

# ECOFLOW INC.

## TEST REPORT

### SCOPE OF WORK:

Article 3.1b of RE directive (2014/53/EU) – EMC report

### Model:

EFG200

### REPORT NUMBER

220500957HZH-004

### ISSUE DATE

July 18, 2022

### DOCUMENT CONTROL NUMBER

TTRF55012\_V1

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Report no. 220500957HZH-004

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**Manufacturing site** : Chongqing Rato Technology Co., Ltd.  
Zone B, Shuangfu Industry Park, Jiangjin District, Chongqing 402247, P.R. China

**Summary**

The equipment complies with the requirements according to the following standard(s) or Specification:

**EN 55012: 2007+A1:2009:** Vehicles, boats and internal combustion engines - Radio disturbance characteristics -Limits and methods of measurement for the protection of off-board receivers.

**EN IEC 61000-6-1:2019:** Electromagnetic compatibility (EMC) — Generic standards— Immunity for residential, commercial and light-industrial environments.

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### Revision History

Report No.	Version	Description	Issued Date
220500957HZH-004	Rev. 01	Initial issue of report	July 18, 2022

## Measurement result summary

TEST ITEM	TEST RESULT	NOTE
Radiated Emission	Pass	
Electrostatic Discharge (ESD)	Pass	
Electric Fast Transient /Burst (EFT/B)	Pass	
Surge	Pass	
Injected Current	Pass	

Notes:

1. NA =Not Applicable.
2. Determination of the test conclusion is based on IEC Guide 115 in consideration of measurement uncertainty.
3. Additions, Deviations and Exclusions from Standards: None.

## 1. GENERAL INFORMATION

### 1.1 Description of Equipment Under Test (EUT)

Product name : Low Power Generating sets (Ecoflow Smart Generator Dual Fuel)

Type/Model : EFG200

Description of EUT : This machine is portable gasoline and LPG engine driven generator with AC 230V, 50Hz output and DC max. 58,8V output.  
The EUT include the WIFI module and Bluetooth module which can be controlled by App.  
We test it and the worst testing data is listed in the report as representative.

Rating : 1,8kW(Gasoline)/1,6kW(LPG),  
Max. 1,9kW(Gasoline)/1,7kW(LPG), CosΦ=1,0 / DC42-58,8V, 32A

Brand name : EcoFlow

Mains lead : -

Data cable : -

Spark plug: : A5RTC by Weichai Torch

EUT type : ☒ Table-top  
☐ Floor standing

Sample received date : May 28, 2022

Sample Identification : --  
No.

Date of test : June 01-26, 2022

## 1.2 Description of Test Facility

Name : Intertek Testing Services Shanghai  
Address : Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China  
Telephone : 86 21 61278200  
Telefax : 86 21 54262353

The test facility is : CNAS Accreditation Lab  
recognized, certified, or Registration No. CNAS L0139  
accredited by these FCC Accredited Lab  
organizations Designation Number: CN0175  
IC Registration Lab  
CAB identifier.: CN0051  
VCCI Registration Lab  
Registration No.: R-14243, G-10845, C-14723, T-12252  
A2LA Accreditation Lab  
Certificate Number: 3309.02



Name : Intertek Testing Services Zhejiang Ltd.  
Address : Building No. 2, Juanhu Science and Technology Innovation Park,  
No. 500 Shuiyueting East Road, Haining City, Zhejiang Province, China  
Telephone : +86 573 8713 7201

The test facility is : CNAS Accreditation Lab  
recognized, certified, or Registration No. CNAS L13980  
accredited by these organizations



## 2. TEST SPECIFICATIONS

### 2.1 Standards

EN 55012: 2007+A1:2009: Vehicles, boats and internal combustion engines - Radio disturbance characteristics -Limits and methods of measurement for the protection of off-board receivers.

EN IEC 61000-6-1:2019: Electromagnetic compatibility (EMC) — Generic standards— Immunity for residential, commercial and light-industrial environments.

### 2.2 Mode of operation during the test

Within this test report, EUT was tested under normal operation position(s) and height(s), under normal full load and without load at idle speed, and in the direction of the maximum disturbance emission. The operating conditions for devices is under "Key-On, Engine-Off" mode and "Engine-Running" mode.

### 2.3 Test Peripherals used

Item No	Description	Band and Model	S/No
1	-	-	-

### 2.4 Record of climatic conditions

Test Item	Temperature (°C)	Relative Humidity (%)	Pressure (Kpa)
Radiated Emission	25	52	NA
Electrostatic Discharge (ESD)	24	55	100.8
Electric Fast Transient /Burst (EFT/B)	24	55	NA
Surge	24	55	NA
Injected Current	24	55	NA

Notes: NA =Not Applicable

## 2.5 Instrument list

Radiated Emission					
Used	Equipment	Manufacturer	Type	Internal No.	Due Date
<input checked="" type="checkbox"/>	EMI Test Receiver	Rohde&Schwarz	ESR7	EZ6331-1	2023-02-21
<input checked="" type="checkbox"/>	Spectrum Analyzer	Rohde&Schwarz	FSV3044	EZ6331-2	2023-02-21
<input checked="" type="checkbox"/>	Bilog Antenna	ETS-Lindgren	3143B	EZ6331-4	2022-11-23
<input checked="" type="checkbox"/>	Horn Antenna	ETS-Lindgren	3117	EZ6331-5	2022-10-21
<input checked="" type="checkbox"/>	Pre-amplifier	SKET	LNPA_0108-25	EZ6331-6	2023-04-05
<input checked="" type="checkbox"/>	Filter Banks	SLET	RSEMU_BRF-LNPA08G	EZ6331-8	2023-04-05
ESD					
Used	Equipment	Manufacturer	Type	Internal No.	Due Date
<input checked="" type="checkbox"/>	ESD generator	KIKUSUI	KES4021	EZ6425	2023-06-09
EFT / Surge					
Used	Equipment	Manufacturer	Type	Internal No.	Due Date
<input checked="" type="checkbox"/>	Compact NX Generator	EM TEST	Compact NX5 bsp-1-300-16	EZ6334-1	2023-02-21
<input checked="" type="checkbox"/>	Automatic Transformer	EM TEST	Variac NX1-260-16	EZ6334-2	2023-02-21
Conducted Immunity					
Used	Equipment	Manufacturer	Type	Internal No.	Due Date
<input checked="" type="checkbox"/>	Conducted Disturbance Test System	SCHLÖDER	CDG-7000-75	EZ6333-1	2023-02-21
<input checked="" type="checkbox"/>	CDN	SCHLÖDER	CDN-M2+3	EZ6333-2	2023-02-21
<input checked="" type="checkbox"/>	Attenuator	SCHLÖDER	CDG 6050-100	EZ6333-3	2023-02-21
<input checked="" type="checkbox"/>	EM Clamp	Lüthi	EM 101	EZ6413	2023-06-03
<input type="checkbox"/>	Signal generator	EM TEST	CWS 500 C	EZ6410	2023-06-03
<input type="checkbox"/>	Attenuator	EM TEST	ATT6/75	EZ6411	2023-06-03
<input type="checkbox"/>	CDN	EM TEST	CDN M2/M3	EZ6412	2023-08-02
Radiated Immunity					
Used	Equipment	Manufacturer	Type	Internal No.	Due Date
<input checked="" type="checkbox"/>	Signal Generator	Keysight	N5171B	EZ6332-1	2023-04-05
<input checked="" type="checkbox"/>	Power Amplifier	Hanrui Microwave	HRCPA-0008010-54GA	EZ6332-2	2023-02-21
<input checked="" type="checkbox"/>	Power Amplifier	Hanrui Microwave	HRCPA-010060-50GL	EZ6332-3	2023-02-21
<input checked="" type="checkbox"/>	Log-period Antenna	Schwarzbeck	STLP 9129	EZ6332-4	2023-01-31
<input checked="" type="checkbox"/>	Power Meter	Keysight	N1914A	EZ6332-5	2023-04-05
<input checked="" type="checkbox"/>	Power Sensor	Keysight	E9301A	EZ6332-6	2023-04-05

