TEST REPORT

Applicant: **HONG KONG IPRO TECHNOLOGY CO.,LIMITED**

Address: 12/F., San Toi Building137-139 Connaught Road Central HK

FCC ID: **PQ4IPROWATPRO**

Product Name: **Mobile Phone**

Standard(s): **47 CFR Part 15 Subpart B**
ANSI C63.4-2014

The above equipment has been tested and found compliance with the requirement of the relative standards by China Certification ICT Co., Ltd (Dongguan)

Report Number: **CR22090004-00C**

Date Of Issue: **2022-09-21**

Reviewed By: **Sun Zhong**   *Sun Zhong*

Title: Manager

Test Laboratory: **China Certification ICT Co., Ltd (Dongguan)**
No. 113, Pingkang Road, Dalang Town, Dongguan,
Guangdong, China
Tel: +86-769-82016888

Test Facility

The Test site used by China Certification ICT Co., Ltd (Dongguan) to collect test data is located on the No. 113, Pingkang Road, Dalang 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. : 442868, the FCC Designation No. : CN1314.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0123.

Declarations

China Certification ICT Co., Ltd (Dongguan) is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol "▲". Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

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CONTENTS

1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

EUT Name:	Mobile Phone
EUT Model:	Watpro
Highest Operation Frequency:	2480 MHz
Rated Input Voltage:	DC 3.7V from battery or DC 5V from adapter
Serial Number:	CR22090004-RF-S1
EUT Received Date:	2022.09.05
EUT Received Status:	GOOD

Accessory Information:

Accessory Description	Manufacturer	Model	Parameters
Adapter	IPRO	NTR-01	Input: AC 100-240V~50/60Hz 150mA Output: DC 5.0V 500mA

1.2 Description of Test Configuration

1.2.1 EUT Operation Condition:

EUT Operation Mode:	The system was configured for testing in Typical Use Mode, which was provided by the manufacturer. Test Mode: Downloading
Equipment Modifications:	No
EUT Exercise Software:	Winthrax.exe

1.2.2 Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
PHILIPS	Keyboard	SPT6234	K234210510746
PHILIPS	Mouse	SPT6234	C234210506222
TOTO LINK	Router	X5000R	X5000RK9T0560
Lenovo	Laptop	T460S	60PDTEK8
Lenovo	adapter	ADLX65NDC3A	45N0253
1MORE	earphone	1m301	5521427

1.2.3 Support Cable List and Details

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
USB Cable	No	No	0.8	Laptop	EUT
Keyboard Cable	No	No	1.2	Keyboard	Laptop
Mouse Cable	No	No	1.2	Mouse	Laptop
RJ45 Cable	Yes	Yes	1.8	Router	Laptop
Adapter Cable	No	Yes	1.2	Adapter	Laptop
Audio Cable	No	No	1.2	Audio Port of EUT	Earphone

1.2.4 Block Diagram of Test Setup

Conducted emissions:
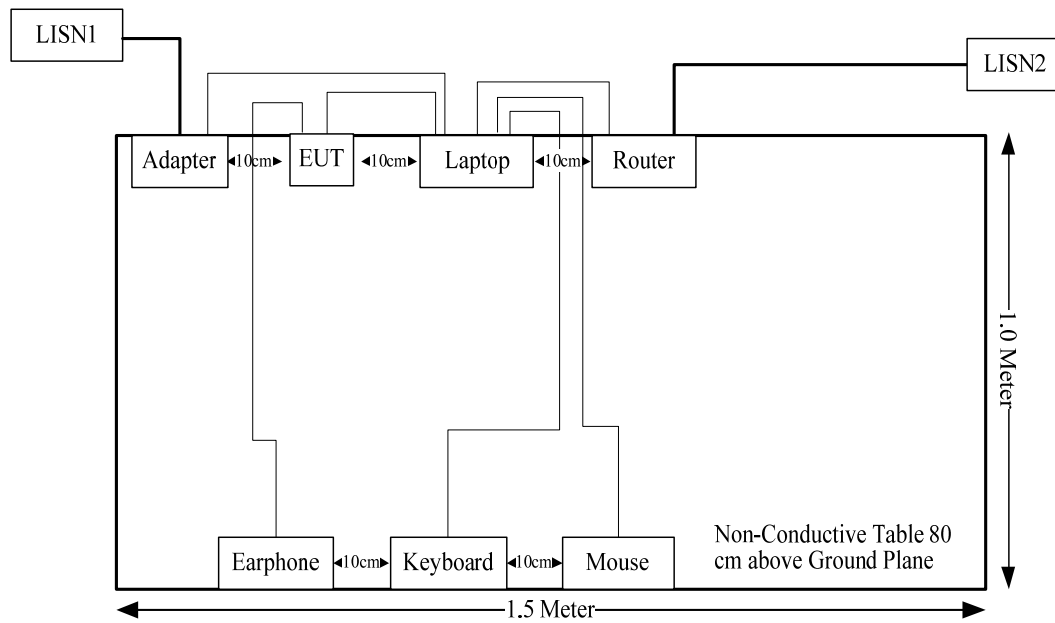
Radiated emissions:
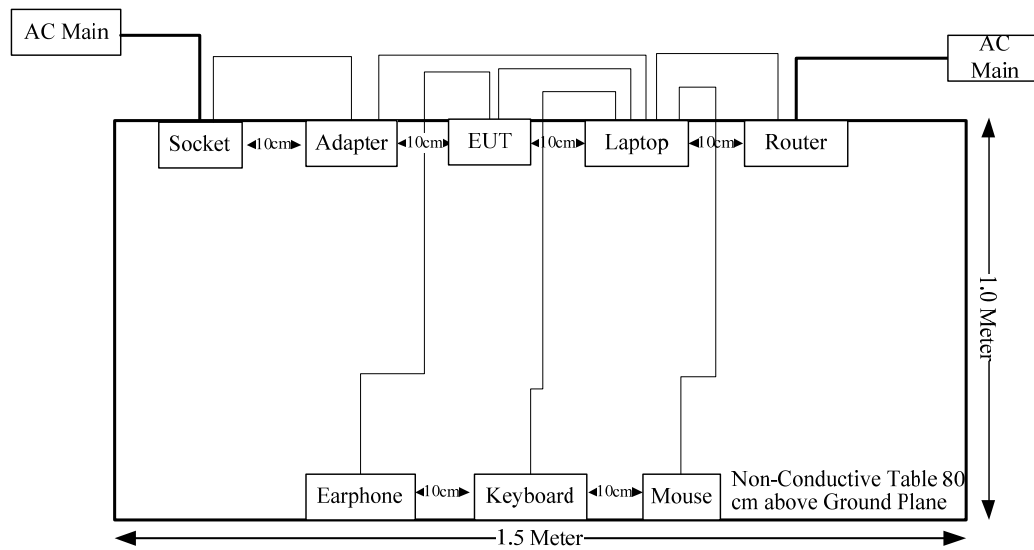
1.3 Measurement Uncertainty

