



FCC SDOC TEST REPORT

Applicant : Kaijet Technology International Corporation .
Address : 8F.,No109,Zhongcheng Rd.,Tucheng Dist., New Taipei City
236, Taiwan R.O.C.
Equipment : USB 4K ULTRA HD WebCam
Model No. : JVCU435
Trade Mark : j5^{create}
Standard : **ANSI C63.4**
FCC Part 15 Subpart B

I HEREBY CERTIFY THAT :

The sample was received on Dec. 18, 2020 and the testing was carried out on Dec. 21, 2020 at CerpPASS Technology (Dong Guan) Co., Ltd., The test result refers exclusively to the test presented test model / sample. Without written approval of CerpPASS Technology (Dong Guan) Co., Ltd., the test report shall not be reproduced except in full.

Approved by:

Leevin Li
Supervisor of EMC Testing Dept.



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History of this test report

ORIGINAL.

Additional attachment as following record:

Report No	Version	Date	Description
DEFD2011130	Rev 01	Dec. 25, 2020	Initial Issue

Report Type	Description
<input checked="" type="checkbox"/> Original report	NA
<input type="checkbox"/> Derivative Report	NA



1. Summary of Test Procedure and Test Result

1.1. Applicable Standards

FCC

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	PASS
Radiated Emission	ANSI C63.4-2014 FCC Part 15 Subpart B	PASS

Note: Deviations Yes No



2. Test Configuration of Equipment under Test

2.1. Feature of Equipment under Test

Product Name:	USB 4K ULTRA HD WebCam
Model Name:	JVCU435
Model Discrepancy:	N/A
Power supply	DC 5V / 500mA \pm 15mA
EUT Highest Frequency:	> 108MHz

Note: Please refer to user manual.

2.2. Test Manner

- a. During testing, the interface cables and equipment positions were varied according to ANSI C63.4.
- b. The complete test system included support units and EUT for EMI test.
- c. The test modes of Conducted Emission and Radiated Emission test as follow:
Conducted Emission for AC main power / Radiated Emissions
Test Mode 1 REC mode for 3840*2160
Test Mode 2 REC mode for 1920*1080
Test Mode 3 REC mode for 640*360
The "Test Mode 1" generated the worst test result; it was reported as final data
The maximum operating frequency is above 108MHz, the test frequency range is from 30MHz to 18GHz.



2.3. Description of Support Systems

Device	Manufacturer	Model No.	Description
NB	DELL	PCG-71811P	R33021
Printer	ZEBRA	TLP2824 plus	N/A
HDD	Toshiba	USB 3.0 HDD	N/A
Mouse	DELL	OXN967	R41108
Use Cable			
Cable	Quantity	Description	
DC Cable	1	1.75m Non Shielding with one Core	
USB Printer Cable	1	1.8m Non Shielding	
USB HDD Cable	1	1.0m Shielding	
USB Mouse Cable	1	1.8m Non Shielding	



2.4. General Information of Test LAB

Test Site	Cerpass Technology Corporation(Cerpass Laboratory) Address: Room 102, No. 5, Xing'an Road, Chang'an Town, Dongguan City, Guangdong Province Tel: +86-769-8547-1212 Fax: +86-769-8547-1912
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2.5. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Conducted Emission	
The measurement uncertainty is evaluated as ± 2.88 dB.	
Radiated Emission	
(9KHz -30MHz)	The measurement uncertainty is evaluated as ± 2.15 dB.
(30MHz -200MHz)	The measurement uncertainty is evaluated as ± 3.90 dB.
(200M-1000M)	The measurement uncertainty is evaluated as ± 4.95 dB.
(1000M-6000M)	The measurement uncertainty is evaluated as ± 3.24 dB.
(6000M-18000M)	The measurement uncertainty is evaluated as ± 3.22 dB.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.



3. Test of Conducted Emission

3.1. Test Limit

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz on the 120 VAC power and return leads of the EUT 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 as shown in ANSI C63.4-2014. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

Conducted Emission Limits:

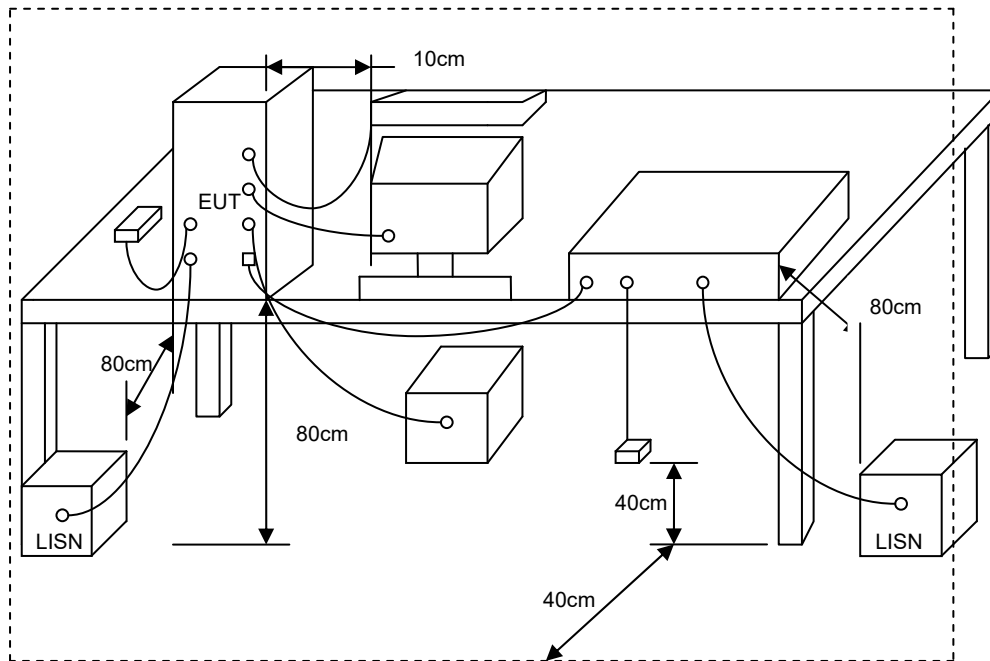
Frequency range (MHz)	Class A Equipment		Class B Equipment	
	Quasi Peak	Average	Quasi Peak	Average
0.15 to 0.50	79	66	66 to 56*	56 to 46*
0.50 to 5	73	60	56	46
5. to 30.	73	60	60	50

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

3.2. 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.

