

TEST REPORT

Report No.: SHE24090032-01QE

Date: 2025-04-22

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Applicant : PETKIT Network Technology (Shanghai) Co., Ltd.
Address of Applicant : Room 4139, Building 2, 588 Zixing Road, Minhang District, Shanghai
Product Name : PETKIT PUROBOT ULTRA WITH CAMERA SELF-CLEANING CAT LITTER BOX
Brand Name : PETKIT
Model No. : P9903
FCC ID : 2A72N-P9903
Sample Acquisition Method : Sent by Client
Standards : FCC CFR47 Part 15, Subpart C
Date of Receipt : 2024-09-02
Date of Test : 2024-09-02~2024-09-03
Date of Issue : 2025-04-22

Remark:

This report details the results of the testing carried out on one sample, the results contained in this report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

ICAS TESTING TECHNOLOGY SERVICE
(SHANGHAI) Co., LTD

Prepared by: Chris Chen (Chris Chen) Reviewed by: Oliver Xiang (Oliver Xiang) Approved by: Echo Mu (Authorized signatory: Echo Mu)

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1 General Information

1.1 Testing Laboratory Information

Company Name	ICAS Testing Technology Service (Shanghai) Co., Ltd.
Address	No.1298 Pingan Rd, Minhang District, Shanghai, China
Telephone	0086 21-51682999
Fax	0086 21-54711112
Homepage	www.icasiso.com

1.2 Applicant Information

Applicant Company Name	PETKIT Network Technology (Shanghai) Co., Ltd.
Address	Room 4139, Building 2, 588 Zixing Road, Minhang District, Shanghai
Contact Person	TingHe
Telephone	13916991059
Email	ting.he@petkit.com
Manufacturer	Dongguan Zhihang Electronic Technology Co., LTD.
Manufacturer Address	Room 701, Building 15, No.1 Pushi Road I, Qiaotou Town, Dongguan City, Guangdong Province,China

1.3 EUT Description

Product Name	PETKIT PUROBOT ULTRA WITH CAMERA SELF-CLEANING CAT LITTER BOX
Under Test Model Name	P9903
Series Model Name	/
Description of Model name differentiation	/
Hardware version	V1.0
Software version	2.49
Operating Frequency	13.56MHz
Operating Voltage Range	Power Adapter (Input: 100-240V~, 50/60Hz, 1.5A Max; Output: 12V=, 4.0A, 48.0W)
Modulation Type	ASK
Antenna Type	PCB Antenna
Antenna Gain	/

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2 Summary of Test Result

2.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15, Subpart C (10-1-16 Edition)	Miscellaneous Wireless Communications Services
2	ANSI C63.4-2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
3	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

Remark: All test items were verified and recorded according to the standards and without any addition/deviation/exclusion during the test.

2.2 Test Result

No.	Description	FCC Rule	Test Result	Verdict
1	Antenna Requirement	15.203	Clause 4.1.1	PASS
2	Frequency Tolerance of carrier signal	15.225 (e)	Clause 4.1.2	PASS
3	Emissions Bandwidth	15.215	Clause 4.1.3	PASS
4	Emission within band	15.225 (a), (b), (c)	Clause 4.1.4	PASS
5	Spurious Emission outside band	15.225 (d) 15.209	Clause 4.1.5	PASS
6	Conducted Emissions	15.207	Clause 4.1.6	PASS

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3 General Test Configurations

3.1 Test Environments

During the measurement, the environmental conditions complied with the range listed as below.

Relative Humidity	25% to 75%	
Atmospheric Pressure	100kPa to102kPa	
Temperature	NT (Normal Temperature)	25°C
Working Voltage of the EUT	NV (Normal Voltage)	AC120V 60Hz

3.2 Test Equipment List

Instrument	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Loop Antenna	SCHWARZBECK	FMZB 1513	N/A	2023-06-18	2025-06-17
Broadband Antenna	SCHWARZBECK	VULB9163	9163-1037	2023-03-22	2025-03-21
EMI Test Receiver	ROHDE&SCHWARZ	ESR 7	101911	2024-06-04	2025-06-03
Spectrum Analyzer	ROHDE&SCHWARZ	FSV40N	101450	2024-06-04	2025-06-03
Spectrum Analyzer	Keysight	N9020B	MY59260184	2024-06-26	2025-06-25
Temperature Boxe	ESPEC	ECT-2	055239A	2023-11-09	2024-11-08
EMC Chamber 9*6*6 (L*W*H)	CHANGNING	966	N/A	2023-06-09	2025-06-08
Shielded Enclosure 8*4*3 (L*W*H)	YIHENG	843	N/A	2023-06-09	2025-06-08
Test Software	BL	BL410_E	N/A	N/A	N/A

3.3 Measurement Uncertainty

Measurement	Frequency	Uncertainty
Antenna Port Conducted Emission	< 1GHz	± 1.5dB
	> 1GHz	± 1.5dB
Radiated Emission	9kHz - 30MHz	± 4.52dB
	30MHz - 1GHz	± 5.00dB
	> 1GHz	± 5.20dB

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4 Test Set-up and Operation Modes

4.1 Independent Operation Modes

The basic operation modes are:

- A. NFC mode(13.56MHz)
- B. Off

4.2 Independent Operation Modes

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

4.3 Special Accessories and Auxiliary Equipment

Description	Manufacturer	Model No.	Serial No.
/	/	/	/

4.4 Support Software

Description	Manufacturer	Software Name
/	/	/

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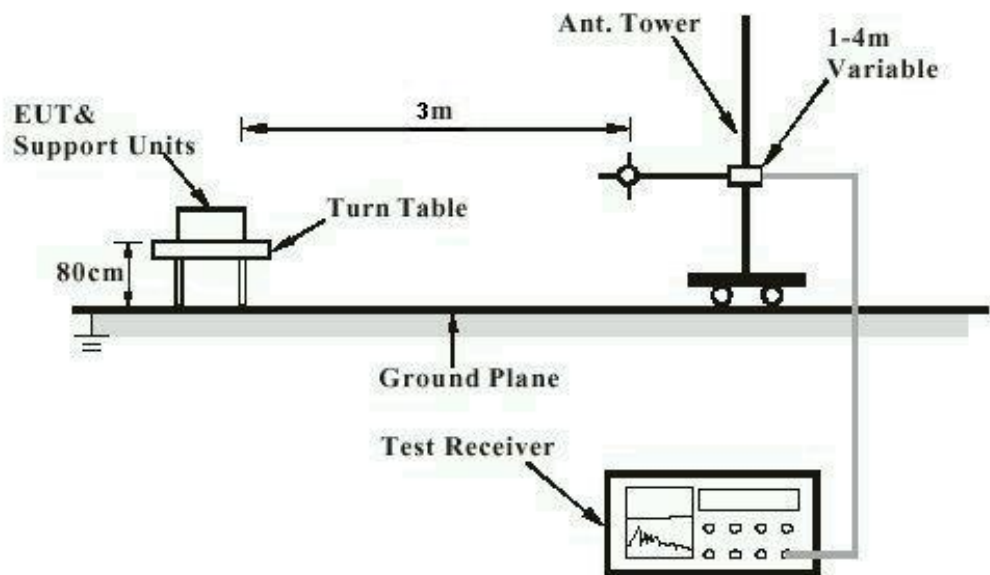
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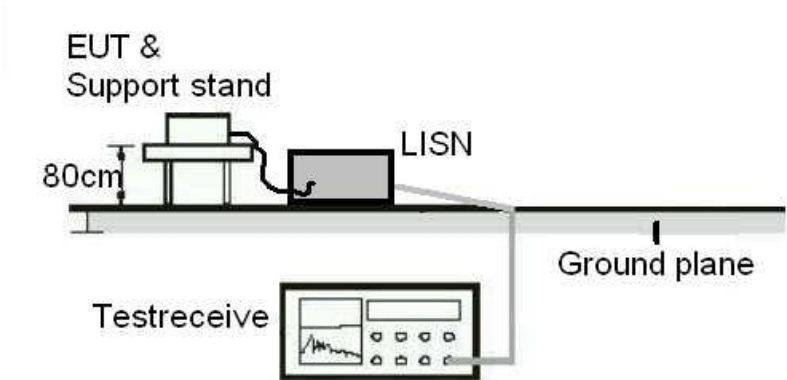
4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test



Note: Measurements above 30MHz are done with a table height of 0.8m.

Diagram of Measurement Equipment Configuration for Conduction Measurement



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5 Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:

Pass

Test Specification

Test standard	:	FCC Part 15.203
Limit	:	the use of antennas with directional gains that do not exceed 6dBi

According to the manufacturer declared, the EUT has one external antenna, the directional gain of antenna is 2dBi, and the antenna connector is designed with permanent attachment and non consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

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5.1.2 Frequency tolerance of carrier signal

RESULT:

Pass

Test Specification

Test standard : FCC part 15.225 (e)

Basic standard : ANSI C63.10:2013

Limit : $\pm 0.01\%$

Kind of test site : EMC chamber

Test Setup

Date of testing : 2024-09-03

Input voltage : AC120V

Operation mode : A

Ambient temperature : 25°C

Relative humidity : 50%

Atmospheric pressure : 102kPa

Refer to following test plots for details of test result

Table 1: Test result of Frequency tolerance of carrier signal

Temperature(°C)	Voltage (V _{DC})	Test result (MHz)	Deviation Frequency (kHz)	Test result (ppm)	Limit(ppm)
-20	120	13.5602668	0.2668	19.67551622	100
-10		13.5602676	0.2676	19.73451327	
0		13.5602673	0.2673	19.71238938	
+10		13.5602668	0.2668	19.67551622	
+20		13.5602680	0.2680	19.76401180	
+30		13.5602675	0.2675	19.72713864	
+40		13.5602677	0.2677	19.74188791	
+50		13.5602675	0.2675	19.72713864	
+20	102	13.5602677	0.2677	19.74188791	
+20	138	13.5602678	0.2678	19.74926254	

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5.1.3 Emissions Bandwidth

RESULT:

Pass

Test Specification

Test standard : FCC part 15.215
Basic standard : ANSI C63.10: 2013
Kind of test site : EMC chamber

Test Setup

Date of testing : 2024-09-03
Input voltage : AC120V
Operation mode : A
Ambient temperature : 25°C
Relative humidity : 50%
Atmospheric pressure : 102kPa

Refer to following test plots for details of test result

Table 2: Test result of Emissions Bandwidth

Test Channel (MHz)	99% Bandwidth (kHz)	20dB Bandwidth (kHz)
13.56	334.796	153.820

Remark: Because the measured signal is CW adjusting the RBW per C63.10 would not be practical since measured bandwidth will always follow the RBW and the result will be approximately twice the RBW.

