MEASUREMENT REPORT

EMC Test Report

Applicant:	Escape bv
Address:	Ter Heidelaan 50a, 3200 Aarschot, Belgium
Product:	Portable Indoor/Outdoor Wireless Speaker System
Model No.:	Escape P6 BT
Brand Name:	ESCAPE
Standards:	EN 301 489 - 1 V2.2.3 (2019-11) EN 301 489 - 17 V3.2.4 (2020-09) AS/NZS CISPR 32: 2015
Result:	Complies
Test Date:	May 12, 2020 ~ January 11, 2021

Reviewed By: Kevin Guo

Approved By: Robin Wu

ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

Revision History

Report No.	Version	Description	Issue Date	Note
2005RSU006-E3	Rev. 01	Initial Report	02-10-2021	Valid

CONTENTS

Description Page

1. General Information

1.1. Applicant

Escape bv

Ter Heidelaan 50a, 3200 Aarschot, Belgium

1.2. Manufacturer

Escape bv

Ter Heidelaan 50a, 3200 Aarschot, Belgium

1.3. Testing Facility

☒	**Test Site – MRT Suzhou Laboratory**	
	Laboratory Location (Suzhou - Wuzhong)	
	D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China	
	Laboratory Location (Suzhou - SIP)	
	4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China	
	Laboratory Accreditations	
	A2LA: 3628.01	CNAS: L10551
	FCC: CN1166	ISED: CN0001
	VCCI: R-20025, G-20034, C-20020, T-20020	
☐	**Test Site – MRT Shenzhen Laboratory**	
	Laboratory Location (Shenzhen)	
	1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China	
	Laboratory Accreditations	
	A2LA: 3628.02	CNAS: L10551
	FCC: CN1284	ISED: CN0105
☐	**Test Site – MRT Taiwan Laboratory**	
	Laboratory Location (Taiwan)	
	No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)	
	Laboratory Accreditations	
	TAF: L3261-190725	
	FCC: 291082, TW3261	ISED: TW3261

1.4. Feature of Equipment under Test

Product Name	Portable Indoor/Outdoor Wireless Speaker System
Model No.	Escape P6 BT
Brand Name	ESCAPE
Bluetooth Version	V5.0 (Single mode for BR/EDR)
Operating Temperature	0 ~ 60℃
Product Voltage	100-120/220-240V ~ 50/60Hz; 100W
Test Device Serial Number	P6 BT 2004P0202F8C

1.5. Standards Applicable for Testing

EMI Test:

EN 55032: 2015/AC: 2016 & AS/NZS CISPR 32: 2015 (Conducted Emission)

EN 55032: 2015/AC: 2016 & AS/NZS CISPR 32: 2015 (Radiated Emission)

EN 61000-3-2: 2019 (Harmonic)

EN 61000-3-3: 2013+A1:2019 (Flicker)

EMS Test:

EN 61000-4-2: 2009 (ESD)

EN 61000-4-3: 2006+A2:2010 (RS)

EN 61000-4-4: 2012 (EFT)

EN 61000-4-5: 2014+A1:2017 (Surge)

EN 61000-4-6: 2014 (CS)

EN 61000-4-8: 2010 (PFM)

EN 61000-4-11: 2004 (Dips)

1.6. Performance Criteria

General Requirements (ETSI EN 301489-1):

The performance criteria are used to take a decision on whether radio equipment passes or fails immunity tests.

For the purpose of the present document two categories of performance criteria apply:

- Performance criteria for continuous phenomena.
- Performance criteria for transient phenomena.

Normally, the performance criteria depends upon the type of radio equipment and/or its intended application. Thus, the present document only contains general performance criteria commonly used for the assessment of radio equipment.

Performance criteria for continuous phenomena

During the test, the equipment shall:

- continue to operate as intended;
- not unintentionally transmit;
- not unintentionally change its operating state;
- not unintentionally change critical stored data.

Performance criteria for transient phenomena

For all ports and transient phenomena with the exception described below, the following applies:

- The application of the transient phenomena shall not result in a change of the mode of operation (e.g. unintended transmission) or the loss of critical stored data.
- After application of the transient phenomena, the equipment shall operate as intended.

For surges applied to symmetrically operated wired network ports intended to be connected directly to outdoor lines the following criteria applies:

- For products with only one symmetrical port intended for connection to outdoor lines, loss of function is allowed, provided the function is self-recoverable, or can be otherwise restored. Information stored in non-volatile memory, or protected by a battery backup, shall not be lost.
- For products with more than one symmetrical port intended for connection to outdoor lines, loss of function on the port under test is allowed, provided the function is self-recoverable. Information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

General Requirements (ETSI EN 301489-17):

The performance criteria are:

- performance criteria A for immunity tests with phenomena of a continuous nature;
- performance criteria B for immunity tests with phenomena of a transient nature;
- performance criteria C for immunity tests with power interruptions exceeding a certain time.

The equipment shall meet the minimum performance criteria as specified in the following clauses.

Criteria	During test	After test
A	Shall operate as intended. (see note). Shall be no loss of function. Shall be no unintentional transmissions.	Shall operate as intended. Shall be no degradation of performance Shall be no loss of function. Shall be no loss of critical stored data.
B	May show loss of function.	Functions shall be self-recoverable. Shall operate as intended after recovering. Shall be no loss of critical stored data.
C	May be loss of function.	Functions shall be recoverable by the operator. Shall operate as intended after recovering. Shall be no loss of critical stored data.
NOTE: Operate as intended during the test allows a level of degradation in accordance with Minimum performance level.		

Minimum performance level

For equipment that supports a PER or FER, the minimum performance level shall be a PER or FER less than or equal to 10 %.

For equipment that does not support a PER or a FER, the minimum performance level shall be no loss of the wireless transmission function needed for the intended use of the equipment.

Performance criteria for Continuous phenomena

The performance criteria A shall apply.

Where the EUT is a transmitter in standby mode, unintentional transmission shall not occur during the test.

Where the EUT is a transceiver in receive mode, unintentional transmission shall not occur during the test.

Performance criteria for Transient phenomena

The performance criteria B shall apply, except for voltage dips greater than or equal to 100ms and voltage interruptions of 5000ms duration, for which performance criteria C shall apply.

Where the EUT is a transmitter in standby mode, unintentional transmission shall not occur as a result of the application of the test.

Where the EUT is a transceiver in receive mode, unintentional transmission shall not occur as a result of the application of the test.

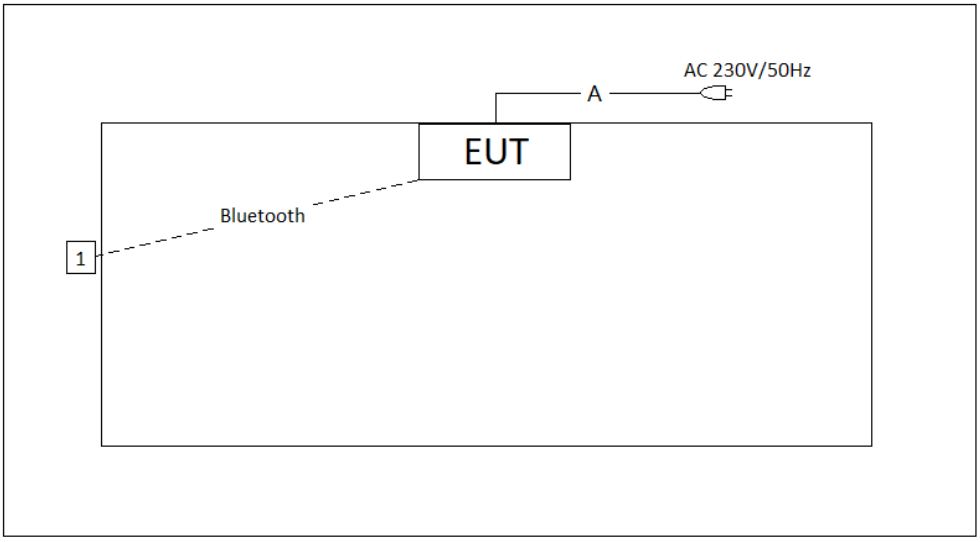
2. Test Configuration of Equipment under Test

2.1. Test Mode

Test Mode
Mode 1: Power on the EUT by AC Power & EUT Connect with Mobile Phone via Bluetooth & Mobile Phone play music.

2.2. Configuration of Tested System

Mode 1



Cable Type		Cable Description
A	Power Cable	Non-Shielded, < 2.5m

2.3. Test System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.
1	Mobile Phone	APPLE	iPhone 6
		HUAWEI	NCE-AL00

2.4. Test Procedure

1	Setup the EUT and simulators as shown on above.
2	Configurate test mode as per section 2.2.
3	Start to test.

3. Test Summary

Test Reference Standard	Test Items	Result (Pass/Fail)	Remark
Emission Measurements			
EN 55032	Conducted Emission	Pass	--
EN 55032	Radiated Emission	Pass	--
EN 61000-3-2	Harmonic Current Emissions	Pass	--
EN 61000-3-3	Voltage Fluctuations and Flicker	Pass	--
Immunity Measurements			
EN 61000-4-2	Electrostatic Discharge	Pass	--
EN 61000-4-3	Radio-Frequency Electromagnetic Field	Pass	--
EN 61000-4-4	Fast Transients, Common Mode	Pass	--
EN 61000-4-5	Surges	Pass	--
EN 61000-4-6	Radio- Frequency Common Mode	Pass	--
EN 61000-4-11	Voltage Dips and Interruptions	Pass	--

4. Conducted Emission

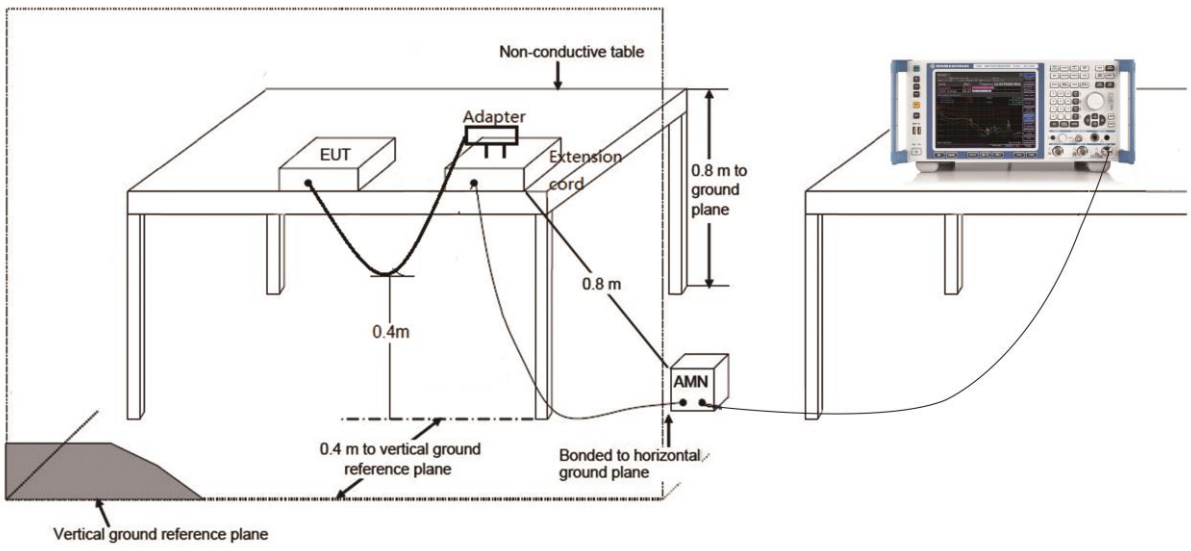
4.1. Test Limit

Limits for AC Mains Power input/output Ports				
Frequency Range (MHz)	Class A Limits		Class B Limits	
	QP dB(μV)	AV dB(μV)	QP dB(μV)	AV dB(μV)
0.15 ~ 0.5	79	66	66 to 56	56 to 46
0.5 ~ 5	73	60	56	46
5 ~ 30	73	60	60	50

Limits for Asymmetric Mode								
Frequency Range (MHz)	Class A Limits				Class B Limits			
	Voltage Limits dB(μV)		Current limits dB(μA)		Voltage Limits dB(μV)		Current limits dB(μA)	
	QP	AV	QP	AV	QP	AV	QP	AV
0.15 ~ 0.5	97 ~ 87	84 ~ 74	53 ~ 43	40 ~ 30	84 ~ 74	74 ~ 64	40 ~ 30	30 ~ 20
0.5 ~ 30	87	74	43	30	74	64	30	20

Limits for DC Power input/output Ports for EN 301 489 -1		
Frequency Range (MHz)	Quasi-peak dB(μV)	Average dB(μV)
0.15 ~ 0.5	79	66
0.5 ~ 30	73	60

4.2. Test Setup



4.3. Test Procedure

The receiver or associated equipment under measurement and the artificial mains network are disposed as shown in 4.2. Measurements shall be carried out using a selective voltmeter having a quasi-peak detector for broadband measurements and an average detector for arrow-band measurements in accordance with CISPR 16-1.

