SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

No. 1 Workshop, M-10, Middle section, Science & Technology Park,
Shenzhen, Guangdong, China 518057

Telephone: +86 (0) 755 2601 2053
Fax: +86 (0) 755 2671 0594
Email: ee.shenzhen@sgs.com

TEST REPORT

Application No.:	SZEM1709009695AV
Applicant:	Shenzhen Inecan Electronic Co., Ltd.
Address of Applicant:	54A, Puxia Road, Liuyue Village, Henggang Town, Longgang District, Shenzhen, Guangdong Province, P.R.China
Manufacturer/ Factory:	Shenzhen Inecan Electronic Co., Ltd.
Address of Manufacturer/ Factory:	54A, Puxia Road, Liuyue Village, Henggang Town, Longgang District, Shenzhen, Guangdong Province, P.R.China
Equipment Under Test (EUT):	
EUT Name:	Stereo headphones
Model No.:	CNS-CHP4B, CNS-CHP4BE ♣
♣	Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.
Standard(s) :	EN 55032:2015
	EN 55020:2007 +A12:2016
Date of Receipt:	2017-09-12
Date of Test:	2017-09-12
Date of Issue:	2017-09-18
Test Result:	**Pass***

* In the configuration tested, the EUT complied with the standards specified above.

.

The CE mark as shown below can be used, under the responsibility of the manufacturer, after completion of an EU Declaration of Conformity and compliance with all relevant EU Directives.

Jack Zhang
EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		2017-09-18		Original

Authorized for issue by:				
				
		Foray Chen /Project Engineer		
				
		Eric Fu /Reviewer		

2 Test Summary

Emission Part				
Item	**Standard**	**Method**	**Requirement**	**Result**
Radiated Emissions (30MHz-1GHz)	EN 55032:2015	EN 55032:2015	Class B	Pass

Immunity Part				
Item	**Standard**	**Method**	**Requirement**	**Result**
Electrostatic Discharge	EN 55020:2007 +A12:2016	EN 61000-4-2:2009	4kV Contact Discharge 8kV Air Discharge	Pass

InternalSource	UpperFrequency
Below 108MHz	1GHz
108MHz to 500MHz	2GHz
500MHz to 1GHz	5GHz
Above 1GHz	5 times the highest frequency or 6 GHz, whichever is less

Declaration of EUT Family Grouping:

Model No.: CNS-CHP4B, CNS-CHP4BE

Only the model CNS-CHP4B was tested, since the electrical circuit design, PCB layout, components used and internal wiring were identical for the above models, with only difference being of color and model name.

3 Contents

4 General Information

4.1 Details of E.U.T.

Power supply: Supply by mobile phone
Cable: EUT cable: 120cm unshielded

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
iPhone 6	Apple	MG472ZP/A	C34NHTMFG5MN

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radiated emission	4.5dB (30MHz-1GHz)
2	ESD	6 %
3	Temperature test	1℃
4	Humidity test	3%

4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• **CNAS (No. CNAS L2929)**

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC

Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

• **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• **VCCI**

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-823, R-4188, T-1153 and C-2383 respectively.

• **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

• **Industry Canada (IC)**

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

4.8 Monitoring of EUT for All Immunity Test

Visual: Monitored the work status of the EUT

Audio: Monitored the sound of the EUT

5 Equipment List

Radiated Emissions (30MHz-1GHz)					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
10m Semi-Anechoic Chamber	SAEMC	FSAC1018	SEM001-03	2017-05-10	2018-05-10
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
EMI Test Receiver (9kHz-3GHz)	Rohde & Schwarz	ESR	SEM004-03	2017-04-14	2018-04-13
Trilog-Broadband Antenna (30MHz-1GHz)	Schwarzbeck	VULB9168	SEM003-18	2016-06-29	2019-06-29
Pre-amplifier	Sonoma Instrument Co	310N	SEM005-04	2017-06-05	2018-06-04

Electrostatic Discharge					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
ESD Ground Plane	SGS(3m*3m)	N/A	SEN006-01	N/A	N/A
ESD Generator	TESEQ AG	NSG 437	SEM019-02	2017-06-08	2018-06-07

