

TEST REPORT

Applicant: HONG KONG IPRO TECHNOLOGY CO.,LIMITED

Address: 12/F., San Toi Building 137-139 Connaught Road Central HK

Product Name: Mobile Phone

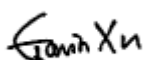
FCC ID: PQ4IPROK3

Standard(s): FCC Part 15B
ANSI C63.4-2014

Report Number: 2402T60561E-RF-00C

Report Date: 2024/5/21

The above device has been tested and found compliant with the requirement of the relative standards by Bay Area Compliance Laboratories Corp. (Dongguan).



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Title: RF Engineer



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CONTENTS

DOCUMENT REVISION HISTORY	3
1. GENERAL INFORMATION	4
1.1 GENERAL DESCRIPTION OF EQUIPMENT UNDER TEST.....	4
1.2 ACCESSORY INFORMATION.....	4
1.3 EQUIPMENT MODIFICATIONS.....	4
2. SUMMARY OF TEST RESULTS	5
3. DESCRIPTION OF TEST CONFIGURATION	6
3.1 DESCRIPTION OF TEST CONFIGURATION	6
3.2 EUT EXERCISE SOFTWARE.....	6
3.3 SUPPORT EQUIPMENT LIST AND DETAILS	6
3.4 SUPPORT CABLE LIST AND DETAILS.....	6
3.5 BLOCK DIAGRAM OF TEST SETUP.....	7
3.6 TEST FACILITY	8
3.7 MEASUREMENT UNCERTAINTY	8
4. REQUIREMENTS AND TEST RESULTS.....	9
4.1 AC LINE CONDUCTED EMISSIONS	9
4.1.1 Applicable Standard	9
4.1.2 EUT Setup.....	9
4.1.3 EMI Test Receiver Setup	9
4.1.4 Test Procedure.....	10
4.1.5 Corrected Amplitude & Margin Calculation.....	10
4.1.6 Test Data and Result	11
4.2 RADIATION SPURIOUS EMISSIONS	14
4.2.1 Applicable Standard	14
4.2.2 Test System Setup	14
4.2.3 EMI Test Receiver Setup	15
4.2.4 Test Procedure.....	15
4.2.5 Corrected Result & Margin Calculation.....	16
4.2.6 Test Data and Result	17
APPENDIX A - EUT PHOTOGRAPHS.....	24
APPENDIX B - TEST SETUP PHOTOGRAPHS.....	25

DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	2402T60561E-RF-00C	Original Report	2024/5/21

1. GENERAL INFORMATION

1.1 General Description Of Equipment Under Test

Product Name:	Mobile Phone
Test Model:	K3
Multiple Models:	F301
Highest Operation Frequency:	2480MHz
Rated Input Voltage:	DC 3.7V from battery or DC 5.0V from adapter
Serial Number:	2KUF-1
EUT Received Date:	2024/5/6
EUT Received Status:	Good
Note: The Multiple models are electrically identical with the test model. Please refer to the declaration letter for more detail, which was provided by manufacturer.	

1.2 Accessory Information

Accessory Description	Manufacturer	Model	Parameters
Adapter	HONG KONG IPRO TECHNOLOGY CO.,LIMITED	NTR-01	Input: AC 100-240V 50/60Hz 150mA Output: DC 5.0V 500mA

1.3 Equipment Modifications

No modifications are made to the EUT during all test items.

2. SUMMARY OF TEST RESULTS

Standard Clause	Description of Test	Test Result
FCC§15.107	Conducted emissions	Compliant
FCC§15.109	Radiated emissions	Compliant

3. DESCRIPTION OF TEST CONFIGURATION

3.1 Description of Test Configuration

The system was configured for testing in a typical fashion (as normally used by a typical user). The following summary table is showing all test modes to demonstrate in compliance with the standard:

Test Items	Test Mode(s)
Radiated Spurious Emission :	Test Mode 1: Downloading
AC Line Conducted Emission	Test Mode 1: Downloading

3.2 EUT Exercise Software

Software: Winthrax.exe was used in test for data transmission.

3.3 Support Equipment List and Details

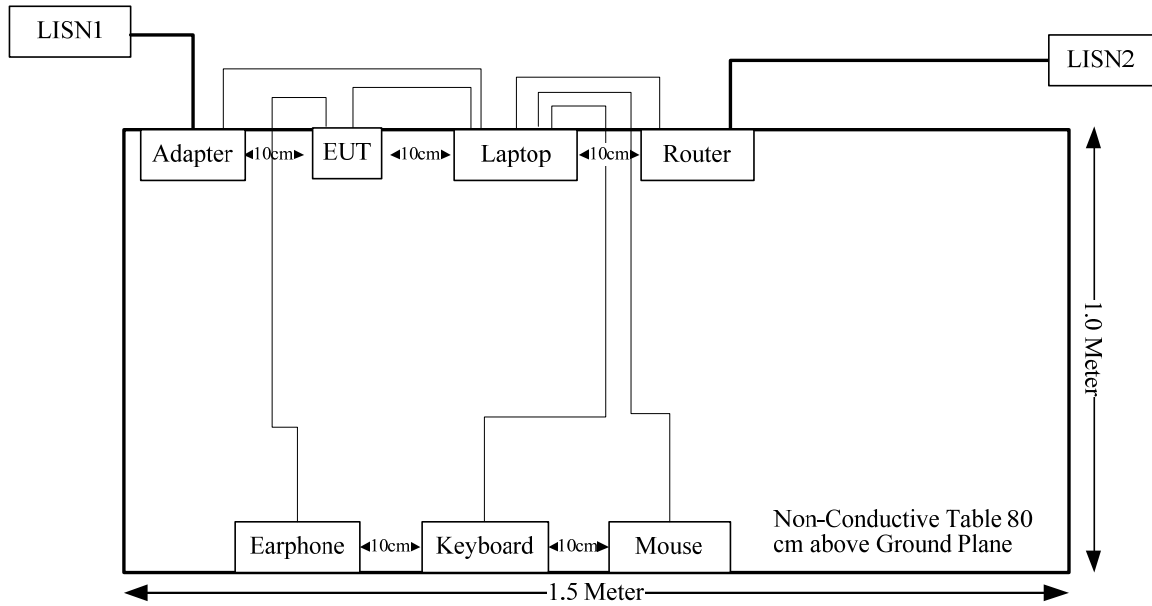
Manufacturer	Description	Model	Serial Number
SanDisk	TF Card	UHS-I-16G	9292DVDSV0XZ
Lenovo	Adapter	92P1109	11S92P1109Z1ZBTZ93A6YG
Lenovo	Laptop	E480	PF-1QQYYP 19/06
ZIONCOM	Router	MB-R210-00	EMZBWR21103004
Dell	Keyboard	KB212-B	CN-0K6KPN-71616-24N-0658-A00
PHILIPS	Mouse	SPK7214	M214BQ210411115
Dell	Adapter	LA240PM160	BP1250624
DELL	Laptop	E6410	GMLGPM1
Keenion	Earphone	KDM-911	EMZBEP21103003B