The mains lead shall be arranged to follow the shortest possible path between the receiver and artificial mains network on the ground. The mains lead in excess of 0,8 m separating the equipment under test from the artificial mains network shall be folded back and forth parallel to the lead so as to form a bundle with a length of 0,3 m to 0,4 m.

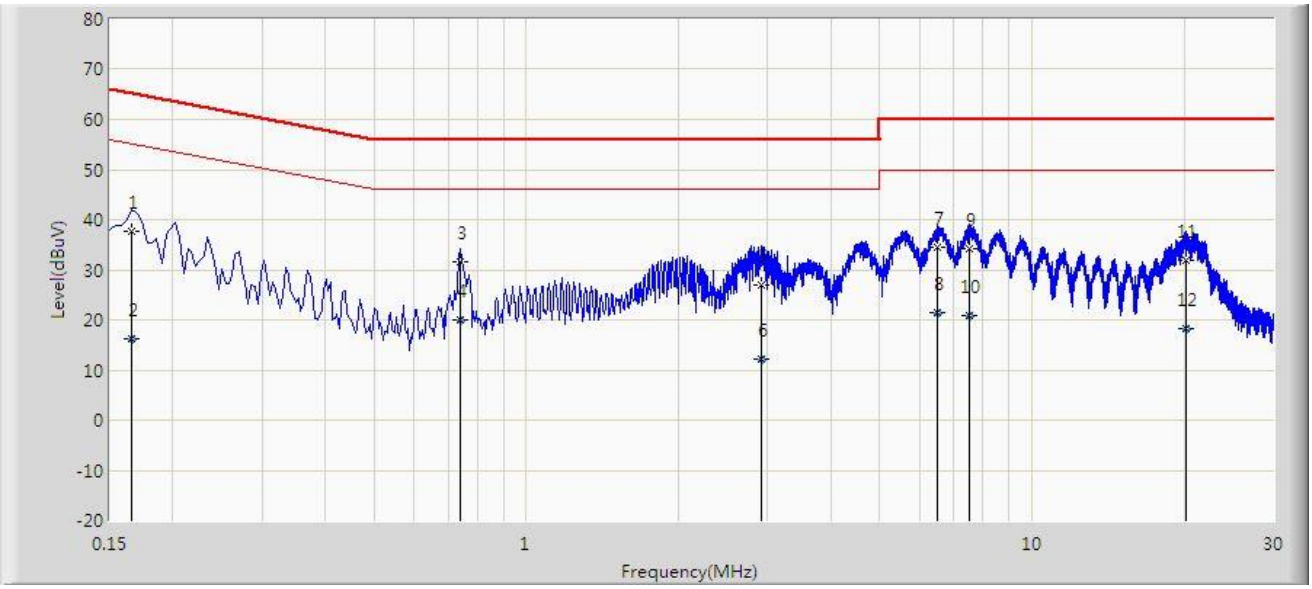
Earthing of the equipment under test if provided with a safety earth connection, shall be made to the earth terminal provided on the artificial mains network with the shortest possible lead.

If the equipment under test has a coaxial RF input connector, tests shall be performed with and without an earth connection made to the outer conductor screen of the coaxial RF input connector. When these tests are being carried out, no other earth connections shall be made to any additional earth terminal whatever.

If the equipment under test has no coaxial RF input connector and if it has an earth terminal, tests shall be performed with this terminal earthed.

4.4. Test Result

Site: WZ-SR2	Test Date: 2020/05/12
Limit: EN55032_CE_Mains_ClassB	Engineer: Liz Yuan
Probe: ENV216_101683_Filter On	Polarity: Line
EUT: Portable Indoor/Outdoor Wireless Speaker System	Power: AC 230V/50Hz
Test Mode 1	

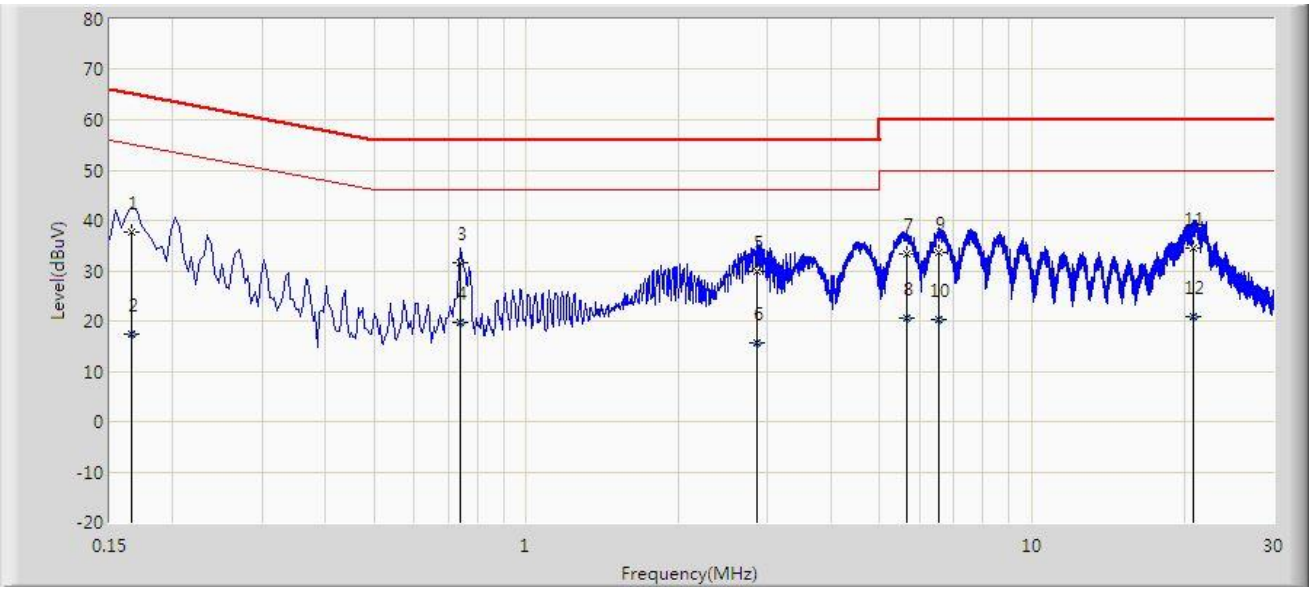


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV)	Factor (dB)	Type
1			0.166	37.730	28.080	-27.428	65.158	9.650	QP
2			0.166	16.283	6.633	-38.875	55.158	9.650	AV
3		*	0.742	31.731	21.951	-24.269	56.000	9.779	QP
4			0.742	19.997	10.217	-26.003	46.000	9.779	AV
5			2.910	27.039	17.185	-28.961	56.000	9.855	QP
6			2.910	12.221	2.367	-33.779	46.000	9.855	AV
7			6.498	34.416	24.119	-25.584	60.000	10.297	QP
8			6.498	21.437	11.140	-28.563	50.000	10.297	AV
9			7.518	34.107	23.747	-25.893	60.000	10.360	QP
10			7.518	20.977	10.617	-29.023	50.000	10.360	AV
11			20.142	31.937	21.607	-28.063	60.000	10.330	QP
12			20.142	18.255	7.925	-31.745	50.000	10.330	AV

Note: Measure Level (dBµV) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

Site: WZ-SR2	Test Date: 2020/05/12
Limit: EN55032_CE_Mains_ClassB	Engineer: Liz Yuan
Probe: ENV216_101683_Filter On	Polarity: Neutral
EUT: Portable Indoor/Outdoor Wireless Speaker System	Power: AC 230V/50Hz
Test Mode 1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV)	Factor (dB)	Type
1			0.166	37.809	28.199	-27.350	65.158	9.610	QP
2			0.166	17.479	7.869	-37.679	55.158	9.610	AV
3		*	0.742	31.516	21.849	-24.484	56.000	9.667	QP
4			0.742	19.716	10.049	-26.284	46.000	9.667	AV
5			2.858	29.825	20.031	-26.175	56.000	9.794	QP
6			2.858	15.790	5.996	-30.210	46.000	9.794	AV
7			5.638	33.440	23.290	-26.560	60.000	10.150	QP
8			5.638	20.501	10.351	-29.499	50.000	10.150	AV
9			6.554	33.550	23.346	-26.450	60.000	10.205	QP
10			6.554	20.285	10.081	-29.715	50.000	10.205	AV
11			20.826	34.613	24.294	-25.387	60.000	10.319	QP
12			20.826	20.826	10.507	-29.174	50.000	10.319	AV

Note: Measure Level (dBµV) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

5. Radiated Emission

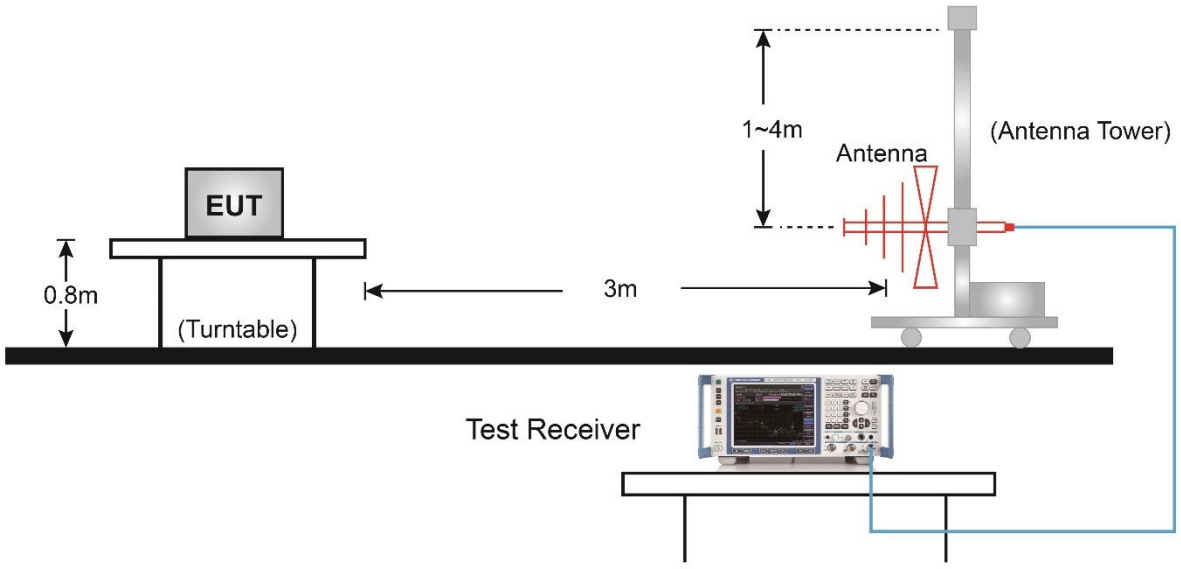
5.1. Test Limit

Frequency range (MHz)	Class A	Class B
	Quasi-peak limits dB(μV/m)	Quasi-peak limits dB(μV/m)
30 to 230	50	40
230 to 1000	57	47
Note 1: The lower limit shall apply at the transition frequency. Note 2: Additional provisions may be required for cases where interference occurs.		

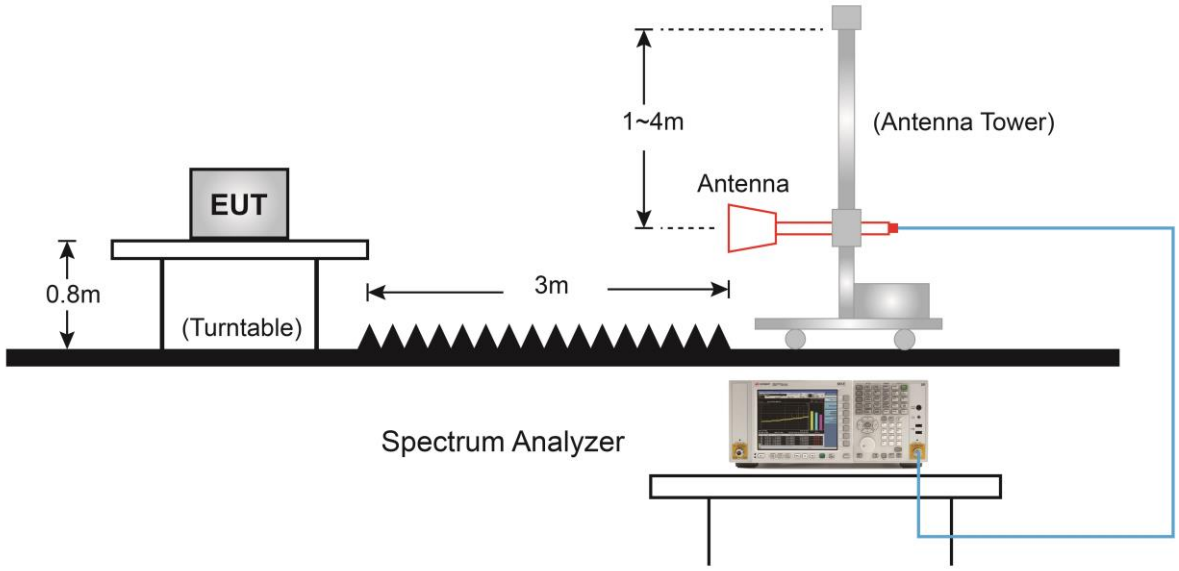
Frequency range (GHz)	Class A		Class B	
	Average limit dB(μV/m)	Peak limit dB(μV/m)	Average limit dB(μV/m)	Peak limit dB(μV/m)
1 to 3	56	76	50	70
3 to 6	60	80	54	74
Note: The lower limit applies at the transition frequency.				