General used equipment					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-03	2016-10-12	2017-10-12
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2016-10-12	2017-10-12
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2016-10-12	2017-10-12
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2017-04-18	2018-04-18

6 Emission Test Results

6.1 Radiated Emissions (30MHz-1GHz)

Test Requirement:	EN 55032:2015
Test Method:	EN 55032:2015
Frequency Range:	30MHz to 1GHz
Measurement Distance:	10m
Limit:	
30MHz - 230MHz	30dB(μV/m) quasi-peak Other
230MHz-1000MHz	37dB(μV/m) quasi-peak Other
Detector:	Peak for pre-scan (120kHz resolution bandwidth) 30M to 1000MHz

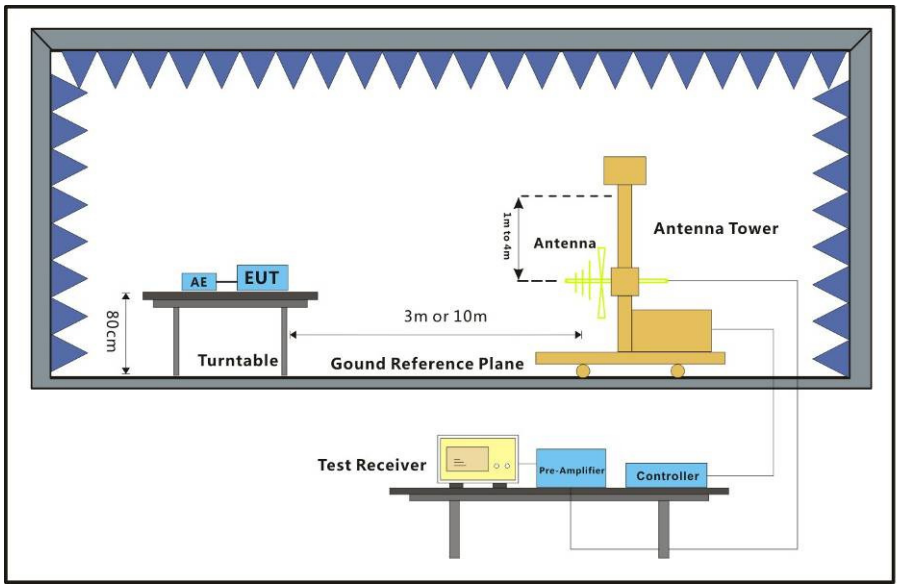
6.1.1 E.U.T. Operation

Operating Environment:

Temperature: 24 °C Humidity: 54 % RH Atmospheric Pressure: 1005 mbar

Pretest these mode to find the worst case:	a: On mode, build the connection between EUT and mobile phone, keep EUT working with standard testing signal. b: Idle mode.
The worst case for final test:	a: On mode, build the connection between EUT and mobile phone, keep EUT working with standard testing signal.

