

# EMC Test Report

## Client Information:

Applicant: SHENZHEN NITO POWER SOURCE TECHNOLOGY CO.,LTD.  
Applicant add.: 201, No.8 Building, JinfanghuaElectricity Industrial park, Bantian St.,  
Longgang Dist., Shenzhen, China

## Product Information:

Product Name: Magnetic Wireless Car Charger Holder  
Model No.: JR-ZS295, JR-ZS331, JR-ZS332  
Brand Name: JOYROOM  
Report No.: AIT22051904E1  
Standards: ETSI EN 301 489-1 V2.2.3 (2019-11)  
ETSI EN 301 489-3 V2.1.1 (2019-03)  
EN 55032: 2015+A11:2020  
EN 55035: 2017+A11:2020

## Prepared By:

### Dongguan Yaxu (AiT) Technology Limited

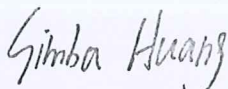
Add. : No.22, Jinqianling Third Street, Jitigang, Huangjiang,  
Dongguan, Guangdong, China

Date of Receipt: May 19, 2022      Date of Test: May 19~ May 25, 2022  
Date of Issue: May 26, 2022      Test Result: Pass

This device has been tested and found to comply with the stated standard(s), which is (are) required by the council directive of 2014/53/EU and indicated in the test report and are applicable only to the tested sample identified in the report.

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Reviewed by:

  
Simba huang

Approved by:

  
Seal.chen

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## 2 Test Summary

Test procedures according to the technical standards:

ETSI EN 301 489-1 V2.2.3 (2019-11)

ETSI EN 301 489-3 V2.1.1 (2019-03)

EN 55032: 2015+A11:2020

EN 55035: 2017+A11:2020

EMC Emission				
Test	Test Method	Criterion	Result	Remark
Mains Terminals Disturbance Voltage, 150kHz to 30MHz	EN 55032: 2015+A11:2020	Limits	N/A	
Radiated Emissions 30MHz to 1GHz 1GHz to 6GHz	EN 55032: 2015+A11:2020	Limits	PASS	
Harmonics	EN IEC 61000-3-2: 2019	Limits(A)	N/A	
Flicker	EN 61000-3-3: 2013+A1:2019	Limits	N/A	
Electrostatic Discharge	EN 61000-4-2: 2009 EN 55035:2017+A11:2020	B	PASS	
R/S	EN 61000-4-3: 2006+A2:2010 EN 55035:2017+A11:2020	A	PASS	
Electric Fast Transients	EN 61000-4-4: 2012 EN 55035:2017+A11:2020	B	N/A	
Surge	EN 61000-4-5:2014+A1:2017 EN 55035:2017+A11:2020	B	N/A	
C/S	EN 61000-4-6: 2014+AC:2015 EN 55035:2017+A11:2020	A	N/A	
Dips	EN 61000-4-11:2004+A1:2017 EN 55035:2017+A11:2020	B & C	N/A	
Power Frequency magnetic Field	EN 61000-4-8:2010 EN 55035:2017+A11:2020	A	N/A	

Note: (1) The power consumption of EUT is less than 75W and no Limits apply.

(2) For client's request and manual description, the test will not be executed.

(3) —N/A denotes test is not applicable in this Test Report

## Performance criteria

Criteria	During test	After test
A	Shall operate as intended. (see note 1). Shall be no loss of function. Shall be no unintentional transmissions.	Shall operate as intended. Shall be no degradation of performance (see note 3). Shall be no loss of function. Shall be no loss of stored data or user programmable functions.
B	May show loss of function (one or more). May show degradation of performance (see note 2). Shall be no unintentional transmissions.	Functions shall be self-recoverable. Shall operate as intended after recovering. Shall be no degradation of performance (see note 3). Shall be no loss of stored data or user programmable functions.
C	May be loss of function (one or more).	Functions shall be recoverable by the operator. Shall operate as intended after recovering. Shall be no degradation of performance (see note 3).
<p>NOTE 1: Operate as intended during the test allows a level of degradation not below a minimum performance level specified by the manufacturer for the use of the apparatus as intended. In some cases the specified minimum performance level may be replaced by a permissible degradation of performance. If the minimum performance level or the permissible performance degradation is not specified by the manufacturer then either of these may be derived from the product description and documentation (including leaflets and advertising) and what the user may reasonably expect from the apparatus if used as intended.</p> <p>NOTE 2: Degradation of performance during the test is understood as a degradation to a level not below a minimum performance level specified by the manufacturer for the use of the apparatus as intended. In some cases the specified minimum performance level may be replaced by a permissible degradation of performance. If the minimum performance level or the permissible performance degradation is not specified by the manufacturer then either of these may be derived from the product description and documentation (including leaflets and advertising) and what the user may reasonably expect from the apparatus if used as intended.</p> <p>NOTE 3: No degradation of performance after the test is understood as no degradation below a minimum performance level specified by the manufacturer for the use of the apparatus as intended. In some cases the specified minimum performance level may be replaced by a permissible degradation of performance. After the test no change of actual operating data or user retrievable data is allowed. If the minimum performance level or the permissible performance degradation is not specified by the manufacturer then either of these may be derived from the product description and documentation (including leaflets and advertising) and what the user may reasonably expect from the apparatus if used as intended.</p>		

### Performance criteria for Continuous phenomena applied to Transmitters (CT)

The performance criteria A shall apply. Tests shall be repeated with the EUT in standby mode (if applicable) to ensure that unintentional transmission does not occur. In systems using acknowledgement signals, it is recognized that an ACKnowledgement (ACK) or Not ACKnowledgement (NACK) transmission may occur, and steps should be taken to ensure that any transmission resulting from the application of the test is correctly interpreted.

### Performance criteria for Transient phenomena applied to Transmitters (TT)

The performance criteria B shall apply, except for voltage dips of 100 ms and voltage interruptions of 5 000 ms duration, for which performance criteria C shall apply. Tests shall be repeated with the EUT in standby mode (if applicable) to ensure that unintentional transmission does not occur. In systems using acknowledgement signals, it is recognized that an acknowledgement (ACK) or not-acknowledgement (NACK) transmission may occur, and steps should be taken to ensure that any transmission resulting from the application of the test is correctly interpreted.



**Performance criteria for Continuous phenomena applied to Receivers (CR)**

The performance criteria A shall apply. Where the EUT is a transceiver, under no circumstances, shall the transmitter operate unintentionally during the test. In systems using acknowledgement signals, it is recognized that an ACK or NACK transmission may occur, and steps should be taken to ensure that any transmission resulting from the application of the test is correctly interpreted.

**Performance criteria for Transient phenomena applied to Receivers (TR)**

The performance criteria B shall apply, except for voltage dips of 100 ms and voltage interruptions of 5 000 ms duration for which performance criteria C shall apply. Where the EUT is a transceiver, under no circumstances, shall the transmitter operate unintentionally during the test. In systems using acknowledgement signals, it is recognized that an ACK or NACK transmission may occur, and steps should be taken to ensure that any transmission resulting from the application of the test is correctly interpreted.

