

**TEST REPORT**  
**EN 50332-2: 2013**  
**Sound system equipment –**  
**Headphones and earphones associated with portable audio equipment –**  
**Maximum sound pressure level measurement methodology**  
**and limit considerations –**  
**Part 2: Matching of sets with headphones**  
**if either or both are offered separately**

Report reference No. ....: STR16108061S-2

Tested by (printed name and signature).....: Ian Sun



Approved 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 .....: As above

Applicant .....: Vonino Electronics CTD..

Address .....: V Miramar Tower 10F-NO.1010, 132 Nathan Road, Tsim Sha Tsui, Kowloon, Hong Kong

Manufactory .....: Shenzhen Fortuneship Technology Co., Ltd

Address .....: Room 701-716, 7th Floor, Kanghesheng Building, No.1 Chuangsheng Road, Nanshan District, Shenzhen, Guangdong, P. R. China

Standard .....: EN 50332-2: 2013

Test procedure .....: Type Approval

Procedure deviation .....: N.A

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.**

Type of test object .....: Smart Phone

Trademark .....: VONINO

Model/type reference .....: JAX S

Rating .....: Input: 5V $\overline{=}$  1.0A or Powered by 3.8V, 2000mAh Rechargeable Li-ion Battery

**Possible test case verdicts:**

- test case does not apply to the test object.....: N(.A.)
- test object does meet the requirement .....: P(ass)
- test object 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
- Degree of protection against moisture .....: IPX0

**General remarks:**

”(see remark #)” refers to a remark appended to the report.  
(see appended table)” refers to a table appended to the report.  
Throughout this report a comma is used as the decimal separator.  
The test results presented in this report relate only to the object tested.  
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<b>Clause</b>	<b>Requirement – Test</b>	<b>Result - Remark</b>	<b>Verdict</b>
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<b>4</b>	<b>Basic conditions for specifications and measurements</b>		P
<b>4.1</b>	<b>MEASURING PRINCIPLE</b>	Reference is made to EN 50332-1, see below.	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
<b>4.2</b>	<b>Measuring principle</b>		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

<b>5</b>	<b>Player characteristics and methods of measurement</b>		P
5.1	Maximum output voltage Vm	See append table 5.1	P
5.2	Method of measurement and conditions		P
5.2.1	Input signal	Specified in Part 1, clause 5	P
	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
5.2.2	Operating conditions		—
	- By a established power supply		P
	- tolerance of nominal supply voltage	± 3%	P
	- All controls are adjusted to maximum sound pressure level		P
	- load of player output	32Ω	P

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Clause	Requirement – Test	Result - Remark	Verdict
5.2.3	Method of measurement for analogue audio outputs		N
	The measuring equipment shall conform to: - EN 61672-1, class 1 for (sound level meters); - EN61260, class 1 for (1/3 octave analysers).		N
	The maximum output voltage $V_m$ shall be defined as unweighted r.m.s. voltage at the load, using an averaging time of 30 s or more.		N
5.2.4	Method of measurement for digital audio outputs		N
	The maximum output level $L_m$ shall be defined as average of digital signal, using an averaging time of 30 s or more.		N
	The digital input test signal is defined in EN 50332-1 as -10 dBFS.		N

<b>6</b>	<b>Headphone/Earphone characteristics and methods of measurement</b>		<b>P</b>
6.1	Measuring equipment		N
	The measuring equipment shall be in accordance with EN 61672-1 when connected with a HATS microphone.		—
6.2	Simulated programme signal characteristic voltage		N
6.3	Method of measurement arrangement and conditions		N
6.3.1	Input signal		N
	- is program simulation noise as defined in HD 483.1 S2		N
	- according part 1, subclause 5.1		N
6.3.2	Source impedance of analogue input devices		N
	- output impedance of the test signal source		N
6.3.3	Acoustical measurement method		N
6.3.4	Headphones / earphones fit		N
	- Position correctly for measuring maximum sound pressure		N
	- the manufacturer's instruction for correct use		N
6.2.5	Measure and evaluation		P
	- part 1, subclause 6.4		N

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Clause	Requirement – Test	Result - Remark	Verdict
	- sound pressure level reaches 94 dB SPL		P

Annex A	Example test procedure for acoustic safety of listening devices	P
A.1	Acoustic coupling between listening device's receiver and the ear simulator on HATS(head and torso simulator)	P
A.1.1	General	P
A.1.2	Circum-aural, Supra-aural and Supra-concha listening devices	P
A.1.3	Intra-concha listening devices	P
A.1.4	Insert type listening devices	P
A.2	Measurement and Analysis(General)	P
A.3	Corded analogue listening device	P
A.4	Corded digital listening device	P
A.5	Cordless digital listening device	P
A.6	Listening device with multiple operating modes	P

### Measuring result:

5.1	Measuring result	P	
Model No.: JAX S			
	SPL (dB)	$V_{max}$ (mV)	Criterion request(mV)
Left side	--	43.5	≤150
Right side	--	43.3	≤150
Note: N/A.			

6.2.5	Measuring result (SPL) (Part 1, 6.4)	N			
Model No.:					
	Measurement No.1	Measurement No.2	Measurement No.3	Measurement No.4	Measurement No.5
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Average	Right side				
Note: N/A.					

6.2.5	Measuring result (WBCV)	P
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Model No.: JAX S			
	SPL (dB)	$V_{WBCV}$ (mV)	Criterion request(mV)
Left side	94	156	$\geq 75$
Right side	94	154	$\geq 75$
Note: N/A.			

# Photo

Model: JAX S



\*\*\*\*\*End of Test Report\*\*\*\*\*