3.4 Support Cable List and Details

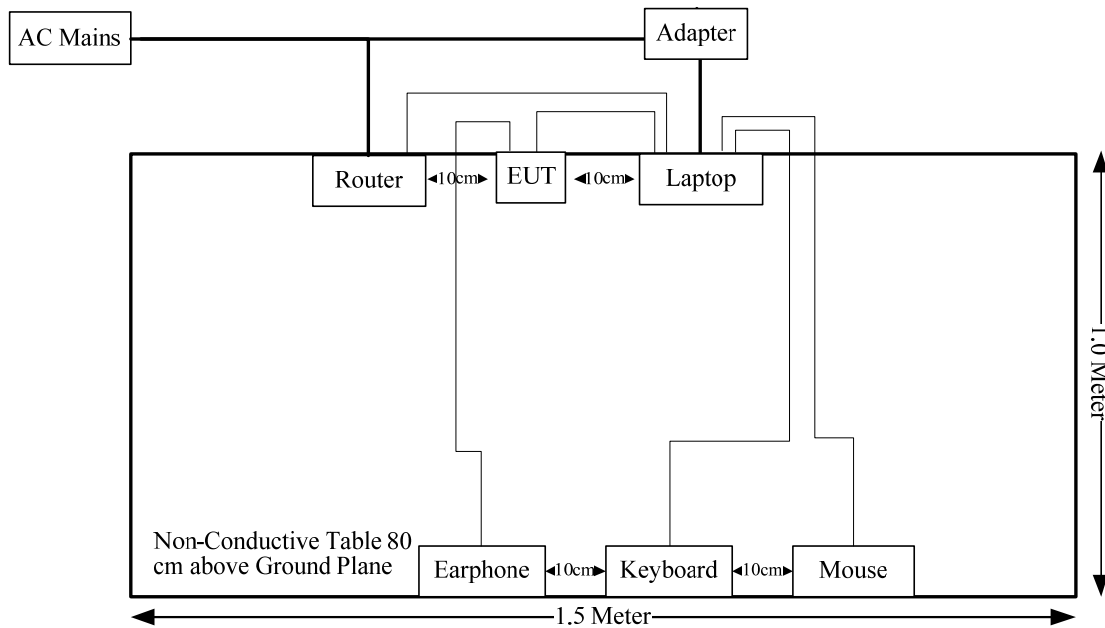
Cable Description	Shielding Cable	Ferrite Core	Length (m)	From Port	To
USB Cable	No	No	0.8	Laptop	EUT
DC Cable	No	No	1.2	Adapter	Laptop
RJ45 Cable	No	No	1.2	Laptop	Router
Signal Cable	No	No	1.2	Laptop	Keyboard
Signal Cable	No	No	1.2	Laptop	Mouse
Earphone Cable	No	No	1.2	earphone	EUT

3.5 Block Diagram of Test Setup

AC Line Conducted Emission Test:



Radiated Emission Test:



3.6 Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.12, Pulong East 1st Road, Tangxia Town, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 829273, the FCC Designation No. : CN5044.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0022.

3.7 Measurement Uncertainty

Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

Parameter	Measurement Uncertainty
Unwanted Emissions, radiated	9kHz~30MHz: 3.3dB, 30MHz~200MHz: 4.55 dB, 200MHz~1GHz: 5.92 dB, 1GHz~6GHz: 4.98 dB, 6GHz~18GHz: 5.89 dB, 18GHz~26.5GHz:5.47 dB, 26.5GHz~40GHz:5.63 dB
Temperature	±1 °C
Humidity	±5%
AC Power Lines Conducted Emission	3.11 dB (150 kHz to 30 MHz)

