IKEA of Sweden AB

TEST REPORT

SCOPE OF WORK:
FCC Part 15B EMC report

Model:
ICPSW5-5NA-3

REPORT NUMBER
240500436SHA-001

ISSUE DATE
April 15, 2025

DOCUMENT CONTROL NUMBER
TTRFFCCPART15b_V1
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Report no. 240500436SHA-001

Applicant	:	**IKEA of Sweden AB** **Box 702, SE-343 81 Älmhult, SWEDEN**
Manufacturer	:	**Jiangyin Wonder Electronic Co., Ltd.** **No.129, Yungu Road, Gushan Town, Jiangyin City, Jiangsu Province, China**

Summary

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

47CFR Part 15 (2023): Radio Frequency Devices (Subpart B)

ANSI C63.4 (2014)+A1 (2017): American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

PREPARED BY:	**REVIEWED BY:**
Star Guo	Andy Chen
Project Engineer	Reviewer

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Contents

Revision History

Report No.	Version	Description	Issued Date
240500436SHA-001	Rev. 01	Initial issue of report	March 07, 2025
240500436SHA-001	Rev. 02	add the FCC ID: FHO-ICPSW5-5NA-3 in the test report.	April 15, 2025

Measurement result summary

TEST ITEM	FCC REFERENCE	RESULT
Conducted emission	15.107	Pass
Radiated emission	15.109	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	:	Power Supply
Type/Model	:	ICPSW5-5NA-3
Description of EUT	:	FCC ID: FHO-ICPSW5-5NA-3. The EUT can reach the maximum output power with the test load. We tested it, and listed the worst data.
Rating	:	Input: 100-240V~, 50/60Hz, Max 0.1A, 7W Output: 5.0Vdc, Max 1.0A 5.0W
Brand name	:	IKEA
Category of EUT	:	Class B
EUT type	:	☒ Table top ☐ Floor standing
Sample received date	:	May 10, 2024
Sample identification No.	:	0240510-13
Date of test	:	May 10-25, 2024

1.2 Description of Test Facility

Name	:	Intertek Testing Services (Shanghai FTZ) Co., Ltd.
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 recognized, certified, or accredited by these organizations	:	CNAS Accreditation Lab Registration No. CNAS L21189 FCC Accredited Lab Designation Number: CN0175 IC Registration Lab CAB identifier.: CN0014 VCCI Registration Lab Registration No.: R-14243, G-10845, C-14723, T-12252 A2LA Accreditation Lab Certificate Number: 3309.02

2 TEST SPECIFICATIONS

2.1 Standards or specification

47CFR Part 15 (2023): Radio Frequency Devices (Subpart B)

ANSI C63.4 (2014)+A1 (2017): American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

2.2 Mode of operation during the test

Within this test report, EUT was tested under all available operation modes and tested under its rating voltage and frequency. Other voltage and frequency is specified if used.

2.3 Test software list

Test Items	Software	Manufacturer	Version
Conducted emission	ESxS-K1	R&S	V1.3.0.2
Radiated emission	ES-K1	R&S	V1.71

2.4 Test peripherals list

Item No.	Name	Band and Model	Description
1	Resistive load	Band: JUWEI, Model:5V-1A-2A-3A	Test load: 5Ω

2.5 Record of climatic conditions

Test Item	Temperature (°C)	Relative Humidity (%)	Pressure (Kpa)
Conducted emission	24	48	-
Radiated Emission	23	48	-

Notes: NA =Not Applicable

2.6 Instrument list

Conducted Emission					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
☒	Test Receiver	R&S	ESR7	EC 6194	2025-02-27
☒	Attenuator	Hua Xiang	Ts5-10db-6g	EC 6194-1	2025-12-06
☒	A.M.N.	R&S	ESH2-Z5	EC 3119	2025-07-23
Radiated Emission					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
☒	Test Receiver	R&S	ESIB 26	EC 3045	2025-08-22
☒	Bilog Antenna	TESEQ	CBL 6112B	EC 6411	2025-09-12
Tet Site					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
☒	Shielded room	Zhongyu	-	EC 2838	2026-01-09
☒	Semi-anechoic chamber	Albatross project	-	EC 3048	2025-07-08
Additional instrument					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
☒	Thermo-Hygrograph	Testo	175h1	EC 6640	2025-08-28
☒	Thermo-Hygrograph	Testo	175h1	EC 6641	2025-08-28

