中认信通
CHINA CERTIFICATION ICT CO., LTD (DONGGUAN)

A2LA ACCREDITED
TESTING LABORATORY
CERTIFICATE # 6356.01

TEST REPORT

Applicant: **Shenzhen Jinghua phase control Co.,LTD**

Address: 912 5A Building,ECO-Technology Park,Yuehai street,Nanshan district,Shenzhen city,Guandong province,China

FCC ID: **2A784JRG6TAOPPUB**

Product Name: **JR_G6T_AOP_PUB**

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: **CR22080007-00B**

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

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:	JR_G6T_AOP_PUB
EUT Model:	JR_G6T_AOP_PUB
Highest Operation Frequency:	63.9 GHz
Rated Input Voltage:	DC 5V
Serial Number:	CR22080007-RF-S1
EUT Received Date:	2022.08.11
EUT Received Status:	Good

Accessory Information:
No.

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: operating(human perception)
Equipment Modifications:	No
EUT Exercise Software:	No

1.2.2 Support Equipment List and Details

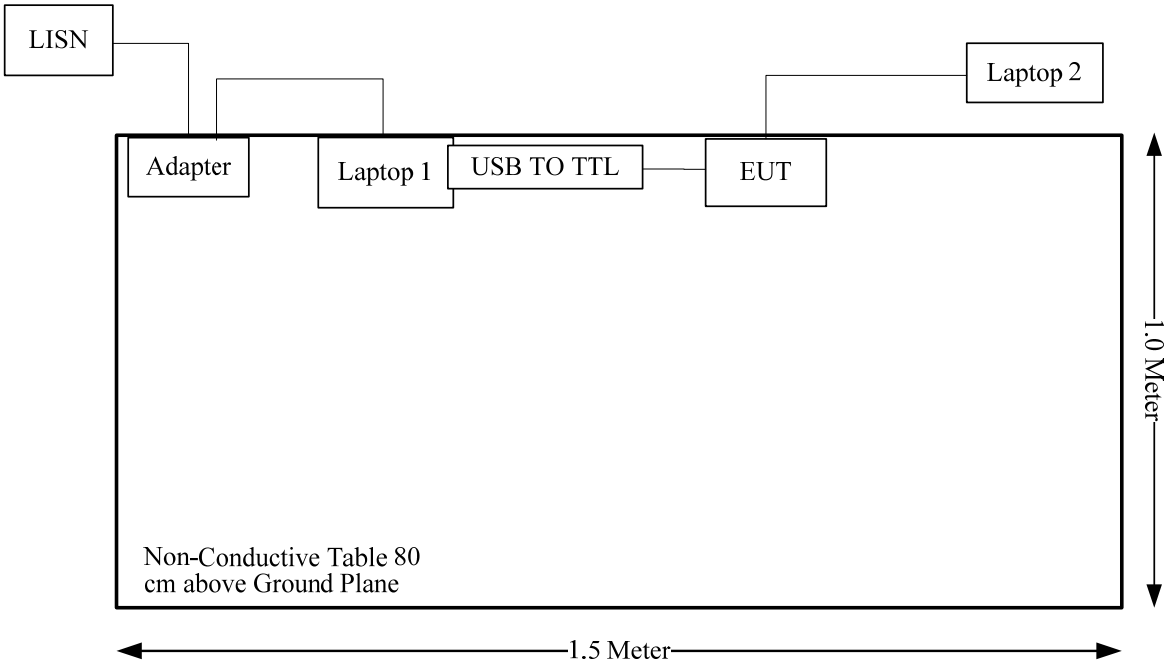
Manufacturer	Description	Model	Serial Number
Lenovo	Laptop 1	T460S	60PDTEK8
Lenovo	Adapter	ADLX65NDC3A	45N0253
Unknown	USB TO TTL	CP2102	M1
DELL	Laptop 2	E6410	GYXJ3 A00 JSD2

1.2.3 Support Cable List and Details

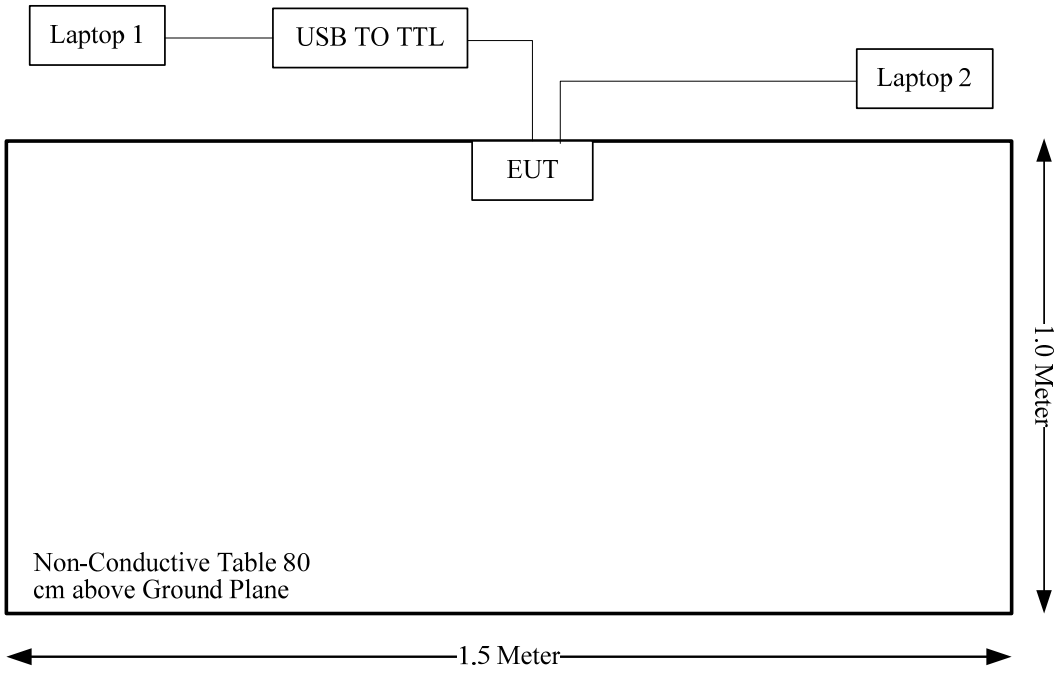
Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
Cable	No	No	2	Laptop 2	EUT
Cable	No	No	0.3	USB TO TTL	EUT
Power Cable	No	No	1.5	Laptop 1	Adapter
Power Cable	No	No	1.2	Adapter	LISN