**According to EN 301489 -3 standard.**

**PERFORMANCE CRITERIA FOR CONTINUOUS PHENOMENA TO WCDMA**

In the speech mode, the performance criteria shall be that the Up Link and Down Link speech output levels shall be at least 35 dB less than the recorded reference levels, when measured through an audio band pass filter of width 200 Hz, centred on 1 kHz.

**PERFORMANCE CRITERIA FOR TRANSIENT PHENOMENA TO WCDMA**

At the conclusion of each exposure the EUT shall operate with no user noticeable loss of the communication link. At the conclusion of the total test comprising the series of individual exposures, the EUT shall operate as intended with no loss of user control functions or stored data, as declared by the manufacturer, and the communication link shall have been maintained.

In addition to confirming the above performance in traffic mode, the test shall also be performed in idle mode, and the transmitter shall not unintentionally operate.

According to EN 55035 standard.

**8.2 Performance criterion A**

The equipment shall continue to operate as intended without operator intervention. No degradation of performance, loss of function or change of operating state is allowed below a performance level specified by the manufacturer when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

**8.3 Performance criterion B**

During the application of the disturbance, degradation of performance is allowed. However, no unintended change of actual operating state or stored data is allowed to persist after the test.

After the test, the equipment shall continue to operate as intended without operator intervention; no degradation of performance or loss of function is allowed, below a performance level specified by the manufacturer, when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance.

If the minimum performance level (or the permissible performance loss), or recovery time, is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

#### 8.4 Performance criterion C

Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacturer's instructions. A reboot or re-start operation is allowed.

Information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

## 2.1 Measurement Uncertainty

The report uncertainty of measurement  $y \pm U$ , where expanded uncertainty  $U$  is based on a standard uncertainty Multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95%.

No.	Item	Frequency Range	U , Value
1	Power Line Conducted Emission	150KHz~30MHz	1.20 dB
2	Disturbance Power Emission	30MHz~300MHz	2.96 dB
3	Radiated Emission Test	30MHz~1GHz	3.75 dB
4	Radiated Emission Test	1GHz~18GHz	3.88 dB

### 3 Test Facility

**The test facility is recognized, certified or accredited by the following organizations:**

**. CNAS- Registration No: L6177**

Dongguan Yaxu (AiT) technology Limited is accredited to ISO/IEC 17025:2017 general Requirements for the competence of testing and calibration laboratories (CNAS-CL01 Accreditation Criteria for the competence of testing and calibration laboratories) on Aug.04, 2020

**FCC-Registration No.: 703111 Designation Number: CN1313**

Dongguan Yaxu (AiT) technology Limited has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

**IC —Registration No.: 6819A CAB identifier: CN0122**

The 3m Semi-anechoic chamber of Dongguan Yaxu (AiT) technology Limited has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 6819A

**A2LA-Lab Cert. No.: 6317.01**

Dongguan Yaxu (AiT) technology Limited has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

#### 3.1 Deviation from Standard

None

#### 3.2 Abnormalities from Standard Conditions

None



## 4 General Information

### 4.1 General Description of EUT

Manufacturer:	Xiaozhi (Dongguan) Technology Co., Ltd
Manufacturer Address:	RM 502, No. 4 Building, No. 302 TanglongXi Road, Tangxia Town, Dongguan, Guangdong
EUT Name:	Magnetic Wireless Car Charger Holder
Model No:	JR-ZS295
Serial Model:	JR-ZS331, JR-ZS332
Brand Name:	JOYROOM
Frequency Bands:	110kHz~205kHz
Modulation Mode:	FSK
H/W No.:	N/A
S/W No.:	N/A
Power Supply Range:	Input: 5V/2A, 9V/2A, 12V/2A Output: 5V/1A, 7.5V/1A, 9V/1.1A, 12V/1.25A
Power Supply:	Input: 5V/2A, 9V/2A, 12V/2A Output: 5V/1A, 7.5V/1A, 9V/1.1A, 12V/1.25A

## 4.2 EUT Test Mode

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested based on the consideration of following EUT operation mode or test configuration mode which possibly have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

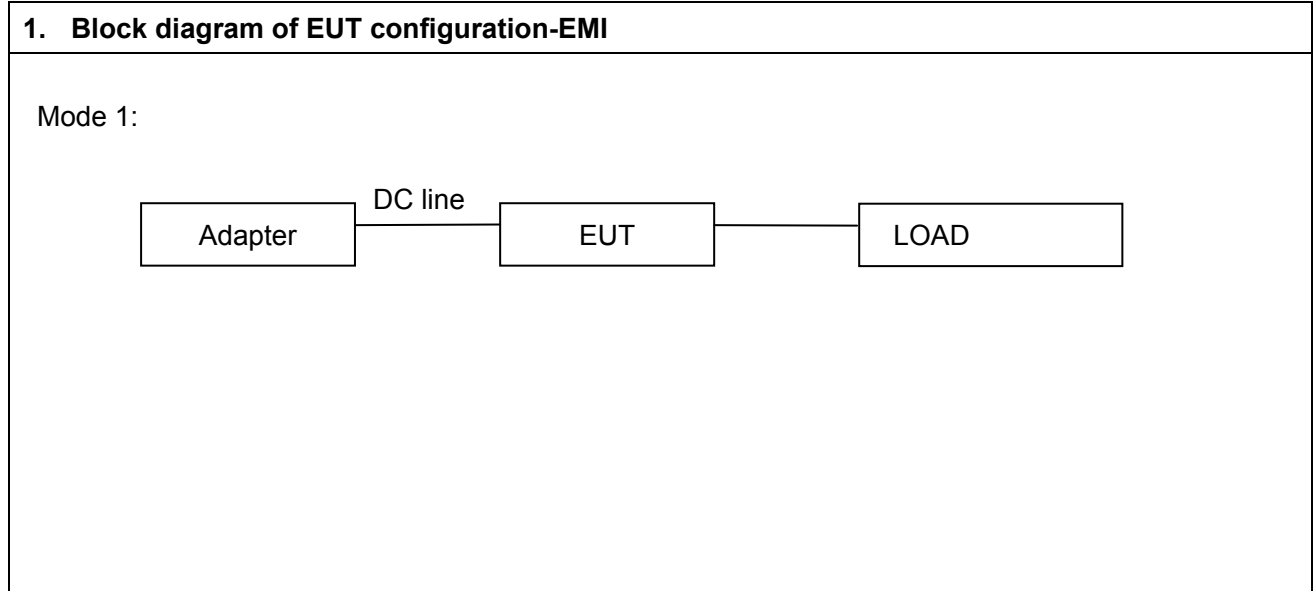
Pretest Mode	Description
Mode 1	Work mode

For Radiated Test	
Final Test Mode	Description
Mode 1	Work mode

NOTE: The test modes were carried out for all operation modes. The final test mode of the EUT was the worst test mode for EMI, and its test data was showed.

