



# TEST REPORT

**APPLICANT** : Nortek Security & Control LLC

**PRODUCT NAME** : Edge Panel

**MODEL NAME** : 2GIG-EDG-NA-A

**BRAND NAME** : 2GIG

**FCC ID** : EF400227

**STANDARD(S)** : 47 CFR Part 15 Subpart C

**RECEIPT DATE** : 2022-06-29

**TEST DATE** : 2022-06-30 to 2022-07-11

**ISSUE DATE** : 2022-08-11

Edited by: Peng Mi  
Peng Mi (Rapporteur)

Approved by: Shen Junsheng  
Shen Junsheng (Supervisor)

**NOTE:** This document is issued by Shenzhen Morlab Communications Technology Co., Ltd., the test report shall not be reproduced except in full without prior written permission of the company. The test results apply only to the particular sample(s) tested and to the specific tests carried out which is available on request for validation and information confirmed at our website.





# DIRECTORY

- 1. Technical Information ..... 3**
- 1.1. Applicant and Manufacturer Information ..... 3**
- 1.2. Equipment Under Test (EUT) Description ..... 3**
- 1.3. The Channel Number and Frequency ..... 4**
- 1.4. Test Standards and Results ..... 5**
- 1.5. Environmental Conditions ..... 5**
- 2. 47 CFR Part 15C Requirements ..... 6**
- 2.1. Antenna Requirement ..... 6**
- 2.2. Bandwidth ..... 7**
- 2.3. Conducted Emission ..... 10**
- 2.4. Field Strength of Fundamental ..... 14**
- 2.5. Radiated Emission and Field Strength of Harmonics ..... 16**
- Annex A Test Uncertainty ..... 23**
- Annex B Testing Laboratory Information ..... 24**

Change History		
Version	Date	Reason for change
1.0	2022-08-11	First edition



# 1. Technical Information

Note: Provide by applicant.

## 1.1. Applicant and Manufacturer Information

<b>Applicant:</b>	Nortek Security & Control LLC
<b>Applicant Address:</b>	5919 Sea Otter Place, Carlsbad, CA 92010, United States
<b>Manufacturer:</b>	Flextronics Electronics Technology (Shenzhen) Co., Ltd
<b>Manufacturer Address:</b>	89 Yong Fu Road, Tong Fu Yu Industrial Park, Fu Yong Town, Bao An District, Shenzhen, Guangdong, 518103, China

## 1.2. Equipment Under Test (EUT) Description

<b>Product Name:</b>	Edge Panel	
<b>Sample No.:</b>	3#	
<b>Hardware Version:</b>	A	
<b>Software Version:</b>	0	
<b>Modulation Type:</b>	916 MHz: GFSK 908.4 MHz, 908.42 MHz: FSK	
<b>Operating Frequency Range:</b>	Z-wave: 916 MHz; 908.4 MHz; 908.42 MHz	
<b>Channel Number:</b>	3	
<b>Antenna Type:</b>	FPC Antenna	
<b>Antenna Gain:</b>	1.35dBi	
<b>Accessory Information:</b>	Battery	
	<b>Brand Name:</b>	Highpower
	<b>Model No.:</b>	115150
	<b>Serial No.:</b>	N/A
	<b>Capacity:</b>	4020mAh
	<b>Rated Voltage:</b>	3.8V
	<b>Charge Limit:</b>	4.4V
	<b>Manufacturer:</b>	Huizhou Highpower Technology Co.,LTD.



<b>Accessory Information:</b>	Adaptor	
	Brand Name:	ZBPOWER
	Model No.:	ZB-H140017
	Serial No.:	N/A
	Rated Output:	14.00V $\pm$ 1.70A
	Rated Input:	100-240V $\sim$ 50/60Hz, Max 0.6A
	Manufacturer:	Huizhou Zhong bang electronics co., ltd.

**Note 1:** For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

### 1.3.The Channel Number and Frequency

Channel	Frequency(MHz)
L	908.4
M	908.42
H	916



## 1.4. Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 15 Subpart C for the EUT FCC ID Certification:

No.	Identity	Document Title
1	47 CFR Part 15	Radio Frequency Devices

Test detailed items/section required by FCC rules and results are as below:

No.	Section	Description	Test Date	Test Engineer	Result	Method determination /Remark
1	15.203	Antenna Requirement	N/A	N/A	PASS	No deviation
2	15.215	Bandwidth	Jul 06, 2022	Su Xiaoxian	PASS	No deviation
3	15.207	Conducted Emission	Jul 07, 2022	Wu Zhaoling	PASS	No deviation
4	15.249	Field strength	Jul 27, 2022	Su Zhan	PASS	No deviation
5	15.209, 15.249	Radiated Emission and field strength of harmonics	Jul 27, 2022	Su Zhan	PASS	No deviation

**Note 1:** The tests were performed according to the method of measurements prescribed in ANSIC63.10-2013.

**Note 2:** Additions to, deviation, or exclusions from the method shall be judged in the "method determination" column of add, deviate or exclude from the specific method shall be explained in the "Remark" of the above table.

**Note 3:** When the test result is a critical value, we will use the measurement uncertainty give the judgment result based on the 95% confidence intervals.

## 1.5. Environmental Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15-35
Relative Humidity (%):	30-60
Atmospheric Pressure (kPa):	86-106



## 2.47 CFR Part 15C Requirements

### 2.1. Antenna Requirement

#### 2.1.1. Applicable Standard

According to FCC 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

#### 2.1.2. Result: Compliant

Inside of the EUT has a permanently attached spring antenna fixed to PCB with solder. Please refer to the EUT internal photos.