3.3. Typical test Setup



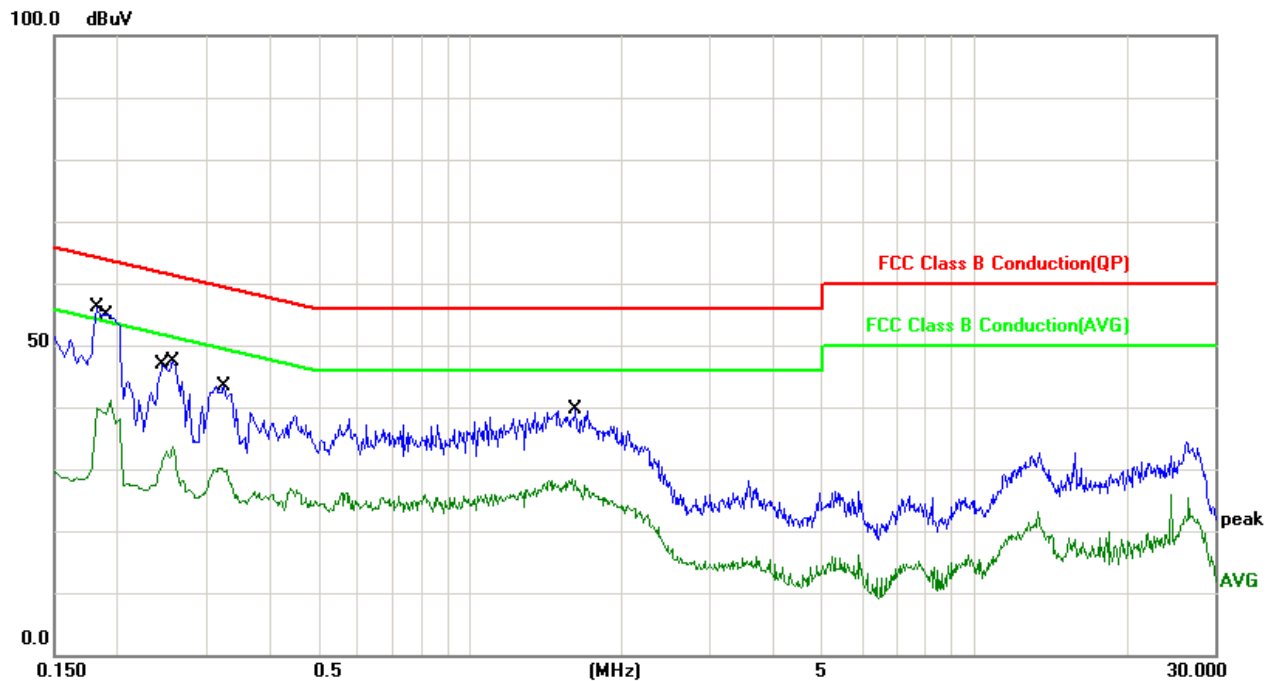
3.4. Measurement Equipment

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date.
Test Receiver	R&S	ESCI	100564	2020.01.07	2021.01.06
LISN	SCHWARZBECK	NSLK 8127	8127748	2020.01.07	2021.01.06
LISN	SCHWARZBECK	NSLK 8127	8127749	2020.01.07	2021.01.06
ISN	TESEQ	ISN T800	42809	2020.05.18	2021.05.17
Pulse Limiter with 10dB Attenuation	SCHWARZBECK	VTSD 9561-F	9561-F106	2020.01.07	2021.01.06
Temperature/ Humidity Meter	mingle	ETH529	N/A	2020.01.08	2021.01.07
Software	FaLa	EZ_EMCC	Ver. CT3A1	N/A	N/A



3.5. Test Result and Data

Test Mode:	Test Mode 1	Test Engineer	Amos
Power :	AC120V	Phase :	LINE
Temperature :	22°C	Humidity :	50%
Pressure(mbar) :	1002	Date:	Dec. 21, 2020



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1819	10.13	42.29	52.42	64.39	-11.97	QP
2	0.1819	10.13	24.93	35.06	54.39	-19.33	AVG
3	0.1924	10.12	41.67	51.79	63.93	-12.14	QP
4	0.1924	10.12	27.09	37.21	53.93	-16.72	AVG
5	0.2460	10.28	33.38	43.66	61.89	-18.23	QP
6	0.2460	10.28	20.55	30.83	51.89	-21.06	AVG
7	0.2580	10.32	33.04	43.36	61.49	-18.13	QP
8	0.2580	10.32	20.48	30.80	51.49	-20.69	AVG
9	0.3260	10.35	28.64	38.99	59.55	-20.56	QP
10	0.3260	10.35	18.19	28.54	49.55	-21.01	AVG
11	1.6220	10.09	24.36	34.45	56.00	-21.55	QP
12	1.6220	10.09	16.75	26.84	46.00	-19.16	AVG

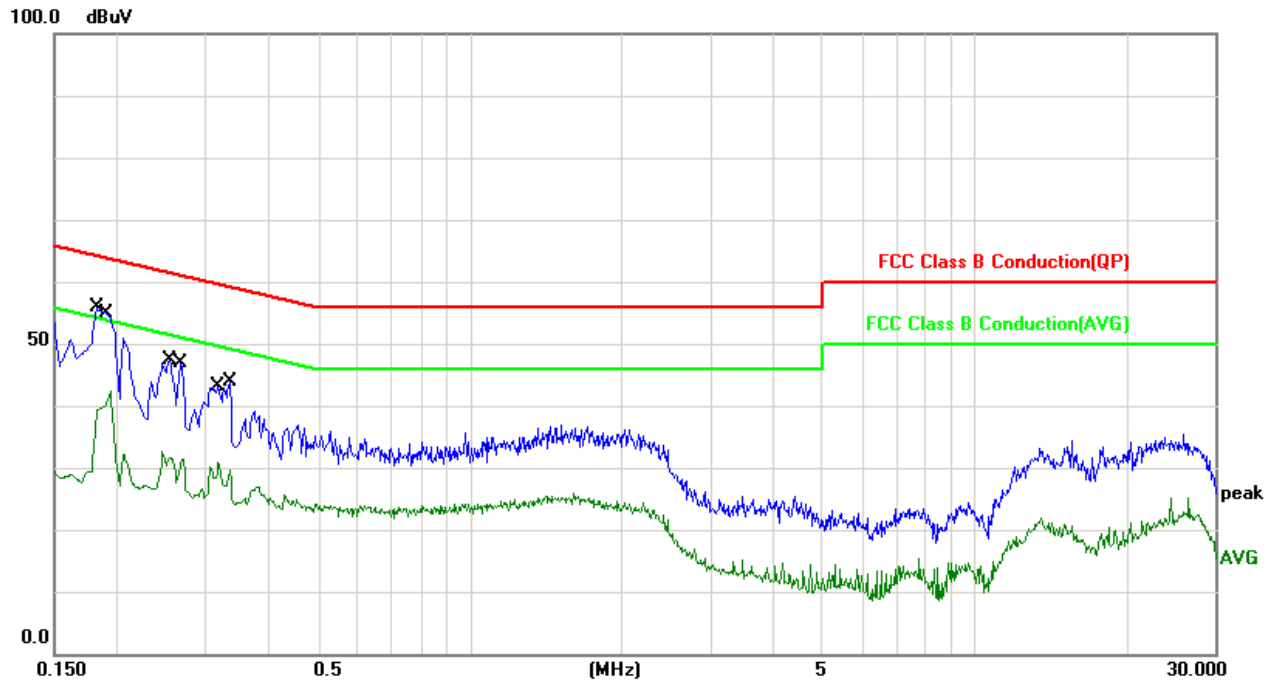
Note: Level = Reading + Factor

Margin = Level – Limit

Factor = (LISN or ISN or PLC or Current Probe) Factor + Cable Loss + Attenuator



Test Mode:	Test Mode 1	Test Engineer	Amos
Power :	AC120V	Phase :	NEUTRAL
Temperature :	22°C	Humidity :	50%
Pressure(mbar) :	1002	Date:	Dec. 21, 2020



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1819	10.12	43.15	53.27	64.39	-11.12	QP
2	0.1819	10.12	25.50	35.62	54.39	-18.77	AVG
3	0.1924	10.10	42.08	52.18	63.93	-11.75	QP
4	0.1924	10.10	28.05	38.15	53.93	-15.78	AVG
5	0.2540	10.13	34.20	44.33	61.62	-17.29	QP
6	0.2540	10.13	21.42	31.55	51.62	-20.07	AVG
7	0.2660	10.14	32.45	42.59	61.24	-18.65	QP
8	0.2660	10.14	19.10	29.24	51.24	-22.00	AVG
9	0.3180	10.15	28.76	38.91	59.76	-20.85	QP
10	0.3180	10.15	17.25	27.40	49.76	-22.36	AVG
11	0.3339	10.14	26.70	36.84	59.35	-22.51	QP
12	0.3339	10.14	15.77	25.91	49.35	-23.44	AVG

