TEST REPORT

EN 50332-1: 2013

Sound system equipment –

Headphones and earphones associated with portable audio equipment –

Maximum sound pressure level measurement methodology

and limit considerations –

Part 1: General method for "one package equipment"

Report reference No. .....:	STR16108061S-1
Tested by (printed name and signature) .....:	Ian Sun
Verified by (printed name and signature) .....:	Harvid Wei
Date of issue .....:	November 04, 2016

Testing laboratory .....:	Shenzhen SEM.Test Technology Co., Ltd.
Address .....:	1/F, Building A, Hongwei Industrial Park, Liuxian 2nd Road, Bao'an District, Shenzhen, P.R.C (518101)
Testing location & address.....:	As above

Applicant's Name .....:	Vonino Electronics CTD.
Address .....:	Miramar Tower 10F-NO.1010, 132 Nathan Road, Tsim Sha Tsui, Kowloon, Hong Kong.

Test specification	
Standard.....:	EN 50332-1: 2013
Test procedure .....:	Type Approval
Non-standard test method .....:	N.A.

This test report is specially limited to the above client company and product model only. It may not be duplicated without prior written consent of SEM.Test.

Test item description .....:	Smart Phone
Trademark .....:	VONINO
Manufacturer .....:	Shenzhen Fortuneship Technology Co., Ltd Room 701-716, 7th Floor, Kanghesheng Building, No.1 Chuangsheng Road, Nanshan District, Shenzhen, Guangdong, P. R. China
Model/type reference .....:	JAX S
Serial number .....:	Test sample without serial numbers
Rating(s).....:	3.8VDC(Rechargeable Li-ionBattery), Earphone: 2 × 32 Ω

Summary of testing .....:	The sample(s) tested complies with the requirements of EN 50332-1: 2013.

Test items particulars	
Player:	
Input signal ..... :	A programmed simulation noise, as defined in IEC 60268-1.
Power supply voltage tolerance (± 3%)..... :	1.5%
Operating conditions ..... :	Controls setting: - noise reduction system: OFF; - volume control: Maximum; - tone control: adjust in order to maximise the sound pressure level. The EUT output port is loaded with a resistive load of 32Ω.
Headphone/earphone:	
Input signal ..... :	A programmed simulation noise, as defined in IEC 60268-1.
Source impedance ..... :	The output impedance of test signal is 1.6Ω (limit ≦2Ω).
HATS used ..... :	A suitable HATS used.
Headphone/earphones fit..... :	Headphones/earphones are positioned on the HATS correctly, so that the measured sound pressure level is maximized. The manufacturer's instructions for correct use have taken into account.
Measurement and evaluation ..... :	The characteristic voltage WBCV is the input signal voltage when sound pressure level reaches 94 dB SPL.
Test case verdicts	
Test case does not apply to the test object :	N(/A)
Test item does meet the requirement ..... :	P(ass)
Test item does not meet the requirement .. :	F(ail)
Testing	
Date of receipt of test item ..... :	April 19 , 2016
Date(s) of performance of test ..... :	April 19 , 2016 – May 06 , 2016
General remarks This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory. "(see attachment #)" refers to additional information appended to the report. "(see appended table)" refers to a table appended to the report. Throughout this report a point is used as the decimal separator.	

General product information:

This test report always as an appended report of report no. STR16108061S.

The EUT is a Smart Phone with audio output port for headphone.

The headphone is sold separately with Smart Phone.

All tests were carried out with the model JAX S.

EN 50332-1: 2013			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
4	**MEASURING PRINCIPLE**		P
4.1	**General description**		P
	The sound pressure level produced by headphones or earphones can be measured by subjective methods or by objective methods.		P
	The reference method for evaluating the sound pressured level emitted by earphones is a psycho acoustic method known as “equal loudness” (EN60268-7)		P
4.2	**Measuring principle**		P
	The standard is based on the use of a Head and Torso Simulator (HATS) in accordance with IEC 60318-7		P
	The sound pressure level measured by the ear simulator microphone represents the pressure found at eardrum level and differs from that of the free field pressure by the HATS transfer function		P
5	**TEST SIGNAL**		P
5.1	Actual musical signals are continuously fluctuating in both amplitude and spectral contents and thus cannot be used as test signals		P
	The test signal must therefore be a stationary wide-band signal, the spectral content of which is representative of the musical signals.		P
	The test signal used to determine the maximum sound pressure level of headphones shall be programme simulation noise, as defined in HD 483.1 S2.		P
5.2	Test signal level for analogue recorders		P
	With analogue tape recording on compact cassette, “0 dB” level recording corresponds by definition to a flux value of 250 nWb/m at a frequency of 315 Hz (EN60094-2)		P
5.3	Test signal level for FM radio		N
	Measurements on receivers for frequency modulated sound broadcasting emissions are defined in EN 60315-4.		N
5.4	Test signal level for digital music players		P

EN 50332-1: 2013			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	The test signal is the programme simulation noise as defined in HD 483.1 S2.		P

