



**中认信通**

CHINA CERTIFICATION ICT CO., LTD (DONGGUAN)



## TEST REPORT

**Applicant:** Fujian Newland Payment Technology Co.,Ltd.

**Address:** No. B602, Building #1, Haixia Jingmao Plaza, Fuzhou Bonded Area 350015,  
Fuzhou, Fujian, China

**FCC ID:** 2AM6U-SP880

**Product Name:** SP880

**Model Number:** B9G-HB76V70000

**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:** CR21110084-00B

**Date Of Issue:** 2021-12-09

**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  
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## 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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## 1. GENERAL INFORMATION

### 1.1 Product Description for Equipment under Test (EUT)

<b>EUT Name:</b>	SP880
<b>EUT Model:</b>	B9G-HB76V70000
<b>Highest Operation Frequency:</b>	2462 MHz
<b>Rated Input Voltage:</b>	DC 9V from adapter
<b>Serial Number:</b>	CR21100084-S1
<b>EUT Received Date:</b>	2021.11.23
<b>EUT Received Status:</b>	Good

### Accessory Information:

Accessory Description	Manufacturer	Model	Parameters
Adapter	SHENZHEN HONOR ELECTRONIC Co., Ltd	ADS-25SGP-12 09023G	Input: 100-240V~50/60Hz Max. 0.7A Output: 9V 2.5A

## 1.2 Description of Test Configuration

### 1.2.1 EUT Operation Condition:

<b>EUT Operation Mode:</b>	The system was configured for testing in Typical Use Mode, which was provided by the manufacturer. Test Mode: Operating
<b>Equipment Modifications:</b>	No
<b>EUT Exercise Software:</b>	No

### 1.2.2 Support Equipment List and Details

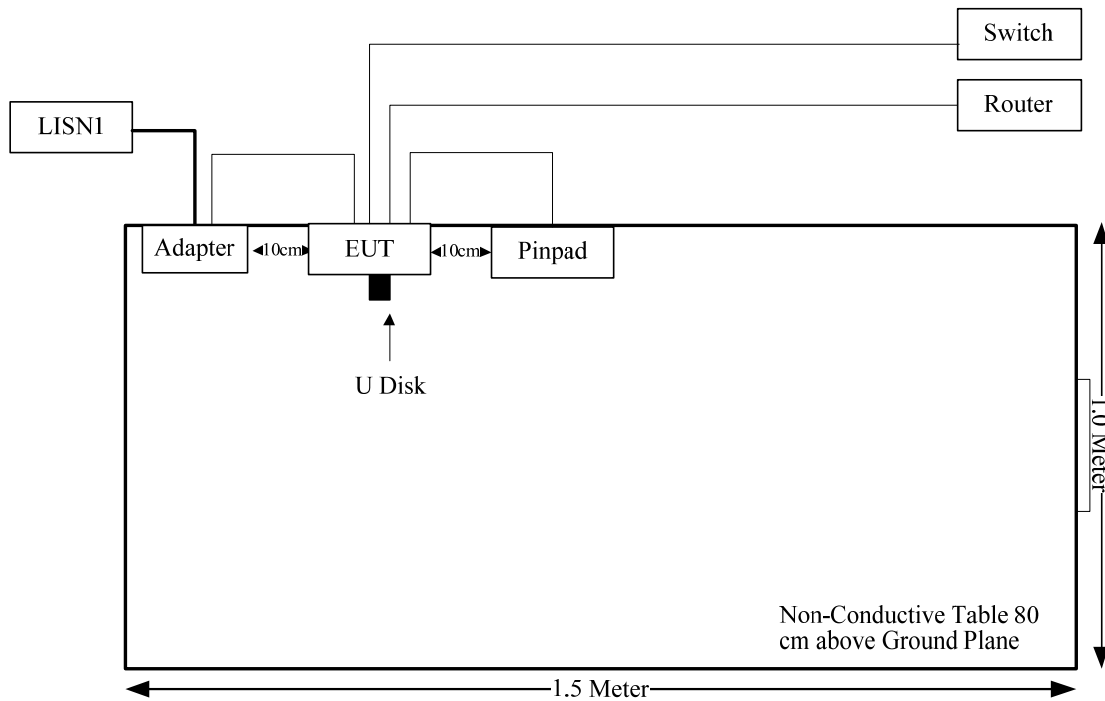
Manufacturer	Description	Model	Serial Number
SANDisk	USB Flash Disk	16G	16G-1
TOTOLINK	Wireless Router	LR1200	LR1200155P00167
Huawei	Switch	eSpaceU1981IP	H256335412
Newland	Pinpad	ME51	CR21100084-S6