<input checked="" type="checkbox"/>	Power Sensor	Keysight	E9301A	EZ6332-7	2023-04-05
<input checked="" type="checkbox"/>	RF Matrix	CTE	CUS2035	EZ6332-9	2023-02-21
Tet Site					
Used	Equipment	Manufacturer	Type	Internal No.	Due Date
<input checked="" type="checkbox"/>	Shielded Room	SAEMC	PSAC318-M	EZ6442	2025-12-09
<input checked="" type="checkbox"/>	Semi-anechoic Chamber	SAEMC	FSAC318	EZ6439	2025-11-21
<input checked="" type="checkbox"/>	Fully Anechoic Chamber	SAEMC	PSAC318	EZ6440	2025-12-09
Additional Instrument					
Used	Equipment	Manufacturer	Type	Internal No.	Due Date
<input checked="" type="checkbox"/>	Therom-Hygrograph	Shanghai Meteorological	ZJ 1-2A	EZ6453	2022-10-21
<input checked="" type="checkbox"/>	Therom-Hygrograph	Shanghai Meteorological	ZJ 1-2A	EZ6455	2022-10-21
<input checked="" type="checkbox"/>	Digital Therom-Hygrograph	TESTO	175H1	EZ1050	2022-10-21
<input checked="" type="checkbox"/>	Digital Therom-Hygrograph	TESTO	175H1	EZ1056	2022-10-21
<input checked="" type="checkbox"/>	Pressure Meter	Shanghai Fengyun	FYP-1	EZ6422	2023-04-24

## 2.6 Measurement Uncertainty

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted emission at mains ports	9kHz ~ 150kHz	3.5 dB
	150kHz ~ 30MHz	3.2 dB
Continuous disturbance voltage at load terminal	150kHz ~ 30MHz	2.6 dB
Continuous disturbance voltage at control terminal	150kHz ~ 30MHz	3.7 dB
Mains terminal discontinuous disturbance voltage/click	-	3.8 dB
Continuous disturbance power	30MHz ~ 300MHz	4.2 dB
Radiated emissions up to 1 GHz	30MHz ~ 1GHz	5.0 dB
Radiated emissions above 1 GHz	1GHz ~ 6GHz	4.4 dB
	6GHz ~ 18GHz	5.2 dB
Harmonic current emission	-	3.1 %
Voltage fluctuations and flicker	-	11.7 %
ESD	-	6.7 %
Radiated susceptibility	80MHz ~ 1GHz	3.2 dB
	1GHz ~ 6GHz	3.3 dB
EFT test at main terminal	-	12.5 %
EFT test at signal/telecom terminal	-	12.5 %
Surge test at main terminal	-	11.6 %
Injected current test at main terminal	-	2.8 dB
Injected current test at unshielded signal terminal	-	2.8 dB
Voltage dips and interruption	-	6.1 %