Note: Level = Reading + Factor

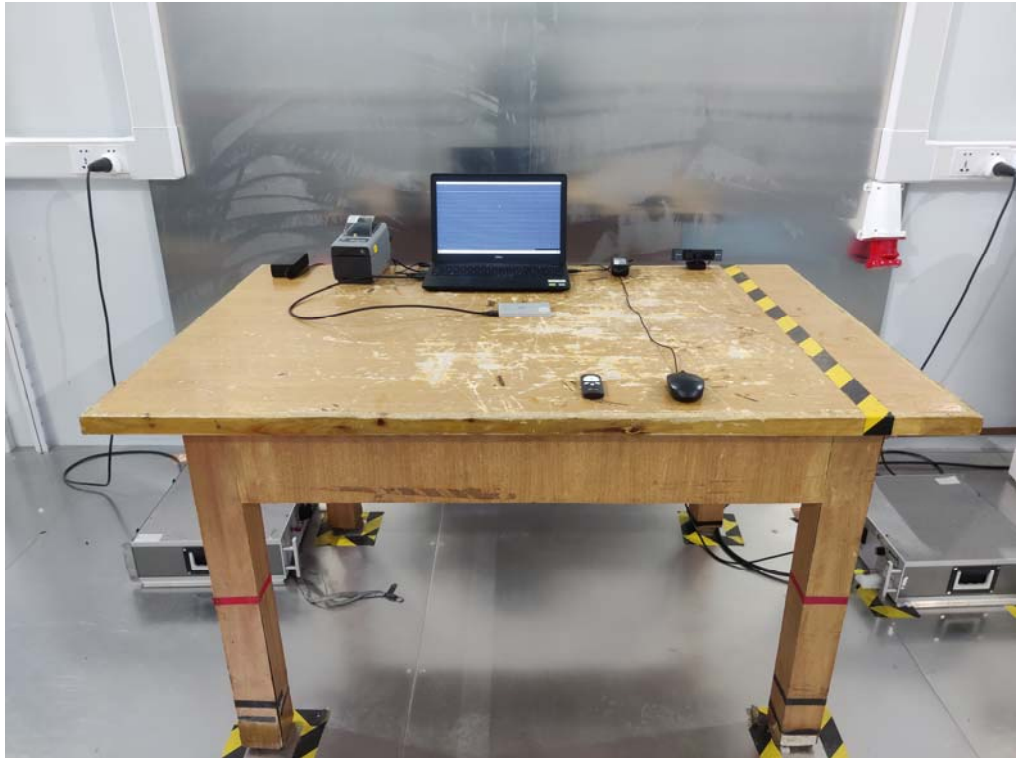
Margin = Level – Limit

Factor = (LISN or ISN or PLC or Current Probe) Factor + Cable Loss + Attenuator



3.6. Test Photographs

Front View



Side View





4. Test of Radiated Emission

4.1. Test Limit

Below 1GHz (for digital device)

For unintentional device, according to CISPR PUB.22, for Class B digital devices, the general requirement of field strength of radiated emissions from intentional radiators at a distance of 10 meters shall not exceed the below table.

FREQUENCY (MHz)	dBuV/m (At 10m)	
	Class A	Class B
30 ~ 230	40	30
230 ~ 1000	47	37

Limit tables for non-digital device:

Class A Radiated Emission limit at 10m (for others)

Frequency (MHZ)	Field Strength Limit (uV/m)Q.P.	Field Strength Limit (dBuV/m)Q.P.
30 - 88	90	39
88 - 216	150	43.5
216 – 960	210	46.4
Above 960	300	49.5

Class B Radiated Emission limit at 3m (for others)

Frequency (MHZ)	Field Strength Limit (uV/m)Q.P.	Field Strength Limit (dBuV/m)Q.P.
30 - 88	100	40
88 - 216	150	43.5
216 – 960	200	46
Above 960	500	54

Above 1GHz(for all device)

Frequency (MHZ)	Class A (dBuV/m) (At 10m)		Class B (dBuV/m) (At 3m)	
	Average	Peak	Average	Peak
Above 1000	49.5	69.5	54	74

- NOTE:** (1) The lower limit shall apply at the transition frequencies.
 (2) Emission level (dBuV/m) = 20 log Emission level (uV/m).
 (3) The measurement above 1GHz is at close-in distances 3m, and determine the limit L2 corresponding to the close-in distance d2 by applying the following relation: $L2 = L1 (d1/d2)$, where L1 is the specified limit in microvolts per metre (uV/m) at the distance d1 (10m), L2 is the new limit for distance d2 (3m).
 So the new Class A limit above 1GHz at 3m is as following table:



Frequency (MHZ)	Class A (dBuV/m) (At 3m)	
	Average	Peak
Above 1000	60	80

According to FCC Part 15.33 (b), for an unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to the frequency shown in the following table:

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.75	30
1.75-108	1000
108-500	2000
500-1000	5000
Above 1000	5 th harmonic of the highest frequency or 40GHz, whichever is lower

4.2. Test Procedures

Procedure of Preliminary Test

- The EUT was set up as per the test configuration to simulate typical usage per the user's manual. The EUT was placed on a Turn table top 0.8 meter above ground.
- Support equipment, if needed, was placed as per ANSI C63.4.
- All I/O cables were positioned to simulate typical usage as per ANSI C63.4.
- The EUT received AC 120VAC/60Hz power source from the outlet socket under the turntable. All support equipment power received from another socket under the turntable.
- The antenna was placed at 3 or 10 meter away from the EUT as stated in ANSI C63.4. The antenna connected to the Spectrum Analyzer via a cable and at times a pre-amplifier would be used.
- The Analyzer / Receiver quickly scanned from 30MHz to 40GHz. The EUT test program was started. Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
- Set the spectrum analyzer/ Receiver in the following setting as:
Below 1GHz:
RBW=120KHz / VBW=300KHz / Sweep=AUTO
Above 1GHz:
Peak: RBW=1MHz, VBW=3MHz / Sweep=AUTO



Average: RBW=1MHz / VBW=1.6Hz / Sweep=AUTO

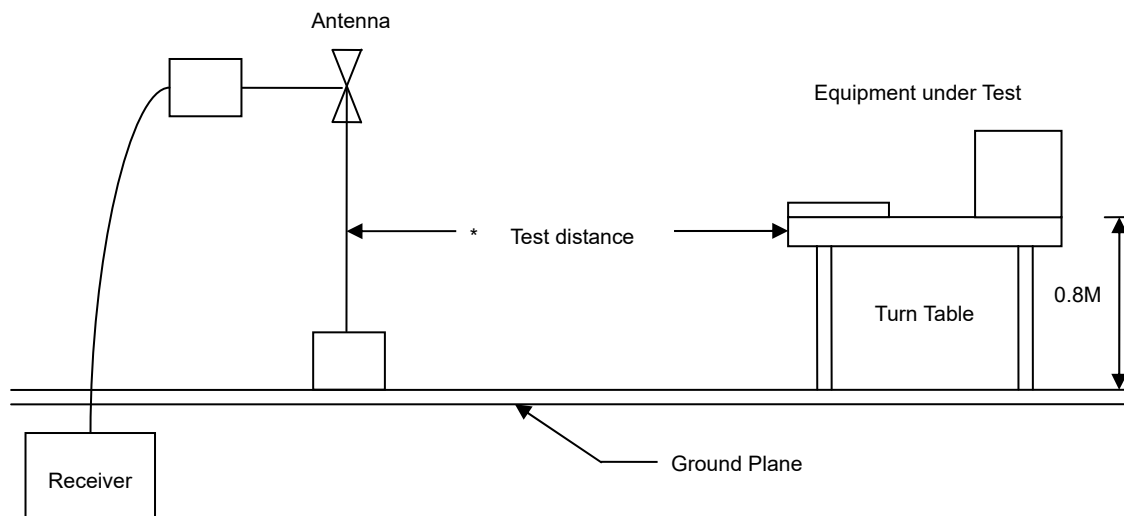
- The worst configuration of EUT and cable of the above highest emission level were recorded for reference of the final test.