### 1.2.3 Support Cable List and Details

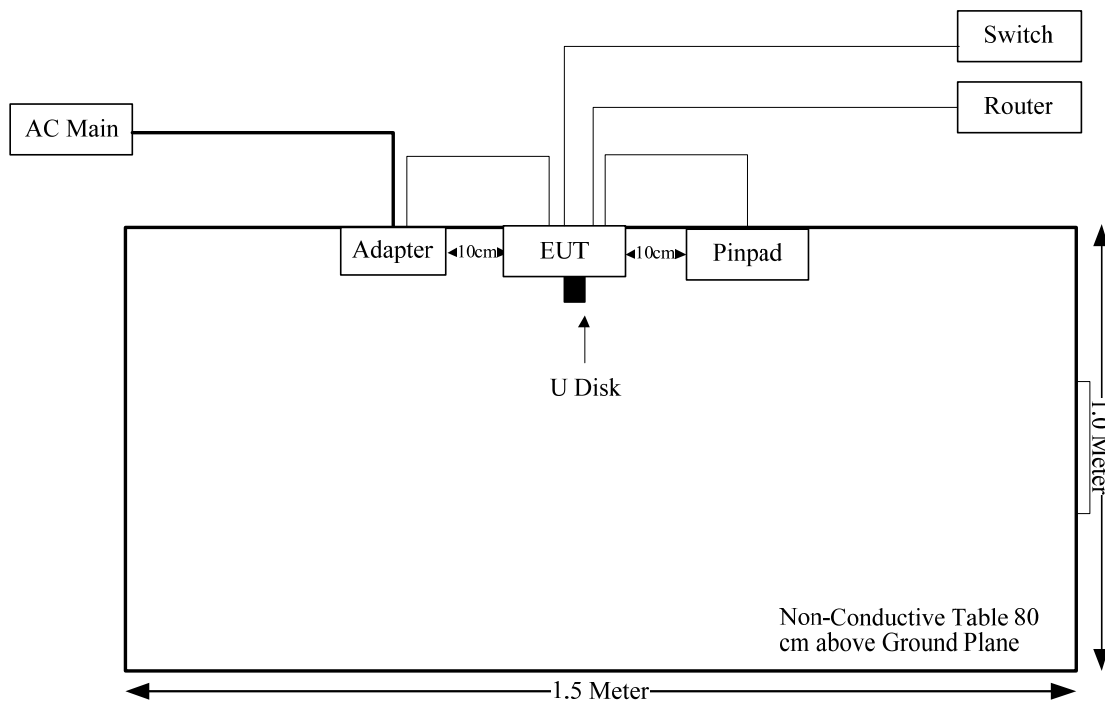
Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
RJ45 Cable	No	No	10	EUT	Router
RJ11 Cable	No	No	10	EUT	Switch
Pinpad Cable	No	No	3	EUT	Pinpad
Adapter Cable	No	No	1.2	Adapter	EUT

### 1.2.4 Block Diagram of Test Setup

AC line conducted emissions:



Spurious 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	$\pm 1^{\circ}\text{C}$
Humidity	$\pm 5\%$
AC Power Lines Conducted Emission	2.8 dB (150 kHz to 30 MHz)

## 2. SUMMARY OF TEST RESULTS

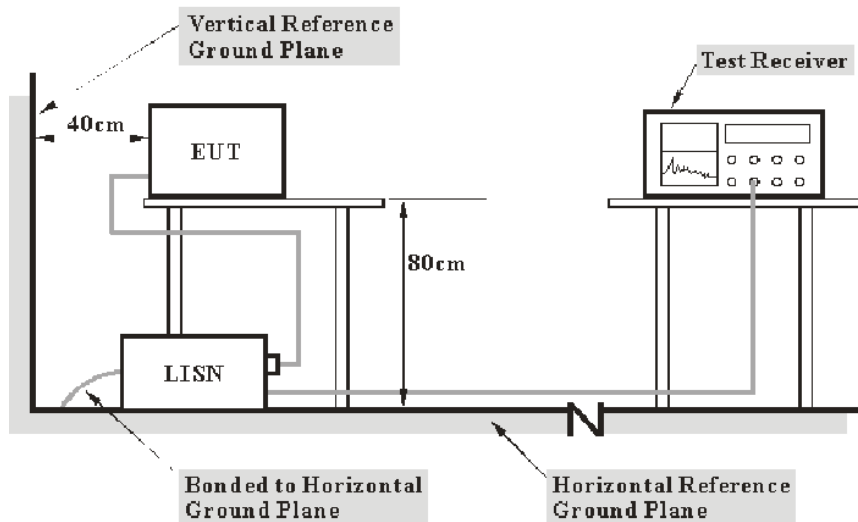
Standard(s) Section	Description of Test	Result
§15.107	Conducted emissions	Compliance
§15.109	Radiated emissions	Compliance