2.7 Measurement Uncertainty

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted emission at mains ports	9kHz ~ 150kHz	3.71 dB
	150kHz ~ 30MHz	3.31 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.04 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	4.97 dB
	6GHz ~ 18GHz	5.29 dB

3 Conducted emission

Test result: PASS

3.1 Limits

3.1.1 Limits for conducted emission of class A device

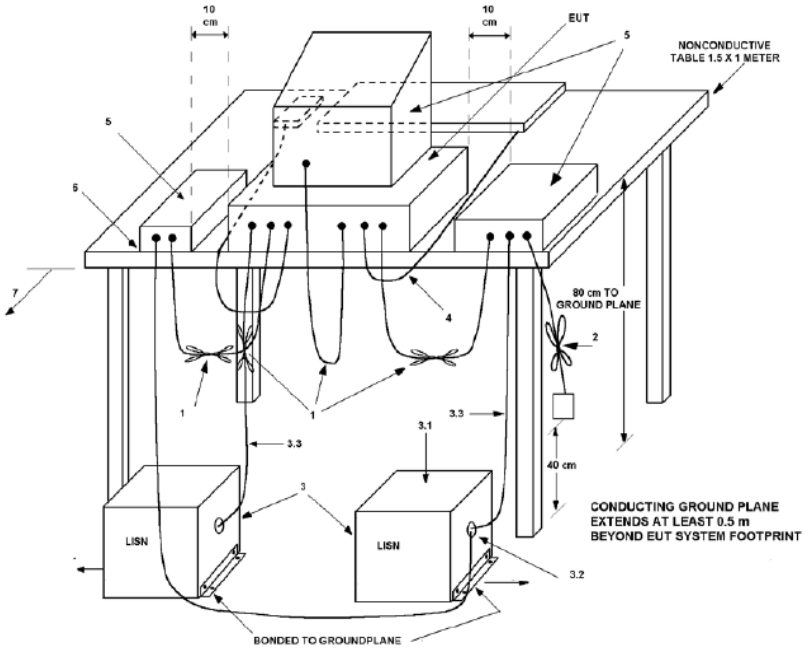
Frequency range (MHz)	Limits dB(μV) Quasi-peak	Average
0.15 ~ 0.5	79	66
0.5 ~ 30	73	60
Note: If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the equipment under test shall be deemed to meet both limits and the measurement using the receiver with an average detector need not be carried out.		

