



# FCC SDOC TEST REPORT

Equipment : USI Stylus Pen for Chromebook

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Model No. : JITP100

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Trade Name : Kaijet

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Applicant : Kaijet Technology International Corporation

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Address : 8F., No. 109, Zhongcheng Road, Tucheng Dist.,  
New Taipei City, Taiwan R.O.C.

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Standard : ANSI C63.4  
FCC Part 15 Subpart B

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## I HEREBY CERTIFY THAT :

The sample was received on : Jun. 11, 2021

The testing was carried out on : Jun. 29, 2021

The test result refers exclusively to the test presented test model / sample. Without written approval of CerpPASS Technology Corp., the test report shall not be reproduced except in full.

Approved by:

Kero Kuo / EMC/RF Manager





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### History of this test report

Report No.	Issue Date	Description	Version
21050177-TEFV01	Jul. 07, 2021	Original	A



## Summary of Test Results

### 1. Applicable Standards

The measurements shown in this test report were made in accordance with the procedures given in ANSI C63.4 – 2014 and the energy emitted by this equipment was passed Part 2, Part 15, CISPR PUB. 22.

The energy emitted by this equipment was passed both Radiated and Conducted Emissions Class **B** limits.

Test Item	Normative References	Test Result
Conducted Emission	ANSI C63.4-2014, FCC Part 15 Subpart B, CISPR PUB. 22	N/A
Radiation Emission	ANSI C63.4-2014, FCC Part 15 Subpart B, CISPR PUB. 22	PASS

Note\*: Pass criterion is defined by the applicant. The test report is to follow the applicant specification.

The lab has reduced the uncertainty risk factor from test equipment, environment and staff technicians which according to the standard on contract. Therefore, the test result will only be determined by standard requirement.



## 2. General Description

### 2.1. Product Details

Please refer to user manual.

### 2.2. Accessories

N/A

## 3. Test Configuration of Equipment under Test

### 3.1. Test Software

An executive program, "BURNIN TEST" under WIN 7 which generates a complete line of continuously repeating "H" pattern were used as the test software.

The program was executed as follows:

1. Turn on the power of all equipment.
2. The Notebook reads the test program from the hard disk drive and runs it.
3. The Notebook sends "H" messages to the monitor, and the monitor displays "H" patterns on the screen.
4. The Notebook sends "H" messages to the internal Hard Disk, and the Hard Disk reads and writes the message.
5. Repeat the steps from 2 to 4.

During testing, the following program was executed:

Executed "Color Bar" to keep play 1kHz signals.

The EUT was transmit and receive data via FSK to Notebook.



### 3.2. Test Manner

- a. During testing, the interface cables and equipment positions were varied according to ANSI C63.4.
- b. The test mode of EMI test as follow:

Radiation Emissions	
Test Mode 1	Working

- c. The maximum operating frequency is 489kHz under 108MHz, the test frequency range is from 30MHz to 1GHz.

### 3.3. Description of Support Unit

EMI				
No.	Device	Manufacturer	Model No.	Description
<b>For Local</b>				
1	Notebook	ASUS	C436F	Power Cable, Non-shielded 1.8m
2	Monitor	ViewSonic	VS16024	Power Cable, Non-shielded 1.8m HDMI Cable, Shielding 1.8m
<b>Use Cable</b>				
1	Type-C to HDMI	N/A	N/A	Shielding 0.2m



### 3.4. General Information of Test

Test Site	<b>CerpPASS Technology Corporation Test Laboratory</b>
	Address: No.10, Ln. 2, Lianfu St., Luzhu Dist., Taoyuan City 33848, Taiwan (R.O.C.) Tel:+886-3-3226-888 Fax:+886-3-3226-881
	<input type="checkbox"/> Conducted emission test (CON01-NK) <input type="checkbox"/> Conducted emission test (CON02-NK) <input checked="" type="checkbox"/> Radiated emission test (10M01-NK) <input type="checkbox"/> Radiated emission test (3M01-NK) <input type="checkbox"/> Radiated emission test (3M02-NK) <input type="checkbox"/> Radiated disturbance above 1GHz (10M01-NK) <input type="checkbox"/> Radiated disturbance above 1GHz (3M01-NK) <input type="checkbox"/> Radiated disturbance above 1GHz (3M02-NK)
	TW1079, TW1439
Frequency Range Investigated:	Conducted: from 150kHz to 30 MHz Radiation: from 30 MHz to 1000MHz
Test Distance :	The test distance of radiated emission below 1GHz from antenna to EUT is 10 M. The test distance of radiated emission above 1GHz from antenna to EUT is 3 M.