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	30M~200MHz: 4.15 dB,200M~1GHz: 5.61 dB,1G~6GHz: 5.14 dB, 6G~18GHz: 5.93 dB,18G~26.5G:5.47 dB,26.5G~40G:5.63 dB
Temperature	±1℃
Humidity	±5%
AC Power Lines Conducted Emission	2.8 dB (150 kHz to 30 MHz)

2. SUMMARY OF TEST RESULTS

Standard(s) Section	Description of Test	Result
§15.107	Conducted emissions	Compliant
§15.109	Radiated emissions	Compliant

3. REQUIREMENTS AND TEST PROCEDURES

3.1 AC Line Conducted Emissions

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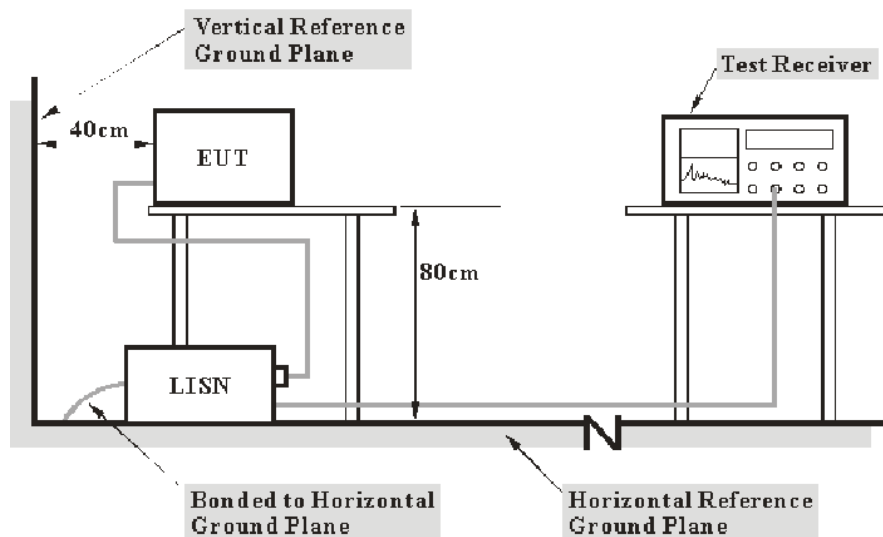
The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 15 B Class B limits.

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

The adapter was connected to the main LISN with a 120 V/60 Hz AC power source.

3.1.2 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

3.1.3 Test Procedure

During the conducted emission test, the adapter was connected to the outlet of the first LISN and the other support equipments were connected to the outlet of the second LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT, the report shall list the six emissions with the smallest margin relative to the limit, unless the margin is greater than 20 dB.

All data was recorded in the Quasi-peak and average detection mode.

The report shall list the six emissions with the smallest margin relative to the limit, unless the margin is greater than 20 dB.