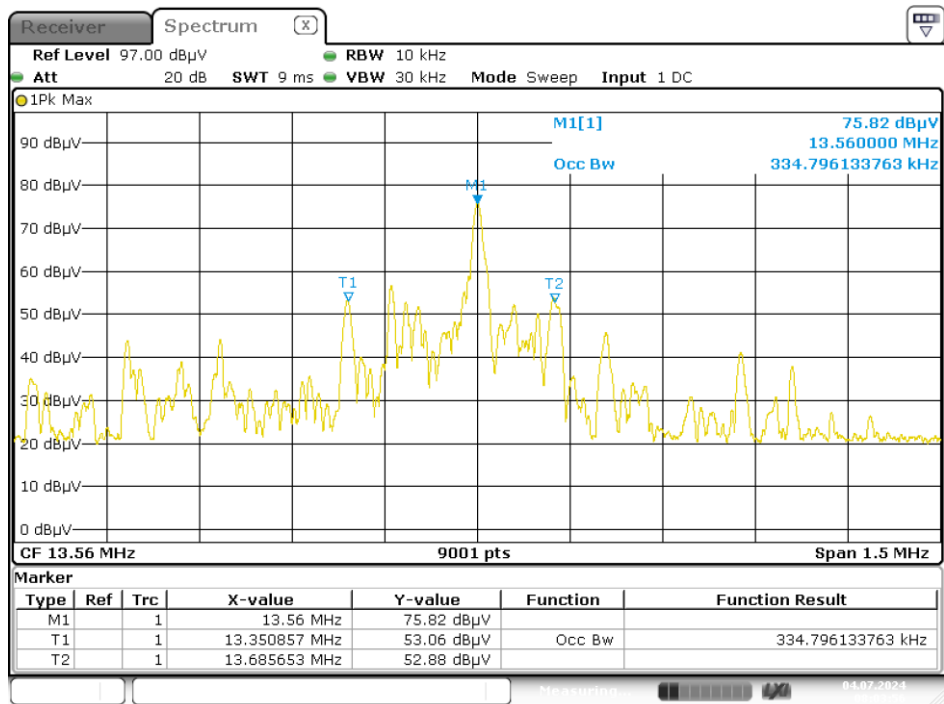
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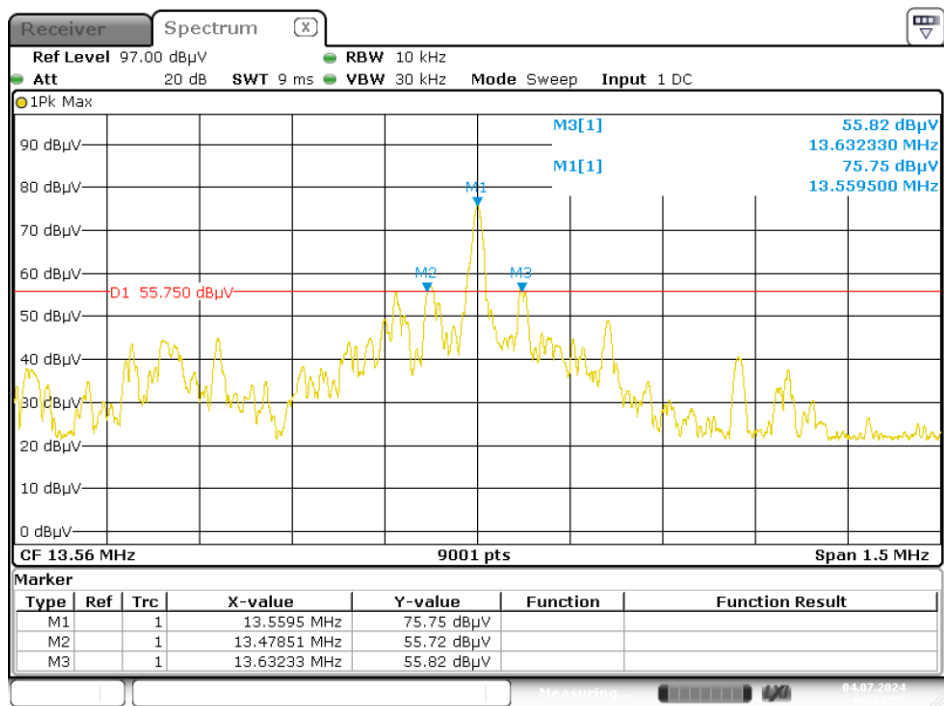
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99% Bandwidth



Date: 4.JUL.2024 08:03:56

20dB Bandwidth



Date: 4.JUL.2024 08:12:55

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5.1.4 Emission within band

RESULT:

Pass

Test Specification

Test standard

: FCC part 15.225 (a), (b), (c)