### 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.

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

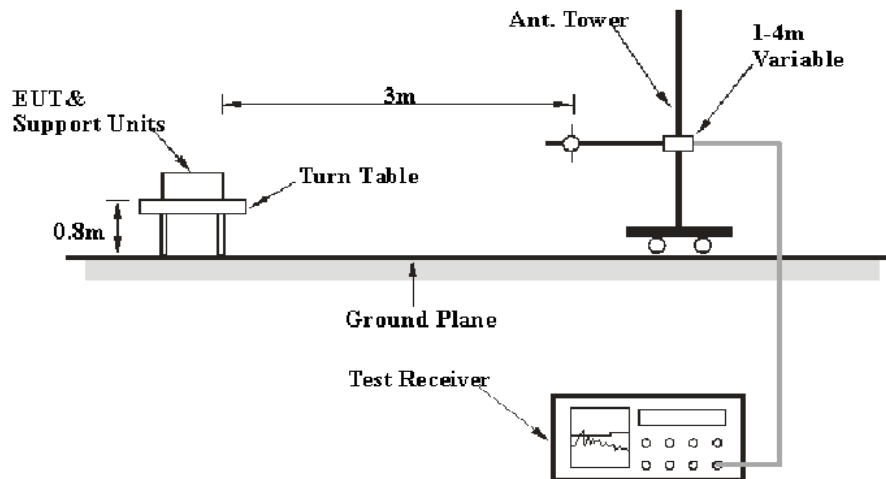
The “**Margin**” column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

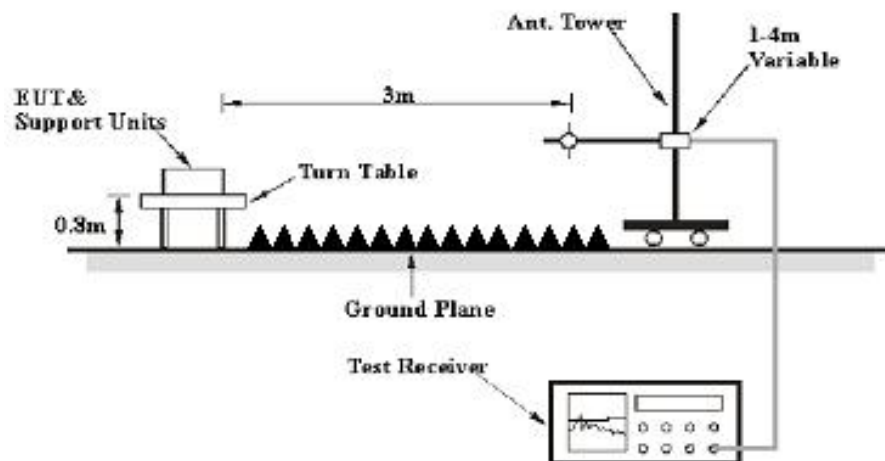
## 3.2 Radiation Spurious Emissions

### 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	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.

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:	CR21100084-S1	Test Date:	2021-11-29
Test Site:	CE	Test Mode:	Operating
Tester:	Nick Tang	Test Result:	Pass

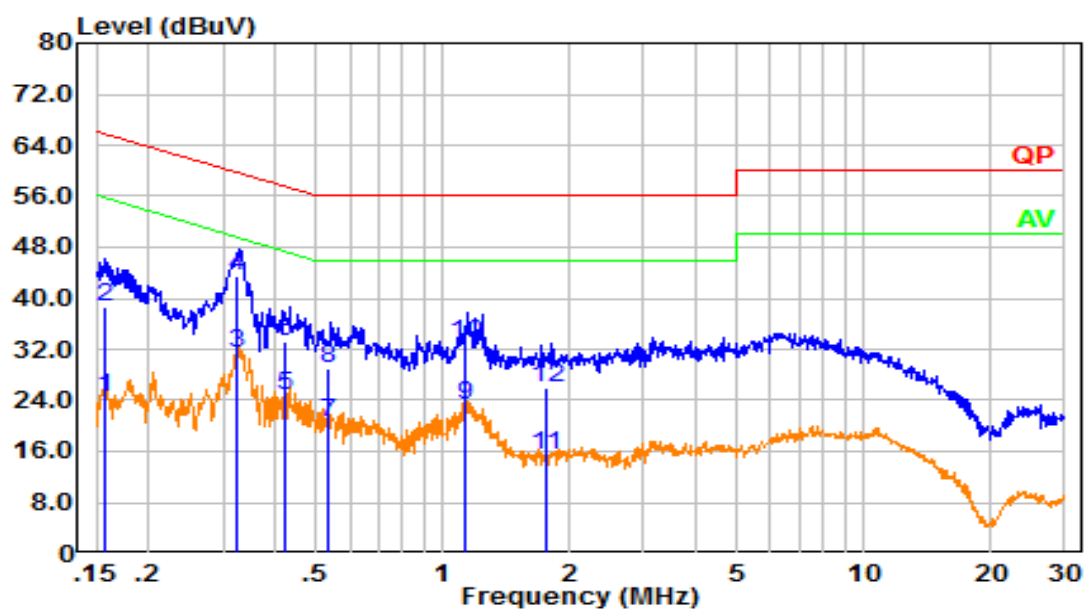
Environmental Conditions:					
Temperature: (°C)	21.4	Relative Humidity: (%)	65	ATM Pressure: (kPa)	101.4

#### Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	LISN	ENV216	101132	2021-04-25	2022-04-24
R&S	EMI Test Receiver	ESR3	102726	2021-07-22	2022-07-21
MICRO-COAX	Coaxial Cable	UTIFLEX	C-0200-01	2021-08-08	2022-08-07
Audix	Test Software	E3	190306 (V9)	N/A	N/A