3.1.4 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

3.2 Radiation Spurious Emissions

3.2.1 EUT Setup

Below 1GHz:
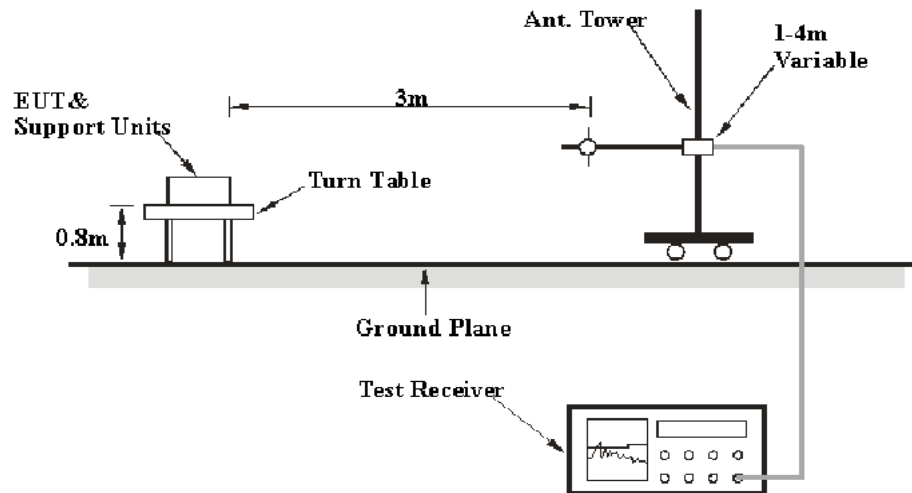
Above 1GHz:
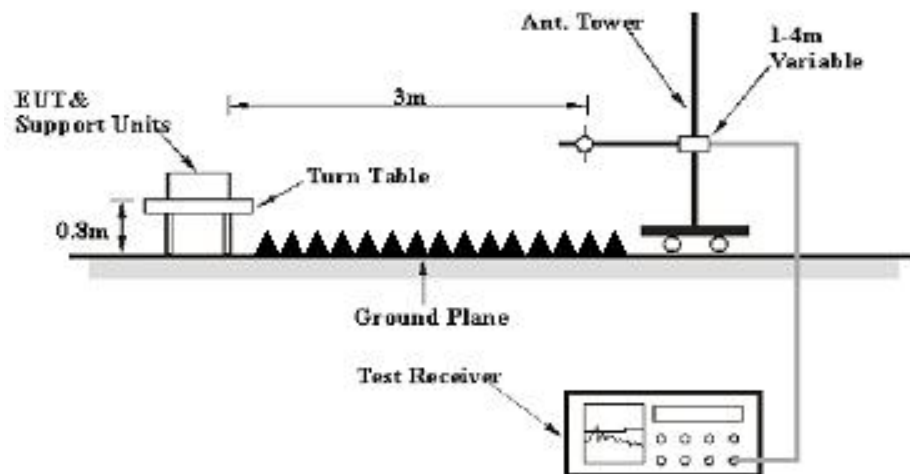
The radiated emission were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.4-2014. The specification used was with the FCC Part 15 B Class B limits.

3.2.2 EMI Test Receiver Setup

The system was investigated from 30 MHz to 13 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
30 MHz – 1000 MHz	120 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1MHz	3 MHz	/	PK
	1MHz	10 Hz	/	AV

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

3.2.3 Test Procedure

During the radiated emissions, the adapter was connected to the first AC floor outlet and the other support equipments were connected to the second AC floor outlet.

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.

All emissions under the average limit and under the noise floor have not recorded in the report.

3.2.4 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Reading + Factor
Factor = Antenna Factor + Cable Loss- 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:

Margin = Limit – Result

4. TEST DATA AND RESULTS

4.1 AC Line Conducted Emissions

Serial Number:	CR22090004-RF-S1	Test Date:	2022-09-06
Test Site:	CE	Test Mode:	Downloading
Tester:	Vic Du	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	28.1	Relative Humidity: (%)	64	ATM Pressure: (kPa)	100.1

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	LISN	ENV216	101134	2022-04-01	2023-03-31
R&S	LISN	ENV216	101132	2022-04-01	2023-03-31
R&S	EMI Test Receiver	ESR3	102726	2022-07-15	2023-07-14
MICRO-COAX	Coaxial Cable	UTIFLEX	C-0200-01	2022-08-07	2023-08-06
Audix	Test Software	E3	190306 (V9)	N/A	N/A