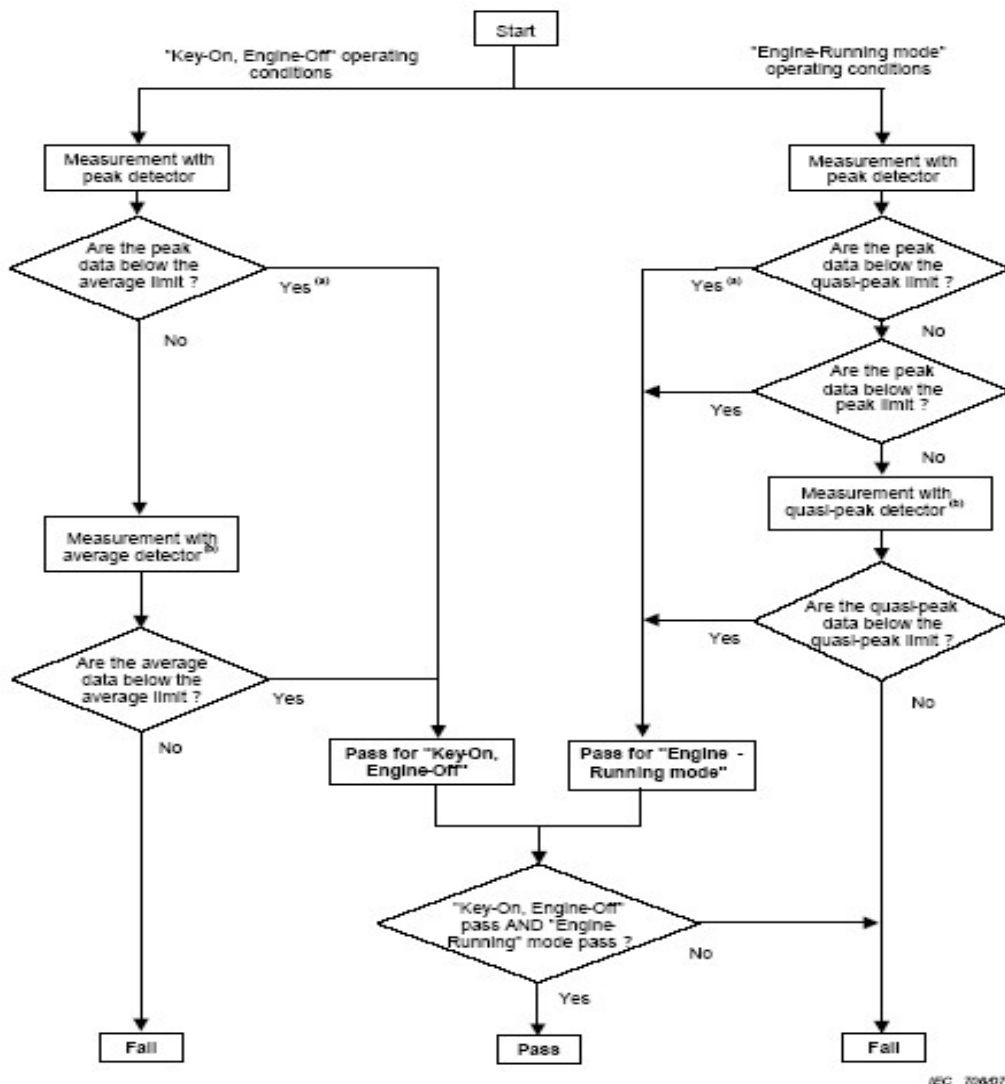
## Emission Test

### 3. Radiated emission

Test result: **PASS**

#### 3.1 Determination of the appropriate limit level

The flowchart as below defines the method for determination of conformance

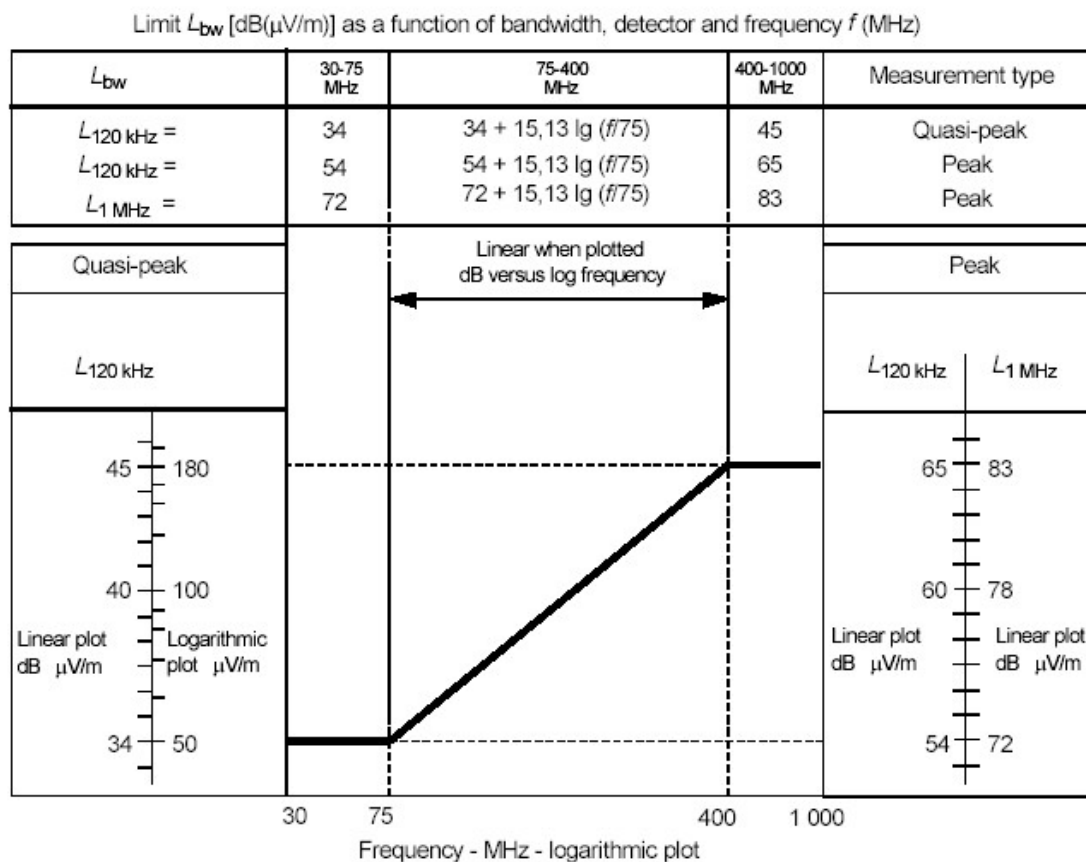


a Because measurement with peak detector is always higher than or equal to measurement with quasi-peak detector (and average detector respectively) and applicable peak limit is always higher than or equal to applicable quasi-peak limit (and average limit respectively), this single detector measurement can lead to a simplified and quicker conformance process.

b This flow-chart is applicable for each individual frequency, e.g only frequencies that are above the applicable limit need to be remeasured with quasi-peak detector (and average detector respectively).

## 3.2 Radiated emission limit from frequency range 30MHz – 1000MHz

### 3.2.1 Peak and quasi-peak detector limits



Note: for the measurement distance other than 10m, the limit is varied according to 20dB/10 decades.

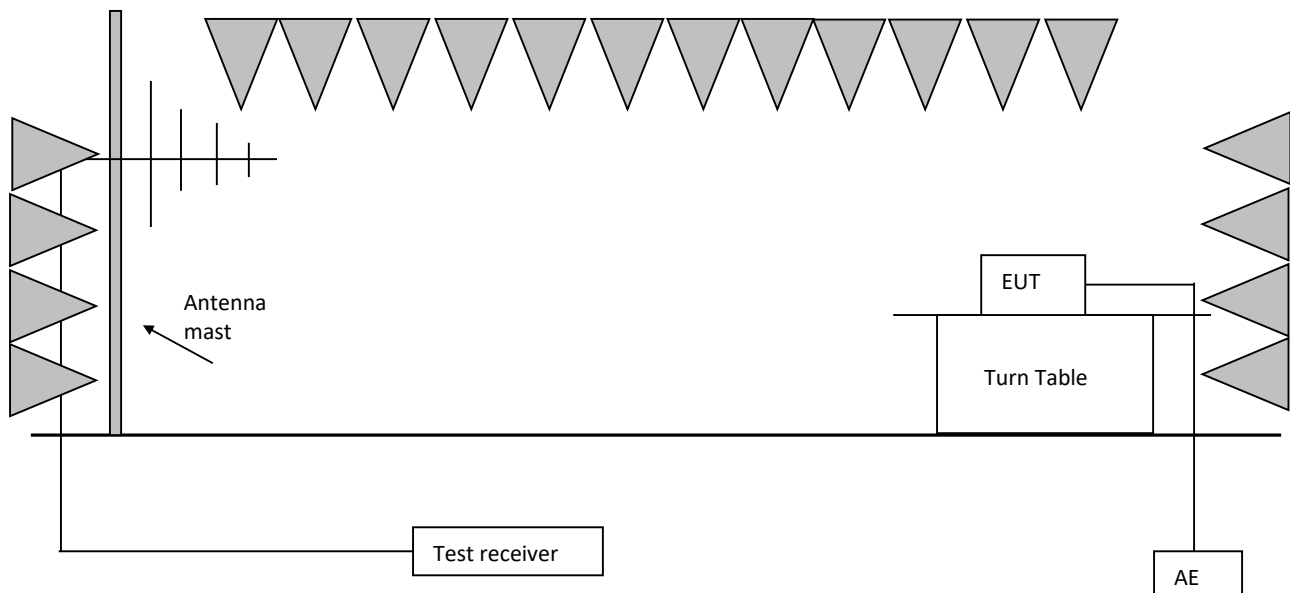
### 3.2.2 Average detector limit

Frequency (MHz)	Permitted limit in dBμV/m (Quasi-peak)
30 ~ 230	40
230 ~ 1000	47

Notes:

1. For the measurement distance other than 3m, the limit is varied according to 20dB/10 decades.
2. The gray rows are selected items.

### 3.3 Blo3.5 ck diagram and test set up



The measurement was applied in a semi-anechoic chamber.

The methods of measurement was according to EN55012 clause 5

The measuring instrument was according to EN55012 clause 5.1

The scanning receiver parameters are as below:

Frequency range MHz	Peak detector			Quasi-peak detector			Average detector		
	Band-width	Step size <sup>a</sup>	Dwell time	Band-width	Step size <sup>a</sup>	Dwell time	Band-width	Step size <sup>a</sup>	Dwell time
30 to 1 000	120 kHz	50 kHz	5 ms	120 kHz	50 kHz	1 s	120 kHz	50 kHz	5 ms
<sup>a</sup> For purely broadband disturbances, the maximum frequency step size may be increased up to a value not greater than the bandwidth value.									

The measuring site was according to EN55012 clause 5.2

Test object conditions were set according to EN55012 clause 5.3

The EUT is defined as:

☐ Vehicles and boats, which is set according to EN55012 clause 5.3.2

☒ Devices, which is set according to EN55012 clause 5.3.3.

The bandwidth was to 120kHz for PK,QP and AV detector.

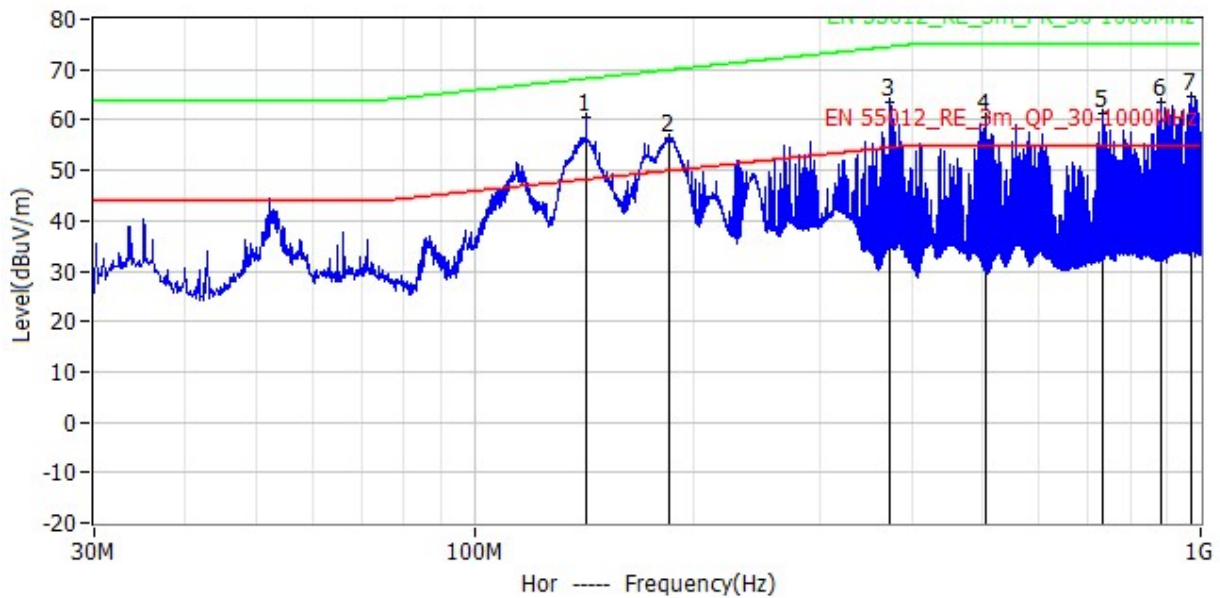
The frequency range from 30MHz to 1000MHz was checked.