3.1.2 Limits for conducted emission of class B device

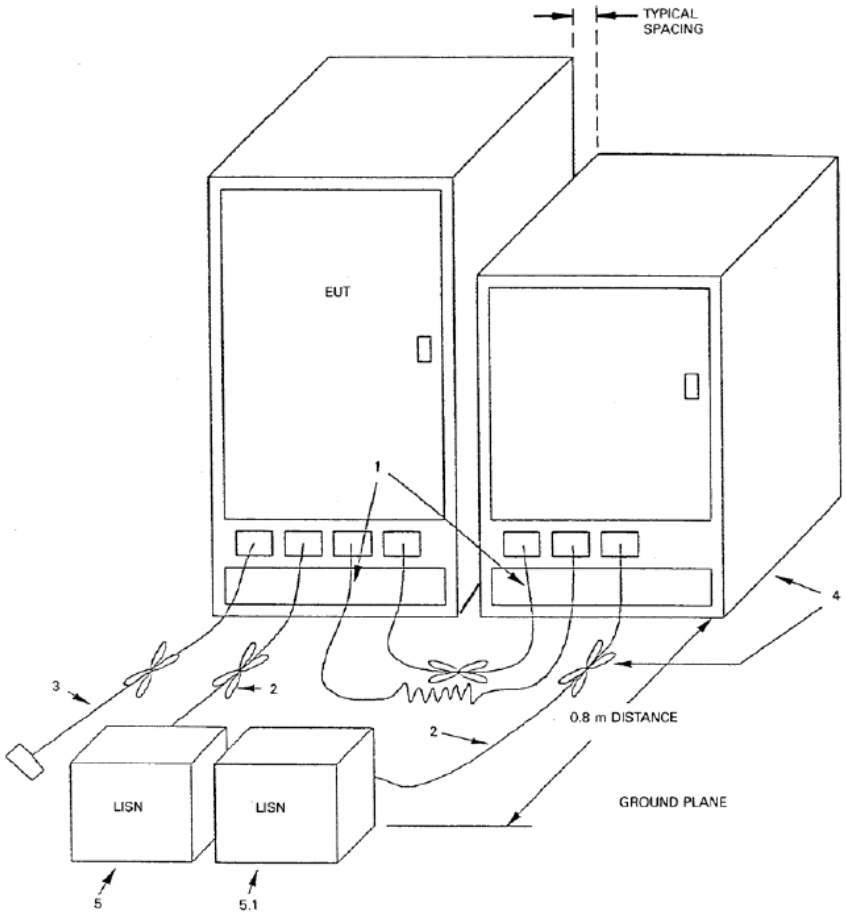
Frequency range (MHz)	Limits dB(μV) Quasi-peak	Average
0.15 ~ 0.5	66 ~ 56 *	56 ~ 46 *
0.5 ~ 5	56	46
5 ~ 30	60	50
Note: 1. * Means the limit decreasing linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz 2. If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the equipment under test shall be deemed to meet both limits and the measurement using the receiver with an average detector need not be carried out.		