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)

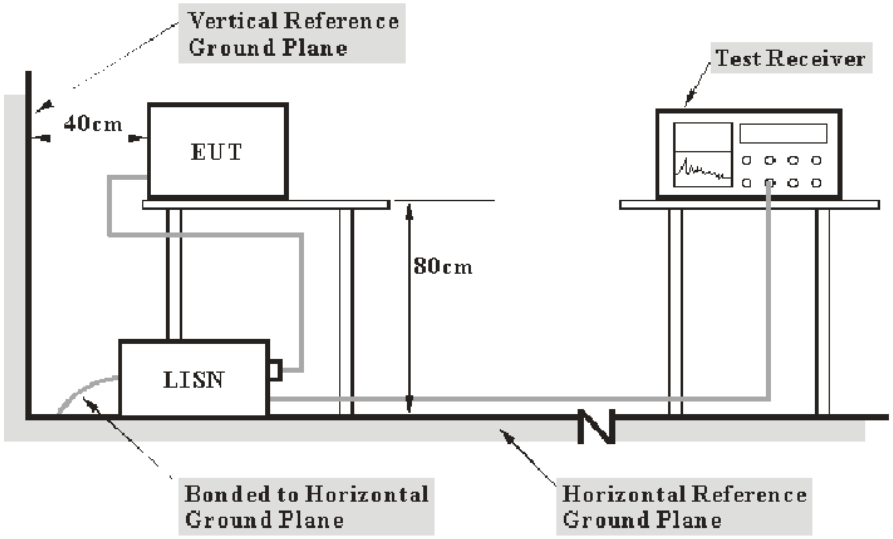
2. SUMMARY OF TEST RESULTS

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



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

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.

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

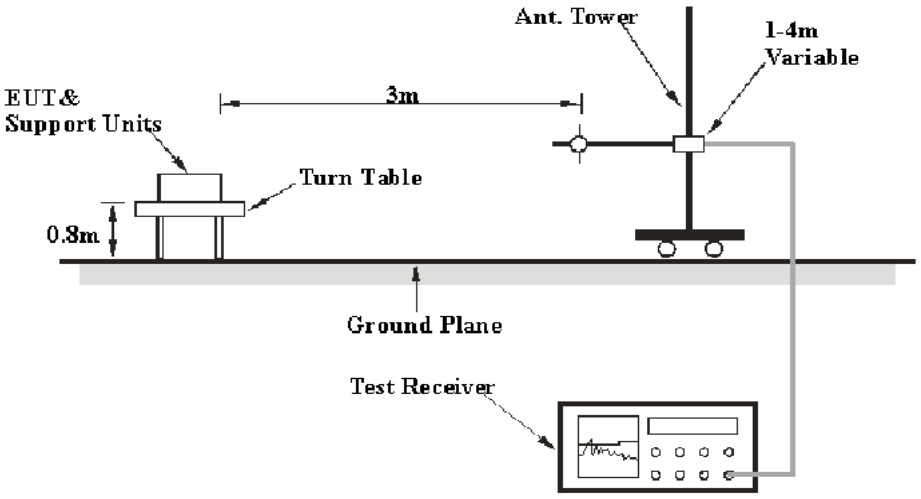
The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

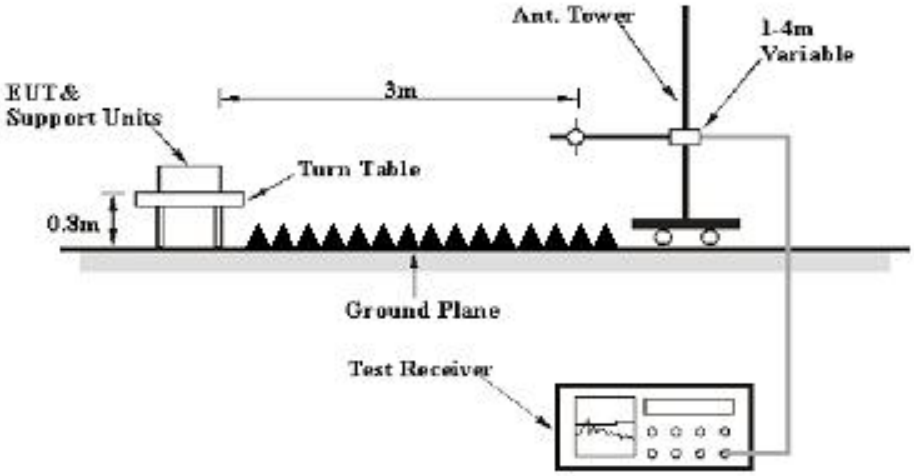
3.2 Radiation Spurious Emissions

3.2.1 EUT Setup

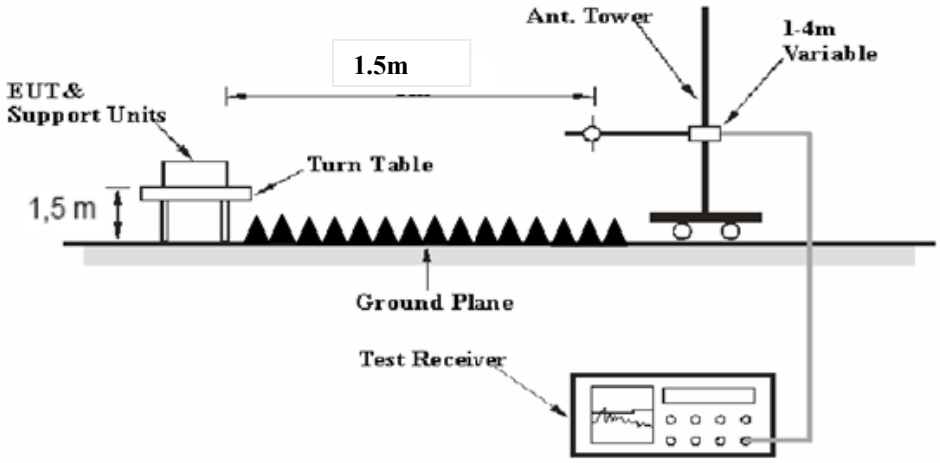
Below 1GHz:



1-26.5GHz:



26.5-40 GHz:



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 40 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	Detector
30 MHz – 1000 MHz	120 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1 MHz	3 MHz	/	Peak
	1 MHz	Reduced video bandwidth	/	AVG

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.