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Line:
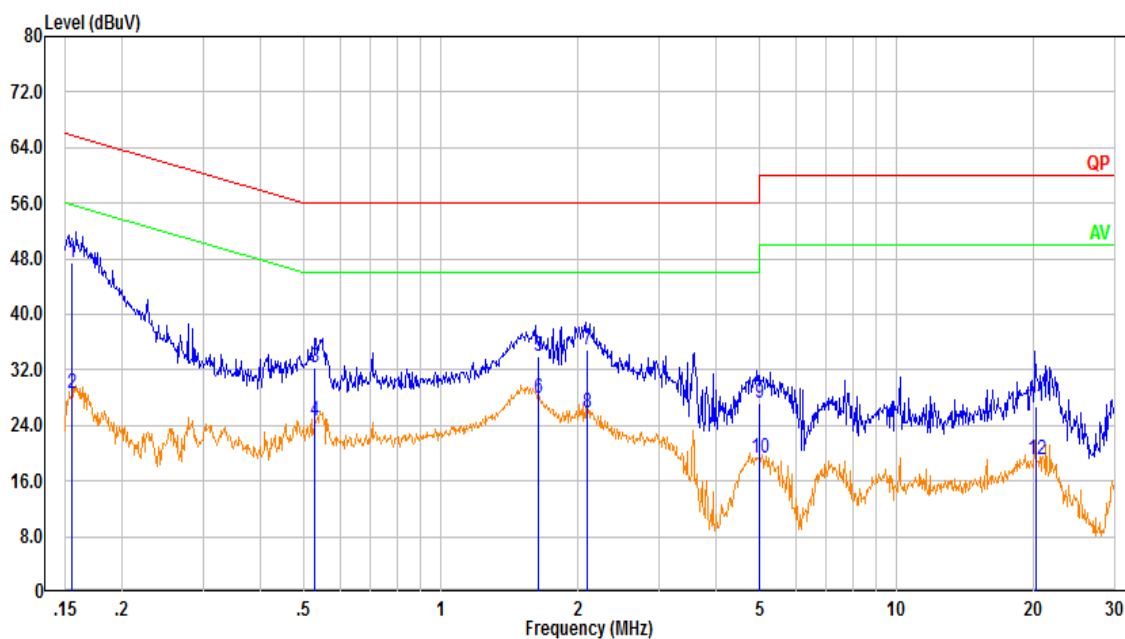
No.	Frequency	Reading	Factor	Result	Limit	Margin	Detector
	(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
1	0.155	37.80	9.61	47.41	65.73	18.32	QP
2	0.155	19.03	9.61	28.64	55.73	27.09	Average
3	0.527	22.80	9.61	32.41	56.00	23.59	QP
4	0.527	14.97	9.61	24.59	46.00	21.41	Average
5	1.636	24.29	9.63	33.92	56.00	22.08	QP
6	1.636	18.38	9.63	28.01	46.00	17.99	Average
7	2.092	25.17	9.63	34.80	56.00	21.20	QP
8	2.092	16.10	9.63	25.73	46.00	20.27	Average
9	4.996	17.51	9.66	27.17	56.00	28.83	QP
10	4.996	9.54	9.66	19.20	46.00	26.80	Average
11	20.234	17.03	9.80	26.83	60.00	33.17	QP
12	20.234	9.36	9.80	19.16	50.00	30.84	Average

Neutral:
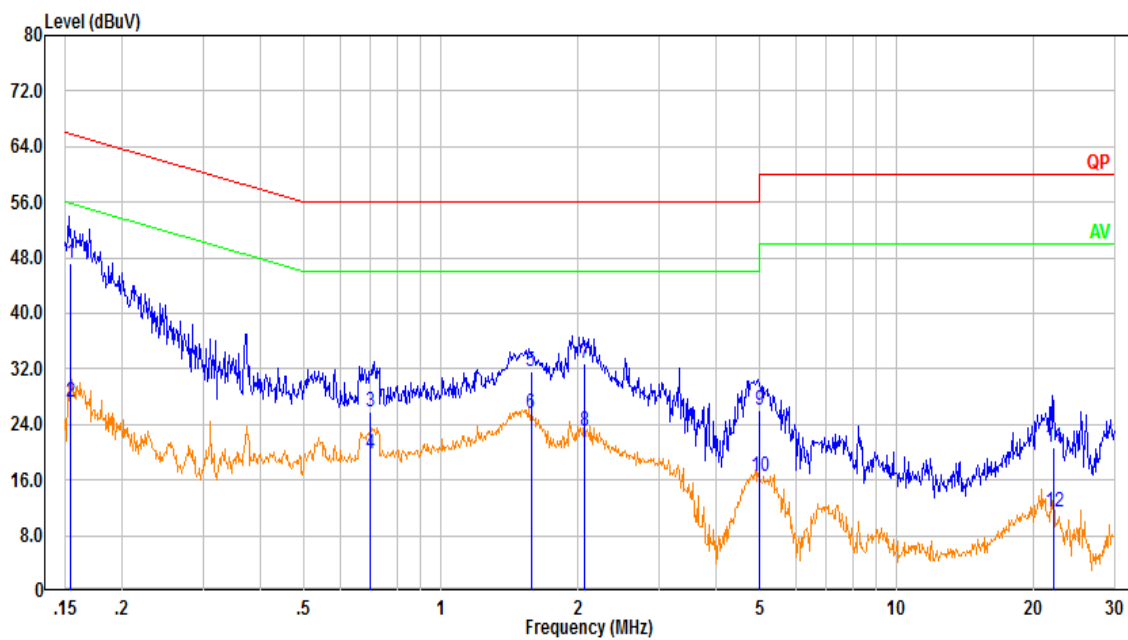
No.	Frequency	Reading	Factor	Result	Limit	Margin	Detector
	(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	
1	0.154	37.71	9.61	47.32	65.79	18.47	QP
2	0.154	17.71	9.61	27.32	55.79	28.47	Average
3	0.699	16.21	9.62	25.83	56.00	30.17	QP
4	0.699	10.08	9.62	19.70	46.00	26.30	Average
5	1.575	21.98	9.63	31.60	56.00	24.40	QP
6	1.575	15.91	9.63	25.54	46.00	20.46	Average
7	2.062	23.06	9.63	32.70	56.00	23.30	QP
8	2.062	13.34	9.63	22.97	46.00	23.03	Average
9	4.993	16.28	9.66	25.94	56.00	30.06	QP
10	4.993	6.83	9.66	16.49	46.00	29.51	Average
11	22.113	10.89	9.73	20.63	60.00	39.37	QP
12	22.113	1.76	9.73	11.49	50.00	38.51	Average