3.2 Test setup

☒ For table top equipment



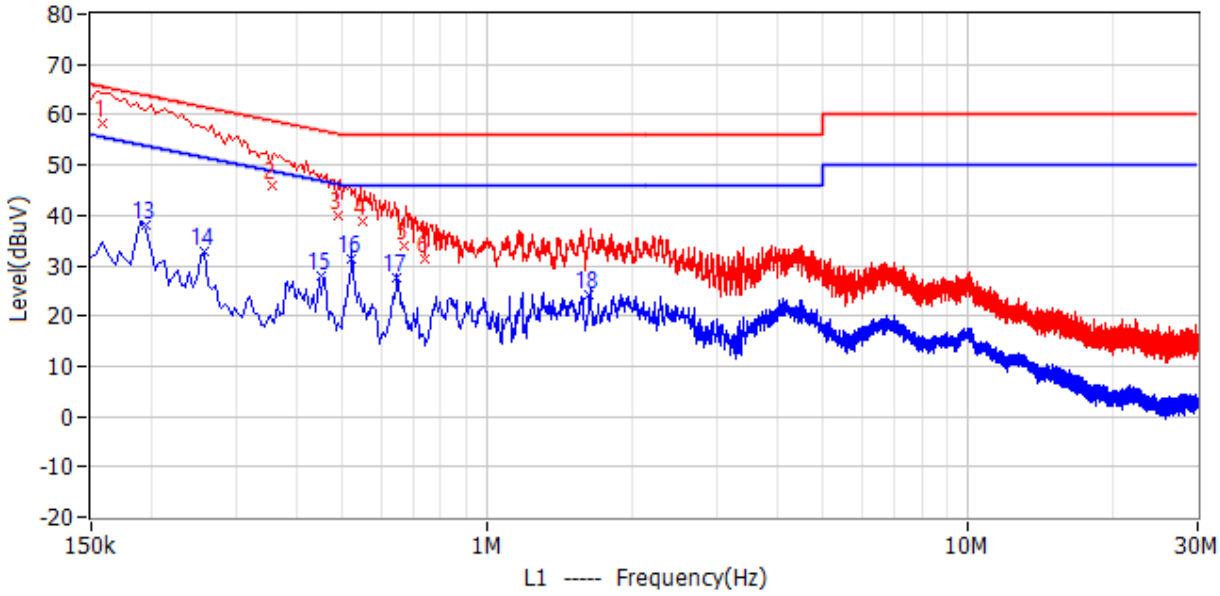
☐ For floor standing equipment

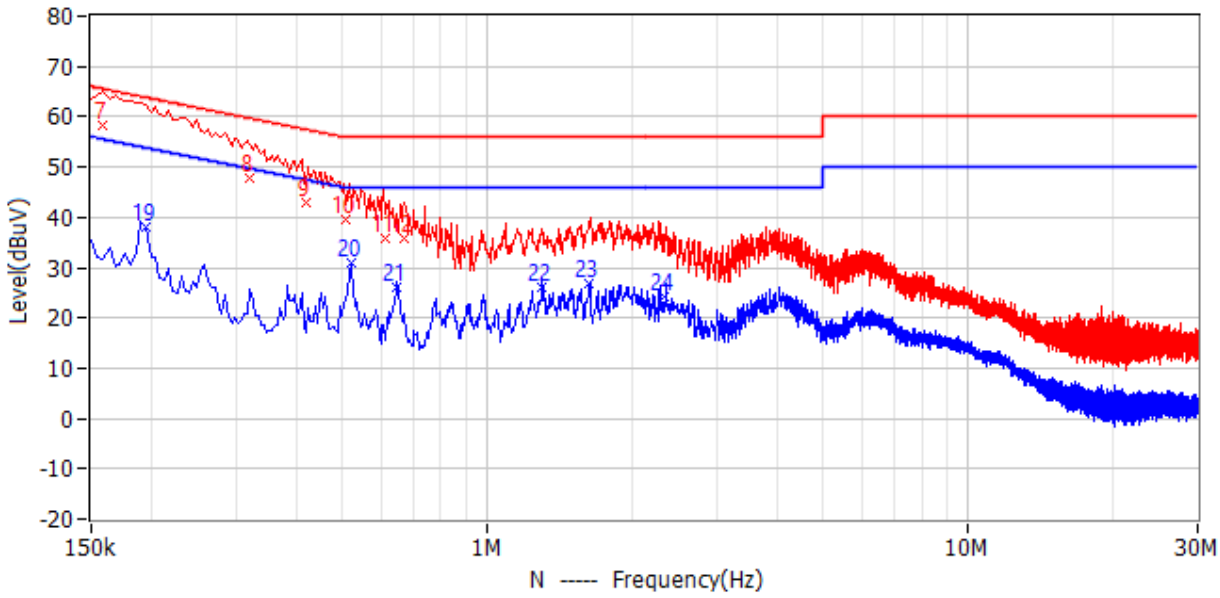


3.3 Test Setup and Test Procedure

Measurement was performed in shielded room, and instruments used were following clause 4 and clause 5 of ANSI 63.4.
Detailed test procedure was following clause 7.3 of ANSI 63.4.
EUT arrangement and operation conditions were according to clause 6 and clause 7 of ANSI 63.4.
Frequency range 150kHz – 30MHz was checked and EMI receiver measurement bandwidth was set to 9 kHz.

3.4 Test Protocol





No.	Frequency	Limit dBuV	Level dBuV	Delta dB	Reading dBuV	Factor dB	Detector	Phase
1	159.000kHz	65.5	58.2	-7.3	52.0	6.2	QP	L1
2	357.000kHz	58.8	45.8	-13.0	39.6	6.2	QP	L1
3	487.500kHz	56.2	40.1	-16.1	33.9	6.2	QP	L1
4	550.500kHz	56.0	38.7	-17.3	32.5	6.2	QP	L1
5	672.000kHz	56.0	34.0	-22.0	27.8	6.2	QP	L1
6	739.500kHz	56.0	31.2	-24.8	25.0	6.2	QP	L1
7	159.000kHz	65.5	58.3	-7.2	52.1	6.2	QP	N
8	321.000kHz	59.7	47.7	-12.0	41.5	6.2	QP	N
9	420.000kHz	57.4	43.1	-14.3	36.9	6.2	QP	N