According to C63.10, the 26.5-40GHz test result shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade from 3m to 1.5m

Distance extrapolation factor =20 log (specific distance [3m]/test distance [1.5m]) dB= 6.02 dB

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

For 30MHz-26.5GHz:
Factor = Antenna Factor + Cable Loss- Amplifier Gain

For 26.5GHz-40GHz:
Factor = Antenna Factor + Cable Loss- Amplifier Gain-Distance extrapolation Factor

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:	CR22080007-RF-S1	Test Date:	2022-08-25
Test Site:	CE	Test Mode:	Operating(human perception)
Tester:	Vic Du	Test Result:	Pass

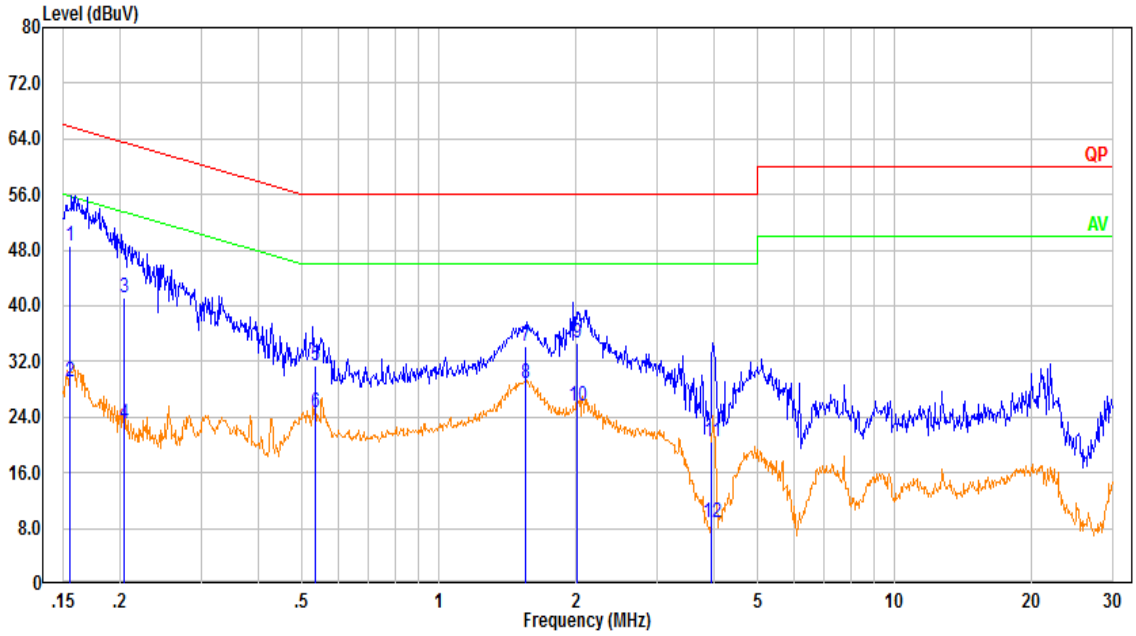
Environmental Conditions:					
Temperature: (℃)	28.1	Relative Humidity: (%)	69	ATM Pressure: (kPa)	100.2

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	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

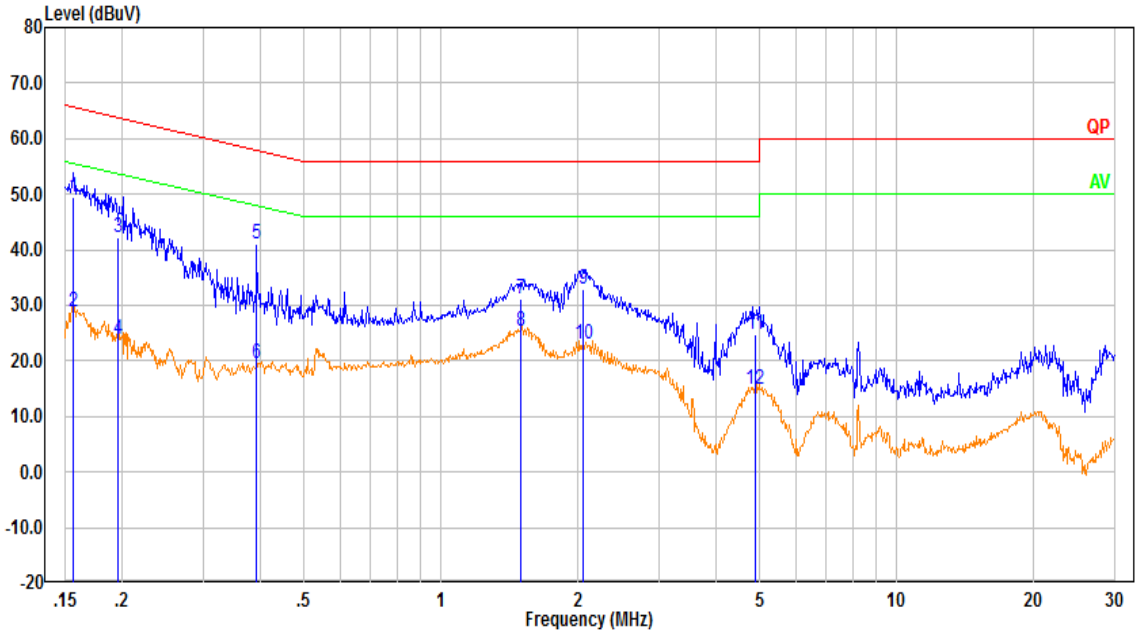
** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Line:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.155	39.02	9.61	48.63	65.73	17.10	QP
2	0.155	19.47	9.61	29.08	55.73	26.65	Average
3	0.204	31.49	9.61	41.10	63.46	22.36	QP
4	0.204	13.41	9.61	23.02	53.46	30.44	Average
5	0.535	21.87	9.61	31.48	56.00	24.52	QP
6	0.535	14.98	9.61	24.59	46.00	21.41	Average
7	1.545	24.55	9.63	34.17	56.00	21.83	QP
8	1.545	19.20	9.63	28.83	46.00	17.17	Average
9	2.010	24.97	9.63	34.60	56.00	21.40	QP
10	2.010	16.05	9.63	25.68	46.00	20.32	Average
11	3.971	10.78	9.65	20.43	56.00	35.57	QP
12	3.971	-0.86	9.65	8.79	46.00	37.21	Average