Procedure of Final Test

- EUT and support equipment were set up on the turntable as per the configuration with highest emission level in the preliminary test.
- The Analyzer / Receiver scanned from 30MHz to 40GHz. Emissions were scanned and measured rotating the EUT to 360 degrees, varying cable placement and positioning the antenna 1 or 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
- Recording at least the six highest emissions. Emission frequency, amplitude, antenna position, polarization and turntable position were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. Below 1GHz the Q.P. reading and above 1GHz the Peak and Average reading are presented.
- The test data of the worst-case condition(s) was recorded.

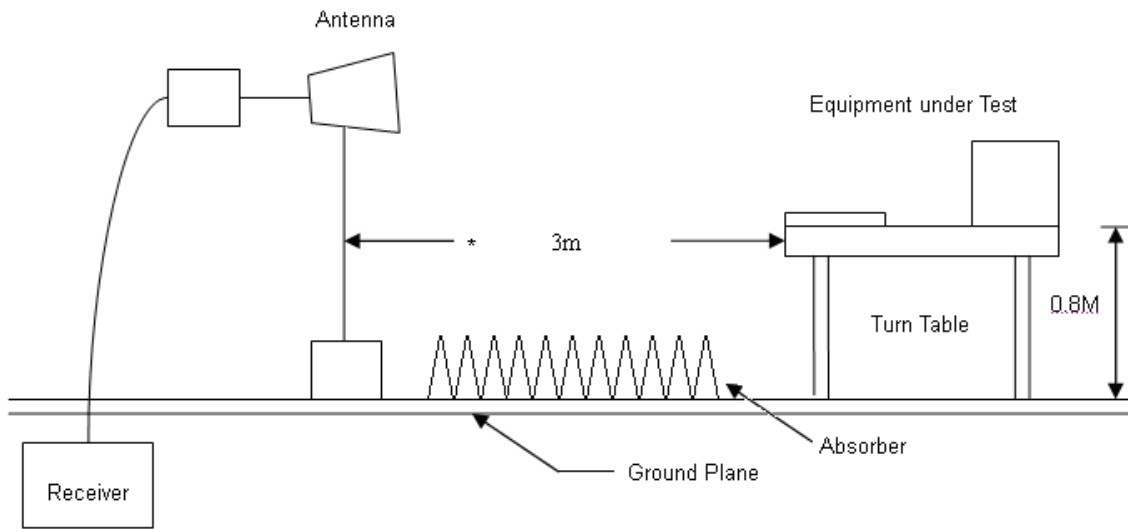
4.3. Typical test Setup

Below 1GHz Test Setup





Above 1GHz Test Setup





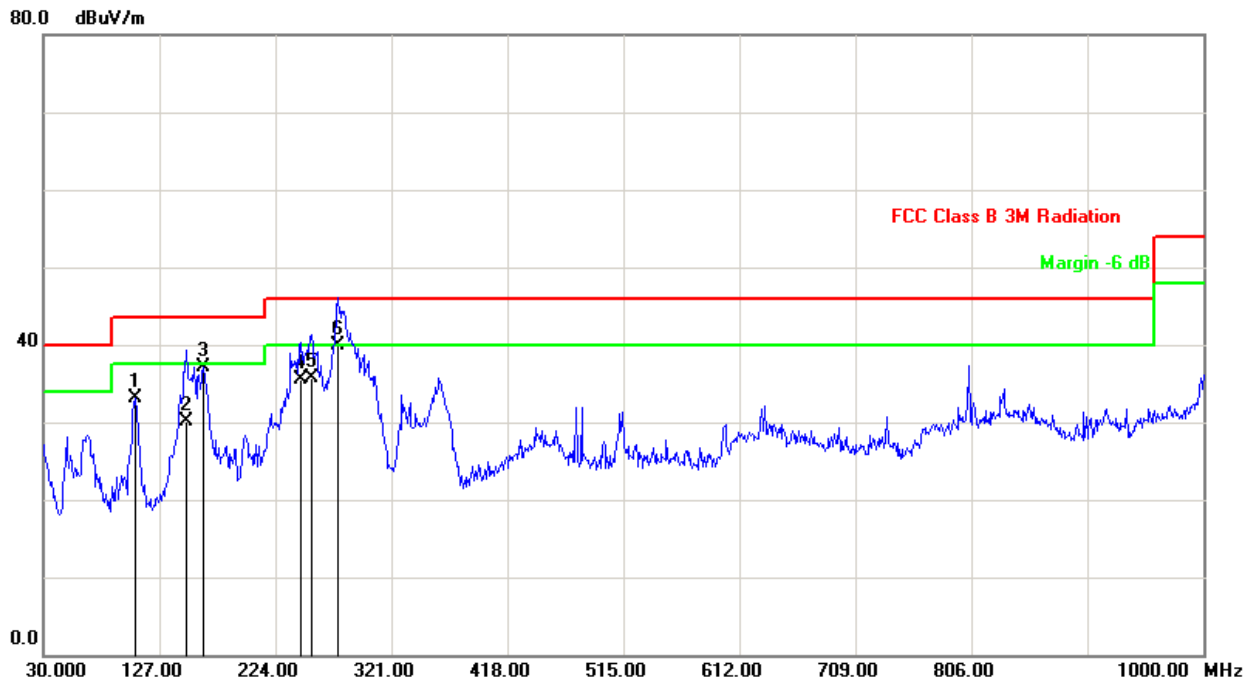
4.4. Measurement Equipment

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date.
EMI Test Receiver	R&S	ESCI	100565	2020.06.08	2021.06.07
EMI Test Receiver	R&S	ESCI	100563	2020.06.08	2021.06.07
Loop Antenna	R&S	HFH2-Z2	100150	2020.06.08	2022.06.07
H64 Preamplifier	HP	8447F	3113A05582	2020.03.10	2021.03.09
Bilog Antenna	Sunol Science	JB1	A072414-1	2020.06.08	2022.06.07
Temperature/ Humidity Meter	mingle	ETH529	N/A	2020.01.08	2021.01.07
Software	FaLa	EZ_EMG	Ver. CT3A1	N/A	N/A



4.1. Test Result and Data (Below 1GHz)

Test Mode:	Test Mode 1	Test Engineer	Amos
Power :	AC120V	Phase :	VERTICAL
Temperature :	22°C	Humidity :	50%
Pressure(mbar) :	1002	Date:	Dec. 21, 2020



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	106.6300	-10.12	43.30	33.18	43.50	-10.32	peak	100	102
2	149.3100	-9.82	40.00	30.18	43.50	-13.32	QP	154	117
3	163.8600	-9.33	46.52	37.19	43.50	-6.31	peak	200	215
4	245.3400	-8.59	44.00	35.41	46.00	-10.59	QP	162	234
5	254.0700	-8.24	44.00	35.76	46.00	-10.24	QP	174	304
6	276.3800	-6.13	46.00	39.87	46.00	-6.13	QP	185	337