## 4. Test of Conducted Emission

### 4.1. Test Limit

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz, according to the methods defined in ANSI C63.4-2014. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

**Table 1 Conducted Emission Limits (dB $\mu$ V):**

Frequency range (MHz)	Class A Equipment		Class B Equipment	
	Quasi Peak	Average	Quasi Peak	Average
0.15 to 0.50	79	66	66 to 56*	56 to 46*
0.50 to 5	73	60	56	46
5. to 30.	73	60	60	50

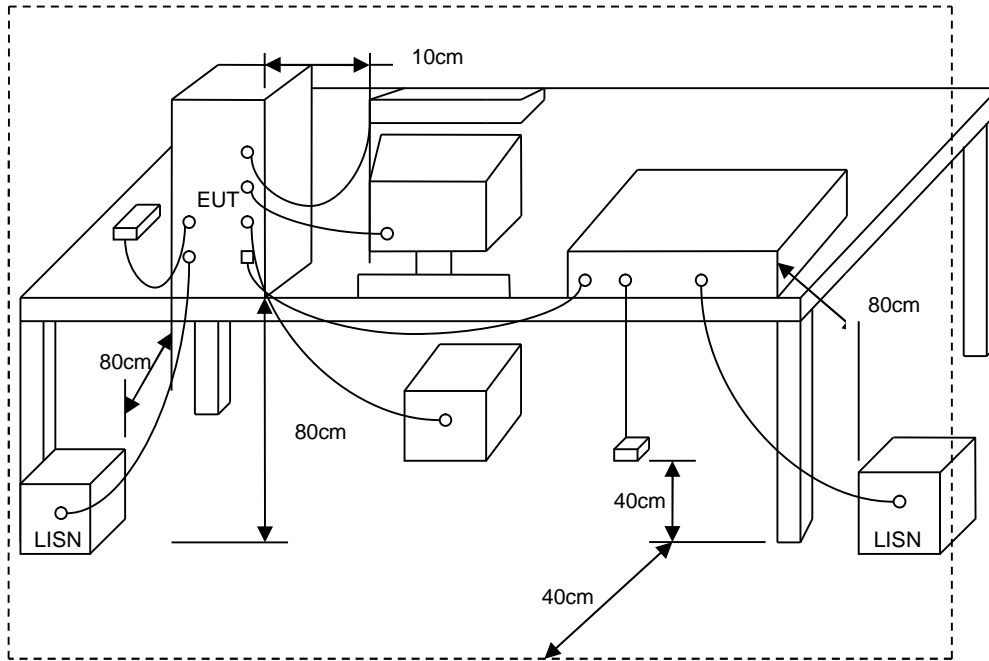
\*The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5MHz.

### 4.2. Test Procedures

- The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- Connect EUT to the power mains through a line impedance stabilization network (LISN).
- All the support units are connecting to the other LISN.
- The LISN provides 50 ohm coupling impedance for the measuring instrument.
- The FCC states that a 50 ohm, 50 micro-Henry LISN should be used.
- Both sides of AC line were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched.
- Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.



### 4.3. Typical Test Setup



### 4.4. Test Result and Data of Power Port

The EUT is powered from Battery, this test item is not applicable.



## 5. Test of Radiated Emission

### 5.1. Test Limit

Radiated emissions from 30 MHz to 1,000 MHz were measured with a bandwidth of 120 kHz according to the methods defines in ANSI C63.4-2014. The EUT was placed on a nonmetallic stand in the open-field site, 0.8 meter above the ground plane. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions.

For unintentional device, according to § 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:

**Table 1 – Frequency below 1GHz**

Frequency (MHz)	Distance Meters	Class A(dB $\mu$ V/m)	Class B(dB $\mu$ V/m)t
30-230	10	40	30
230-1000	10	47	37

Note: The limit for radiated test was performed according to CISPR 22, which was specified in FCC PART 15B 15.109(g). Also the limits of ICES-003 and CISPR 22 are the same.