Neutral:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.155	39.75	9.61	49.36	65.70	16.34	QP
2	0.155	19.16	9.61	28.77	55.70	26.93	Average
3	0.196	32.57	9.61	42.18	63.79	21.61	QP
4	0.196	14.38	9.61	23.99	53.79	29.80	Average
5	0.392	31.52	9.61	41.13	58.02	16.89	QP
6	0.392	9.78	9.61	19.39	48.02	28.63	Average
7	1.493	21.47	9.62	31.10	56.00	24.90	QP
8	1.493	15.61	9.62	25.24	46.00	20.76	Average
9	2.045	23.29	9.63	32.92	56.00	23.08	QP
10	2.045	13.29	9.63	22.92	46.00	23.08	Average
11	4.878	15.16	9.66	24.82	56.00	31.18	QP
12	4.878	5.24	9.66	14.90	46.00	31.10	Average

4.2 Radiation Spurious Emissions

Serial Number:	CR22080007-RF-S1	Test Date:	2022-08-27~2022-08-29
Test Site:	966-1, 966-2	Test Mode:	Operating(human perception)
Tester:	Nick Tang, Carl Xue	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	25.9~26.6	Relative Humidity: (%)	53~62	ATM Pressure: (kPa)	100.4~101.1

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
PASTERNACK	Horn Antenna	PE9852/2F-20	112002	2021-02-05	2024-02-04
PASTERNACK	Horn Antenna	PE9850/2F-20	072001	2021-02-05	2024-02-04
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
MICRO-COAX	Coaxial Cable	UFB142A-1-2362-200200	235772-001	2022-08-07	2023-08-06
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2021-11-10	2022-11-09
AH	Preamplifier	PAM-1840VH	190	2021-11-19	2022-11-18

** 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).*

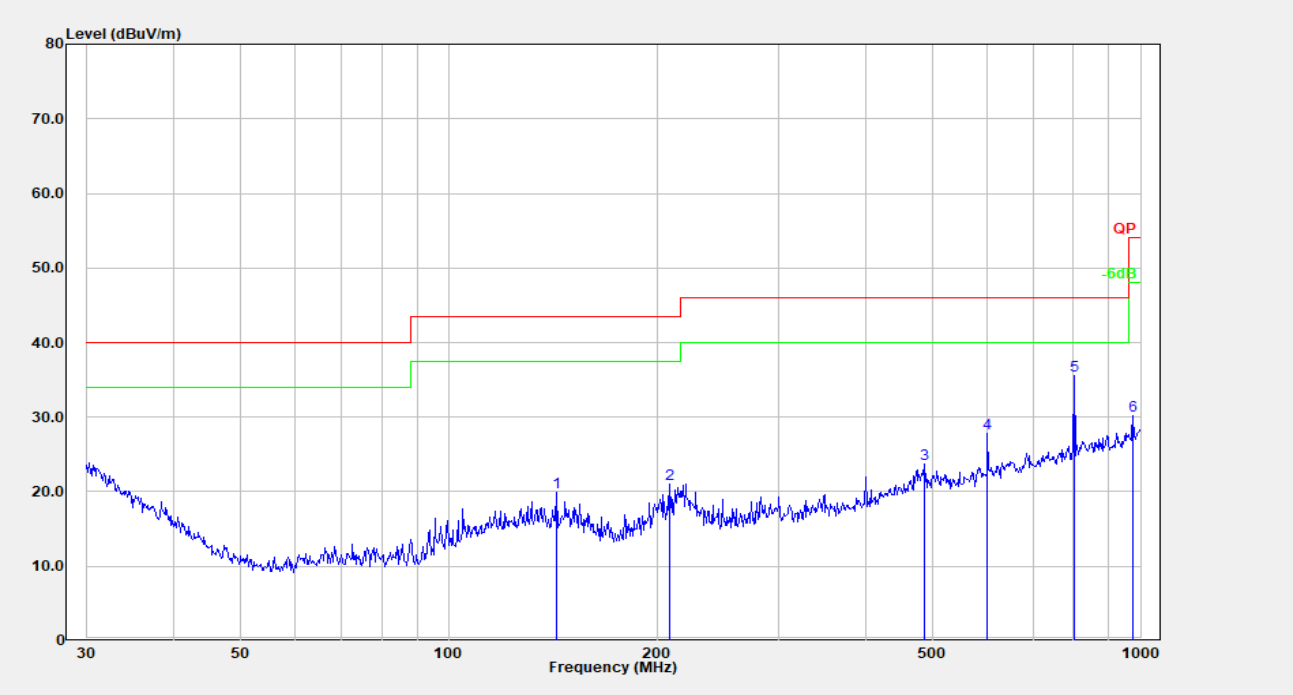
Test Data:

Please refer to the below table and plots.

Note: The device can be mounted in multiple orientations, test was performed with the three orthogonal axes of the EUT, the worst orientation was photographed and it`s data was recorded.