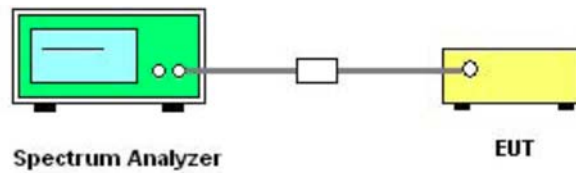
## 2.2. Bandwidth

### 2.2.1. Requirement

Refer to FCC 15.215

### 2.2.2. Test Description

#### Test Setup:



The EUT is coupled to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

Adjust the resolution bandwidth (RBW) value until the envelope of the signal is clearly displayed. In order to make an accurate measurement, set the span greater than RBW.

### 2.2.3. Test Result

#### A. Test Verdict:

Channel	Frequency (MHz)	20 dB Bandwidth (kHz)	Result
L	908.4	85.59	PASS
M	908.42	67.36	PASS
H	916	113.7	PASS



**B. Test Plots:**



(Channel L,908.4MHz)



(Channel M,908.42MHz)





(Channel H,916MHz)

## 2.3. Conducted Emission

### 2.3.1. Requirement

According to FCC section 15.207, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150kHz to 30MHz shall not exceed the limits in the following table, as measured using a 50μH/50Ω line impedance stabilization network (LISN).

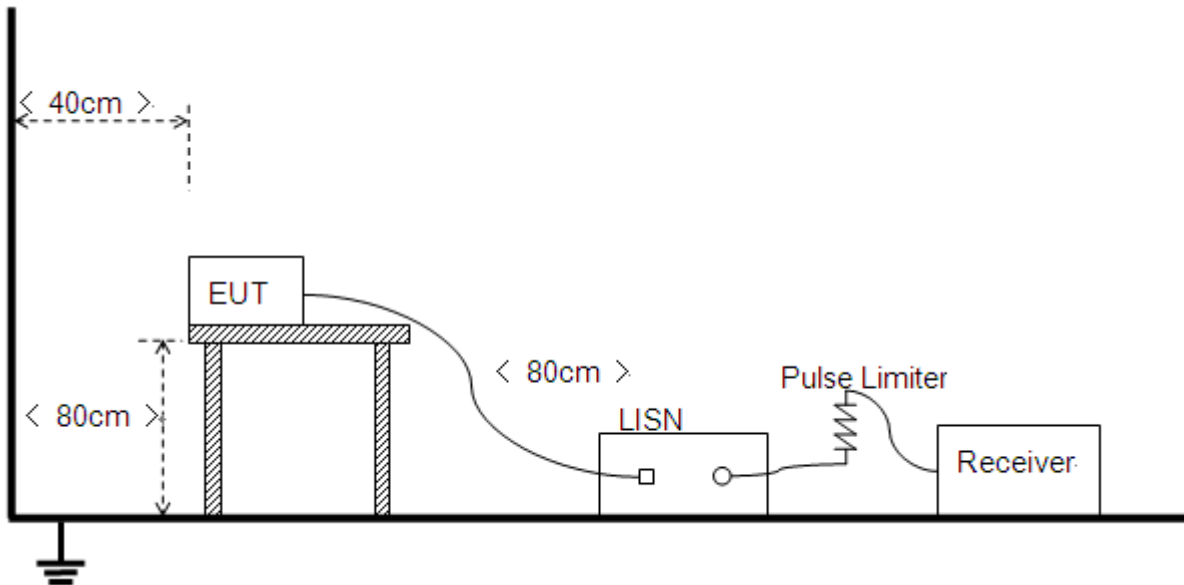
Frequency range (MHz)	Conducted Limit (dBμV)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

NOTE:

- (a) The lower limit shall apply at the band edges.
- (b) The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50MHz.

### 2.3.2. Test Description

Test Setup:



The Table-top EUT was placed upon a non-metallic table 0.8m above the horizontal metal reference ground plane. EUT was connected to LISN and LISN was connected to reference Ground Plane. EUT was 80cm from LISN. The set-up and test methods were according to ANSI C63.10: 2013.



### 2.3.3. Test Result

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Refer to recorded points and plots below.

**Note:** Both of the test voltage AC 120V/60Hz and AC 230V/50Hz were considered and tested respectively, only the results of the worst case AC 120V/60Hz were recorded in this report.

#### A. Test Setup:

Test Mode: EUT+Adapter+ Zigwave mode

Test Voltage: AC 120V/60Hz

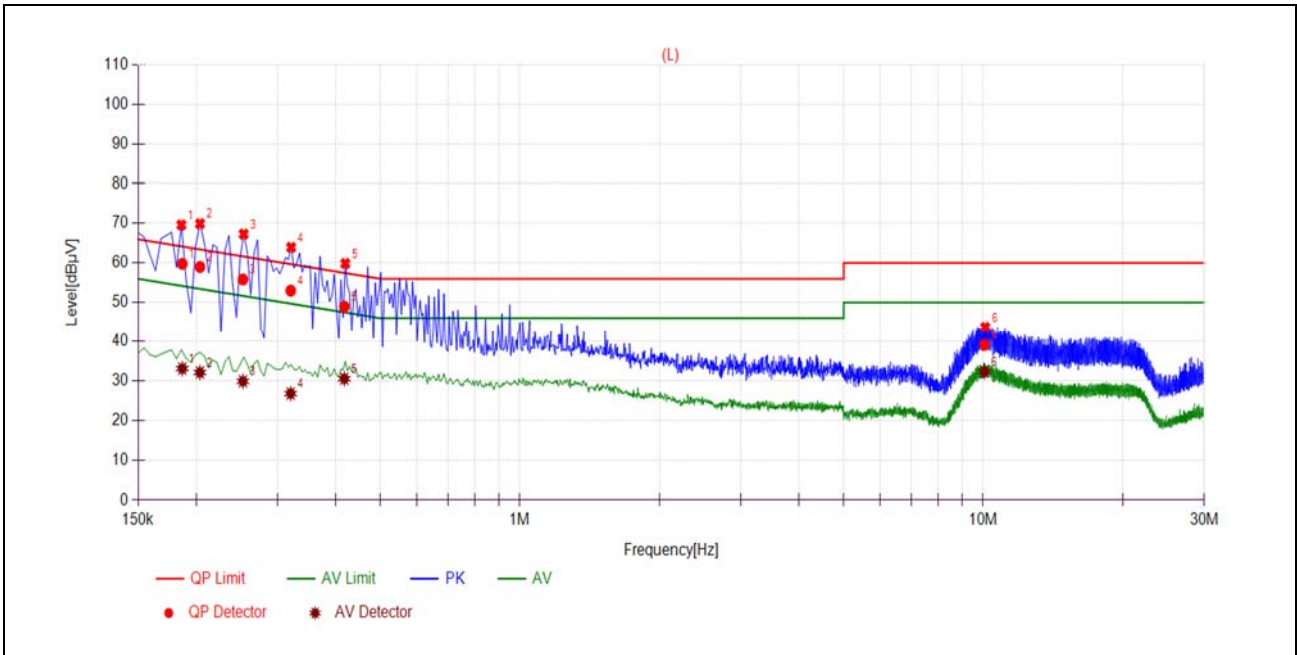
The measurement results are obtained as below:

$$E \text{ [dB}\mu\text{V]} = U_R + L_{\text{Cable loss}} \text{ [dB]} + A_{\text{Factor}}$$

$U_R$ : Receiver Reading

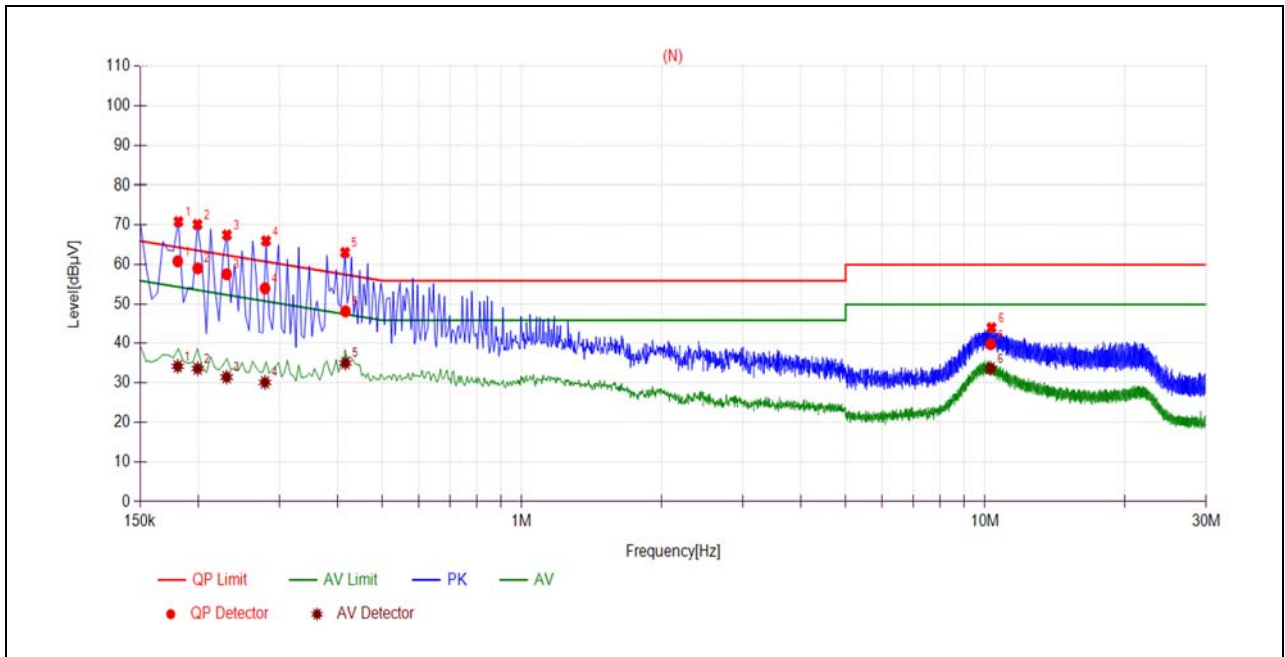
$A_{\text{Factor}}$ : Voltage division factor of LISN

**B. Test Plots:**



(L Phase)

NO.	Fre. (MHz)	Emission Level (dBµV)		Limit (dBµV)		Power-line	Verdict
		Quai-peak	Average	Quai-peak	Average		
1	0.1868	59.79	33.05	64.18	54.18	Line	PASS
2	0.2039	59.00	32.07	63.45	53.45		PASS
3	0.2525	55.84	29.86	61.67	51.67		PASS
4	0.3201	53.01	26.76	59.70	49.70		PASS
5	0.4179	48.93	30.49	57.49	47.49		PASS
6	10.0666	39.07	32.27	60.00	50.00		PASS



(N Phase)

NO.	Fre. (MHz)	Emission Level (dBµV)		Limit (dBµV)		Power-line	Verdict
		Quai-peak	Average	Quai-peak	Average		
1	0.1809	60.90	34.11	64.44	54.44	Neutral	PASS
2	0.1997	59.12	33.53	63.62	53.62		PASS
3	0.2306	57.62	31.37	62.43	52.43		PASS
4	0.2791	54.06	30.05	60.84	50.84		PASS
5	0.4163	48.26	34.95	57.52	47.52		PASS
6	10.2729	39.73	33.61	60.00	50.00		PASS