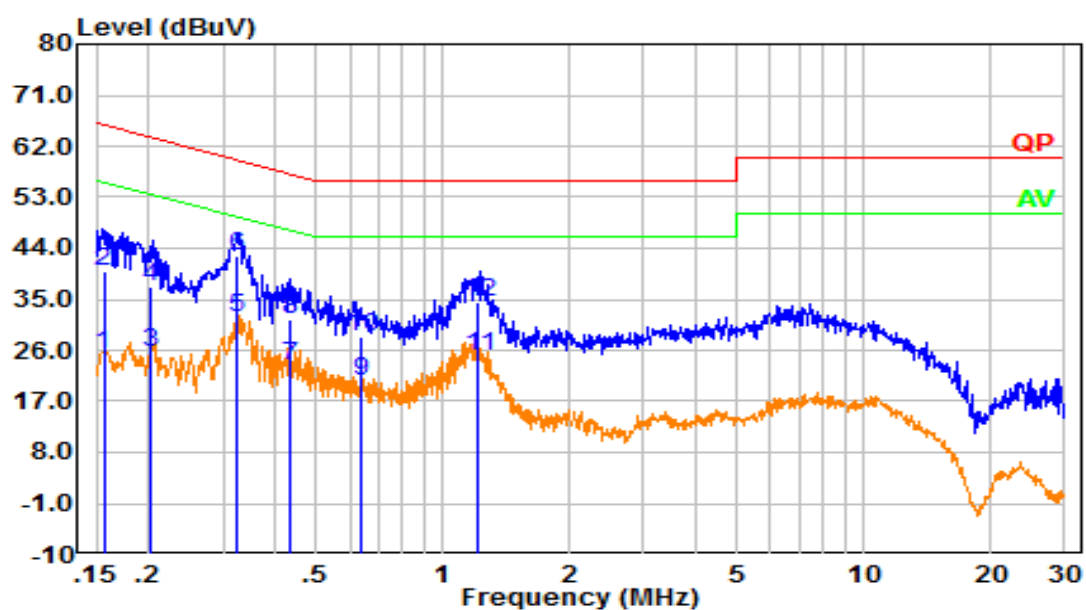
\* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Line:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Detector
1	0.157	14.73	9.61	24.34	55.64	31.30	Average
2	0.157	28.98	9.61	38.59	65.64	27.05	QP
3	0.325	21.86	9.61	31.47	49.59	18.12	Average
4	0.325	33.98	9.61	43.59	59.59	16.00	QP
5	0.422	15.27	9.61	24.88	47.41	22.54	Average
6	0.422	23.65	9.61	33.26	57.41	24.16	QP
7	0.530	10.86	9.61	20.47	46.00	25.53	Average
8	0.530	19.38	9.61	29.00	56.00	27.00	QP
9	1.131	13.57	9.62	23.19	46.00	22.81	Average
10	1.131	23.42	9.62	33.04	56.00	22.96	QP
11	1.755	5.64	9.63	15.27	46.00	30.73	Average
12	1.755	16.46	9.63	26.09	56.00	29.91	QP

Neutral:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Detector
1	0.156	15.62	9.61	25.23	55.67	30.44	Average
2	0.156	30.40	9.61	40.01	65.67	25.66	QP
3	0.203	16.15	9.61	25.76	53.48	27.72	Average
4	0.203	27.74	9.61	37.35	63.48	26.13	QP
5	0.324	22.00	9.61	31.61	49.60	17.99	Average
6	0.324	32.90	9.61	42.51	59.60	17.09	QP
7	0.435	13.77	9.61	23.38	47.15	23.77	Average
8	0.435	21.81	9.61	31.42	57.15	25.73	QP
9	0.639	10.86	9.62	20.48	46.00	25.52	Average
10	0.639	18.77	9.62	28.39	56.00	27.61	QP
11	1.217	15.23	9.62	24.85	46.00	21.15	Average
12	1.217	24.71	9.62	34.33	56.00	21.67	QP

**4.2 Radiation Spurious Emissions**

Serial Number:	CR21100084-S1	Test Date:	2021-11-29
Test Site:	966-1, 966-2	Test Mode:	Operating
Tester:	Great Qiao, Carl Liang	Test Result:	Pass