4. REQUIREMENTS AND TEST RESULTS

4.1 AC Line Conducted Emissions

4.1.1 Applicable Standard

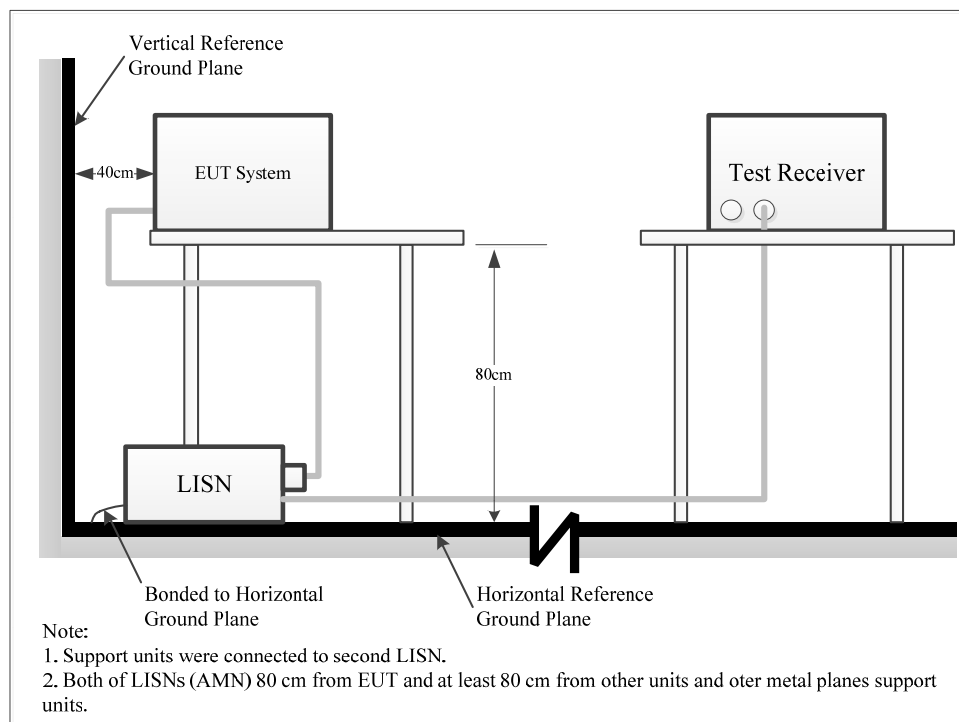
FCC§15.107

(a) Except for Class A digital devices, for equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

*Decreases with the logarithm of the frequency.

4.1.2 EUT Setup



The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 15 B Class B limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

4.1.3 EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

4.1.4 Test Procedure

The frequency and amplitude of the six highest ac power-line conducted emissions relative to the limit, measured over all the current-carrying conductors of the EUT power cords, and the operating frequency or frequency to which the EUT is tuned (if appropriate), should be reported, unless such emissions are more than 20 dB below the limit. AC power-line conducted emissions measurements are to be separately carried out only on each of the phase (“hot”) line(s) and (if used) on the neutral line(s), but not on the ground [protective earth] line(s). If less than six emission frequencies are within 20 dB of the limit, then the noise level of the measuring instrument at representative frequencies should be reported. The specific conductor of the power-line cord for each of the reported emissions should be identified. Measure the six highest emissions with respect to the limit on each current-carrying conductor of each power cord associated with the EUT (but not the power cords of associated or peripheral equipment that are part of the test configuration). Then, report the six highest emissions with respect to the limit from among all the measurements identifying the frequency and specific current-carrying conductor identified with the emission. The six highest emissions should be reported for each of the current-carrying conductors, or the six highest emissions may be reported over all the current-carrying conductors.

4.1.5 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Reading + Factor

Factor = attenuation caused by cable loss + voltage division factor of AMN

The “**Margin**” column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

4.1.6 Test Data and Result

Serial Number:	2KUF-1	Test Date:	2024/5/11
Test Site:	CE	Test Mode:	Downloading
Tester:	Lane Sun	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.6	Relative Humidity: (%)	65	ATM Pressure: (kPa)	100.9
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	LISN	ENV216	101614	2023/10/18	2024/10/17
MICRO-COAX	Coaxial Cable	C-NJNJ-50	C-0200-01	2023/9/5	2024/9/4
R&S	EMI Test Receiver	ESCI	100035	2023/8/18	2024/8/17
R&S	Test Software	EMC32	V9.10.00	N/A	N/A

** Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Project No:

Test Date:

Test Engineer:

Port:

Test Mode:

Power Source:

2402T60561E-RF

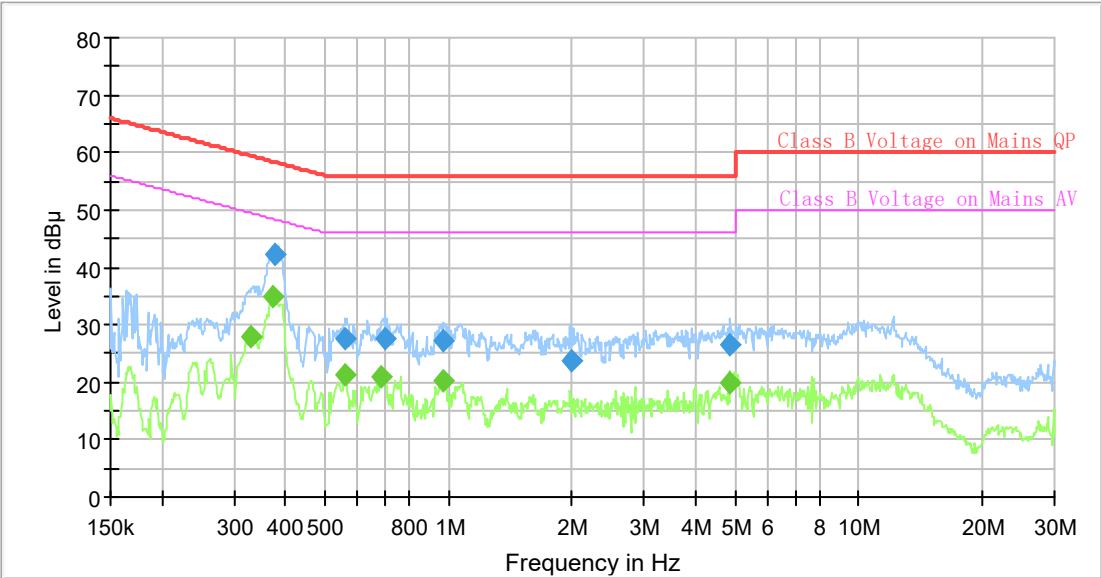
2024-5-11

Lane Sun

L

Downloading

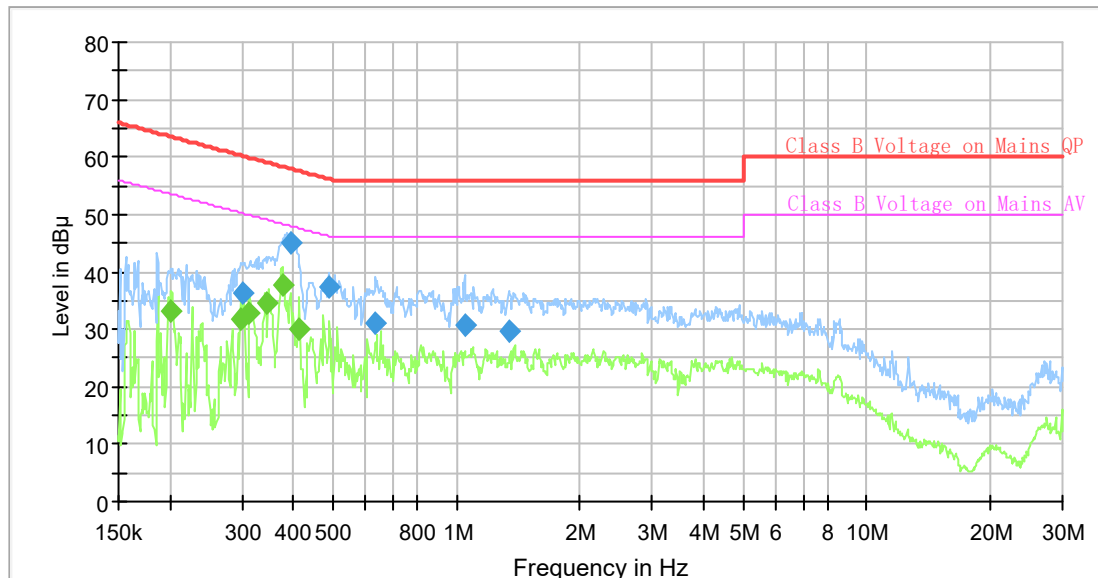
AC 120V/60Hz



Final Result

Frequency (MHz)	QuasiPeak (dB μ V)	Average (dB μ V)	Limit (dB μ V)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.331509	---	28.04	49.41	21.37	9.000	L1	10.8
0.371804	---	34.93	48.46	13.53	9.000	L1	10.8
0.377409	42.38	---	58.34	15.96	9.000	L1	10.8
0.559669	---	21.21	46.00	24.79	9.000	L1	10.8
0.559669	27.70	---	56.00	28.30	9.000	L1	10.8
0.686657	---	20.90	46.00	25.10	9.000	L1	10.9
0.700494	27.65	---	56.00	28.35	9.000	L1	10.9
0.973564	---	20.13	46.00	25.87	9.000	L1	10.9
0.973564	27.39	---	56.00	28.61	9.000	L1	10.9
1.986604	23.84	---	56.00	32.16	9.000	L1	10.8
4.875311	26.42	---	56.00	29.58	9.000	L1	10.8
4.875311	---	20.05	46.00	25.95	9.000	L1	10.8

Project No: 2402T60561E-RF
Test Date: 2024-5-11
Test Engineer: Lane Sun
Port: N
Test Mode: Downloading
Power Source: AC 120V/60Hz



Final Result

Frequency (MHz)	QuasiPeak (dB μ V)	Average (dB μ V)	Limit (dB μ V)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.201321	---	33.28	53.56	20.28	9.000	N	10.8
0.298544	---	31.62	50.28	18.66	9.000	N	10.8
0.301537	36.41	---	60.20	23.79	9.000	N	10.8
0.312250	---	32.69	49.91	17.22	9.000	N	10.8
0.345004	---	34.56	49.08	14.52	9.000	N	10.8
0.375532	---	37.74	48.38	10.64	9.000	N	10.8
0.396710	45.00	---	57.92	12.92	9.000	N	10.8
0.414923	---	30.21	47.55	17.34	9.000	N	10.8
0.489157	37.32	---	56.18	18.86	9.000	N	10.7
0.633991	31.20	---	56.00	24.80	9.000	N	10.7
1.049193	30.69	---	56.00	25.31	9.000	N	10.9
1.339653	29.53	---	56.00	26.47	9.000	N	10.9