### 4.3 Description of Test Setup

EUT was tested in normal configuration (Please See following Block diagrams)



### 4.4 EUT Peripheral List

No.	Equipment	Manufacturer	EMC Compliance	Model No.	Serial No.	Power cord	signal cable
1	Adapter	GANGQI	CE	GQ30PD01-ZC	N/A	N/A	N/A
2	Mobile Iphone	MI	N/A	XIAOMI 10	N/A	N/A	N/A

## 5 Equipments List for All Test Items

<input checked="" type="checkbox"/> Radiation Test Equipment						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	EMI Measuring Receiver	R&S	ESR	101160	2021.08.30	2022.08.29
2	Low Noise Pre Amplifier	HP	HP8447E	1205323	2021.08.30	2022.08.29
3	TRILOG Super Broadband test Antenna	SCHWARZBECK	VULB9160	9160-3207	2021.08.29	2024.08.28
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2021.08.30	2022.08.29
5	Spectrum Analyzer	R&S	FSV40	101470	2021.08.30	2022.08.29
6	Low Noise Pre Amplifier	Tsj	MLA-0120-A02-34	2648A04738	2021.08.30	2022.08.29
7	Broadband Horn Antenna	Schwarzbeck	BBHA 9120D	452	2021.08.29	2024.08.28
8	Communication Tester	R&S	CMW500	A0304247	2021.08.30	2022.08.29

<input checked="" type="checkbox"/> Conduction Test equipment						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	EMI Test Receiver	R&S	ESCI	100124	2021.08.30	2022.08.29
2	LISN	Kyoritsu	KNW-242	8-837-4	2021.08.30	2022.08.29
3	LISN	Kyoritsu	KNW-407	8-1789-3	2021.08.30	2022.08.29
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2021.08.30	2022.08.29
5	Communication Tester	R&S	CMW500	A0304247	2021.08.30	2022.08.29

<input type="checkbox"/> H/F Test Equipment						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	Signal Conditioning Unit	Schaffner	CCN1000-1	72472	2021.08.30	2022.08.29
2	5KV AC Power Source	Schaffner	NSG1007-5-208-413	57227	2021.08.30	2022.08.29
3	Communication Tester	R&S	CMW500	A0304247	2021.08.30	2022.08.29

<input checked="" type="checkbox"/> ESD Test Equipment						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	ESD Simulator	Schaffner	NSG435	5866	2021.08.30	2022.08.29
2	Communication Tester	R&S	CMW500	A0304247	2021.08.30	2022.08.29

<input checked="" type="checkbox"/> R/S Test Equipment						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	MXG analog signal generator	Agilent	N5181A	MY46240859	2021.08.30	2022.08.29
2	Power Amplifier	Schaffner	CBA9433	T43574	2021.08.30	2022.08.29
3	Power Amplifier	Schaffner	CBA9409	T43605	2021.08.30	2022.08.29
4	Logarithmic-periodic Antenna	Schwarzbeck	VULP9118E	820	2021.08.30	2022.08.29
5	Broadband Horn Antenna	Schwarzbeck	BBHA 9120LF	255	2021.08.30	2022.08.29
6	Power meter	Agilent	E4419B	MY45102079	2021.08.30	2022.08.29
7	Power sensor	Agilent	8481A	MY41097696	2021.08.30	2022.08.29
8	Power sensor	Agilent	8481A	MY41097697	2021.08.30	2022.08.29
9	RF Relay matrix	tsj	RFM-S621	04261	2021.08.30	2022.08.29
10	Communication Tester	R&S	CMW500	A0304247	2021.08.30	2022.08.29

<input type="checkbox"/> EFT/B Test equipment						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	INS6501 Step-transformer	Schaffner	INA 6501	136	2021.08.30	2022.08.29
2	MODULA GENERATOR	Schaffner	MODULA 6150	34475	2021.08.30	2022.08.29
3	Capacitive Coupling Clamp	Schaffner	CDN8014	22519	2021.08.30	2022.08.29
4	Communication Tester	R&S	CMW500	A0304247	2021.08.30	2022.08.29

<input type="checkbox"/> Surge Test Equipment						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	INS6501 step-transformer	Schaffner	INA 6501	136	2021.08.30	2022.08.29
2	MODULA GENERATOR	Schaffner	MODULA 6150	34475	2021.08.30	2022.08.29
3	Communication Tester	R&S	CMW500	A0304247	2021.08.30	2022.08.29

<input type="checkbox"/> C/S Test Equipment						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	SML01 Signal Generator	R&S	SML01	104531	2021.08.30	2022.08.29
2	Power Amplifier	Schaffner	CBA9437	T43660	2021.08.30	2022.08.29
3	Attenuator	Aeroflex / Weinschel	40-6-33	PA130	2021.08.30	2022.08.29
4	Power Line CDN	tsj	TSCDN-M1-16A	07010	2021.08.30	2022.08.29
5	Power Line CDN	tsj	TSCDN-M2-16A	07024	2021.08.30	2022.08.29
6	Power Line CDN	tsj	TSCDN-M3-16A	07032	2021.08.30	2022.08.29
7	Communication Tester	R&S	CMW500	A0304247	2021.08.30	2022.08.29



<input type="checkbox"/> <b>PFMF Test Equipment</b>						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	Magnetic field generator	Schaffner	MFO6501	34299	2021.08.30	2022.08.29
2	Magnetic Field Loop Antenna	Schaffner	INA 702	148	2021.08.30	2022.08.29
3	Communication Tester	R&S	CMW500	A0304247	2021.08.30	2022.08.29

<input type="checkbox"/> <b>Dips Test Equipment</b>						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	INS6501 Step-transformer	Schaffner	INA 6501	136	2021.08.30	2022.08.29
2	MODULA GENERATOR	Schaffner	MODULA 6150	34475	2021.08.30	2022.08.29
3	Communication Tester	R&S	CMW500	A0304247	2021.08.30	2022.08.29

Note:

1. ☐ is not applicable in this Test Report. ☒ is applicable in this Test Report.