Basic standard

: ANSI C63.10: 2013

Limit

: FCC part 15.225 (a), (b), (c)

Kind of test site

: EMC chamber

Test Setup

Date of testing

: 2024-09-02

Input voltage

: AC120V

Operation mode

: A

Ambient temperature

: 25°C

Relative humidity

: 50%

Atmospheric pressure

: 102kPa

Refer to following test plots for details of test result

Table 3: Test result of Emission within band

Test Channel (MHz)	Test Polarization	Field Strength (dBuV/m)	Limit @3m (dBuV/m)	Margin (dB)
13.56	X	47.06	124.0	-76.94

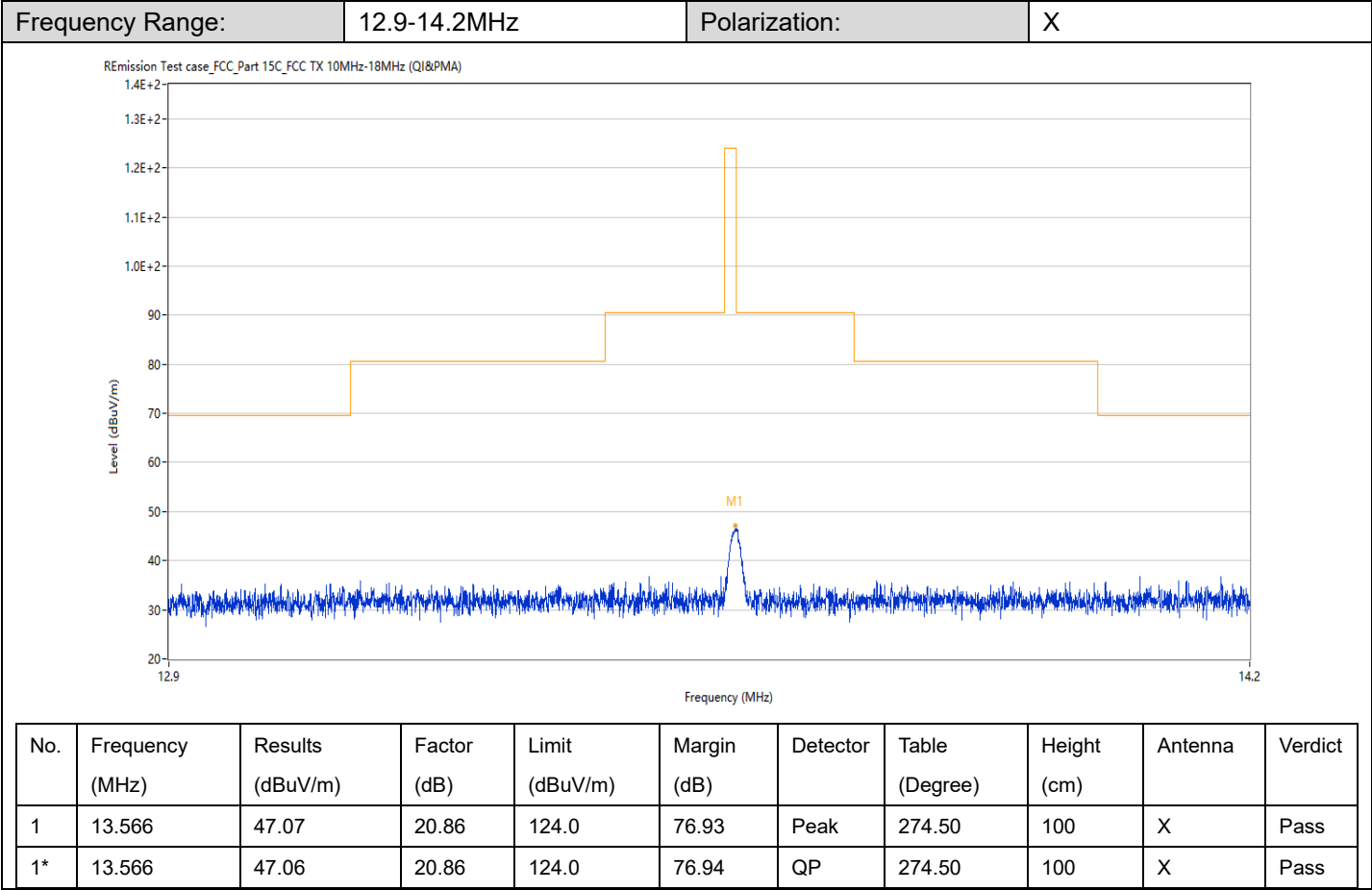
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Note: The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement –X, Y, and Z-plane. The X-plane results were found as the worst case and were shown in this report.