5.2. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



Note: About the radiated test setup, the EUT and local AE shall be arranged in the most compact practical arrangement within the test volume, while respecting typical spacing and the requirements defined in EN55032 Annex D. The central point of the arrangement shall be positioned at the centre of the turntable. The measurement distance is the shortest horizontal distance between an imaginary circular periphery just encompassing this arrangement and the calibration point of the antenna. See below Figure 1 and Figure 2.

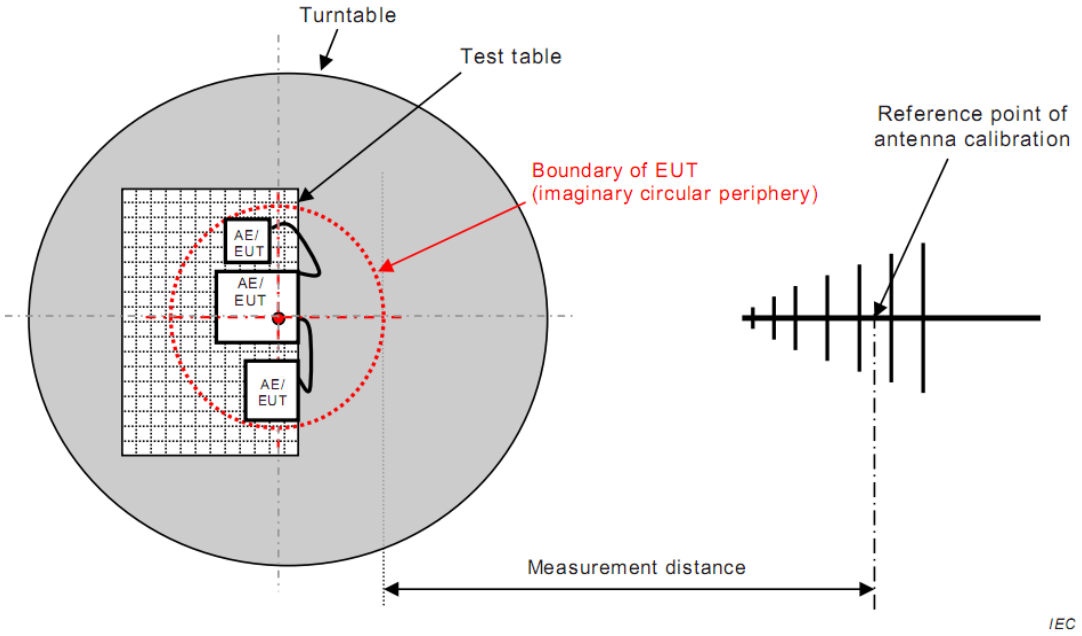


Figure 1

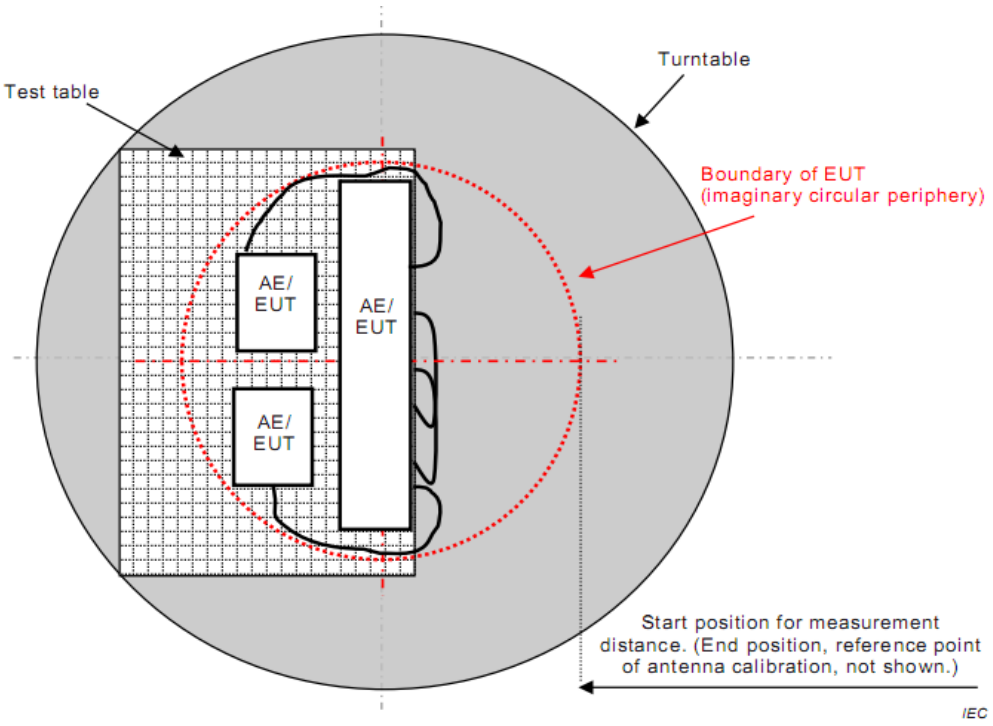


Figure 2

5.3. Test Procedure

Starting with the front of the receiver under test facing the measuring antenna, the measuring antenna is adjusted for horizontal polarization measurement and its height varied between 1 m and 4 m until the maximum reading is obtained.

The receiver under test is then rotated about its centre until the maximum meter reading is obtained, after which the measuring antenna height is again varied between 1 m and 4 m and the maximum reading noted.

The procedure is repeated for vertical polarization of the measuring antenna.

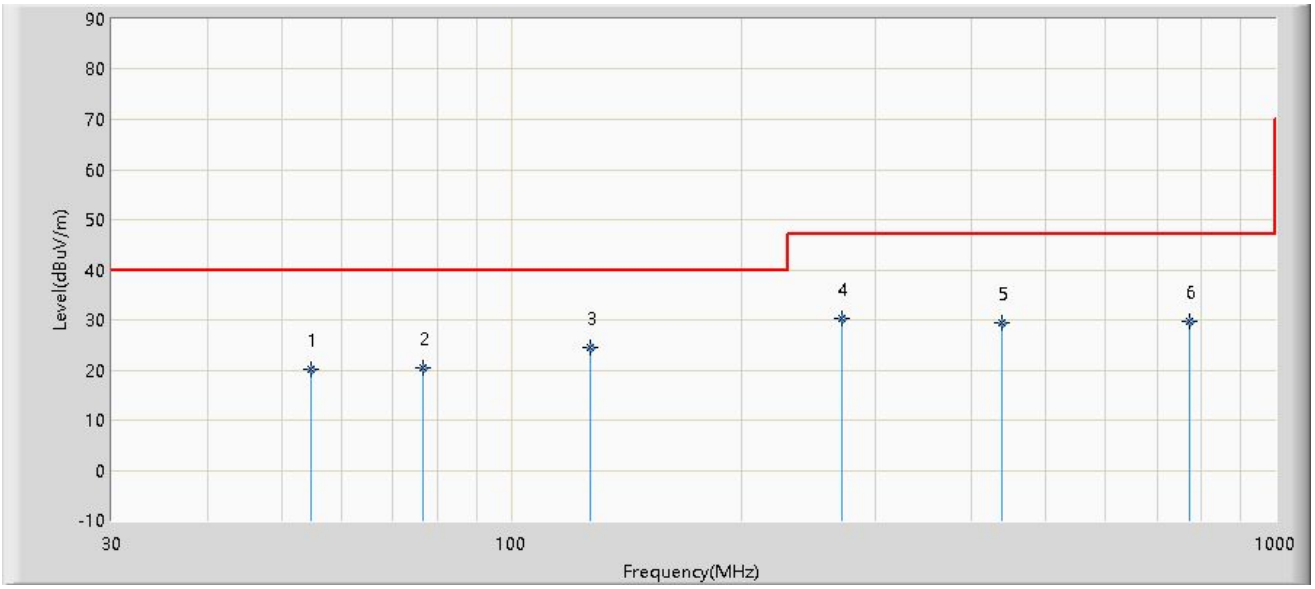
The highest value found, following this procedure, is defined as the radiation figure of the receiver.

If at certain frequencies the ambient signal field strength is high at the position of the receiving antenna, one of the following methods may be used to show compliance of the equipment under test.

For small frequency bands with high ambient signals, the disturbance value may be interpolated from the adjacent values. The interpolated value shall lie on the curve describing a continuous function of the disturbance values adjacent to the ambient noise.

5.4. Test Result

Site: WZ-AC1	Test Date: 2021/01/05
Limit: EN55032_RE(3m)_ClassB	Engineer: Tommy Tang
Probe: WZ-AC1_VULB 9168 _30-1000MHz	Polarity: Horizontal
EUT: Portable Indoor/Outdoor Wireless Speaker System	Power: AC 230V/50Hz
Test Mode 1	



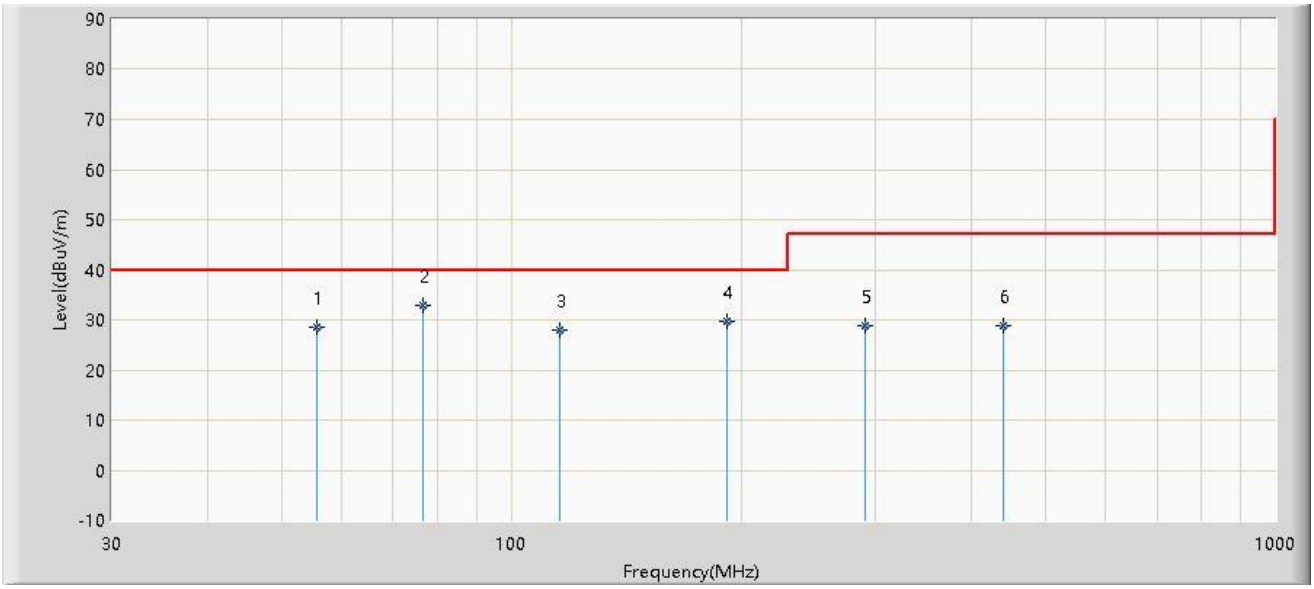
No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB)	Type
1			54.735	20.156	2.150	-19.844	40.000	18.006	QP
2			76.560	20.376	5.620	-19.624	40.000	14.756	QP
3		*	127.000	24.548	8.150	-15.452	40.000	16.398	QP
4			270.560	30.179	12.510	-16.821	47.000	17.669	QP
5			439.250	29.392	6.950	-17.608	47.000	22.442	QP
6			773.020	29.697	1.050	-17.303	47.000	28.647	QP

Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

.