## 2.4. Field Strength of Fundamental

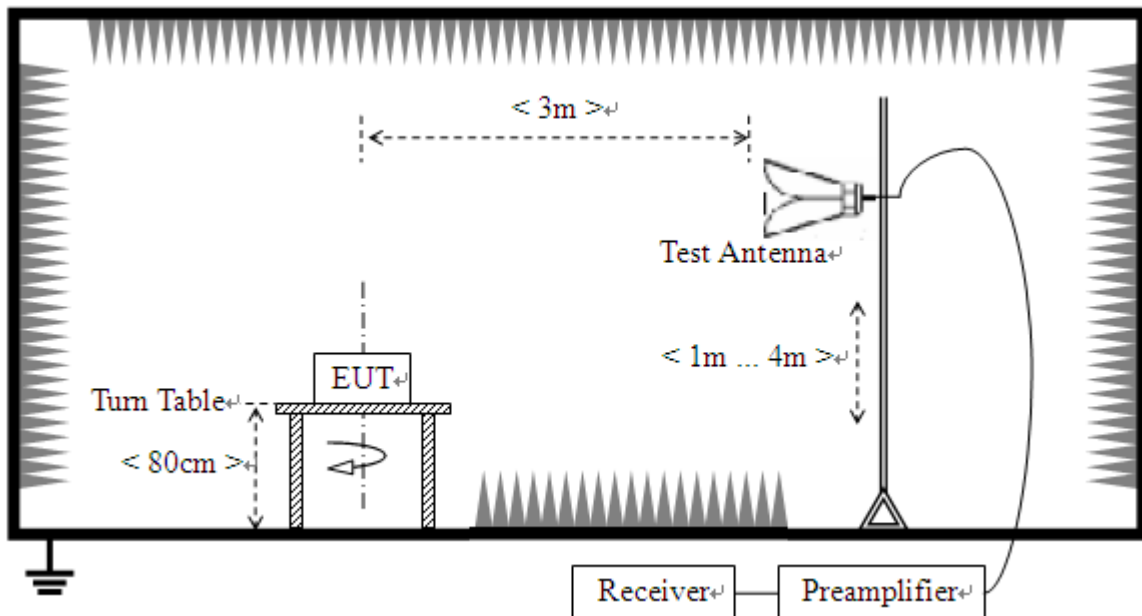
### 2.4.1. Requirement

According to FCC section 15.249(a), except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

### 2.4.2. Test Description

#### Test Setup:



The EUT is located in a 3m Semi-Anechoic Chamber; the antenna factors, cable loss and so on of the site as factors are calculated to correct the reading.

For the Test Antenna:

Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength.



### 2.4.3. Test Procedure

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 120 kHz

VBW  $\geq$  RBW

Sweep = auto

Detector function =quasi-peak

Trace = max hold

### 2.4.4. Test Result

The measurement results are obtained as below:

$E$  [dB $\mu$ V/m] =  $U_R$  +  $A_T$  +  $A_{Factor}$  [dB];  $A_T$  =  $L_{Cable\ loss}$  [dB] -  $G_{preamp}$  [dB]

$A_T$ : Total correction Factor except Antenna

$U_R$ : Receiver Reading

$G_{preamp}$ : Preamplifier Gain

$A_{Factor}$ : Antenna Factor at 3m

During the test, the total correction Factor  $A_T$  and  $A_{Factor}$  were built in test software.

Note: All radiated emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report

#### A. Test Verdict:

Frequency (MHz)	Detector	Antenna	Receiver Reading $U_R$ (dB $\mu$ V)	$A_T$ (dB)	$A_{Factor}$ (dB@3m)	Max. Emission $E$ (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Verdict
908.4	QP	Horizontal	61.81	6.75	22.2	90.76	93.97	PASS
908.4	QP	Vertical	52.86	6.75	22.2	81.81	93.97	PASS
908.42	QP	Horizontal	61.97	6.75	22.2	90.92	93.97	PASS
908.42	QP	Vertical	52.73	6.75	22.2	81.68	93.97	PASS
916	QP	Horizontal	61.49	6.75	22.2	90.44	93.97	PASS
916	QP	Vertical	53.32	6.75	22.2	82.27	93.97	PASS

## 2.5. Radiated Emission and Field Strength of Harmonics

### 2.5.1. Requirement

According to section 15.249(a), the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

According to section 15.249(d), Emission Radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in Section 15.209:

Frequency (MHz)	Field Strength ( $\mu\text{V}/\text{m}$ )	Measurement Distance (m)	Field Strength Limitation at 3m Measurement Distance	
			( $\mu\text{V}/\text{m}$ )	(dBuV/m)
0.009 - 0.490	2400/F(kHz)	300	10000* 2400/F(KHz)	20log 2400/F(KHz) + 80
0.490 - 1.705	24000/F(kHz)	30	100* 2400/F(KHz)	20log 2400/F(KHz) + 40
1.705 - 30.0	30	30	100*30	20log 30 + 40
30 - 88	100	3	100	20log 100
88 - 216	150	3	150	20log 150
216 - 960	200	3	200	20log 200
Above 960	500	3	500	20log 500

According to section 15.249(e), for frequencies above 1000MHz, the above field strength limits are based on average limits. The peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20dB under any condition of modulation.

#### Note:

- 1) The tighter limit shall apply at the boundary between two frequency range.
- 2) Limitation expressed in dBuV/m is calculated by  $20\log$  Emission Level( $\mu\text{V}/\text{m}$ ).
- 3) If measurement is made at 3m distance, then F.S Limitation at 3m distance is adjusted by using the formula of  $Ld1 = Ld2 * (d2/d1)^2$ .