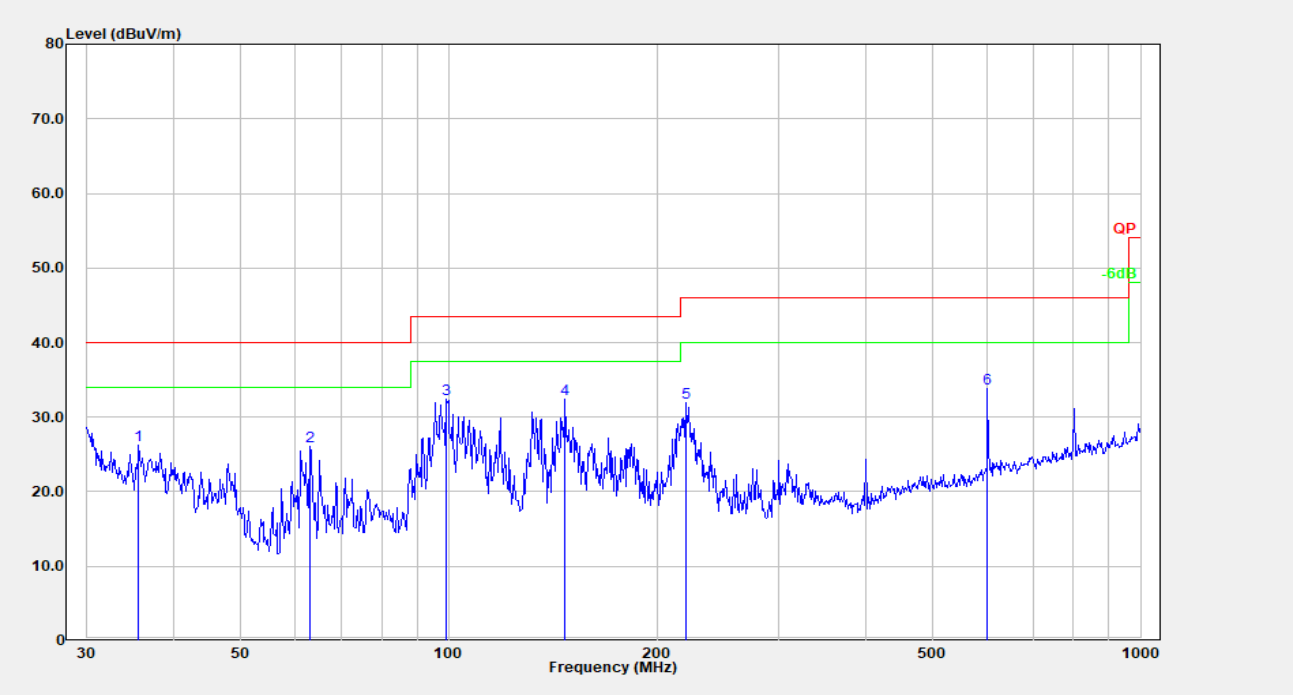
1) 30MHz-1GHz:

Horizontal:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	143.326	32.10	-12.18	19.93	43.50	23.57	Peak
2	208.580	33.68	-12.58	21.10	43.50	22.40	Peak
3	487.315	30.30	-6.52	23.78	46.00	22.22	Peak
4	601.427	33.03	-5.27	27.75	46.00	18.25	Peak
5	801.786	38.00	-2.45	35.54	46.00	10.46	Peak
6	975.753	30.00	0.18	30.18	54.00	23.82	Peak

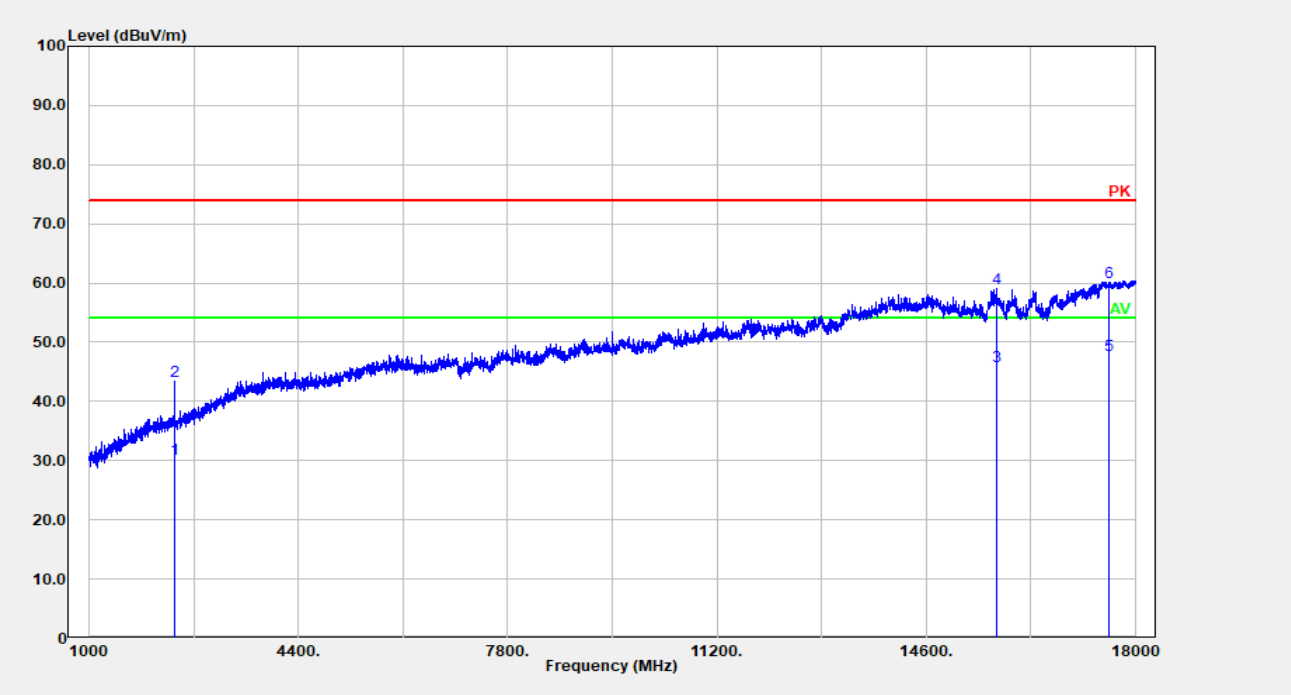
Vertical:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	35.624	34.35	-8.14	26.21	40.00	13.79	Peak
2	63.092	43.45	-17.33	26.12	40.00	13.88	Peak
3	99.180	47.15	-14.77	32.38	43.50	11.12	Peak
4	147.404	44.58	-12.23	32.35	43.50	11.15	Peak
5	219.845	44.82	-12.96	31.86	46.00	14.14	Peak
6	601.427	39.06	-5.27	33.78	46.00	12.22	Peak

