Average

3.2 Conducted Emission

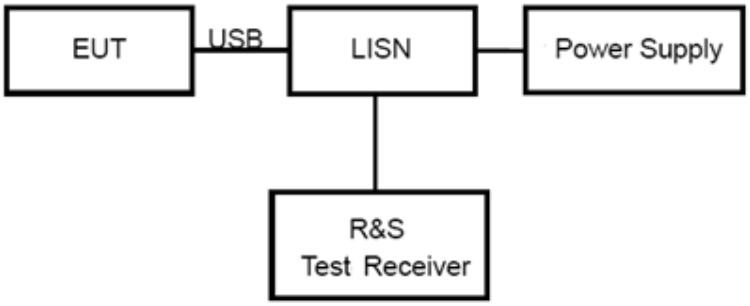
Ambient Condition

Temperature	Relative humidity
15°C ~ 35°C	30% ~ 60%

Methods of Measurement

The EUT is placed on a non-metallic table of 80cm height above the horizontal metal reference ground plane. During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.4-2014. Connect the AC power line of the EUT to the L.I.S.N. Use EMI receiver to detect the average and Quasi-peak value. RBW is set to 9 kHz, VBW is set to 30kHz. The measurement result should include both L line and N line.

Test Setup



Note: Power Supply is AC Power source and it is used to change the voltage 120V/60Hz.

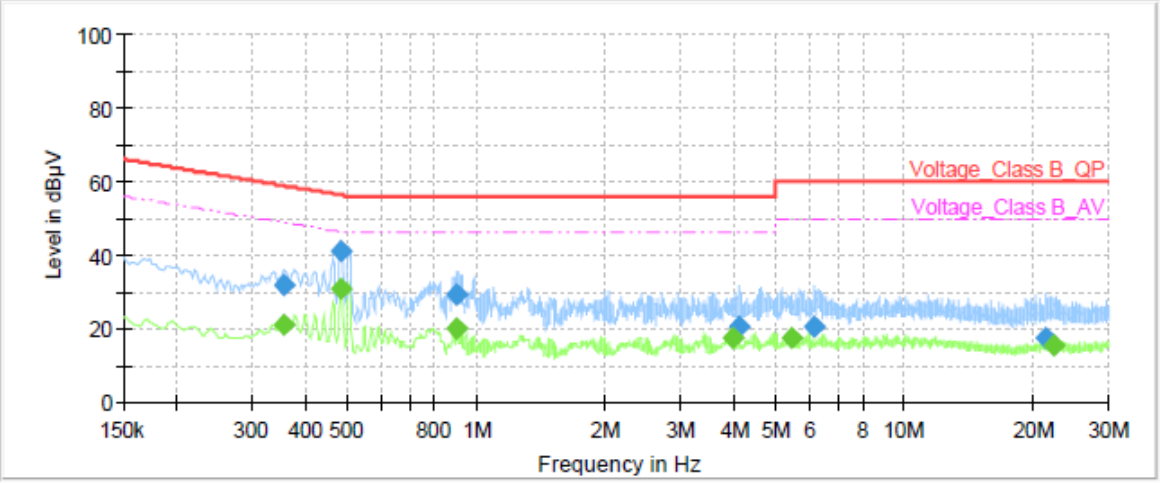
Limits

Frequency (MHz)	Class A (dBµV)		Class B (dBµV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 to 56 *	56 to 46*
0.5 - 5	73	60	56	46
5 - 30	73	60	60	50
*: Decreases with the logarithm of the frequency.				

Note: The EUT should meet CLASS B limit.

Test Results

Following plots, Blue trace uses the peak detection; Green trace uses the average detection.