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5.1.5 Spurious Emission outside band

RESULT:

Pass

Test Specification

Test standard	: FCC part 15.225 (d)
Basic standard	: ANSI C63.10: 2013
Limit	: FCC part 15.209 (a)
Kind of test site	: EMC chamber

Test Setup

Date of testing	: 2024-09-02
Input voltage	: AC120V
Operation mode	: A
Ambient temperature	: 25°C
Relative humidity	: 50%
Atmospheric pressure	: 102kPa

Refer to following test plots for details of test result

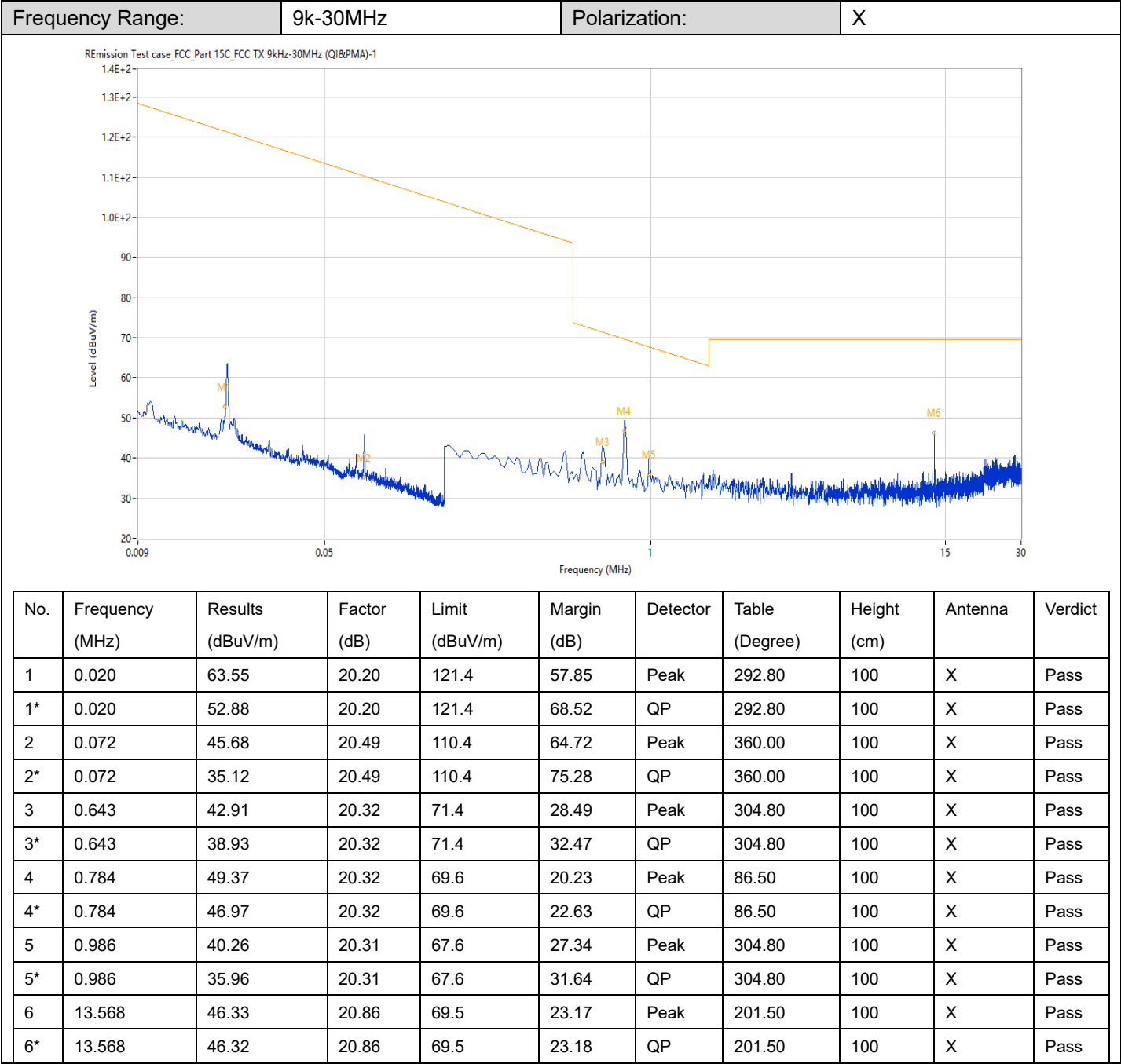
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Note: The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement –X, Y, and Z-plane. The X-plane results were found as the worst case and were shown in this report.