4.2 Radiation Spurious Emissions

Serial Number:	CR22090004-RF-S1	Test Date:	2022-09-14~2022-09-16
Test Site:	966-1, 966-2	Test Mode:	Downloading
Tester:	Carl Xue, Nick Tang	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	25.8~27.1	Relative Humidity: (%)	54~57	ATM Pressure: (kPa)	100~100.2

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Antenna	JB6	A082520-5	2020-10-19	2023-10-18
R&S	EMI Test Receiver	ESR3	102724	2022-07-15	2023-07-14
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0470-02	2022-07-17	2023-07-16
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0780-01	2022-07-17	2023-07-16
Sonoma	Amplifier	310N	186165	2022-07-17	2023-07-16
Audix	Test Software	E3	201021 (V9)	N/A	N/A
ETS-Lindgren	Horn Antenna	3115	9912-5985	2020-10-13	2023-10-12
R&S	Spectrum Analyzer	FSV40	101591	2022-07-15	2023-07-14
MICRO-COAX	Coaxial Cable	UFA210A-1-1200-70U300	217423-008	2022-08-07	2023-08-06
MICRO-COAX	Coaxial Cable	UFA210A-1-2362-300300	235780-001	2022-08-07	2023-08-06
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2021-11-10	2022-11-09
E-Microwave	Band Rejection Filter	2400-2483.5MHz	OE01902424	2022-08-07	2023-08-06
Mini Circuits	High Pass Filter	VHF-6010+	31119	2022-08-07	2023-08-06

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:
Please refer to the below table and plots.
Note: The device can be mounted in multiple orientations, test was performed with X,Y, Z Axis, the worst orientation was photographed and it`s data was recorded.

1) 30MHz-1GHz:
Horizontal:
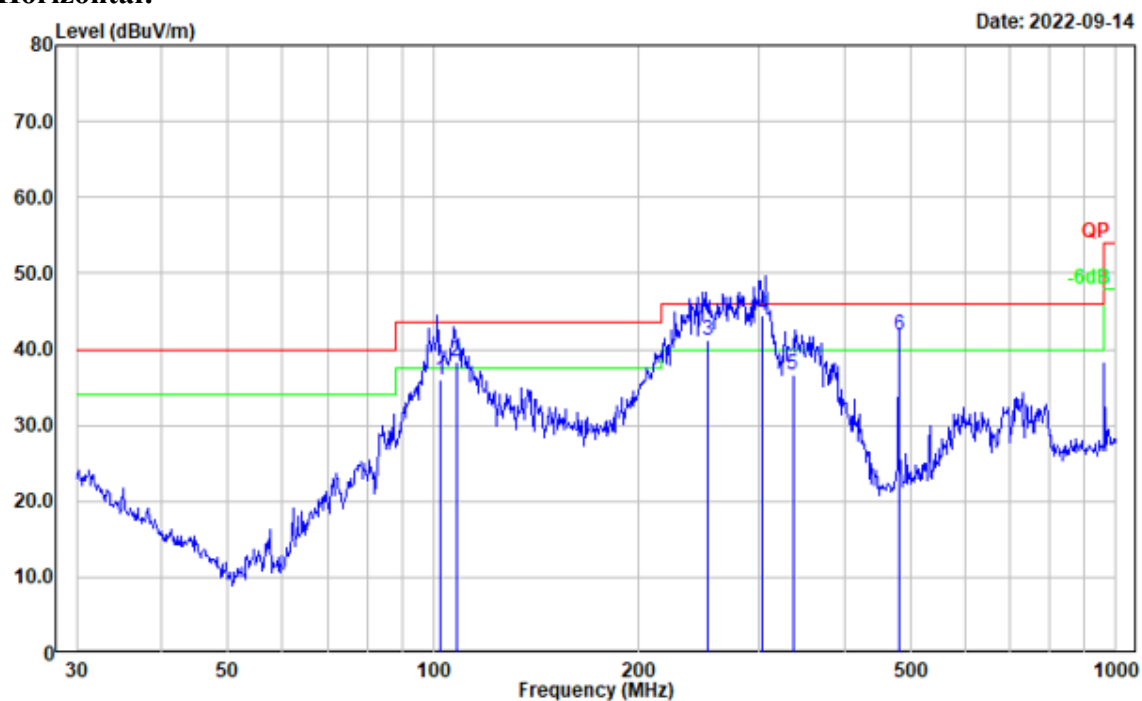
No.	Frequency (MHz)	Reading (dBμV)	Factor (dB)	Result (dBμV)	Limit (dBμV)	Margin (dBμV)	Detector
1	102.564	49.81	-13.83	35.98	43.50	7.52	QP
2	107.917	51.06	-12.72	38.34	43.50	5.16	QP
3	251.760	54.26	-13.00	41.26	46.00	4.74	QP
4	303.702	54.99	-10.59	44.40	46.00	1.60	QP
5	336.033	46.75	-10.13	36.62	46.00	9.38	QP
6	480.009	47.98	-6.24	41.74	46.00	4.26	QP