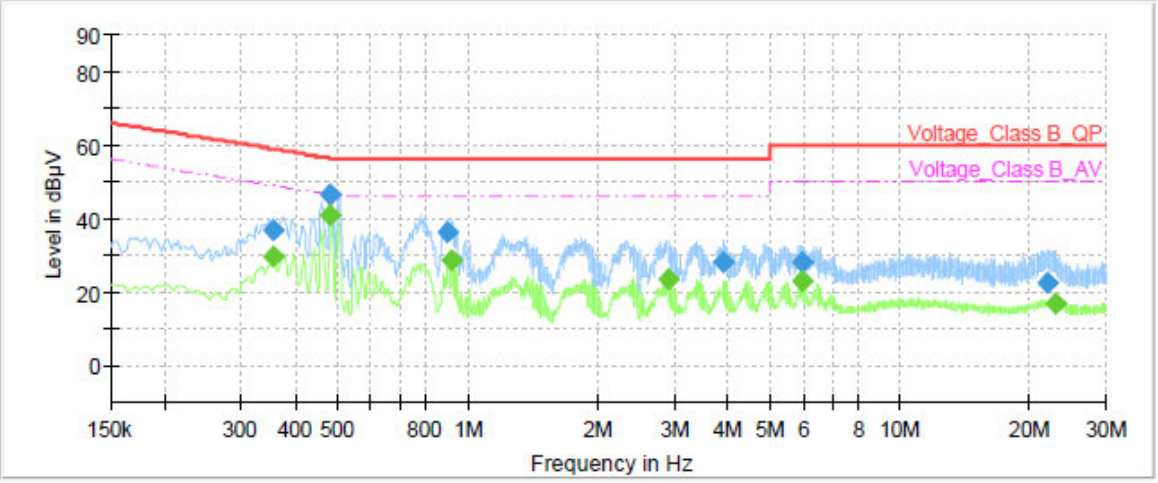


Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.36	31.80	---	58.80	27.00	1000.0	9.000	L1	ON	21.0
0.36	---	20.84	48.80	27.96	1000.0	9.000	L1	ON	21.0
0.48	41.15	---	56.29	15.14	1000.0	9.000	L1	ON	20.9
0.48	---	30.57	46.29	15.72	1000.0	9.000	L1	ON	20.9
0.90	---	19.99	46.00	26.01	1000.0	9.000	L1	ON	20.3
0.90	29.12	---	56.00	26.88	1000.0	9.000	L1	ON	20.3
3.96	---	17.27	46.00	28.73	1000.0	9.000	L1	ON	19.5
4.11	20.52	---	56.00	35.48	1000.0	9.000	L1	ON	19.5
5.47	---	17.45	50.00	32.55	1000.0	9.000	L1	ON	19.5
6.13	20.59	---	60.00	39.41	1000.0	9.000	L1	ON	19.5
21.28	17.39	---	60.00	42.61	1000.0	9.000	L1	ON	19.7
22.24	---	15.19	50.00	34.81	1000.0	9.000	L1	ON	19.7

Remark: Correct factor=cable loss + LISN factor

L line

Conducted Emission from 150 KHz to 30 MHz



Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.35	---	29.34	48.85	19.51	1000.0	9.000	N	ON	21.0
0.35	36.71	---	58.85	22.14	1000.0	9.000	N	ON	21.0
0.48	---	40.93	46.29	5.36	1000.0	9.000	N	ON	20.9
0.48	46.45	---	56.29	9.84	1000.0	9.000	N	ON	20.9
0.90	35.97	---	56.00	20.03	1000.0	9.000	N	ON	20.3
0.92	---	28.66	46.00	17.34	1000.0	9.000	N	ON	20.3
2.90	---	23.37	46.00	22.63	1000.0	9.000	N	ON	19.6
3.89	27.96	---	56.00	28.04	1000.0	9.000	N	ON	19.5
5.93	27.97	---	60.00	32.03	1000.0	9.000	N	ON	19.5
5.96	---	22.71	50.00	27.29	1000.0	9.000	N	ON	19.5
22.02	22.53	---	60.00	37.47	1000.0	9.000	N	ON	19.8
22.86	---	16.48	50.00	33.52	1000.0	9.000	N	ON	19.8

Remark: Correct factor=cable loss + LISN factor

N line

Conducted Emission from 150 KHz to 30 MHz

4 Uncertainty Measurement

Case	Uncertainty	Factor k
Radiated Emission 30MHz – 200MHz	4.17 dB	1.96
Radiated Emission 200MHz – 1GHz	4.84 dB	1.96
Radiated Emission 1GHz – 18GHz	4.35 dB	1.96
Radiated Emission 18GHz – 26.5GHz	5.90 dB	1.96
Conducted Emission	2.57 dB	2

5 Main Test Instruments

Name of Equipment	Manufacturer	Type/Model	Serial Number	Calibration Date	Expiration Time
Wideband radio communication tester	R&S	CMW500	150415	2023-05-12	2024-05-11
Radiated Emission					
EMI Test Receiver	R&S	ESR	102389	2023-05-12	2024-05-11
EMI Test Receiver	R&S	ESR	102389	2023-05-12	2024-05-11
EMI Test Receiver	R&S	ESR	102389	2023-05-12	2024-05-11
EMI Test Receiver	R&S	ESR	102389	2023-05-12	2024-05-11
Horn Antenna	R&S	HF907	102723	2021-07-24	2024-07-23
Amplifier	R&S	SCU18	10034	2023-05-12	2024-05-11
Horn Antenna	ETS-Lindgren	3160-09	00102643	2021-10-10	2024-10-09
Amplifier	MicroWave	KLNA-18040050	220826001	2023-05-12	2024-05-11
Conducted Emission					
Artificial main network	R&S	ENV216	102191	2022-12-10	2024-12-09
EMI Test Receiver	R&S	ESR	101667	2023-05-12	2024-05-11
Software	R&S	EMC32	10.35.10	/	/

ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

ANNEX B: Test Setup Photos

The Test Setup Photos are submitted separately.

****** END OF REPORT ******