**Table 2 –Frequency above 1GHz**

Frequency (MHz)	Distance Meters	Class A(dB $\mu$ V/m)		Class B(dB $\mu$ V/m)t	
		Peak	Average	Peak	Average
Above 1GHz	3	80.0	60.0	74.0	54.0

Note: (1) The lower limit shall apply at the transition frequencies.

(2) Emission level (dB $\mu$ V/m)= 20 log Emission level( $\mu$ V/m)

(3) All emission from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

**Table 3 –Frequency range of radiated measurement (for unintentional radiators)**

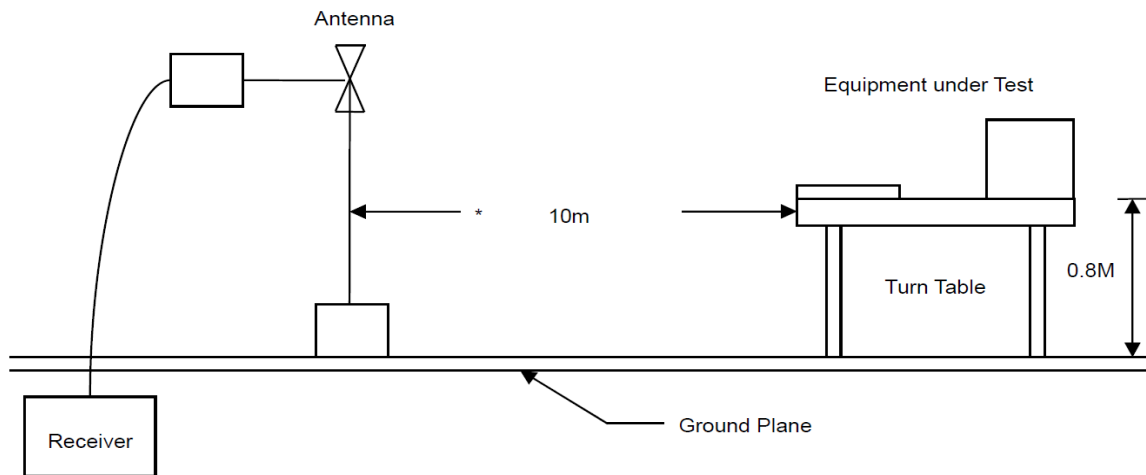
Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes(MHz)	Range(MHz)
Below 1.705	30
1.705-108	1000
108-500	2000
500-1000	5000
Above 1000	5th harmonic of the highest frequency or 40GHz, which is lower

### 5.2. Test Procedures

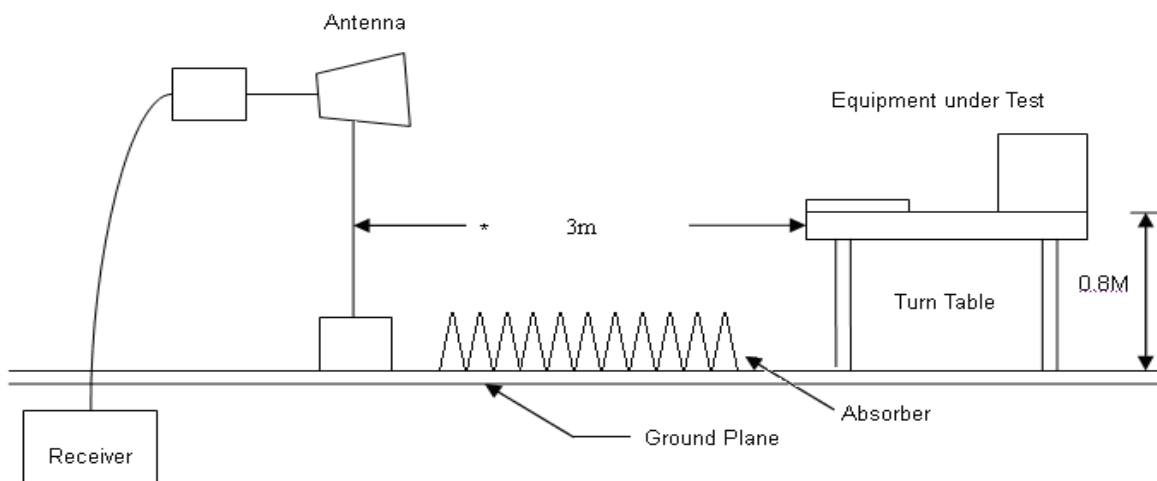
- a. The EUT was placed on a Rota table top 0.8 meter above ground.
- b. The EUT was set 10 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- c. The table was rotated 360 degrees to determine the position of the highest radiation.
- d. The antenna is a half wave dipole and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
- e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
- f. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 6 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 6 dB margin will be repeated one by one using the quasi-peak method and reported.