**Environmental Conditions:**

Temperature: (°C)	21.5~23.5	Relative Humidity: (%)	55~62	ATM Pressure: (kPa)	101.4
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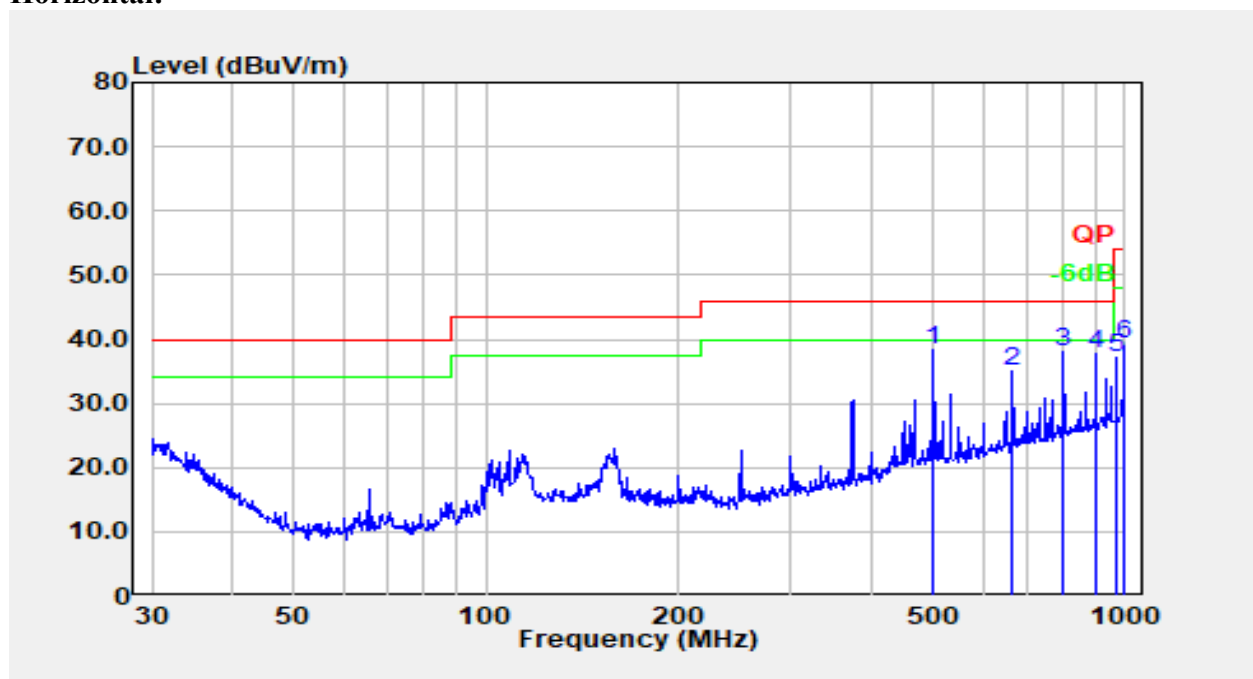
**Test Equipment List and Details:**

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	2021-07-22	2022-07-21
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0470-02	2021-07-18	2022-07-17
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0780-01	2021-07-18	2022-07-17
Sonoma	Amplifier	310N	186165	2021-07-18	2022-07-17
ETS-Lindgren	Horn Antenna	3115	9912-5985	2020-10-13	2023-10-12
R&S	Spectrum Analyzer	FSV40	101591	2021-07-22	2022-07-21
MICRO-COAX	Coaxial Cable	UFA210A-1-1200-70U300	217423-008	2021-08-08	2022-08-07
MICRO-COAX	Coaxial Cable	UFA210A-1-2362-300300	235780-001	2021-08-08	2022-08-07
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2021-11-10	2022-11-09
Audix	Test Software	E3	201021 (V9)	N/A	N/A
E-Microwave	Band Rejection Filter	2400-2483.5MHz	OE01902424	2021-08-08	2022-08-07
Mini Circuits	High Pass Filter	VHF-6010+	31119	2021-08-08	2022-08-07

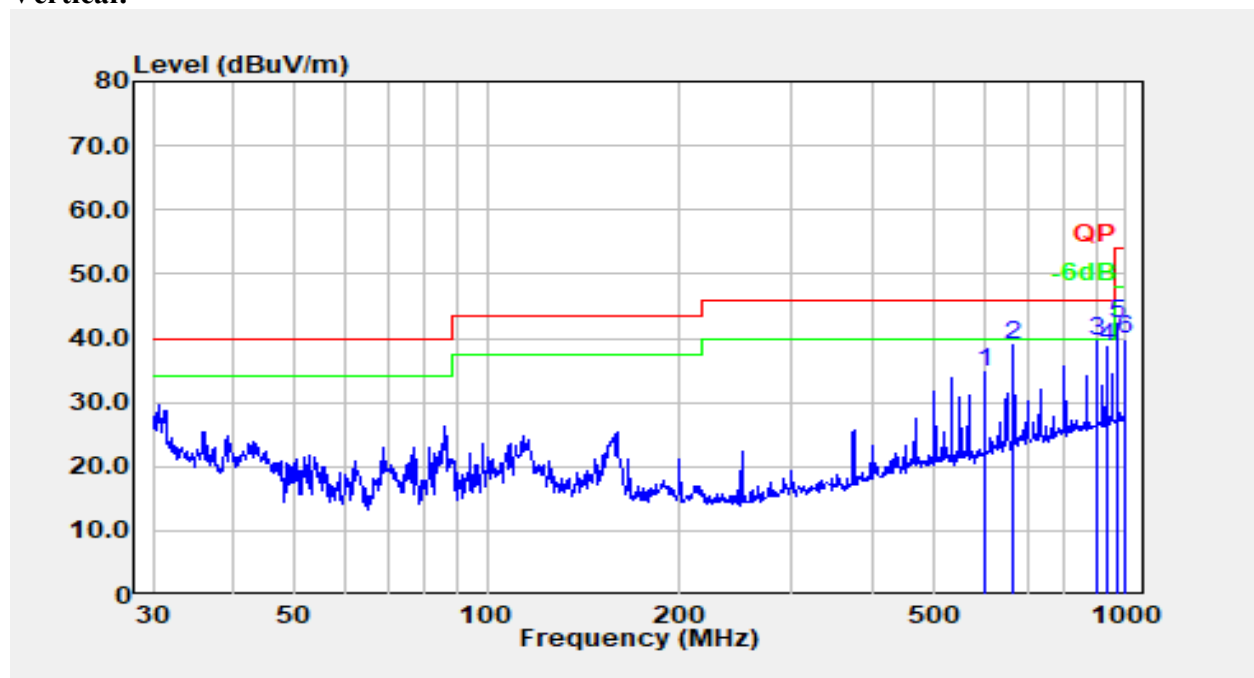
\* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).