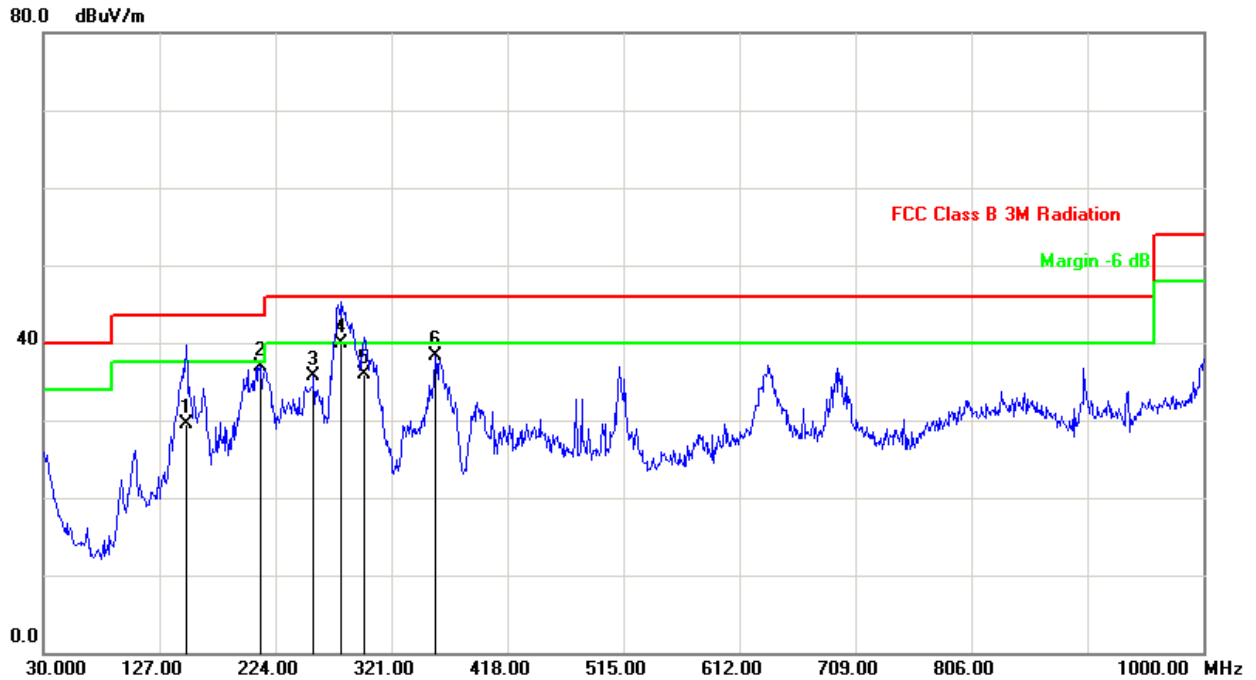
Note: Level = Reading + Factor

Margin = Level – Limit

Factor = Antenna Factor + Cable Loss – Amplifier Factor



Test Mode:	Test Mode 1	Test Engineer	Amos
Power :	AC120V	Phase :	HORIZONTAL
Temperature :	22°C	Humidity :	50%
Pressure(mbar) :	1002	Date:	Dec. 21, 2020



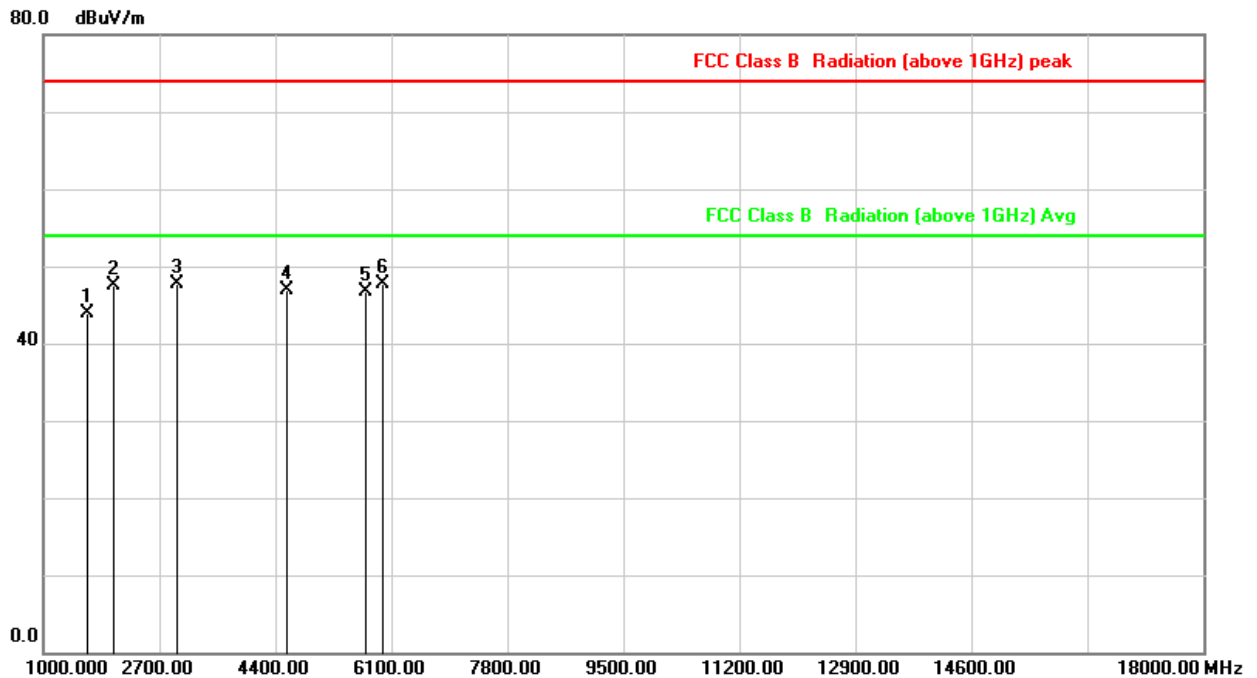
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	149.3100	-9.82	39.30	29.48	43.50	-14.02	QP	145	114
2	211.3900	-9.49	46.49	37.00	43.50	-6.50	peak	200	167
3	256.0100	-7.97	43.62	35.65	46.00	-10.35	peak	200	217
4	279.2900	-5.65	45.50	39.85	46.00	-6.15	QP	151	229
5	298.6900	-5.41	41.30	35.89	46.00	-10.11	QP	162	315
6	357.8599	-5.13	43.38	38.25	46.00	-7.75	peak	100	327

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



4.2. Test Result and Data (Above 1GHz)

Test Mode:	Test Mode 1	Test Engineer	Amos
Power :	AC120V	Phase :	VERTICAL
Temperature :	22°C	Humidity :	50%
Pressure(mbar) :	1002	Date:	Dec. 21, 2020

