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EMC VERIFICATION SUMMARY

Report No.: 14110692HKG-001

Radio Cassette CD DVD MP3 Amplifier Clock Others Ear Amplifier

Model: TS-2038		Applicant: Taising Hearing Amplifier Ltd. Flat C, 15/F., Phase 1, Golden Dragon Industrial Centre, 152-160 Tai Lin Pai Road, Kwai Chung, N.T., Hong Kong.	
Product Description: Superior Ear Amplifier		Sample Receipt Date: 18 Nov 2014	
Test Conducted Date: 18 Nov 2014 to 26 Nov 2014			
<input checked="" type="checkbox"/> 1 st TEST	ALL TESTS WERE CONDUCTED IN ACCORDANCE WITH:		
<input type="checkbox"/> 2 nd TEST	* EN61000-6-3: 2007+A1		
	* EN55020: 2007+A11		
Test Result	OK	Not OK	See Remark
EN61000-6-3: 2007+A1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EN55020: 2007+A11	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Notes: When determining the test conclusion, the Measurement Uncertainty of test has been considered.			

Remarks: Nil

Prepared and Checked By:

Approved By:

Signed On File
Henry S. M. Lai/sl
Engineer

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Date: 27 Nov 2014

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EMC Results Conclusion (with Justification)

RE: EMC Testing Pursuant to EMC Directive 2004/108/EC Performed On The Superior Ear Amplifier,
Model: TS-2038

We tested the Superior Ear Amplifier, Model: TS-2038, to determine if it was in compliance with the relevant EN standards as marked on the EMC Verification Summary. We found that the unit met the requirement of EN61000-6-3 and EN55020 standards when tested as received.

The production units are required to conform to the initial sample as received when the units are placed on the market.

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INTERTEK TESTING SERVICES

Report No.: 14110692HKG-001

LABORATORY MEASUREMENTS

Configuration Information

Equipment Under Test (EUT):	Superior Ear Amplifier
Model:	TS-2038
Serial No.:	Not Labelled
Support Equipment:	N/A
Cables:	N/A
Adaptor:	N/A
Rated Voltage:	1.5VDC (1 x 1.5V "LR44" battery)

Performance Criteria for Immunity

The performance criteria are referred to the test standard:

Performance Criteria A

The equipment shall continue to operate as intended during the test. No change of actual operating state (for example change of channel) is allowed as a result of the application of the test. Multifunction equipment shall for each function meet the relevant requirements. Evaluation is carried out for audio and video functions.

Evaluation of Audio Quality

The criterion of compliance with the requirement is a wanted to unwanted audio signal ratio of $\geq 40\text{dB}$ at a wanted audio signal level of 50mW , or at another audio signal level specified by the manufacturer. If the S/N ratio is less than 43dB , the performance criterion for audio assessment is the actual S/N ratio minus 3dB . For AM sound receivers the criterion is $\geq 26\text{dB}$ at 50mW ; and is $\geq 26\text{dB}$ at 500mW for the AM/FM car radio or broadcast receiver cards for computers.

Evaluation of Video Quality

In the evaluation of picture interference the wanted test signal produces a standard picture (in the case of video tape equipment on the screen of the test-TV-set) and the unwanted signal produces a degradation of the picture. The degradation may be in a number of forms, such as a superposed pattern, disturbance of synchronization, geometrical distortion, loss of picture contrast, of colour, etc.

The criterion of compliance with the requirement is just perceptible degradation by observation of the picture. The screen shall be observed under normal viewing conditions (brightness 15 lx to 20 lx), at a viewing distance of six times the height of screen.

Performance Criteria B

The equipment shall continue to operate as intended after the test. No loss of function is allowed after the test when the apparatus is used as intended, but failures which are recovered automatically but which cause temporary delay in processing, are permissible. No change of actual operating state for example change of channel or stored data and settings is allowed as result of the application of the test. During the test, degradation of performance is allowed.

INTERTEK TESTING SERVICES

Applicant: Taising Hearing Amplifier Ltd.
Model: TS-2038
Worst Case Operating Mode: On

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Radiated Scan Pursuant to EN61000-6-3 Emissions Requirement

Used Test Equipment

Equipment	Registration No.	Manufacturer	Model No.	Serial No.
EMI Test Receiver	EW-2666	R&S	ESCI7	100792
Spectrum Analyzer	EW-2188	Agilent	E4407B	MY45103609
Biconical Antenna	EW-2512	EMCO	3104C	0009 4507
Log Periodic Antenna	EW-0447	EMCO	3146	9905-5218
14m Double Shield RF Cable (9kHz to 6GHz)	EW-2373	RADIALL	nm/ br56/ bnc m 14m	Nil
14m Double Shield RF Cable (20MHz to 6GHz)	EW-2074	RADIALL	N(m)- RG142- BNC(m) L=14M	Nil

INTERTEK TESTING SERVICES

Applicant: Taising Hearing Amplifier Ltd.
Model: TS-2038
Worst Case Operating Mode: On

Report No.: 14110692HKG-001

Data Table 1

**Radiated Scan
Pursuant to EN61000-6-3 Emissions Requirement**

Polarization	Frequency (MHz)	Net at 3m (dB μ V/m)	Calculated Net at 10m (dB μ V/m)	Limit at 10m (dB μ V/m)	Margin (dB)
V	32.956	33.6	23.6	30	-6.4
V	49.851	33.5	23.5	30	-6.5
V	66.802	34.1	24.1	30	-5.9
H	127.641	33.8	23.8	30	-6.2
H	159.558	34.1	24.1	30	-5.9
H	191.413	33.5	23.5	30	-6.5

- Notes:
1. Quasi-Peak Detector Data.
 2. Negative sign (-) in the margin column signify levels below the limit.
 3. Frequency range scanned: 30MHz to1000MHz.
 4. Only emissions significantly above equipment noise floor are reported.
 5. Uncertainty: ± 5.3 dB at a level of confidence of 95%.