1) 30MHz-1GHz:

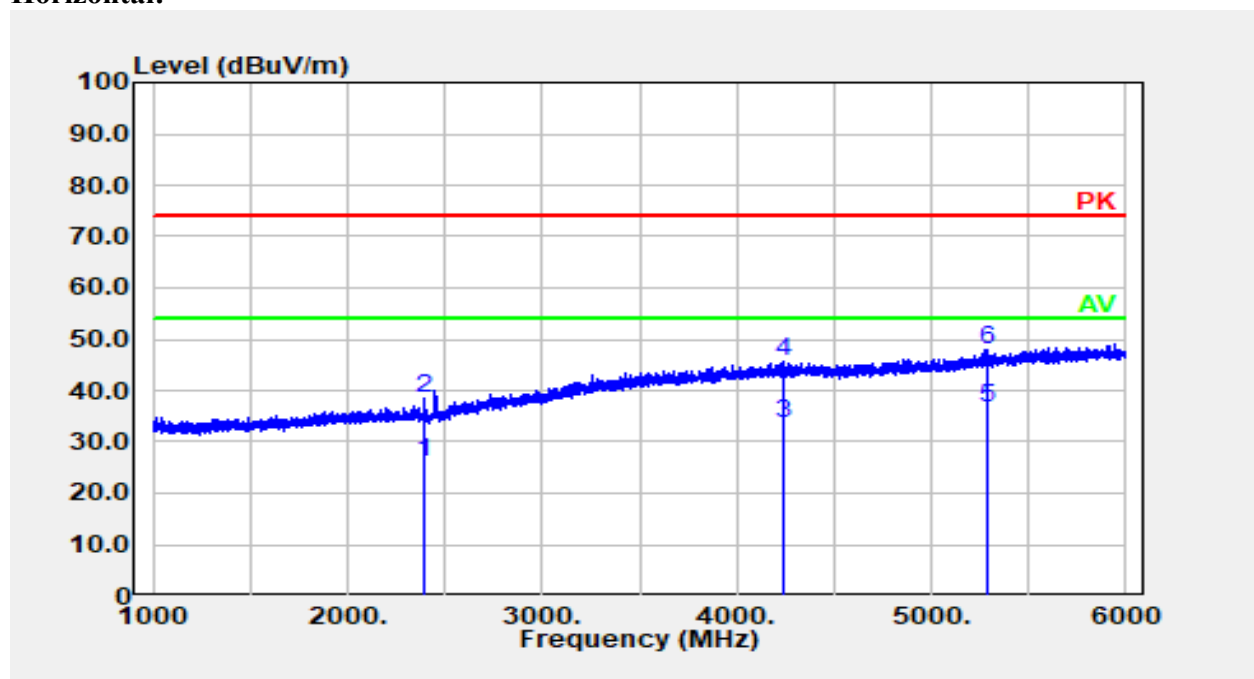
**Horizontal:**

No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	501.179	44.54	-6.22	38.32	46.00	7.68	Peak
2	668.142	39.29	-4.38	34.91	46.00	11.09	Peak
3	801.786	40.41	-2.45	37.96	46.00	8.04	Peak
4	900.147	38.91	-1.23	37.68	46.00	8.32	Peak
5	968.934	37.08	0.05	37.13	54.00	16.87	Peak
6	1000.000	38.59	0.77	39.36	54.00	14.64	Peak