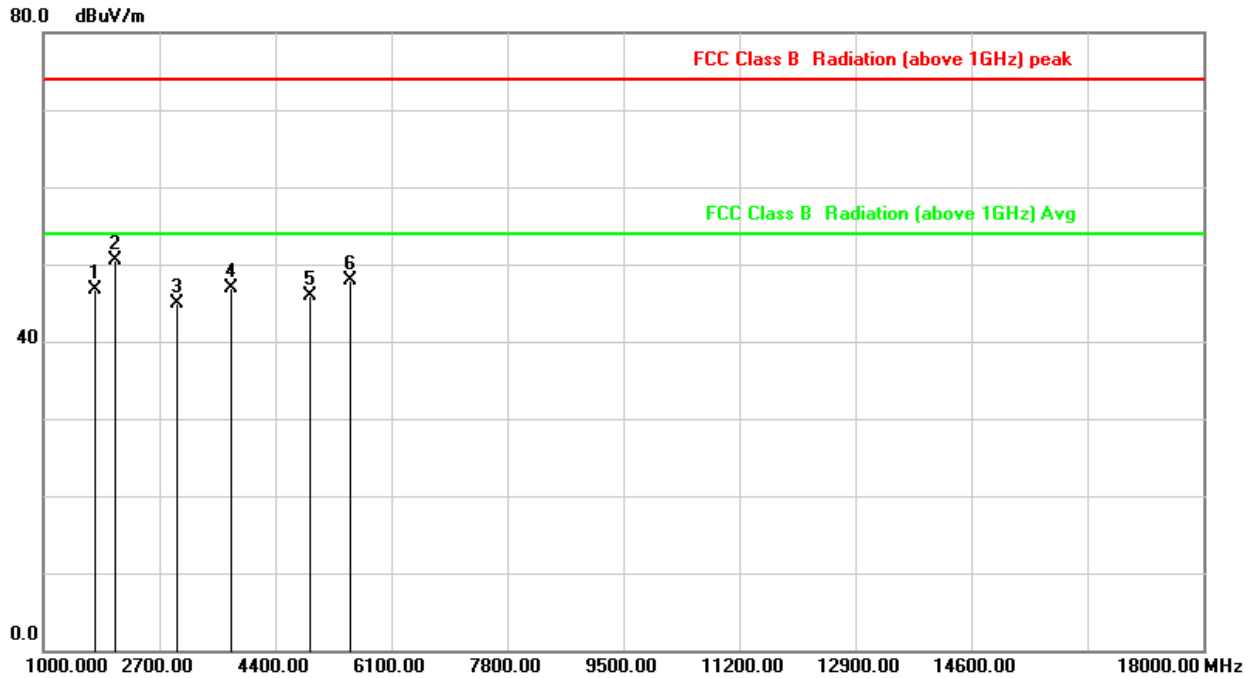


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	1637.500	-6.82	50.65	43.83	74.00	-30.17	peak	100	159
2	2020.000	-4.64	52.22	47.58	74.00	-26.42	peak	200	194
3	2955.000	0.47	47.30	47.77	74.00	-26.23	peak	100	215
4	4570.000	7.79	39.02	46.81	74.00	-27.19	peak	100	223
5	5717.500	9.56	37.13	46.69	74.00	-27.31	peak	200	302
6	5972.500	10.19	37.42	47.61	74.00	-26.39	peak	200	314

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



Test Mode:	Test Mode 1	Test Engineer	Amos
Power :	AC120V	Phase :	HORIZONTAL
Temperature :	22°C	Humidity :	50%
Pressure(mbar) :	1002	Date:	Dec. 21, 2020



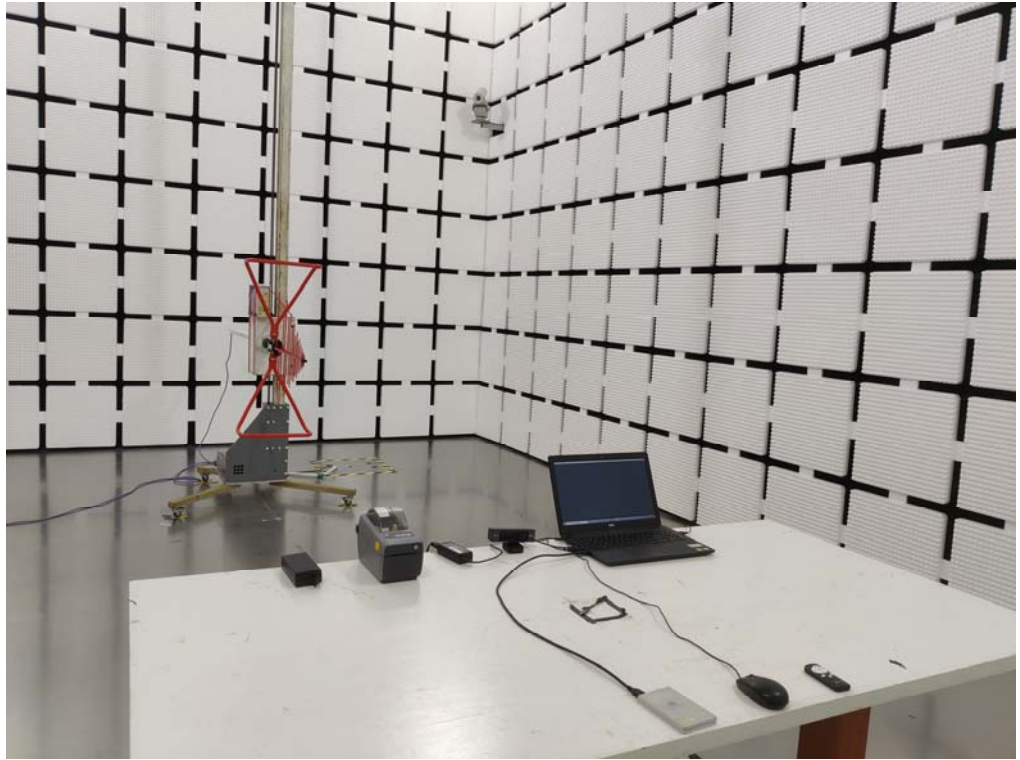
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	1765.000	-6.08	52.73	46.65	74.00	-27.35	peak	100	157
2	2062.500	-4.46	55.00	50.54	74.00	-23.46	peak	200	194
3	2955.000	0.47	44.48	44.95	74.00	-29.05	peak	200	225
4	3762.500	4.30	42.58	46.88	74.00	-27.12	peak	100	239
5	4910.000	8.43	37.49	45.92	74.00	-28.08	peak	100	315
6	5505.000	9.03	38.78	47.81	74.00	-26.19	peak	100	332