### 5.3. Typical Test Setup

Below 1GHz Test Setup



Above 1GHz Test Setup

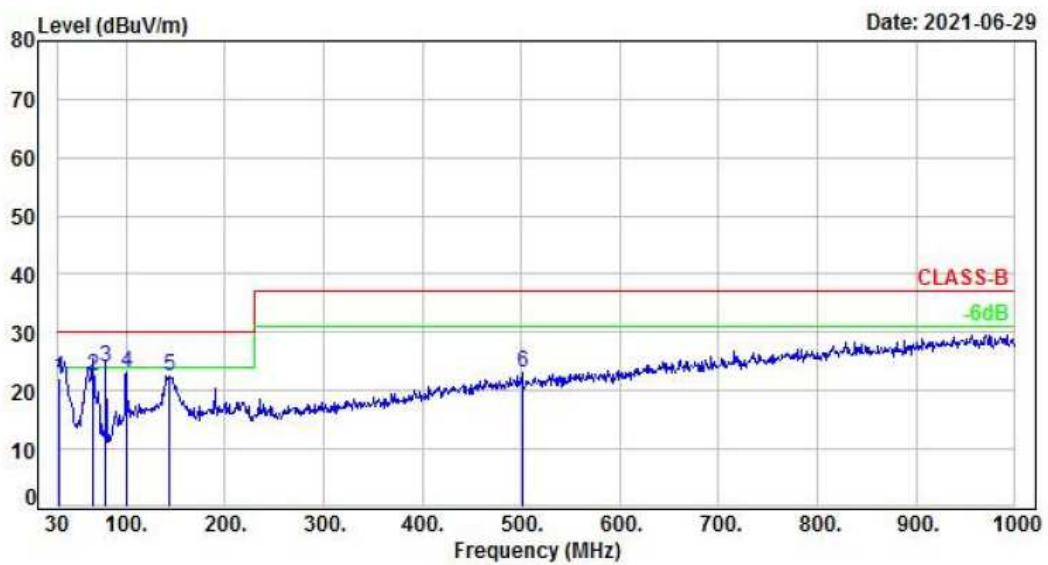




### 5.4. Test Result and Data (30MHz ~ 1GHz)

<b>Test Mode</b>	Mode 1	<b>Pol/Phase</b>	VERTICAL
<b>Test Frequency</b>	30 MHz ~ 1 GHz	<b>Test Voltage</b>	From Battery
<b>Test Date</b>	Jun. 29, 2021	<b>Test Engineer</b>	Richard
<b>Temperature</b>	26 °C	<b>Relative Humidity</b>	51 %

Note : Level = Reading + Factor  
 Margin = Level – Limit  
 Factor = Antenna Factor + Cable Loss – Amplifier Factor