4.2 Radiation Spurious Emissions

4.2.1 Applicable Standard

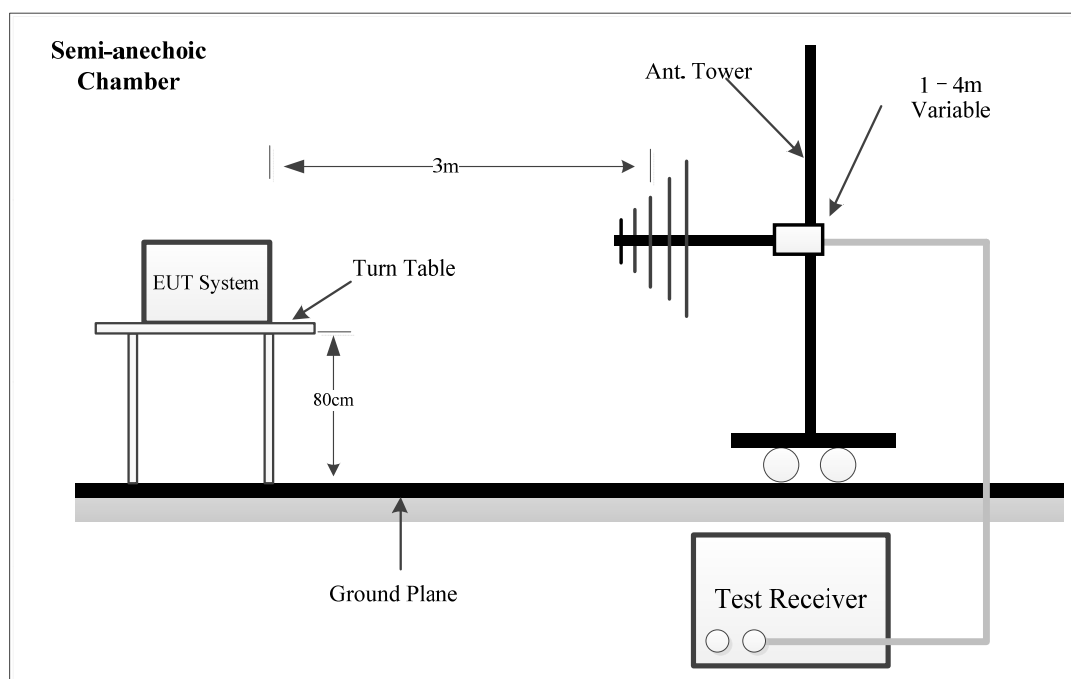
FCC§15.109

(a) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

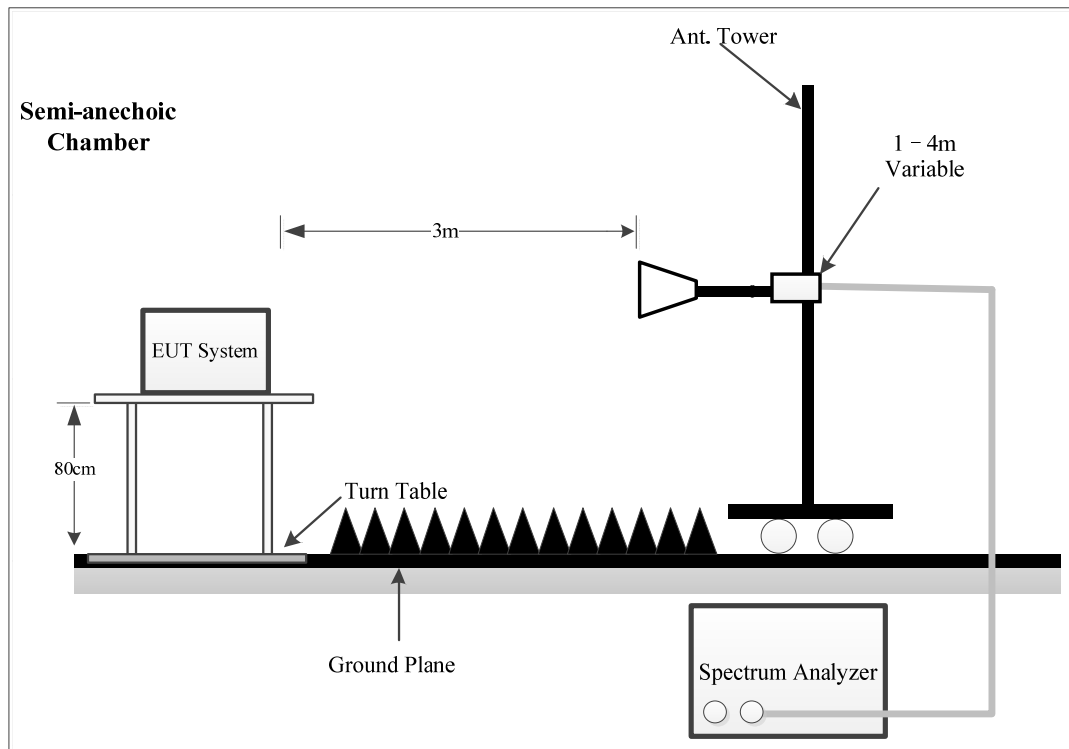
Frequency of emission (MHz)	Field strength (microvolts/meter)
30–88	100
88–216	150
216–960	200
Above 960	500

4.2.2 Test System Setup

Below 1GHz:



Above 1GHz:



The radiated emission tests were performed at the 3 meters distance, using the setup accordance with the ANSI C63.4-2014. The specification used was the FCC Part 15B Class B limits.

4.2.3 EMI Test Receiver Setup

The system was investigated from 30 MHz to 18 GHz.

During the radiated emission test, the EMI test receiver was set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Measurement
30MHz – 1000 MHz	100 kHz	300 kHz	/	Peak
	/	/	120kHz	QP
Above 1 GHz	1 MHz	3 MHz	/	Peak
	1 MHz	3MHz	/	AVG

4.2.4 Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

The data was recorded in the Quasi-peak detection mode for below 1 GHz, peak and average detection mode above 1 GHz.

If the maximized peak measured value complies with under the QP limit more than 6dB, then it is unnecessary to perform an QP measurement.

4.2.5 Corrected Result & Margin Calculation

The basic equation is as follows:

$$\text{Result} = \text{Reading} + \text{Factor}$$

$$\text{Factor} = \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Result}$$

4.2.6 Test Data and Result

Serial Number:	2KUF-1	Test Date:	2024/5/11~2024/5/16
Test Site:	Chamber 10m, Chamber B	Test Mode:	Downloading
Tester:	Leesin Xiang, Leo Xiao	Test Result:	Pass

Environmental Conditions:					
Temperature: (°C)	23.6~24.1	Relative Humidity: (%)	45~46	ATM Pressure: (kPa)	100.8~100.9

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
30MHz-1000MHz					
Sunol Sciences	Hybrid Antenna	JB3	A060611-1	2023/9/6	2026/9/5
Narda	Coaxial Attenuator	779-6dB	04269	2023/9/6	2026/9/5
Unknown	Coaxial Cable	C-NJNJ-50	C-1000-01	2023/8/1	2024/7/31
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-04	2023/8/1	2024/7/31
Unknown	Coaxial Cable	C-NJNJ-50	C-0530-01	2023/8/1	2024/7/31
Sonoma	Amplifier	310N	185914	2023/8/1	2024/7/31
R&S	EMI Test Receiver	ESCI	100224	2023/8/18	2024/8/17
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A
Above 1GHz					
ETS-Lindgren	Horn Antenna	3115	000 527 35	2023/9/7	2026/9/6
Xinhang Macrowave	Coaxial Cable	XH750A-N/J-SMA/J-10M	20231117004 #0001	2023/11/17	2024/11/16
Xinhang Macrowave	Coaxial Cable	XH360A-2.92/J-2.92/J-6M-A	20231208001 #0001	2023/12/11	2024/12/10
AH	Preamplifier	PAM-0118P	469	2023/8/19	2024/8/18
R&S	Spectrum Analyzer	FSV40	101944	2023/10/18	2024/10/17
Audix	Test Software	E3	191218 (V9)	N/A	N/A

* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

1) 30MHz-1GHz:

Project No:

Test Engineer:

Test Date:

Polarization:

Test Mode:

Power Source:

2402T60561E-RF

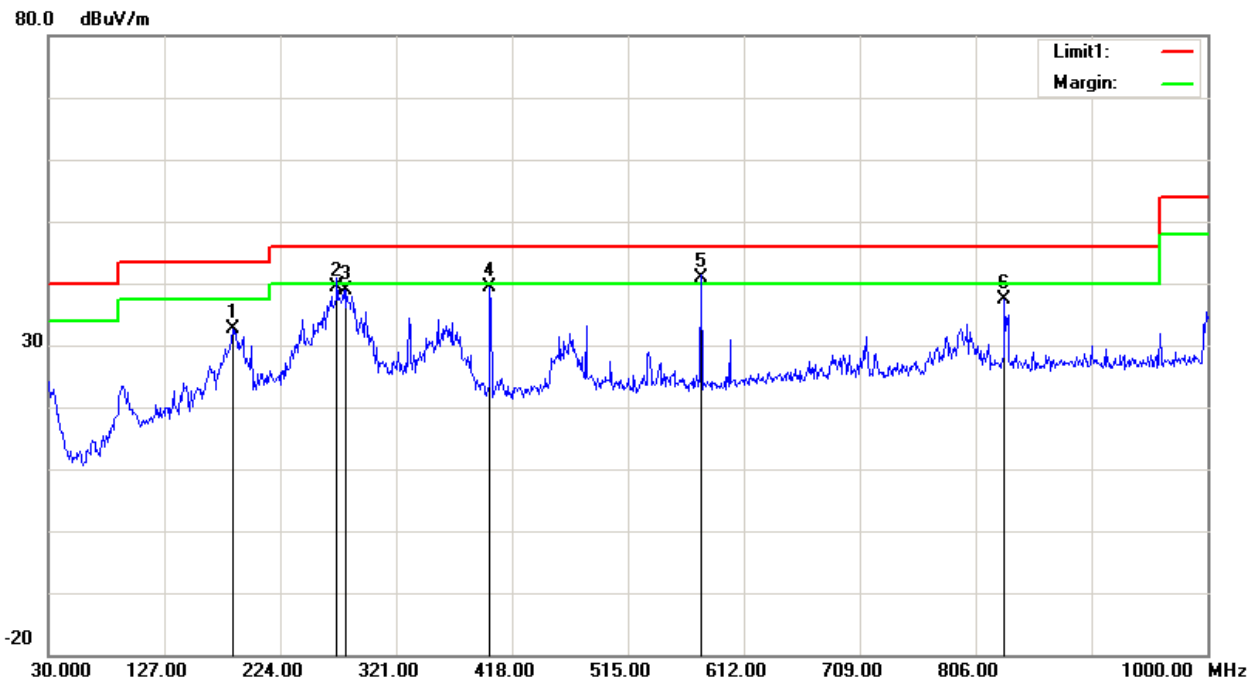
Leesin Xiang

2024-5-16

Horizontal

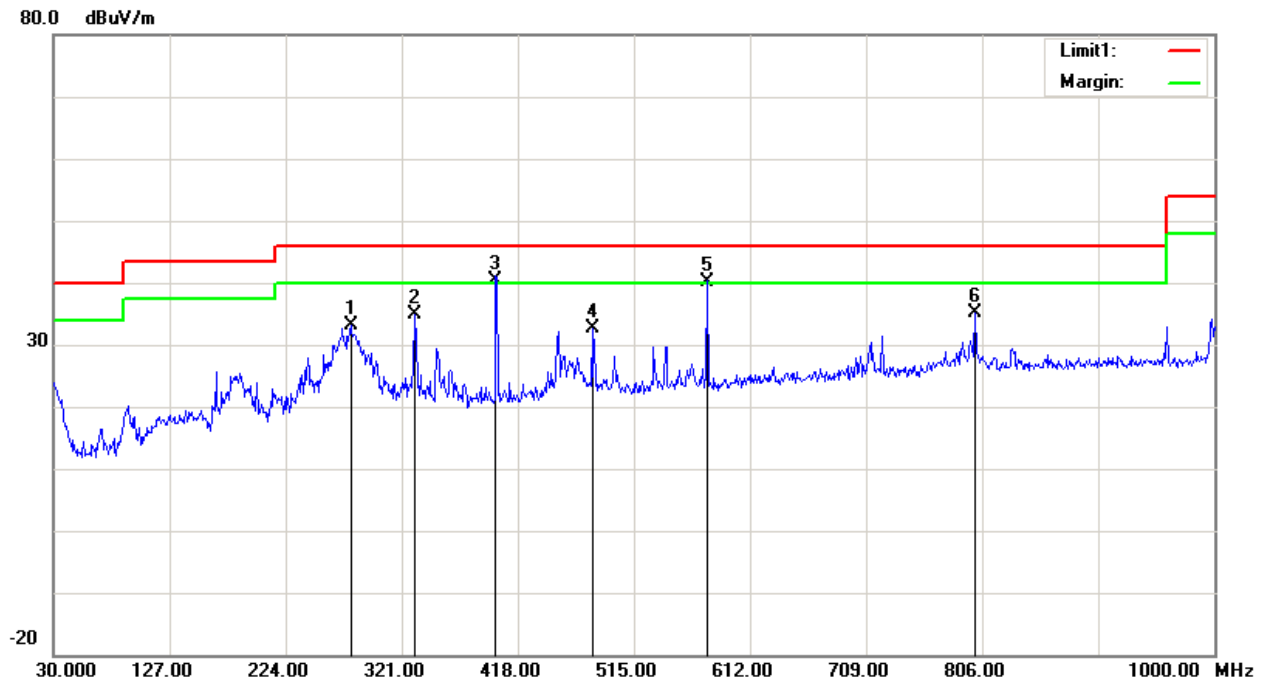
Downloading

AC 120V/60Hz



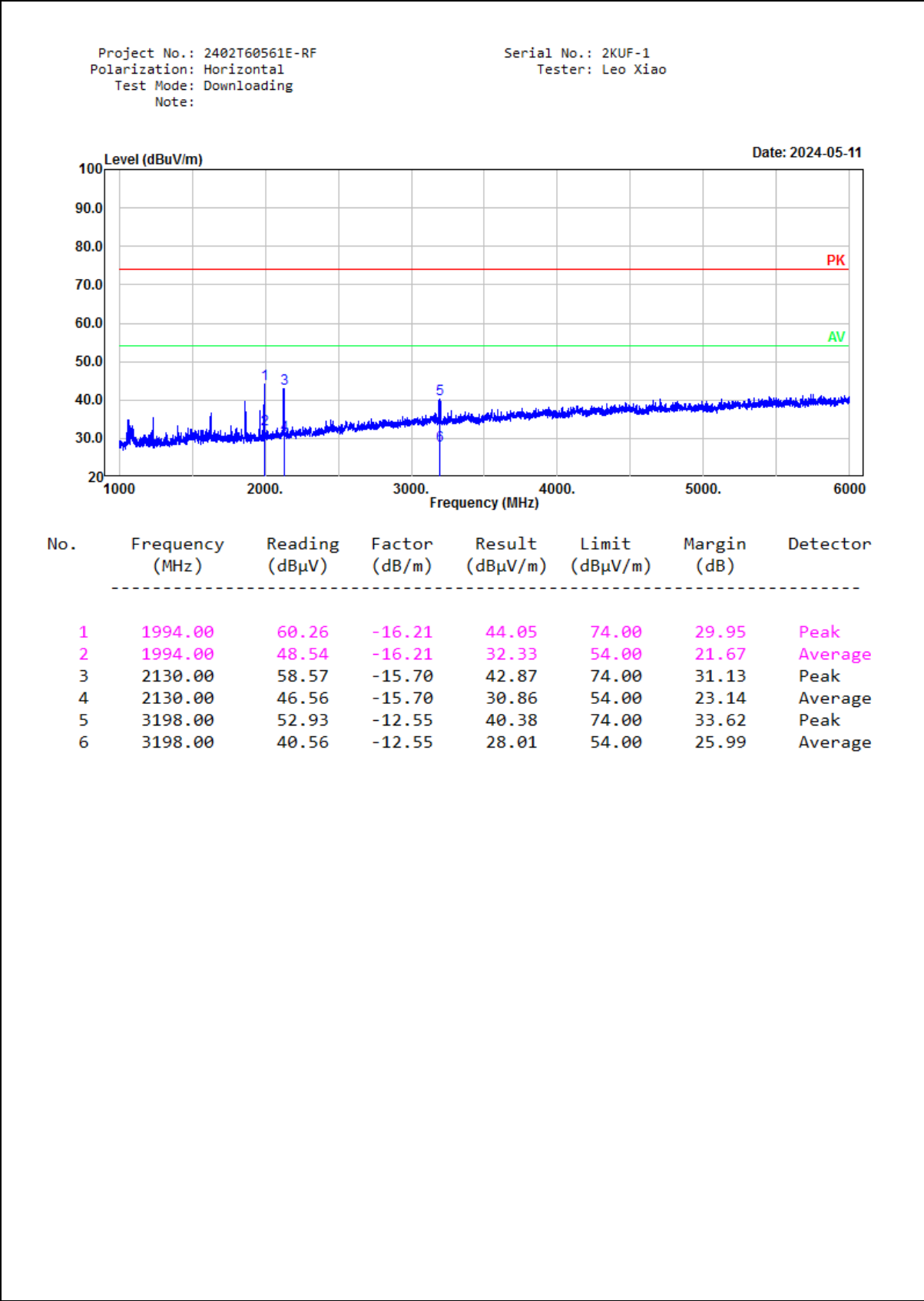
No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
	(MHz)	(dBμV)		dB/m	(dBμV/m)	(dBμV/m)	(dB)
1	184.2300	45.03	peak	-12.40	32.63	43.50	10.87
2	271.5300	49.52	QP	-10.02	39.50	46.00	6.50
3	279.2900	48.73	peak	-9.76	38.97	46.00	7.03
4	399.5700	46.44	peak	-6.99	39.45	46.00	6.55
5	576.1100	44.22	QP	-3.22	41.00	46.00	5.00
6	830.2500	36.55	peak	0.88	37.43	46.00	8.57