## 6 Emission Test Results

### 6.1 Mains Terminals Disturbance Voltage Measurement

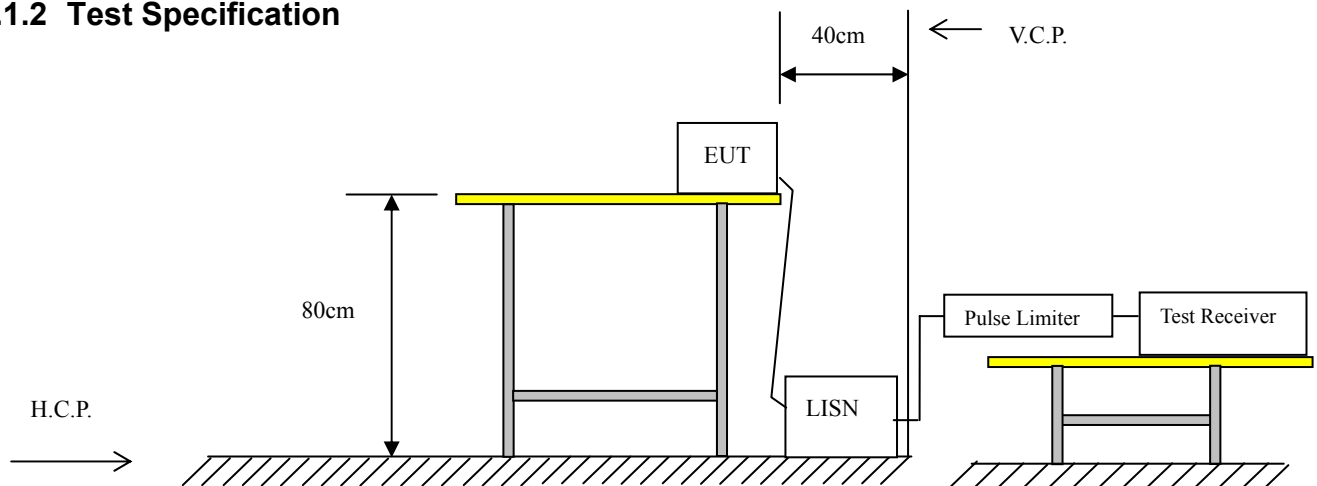
Frequency (MHz)	<input type="checkbox"/> Class A (dBμV)		<input checked="" type="checkbox"/> Class B (dBμV)	
	Q.P. (Quasi-Peak)	A.V. (Average)	Q.P. (Quasi-Peak)	A.V. (Average)
0.15 ~ 0.50	79	66	66 to 56	56 to 46
0.50 ~ 5.0	73	60	56	46
5.0 ~ 30	73	60	60	50

Detector: Peak for pre-scan (9kHz Resolution Bandwidth)  
Quasi-Peak & Average if maximized peak within 6dB of Average Limit

#### 6.1.1 E.U.T. Operation

Temperature:	23°C	Humidity:	55% RH	Atmospheric Pressure:	101	Kpa
Test Mode:	Mode 1			The Worst Mode:	Mode 1	

#### 6.1.2 Test Specification



EUT was placed upon a wooden test table 0.8m above the horizontal metal reference plane and 0.4m from the vertical ground plane, and it was connected to an AMN. The closest distance between the boundary of the EUT and the surface of the AMN is 0.8m. All peripherals were connected to another AMN, and placed at a distance of 10cm from each other. A spectrum and receiver was connected to the RF output port of the AMN. Both average and quasi-peak value were detected.

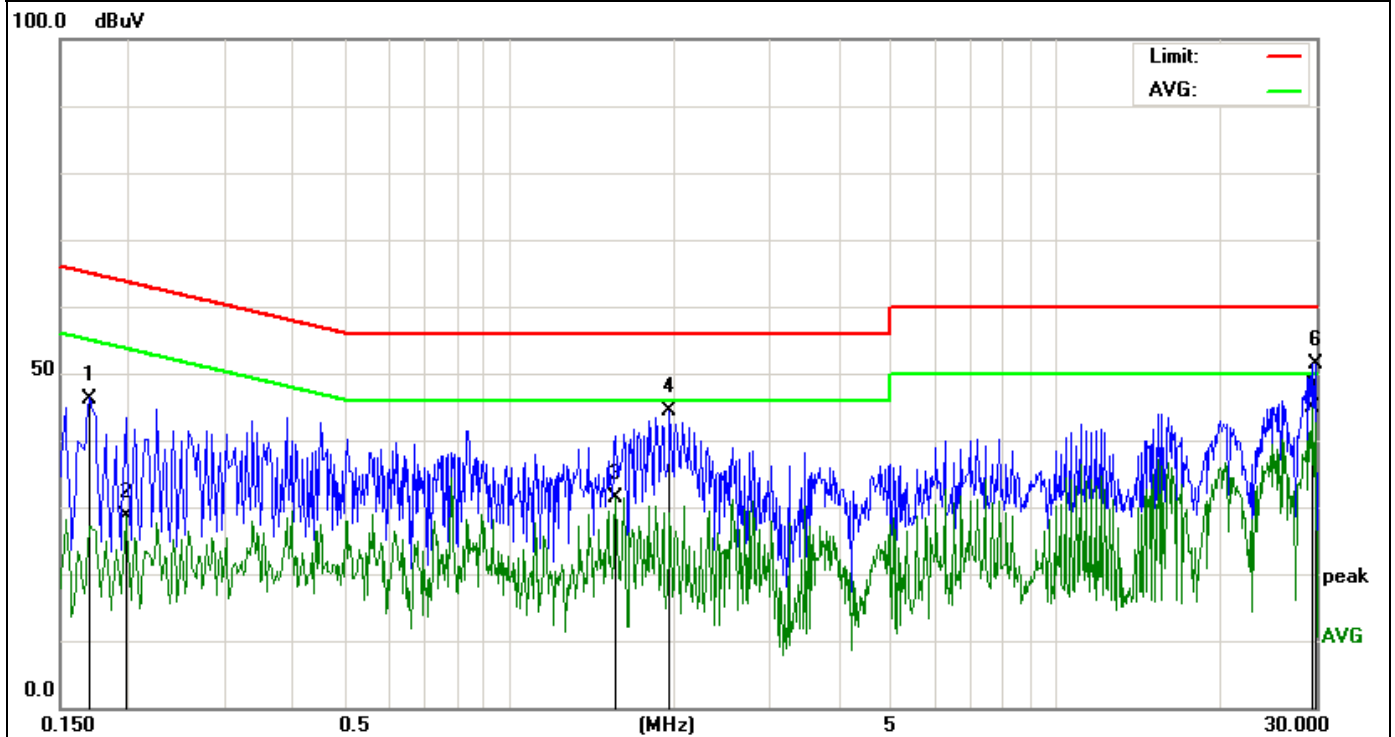
### 6.1.3 Measurement Data

An initial pre-scan was performed on the live and neutral lines.

Quasi-peak or average measurements were performed at the frequency which maximum peak emissions were detected.

Please refer to the attached quasi-peak & average measurement data.