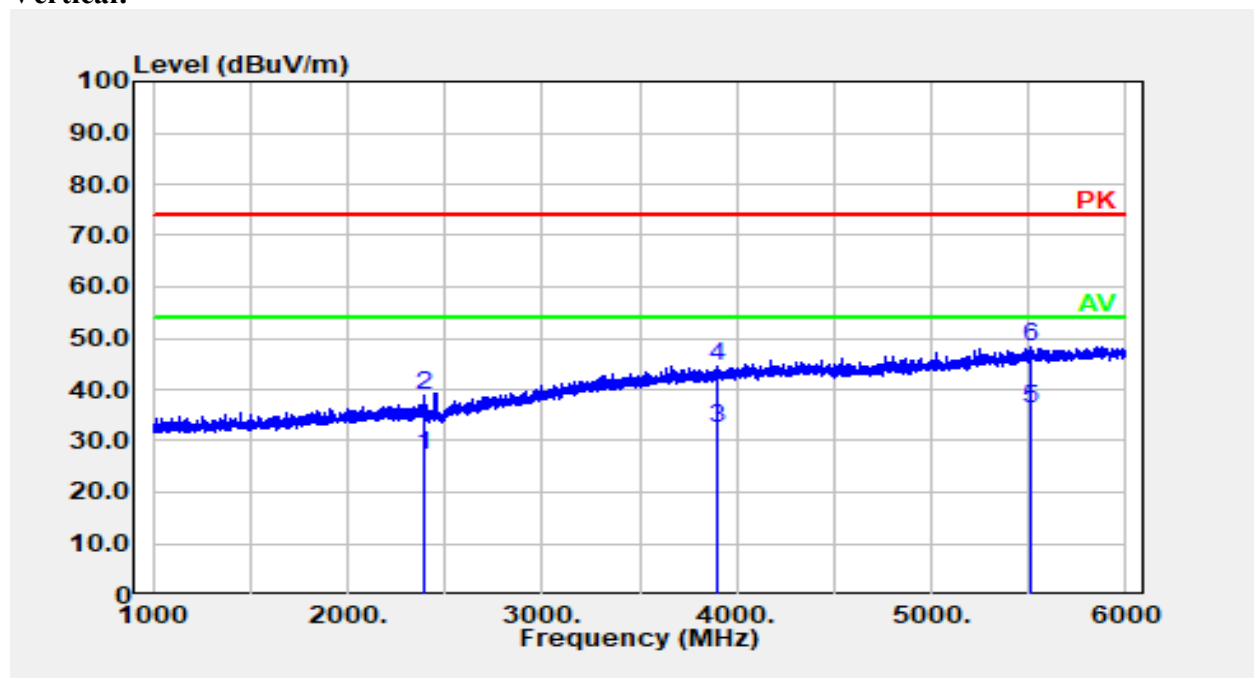
**Vertical:**

No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	601.427	40.11	-5.27	34.83	46.00	11.17	Peak
2	668.142	43.43	-4.38	39.05	46.00	6.95	Peak
3	900.147	40.85	-1.23	39.62	46.00	6.38	Peak
4	935.546	39.27	-0.71	38.57	46.00	7.43	Peak
5	968.934	42.18	0.05	42.23	54.00	11.77	Peak
6	1000.000	39.20	0.77	39.97	54.00	14.03	Peak