No.	Frequency	Limit dBuV	Level dBuV	Delta dB	Reading dBuV	Factor dB	Detector	Phase
10	505.500kHz	56.0	39.6	-16.4	33.4	6.2	QP	N
11	613.500kHz	56.0	35.9	-20.1	29.7	6.2	QP	N
12	672.000kHz	56.0	35.9	-20.1	29.7	6.2	QP	N
13	195.000kHz	53.8	38.2	-15.7	32.0	6.2	CAV	L1
14	258.000kHz	51.5	32.7	-18.8	26.5	6.2	CAV	L1
15	451.500kHz	46.8	28.0	-18.9	21.8	6.2	CAV	L1
16	519.000kHz	46.0	31.3	-14.7	25.1	6.2	CAV	L1
17	645.000kHz	46.0	27.4	-18.6	21.2	6.2	CAV	L1
18	1.622MHz	46.0	24.3	-21.7	18.1	6.2	CAV	L1
19	195.000kHz	53.8	37.9	-16.0	31.7	6.2	CAV	N
20	519.000kHz	46.0	30.8	-15.2	24.6	6.2	CAV	N
21	645.000kHz	46.0	26.1	-19.9	19.9	6.2	CAV	N
22	1.298MHz	46.0	26.1	-19.9	19.9	6.2	CAV	N
23	1.626MHz	46.0	27.0	-19.0	20.8	6.2	CAV	N
24	2.342MHz	46.0	24.2	-21.8	18.0	6.2	CAV	N

Note: *means margin is more than 20dB

Remark: 1. Correct Factor = LISN Factor + Cable Loss, 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 LISN Factor = 10.00dB, Cable Loss = 2.00dB,
Original Receiver Reading = 10.00dBuV, Limit = 66.00dBuV.
Then Correct Factor = 10.00 + 2.00 = 12.00dB;
Corrected Reading = 10dBuV + 12.00dB = 22.00dBuV;
Margin = 66.00dBuV – 22.00dBuV = 44.00dB.

4 Radiated emission

Test result: **PASS**

4.1 Radiated emission limits

4.1.1 Limits for radiated emission of class A device

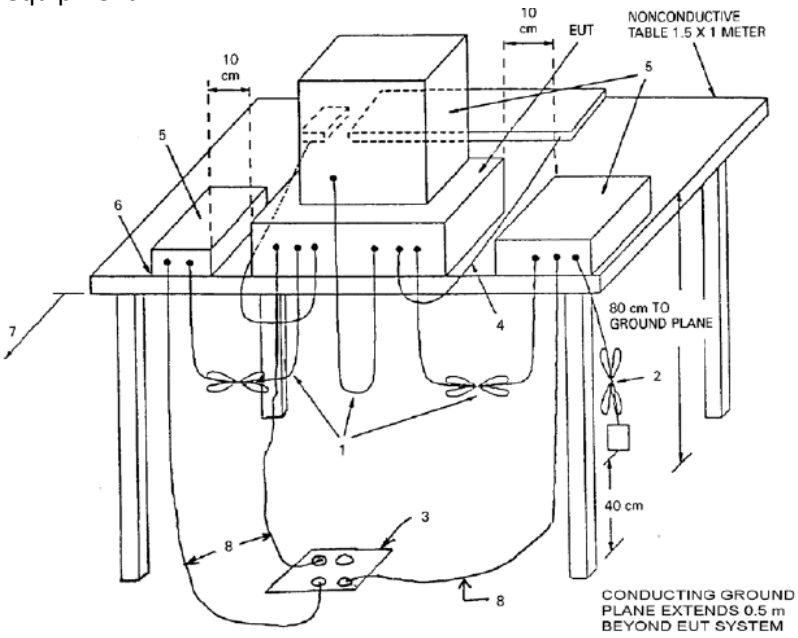
Frequency (MHz)	Permitted limit in dBμV/m (Quasi-peak) of Measurement Distance 10m
30 ~ 88	39
88 ~ 216	43.5
216 ~ 960	46.4
Above 960	49.5
Note: for the measurement distance other than 3m and 10m, the limit is varied according to 20dB/10 decades.	