Model name:	JR-ZS295	Test Date :	2022-05-23
Test Mode:	Mode 1	Phase :	Line
Test Voltage:	AC 230V/50Hz	Test Result:	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail



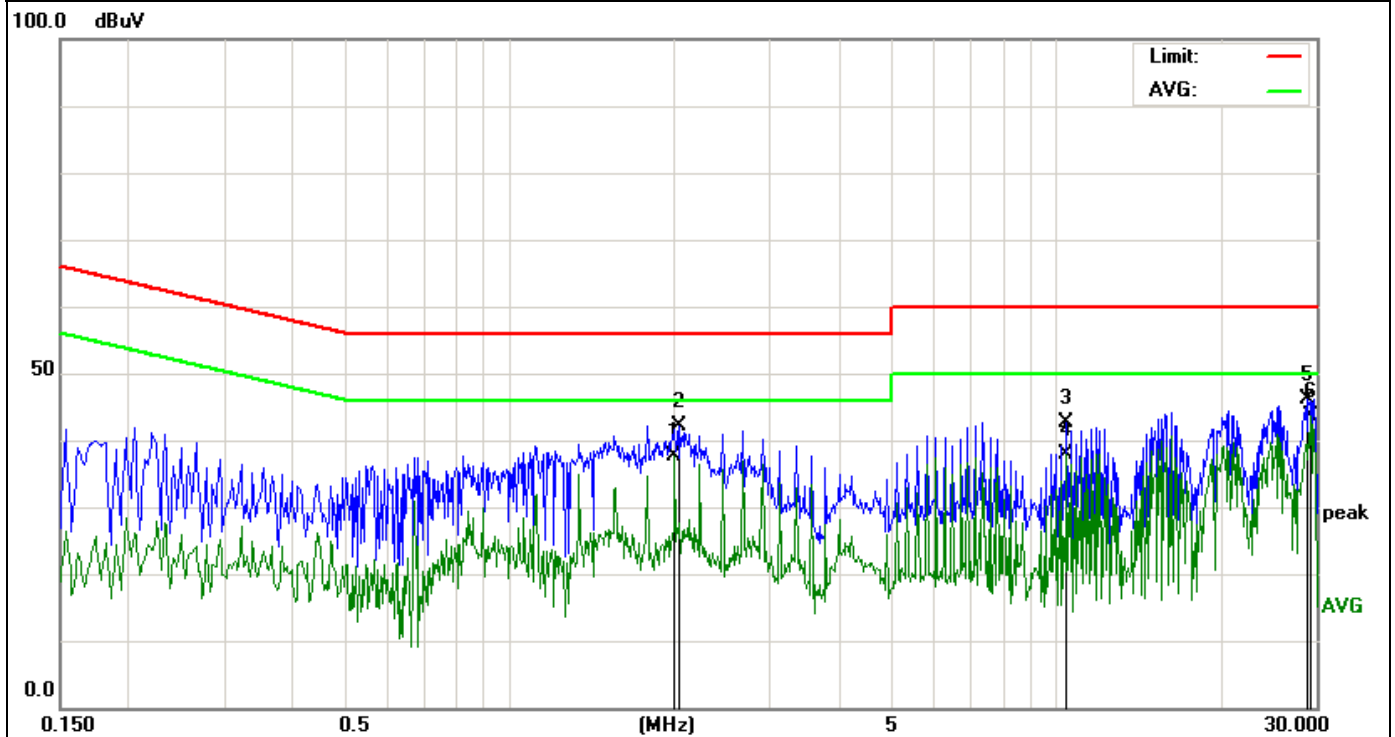
Remark: Correct Factor = LISN factor + Cable Loss + Pulse limiter factor.

Measurement Result=Reading Level +Correct Factor;

Over Limit= Measurement Result- Limit;

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1700	34.70	11.55	46.25	64.96	-18.71	QP
2		0.1980	17.58	11.16	28.74	53.69	-24.95	AVG
3		1.5660	21.39	9.97	31.36	46.00	-14.64	AVG
4		1.9620	34.38	9.99	44.37	56.00	-11.63	QP
5	*	29.6260	33.52	11.45	44.97	50.00	-5.03	AVG
6		29.8540	39.91	11.47	51.38	60.00	-8.62	QP

Model name:	JR-ZS295	Test Date :	2022-05-23
Test Mode:	Mode1	Phase :	Neutral
Test Voltage:	AC 230V/50Hz	Test Result:	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail



Remark: Correct Factor = LISN factor + Cable Loss + Pulse limiter factor.

Measurement Result=Reading Level +Correct Factor;

Over Limit= Measurement Result- Limit;

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		2.0100	27.58	9.99	37.57	46.00	-8.43	AVG
2		2.0540	32.21	9.99	42.20	56.00	-13.80	QP
3		10.4900	32.45	10.28	42.73	60.00	-17.27	QP
4		10.4900	27.69	10.28	37.97	50.00	-12.03	AVG
5		28.9740	34.61	11.41	46.02	60.00	-13.98	QP
6	*	29.3540	32.08	11.43	43.51	50.00	-6.49	AVG

## 7 Emission Test Results

### 7.1 Radiated Emission Measurement

Limits of Radiated Emission Measurement (Below 1GHz)

Frequency (MHz)	<input type="checkbox"/> Class A (10m)	<input checked="" type="checkbox"/> Class B (3m)
	Quasi-Peak dB( $\mu$ V/m)	Quasi-Peak dB( $\mu$ V/m)
30 ~ 230	40.0	40.0
230 ~ 1000	47.0	47.0

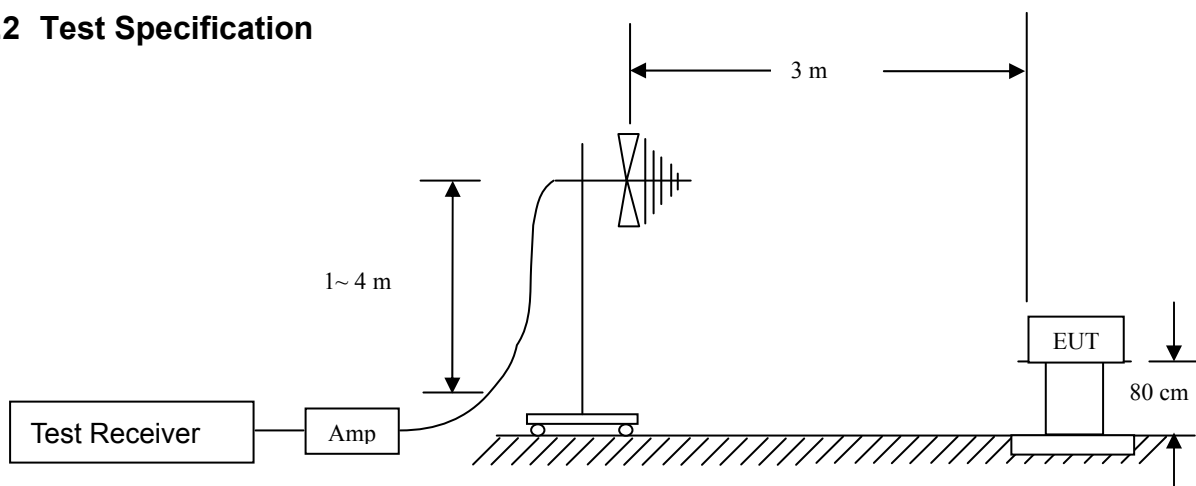
Limits of Radiated Emission Measurement (Above 1GHz)