### 3.4 Test Protocol

#### 3.4.1 Test result with peak and quasi-peak detector

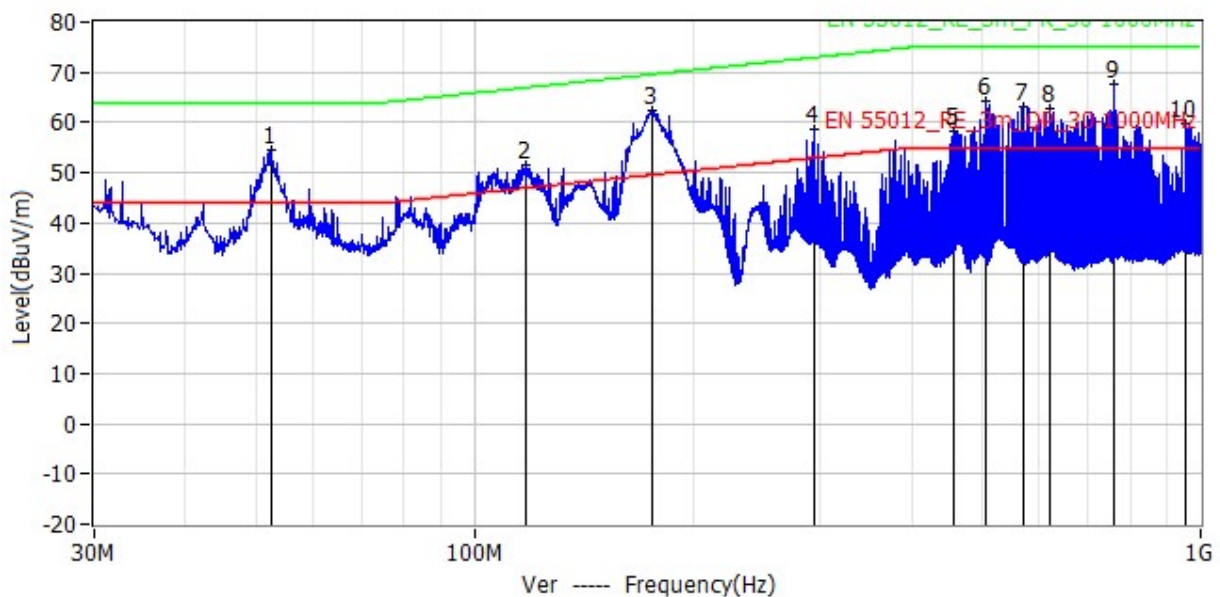
Operating conditions: Engine - Running mode

Horizontal



Frequency	Level dBuV/m	Factor dB/m	Detector
142.423MHz	60.6	8.9	PK
185.588MHz	56.4	10.5	PK
372.313MHz	63.4	17.2	PK
505.300MHz	60.5	20.3	PK
733.832MHz	61.1	24.2	PK
883.406MHz	63.5	24.7	PK
971.191MHz	64.7	26.4	PK

Vertical





Frequency	Level dBuV/m	Factor dB/m	Detector
52.601MHz	54.5	6.9	PK
118.173MHz	51.6	8.1	PK
176.179MHz	62.3	10.7	PK
293.258MHz	58.6	13.7	PK
456.606MHz	58.4	19.1	PK
505.397MHz	64.1	20.3	PK
570.775MHz	63.3	21.4	PK
619.275MHz	62.9	23.4	PK
757.888MHz	67.6	24.1	PK
955.186MHz	59.8	26.5	PK

- Remark: 1. Correct Factor = Antenna Factor + Cable Loss (+ Amplifier, for higher than 1GHz), the value was added to Original Receiver Reading by the software automatically.  
 2. Corrected Reading = Original Receiver Reading + Correct Factor  
 3. Margin = Limit - Corrected Reading  
 4. If the PK Corrected Reading is lower than AV limit, the AV test can be elided.

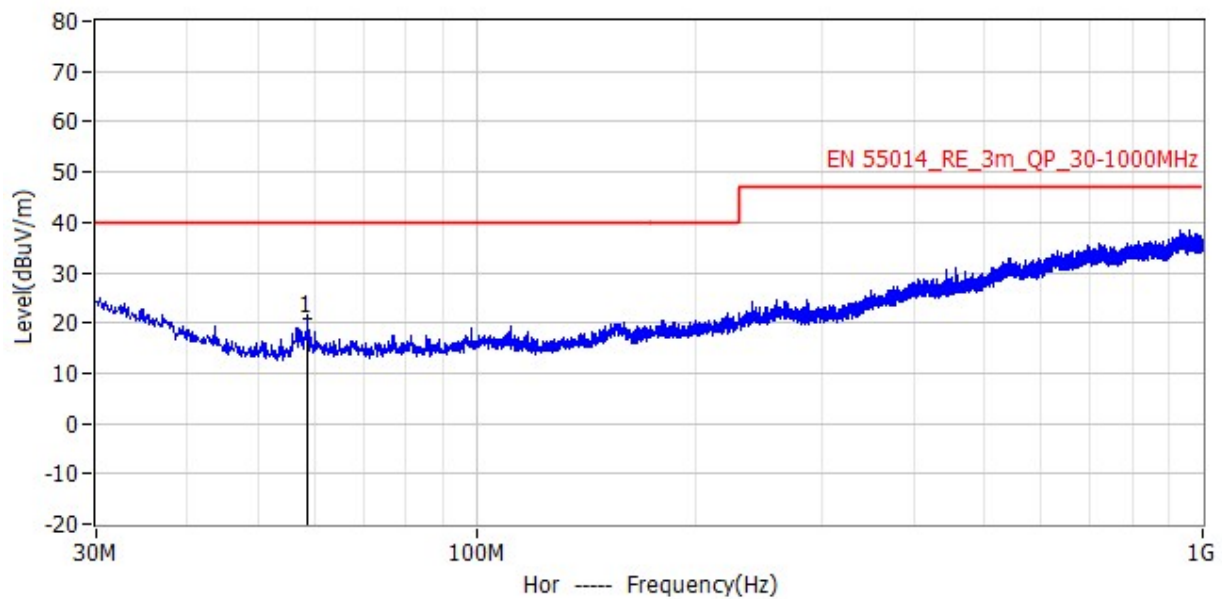
Example: Assuming Antenna Factor = 30.20dB/m, Cable Loss = 2.00dB,  
 Gain of Preamplifier = 32.00dB, Original Receiver Reading = 10.00dBuV,  
 Limit = 40.00dBuV/m.  
 Then Correct Factor = 30.20 + 2.00 – 32.00 = 0.20dB/m;  
 Corrected Reading = 10dBuV + 0.20dB/m = 10.20dBuV/m;  
 Margin = 40.00dBuV/m - 10.20dBuV/m = 29.80dB.