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

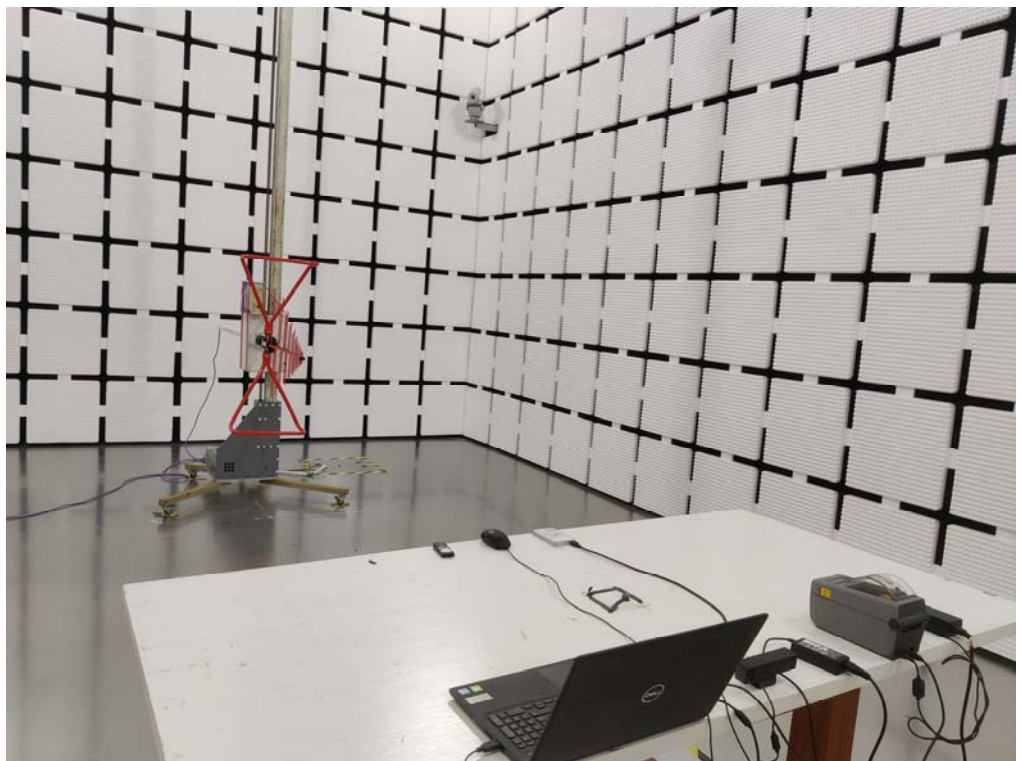


4.3. Test Photographs (Below 1GHz)

Front View



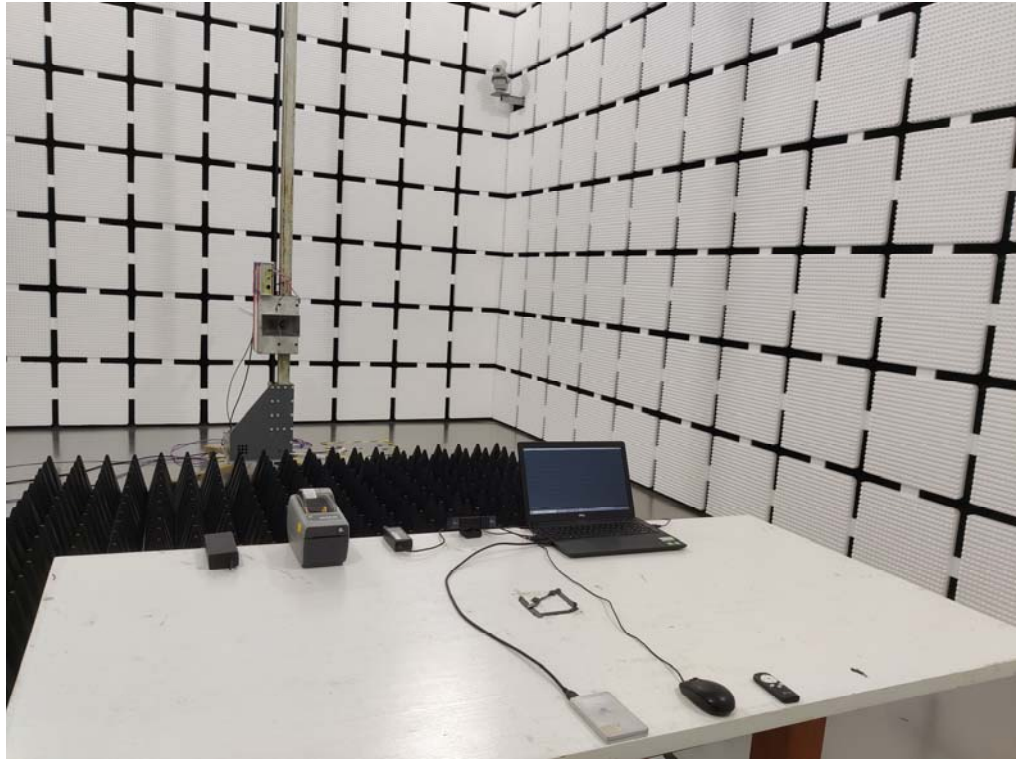
Rear View



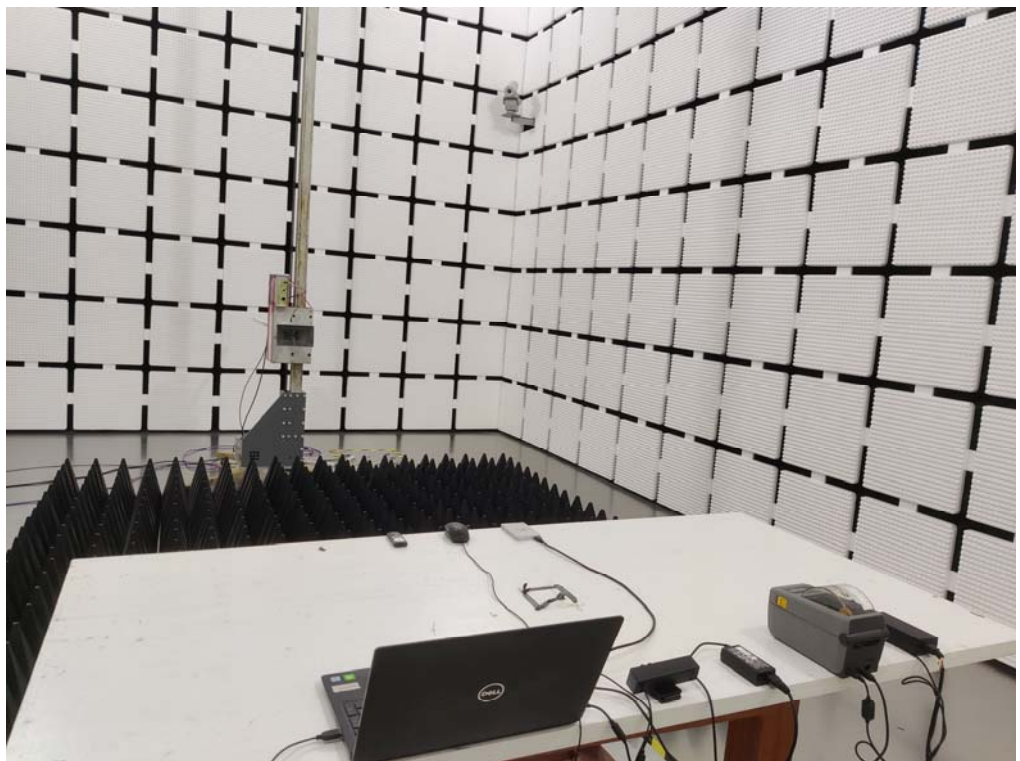


4.4. Test Photographs (Above 1GHz)

Front View



Rear View





5. EUT Photographs