INTERTEK TESTING SERVICES

Applicant: Taising Hearing Amplifier Ltd.
Model: TS-2038

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EN61000-4-2 Electrostatic Discharge

Test Summary (Pursuant to EN55020)

Port:	Enclosure	
Basic Standard:	EN61000-4-2	
Required Performance Criterion:	B	
Limit:	±8.0kV (Air Discharge)	
	±4.0kV (Contact Discharge)	
	±4.0kV (Indirect Contact Discharge)	
Test Mode:	On	
Test Setup:	Table-top	
Test of Post-Installation:	N/A	
Time Between Each Discharge:	1 second	
Test Point:	Air Discharge:	All insulated enclosure and seams
		All the points where contact discharge cannot be applied
	Contact:	All conductive surfaces of the EUT
	HCP:	All sides of the EUT
	VCP:	Four faces of the EUT

Used Test Equipment

Equipment	Registration No.	Manufacturer	Model No.	Serial No.
ESD Gun	EW-2756	Kikusui	KES4021A	RG004234

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Test Results

EN61000-4-2 Electrostatic Discharge

Discharge Type	Applied Voltage	Result (Pursuant to EN55020, Criterion B)
Contact Discharge	±4kV	N/A
Air Discharge	±8kV	OK
Indirect HCP Discharge	±4kV	OK
Indirect VCP Discharge	±4kV	OK

There was no observable degradation in performance.

Photos of EUT

External Photo





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Guidelines On Issuing EC Declaration Of Conformity Pursuant To EMC Directive

To attest the compliance of apparatus with the relevant EMC Directive, an EC Declaration of Conformity shall be issued by the manufacturer or his authorised representative in the European Community, and the attached EC Declaration of Conformity template contains all mandatory requirements pursuant to EMC Directive 2004/108/EC. Please follow the steps listed below when preparing an EC Declaration of Conformity:

1. Provide the name and address of the manufacturer;
2. Provide the name and address of the authorised representative in the European Community, where applicable;
3. For Apparatus' Description, specify the brand name and any other information allowing for the description of the apparatus to which the EC Declaration of Conformity refers;
4. For Apparatus' Identification, specify the type, batch, serial number or any other information allowing for the identification of the apparatus to which the EC Declaration of Conformity refers;
5. Specify the relevant EMC Directive with which the apparatus are in compliance;
6. List all dated specifications under which conformity is declared to ensure the conformity of the apparatus with the relevant EMC Directive, you may refer the standards shown in the Test Verification of Conformity issued by Intertek;
7. Sign the EC Declaration of Conformity by the person empowered to bind the manufacturer or his authorised representative in the European Community. The Name, Position and Company of this person shall be specified for identification;
8. State the date of issuing the EC Declaration of Conformity.

NOTES:

- a. The EC Declaration of Conformity shall be held by the manufacturer or his authorised representative in the European Community at the disposal of the competent authorities for a period of at least ten years after the date on which such apparatus was last manufactured. If neither the manufacturer nor his authorised representative is established within the European Community, the obligation to hold the EC Declaration of Conformity at the disposal of the competent authorities shall lie with the person who places the apparatus on the European Community market.
- b. If EMC Directive 2004/108/EC is applied, the manufacturer shall draw up technical documentation according to Annex IV of this EMC Directive; and in addition to CE Marking, the apparatus shall also meet other marks and information as stated in Article 9 of the same EMC Directive.
- c. The EC Declaration of Conformity guidelines and template are for your reference only, you shall ensure that the EMC Directive 2004/108/EC is applied correctly.




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Test Verification of Conformity

On the basis of the referenced test report(s), sample(s) of the below product have been found to comply with the harmonized standards and Directives listed on this verification at the time the tests were carried out. Other standards and Directives may be relevant to the product.

Once all product relevant  mark directives are verified in compliance, the manufacturer may indicate compliance by signing a Declaration of Conformity themselves and applying the mark to product identical to the test sample(s) if the product complies with all relevant CE mark Directives requirements.

Applicant Name & Address	: Taising Hearing Amplifier Ltd. Flat C, 15/F., Phase 1, Golden Dragon Industrial Centre, 152-160 Tai Lin Pai Road, Kwai Chung, N.T., Hong Kong.
Product(s) Description	: Superior Ear Amplifier
Ratings and Principle Characteristics	: 1.5VDC (1 x 1.5V "LR44" battery)
Model(s)	: TS-2038
Brand Name	: TS
Relevant Standard(s) / Specification(s) / Directive(s)	: EN61000-6-3: 2007+A1 Electromagnetic compatibility (EMC) – Part 6-3: Generic standards – Emission standard for residential, commercial and light-industrial environments EN55020: 2007+A11 Sound and television broadcast receivers and associated equipment – Immunity characteristics – Limits and methods of measurement Electromagnetic Compatibility Directive (2004/108/EC)
Verification Issuing Office	: Intertek Testing Services Hong Kong Ltd. 2/F., Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong.
Date of Test(s)	: 18 Nov 2014 to 26 Nov 2014
Test Report Number(s)	: 14110692HKG-001

NOTE: This verification is part of the full test report(s) and should be read in conjunction with them.



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