Vertical:
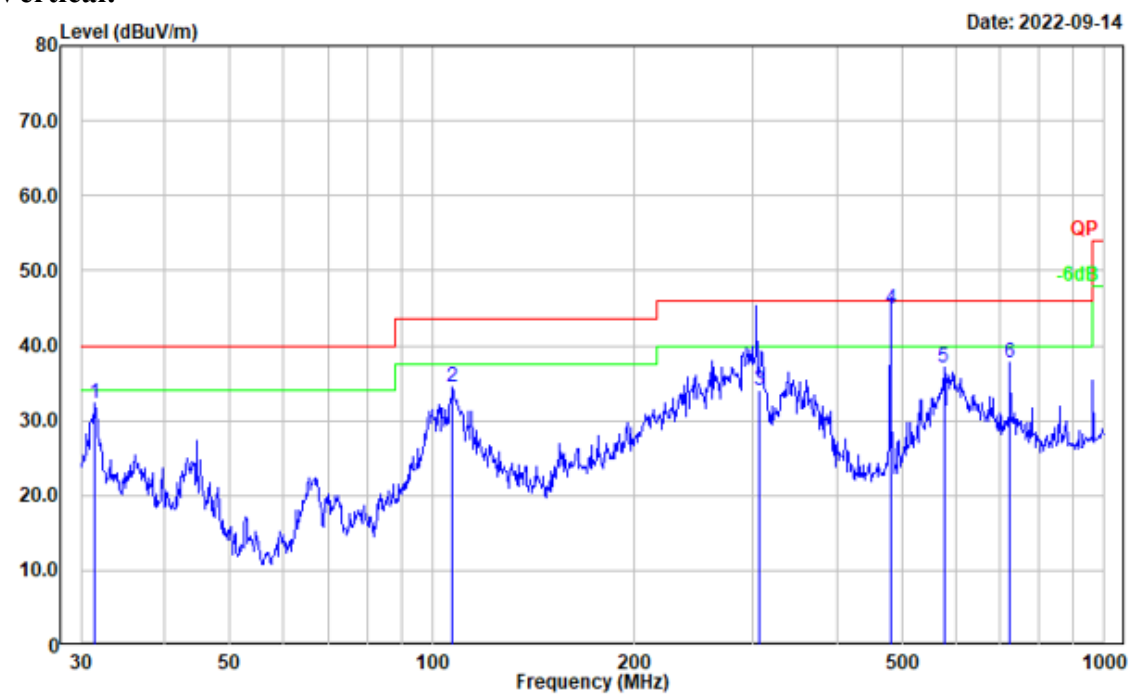
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dBµV)	Detector
1	31.510	37.04	-4.75	32.29	40.00	7.71	Peak
2	107.134	47.38	-12.87	34.51	43.50	8.99	Peak
3	306.394	44.51	-10.58	33.93	46.00	12.07	QP
4	480.528	51.18	-6.25	44.93	46.00	1.07	QP
5	576.644	42.55	-5.58	36.97	46.00	9.03	Peak
6	724.261	40.79	-3.10	37.69	46.00	8.31	Peak

2) Above 1GHz
Horizontal:
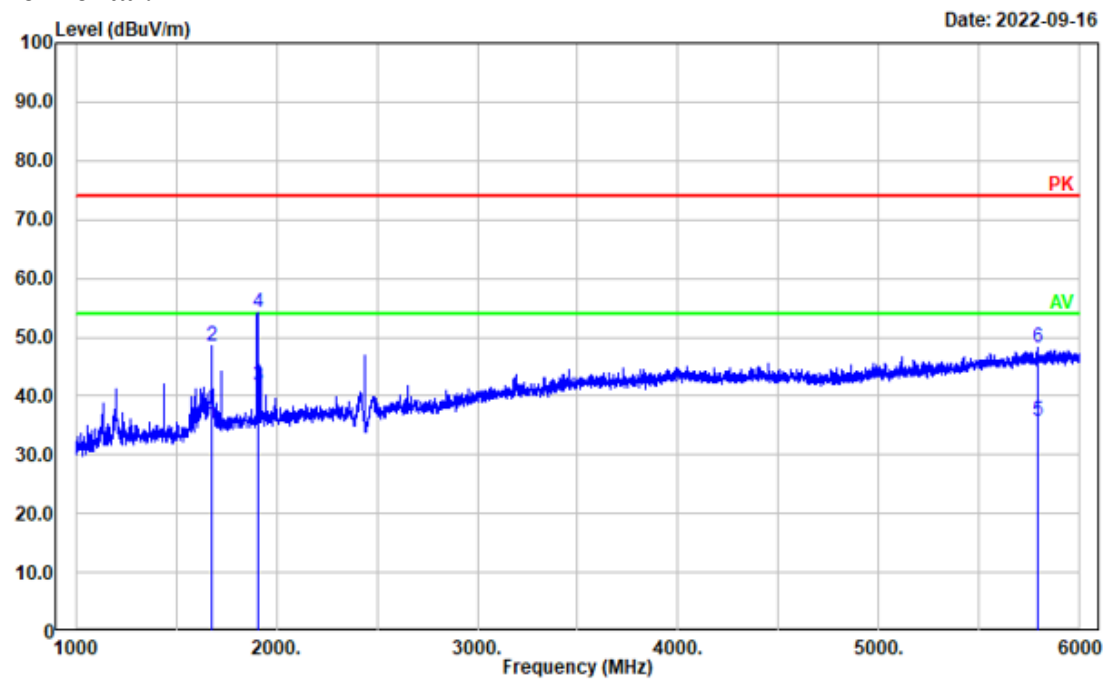
No.	Frequency (MHz)	Reading (dBμV)	Factor (dB)	Result (dBμV)	Limit (dBμV)	Margin (dBμV)	Detector
1	1679.136	34.66	0.64	35.30	54.00	18.70	Average
2	1679.136	47.82	0.64	48.46	74.00	25.54	Peak
3	1905.181	39.81	2.00	41.81	54.00	12.19	Average
4	1905.181	52.15	2.00	54.15	74.00	19.85	Peak
5	5786.958	22.79	12.91	35.70	54.00	18.30	Average
6	5786.958	35.27	12.91	48.18	74.00	25.82	Peak