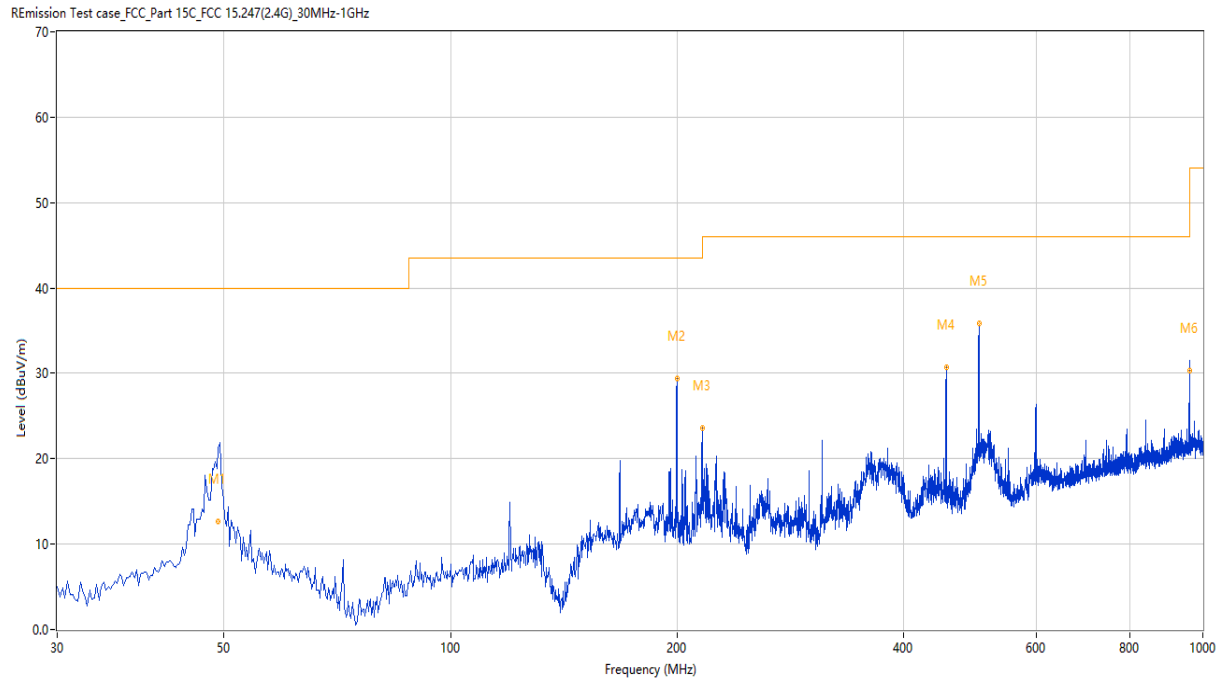
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Frequency Range:	30M-1GHz	Polarization:	Horizontal
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No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	49.151	17.65	-24.74	40.0	22.35	Peak	101.10	298	Horizontal	Pass
1*	49.151	12.67	-24.74	40.0	27.33	QP	101.10	298	Horizontal	Pass
2	199.987	30.62	-26.59	43.5	12.88	Peak	241.00	101	Horizontal	Pass
2*	199.987	29.34	-26.59	43.5	14.16	QP	241.00	101	Horizontal	Pass
3	216.005	25.21	-26.66	43.5	18.29	Peak	0.00	242	Horizontal	Pass
3*	216.005	23.59	-26.66	43.5	19.91	QP	0.00	242	Horizontal	Pass
4	456.010	31.83	-20.56	46.0	14.17	Peak	44.30	215	Horizontal	Pass
4*	456.010	30.68	-20.56	46.0	15.32	QP	44.30	215	Horizontal	Pass
5	504.011	38.16	-19.13	46.0	7.84	Peak	74.10	184	Horizontal	Pass
5*	504.011	35.86	-19.13	46.0	10.14	QP	74.10	184	Horizontal	Pass
6	959.659	34.65	-10.48	46.0	11.35	Peak	85.50	125	Horizontal	Pass
6*	959.659	30.31	-10.48	46.0	15.69	QP	85.50	125	Horizontal	Pass

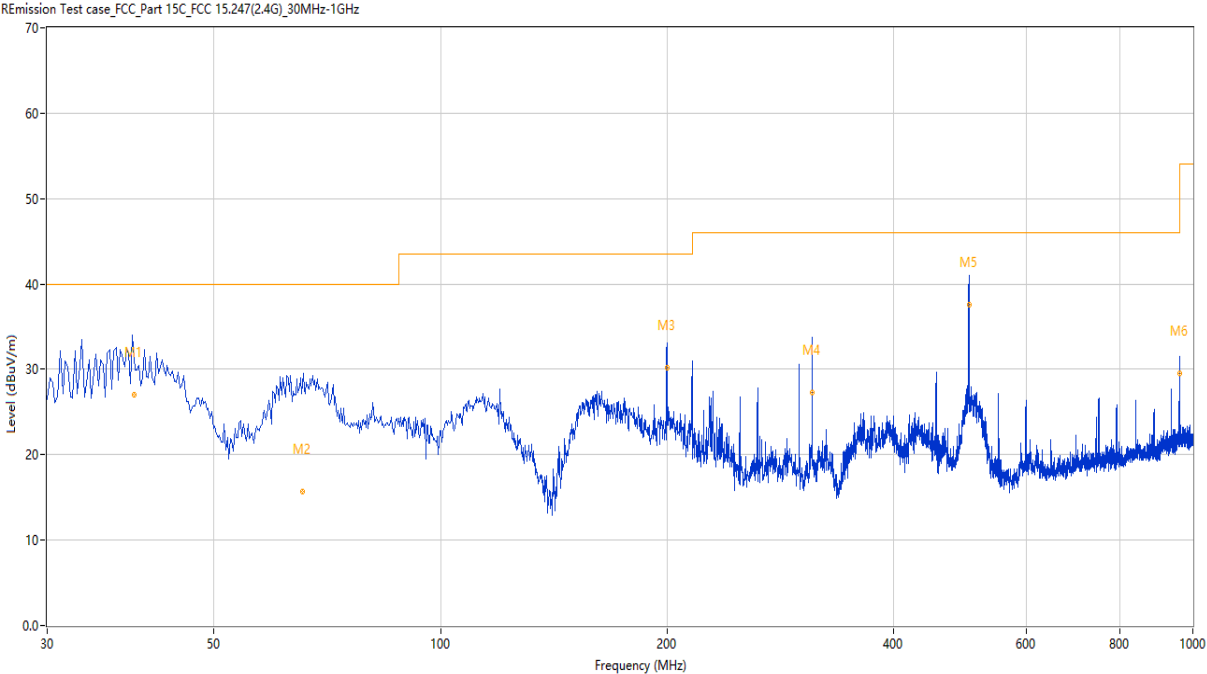
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Frequency Range:	30M-1GHz	Polarization:	Vertical
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No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	39.143	32.76	-26.23	40.0	7.24	Peak	31.30	141	Vertical	Pass
1*	39.143	27.03	-26.23	40.0	12.97	QP	31.30	141	Vertical	Pass
2	65.478	27.96	-27.73	40.0	12.04	Peak	110.60	122	Vertical	Pass
2*	65.478	15.75	-27.73	40.0	24.25	QP	110.60	122	Vertical	Pass
3	199.988	34.14	-26.59	43.5	9.36	Peak	279.30	187	Vertical	Pass
3*	199.988	30.16	-26.59	43.5	13.34	QP	279.30	187	Vertical	Pass
4	312.007	32.53	-23.94	46.0	13.47	Peak	185.70	110	Vertical	Pass
4*	312.007	27.24	-23.94	46.0	18.76	QP	185.70	110	Vertical	Pass
5	504.011	40.79	-19.13	46.0	5.21	Peak	360.00	178	Vertical	Pass
5*	504.011	37.56	-19.13	46.0	8.44	QP	360.00	178	Vertical	Pass
6	959.661	34.55	-10.48	46.0	11.45	Peak	146.50	279	Vertical	Pass
6*	959.661	29.53	-10.48	46.0	16.47	QP	146.50	279	Vertical	Pass

