

THE TEST REPORT

For

Home speaker with wireless charger

Model No.: P328.12X, SL218

Prepared for :
Address :

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Report No. : ES180717004H1
Date of Test : July 17, 2018 to August 16, 2018
Date of Report : August 17, 2018

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TEST REPORT DESCRIPTION

Applicant :
Manufacturer :
EUT : Home speaker with wireless charger
Model No. : P328.12X, SL218 (Note: These models are same except
selected for full test.)
Input Rating : DC 5V from adapter

Test Procedure Used:

EN 62311: 2008

The device described above is tested by EMTEK(SHENZHEN) CO., LTD. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. This report shows the EUT to be technically compliant with the EN62311: 2008 requirements. The test results are contained in this report and EMTEK(SHENZHEN) CO., LTD. is assumed full responsibility for the accuracy and completeness of these tests.

This report applies to above tested sample only and shall not be reproduced in part without written approval of EMTEK(SHENZHEN) CO., LTD.

Date of Test :

July 17, 2018 to August 16, 2018

Prepared by :

Yaping Shen

Yaping Shen/Editor

Reviewer :

Joe Xia

Joe Xia/Supervisor



Approve & Authorized Signer :

Lisa Wang

Lisa Wang/Manager

Modified Information

Version	Summary	Revision Date	Report No.
Ver.1.0	Original Version	/	ED180717004H1

1. GENERAL INFORMATION

1.1 Description of Device (EUT)

EUT : Home speaker with wireless charger

Model Number : P328.12X

Trademark : N/A

Power supply: : AC 230V, 50Hz for adapter

Applicant :

Address :

Manufacturer :

Address :

Date of received : July 17, 2018

Date of Test : July 17, 2018 to August 16, 2018

1.2 Test Facility

Site Description

EMC Lab.	: Accredited by CNAS, 2016.10.24 The certificate is valid until 2022.10.28 The Laboratory has been assessed and proved to be in compliance with CNAS-CL01:2006 (identical to ISO/IEC 17025:2005) The Certificate Registration Number is L2291.
	Accredited by TUV Rheinland Shenzhen 2016.5.19 The Laboratory has been assessed according to the requirements ISO/IEC 17025.
	Accredited by FCC, August 03, 2017 Designation Number: CN1204 Test Firm Registration Number: 882943
	Accredited by Industry Canada, November 24, 2015 The Certificate Registration Number is 4480A.
	Accredited by A2LA, July 31, 2017 The Certificate Number is 4321.01.
Name of Firm	: EMTEK(SHENZHEN) CO., LTD.
Site Location	: Bldg 69, Majialong Industry Zone District, Nanshan District, Shenzhen, China

2. GENERAL PRODUCT INFORMATION

2.1 Basic Restriction

The essential requirements of Directive 2014/53/EU in the article 3.1(a) and the limits must be taken from Council Recommendation 99/519/EC for General Population or from the ICNIRP Guidelines for Occupational Exposure. EN 62479:2010 Generic standard to demonstrate the compliance of low power electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields. The average power of EUT is less than 20mW then comply with basic restriction (1999/519/EC) without test.

3. TEST RESULT

3.1. EMF Exposure Measurement

3.1.1 Limit

Basic Restrictions

Council Recommendation 99/519/EC Annex II

Basic restrictions for electric, magnetic and electromagnetic fields (0 Hz to 300 GHz)

Frequency range	Magnetic flux density (mT)	Current density (mA/m ²) (rms)	Whole body average SAR (W/kg)	Localized SAR (head and trunk) (W/kg)	Localized SAR (limbs) (W/kg)	Power density, S (W/m ²)
0Hz	40	-	-	-	-	-
>0-1Hz	-	8	-	-	-	-
1-4Hz	-	8/f	-	-	-	-
4Hz-1000Hz	-	2	-	-	-	-
1000Hz-100kHz	-	f/500	-	-	-	-
100kHz-10MHz	-	f/500	0.08	2	4	-
10MHz-10GHz	-	-	0.08	2	4	-
10GHz-300GHz	-	-	-	-	-	10

Note:

1. f is the frequency in Hz.
2. The basic restriction on the current density is intended to protect against acute exposure effects on central nervous system tissues in the head and trunk of the body and includes a safety factor. The basic restrictions for ELF fields are based on established adverse effects on the central nervous system. Such acute effects are essentially instantaneous and there is no scientific justification to modify the basic restrictions for exposure of short duration. However, since the basic restriction refers to adverse effects on the central nervous system, this basic restriction may permit higher current densities in body tissues other than the central nervous system under the same exposure conditions.
3. Because of electrical inhomogeneity of the body, current densities should be averaged over a cross section of 1 cm² perpendicular to the current direction.
4. For frequencies up to 100kHz, AV current density values can be obtained by multiplying the rms value by $\sqrt{2}$ (=1.414). For pulses of duration t_p the equivalent frequency to apply in the basic restrictions should be calculated as $1/(2t_p)$.
5. For frequencies up to 100kHz and for pulsed magnetic fields, the maximum current density associated with the pulses can be calculated from the rise/fall times and the maximum rate of change of magnetic flux density. The induced current density can then be compared with the appropriate basic restriction.
6. All SAR values are to be averaged over any six-minute period.
7. Localised SAR averaging Mass is any 10g of contiguous tissue; the maximum SAR so obtained should be the value used for the estimation of exposure. These 10g of tissue are intended to be a mass of contiguous tissue with nearly homogeneous electrical properties. In specifying a contiguous mass of tissue, it is recognized that this concept can be used in computational dissymmetry but may present

difficulties for direct physical measurements. A simple geometry such as cubic tissue mass can be used provided that the calculated dissymmetric quantities have conservative values relative to the exposure guidelines.

8. For pulses of duration t_p the equivalent frequency to apply in the basic restrictions should be calculated as $f_{eq} = 1/(2t_p)$. Additionally, for pulsed exposures, in the frequency range 0.3 to 10GHz and for localized exposure of the head, in order to limit and avoid auditory effects caused by thermoplastic expansion, an additional basic restriction is recommended. This is that the SA should not exceed 2mJ kg⁻¹ averaged over 10g of tissue.

Reference Levels

Council Recommendation 99/519/EC Annex III

Reference levels for electric, magnetic and electromagnetic fields (0 Hz to 300GHz)