Frequency (MHz)	<input type="checkbox"/> Class A (3m)		<input type="checkbox"/> Class B (3m)	
	Quasi-Peak dB( $\mu$ V/m)	Average dB( $\mu$ V/m)	Quasi-Peak dB( $\mu$ V/m)	Average dB( $\mu$ V/m)
1000~3000	76.0	56.0	70.0	50.0
3000 ~ 6000	80.0	60.0	74.0	54.0

#### 7.1.1 E.U.T. Operation

Temperature:	24°C	Humidity:	52% RH	Atmospheric Pressure:	101	Kpa
Test Mode:	Mode 1			The Worst Mode:	Mode 1	

#### 7.1.2 Test Specification

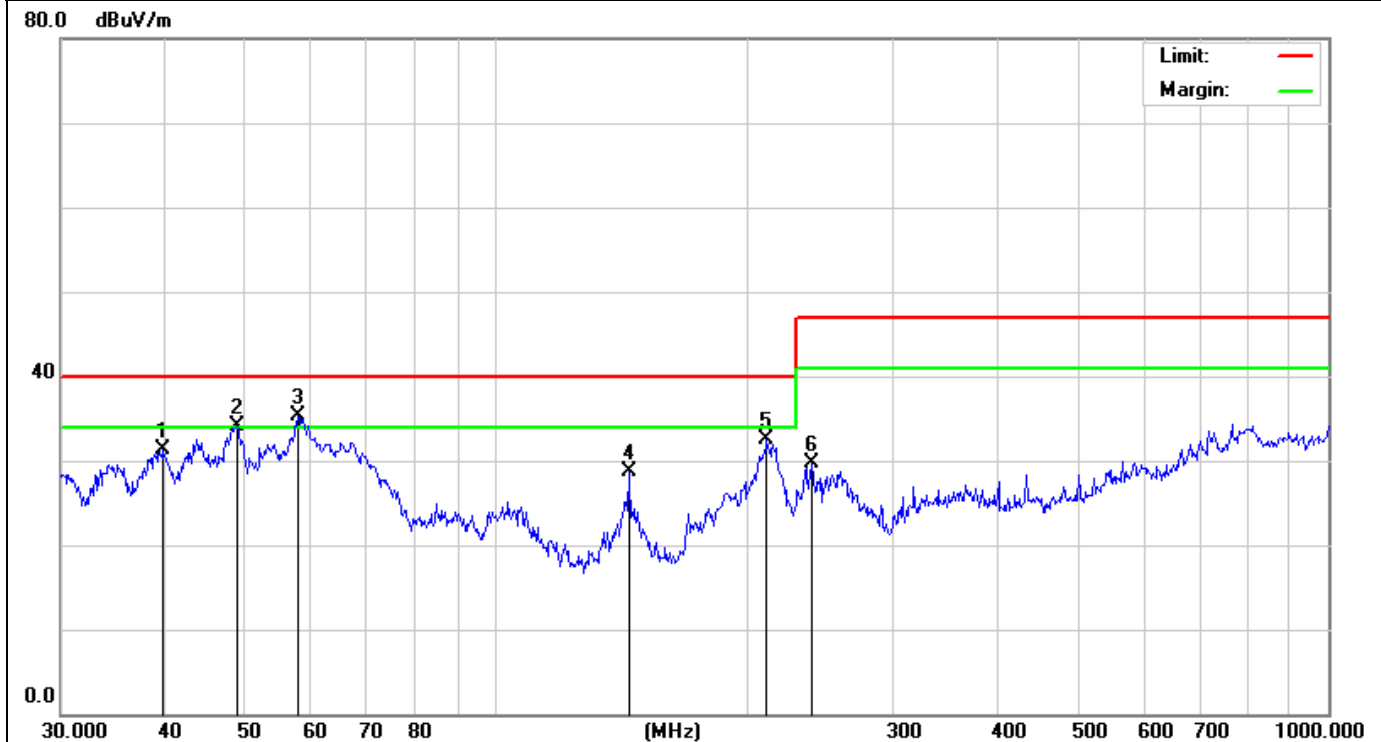


EUT was placed upon a wooden test table which was placed on the turn table 0.8m above the horizontal metal ground plane, and operating in the mode as mentioned above. A receiving antenna was placed 3m away from the EUT. During testing, turn around the turn table and move the antenna from 1m to 4m to find the maximum field-strength reading. All peripherals were placed at a distance of 10cm between each other. Both horizontal and vertical antenna polarities were tested.



### 7.1.3 Measurement Data

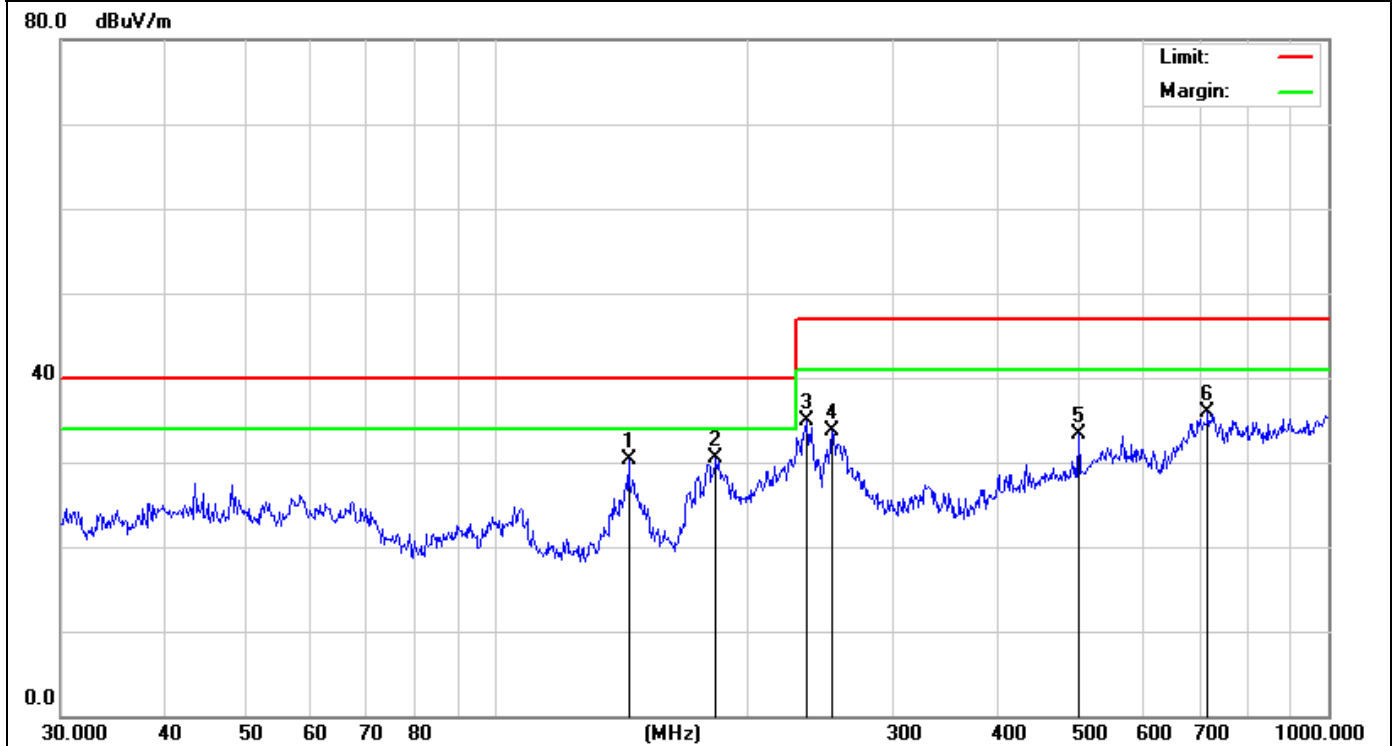
Model name:	JR-ZS295	Test Date :	2022-05-23
Test Mode:	Mode 1	Phase :	Vertical



Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		39.8542	35.48	-4.27	31.21	40.00	-8.79	QP
2	!	48.8429	39.79	-5.73	34.06	40.00	-5.94	QP
3	*	57.7962	42.49	-7.13	35.36	40.00	-4.64	QP
4		144.3348	36.11	-7.33	28.78	40.00	-11.22	QP
5		211.5265	36.97	-4.38	32.59	40.00	-7.41	QP
6		239.9874	36.44	-6.78	29.66	47.00	-17.34	QP

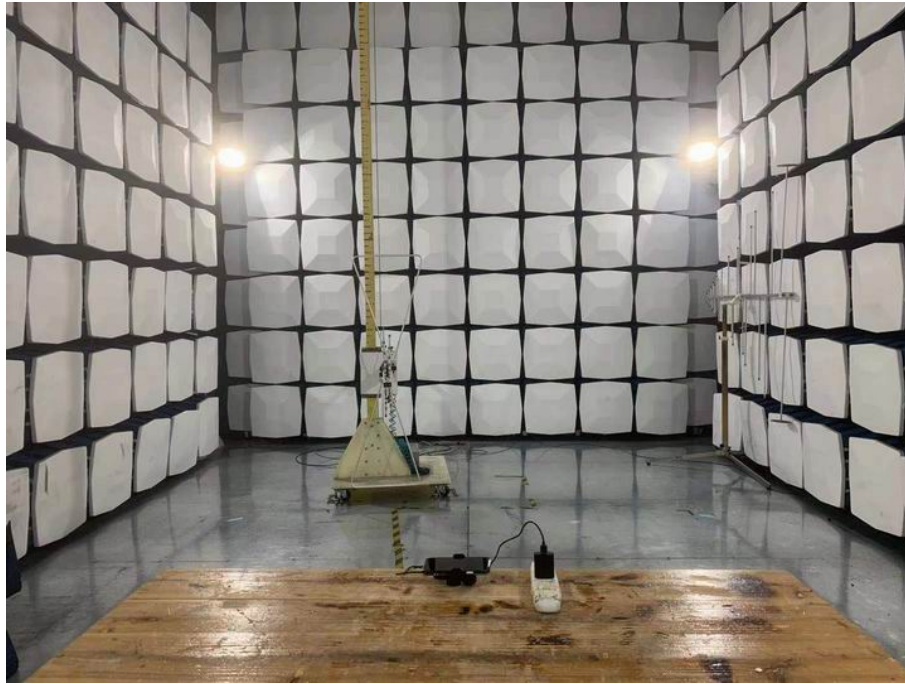
Model name:	JR-ZS295	Test Date :	2022-05-23
Test Mode:	Mode 1	Polarization :	Horizontal



Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		144.3348	37.19	-6.91	30.28	40.00	-9.72	QP
2	*	183.8440	36.15	-5.71	30.44	40.00	-9.56	QP
3		236.6447	41.99	-7.05	34.94	47.00	-12.06	QP
4		253.8367	39.93	-6.32	33.61	47.00	-13.39	QP
5		501.1790	30.70	2.54	33.24	47.00	-13.76	QP
6		716.6820	29.37	6.47	35.84	47.00	-11.16	QP

#### 7.1.4 Test Setup Photograph



## 8 Immunity Test Results

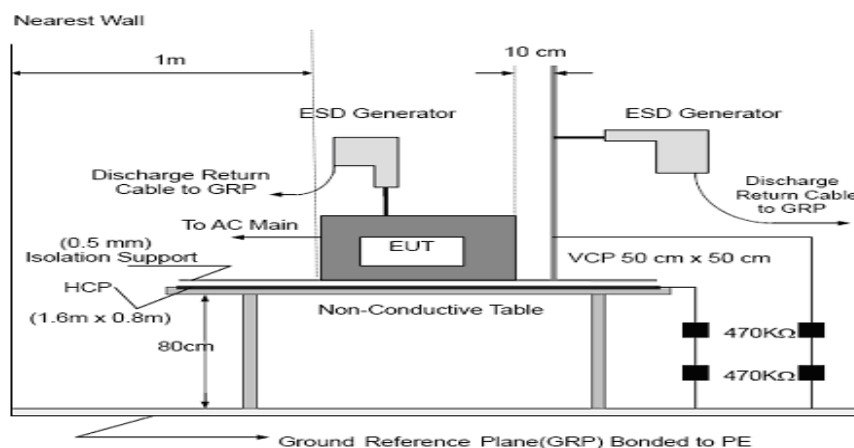
### 8.1 Electrostatic discharge immunity test

Acceptable Performance Criterion:	B
Discharge Impedance:	330 $\Omega$ / 150 Pf
Discharge Voltage:	Air Discharge: $\pm 4$ Kv, $\pm 8$ Kv
	Contact Discharge: $\pm 2$ Kv, $\pm 4$ Kv
	VCP, HCP: $\pm 2$ Kv, $\pm 4$ Kv
Polarity:	Positive & Negative
Minimum discharge Interval:	1 second

#### 8.1.1 E.U.T. Operation

Temperature:	25°C	Humidity:	50% RH	Atmospheric Pressure:	101	Kpa
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#### 8.1.2 Test Specification



EUT was operated in the mode as mentioned above. Both contact and air discharge was executed. Contact discharge to the conductive surfaces and to coupling planes; air discharge at insulating surfaces. Each test point shall be subjected to 10 discharges at least (For each voltage and polarity).