Project No: 2402T60561E-RF
Test Engineer: Leesin Xiang
Test Date: 2024-5-16
Polarization: Vertical
Test Mode: Downloading
Power Source: AC 120V/60Hz



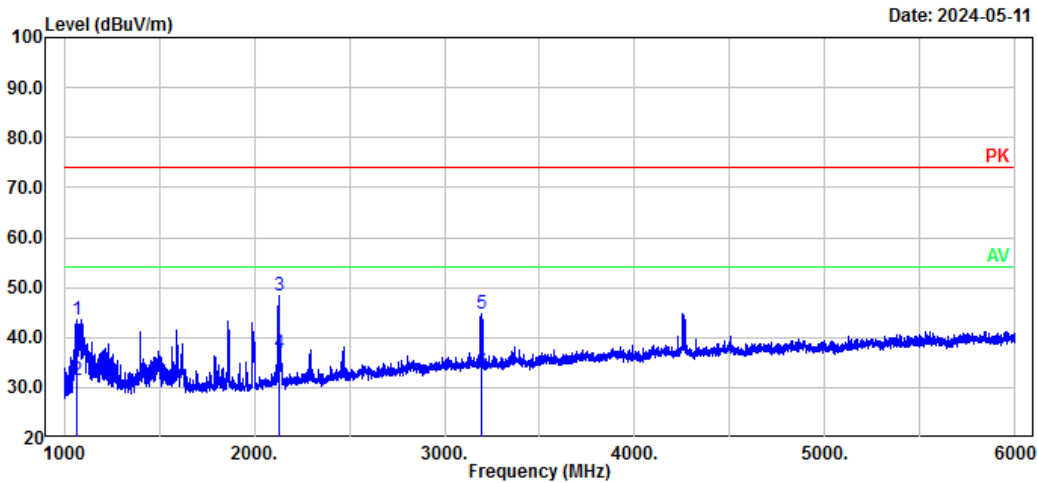
No.	Frequency (MHz)	Reading (dBμV)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	278.3200	42.87	peak	-9.79	33.08	46.00	12.92
2	331.6700	43.75	peak	-8.87	34.88	46.00	11.12
3	399.5700	47.29	QP	-6.99	40.30	46.00	5.70
4	480.0800	37.13	peak	-4.53	32.60	46.00	13.40
5	576.1100	43.32	QP	-3.22	40.10	46.00	5.90
6	800.1800	34.72	peak	0.46	35.18	46.00	10.82