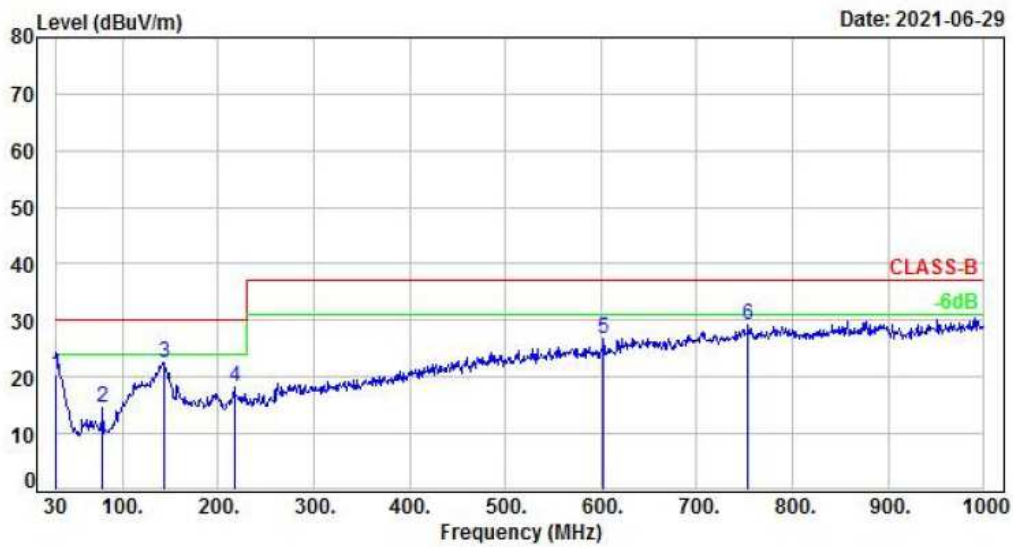


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	32.91	-9.96	32.20	22.24	30.00	-7.76	QP	100	107	P
2	65.89	-20.92	43.49	22.57	30.00	-7.43	QP	400	178	P
3	79.47	-21.37	45.37	24.00	30.00	-6.00	QP	400	352	P
4	99.84	-18.41	41.47	23.06	30.00	-6.94	Peak	200	43	P
5	143.49	-15.36	37.87	22.51	30.00	-7.49	Peak	200	206	P
6	501.42	-9.04	32.12	23.08	37.00	-13.92	Peak	300	69	P



<b>Test Mode</b>	Mode 1	<b>Pol/Phase</b>	HORIZONTAL
<b>Test Frequency</b>	30 MHz ~ 1 GHz	<b>Test Voltage</b>	From Battery
<b>Test Date</b>	Jun. 29, 2021	<b>Test Engineer</b>	Richard
<b>Temperature</b>	26 °C	<b>Relative Humidity</b>	51 %

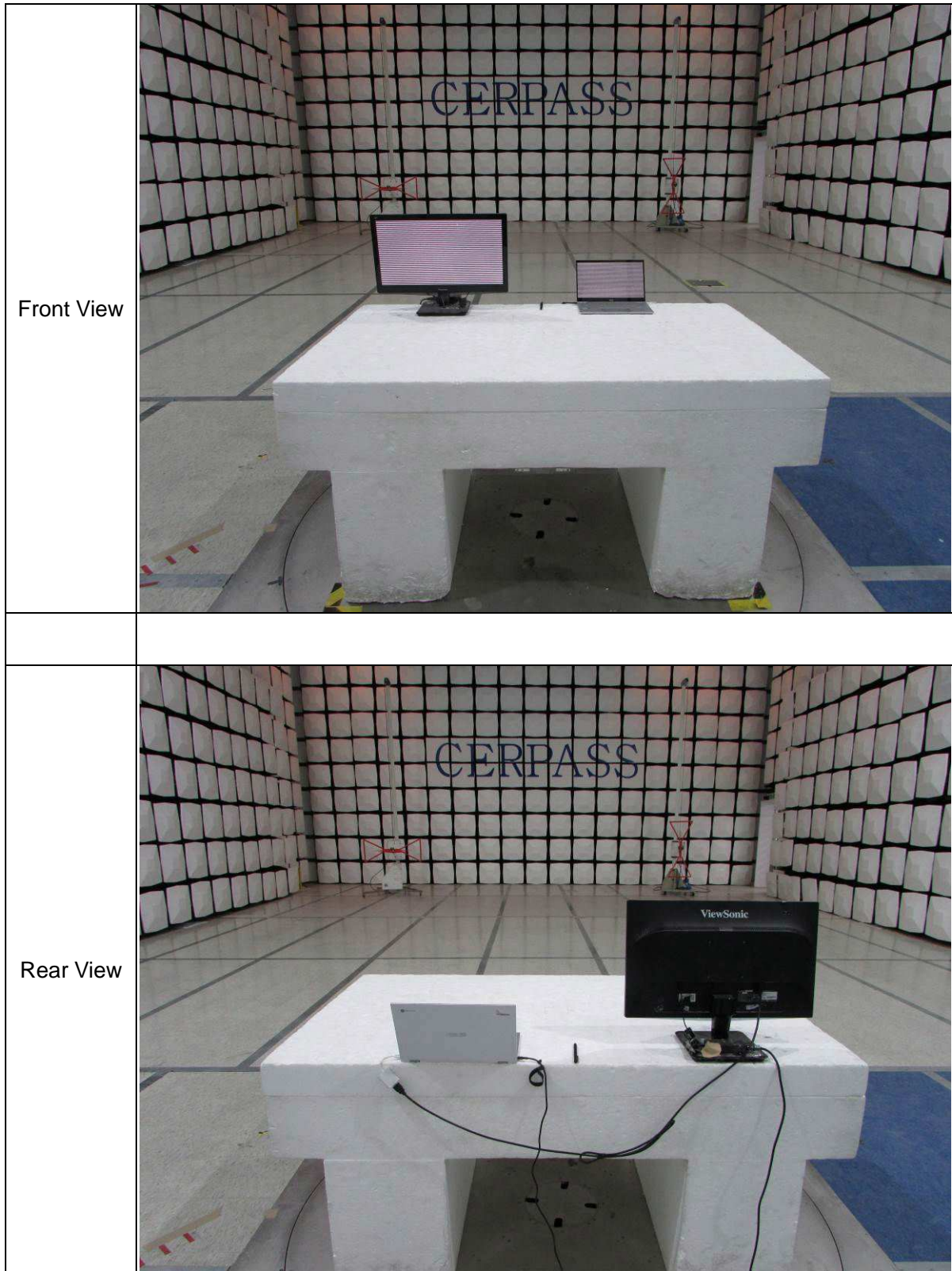
Note : Level = Reading + Factor  
 Margin = Level – Limit  
 Factor = Antenna Factor + Cable Loss – Amplifier Factor