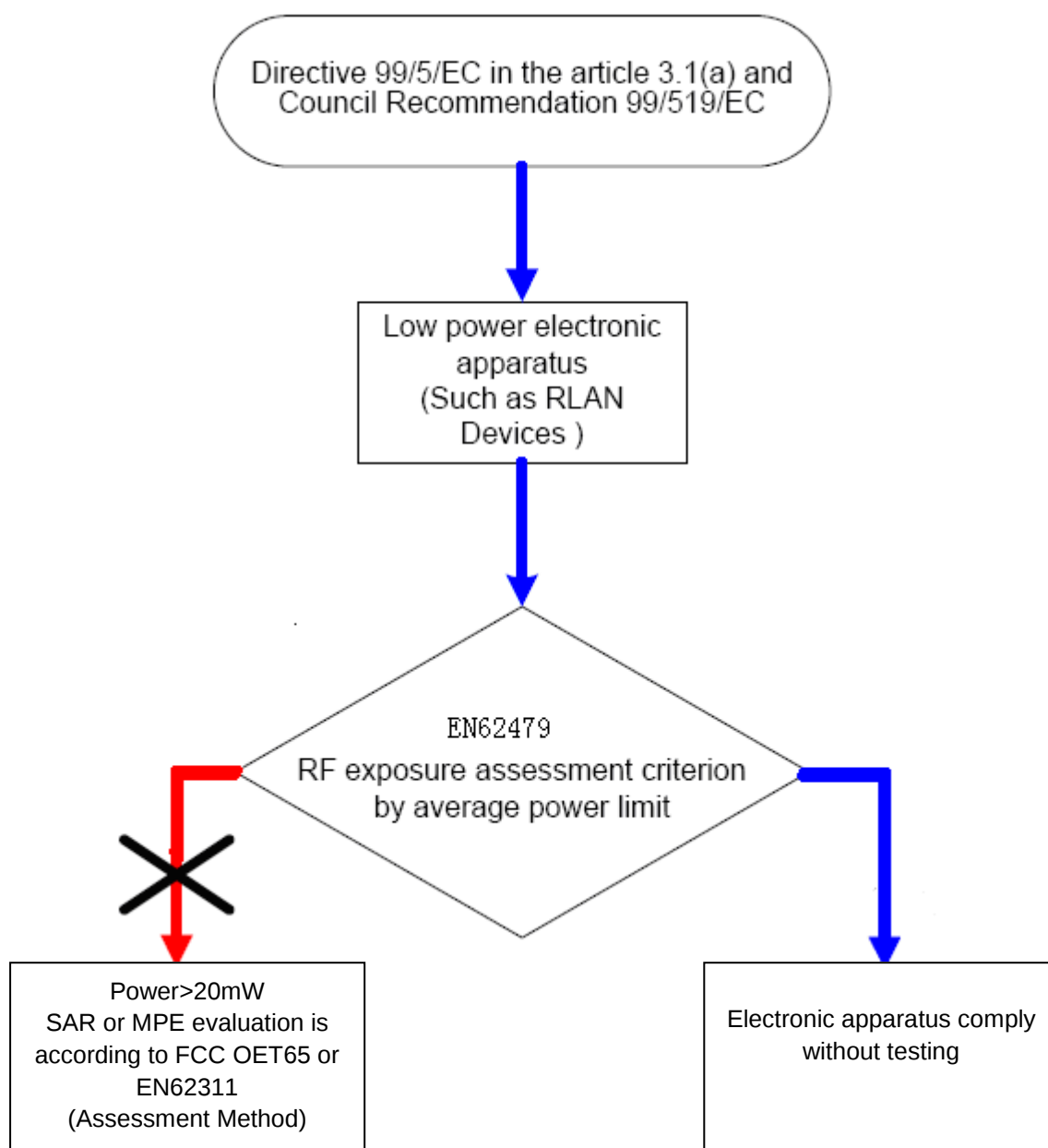
Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field (μT)	Equivalent plane wave power density Seq (W/m ²)
0-1 Hz	-	3.2×10^4	4×10^4	-
1-8 Hz	10000	$3.2 \times 10^4 / f^2$	$4 \times 10^4 / f^2$	-
8-25 Hz	10000	$4000 / f$	$5000 / f$	-
0.025-0.8 kHz	$250 / f$	$4 / f$	$5 / f$	-
0.8-3 kHz	$250 / f$	5	6.25	-
3-150 kHz	87	5	6.25	-
0.15-1 MHz	87	$0.73 / f$	$0.92 / f$	-
1-10 MHz	$87 / f^{1/2}$	$0.73 / f$	$0.92 / f$	-
10-400 MHz	28	0.073	0.095	2
400-2000 MHz	$1.375 f^{1/2}$	$0.0037 f^{1/2}$	$0.0046 f^{1/2}$	$f / 200$
2-300 GHz	61	0.16	0.2	10

Notes:

1. As indicated in the frequency range column.
2. For frequencies between 100kHz and 10 GHz, Seq, E2, H2 and B2 are to averaged over any six-minute period.
3. For frequencies exceeding 10 GHz, Seq, E2, H2, and B2 are averaged over any 68/1.05-minute period(in GHz).
4. No E-field value is provided for frequencies <1 Hz, which are effectively static electric fields. For most people the annoying perception of surface electric charges will not occur at field strengths less than 25 kV/m. Spark discharges causing stress or annoyance should be avoided.

3.1.2. Evaluation Routine

Low Power Electronic Apparatus for RF exposure evaluation routine



3.1.3. Measurement Result

Magnetic Field (H-Field) strength at 15cm from the boundaries of EUT, and 20cm from the top.

Test Mode: Charging					
		Measuring Distance(cm)	Magnetic Field(A/m)	Limit(A/m)	50% Limit(A/m)
Measurement Point 1	Front	15	0.185	1.63	0.815
Measurement Point 2	Back	15	0.164		
Measurement Point 3	Left	15	0.169		
Measurement Point 4	Right	15	0.157		
Measurement Point 5	Bottom	15	0.166		
Measurement Point 6	Top	20	0.172		

Magnetic Field (H-Field) strength at 15cm from the boundaries of EUT, and 20cm from the top.

Test Mode: Charging					
		Measuring Distance(cm)	Magnetic Field(V/m)	Limit(A/m)	50% Limit(A/m)
Measurement Point 1	Front	15	114.485	614	307
Measurement Point 2	Back	15	121.364		
Measurement Point 3	Left	15	105.297		
Measurement Point 4	Right	15	120.386		
Measurement Point 5	Bottom	15	122.675		
Measurement Point 6	Top	20	124.869		

END OF REPORT