### 3.4.2 Test result with average detector

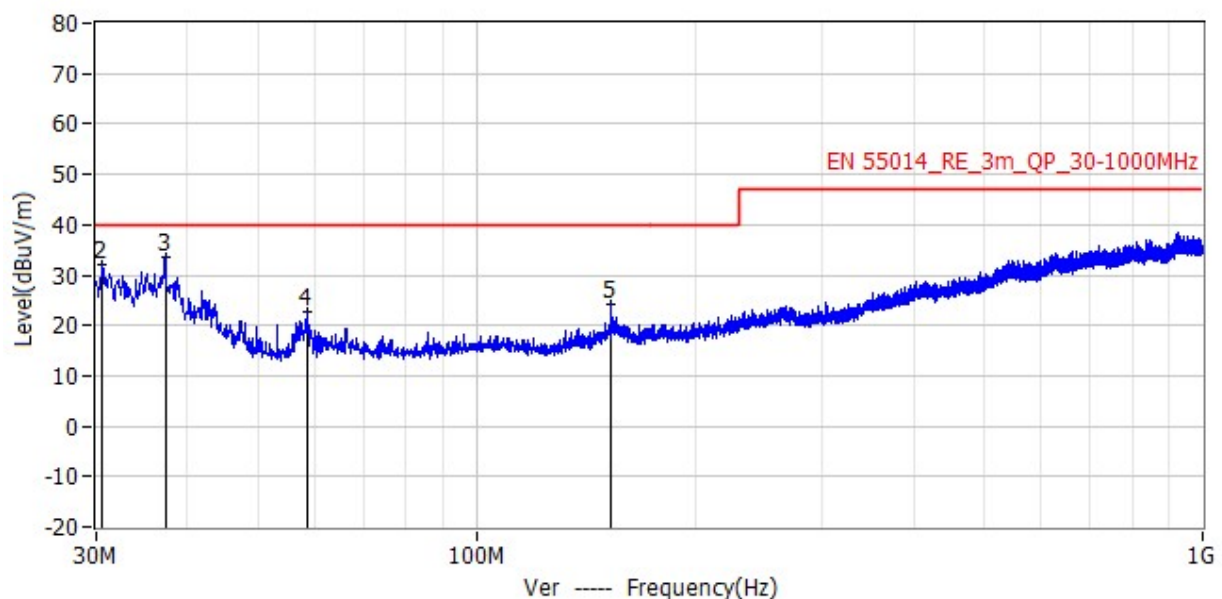
Key-on, Engine-off operating conditions:

- ☐ The EUT not including electronic oscillators with an operating frequency greater than 9 kHz shall be deemed to be in compliance with the average requirements of this clause without performing tests for emissions with average detector.
- ☐ The EUT which meet the average emissions requirements of CISPR 25, Clause 5 shall also be deemed to be in compliance with the average requirements of this subclause and no further testing is necessary.

Horizontal



Vertical



Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Factor dB/m	Detector	Polar
58.615MHz	40.0	20.8	19.2	7.1	PK	Hor
30.582MHz	40.0	32.1	7.9	15.7	PK	Ver
37.372MHz	40.0	33.4	6.6	11.9	PK	Ver
58.615MHz	40.0	22.8	17.2	7.1	PK	Ver
153.578MHz	40.0	24.1	15.9	11.0	PK	Ver

- Remark: 1. Correct Factor = Antenna Factor + Cable Loss (+ Amplifier, for higher than 1GHz), the value was added to Original Receiver Reading by the software automatically.  
 2. Corrected Reading = Original Receiver Reading + Correct Factor  
 3. Margin = Limit - Corrected Reading  
 4. If the PK Corrected Reading is lower than AV limit, the AV test can be elided.

Example: Assuming Antenna Factor = 30.20dB/m, Cable Loss = 2.00dB,  
 Gain of Preamplifier = 32.00dB, Original Receiver Reading = 10.00dBuV,  
 Limit = 40.00dBuV/m.  
 Then Correct Factor =  $30.20 + 2.00 - 32.00 = 0.20\text{dB/m}$ ;  
 Corrected Reading =  $10\text{dBuV} + 0.20\text{dB/m} = 10.20\text{dBuV/m}$ ;  
 Margin =  $40.00\text{dBuV/m} - 10.20\text{dBuV/m} = 29.80\text{dB}$ .

## Immunity Test

### Performance criteria

**Criterion A:** The apparatus shall continue to operate as intended during and after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus 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, either of these may be derived from the product description and documentation and what the user may reasonably expect from the apparatus if used as intended.

**Criterion B:** The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. The performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed. No change of actual operating state or stored data is allowed. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, either of these may be derived from the product description and documentation and what the user may reasonably expect from the apparatus if used as intended.

**Criterion C:** Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls.

## 4. Electrostatic Discharge (ESD)

Test result: **PASS**

### 4.1 Severity Level and Performance Criterion

#### 4.1.1 Test level

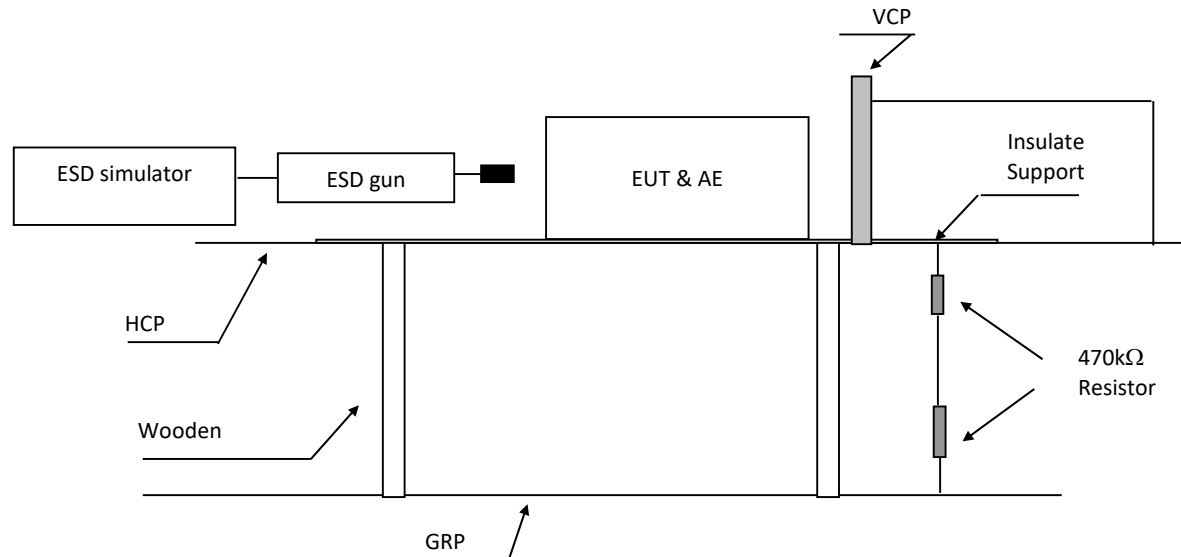
1a – Contact discharge		1b – Air discharge	
Level	Test voltage kV	Level	Test voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15
X	Special	X	Special
Notes: 1. "X" is an open level. The level has to be specified in the dedicated equipment specification. If higher voltages than those shown are specified, special test equipment may be needed. 2. The gray rows were the selected test level.			