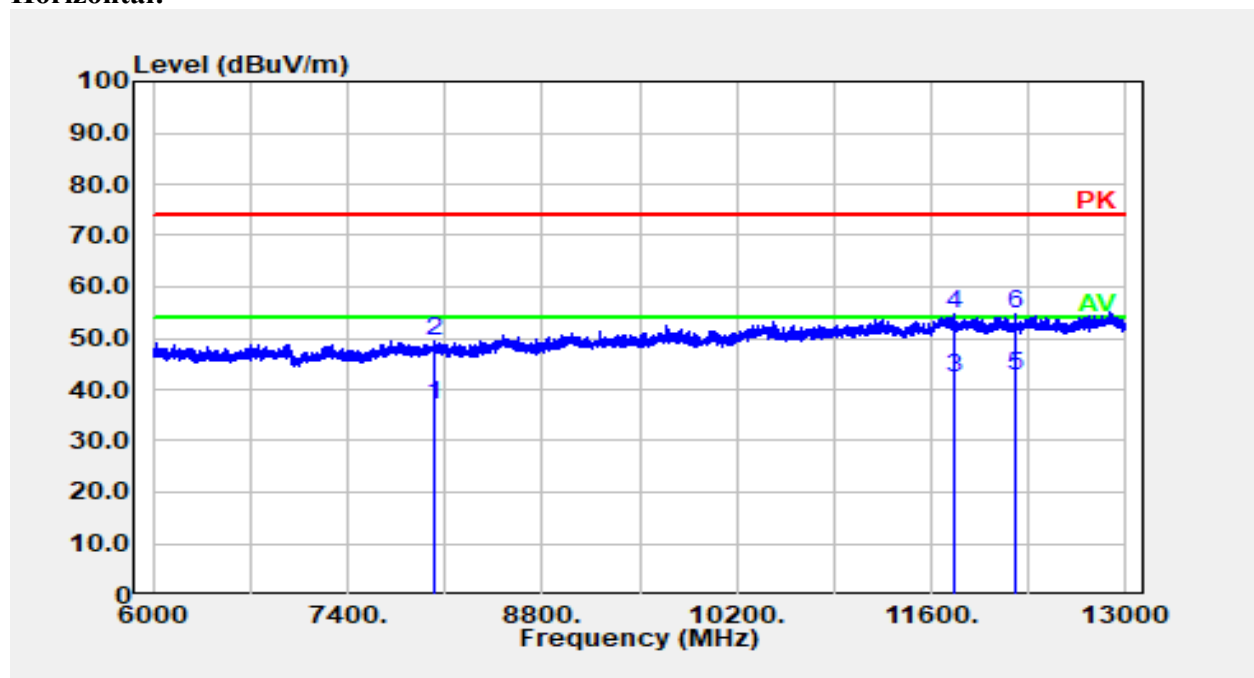
2) Above 1GHz

**Horizontal:**

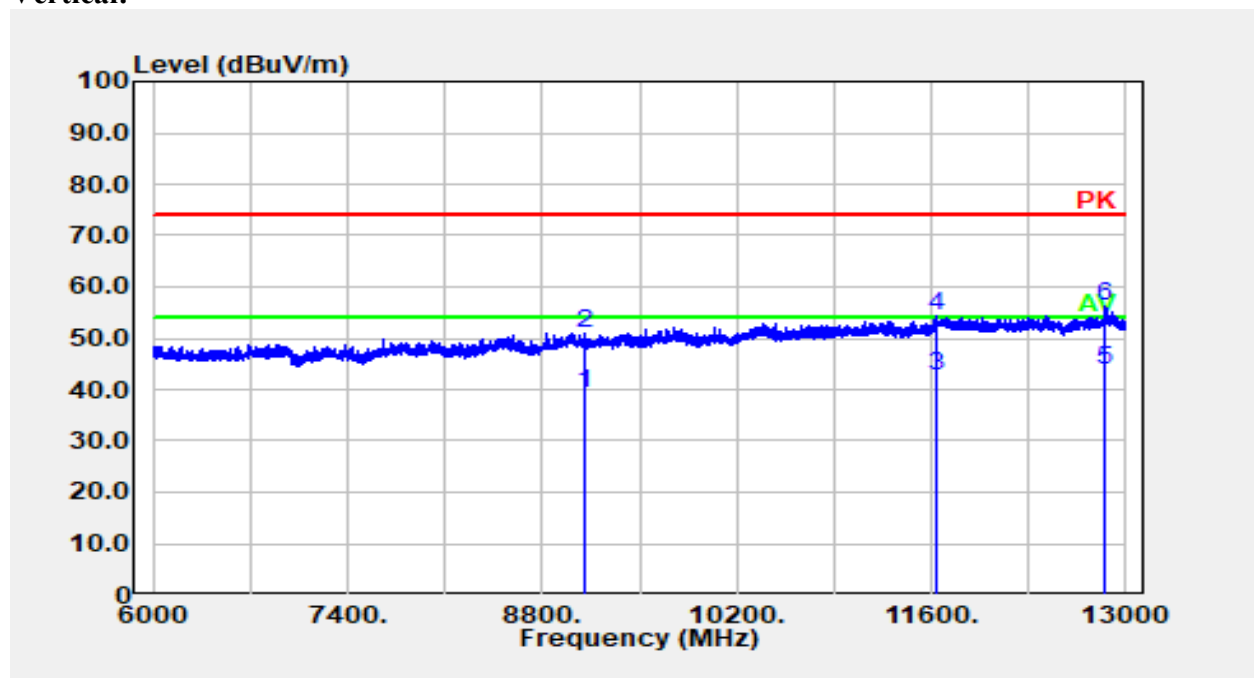
No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	2394.279	22.34	3.66	26.00	54.00	28.00	Average
2	2394.279	34.79	3.66	38.45	74.00	35.55	Peak
3	4236.647	23.84	9.75	33.59	54.00	20.41	Average
4	4236.647	35.98	9.75	45.73	74.00	28.27	Peak
5	5293.859	24.51	11.95	36.46	54.00	17.54	Average
6	5293.859	36.08	11.95	48.03	74.00	25.97	Peak

**Vertical:**

No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	2395.279	23.67	3.66	27.33	54.00	26.67	Average
2	2395.279	35.32	3.66	38.98	74.00	35.02	Peak
3	3894.579	22.87	9.57	32.44	54.00	21.56	Average
4	3894.579	35.00	9.57	44.57	74.00	29.43	Peak
5	5508.902	23.44	12.71	36.15	54.00	17.85	Average
6	5508.902	35.66	12.71	48.37	74.00	25.63	Peak

**Horizontal:**

No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	8022.004	21.34	15.78	37.12	54.00	16.88	Average
2	8022.004	33.72	15.78	49.50	74.00	24.50	Peak
3	11769.150	22.25	20.10	42.35	54.00	11.65	Average
4	11769.150	34.61	20.10	54.71	74.00	19.29	Peak
5	12210.240	22.49	20.22	42.71	54.00	11.29	Average
6	12210.240	34.54	20.22	54.76	74.00	19.24	Peak

**Vertical:**

No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	9098.819	21.96	17.16	39.12	54.00	14.88	Average
2	9098.819	33.94	17.16	51.10	74.00	22.90	Peak
3	11633.330	22.59	19.87	42.46	54.00	11.54	Average
4	11633.330	34.47	19.87	54.34	74.00	19.66	Peak
5	12848.770	22.47	21.15	43.62	54.00	10.38	Average
6	12848.770	34.89	21.15	56.04	74.00	17.96	Peak

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