Site: WZ-AC1	Test Date: 2021/01/05
Limit: EN55032_RE(3m)_ClassB	Engineer: Tommy Tang
Probe: WZ-AC1_VULB 9168 _30-1000MHz	Polarity: Vertical
EUT: Portable Indoor/Outdoor Wireless Speaker System	Power: AC 230V/50Hz
Test Mode 1	

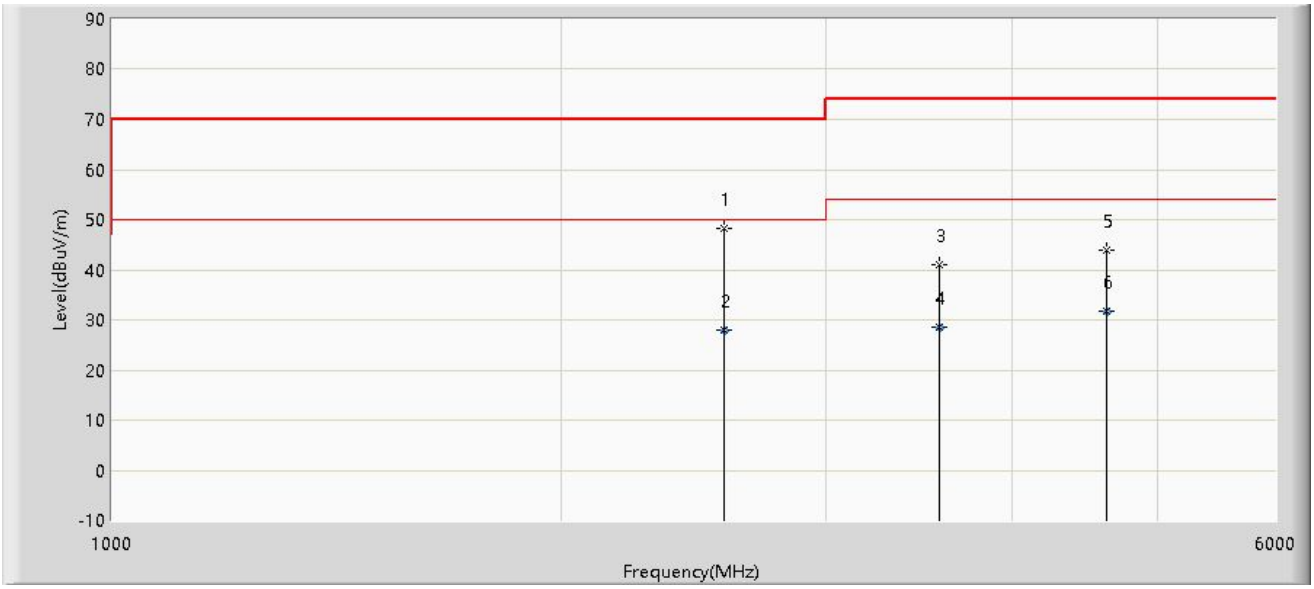


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1			55.705	28.469	10.529	-11.531	40.000	17.940	QP
2		*	76.560	32.906	18.150	-7.094	40.000	14.756	QP
3			115.845	27.891	12.320	-12.109	40.000	15.571	QP
4			191.505	29.821	14.320	-10.179	40.000	15.501	QP
5			290.930	28.952	10.500	-18.048	47.000	18.452	QP
6			439.825	28.963	6.500	-18.037	47.000	22.462	QP

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2021/01/05
Limit: EN55032_RE(3m)_ClassB	Engineer: Tommy Tang
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Portable Indoor/Outdoor Wireless Speaker System	Power: AC 230V/50Hz
Test Mode 1	

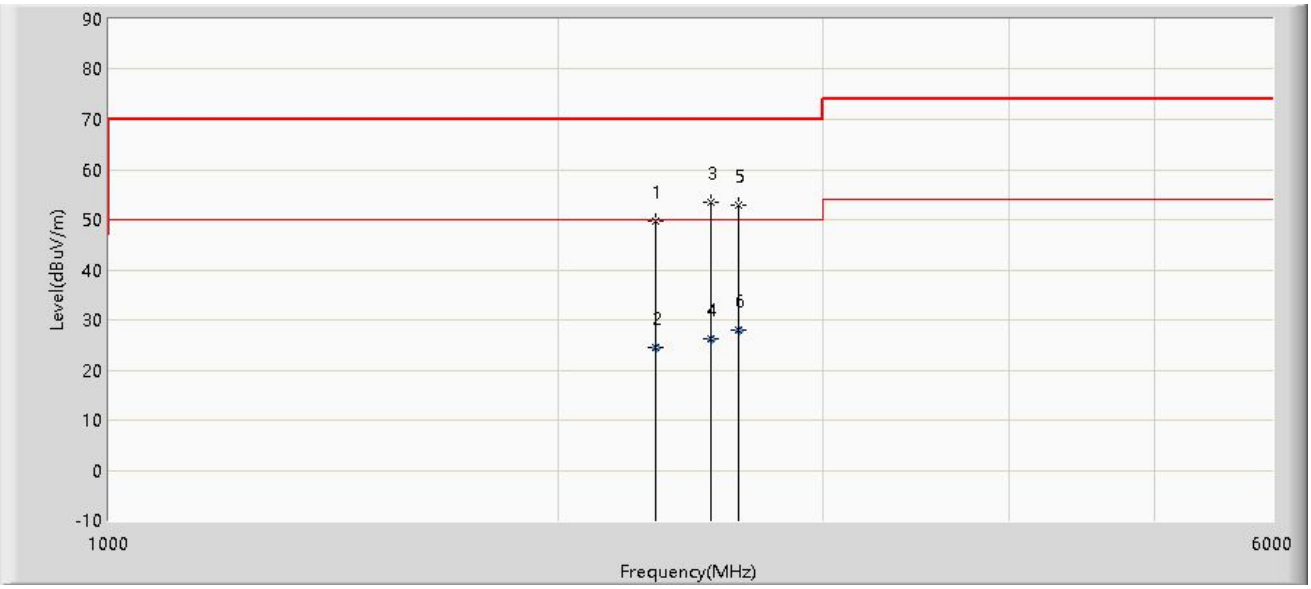


No	Flag	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB)	Type
1		*	2567.500	48.202	49.301	-21.798	70.000	-1.099	PK
2			2567.500	27.851	28.950	-22.149	50.000	-1.099	AV
3			3577.500	40.899	39.099	-33.101	74.000	1.800	PK
4			3577.500	28.600	26.800	-25.400	54.000	1.800	AV
5			4630.000	43.910	39.146	-30.090	74.000	4.764	PK
6			4630.000	31.744	26.980	-22.256	54.000	4.764	AV

Note: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) -Pre_Amplifier Gain (dB).

Site: WZ-AC1	Test Date: 2021/01/05
Limit: EN55032_RE(3m)_ClassB	Engineer: Tommy Tang
Probe: WZ-AC1_BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Portable Indoor/Outdoor Wireless Speaker System	Power: AC 230V/50Hz
Test Mode 1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1			2322.500	49.775	50.833	-20.225	70.000	-1.057	PK
2			2322.500	24.572	25.630	-25.428	50.000	-1.057	AV
3		*	2530.000	53.577	54.707	-16.423	70.000	-1.130	PK
4			2530.000	26.110	27.240	-23.890	50.000	-1.130	AV
5			2637.500	52.905	53.705	-17.095	70.000	-0.800	PK
6			2637.500	28.040	28.840	-21.960	50.000	-0.800	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) -Pre_Amplifier Gain (dB).

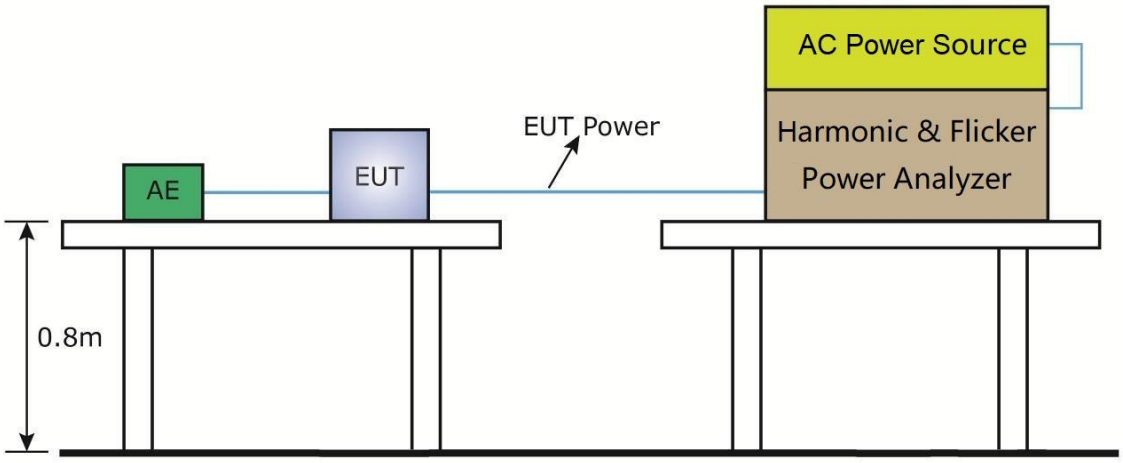
6. Harmonic Current Emissions

6.1. Limit of Harmonic Current Emissions

Limits of Class A Harmonics Currents

Harmonics Order n	Maximum Permissible harmonic current A	Harmonics Order n	Maximum Permissible harmonic current A
Odd harmonics		Even harmonics	
3	2.30	2	1.08
5	1.14	4	0.43
7	0.77	6	0.30
9	0.40	8 ≤ n ≤ 40	0.23 * 8/n
11	0.33	--	--
13	0.21	--	--
15 ≤ n ≤ 39	0.15 * 15/n	--	--

6.2. Test Setup



6.3. Test Procedure

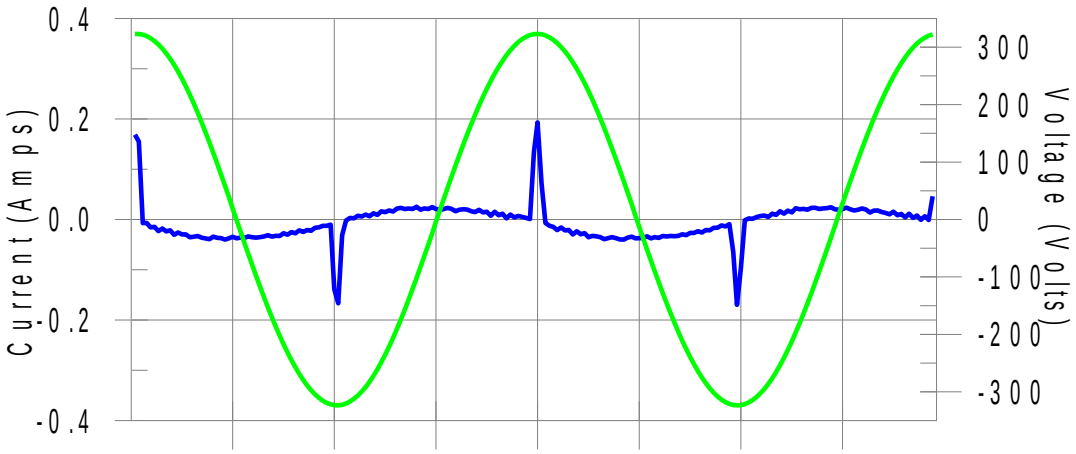
The EUT is supplied in series with power analyzer from a power source having the same normal voltage and frequency as the rated supply voltage and the equipment under test. And the rated voltage at the supply voltage of EUT of 0.98 times and 1.02 times shall be performed.

6.4. Test Result

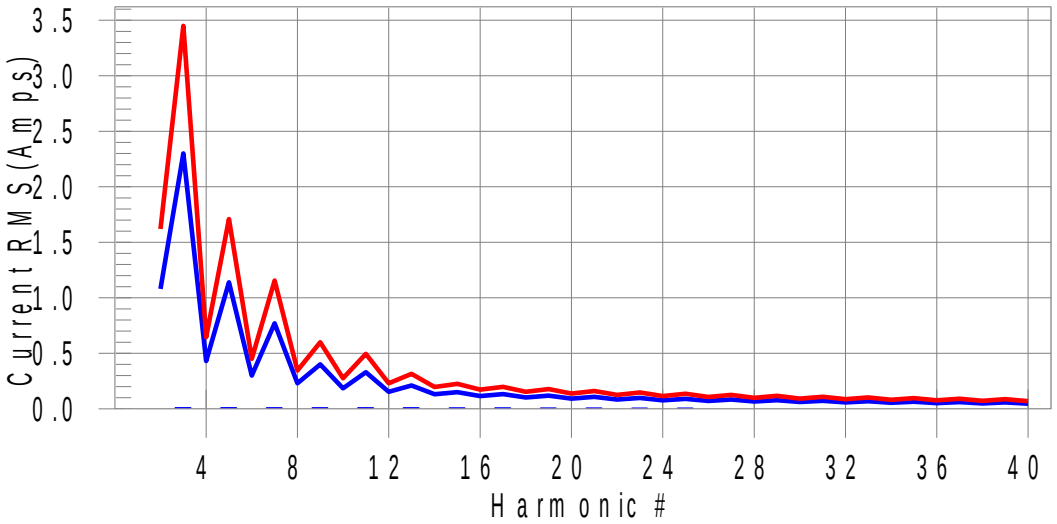
Test Site	WZ-SR2	Temperature	23˚C
Test Engineer	Liz Yuan	Relative Humidity	46%
Test Mode	Mode 1	Test Date	2020/05/12

Test Result: Pass **Source qualification: Normal**

Current & voltage waveforms



Harmonics and Class A limit line European Limits



Test result: Pass Worst harmonic was #23 with 6.2% of the limit.