#### 4.1.2 Performance Criterion

Performance criterion: **B**

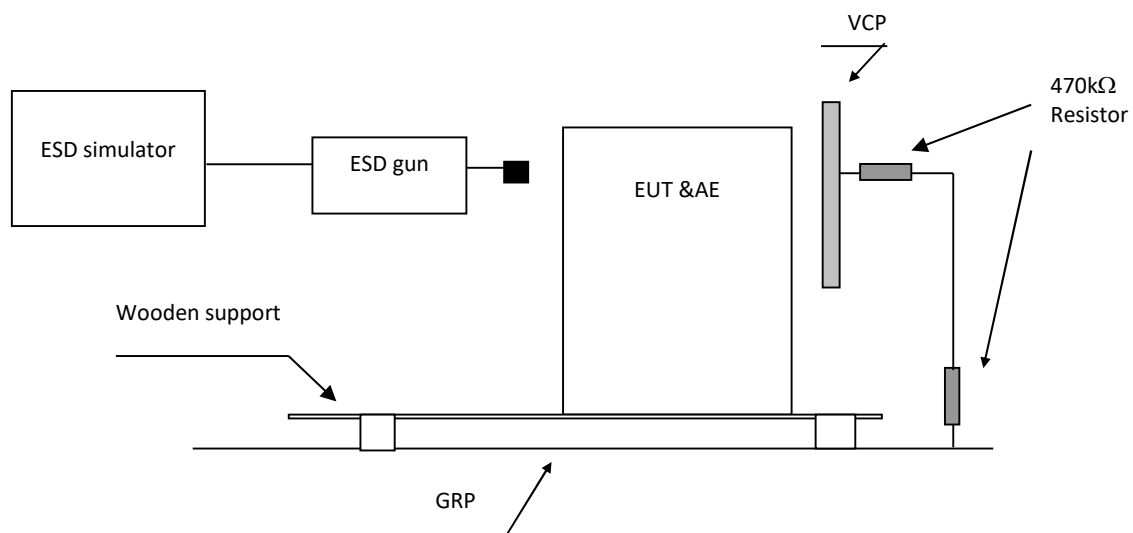
## 4.2 Block Diagram of Test Setup

☒ For table-top equipment



Note: HCP means Horizontal Coupling Plane  
VCP means Vertical Coupling Plane  
GRP means Ground Reference Plane  
Wooden support is a 0.8m height table

☐ For floor standing equipment



Note: VCP means Vertical Coupling Plane  
GRP means Ground Reference Plane  
Wooden support is a 0.1m height rack

### 4.3 Test Setup and Test Procedure

Measurement was performed in shielded room.

Measurement and setting of EUT was applied according to IEC 61000-4-2 Clause 7.

The test method and equipment was specified by IEC 61000-4-2 with the modifications by EN 61000-6-1.

### 4.4 Test Protocol

Direct discharges were applied at the following selected points:

Test point #	Test level [kV]	Air/Contact	Polarity (+/-)	Pass/Fail/NA	Comment
A	2/4	Contact	+/-	Pass	All touchable screws of enclosure
B	2/4	Contact	+/-	Pass	Accessible metal parts of the EUT
C	2/4/8	Air	+/-	Pass	Air gap of the switch, button
D	2/4/8	Air	+/-	Pass	The air in-taking opening
E	2/4/8	Air	+/-	Pass	Slots around the EUT

Indirect contact discharges were applied to the VCP and the HCP at the following selected points:

☒ For table top equipment

Point	Description	Point	Pass/Fail/NA
HCP f	0,1m from the front of the EUT	Edge of centre, corner on HCP	Pass
HCP b	0,1m from the back of the EUT	Edge of centre, corner on HCP	Pass
HCP r	0,1m from the right side of the EUT	Edge of centre, corner on HCP	Pass
HCP l	0,1m from the left side of the EUT	Edge of centre, corner on HCP	Pass
VCP f	0,1m from the front of the EUT	Edge of centre, corner on VCP	Pass
VCP b	0,1m from the back of the EUT	Edge of centre, corner on VCP	Pass
VCP r	0,1m from the right of the EUT	Edge of centre, corner on VCP	Pass
VCP l	0,1m from the left of the EUT	Edge of centre, corner on VCP	Pass

☐ For floor standing equipment

Point	Description	Point	Pass/Fail/NA
VCP f	0,1m from the front of the EUT	Edge of centre, corner on VCP	-
VCP b	0,1m from the back of the EUT	Edge of centre, corner on VCP	-
VCP r	0,1m from the right of the EUT	Edge of centre, corner on VCP	-
VCP l	0,1m from the left of the EUT	Edge of centre, corner on VCP	-

**Observation:** All the functions were operated as normal during and after test.

**Conclusion:** The EUT met the requirements of Performance Criterion B.

## 5. Electric Fast Transient/Burst Immunity Test

Test result: **PASS**

### 5.1 Severity Level and Performance Criterion

#### 5.1.1 Test level

Open circuit output test voltage ( $\pm 10\%$ ) and repetition rate of the impulses ( $\pm 20\%$ )				
Level	Input and output a.c. power ports		Input and output d.c. power ports Signal lines and control lines ports	
	Voltage peak kV	Repetition rate kHz	Voltage peak kV	Repetition rate kHz
1	0.5	5	0.25	5
2	1	5	0.5	5
3	2	5	1	5
4	4	5	2	5
X	Special	Special	Special	Special
Notes : 1. "X" is an open level. The level has to be specified in the dedicated equipment specification. 2. The gray rows were the selected test level.				