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5.1.6 Conducted Emissions

RESULT:

Pass

Test Specification

Test standard	: FCC part 15.207
Basic standard	: ANSI C63.4: 2014
Limit	: FCC part 15.207
Kind of test site	: EMC Lab①

Test Setup

Date of testing	: 2024-09-02
Input voltage	: AC120V
Operation mode	: A
Ambient temperature	: 25°C
Relative humidity	: 50%
Atmospheric pressure	: 102kPa

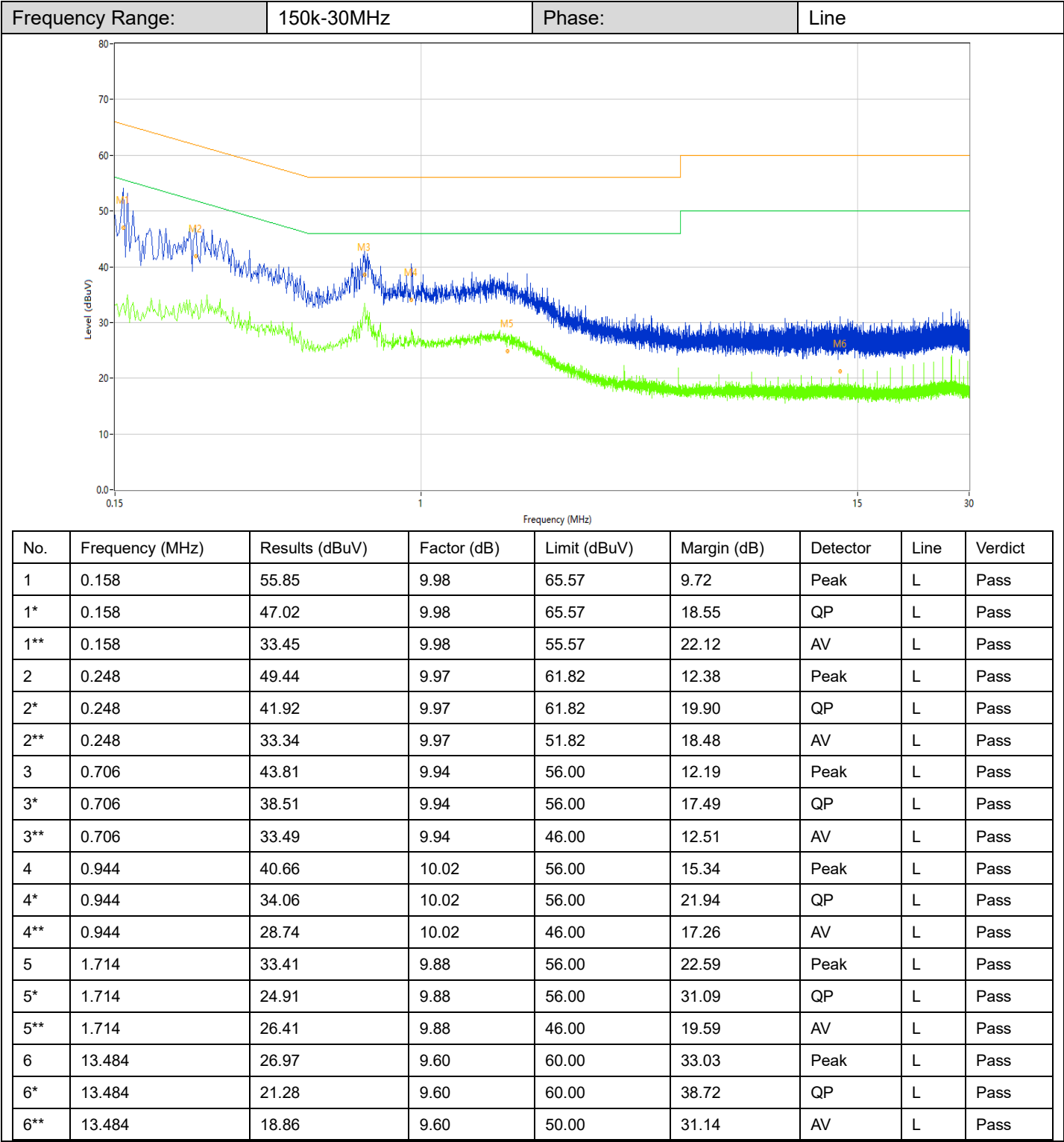
Refer to following test plots for details of test result