2) 1GHz-25GHz:



Project No.: 2402T60561E-RF
Polarization: Vertical
Test Mode: Downloading
Note:

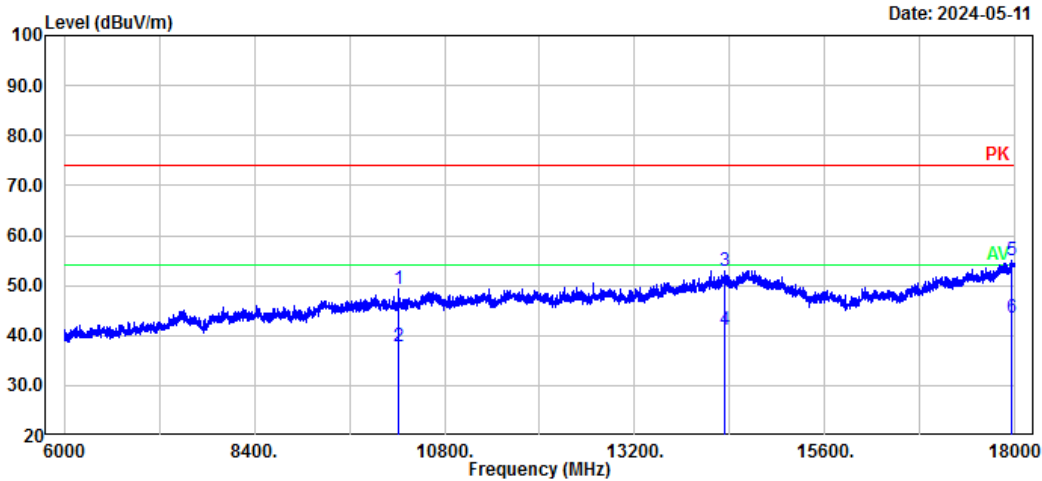
Serial No.: 2KUF-1
Tester: Leo Xiao



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	1067.00	61.45	-17.86	43.59	74.00	30.41	Peak
2	1067.00	49.31	-17.86	31.45	54.00	22.55	Average
3	2132.00	64.16	-15.71	48.45	74.00	25.55	Peak
4	2132.00	52.56	-15.71	36.85	54.00	17.15	Average
5	3194.00	57.40	-12.55	44.85	74.00	29.15	Peak
6	3194.00	45.69	-12.55	33.14	54.00	20.86	Average

Project No.: 2402T60561E-RF
Polarization: Horizontal
Test Mode: Downloading
Note:

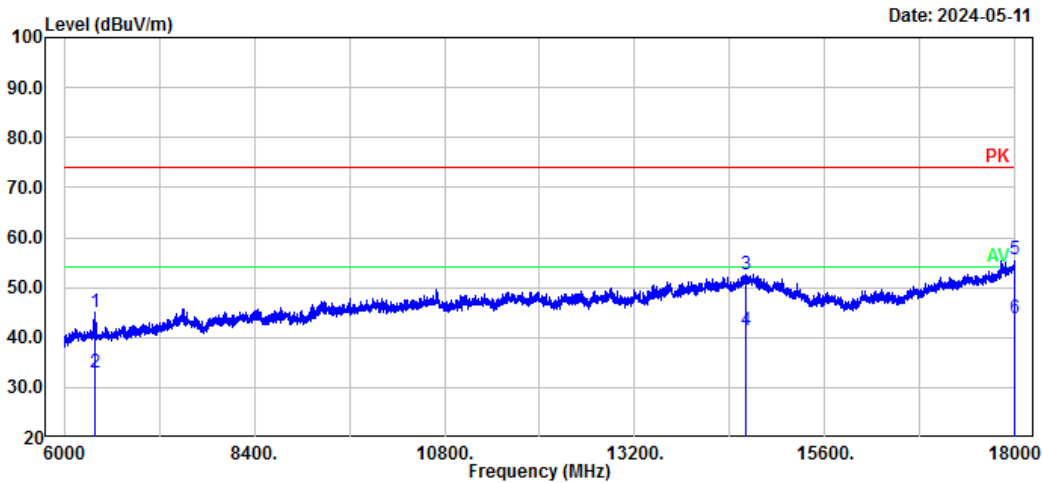
Serial No.: 2KUF-1
Tester: Leo Xiao



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	10214.40	49.35	0.06	49.41	74.00	24.59	Peak
2	10214.40	37.67	0.06	37.73	54.00	16.27	Average
3	14325.60	48.56	4.37	52.93	74.00	21.07	Peak
4	14325.60	36.71	4.37	41.08	54.00	12.92	Average
5	17956.80	47.06	7.82	54.88	74.00	19.12	Peak
6	17956.80	35.74	7.82	43.56	54.00	10.44	Average

Project No.: 2402T60561E-RF
Polarization: Vertical
Test Mode: Downloading
Note:

Serial No.: 2KUF-1
Tester: Leo Xiao



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	6386.40	52.72	-7.54	45.18	74.00	28.82	Peak
2	6386.40	40.60	-7.54	33.06	54.00	20.94	Average
3	14601.60	48.16	4.59	52.75	74.00	21.25	Peak
4	14601.60	36.93	4.59	41.52	54.00	12.48	Average
5	18000.00	47.53	8.13	55.66	74.00	18.34	Peak
6	18000.00	35.61	8.13	43.74	54.00	10.26	Average

APPENDIX A - EUT PHOTOGRAPHS

Please refer to the attachment 2402T60561E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and 2402T60561E-RF-INP EUT INTERNAL PHOTOGRAPHS

APPENDIX B - TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2402T60561E-RF-00C-TSP TEST SETUP PHOTOGRAPHS.

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