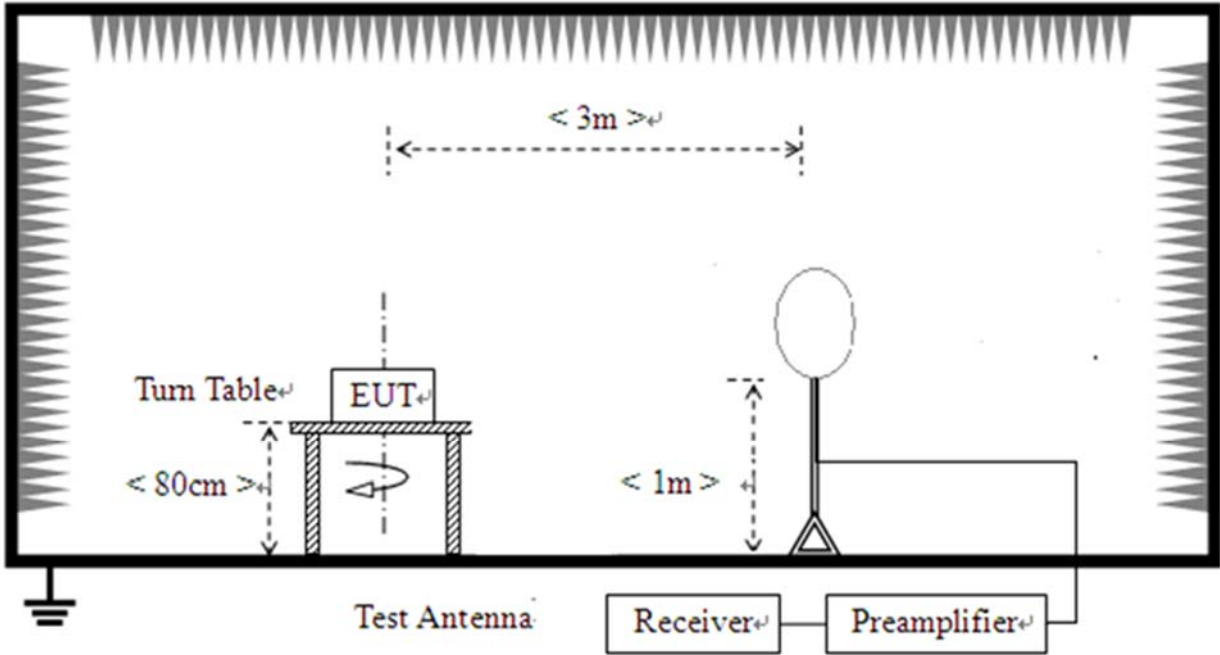
Example: F.S Limit at 30m distance is 30 $\mu\text{V}/\text{m}$ , then F.S Limitation at 3m distance is adjusted as  $Ld1 = L1 = 30\mu\text{V}/\text{m} * (10)^2 = 100 * 30\mu\text{V}/\text{m}$