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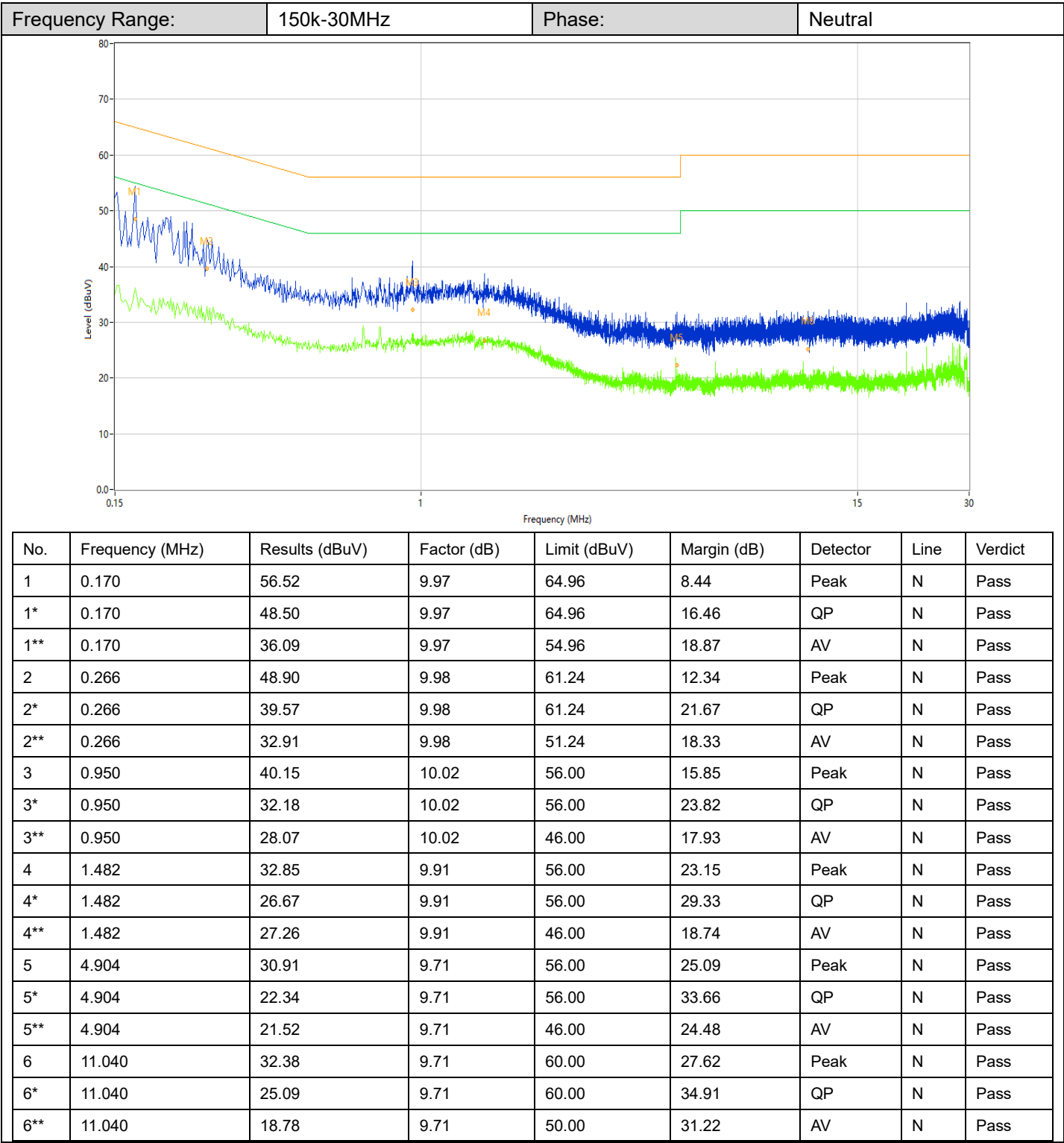


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5.2 Photographs of the EUT



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5.3 Photographs of the Test Set-up

Radiated Emission Test Set-up for Below 30MHz



Radiated Emission Test Set-up for 30M-1GHz



End of the report