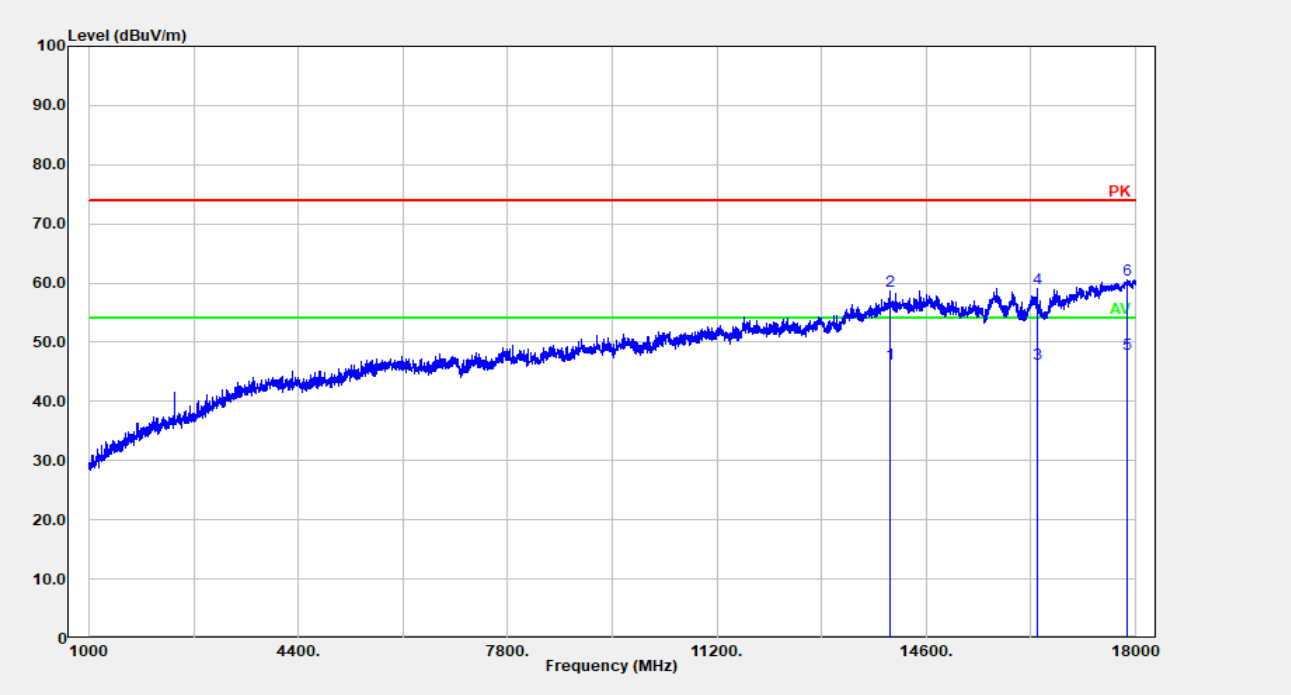
2) Above 1GHz

Horizontal:



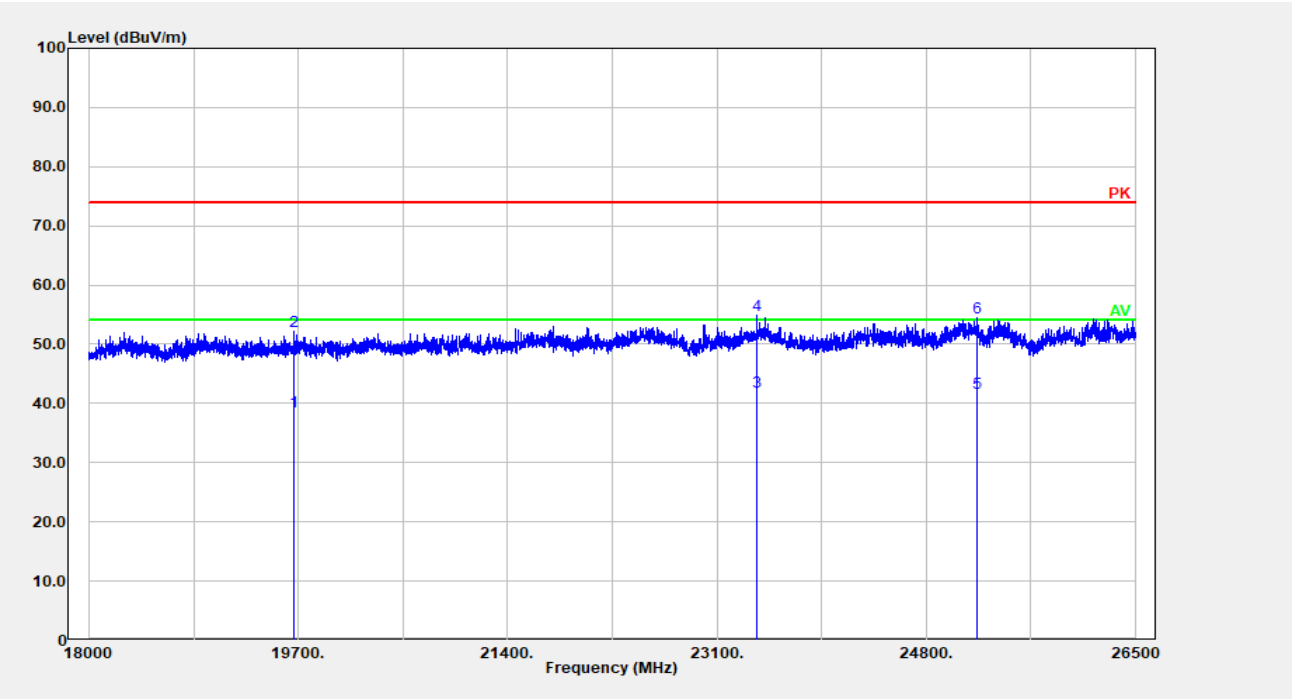
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	2397.679	26.59	3.68	30.27	54.00	23.73	Average
2	2397.679	39.74	3.68	43.42	74.00	30.58	Peak
3	15738.550	24.67	21.25	45.92	54.00	8.08	Average
4	15738.550	37.78	21.25	59.03	74.00	14.97	Peak
5	17571.510	19.70	28.10	47.80	54.00	6.20	Average
6	17571.510	32.10	28.10	60.20	74.00	13.80	Peak