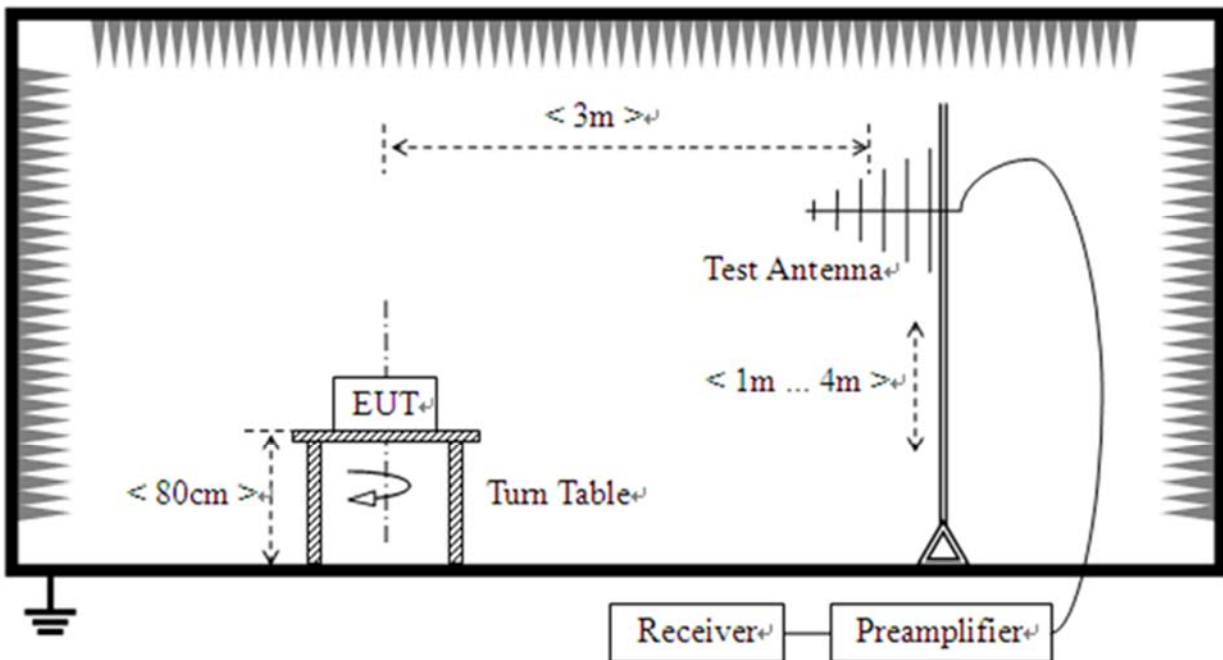
### 2.5.2. Test Description

#### A. Test Setup:

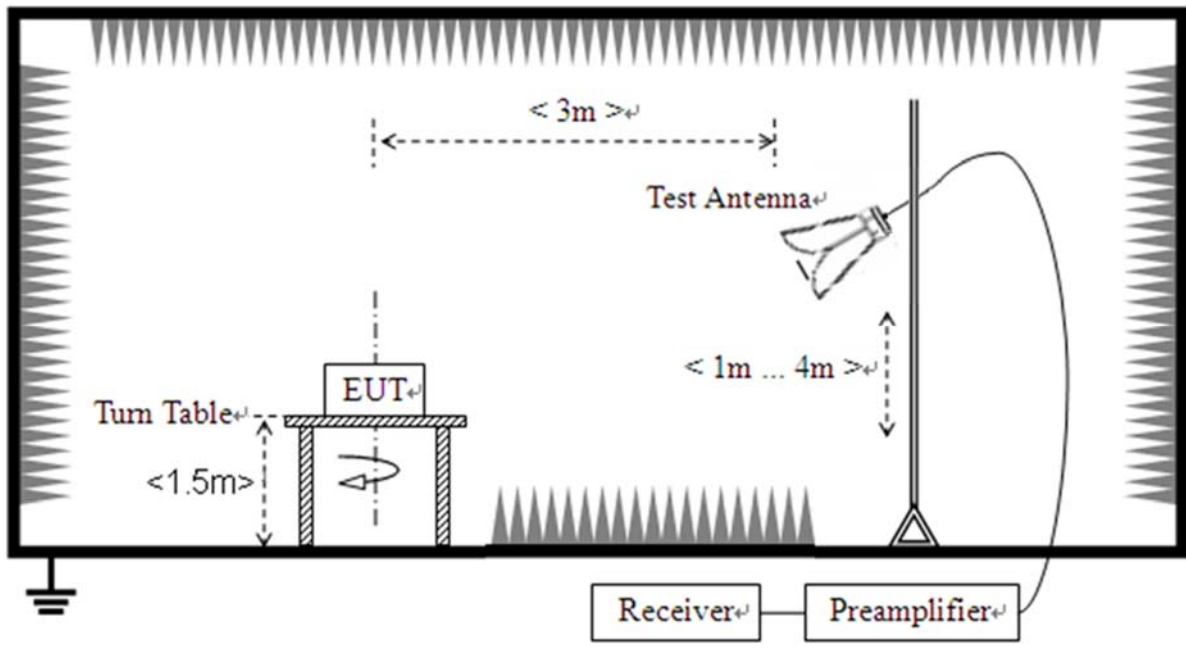
- 1) For radiated emissions from 9kHz to 30MHz



- 2) For radiated emissions from 30MHz to 1GHz



## 3) For radiated emissions above 1GHz



The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz; 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For measurements below 30MHz, the emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9kHz-90 kHz, 110kHz-490 kHz. Radiated emission limits in these two bands are based on measurements employing an average detector.

For measurements below 1GHz the resolution bandwidth is set to 100kHz for peak detection measurements or 120kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1GHz the resolution bandwidth is set to 1MHz, the video band width is set to 3MHz for peak measurements and as applicable for average measurements.

The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions. For measurements above 1 GHz, keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response.



### 2.5.3. Test Result

According to ANSI C63.10, because of peak detection will yield amplitudes equal to or greater than amplitudes measured with the quasi-peak (or average) detector, the measurement data from a spectrum analyzer peak detector will represent the worst-case results, if the peak measured value complies with the quasi-peak (or average) limit, it is unnecessary to perform an quasi-peak measurement (or average).

The measurement results are obtained as below:

$$E [\text{dB}\mu\text{V}/\text{m}] = U_R + A_T + A_{\text{Factor}} [\text{dB}]; A_T = L_{\text{Cable loss}} [\text{dB}] - G_{\text{preamp}} [\text{dB}]$$

$A_T$ : Total correction Factor except Antenna

$U_R$ : Receiver Reading

$G_{\text{preamp}}$ : Preamplifier Gain

$A_{\text{Factor}}$ : Antenna Factor at 3m

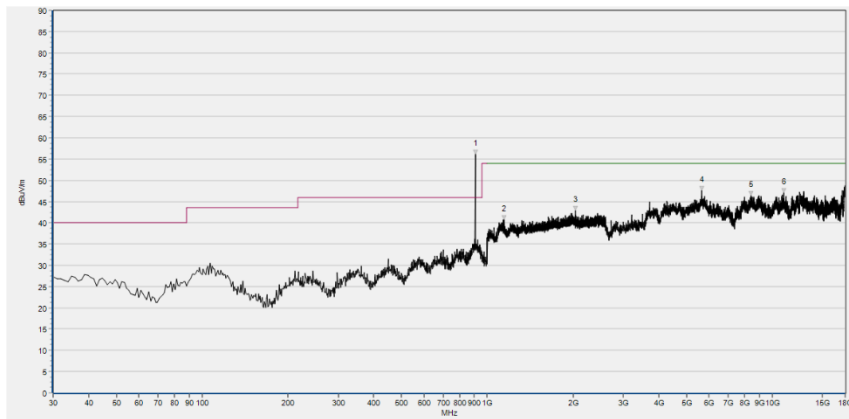
During the test, the total correction Factor  $A_T$  and  $A_{\text{Factor}}$  were built in test software.

**Note 1:** All radiated emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

**Note 2:** The low frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

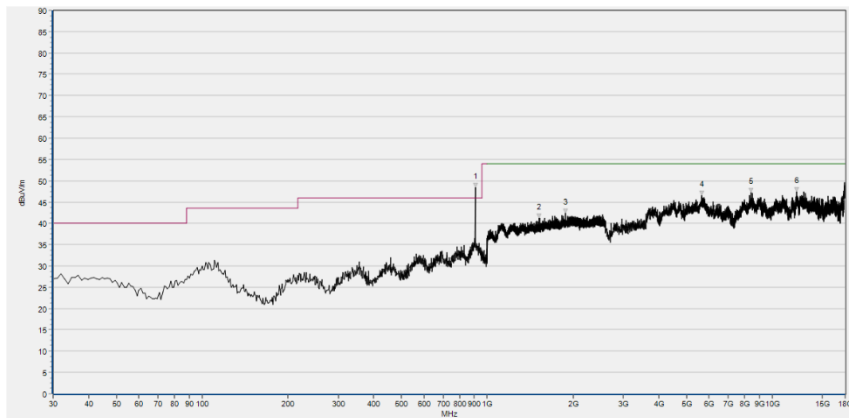
**Note 3:** For the frequency, which started from 18GHz to 10th harmonic of the highest frequency, was pre-scanned and the result which was 20dB lower than the limit was not recorded.