### 8.1.3 Measurement Data

## Test Record

Electrostatic Discharge Test Results																		
M/N	JR-ZS295									Test Result: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail								
Test Voltage:	AC230V for adapter									Test date: 2022-05-23								
Test Mode:	Mode 1																	
Discharge times	Contact discharge: minimum <u>10</u> times (+/-respectively) at each point, Air discharge: minimum <u>10</u> times (+/- respectively) at each point.																	
Discharge Mode	Air Discharge								Contact Discharge								Performance Criterion	Result
Test level (Kv)	4		8		10		15		2		4		6		8			
Test Location	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-		
HCP											P	P					B	Pass
VCP											P	P						Pass
A1	P	P	P	P														Pass
A2	P	P	P	P														Pass
A3	P	P	P	P														Pass
Note: “P” means Pass, Horizontal Coupling Plane (HCP) and Vertical Coupling plane (VCP). “Cx” means Contact Point ,x=1~N,“Ax” means Air Point, x=1~N.																		

#### 8.1.4 Test Setup Photograph





## 8.2 RF Field Strength Immunity Test

Acceptable Performance Criterion:	A
Test Level	3 V/m
Test Distance	3 m
Frequency Range	80MHz~6000MHz
Polarity:	Horizontal & Vertical

### 8.2.1 E.U.T. Operation

Temperature:	26°C	Humidity:	54% RH	Atmospheric Pressure:	101	Kpa
Test Mode:	Mode 1					

### 8.2.2 TEST PROCEDURE

The EUT and support equipment, which are placed on a table that is 0.8 meter above ground and the testing was performed in a fully-anechoic chamber.

The testing distance from antenna to the EUT was 3 meters.

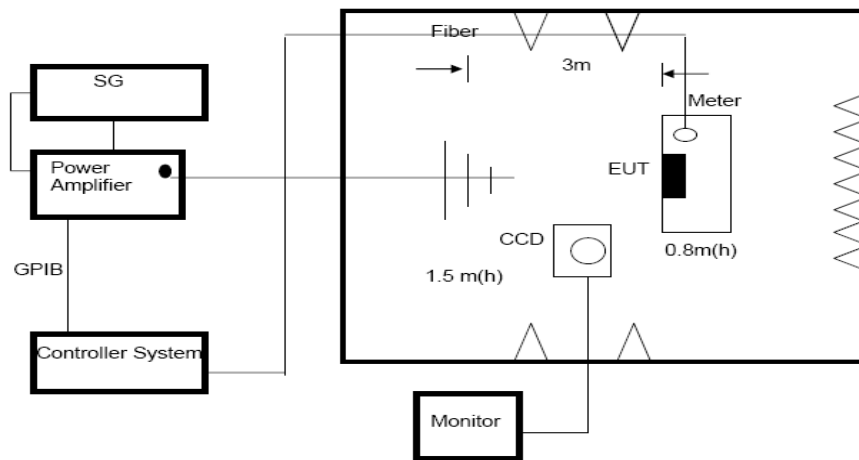
The other condition as following manner:

- The field strength level was 3V/m.
- The frequency range is swept from 80 MHz to 1000 MHz, & 1000MHz - 6000MHz with the signal 80%amplitude modulated with a 1kHz sine wave. The rate of sweep did not exceed  $1.5 \times 10^{-3}$  decade/s. Where the frequency range is swept incrementally, the step size was 1% of fundamental.
- Sweep Frequency 900 MHz, with the Duty Cycle:1/8 and Modulation: Pulse 217 Hz(if applicable)
- The dwell time at each frequency shall be not less than the time necessary for the EUT to be able to respond.
- The test was performed with the EUT exposed to both vertically and horizontally polarized fields on each of the four sides.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

### 8.2.3 E.U.T. Operation

Temperature:	26°C	Humidity:	54% RH	Atmospheric Pressure:	101	Kpa
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## 8.2.4 Test Specification



### TABLE-TOP EQUIPMENT

The EUT installed in a representative system as described in section 7 of IEC/EN 61000-4-3 was placed on a non-conductive table 0.8 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.

### FLOOR-STANDING EQUIPMENT

The EUT installed in a representative system as described in section 7 of IEC/EN 61000-4-3 was placed on a non-conductive wood support 0.1 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.

## 8.2.5 Measurement Data

### Test Record

Radiated Frequency Field Strength Susceptibility Results			
M/N:	JR-ZS295	Test Result: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	
Test Voltage:	AC230V for adapter	Test date: 2022-05-23	
Test Port	Enclosure		
Test Mode:	Mode 1		
Test Level	<u>3</u> V/m(r.m.s) ( unmodulated )	Criterion	A

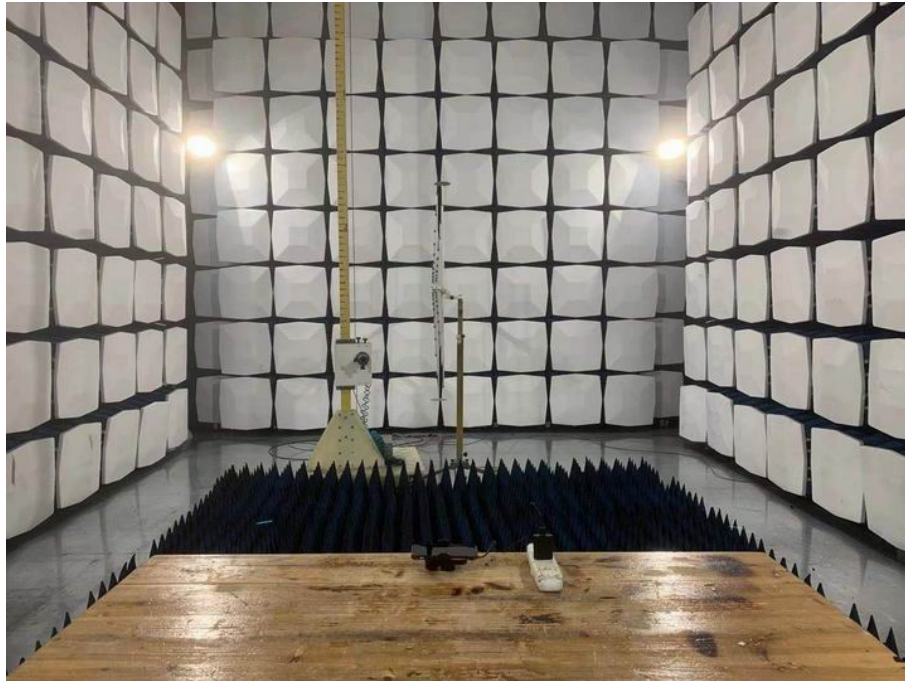
## 8.2.6 Measurement Data

Frequency Range (MHz)	RF Field Position	R.F. Field Strength	Azimuth	Observation	Perform. Criteria	Results
80~6000	H / V	3 V/m (rms) AM Modulated 1000Hz, 80%	Front	CT,CR	A	P
			Rear			
			Left			
			Right			

Note: During the test, no change through observation .

- 1) N/A - denotes test is not applicable in this test report.
- 2) There was not any unintentional transmission in standby mode
- 3) In the table: 'P' represents 'PASS'; 'F' represents 'FAIL'.

### 8.2.7 Test Setup Photograph



**\*\*End of the report\*\***