Vertical:



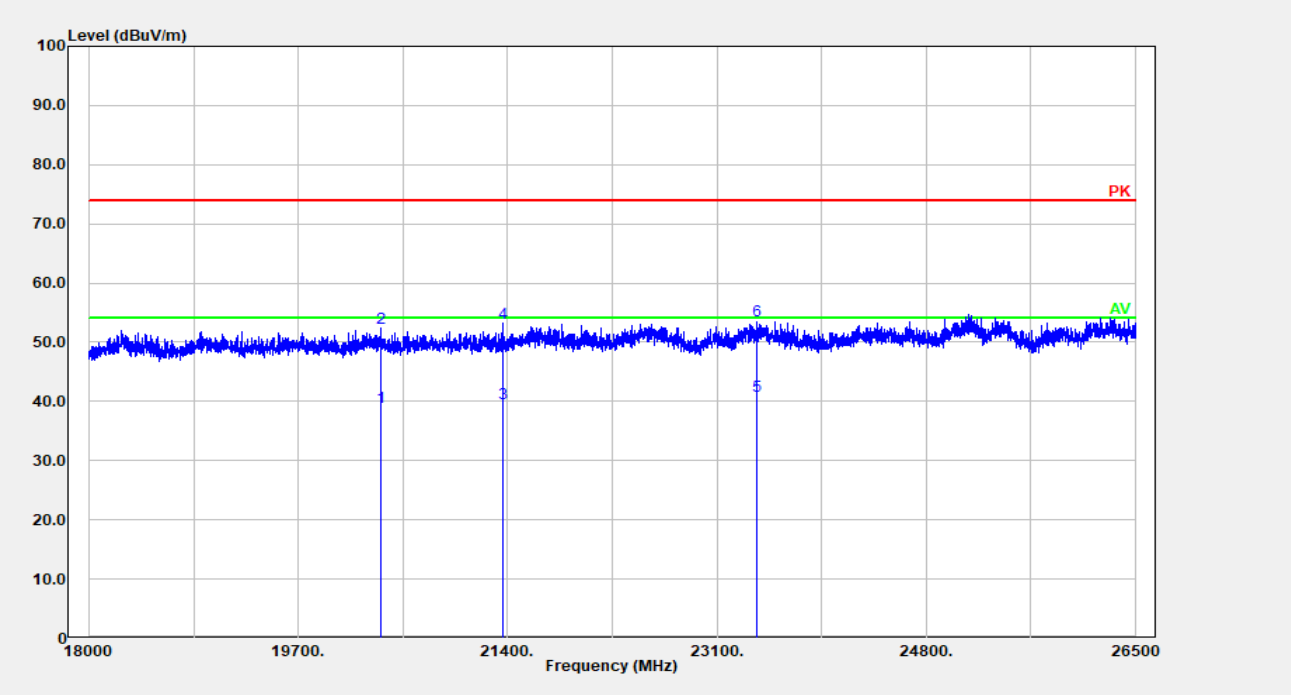
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	14007.600	22.52	23.74	46.26	54.00	7.74	Average
2	14007.600	34.95	23.74	58.69	74.00	15.31	Peak
3	16401.680	24.89	21.36	46.25	54.00	7.75	Average
4	16401.680	37.66	21.36	59.02	74.00	14.98	Peak
5	17860.570	17.65	30.27	47.92	54.00	6.08	Average
6	17860.570	30.20	30.27	60.47	74.00	13.53	Peak

Horizontal:



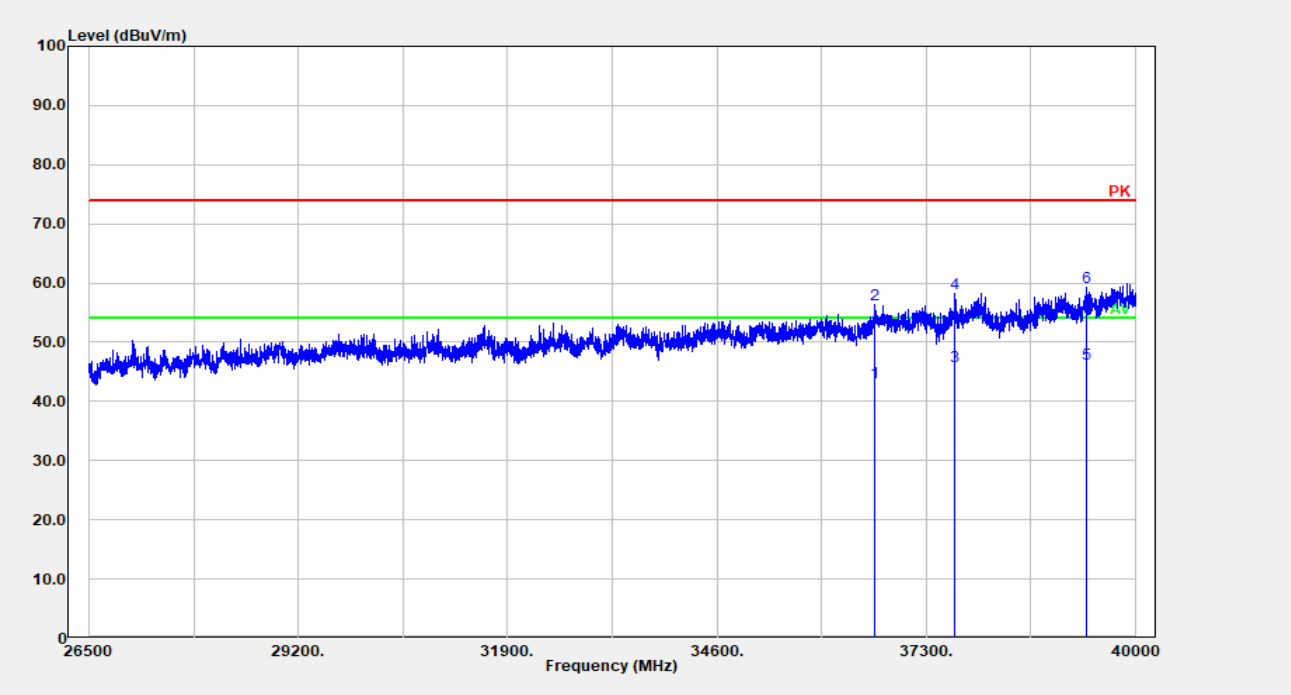
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	19669.730	32.91	5.73	38.64	54.00	15.36	Average
2	19669.730	46.56	5.73	52.29	74.00	21.71	Peak
3	23422.380	30.88	11.17	42.05	54.00	11.95	Average
4	23422.380	43.74	11.17	54.91	74.00	19.09	Peak
5	25207.740	28.33	13.52	41.85	54.00	12.15	Average
6	25207.740	41.00	13.52	54.52	74.00	19.48	Peak

Vertical:



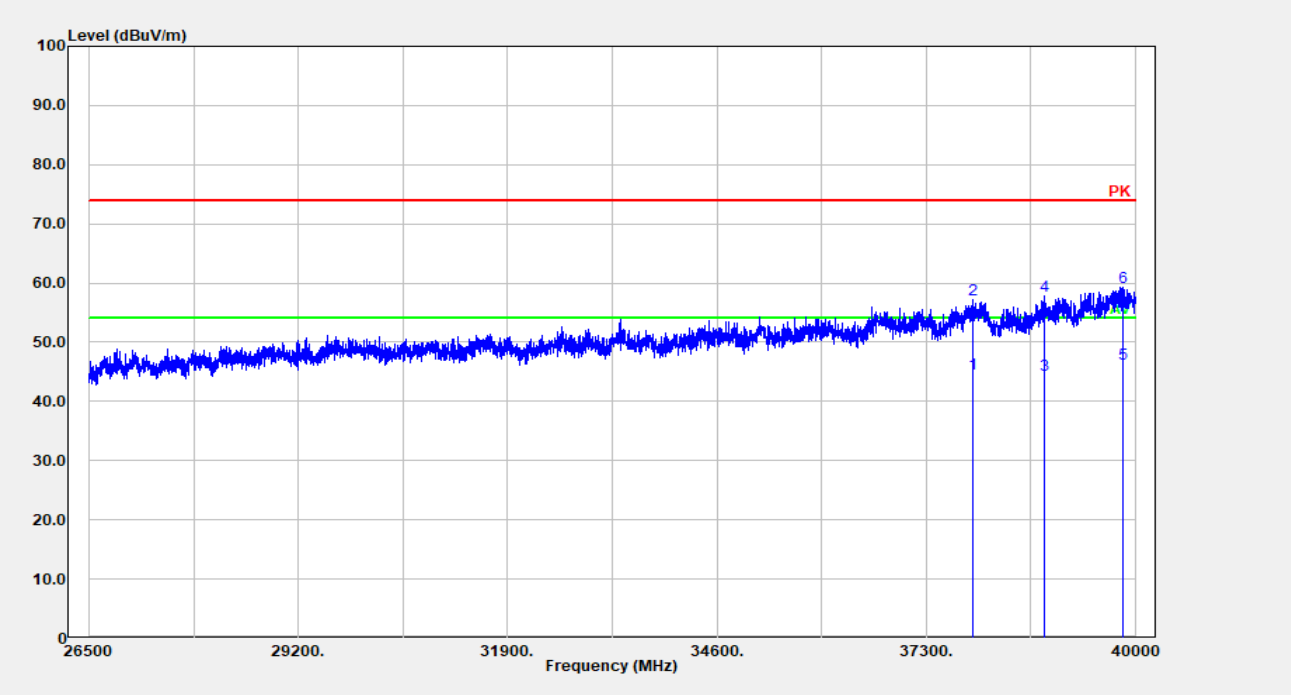
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	20366.870	32.57	6.46	39.03	54.00	14.97	Average
2	20366.870	45.87	6.46	52.33	74.00	21.67	Peak
3	21364.970	31.28	8.39	39.67	54.00	14.33	Average
4	21364.970	44.77	8.39	53.16	74.00	20.84	Peak
5	23427.490	29.65	11.18	40.83	54.00	13.17	Average
6	23427.490	42.37	11.18	53.55	74.00	20.45	Peak

Horizontal:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	36629.730	19.09	24.07	43.16	54.00	10.84	Average
2	36629.730	32.21	24.07	56.28	74.00	17.72	Peak
3	37661.330	20.72	25.19	45.91	54.00	8.09	Average
4	37661.330	33.14	25.19	58.33	74.00	15.67	Peak
5	39359.970	18.90	27.48	46.38	54.00	7.62	Average
6	39359.970	31.81	27.48	59.29	74.00	14.71	Peak

Vertical:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	37907.080	18.77	25.98	44.75	54.00	9.25	Average
2	37907.080	31.15	25.98	57.13	74.00	16.87	Peak
3	38819.860	18.58	25.82	44.40	54.00	9.60	Average
4	38819.860	31.93	25.82	57.75	74.00	16.25	Peak
5	39832.570	18.24	28.06	46.30	54.00	7.70	Average
6	39832.570	31.32	28.06	59.38	74.00	14.62	Peak

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