Plot for 908.4MHz



Fre. (MHz)	Pk (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
908.820	56.09	N/A	N/A	N/A	46.00	N/A	Horizontal	N/A
1144.533	40.76	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
2034.133	42.87	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
5658.440	47.65	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
8418.120	46.41	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
10980.680	47.05	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS

(Antenna Horizontal, 30MHz to 10GHz)

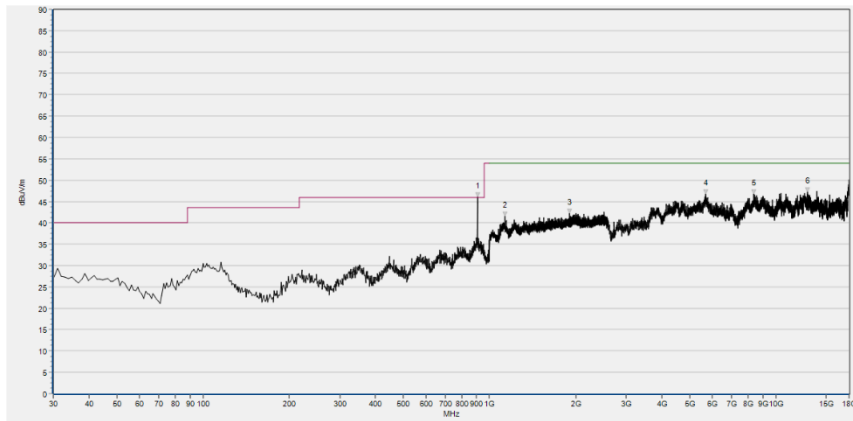


Fre. (MHz)	Pk (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
908.820	48.38	N/A	N/A	N/A	46.00	N/A	Horizontal	N/A
1515.200	41.24	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
1877.867	42.39	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
5658.440	46.65	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
8411.960	47.26	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
12135.680	47.35	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

(Antenna Vertical, 30MHz to 10GHz)

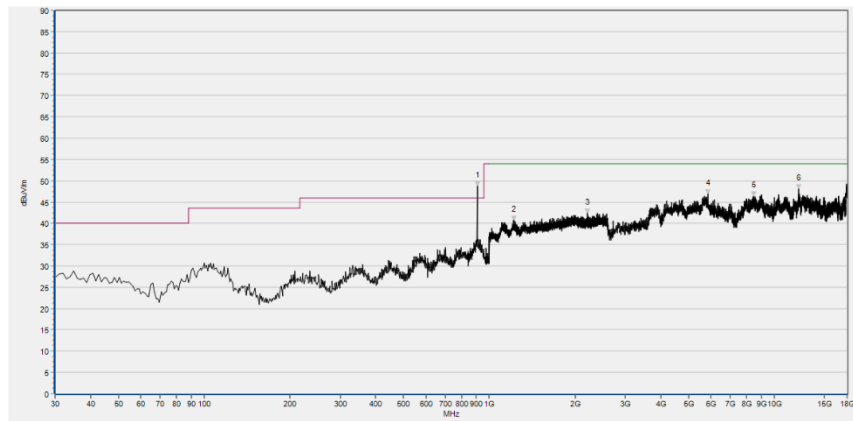


Plot for 908.42MHz



Fre. (MHz)	Pk (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
908.820	46.01	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1130.667	41.49	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
1900.267	42.26	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
5680.000	46.73	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
8356.520	46.84	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
12893.360	47.30	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS

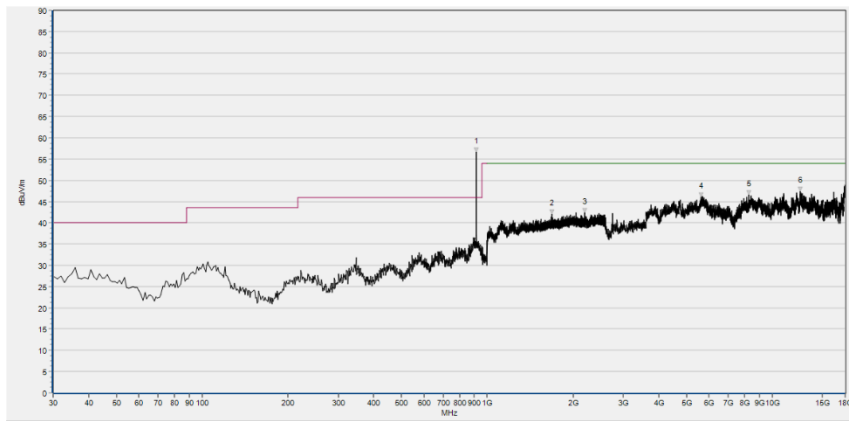
(Antenna Horizontal, 30MHz to 10GHz)



Fre. (MHz)	Pk (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
908.820	48.84	N/A	N/A	N/A	46.00	N/A	Vertical	N/A
1222.400	40.78	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
2208.000	42.32	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
5858.640	46.98	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
8442.760	46.44	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
12184.960	48.02	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