Vertical:
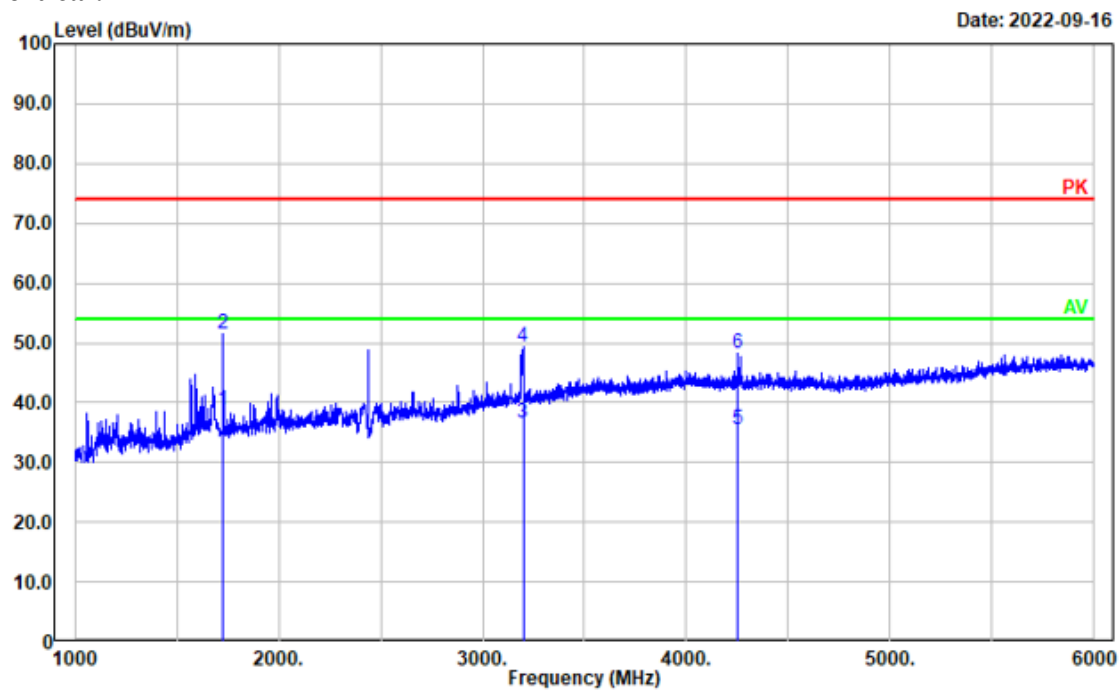
No.	Frequency (MHz)	Reading (dBμV)	Factor (dB)	Result (dBμV)	Limit (dBμV)	Margin (dBμV)	Detector
1	1727.145	37.69	0.93	38.62	54.00	15.38	Average
2	1727.145	50.56	0.93	51.49	74.00	22.51	Peak
3	3198.440	29.48	7.18	36.66	54.00	17.34	Average
4	3198.440	42.02	7.18	49.20	74.00	24.80	Peak
5	4249.650	25.66	9.75	35.41	54.00	18.59	Average
6	4249.650	38.55	9.75	48.30	74.00	25.70	Peak