4.1.2 Limits for radiated emission of class B device

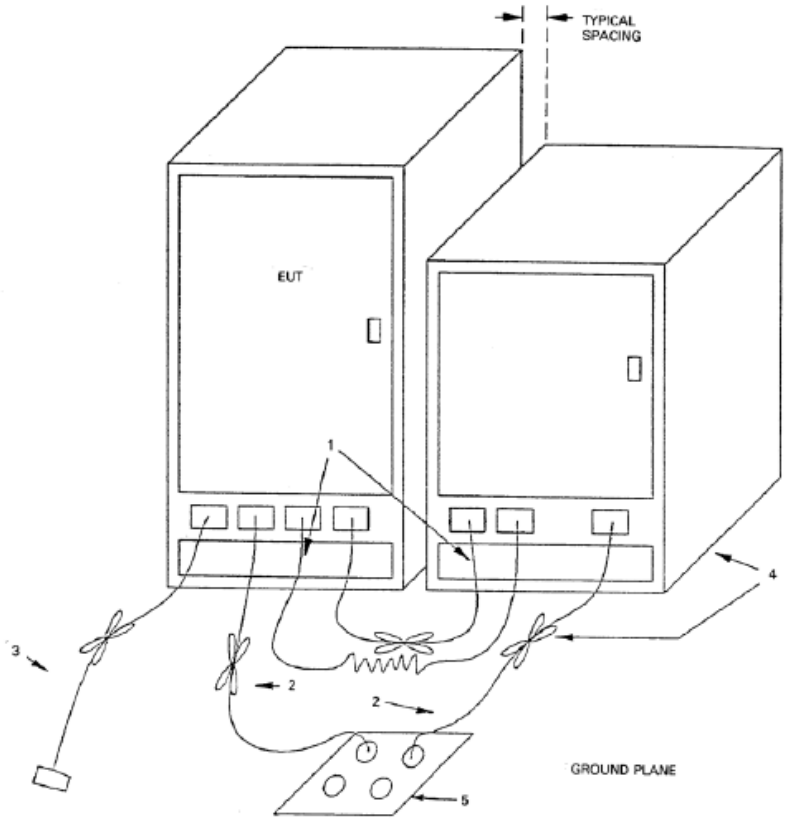
Frequency (MHz)	Permitted limit in dBμV/m (Quasi-peak) of Measurement Distance 3m
30 ~ 88	40.0
88 ~ 216	43.5
216 ~ 960	46.0
Above 960	54.0
Note: for the measurement distance other than 3m and 10m, the limit is varied according to 20dB/10 decades.	

4.2 Block diagram and test set up

☒ For table top equipment



☐ For floor standing equipment



4.3 Test Setup and Test Procedure

The measurement was performed in a semi-anechoic chamber.

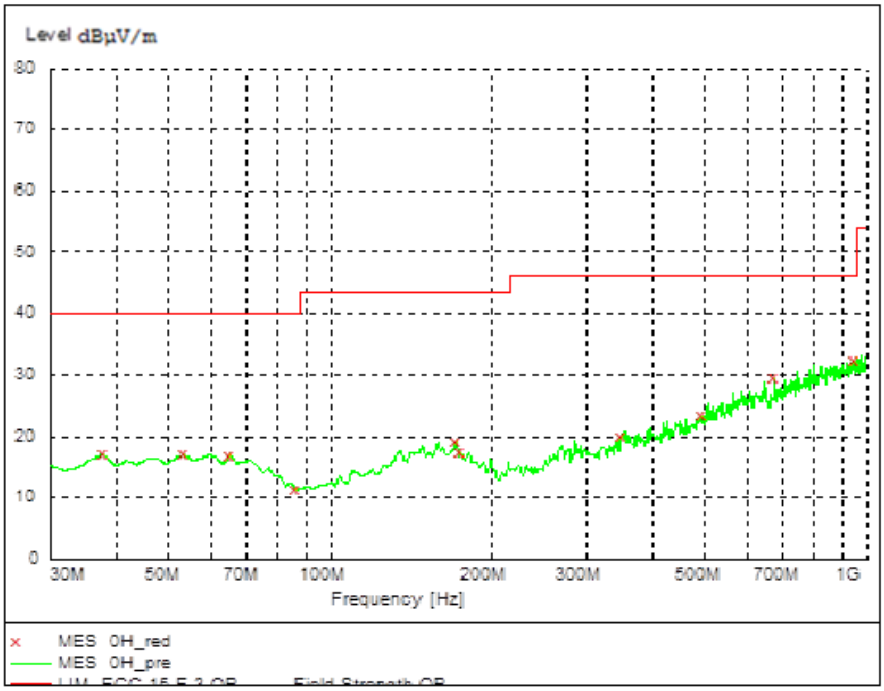
The distance from EUT to receiving antenna is 3 meter.