1) EUT Photo

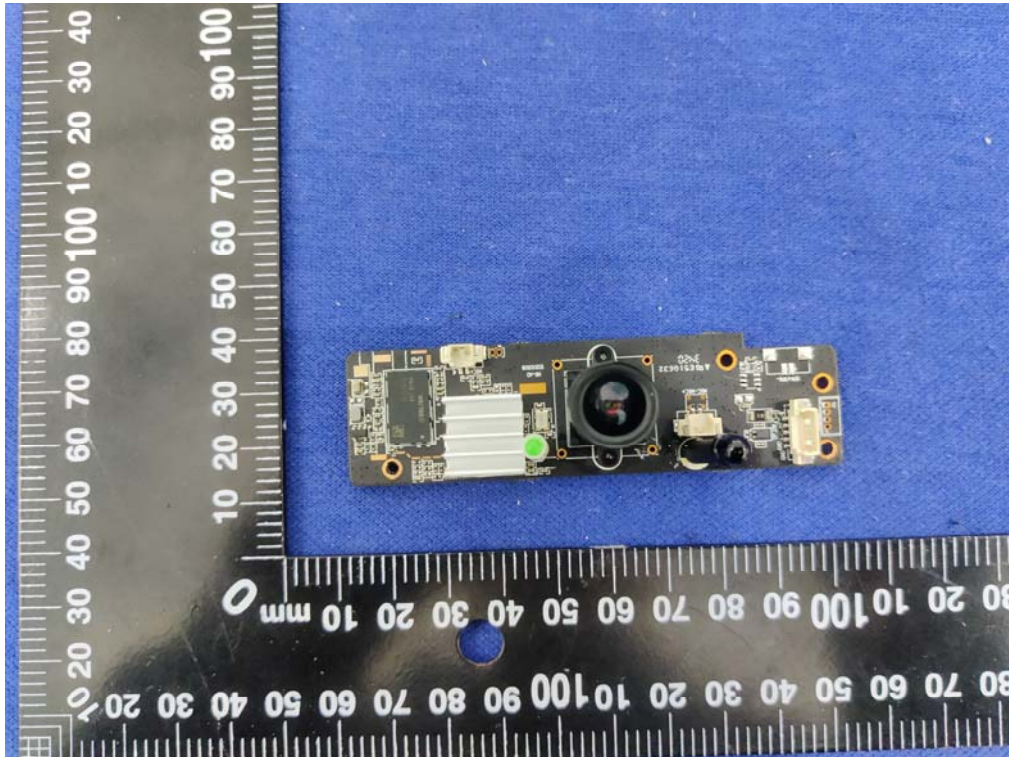


2) EUT Photo

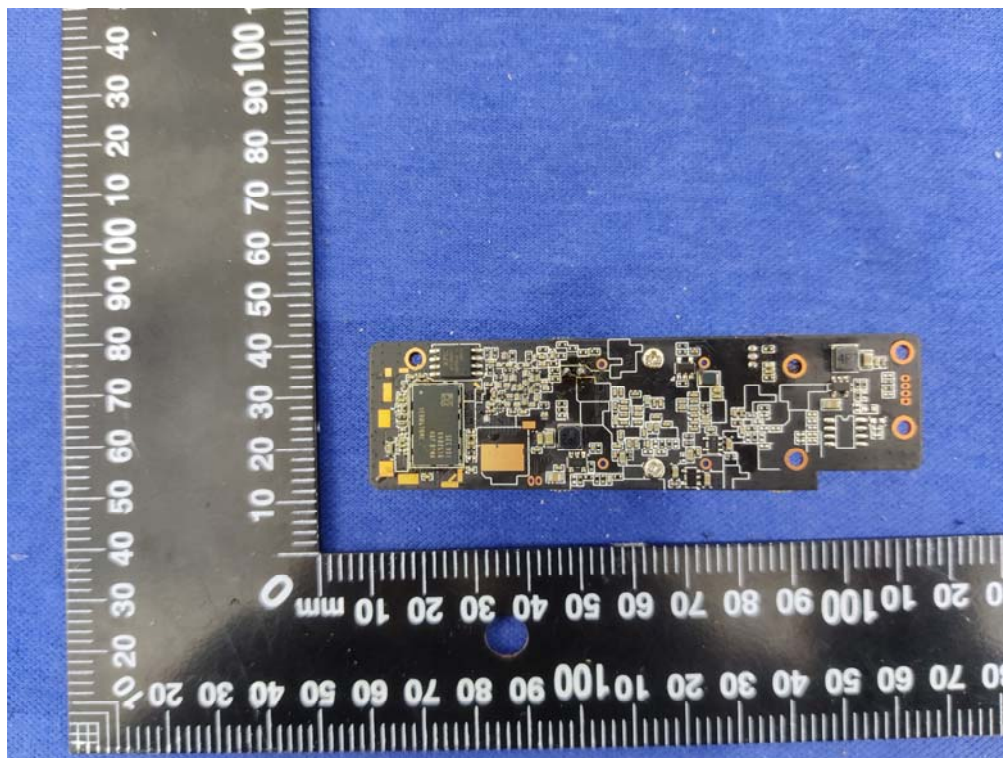




3) EUT Photo



4) EUT Photo

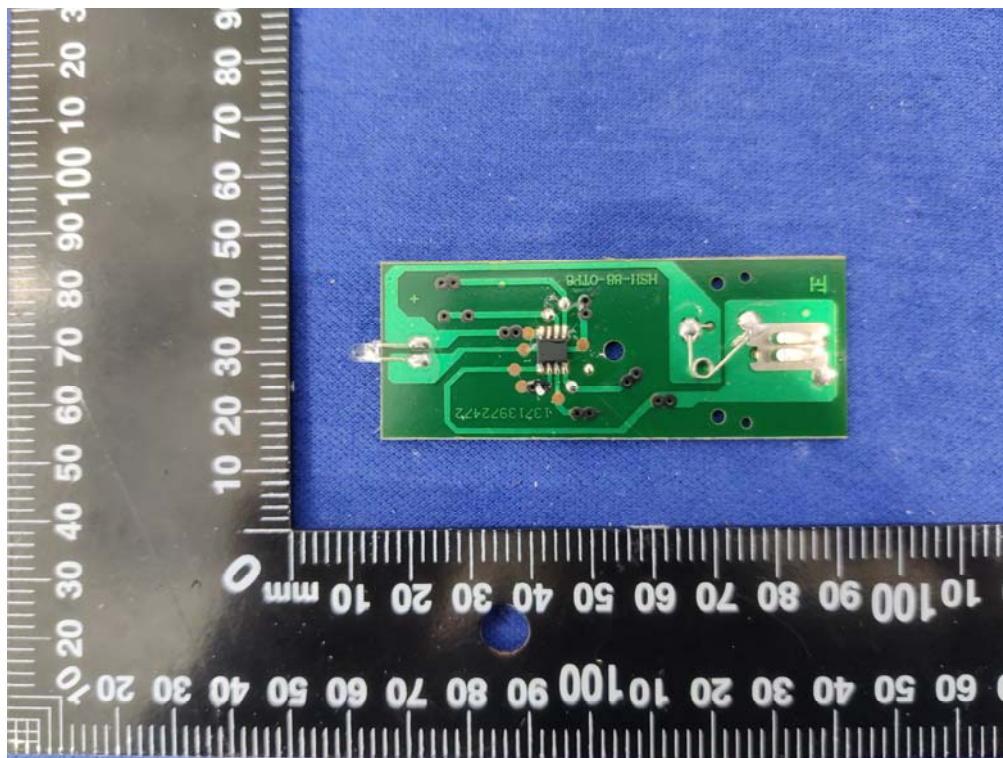




5) EUT Photo

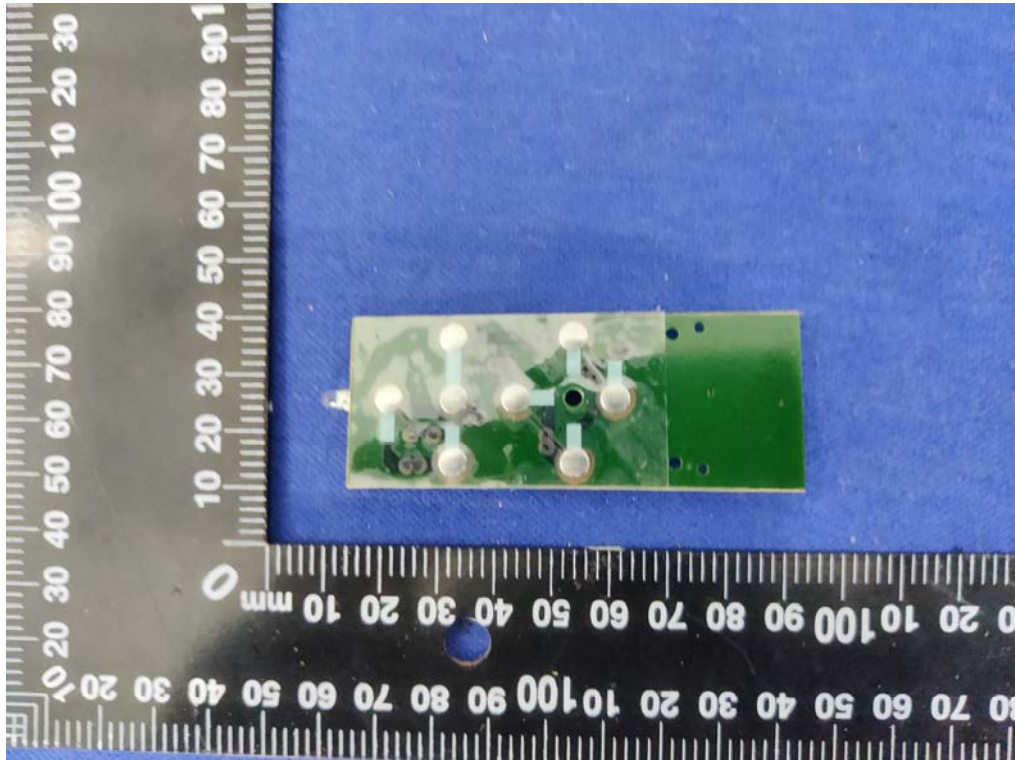


6) EUT Photo





7) EUT Photo



----- End of the report -----