Test Result: Pass **Source qualification: Normal**
THC(A): 0.029 **I-THD(%): 126.6** **POHC(A): 0.010** **POHC Limit(A): 0.251**
Highest parameter values during test:

V_RMS (Volts):	**228.78**	**Frequency(Hz):**	**50.00**
I_Peak (Amps):	**0.211**	**I_RMS (Amps):**	**0.039**
I_Fund (Amps):	**0.024**	**Crest Factor:**	**5.448**
Power (Watts):	**2.4**	**Power Factor:**	**0.274**

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.001	1.080	N/A	0.001	1.620	N/A	Pass
3	0.010	2.300	0.4	0.011	3.450	0.3	Pass
4	0.001	0.430	N/A	0.001	0.645	N/A	Pass
5	0.009	1.140	0.8	0.010	1.710	0.6	Pass
6	0.000	0.300	N/A	0.001	0.450	N/A	Pass
7	0.009	0.770	1.2	0.010	1.155	0.8	Pass
8	0.000	0.230	N/A	0.000	0.345	N/A	Pass
9	0.009	0.400	2.2	0.009	0.600	1.5	Pass
10	0.000	0.184	N/A	0.000	0.276	N/A	Pass
11	0.009	0.330	2.6	0.009	0.495	1.8	Pass
12	0.000	0.153	N/A	0.000	0.230	N/A	Pass
13	0.008	0.210	4.0	0.009	0.315	2.7	Pass
14	0.000	0.131	N/A	0.000	0.197	N/A	Pass
15	0.008	0.150	5.3	0.008	0.225	3.6	Pass
16	0.000	0.115	N/A	0.000	0.173	N/A	Pass
17	0.008	0.132	5.7	0.008	0.198	3.9	Pass
18	0.000	0.102	N/A	0.000	0.153	N/A	Pass
19	0.007	0.118	6.0	0.007	0.178	4.0	Pass
20	0.000	0.092	N/A	0.000	0.138	N/A	Pass
21	0.007	0.107	6.1	0.007	0.161	4.1	Pass
22	0.000	0.084	N/A	0.000	0.125	N/A	Pass
23	0.006	0.098	6.2	0.006	0.147	4.2	Pass
24	0.000	0.077	N/A	0.000	0.115	N/A	Pass
25	0.006	0.090	6.1	0.006	0.135	4.1	Pass
26	0.000	0.071	N/A	0.000	0.107	N/A	Pass
27	0.005	0.083	N/A	0.005	0.125	N/A	Pass
28	0.000	0.066	N/A	0.000	0.099	N/A	Pass
29	0.004	0.078	N/A	0.005	0.116	N/A	Pass
30	0.000	0.061	N/A	0.000	0.092	N/A	Pass
31	0.004	0.073	N/A	0.004	0.109	N/A	Pass
32	0.000	0.058	N/A	0.000	0.086	N/A	Pass
33	0.003	0.068	N/A	0.003	0.102	N/A	Pass
34	0.000	0.054	N/A	0.000	0.081	N/A	Pass
35	0.003	0.064	N/A	0.003	0.096	N/A	Pass
36	0.000	0.051	N/A	0.000	0.077	N/A	Pass
37	0.002	0.061	N/A	0.002	0.091	N/A	Pass
38	0.000	0.048	N/A	0.000	0.073	N/A	Pass
39	0.002	0.058	N/A	0.002	0.087	N/A	Pass
40	0.000	0.046	N/A	0.000	0.069	N/A	Pass

7. Voltage Fluctuations and Flicker

7.1. Limit of Voltage Fluctuations and Flicker

The following limits apply:

- the value of P_{st} shall not be greater than 1.0;
- the value of Plt shall not be greater than 0.65;
- the value of d(t) during a voltage change shall not exceed 3.3% for more than 500ms;
- the relative steady-state voltage change, dc, shall not exceed 3.3%;
- the ma_{ximum} relative voltage change, d_{max}, shall not exceed;

a) 4% without additional conditions;

b) 6% for equipment which is:

- switched manually, or
- switched automatically more frequently than twice per day, and also has either a delayed restart (the delay being not less than a few tens of seconds), or manual restart, after a power supply interruption.

Note: The cycling frequency will be further limited by the P_{st} and P_{lt} limit.

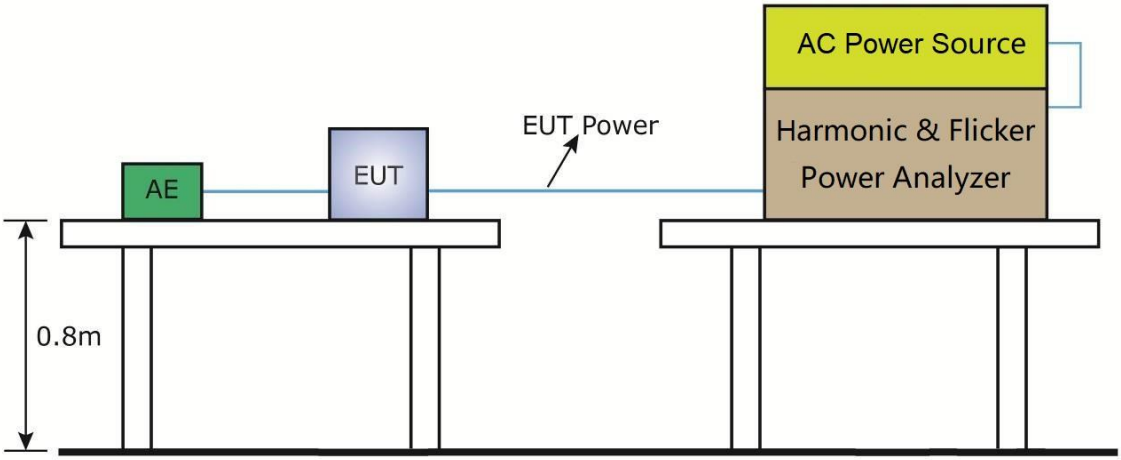
For example: a d_{max} of 6% producing a rectangular voltage change characteristic twice per hour will give a P_{lt} of about 0.65.

c) 7% for equipment which is:

- attended whilst in use (for example: hair dryers, vacuum cleaners, kitchen equipment such as mixers, garden equipment such as lawn mowers, portable tools such as electric drills), or
- switched on automatically, or is intended to be switched on manually, no more than twice per day, and also has either a delayed restart (the delay being not less than a few tens of seconds) or manual restart, after a power supply interruption.

P_{st} and P_{1t} requirements shall not be applied to voltage changes caused by manual switching.

7.2. Test Setup



7.3. Test Procedure

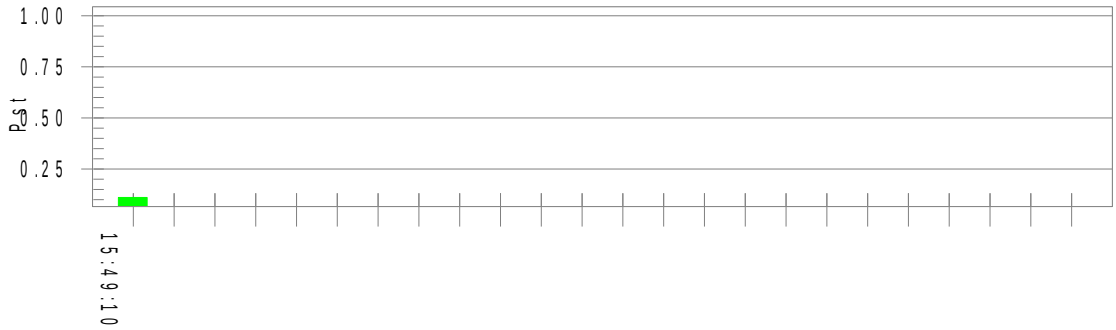
The EUT is supplied in series with power analyzer from a power source having the same normal voltage and frequency as the rated supply voltage and the equipment under test. And the rated voltage at the supply voltage of EUT of 0.98 times and 1.02 times shall be performed.

7.4. Test Result

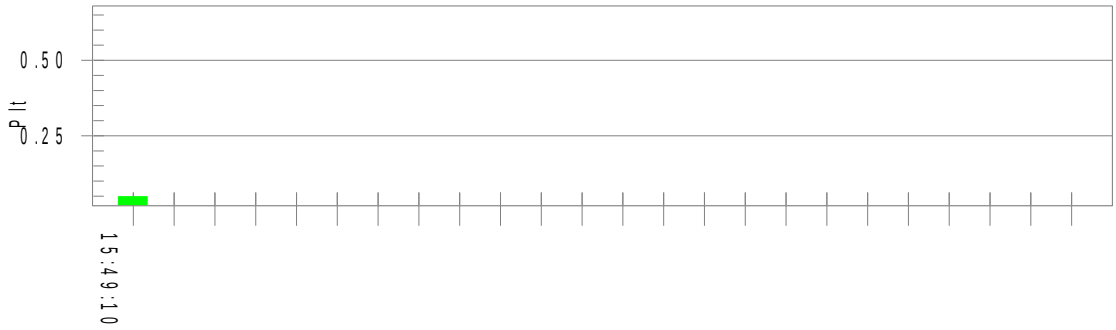
Test Site	WZ-SR2	Temperature	23˚C
Test Engineer	Liz Yuan	Relative Humidity	46%
Test Mode	Mode 1	Test Date	2020/05/12

Test Result: Pass **Status: Test Completed**

Pst and limit line **European Limits**



Plt and limit line



Parameter values recorded during the test:

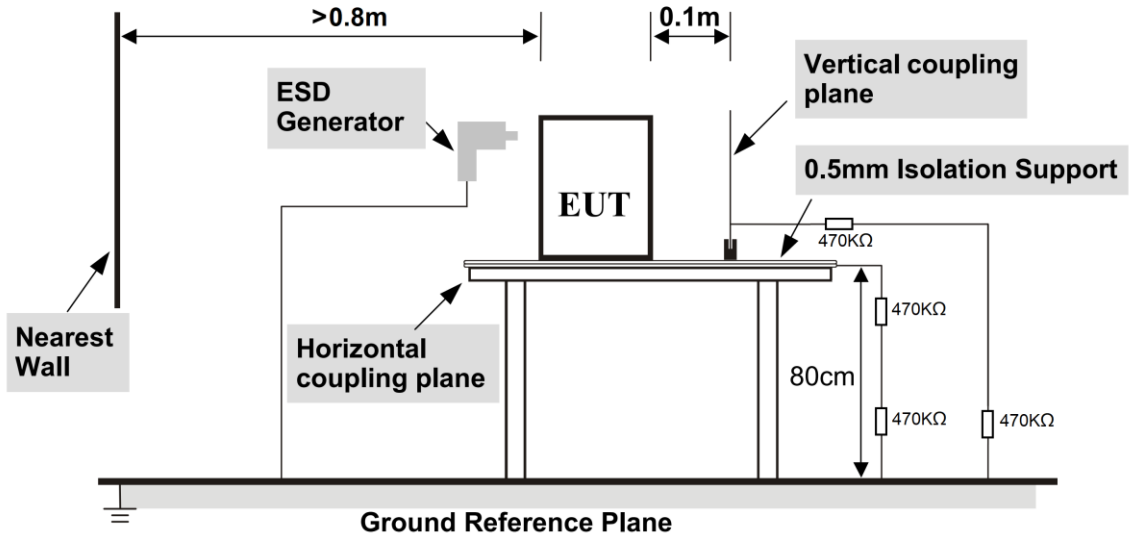
Vrms at the end of test (Volt):	**228.72**			
Highest dt (%):	**0.00**	**Test limit (%):**	**N/A**	**N/A**
T-max (mS):	**0**	**Test limit (mS):**	**500.0**	**Pass**
Highest dc (%):	**0.00**	**Test limit (%):**	**3.30**	**Pass**
Highest dmax (%):	**0.04**	**Test limit (%):**	**4.00**	**Pass**
Highest Pst (10 min. period):	**0.111**	**Test limit:**	**1.000**	**Pass**
Highest Plt (2 hr. period):	**0.048**	**Test limit:**	**0.650**	**Pass**

8. Electrostatic Discharge

8.1. Limit of Electrostatic Discharge

Environmental Phenomenon	Test Specification	Units	Performance Criterion
Enclosure port			
Electrostatic discharge	±4 (Contact discharge) ±2, ±4, ±8 (Air discharge)	kV (Charge voltage) kV (Charge voltage)	B

8.2. Test Setup



8.3. Test Procedure

Direct Application of Discharges to the EUT:

Contact discharge was applied only to conductive surfaces of the EUT.

Air discharges were applied only to non-conductive surfaces of the EUT.

During the test, it was performed with single discharges. For the single discharge time between successive single discharges will be keep longer 1 second. It was at least ten single discharges with positive and negative at the same selected point.

The selected point, which was performed with electrostatic discharge, was marked on the red label of the EUT.

Indirect Application of Discharges to the EUT:

Vertical Coupling Plane (VCP):

The coupling plane, of dimensions 0.5m x 0.5m, is placed parallel to, and positioned at a distance 0.1m from the EUT, with the Discharge Electrode touching the coupling plane.