#### 5.1.2 Performance Criterion

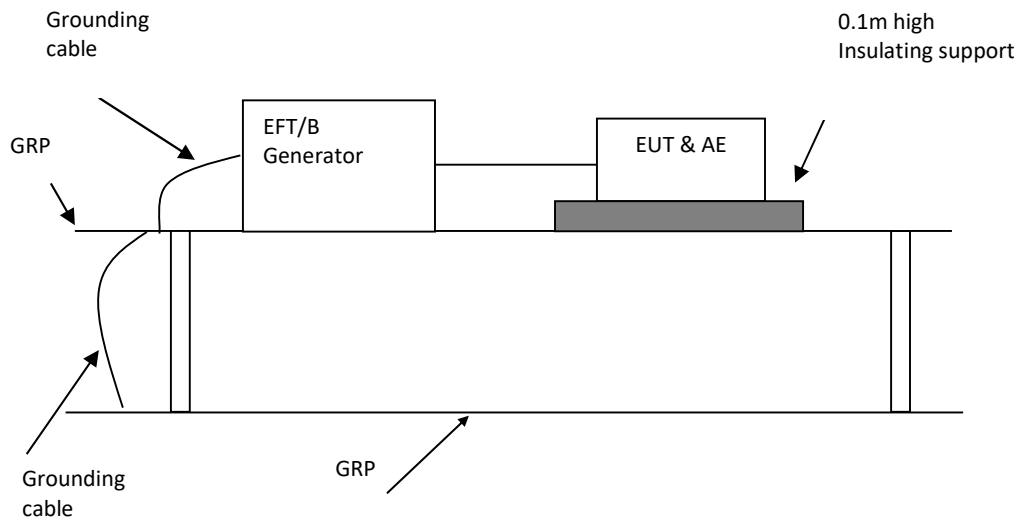
Performance criterion **B**



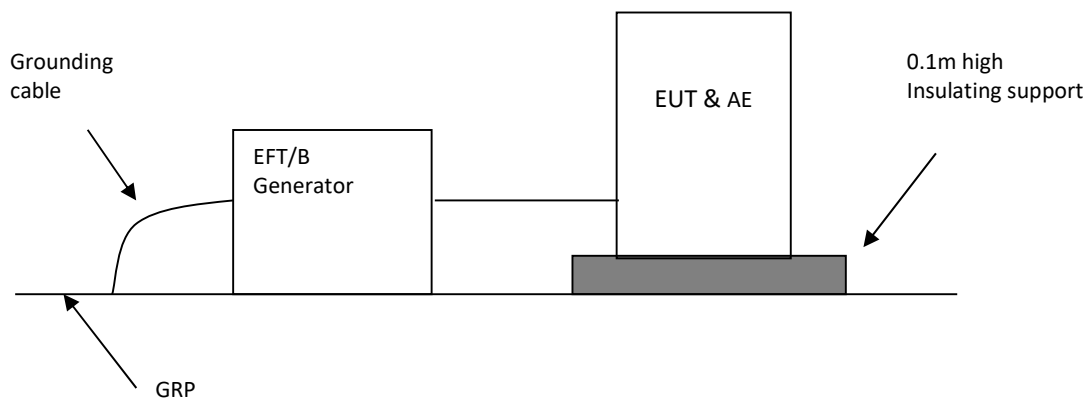
## 5.2 Block Diagram of Test Setup

### 5.2.1 Block Diagram for input a.c./d.c. power line

☒ For table-top equipment

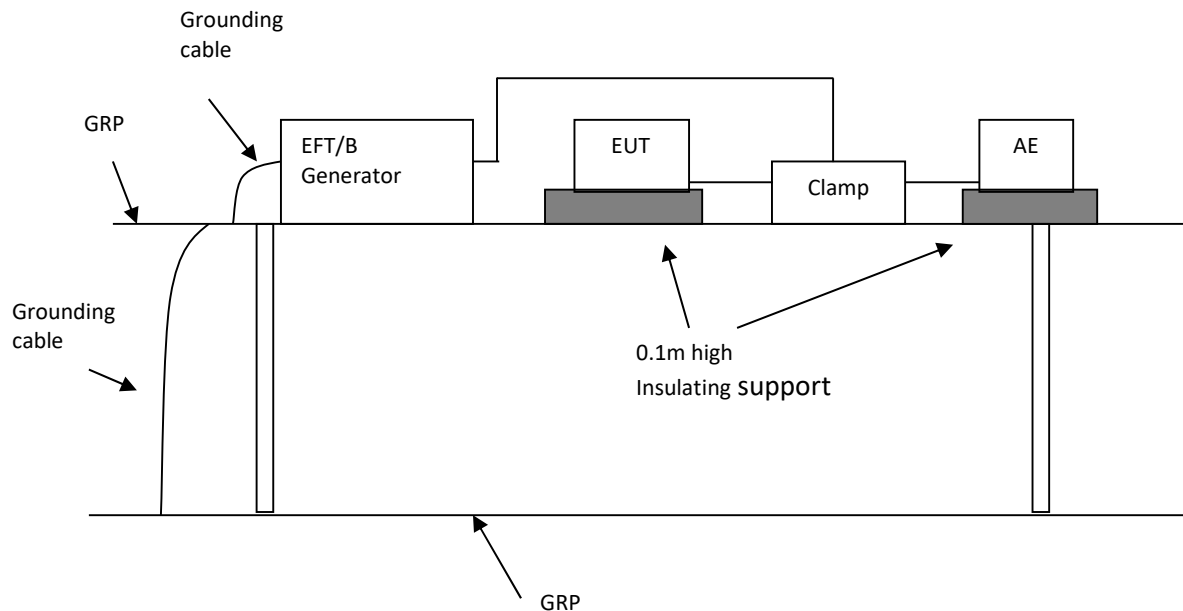


☐ For floor standing equipment

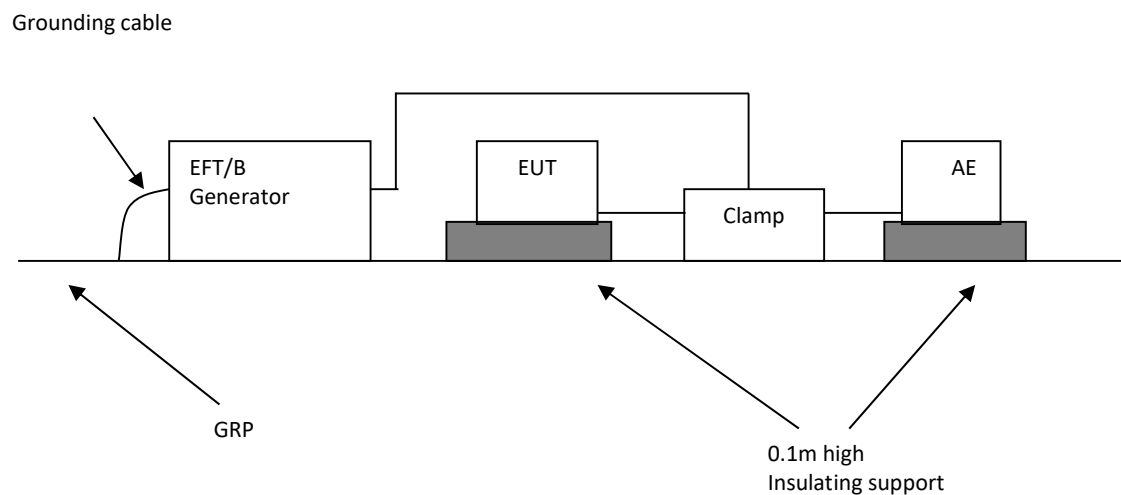


## 5.2.2 Block Diagram for output a.c./d.c. power line or signal/control lines

☐ For table-top equipment



☐ For floor standing equipment



## 5.3 Test Setup and Test Procedure

Measurement was performed in shielded room.

Measurement and setting of EUT was applied according to IEC 61000-4-4 clause 7.

The test method and equipment was specified by IEC 61000-4-4 with additions and modifications by EN 61000-6-1.

#### 5.4 Test Protocol

Test No.	Level [kV]	Polarity +/-	Repetition rate kHz	Line for test	Pass/Fail/NA
1	1	+/-	5	a.c. power ports	Pass
2	0.5	+/-	5	d.c. power ports	Pass
3	0.5	+/-	5	Signal lines and control lines	NA

**Observation:** All the functions were operated as normal during and after test.

**Conclusion:** The EUT met the requirements of Performance Criterion B.

## 6. Surge Immunity Test

Test result: **PASS**

### 6.1 Severity Level and Performance Criterion

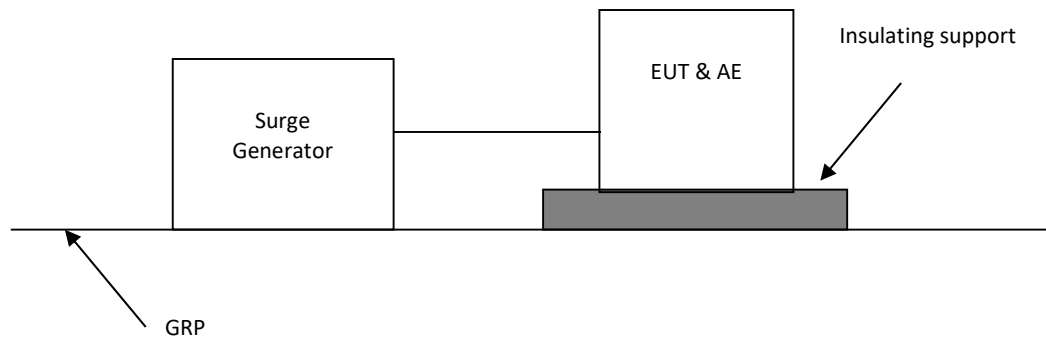
#### 6.1.1 Test level

Level	Open-circuit test voltage $\pm 10\%$ kV
1	0.5
2	1.0
3	2.0
4	4.0
X*	Special
Notes: 1. "X" is an open class. This level can be specified in the product Specification 2. The gray rows are the selected level.	

#### 6.1.2 Performance Criterion

Performance criterion **B**

## 6.2 Block Diagram of Test Setup



## 6.3 Test Setup and Test Procedure

Measurement was performed in shielded room.

Measurement and setting of EUT was applied according to IEC 61000-4-5 clause 7.

The test method and equipment was specified by IEC 61000-4-5 with modifications by EN 61000-6-1.

## 6.4 Test Protocol

Test No.	Level [kV]	Polarity +/-	Angle	Line for test	Pass/Fail/NA
1	0.5	+	DC Port	DC (line to line)	Pass
2	0.5	-	DC Port	DC (line to line)	Pass
3	1	+	0°, 90°, 180°, 270°	a.c. Mains (line to line)	Pass
4	1	-	0°, 90°, 180°, 270°	a.c. Mains (line to line)	Pass
5	2	+	0°, 90°, 180°, 270°	a.c. Mains (line to earth)	Pass
6	2	-	0°, 90°, 180°, 270°	a.c. Mains (line to earth)	Pass

**Observation:** All the functions were operated as normal during and after test.

**Conclusion:** The EUT met the requirements of Performance Criterion B.

## 7. Immunity to Conducted Disturbances, Induced by Radio-frequency Fields

Test result: **PASS**

### 7.1 Severity Level and Performance Criterion

#### 7.1.1 Test level

Frequency range 150kHz – 80MHz		
Level	Voltage level (e.m.f.)	
	$U_0$ [dB(μV)]	$U_0$ (V)
1	120	1
2	130	3
3	140	10
X	Special	Special

Notes:

- “X” is an open level.
- The gray row is the selected test level.