Measurement was performed according to clause 4 and clause 5 of ANSI 63.4.
Test procedure was according to clause 8.3 of ANSI 63.4.
EUT arrangement and operate condition were according to clause 6 and clause 8 of ANSI 63.4.
The bandwidth setting on R&S Test Receiver was 120 kHz.
The required measurement frequency range was checked.

4.4 Test Protocol

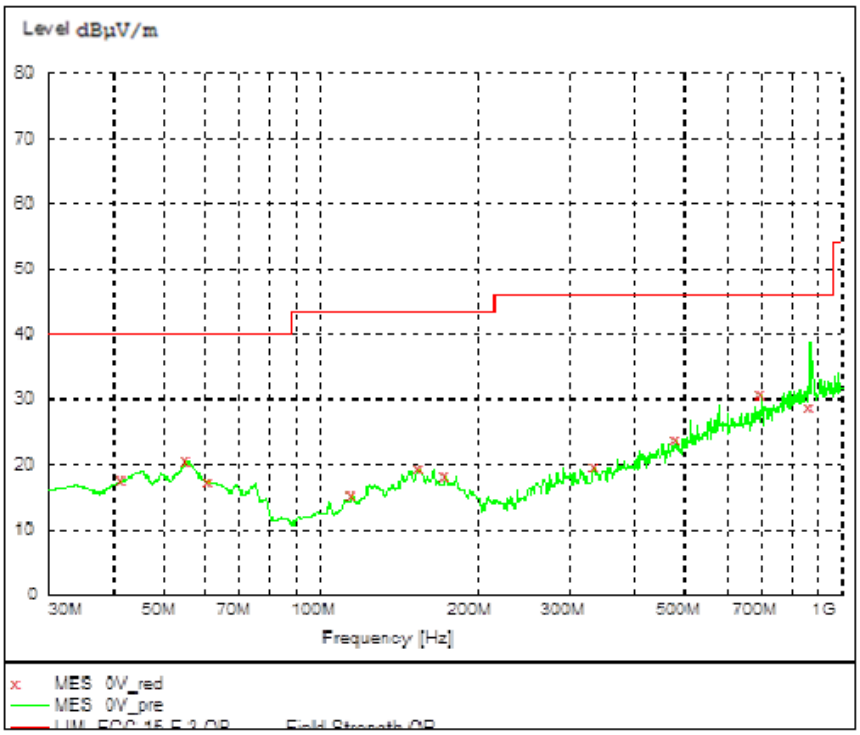
Test Curve:

Horizontal



Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB
37.775551	17.10	13.6	40.0	22.9
53.326653	16.90	14.4	40.0	23.1
64.989980	16.80	13.4	40.0	23.2
86.372745	11.30	9.2	40.0	28.7
171.903808	19.20	13.8	43.5	24.3
175.791583	17.40	13.5	43.5	26.1
348.797595	19.90	16.4	46.0	26.1
492.645291	23.40	20.0	46.0	22.6
673.426854	29.40	23.2	46.0	16.6
951.402806	32.40	26.8	46.0	13.6

Vertical



Frequency MHz	Level dBuV/m	Transd dB	Limit dBuV/m	Margin dB
41.663327	17.60	13.9	40.0	22.4
55.270541	20.50	14.3	40.0	19.5
61.102204	17.30	14.0	40.0	22.7
115.531062	15.30	11.2	43.5	28.2
154.408818	19.30	14.9	43.5	24.2
173.847695	18.10	13.6	43.5	25.4
335.190381	19.60	16.1	46.0	26.4
480.981964	23.70	19.7	46.0	22.3
700.641283	30.70	23.5	46.0	15.3
869.759519	28.70	26.0	46.0	17.3

Remark: 1.Correct Factor = Antenna Factor + Cable Loss (+ Amplifier, for higher than 1GHz)
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.

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