The four faces of the EUT will be performed with electrostatic discharge. It was at least twenty-five single discharges with positive and negative at the same selected point.

Horizontal Coupling Plane (HCP):

The coupling plane is placed under to the EUT. The generator shall be positioned vertically at a distance of 0.1m from the EUT, with the Discharge Electrode touching the coupling plane.

The four faces of the EUT will be performed with electrostatic discharge. It was at least twenty-five single discharges with positive and negative at the same selected point.

8.4. Test Result

Test Site	WZ-TR2	Temperature	20.3℃
Test Engineer	Linda Wei	Relative Humidity	36.7%
Test Mode	Mode 1	Test Date	2021/01/11

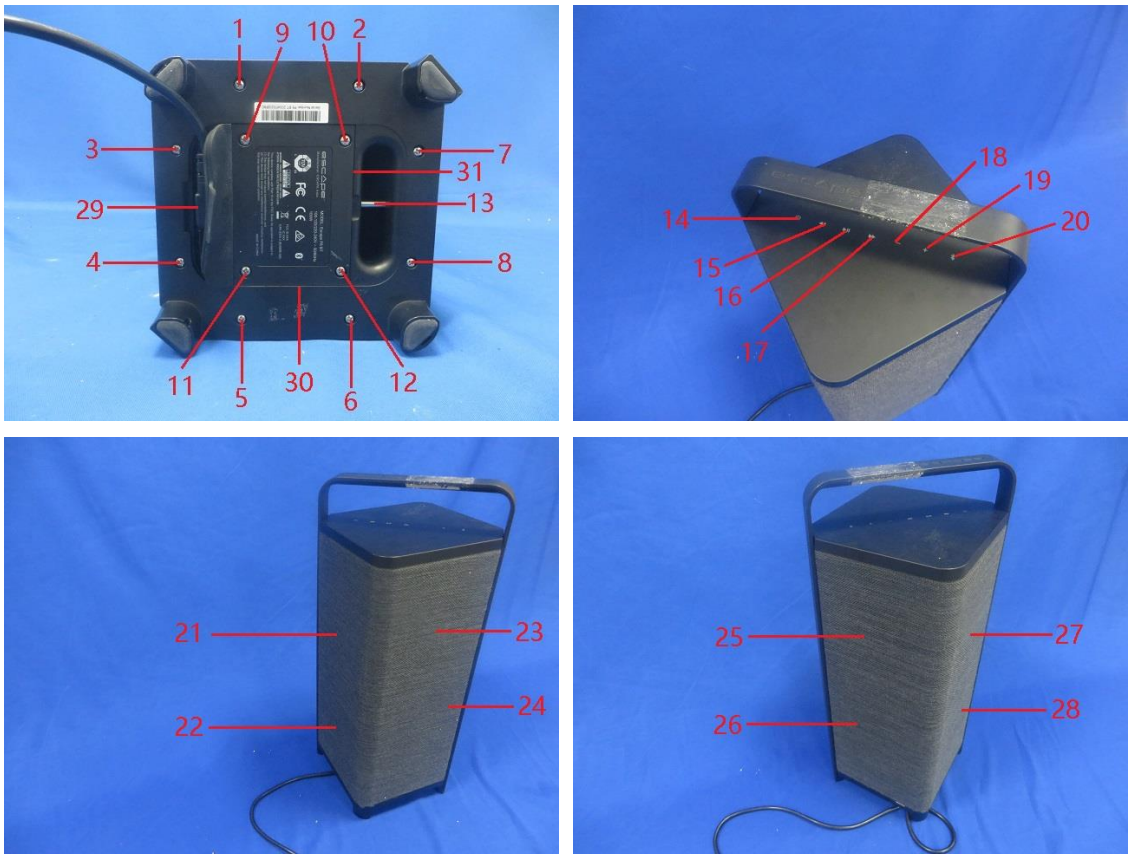
Direct Application		Performance Criterion Result	
Test Location	Test Level	Air Discharge	Contact Discharge
1 ~ 13	±4kV	N/A	A Note
14 ~ 31	±2kV, ±4kV, ±8kV	A Note	N/A

Indirect Application		Performance Criterion Result	
Test Location	Test Level	Horizontal Coupling	Vertical Coupling
Front, Rear Left, Right	±4kV	N/A	A Note

Note 1: During and after the test, there is no any degradation of performance and function.

Note 2: “N/A” means not applicable.

Electrostatic Discharge Test Location

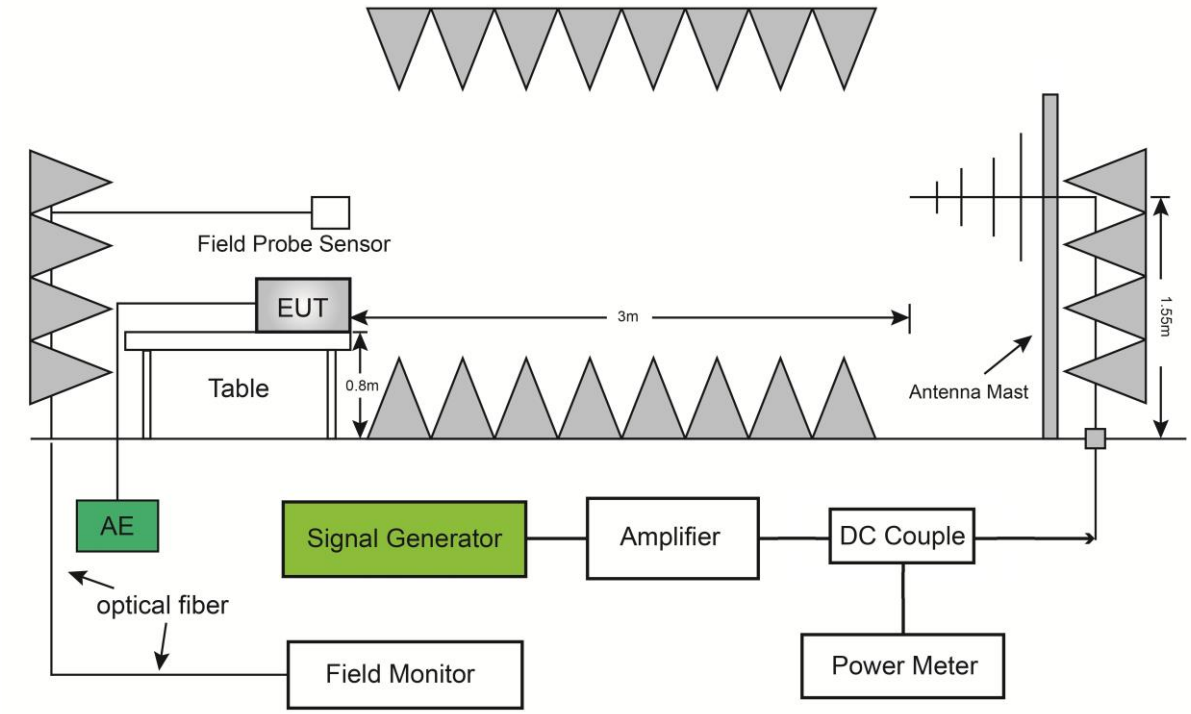


9. Radio-Frequency Electromagnetic Field

9.1. Limit of Radio-Frequency Electromagnetic Field

Environmental Phenomenon	Test Specification	Units	Performance Criterion
Radio frequency electromagnetic field	80 - 6000 3 80	MHz V/m (unmodulated, r.m.s) % AM (1kHz)	A
Note 1: If the wanted signal is modulated at 1000Hz, then an audio signal of 400Hz shall be used. Note 2: The test shall be performed over the frequency range 80MHz to 6000MHz with the exception of the exclusion band for transmitters, receivers and duplex transceivers of EN 301 489-1, as appropriate.			

9.2. Test Setup



9.3. Test Procedure

The EUT and load, which are placed on a table that is 0.8 meter above ground, are placed with one coincident with the calibration plane such that the distance from antenna to the EUT was 3 meters. Both horizontal and vertical polarization of the antenna and four sides of the EUT are set on measurement.

All the scanning conditions are as follows:

	Condition of Test	Remarks
1.	Field Strength	3V/m
2.	Radiated Signal	AM 80% Modulated with 1kHz
3.	Scanning Frequency	80MHz ~ 6000MHz
4.	Dwell Time	3 Seconds
5.	Frequency Step Size	1%

9.4. Test Result

Test Site	SIP-AC4	Temperature	24℃
Test Engineer	Linda Wei	Relative Humidity	52%
Test Mode	Mode 1	Test Date	2020/05/25

Frequency (MHz)	Polarity	Test Position	Field Strength (V/m)	Performance Criterion Result
80 - 6000	Horizontal/Vertical	Front	3	A Note 1
		Rear		A Note 1
		Left		A Note 1
		Right		A Note 1
		Top		A Note 1
		Bottom		A Note 1

Note 1: During and after the test, there is no any degradation of performance and function.

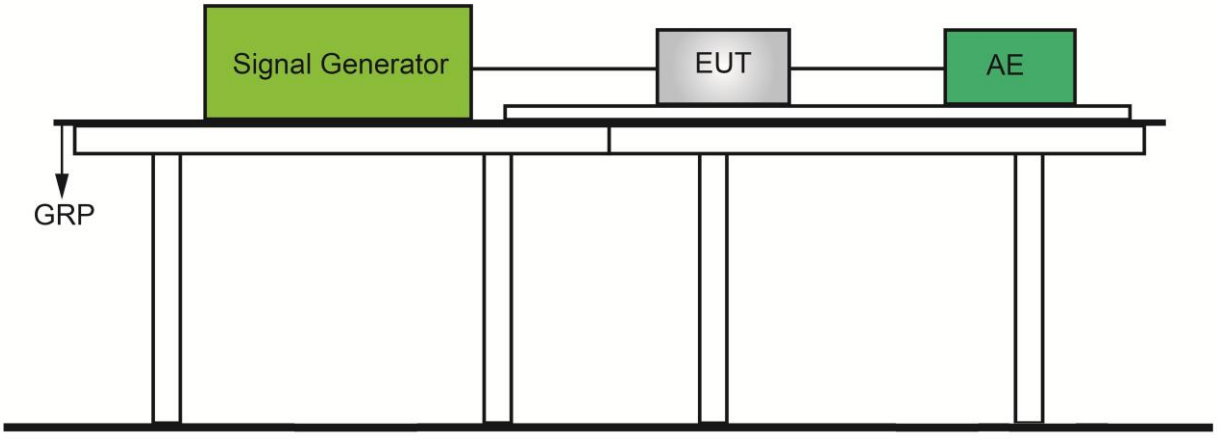
Note 2: The exclusion band has been excluded from radio-frequency electromagnetic field measurement.

10. Electrical Fast Transients

10.1. Limit of Electrical Fast Transients

Environmental Phenomenon	Test Specification	Units	Performance Criterion
Input AC power ports			
Electrical fast transients	±1 5/50 5	kV (open circuit test voltage) Tr/Th (ns) Repetition frequency (kHz)	B
Signal ports, telecommunication ports, and control ports (See Note 1 / 2 / 3)			
Fast transients common mode	±0.5 5/50 5	kV (peak) Tr/Th ns Repetition frequency (kHz)	B
Note 1: This test shall be additionally performed on signal ports, telecommunication ports, control ports, and DC power ports, of radio equipment and associated ancillary equipment, if the cables may be longer than 3m. Note 2: The test level for signal ports, wired network ports (excluding xDSL), and control ports shall be 0.5 kV open circuit voltage at a repetition rate of 5 kHz. Note 3: The test level for xDSL wired network ports shall be 0,5 kV open circuit voltage at a repetition rate of 100 kHz			

10.2. Test Setup



10.3. Test Procedure

The EUT is placed on a table that is 0.8 meter height. A ground reference plane is placed on the table, and uses a 0.1m insulation between the EUT and ground reference plane.
The minimum area of the ground reference plane is 1m*1m, and 0.65mm thick min, and projected beyond the EUT by at least 0.1m on all sides.

For Input AC Power Ports:

The EUT is connected to the power mains through a coupling device that directly couples the EFT/B interference signal.
Each of the line conductors is impressed with burst noise for 1 minute.
The length of the power lines between the coupling device and the EUT is 0.5m.

For Signal Ports, Telecommunication Ports, and Control Ports:

The EFT interference signal is through a coupling clamp device couples to the signal of the EUT with burst noise for 1 minute.
The length of the signal lines between the coupling device and the EUT is 0.5m.