6	**MEASURING ARRANGEMENT AND TEST PROTOCOL**		P
6.1	The device under test plays the recorded test signal (for operating conditions see 6.3). Earphones or headphones shall be correctly positioned on the HATS.		P
6.2	Headphone fit		P
	Various types and shapes of headphones or earphones (as described in EN 60268-7) can be supplied with portables audio sets, depending on manufacturers and models		P
	Supra-concha and intra-concha earphones shall be positioned on the manikin in order to fit normally, take into account the manufacturer's instructions for use.		P
	Supra-aural and circumaural earphones shall be positioned on the HATS so that the measured sound pressure level is maximised.		P
6.3	Operating conditions		P
	Devices under test shall be powered by a stabilised power supply, at their nominal supply voltage, with a tolerance of ±3%		P
	When testing devices, all measurements shall be taken at the following settings:		P
	--- noise reduction system: OFF		P
	--- volume control: maximum		P
	--- tone control: adjusted in order to maximise the sound pressure level.		P
6.4	Measurements and evaluation		P
	The measuring equipment shall conform to: - EN 61672-1, class 1 for sound level meters; - EN61260, class 1 for 1/3 octave analysers.		P
	Tests are repeated five times for each ear, and the headphone shall be removed and repositioned before each measurement.		P
	The A-weighted equivalent continuous sound pressure level LAeq shall be determined for each measurement, using an averaging time of 30 s or more.		P

EN 50332-1: 2013			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	The maximum sound pressure level considered as the test result is the mean value of all LAeq measurements		P
	If the player has a connector foe headphones or earphones, the output characteristics shall be measured in accordance with EN 50332-2:2013, 5.2.3 and 5.2.4.		N
	The type of HATS, the type of pinnae, the type of equalisation, and the playback application used shall be recorded in addition to the measured LAeq.		P

Measuring arrangement

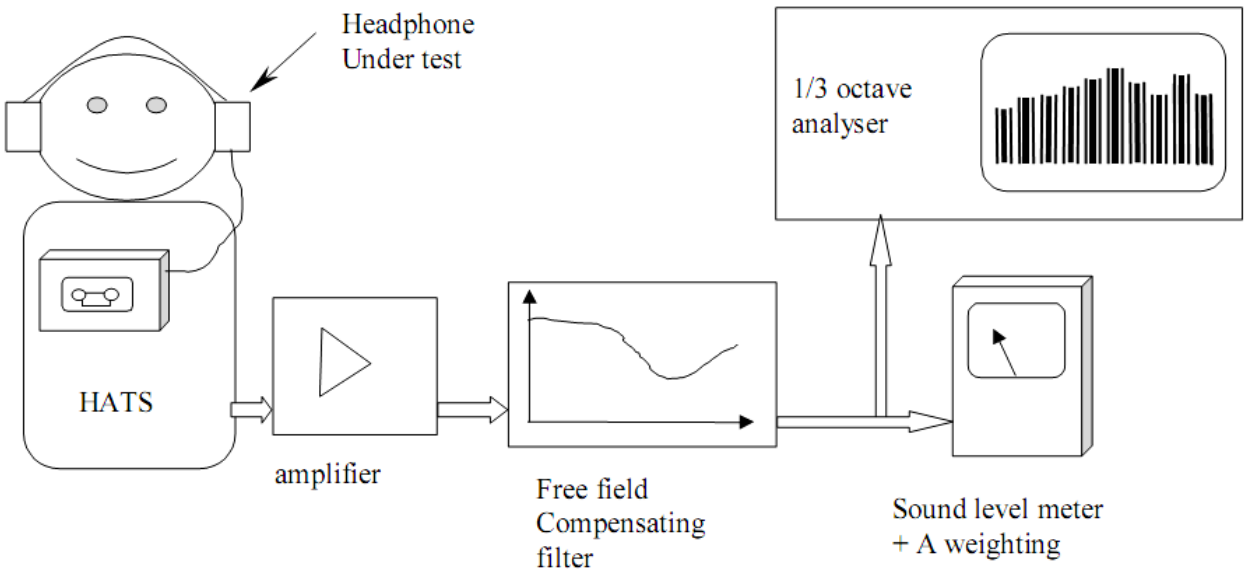

Figure 1 — Measuring arrangement

Test equipment:

Instrument	Model	Manufacturer	Cal. Last Date	Cal. Due Date
Sound level calibrator	4231	Br el & Kjaer	2015-07-27	2016-07-26
Dual microphone power supply	5935L	Br el & Kjaer	2015-07-27	2016-07-26
Ear simulator	4158C	Br el & Kjaer	2015-07-27	2016-07-26
Multimeter	15B	FLUKE	2015-07-27	2016-07-26
HATS	4128C	Br el & Kjaer	2015-07-27	2016-07-26

Measuring result:

6.4	Measuring result (SPL)				P
Model No.: JAX S					
	Measurement No.1	Measurement No.2	Measurement No.3	Measurement No.4	Measurement No.5
Left side(dB)	73.60	73.65	73.62	73.60	73.77
Right side(dB)	74.88	74.95	74.59	74.52	74.66
Average (dB)	Left side: 73.648		Right side: 74.720		
Note: Criterion request: ≤100dB					