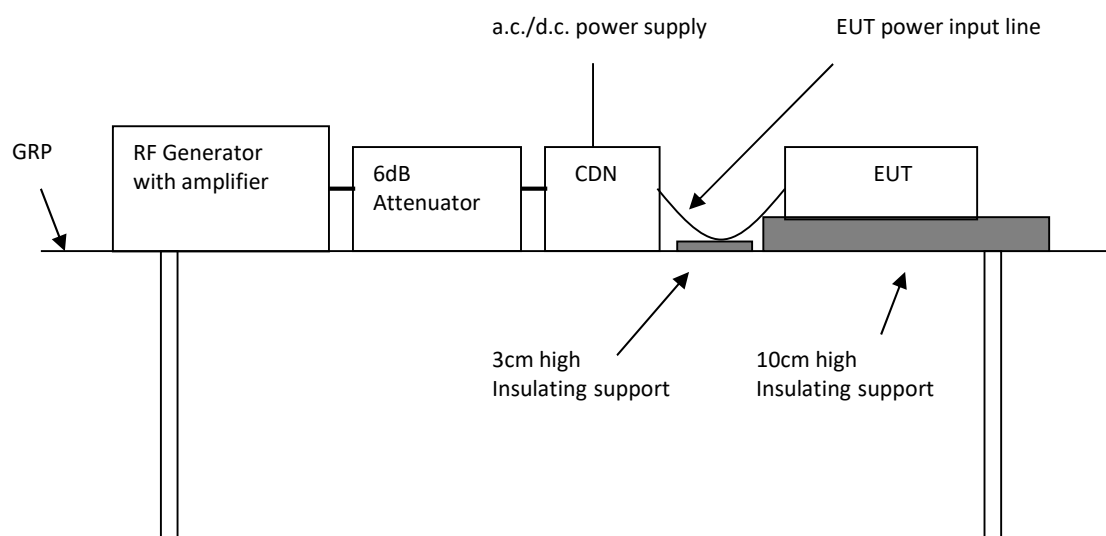
#### 7.1.2 Performance Criterion

Performance criterion: **A**

### 7.2 Block Diagram of Test Setup

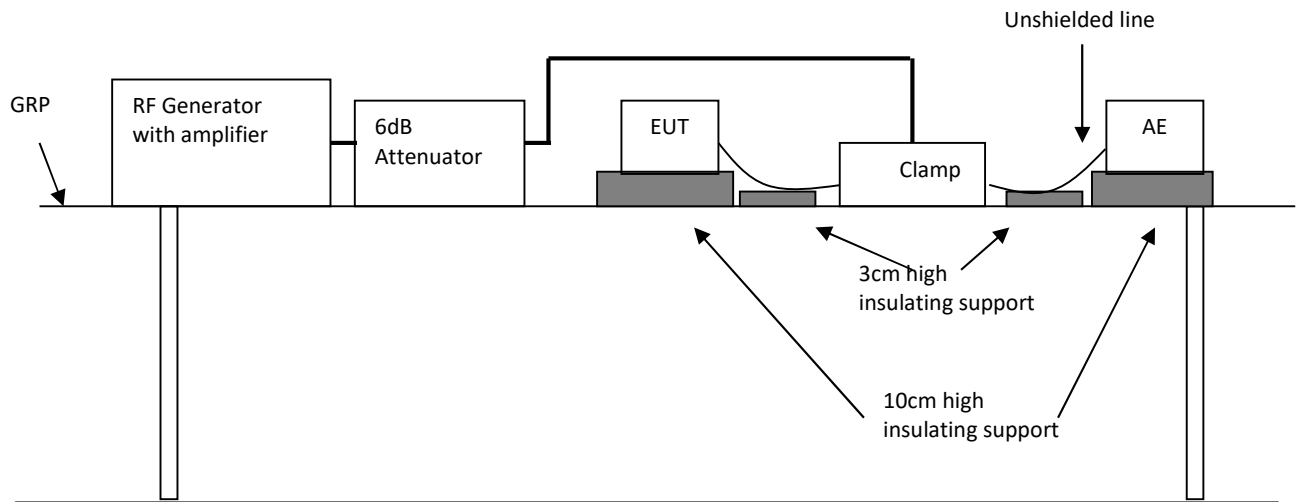
#### 7.2.1 Block Diagram for a.c./d.c input power line

☒ Block Diagram for a.c./d.c input power line

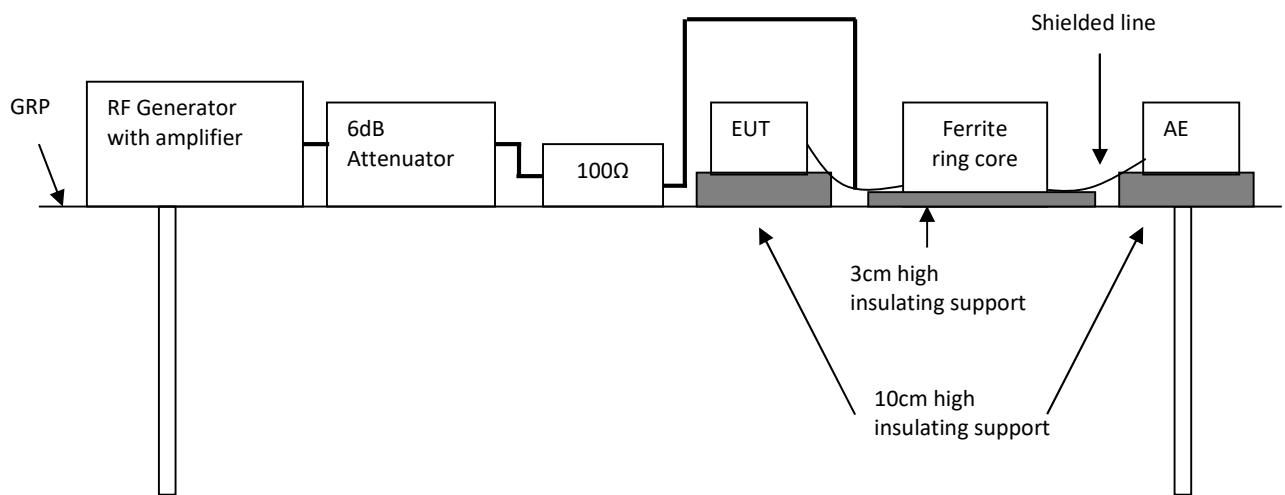


### 7.2.2 Block Diagram for output a.c./d.c. power line or signal/control lines

☐ Unshielded line



☐ Shielded line



### 7.3 Test Setup and Test Procedure

Measurement was performed in shielded room.

Measurement and setting of EUT was applied according to IEC 61000-4-6 clause 7.

The test method and equipment was specified by IEC 61000-4-6 with additions and modifications by EN 61000-6-1.

## 7.4 Test Protocol

Test No.	Frequency (MHz)	Level V (r.m.s.)	Modulation	Injected point	Pass/Fail/NA
1	0.15~80	3	1kHz, 80%, SW, AM, 1% step size	a.c. power ports	Pass
2	0.15~80	3	1kHz, 80%, SW, AM, 1% step size	d.c. power ports	Pass
3	0.15~80	1	1kHz, 80%, SW, AM, 1% step size	signal lines and control lines	-

**Observation:** All the functions were operated as normal during and after test.

**Conclusion:** The EUT met the requirements of Performance Criterion A.



## Appendix I: Photograph of Test setup

### Radiation emission

RE<1GHZ



### Electrostatic discharge



Fast transients



Surges



Radio frequency, common mode



## Appendix II: Photograph of equipment under test

More detail refer to 220500957HZH-003

\*\*\*END of the report\*\*\*