10.4. Test Result

Test Site	WZ-TR1	Temperature	24˚C
Test Engineer	Linda Wei	Relative Humidity	63.8%
Test Mode	Mode 1	Test Date	2020/05/16

Inject Line	Polarity	Test Level (kV)	Test Duration (second)	Inject Method	Performance Criterion Result
Input a.c. power port (Tr/Th: 5/50ns, Repetition Frequency: 5kHz)					
L	+	1	60	Direct	A Note
L	-	1	60	Direct	A Note
N	+	1	60	Direct	A Note
N	-	1	60	Direct	A Note
PE	+	1	60	Direct	A Note
PE	-	1	60	Direct	A Note
L + N	+	1	60	Direct	A Note
L + N	-	1	60	Direct	A Note
L + PE	+	1	60	Direct	A Note
L + PE	-	1	60	Direct	A Note
N + PE	+	1	60	Direct	A Note
N + PE	-	1	60	Direct	A Note
L + N + PE	+	1	60	Direct	A Note
L + N + PE	-	1	60	Direct	A Note

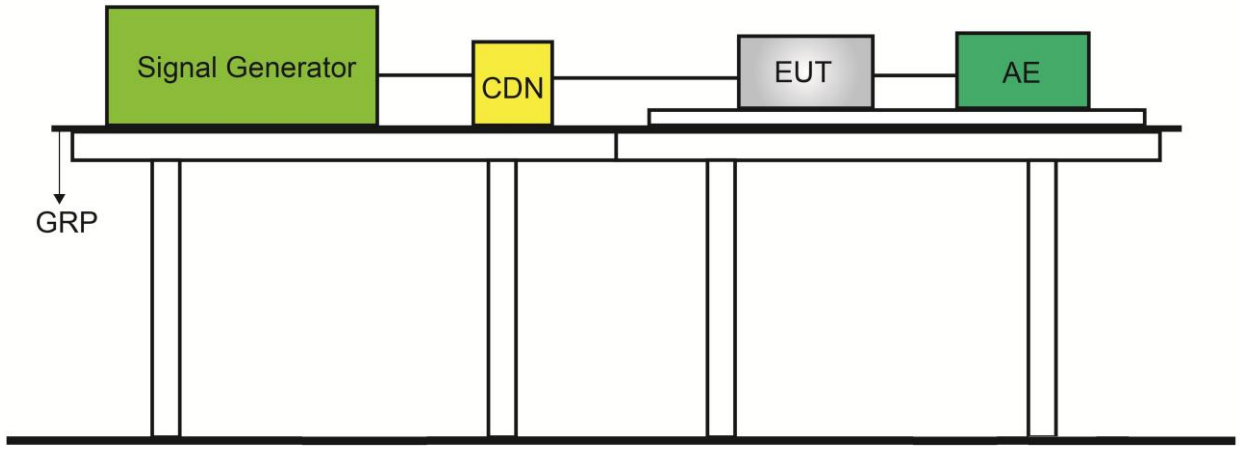
Note: During and after the test, there is no any degradation of performance and function.

11. Surges

11.1. Limit of Surges

Environmental Phenomenon	Test Specification	Units	Performance Criterion
AC mains power ports			
Surges	1.2/50 (8/20) ±1 line to line ±2 line to earth	Tr/Th (us) kV (open circuit test voltage) kV (open circuit test voltage)	B
Telecommunication ports directly connected to indoor cables			
Surges	1.2/50 ±0.5 line to ground	Tr/Th (us) kV (peak)	B

11.2. Test Setup



11.3. Test Procedure

The EUT is placed on a table that is 0.8 meter above a metal ground plane measured 1m*1m minimum and 0.65mm thick minimum and projected beyond the EUT by at least 0.1m on all sides. The length of power cord between the coupling device and the EUT shall be 2m or less.

For Input AC Power Ports:

The EUT is connected to the power mains through a coupling device that directly couples the surge interference signal.

The surge noise shall be applied synchronized to the voltage phase at 0°, 90°, 180°, 270° and the peak value of the AC voltage wave. (Positive and negative)

Each of Line to Earth and Line to Line is impressed with a sequence of five surge voltages with interval of 1 minute.

For Telecommunication Ports:

The signal line of EUT is connected to coupling and decoupling network that directly couples the surge interference signal.

Only Line to ground is impressed with a sequence of five surge voltages with interval of 1 minute.

11.4. Test Result

Test Site	WZ-TR1	Temperature	24˚C
Test Engineer	Linda Wei	Relative Humidity	63.8%
Test Mode	Mode 1	Test Date	2020/05/16

Inject Line	Polarity	Angle (degree)	Test Level (kV)	Waveform Tr/Th (us)	Test Interval (second)	Performance Criterion Result
L + N	+	0	1	1.2/50	60	A Note
L + N	-	0	1	1.2/50	60	A Note
L + N	+	90	1	1.2/50	60	A Note
L + N	-	90	1	1.2/50	60	A Note
L + N	+	180	1	1.2/50	60	A Note
L + N	-	180	1	1.2/50	60	A Note
L + N	+	270	1	1.2/50	60	A Note
L + N	-	270	1	1.2/50	60	A Note
L + PE	+	0	2	1.2/50	60	A Note
L + PE	-	0	2	1.2/50	60	A Note
L + PE	+	90	2	1.2/50	60	A Note
L + PE	-	90	2	1.2/50	60	A Note
L + PE	+	180	2	1.2/50	60	A Note
L + PE	-	180	2	1.2/50	60	A Note
L + PE	+	270	2	1.2/50	60	A Note
L + PE	-	270	2	1.2/50	60	A Note
N + PE	+	0	2	1.2/50	60	A Note
N + PE	-	0	2	1.2/50	60	A Note
N + PE	+	90	2	1.2/50	60	A Note
N + PE	-	90	2	1.2/50	60	A Note
N + PE	+	180	2	1.2/50	60	A Note
N + PE	-	180	2	1.2/50	60	A Note
N + PE	+	270	2	1.2/50	60	A Note
N + PE	-	270	2	1.2/50	60	A Note

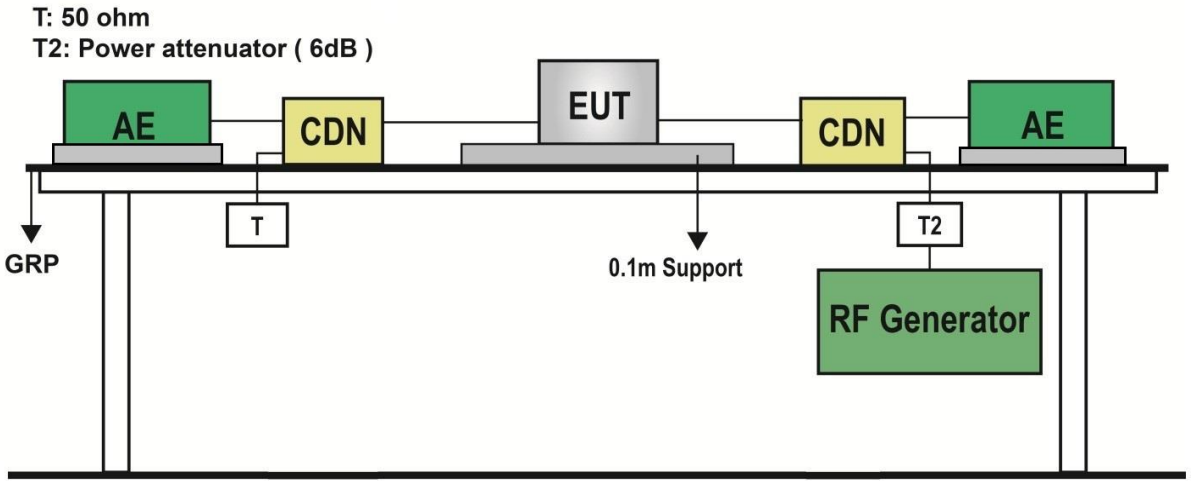
Note: During and after the test, there is no any degradation of performance and function.

12. Radio-Frequency Common Mode

12.1. Limit of Radio-Frequency Common Mode

Environmental phenomenon	Test specification	Units	Performance criterion
Input AC power ports (See Note 1 / 2)			
Radio-frequency common mode	0.15 - 80 3 80	MHz V (unmodulated, r.m.s) % AM (1kHz)	A
Signal ports, telecommunication ports, and control ports (See Note 1 / 2 / 3)			
Radio frequency common mode	0.15 - 80 3 80	MHz V (unmodulated, r.m.s) % AM (1kHz)	A
Note 1: If the wanted signal is modulated at 1000Hz, then an audio signal of 400Hz shall be used. Note 2: The test shall be performed over the frequency range 150kHz to 80MHz with the exception of the exclusion band for transmitters, and for receivers and duplex transceivers [see clause 4 of EN 301 489-1. Note 3: This test shall be additionally performed on signal ports, telecommunication ports, control ports, and DC power ports, of radio equipment and associated ancillary equipment, if the cables may be longer than 3m.			

12.2. Test Setup



12.3. Test Procedure

The EUT is placed on a table that is 0.8 meter height, and a ground reference plane on the table, EUT is placed upon table and use 0.1m insulation between the EUT and ground reference plane.

	Condition of Test	Remarks
1.	Field Strength	3V
2.	Radiated Signal	AM 80% Modulated with 1kHz
3.	Scanning Frequency	0.15MHz - 80MHz
4.	Dwell Time	3 Seconds
5.	Frequency Step Size	1%

12.4. Test Result

Test Site	WZ-TR1	Temperature	24˚C
Test Engineer	Linda Wei	Relative Humidity	63.8%
Test Mode	Mode 1	Test Date	2020/05/16

Frequency (MHz)	Inject Voltage (V)	Inject Ports	Inject Method	Performance Criterion Result
0.15 - 80	3	AC Mains	CDN	A Note

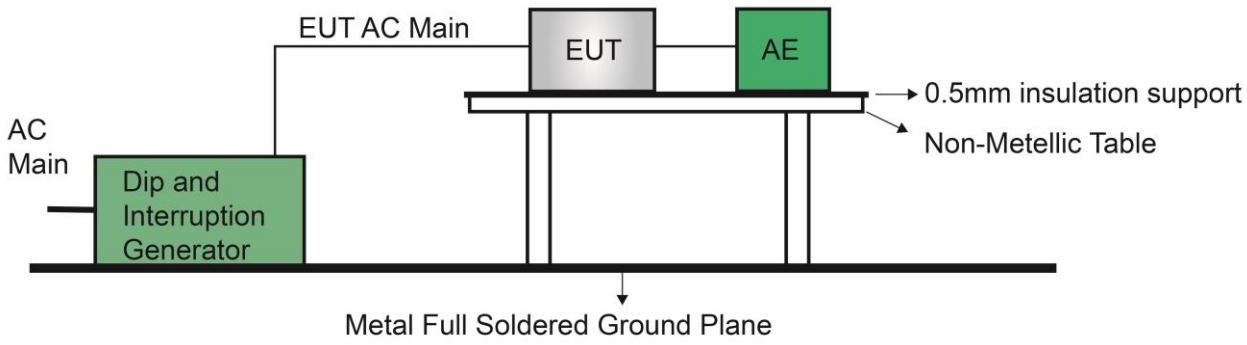
Note: During and after the test, there is no any degradation of performance and function.

13. Voltage Dips and Interruptions

13.1. Limit of Voltage Dips and Interruptions

Environmental Phenomenon	Test Specification	Units	Performance Criterion
Input AC power ports			
Voltage dips	0 0.5	% residual cycle	B
	0 1	% residual cycle	B
	70 25 (50Hz)	% residual cycle	C
Voltage interruptions	0 250 (50Hz)	% residual cycle	C

13.2. Test Setup



13.3. Test Procedure

The EUT is placed on a table which is 0.8 meter above a metal ground plane measured 1m*1m minimum, and 0.65mm thick minimum, and projected beyond the EUT by at least 0.1m on all sides. The power cord shall be used the shortest power cord as specified by the manufacturer.

For Voltage dips and interruptions test:

The selection of test voltage is based on the rated power range. If the operation range is large than 20% of lower power range, both end of specified voltage shall be tested. Otherwise, the typical voltage specification is selected as test voltage.

The EUT is connected to the power mains through a coupling device that directly couples to the voltage dips and interruption generator.

13.4. Test Result

Test Site	WZ-TR1	Temperature	16.9℃
Test Engineer	Linda Wei	Relative Humidity	24%
Test Mode	Mode 1	Test Date	2021/01/11
Test Voltage	AC 240V/50Hz		

Test Item	Voltage % Residual	Test Duration (periods)	Performance Criterion Result
Voltage Dips	0	0.5	A Note 1
	0	1	A Note 1
	70	25	A Note 1
Voltage Interruption	0	250	B Note 2

Note 1: During and after the test, there is no any degradation of performance and function.

Note 2: During the test, the EUT lost of charging, but it could be self-recovered after the test.

Test Site	WZ-TR1	Temperature	16.9℃
Test Engineer	Linda Wei	Relative Humidity	24%
Test Mode	Mode 1	Test Date	2021/01/11
Test Voltage	AC 100V/50Hz		

Test Item	Voltage % Residual	Test Duration (periods)	Performance Criterion Result
Voltage Dips	0	0.5	A Note 1
	0	1	A Note 1
	70	25	A Note 1
Voltage Interruption	0	250	B Note 2

Note 1: During and after the test, there is no any degradation of performance and function.

Note 2: During the test, the EUT loss of charging, but it could be self-recovered after the test.