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	30.97	-3.28	23.63	20.35	30.00	-9.65	QP	400	80	P
2	79.47	-15.70	30.41	14.71	30.00	-15.29	Peak	400	73	P
3	144.46	-9.68	32.22	22.54	30.00	-7.46	Peak	400	118	P
4	217.21	-11.41	29.73	18.32	30.00	-11.68	Peak	400	0	P
5	602.30	-0.27	26.89	26.62	37.00	-10.38	Peak	400	306	P
6	753.62	3.13	26.22	29.35	37.00	-7.65	Peak	400	190	P



### 5.5. Test Photographs (30MHz ~ 1GHz)





## 6. Measurement Uncertainty

Measurement Item	Measurement Frequency	Polarization	Uncertainty
Conducted Emission	150 kHz ~ 30 MHz	Line / Neutral	±3.63dB
Radiated Emission	30 MHz ~ 1,000 MHz	Vertical / Horizontal	±4.52dB
	1,000 MHz ~ 6,000 MHz	Vertical / Horizontal	±4.92dB
	6,000 MHz ~ 18,000 MHz	Vertical / Horizontal	±5.11dB

The measurement uncertainty will be considered, when test result margin to the limit.

## 7. List of Measuring Equipment

Radiated Emission below 1GHz (Test date: 2021/06/29)					
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
Bilog Antenna(H)	Sunol	JB1	A020514-1	2021/03/18	2022/03/17
Bilog Antenna(V)	Sunol	JB1	A020514-2	2021/05/06	2022/05/05
EMI Receiver(V)	R&S	ESCI	101200	2020/09/11	2021/09/10
EMI Receiver(H)	R&S	ESCI	100821	2020/09/11	2021/09/10
Preamplifier(V)	EM Electronics corp.	EM330	60644	2020/09/22	2021/09/21
Preamplifier(H)	EM Electronics corp.	EM01M06G	60686	2020/10/20	2021/10/19
Cable-16m (30MHz-1GHz)(H)	HUBER SUHNER	RG-214	01110M	2021/03/26	2022/03/25
Cable-4m (30MHz-1GHz)(H)	HUBER SUHNER	RG-214	02951M	2021/03/26	2022/03/25
Cable-1m (30MHz-1GHz)(H)	HUBER SUHNER	RG-214	01098M	2021/03/26	2022/03/25
Cable-10m (30MHz-1GHz)(V)	HUBER SUHNER	RG-214	01126M	2021/04/22	2022/04/21
Cable-4m (30MHz-1GHz)(V)	HUBER SUHNER	RG-214	02953M	2021/04/22	2022/04/21
Cable-1m (30MHz-1GHz)(V)	HUBER SUHNER	RG-214	01099M	2021/04/22	2022/04/21
Software	AUDIX	E3	Version: V8.2014-8-6	N/A	N/A