Horizontal:
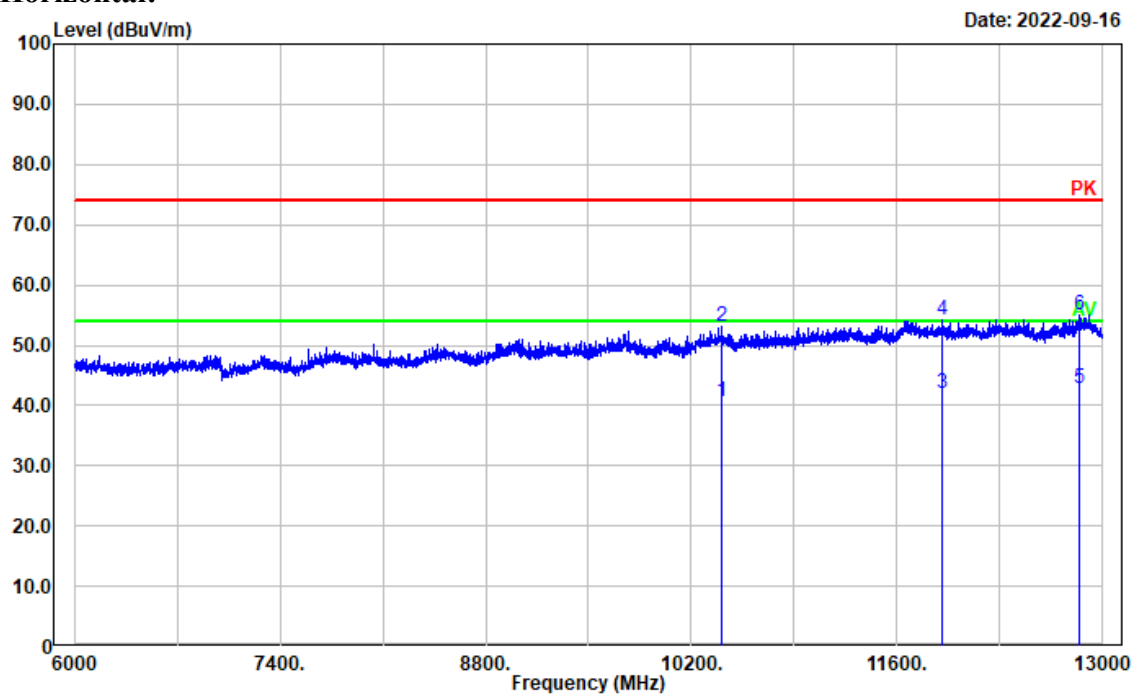
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dBµV)	Detector
1	10406.680	22.21	18.44	40.65	54.00	13.35	Average
2	10406.680	34.58	18.44	53.02	74.00	20.98	Peak
3	11909.180	21.27	20.62	41.89	54.00	12.11	Average
4	11909.180	33.59	20.62	54.21	74.00	19.79	Peak
5	12837.570	21.88	21.06	42.94	54.00	11.06	Average
6	12837.570	34.03	21.06	55.09	74.00	18.91	Peak

Vertical:
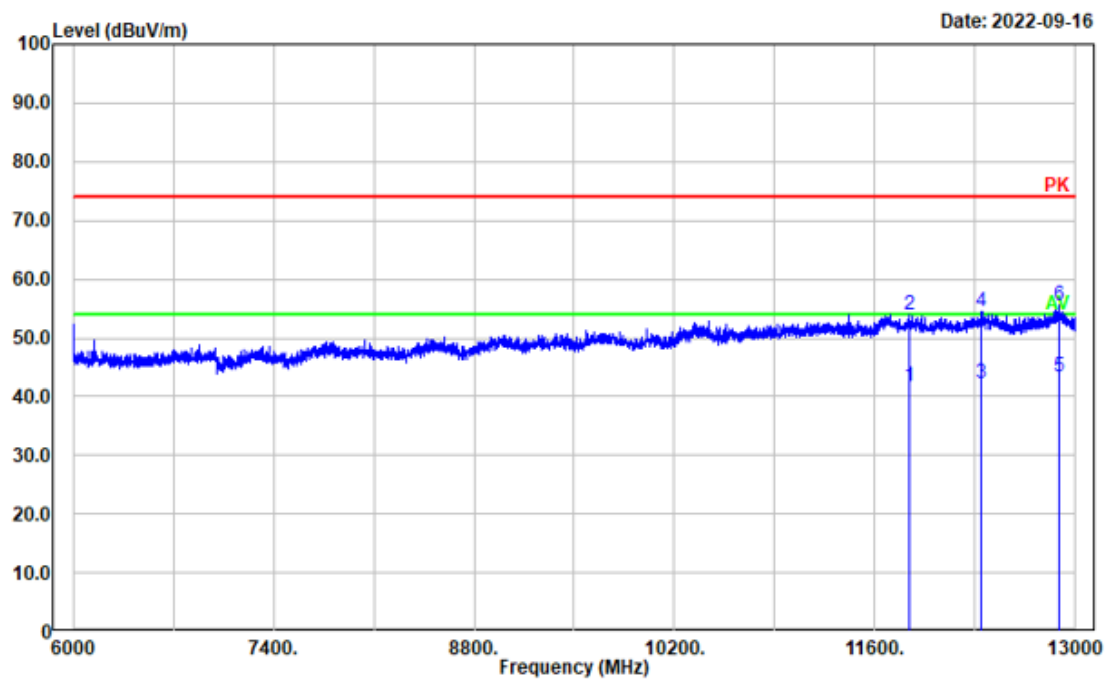
No.	Frequency (MHz)	Reading (dBμV)	Factor (dB)	Result (dBμV)	Limit (dBμV)	Margin (dBμV)	Detector
1	11841.970	21.62	20.22	41.84	54.00	12.16	Average
2	11841.970	33.84	20.22	54.06	74.00	19.94	Peak
3	12340.470	21.75	20.50	42.25	54.00	11.75	Average
4	12340.470	33.93	20.50	54.43	74.00	19.57	Peak
5	12883.780	21.89	21.45	43.34	54.00	10.66	Average
6	12883.780	34.07	21.45	55.52	74.00	18.48	Peak

===== END OF REPORT =====