14. Measurement Uncertainty

Conducted Emission Measurement
Measurement Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 9kHz~150kHz: 3.74dB 150kHz~30MHz: 3.44dB
Radiated Disturbance
Measurement Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): Horizontal: 30MHz~300MHz: 5.04dB 300MHz~1GHz: 4.95dB 1GHz~6GHz: 6.40dB Vertical: 30MHz~300MHz: 5.24dB 300MHz~1GHz: 6.03dB 1GHz~6GHz: 6.40dB
Harmonic Current Emissions
The maximum measurement uncertainty is evaluated as 0.2%.
Voltage Fluctuation and Flicker
The maximum measurement uncertainty is evaluated as d_c and d_{max}: 0.095%, P_{st} and P_{lt}: 4%, $d_{(t)}$: 1.5%.

15. List of Measuring Instrument

Conducted Emission (WZ-SR2)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	MRTSUE06185	1 year	2022/01/12
Two-Line V-Network	R&S	ENV216	MRTSUE06002	1 year	2021/09/09
Four-Line V-Network	R&S	ENV432	MRTSUE06615	1 year	2021/10/22
Impedance Stabilization Network	TESEQ	ISN T200A	MRTSUE06004	1 year	2022/01/03
Impedance Stabilization Network	TESEQ	ISN T800	MRTSUE06005	1 year	2022/01/03
Impedance Stabilization Network	TESEQ	ISN T8-CAT6	MRTSUE06006	1 year	2022/01/03
V-Network	R&S	ESH3-Z6	MRTSUE06187	1 year	2021/04/14
V-Network	R&S	ESH3-Z6	MRTSUE06188	1 year	2021/04/14
RF Current Probe	R&S	EZ-17	MRTSUE06190	1 year	2021/04/14
Thermal Hygrometer	testo	608-H1	MRTSUE06404	1 year	2021/07/26

Conducted Emission (SIP-SR2)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	MRTSUE06613	1 year	2021/07/02
Two-Line V-Network	R&S	ENV216	MRTSUE06003	1 year	2021/09/09
Four-Line V-Network	R&S	ENV432	MRTSUE06614	1 year	2021/10/20
Impedance Stabilization Network	R&S	ENY81	MRTSUE06608	1 year	2021/08/26
Impedance Stabilization Network	R&S	ENY81-CA6	MRTSUE06609	1 year	2021/08/26
V-Network	R&S	ESH3-Z6	MRTSUE06187	1 year	2021/04/14
V-Network	R&S	ESH3-Z6	MRTSUE06188	1 year	2021/04/14
RF Current Probe	R&S	EZ-17	MRTSUE06190	1 year	2021/04/14
Thermal Hygrometer	testo	608-H1	MRTSUE06621	1 year	2021/12/03

Harmonic Current Emissions / Voltage Fluctuation and Flicker (SIP-SR2)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Power Analyzer	California	PACS-1	MRTSUE06010	1 year	2022/01/03
AC Power Source	California	3001iX	MRTSUE06011	1 year	2022/01/03
Thermal Hygrometer	testo	608-H1	MRTSUE06621	1 year	2021/12/03

Radiated Emission (WZ-AC1)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cal. Due Date
EMI Test Receiver	R&S	ESR7	MRTSUE06001	1 year	2022/01/04
EXA Signal Analyzer	Keysight	N9010B	MRTSUE06558	1 year	2021/07/23
Bilog Period Antenna	Schwarzbeck	VULB 9168	MRTSUE06172	1 year	2021/08/08
Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06023	1 year	2021/09/27
Microwave System Amplifier	Agilent	83017A	MRTSUE06076	1 year	2021/11/14
Thermal Hygrometer	testo	608-H1	MRTSUE06403	1 year	2021/07/26
Anechoic Chamber	TDK	Chamber-AC1	MRTSUE06212	1 year	2021/04/30

Radiated Emission (WZ-AC2)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
MXE EMI Receiver	Keysight	N9038A	MRTSUE06125	1 year	2021/07/02
Bilog Period Antenna	Schwarzbeck	VULB 9162	MRTSUE06022	1 year	2021/05/26
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06171	1 year	2021/10/25
Broadband Coaxial Preamplifier	Schwarzbeck	BBV 9718	MRTSUE06176	1 year	2021/11/14
Thermal Hygrometer	Minggao	ETH529	MRTSUE06170	1 year	2021/12/08
Anechoic Chamber	RIKEN	Chamber-AC2	MRTSUE06213	1 year	2021/04/30

Radiated Emission (SIP-AC1)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	MRTSUE06612	1 year	2021/07/02
EXA Signal Analyzer	Keysight	N9010B	MRTSUE06559	1 year	2021/07/23
Bilog Period Antenna	Schwarzbeck	VULB9168	MRTSUE06645	1 year	2021/08/30
Double Ridged Horn Antenna	R&S	HF907	MRTSUE06610	1 year	2021/08/30
Preamplifier	EMCI	EMC051845SE	MRTSUE06600	1 year	2021/11/12
Thermal Hygrometer	testo	608-H1	MRTSUE06620	1 year	2021/12/03
Anechoic Chamber	RIKEN	SIP-AC1	MRTSUE06554	1 year	2021/12/24

Radiated Emission (SIP-AC2)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	MRTSUE06613	1 year	2021/07/02
MXA Signal Analyzer	Keysight	N9020B	MRTSUE06604	1 year	2021/09/26
Bilog Period Antenna	Schwarzbeck	VULB9168	MRTSUE06646	1 year	2021/08/30
Horn Antenna	Schwarzbeck	BBHA9120D	MRTSUE06648	1 year	2021/11/26
Preamplifier	EMCI	EMC051845SE	MRTSUE06644	1 year	2021/11/12
Thermal Hygrometer	testo	608-H1	MRTSUE06624	1 year	2021/12/03
Anechoic Chamber	RIKEN	SIP-AC2	MRTSUE06781	1 year	2021/12/24

Radiated Emission (SIP-AC3)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	MRTSUE06612	1 year	2021/07/02
EXA Signal Analyzer	Keysight	N9010B	MRTSUE06559	1 year	2021/07/23
Bilog Period Antenna	Schwarzbeck	VULB9168	MRTSUE06647	1 year	2021/08/08
Double Ridged Horn Antenna	R&S	HF907	MRTSUE06611	1 year	2021/09/13
Preamplifier	EMCI	EMC012645SE	MRTSUE06642	1 year	2022/01/15
Thermal Hygrometer	testo	608-H1	MRTSUE06622	1 year	2021/12/03
Anechoic Chamber	RIKEN	SIP-AC3	MRTSUE06782	1 year	2021/12/24

Electrostatic Discharge (WZ-TR2)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Electrostatic	HAEFELY	ONYX 30	MRTSUE06388	1 year	2022/01/04
ESD Generator	EM TEST	Dito	MRTSUE06225	1 year	2021/03/11
Temperature Humidity Meter	testo	622	MRTSUE06399	1 year	2022/01/05

Electrostatic Discharge (SIP-SR3)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Electrostatic	HAEFELY	ONYX 30	MRTSUE06388	1 year	2022/01/04
ESD Generator	EM TEST	Dito	MRTSUE06225	1 year	2021/03/11
Temperature Humidity Meter	testo	622	MRTSUE06627	1 year	2021/11/25

Radio Frequency Electromagnetic Field (SIP-AC4)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
MXG Analog Signal Generator	Agilent	N5181A	MRTSUE06370	1 year	2021/06/11
Audio Analyzer	Keysight	U8903B	MRTSUE06143	1 year	2021/06/11
EPM Series Power Meter	Agilent	E4418B	MRTSUE06204	1 year	2021/06/11
Power Sensor	Agilent	E9301H	MRTSUE06205	1 year	2021/06/11
Nubert/Amplifier	ar	150W1000M1	MRTSUE06146	N/A	N/A
Nubert/Amplifier	rflight	NTWPAS-1025100	MRTSUE06363	N/A	N/A
Nubert/Amplifier	rflight	NTWPAS-2560100	MRTSUE06364	N/A	N/A
High-Gain Horn Antenna	ar	ATH800M5GA	MRTSUE06144	N/A	N/A
Log-Periodic Antenna	ar	ATR80M6G	MRTSUE06145	N/A	N/A
Horn Antenna	Schwarzbeck	BBHA9120D	MRTSUE06648	1 year	2021/11/26
Laser Powered Field Probe	ar	FL7006	MRTSUE06149	1 year	2021/12/24
Laser Probe Interface	ar	FL7000	MRTSUE06150	N/A	N/A
Two channel Microphone Conditioning Amplifier	Bruel & Kjaer	2690-OS2	MRTSUE06161	1 year	2021/10/01
Measurement Nubert/Amplifier	Bruel & Kjaer	2735	MRTSUE06162	1 year	2021/10/21
Mouth Simulator	Bruel & Kjaer	4227	MRTSUE06164	1 year	2021/10/01
Sound Calibrator	Bruel & Kjaer	4231	MRTSUE06165	1 year	2021/10/20
Microphone Unit	Bruel & Kjaer	4192-L-001	MRTSUE06166	1 year	2021/10/21
Probe Microphone	Bruel & Kjaer	4182	MRTSUE06167	1 year	2021/09/18
Thermohygrometer and barometer	testo	608-H1	MRTSUE06625	1 year	2021/12/03

Radio Frequency Common Mode (SIP-SR5)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Compact Immunity Test System	TESEQ	NSG4070-35	MRTSUE06237	1 year	2021/10/20
CDN	TESEQ	ST08-10S	MRTSUE06240	1 year	2021/11/23
CDN	TESEQ	M016S	MRTSUE06238	1 year	2021/06/30
CDN	TESEQ	T800	MRTSUE06239	1 year	2021/11/23
EM clamp	TESEQ	KEMZ801A	MRTSUE06371	1 year	2021/05/08
Temperature Humidity Meter	Yuhuaze	HTC-2	MRTSUE06398	1 year	2021/09/23

Fast Transients, Common Mode / Surges / Voltage Dips and Interruptions / Power Frequency Magnetic Field (WZ-TR1)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMS Compact Simulator	EM TEST	UCS500N7	MRTSUE06228	1 year	2021/10/23
Capacitive Coupling Clamp	EM TEST	CN-HFK	MRTSUE06223	1 year	2021/10/23
Magnetic Field Coil	EM TEST	MS100N	MRTSUE06226	1 year	2021/10/23
Motorised Variac for Voltage Variation	EM TEST	MV2616	MRTSUE06229	1 year	2021/10/23
External 10/700us pulse module	EM TEST	TSurge7	MRTSUE06227	1 year	2021/10/23
CDN	TESEQ	ST08-10S	MRTSUE06240	1 year	2021/11/23
CDN	3ctest	405T8	MRTSUE06250	1 year	2021/10/23
CDN	3ctest	405AF8	MRTSUE06265	1 year	2021/10/23
CDN	3ctest	405T8A1	MRTSUE06721	1 year	2021/02/12
6dB Attenuator	3ctest	DTC75-6	MRTSUE06043	1 year	2021/06/11
Temperature Humidity Meter	Yuhuaze	HTC-2	MRTSUE06398	1 year	2021/09/23

Electrical Fast Transients / Surges / Voltage Dips and Interruptions / Power Frequency Magnetic Field (SIP-SR1)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Compact Immunity Test System	3ctest	CCS 500	MRTSUE06832	1 year	2021/05/27
Coupling Clamp	3ctest	CCC 100	MRTSUE06814	1 year	2021/04/22
Oscilloscope	Keysight	DSO-X 6002A	MRTSUE06107	1 year	2021/04/14
CDN	3ctest	405T8A1	MRTSUE06836	1 year	2021/05/24
CDN	3ctest	405AF8	MRTSUE06837	1 year	2021/05/20
Combination Wave Surge Control Module	3ctest	CWS 1000CM	MRTSUE06840	1 year	2021/05/19
CDN	3ctest	CWS 1000MM	MRTSUE06841	1 year	2021/05/19
CDN	3ctest	SPN 2216S10	MRTSUE06842	1 year	2021/05/19
Voltage Drop Module	3ctest	VVT 2216S	MRTSUE06833	1 year	2021/05/27
Power Frequency Magnetic Field Transformer	3ctest	MFT 400	MRTSUE06835	1 year	2021/05/27
Magnetic Field Coil	3ctest	TCXS111	MRTSUE06839	1 year	2021/05/27
Temperature Humidity Meter	testo	608-H1	MRTSUE06617	1 year	2021/11/25

Software	Version	Function
EMI Software	V3	EMI Test Software
Compliance Test System	v 4.6.2	Harmonic & Flicker
JS32-RS	V1.0.0.1	RS Test Software
NSG 4070 CTRL	v 1.3.0.1	CS Test Software
IEC CTRL	v 6.0.1	EMS Test Software
EMS Lab	1.8.2.0	EMS Test Software

The End

Appendix A - Test Setup Photograph

Refer to “2005RSU006-ET” file.

Appendix B - EUT Photograph

Refer to “2005RSU006-EE” file.