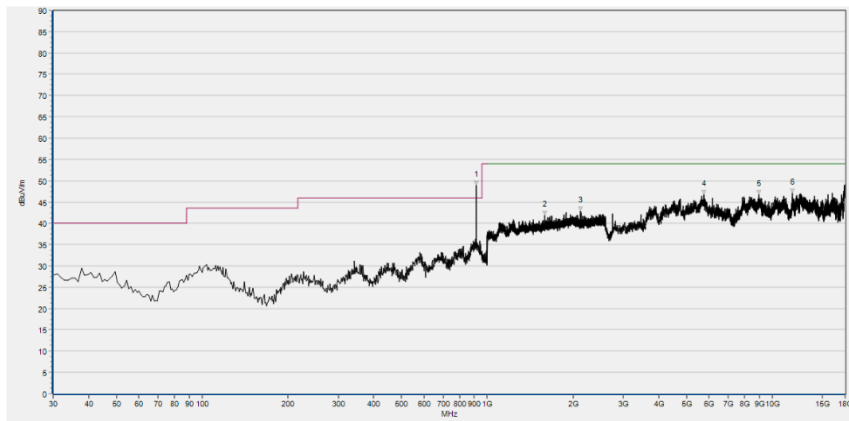
(Antenna Vertical, 30MHz to 10GHz)

**Plot for 916MHz**



Fre. (MHz)	Pk (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
915.610	56.62	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1681.067	42.01	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
2190.933	42.34	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
5615.320	46.04	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
8261.040	46.51	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
12520.680	47.39	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS

(Antenna Horizontal, 30MHz to 10GHz)



Fre. (MHz)	Pk (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
915.610	48.90	N/A	N/A	N/A	46.00	N/A	Vertical	N/A
1594.133	41.98	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
2124.800	42.98	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
5744.680	46.75	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
8975.600	46.74	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
11747.600	47.10	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

(Antenna Vertical, 30MHz to 10GHz)



## Annex A Test Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for test performed on the EUT as specified in CISPR 16-1-2:

Test items	Uncertainty
Bandwidth	$\pm 5\%$
Radiated Emission	$\pm 2.95\text{dB}$

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



## Annex B Testing Laboratory Information

### 1. Identification of the Responsible Testing Laboratory

<b>Laboratory Name:</b>	Shenzhen Morlab Communications Technology Co., Ltd.
<b>Laboratory Address:</b>	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
<b>Telephone:</b>	+86 755 36698555
<b>Facsimile:</b>	+86 755 36698525

### 2. Identification of the Responsible Testing Location

<b>Name:</b>	Shenzhen Morlab Communications Technology Co., Ltd.
<b>Address:</b>	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

### 3. Facilities and Accreditations

All measurement facilities used to collect the measurement data are located at FL.3, Building A, FeiYang Science Park, Block 67, BaoAn District, Shenzhen, 518101 P. R. China. The test site is constructed in conformance with the requirements of ANSI C63.10-2013 and CISPR Publication 22; the FCC designation number is CN1192, the test firm registration number is 226174.





#### 4. Test Equipments Utilized

##### 4.1 Radiated Test Equipments

Equipment Name	Serial No.	Type	Manufacturer	Cal. Date	Due Date
EXA Signal Analyzer	MY53470836	N9010A	Agilent	2022.03.01	2023.02.28
RF cable (30MHz-26GHz)	CB01	RF01	Morlab	N/A	N/A
Coaxial cable	CB02	RF02	Morlab	N/A	N/A
SMA connector	CN01	RF03	HUBER-SUHNER	N/A	N/A
Computer	T430i	Think Pad	Lenovo	N/A	N/A

##### 4.2 Conducted Emission Test Equipments

Equipment Name	Serial No.	Type	Manufacturer	Cal. Date	Due Date
Receiver	MY56400093	N9038A	KEYSIGHT	2022.03.03	2023.03.02
LISN	8127449	NSLK 8127	Schwarzbeck	2022.03.03	2023.03.02
Pulse Limiter (10dB)	VTSD 9561 F-B #206	VTSD 9561-F	Schwarzbeck	2021.07.21	2022.07.20
Coaxial cable(BNC) (30MHz-26GHz)	CB01	EMC01	Morlab	N/A	N/A

##### 4.3 List of Software Used

Description	Manufacturer	Software Version
Test System	Tonscend	V2.5.77.0418
Morlab EMCR V1.2	Morlab	V1.0
TS+ -[JS32-CE]	Tonscend	V2.5.0.0

**4.4 Radiated Test Equipments**

Equipment Name	Serial No.	Type	Manufacturer	Cal. Date	Due Date
Receiver	MY54130016	N9038A	Agilent	2021.07.16	2022.07.15
Test Antenna - Bi-Log	9163-520	VULB 9163	Schwarzbeck	2022.05.25	2025.05.24
Test Antenna - Loop	1520-022	FMZB1520	Schwarzbeck	2022.02.11	2025.02.10
Test Antenna – Horn	01774	BBHA 9120D	Schwarzbeck	2019.07.26	2022.07.25
Test Antenna – Horn	BBHA9170#773	BBHA 9170	Schwarzbeck	2019.07.26	2022.07.25
Coaxial cable (N male) (9KHz-30MHz)	CB04	EMC04	Morlab	N/A	N/A
Coaxial cable (N male) (30MHz-26GHz)	CB02	EMC02	Morlab	N/A	N/A
Coaxial cable(N male) (30MHz-26GHz)	CB03	EMC03	Morlab	N/A	N/A
1-18GHz pre-Amplifier	61171/61172	S020180L3203	Tonscend	2021.07.16	2022.07.15
18-26.5GHz pre-Amplifier	46732	S10M100L3802	Tonscend	2021.07.16	2022.07.15
Notch Filter	N/A	WRCG-2400-2483.5-60SS	Wainwright	2021.07.16	2022.07.15
Anechoic Chamber	N/A	9m*6m*6m	CRT	2020.01.06	2023.01.05

————— END OF REPORT —————