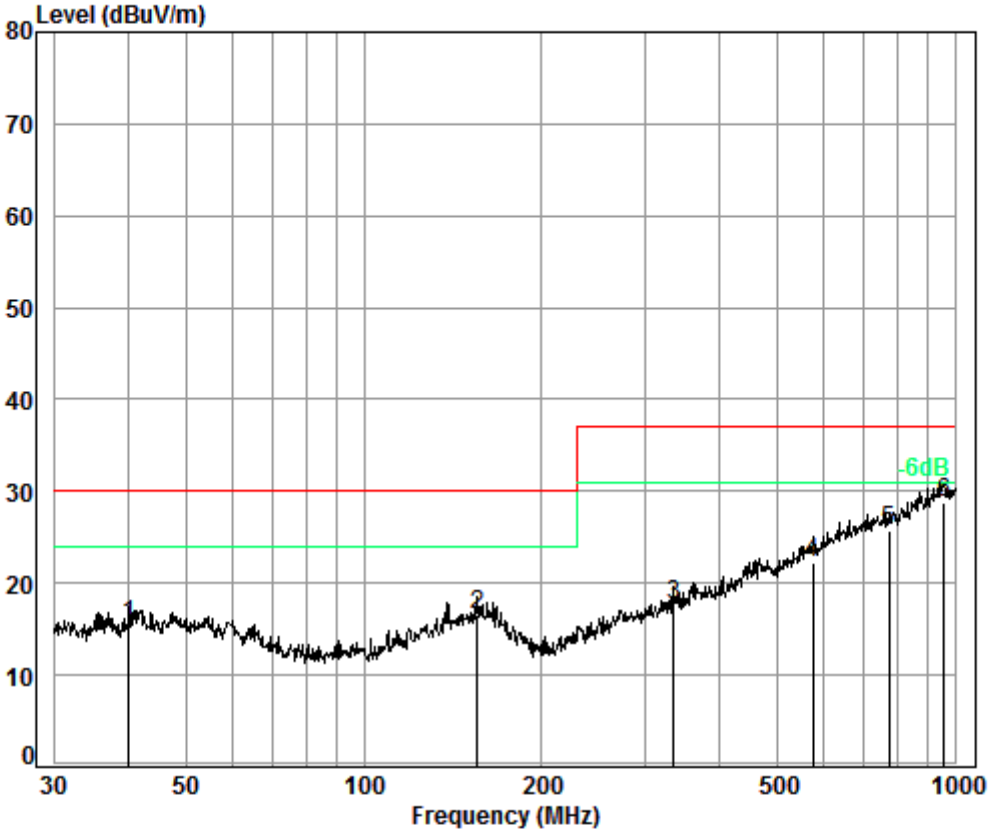
6.1.2 Test Setup Diagram



6.1.3 Measurement Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.

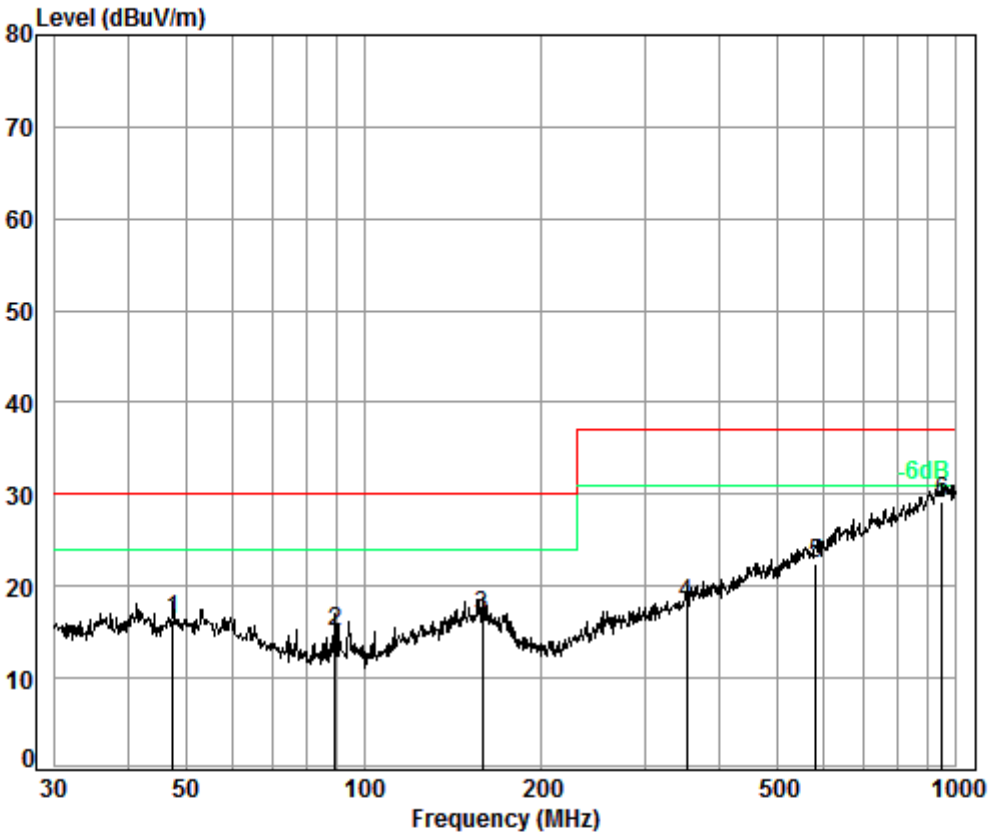
Mode:a; Polarization:Horizontal



Condition: 10m HORIZONTAL
Job No. : 09695AV
Test Mode: a

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	40.13	6.80	13.31	32.46	27.82	15.47	30.00	-14.53
2	155.36	7.48	13.40	32.43	28.04	16.49	30.00	-13.51
3	333.69	8.17	13.54	32.36	28.30	17.65	37.00	-19.35
4	574.63	8.84	18.17	32.28	27.61	22.34	37.00	-14.66
5	771.45	9.23	21.02	32.26	27.69	25.68	37.00	-11.32
6 pp	955.44	9.59	22.75	30.96	27.39	28.77	37.00	-8.23

Mode:a; Polarization:Vertical



Condition: 10m VERTICAL
Job No. : 09695AV
Test Mode: a

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	47.66	6.85	12.83	32.43	29.05	16.30	30.00	-13.70
2	89.59	7.20	8.68	32.52	31.64	15.00	30.00	-15.00
3	158.67	7.49	13.39	32.44	28.29	16.73	30.00	-13.27
4	351.71	8.26	13.88	32.35	28.36	18.15	37.00	-18.85
5	580.70	8.85	18.30	32.28	27.58	22.45	37.00	-14.55
6 pp	948.76	9.57	22.72	31.01	27.95	29.23	37.00	-7.77

7 Immunity Test Results

7.1 Performance Criteria Description in EN 55020:2007 +A12:2016

Criterion 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.

The equipment is supposed to operated as intended if the criteria of Evaluation of audio quality and picture quality are fulfilled.

Evaluation of audio quality:

A wanted to unwanted audio signal ratio of ⩾ 40dB at a wanted audio signal level of 50mW. If the S/N ratio is less than 43dB, the performance criterion for audio assessment is the actual S/N minus 3 dB.

Evaluation of video quality:

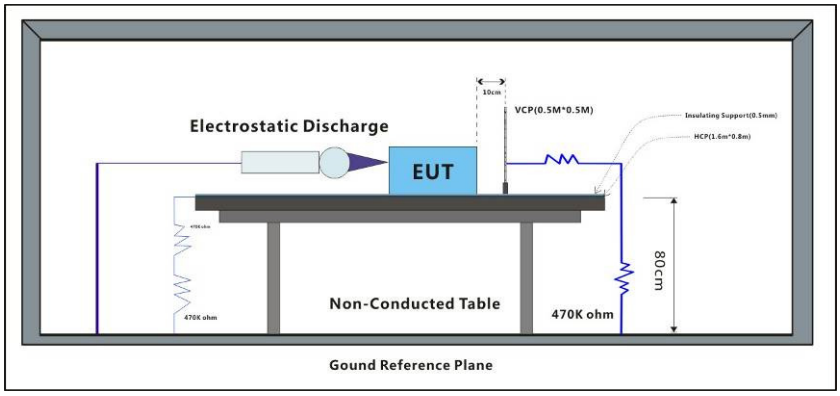
In the evaluation of picture interference the wanted test signal produces a standard picture and the unwanted signal produces a degradation of the picture. The degradation may be in a number forms such as a superposed pattern, disturbance of synchronization, geometrical distortion, loss of picture contrast, of colour, etc. The criterion of compliance with the requirement is just perceptible degradation by observation.

Criterion 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 a result of the test. During the test, degradation of performance is allowed.

7.2 Electrostatic Discharge

Test Requirement: EN 55020:2007 +A12:2016
Test Method: EN 61000-4-2:2009
Performance Criterion: B
Discharge Impedance: 330Ω/150pF
Number of Discharge: Minimum 10 times at each test point
Discharge Mode: Single Discharge
Discharge Period: 1 second minimum

7.2.1 Test Setup Diagram



7.2.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 53 % RH Atmospheric Pressure: 1005 mbar

Test mode: a: On mode, build the connection between EUT and mobile phone, keep EUT working with standard testing signal.

b: Idle mode.

7.2.3 Test Results:

Observations: Test Point:

1. All insulated enclosure and seams.
2. All accessible metal parts of the enclosure.
3. All side

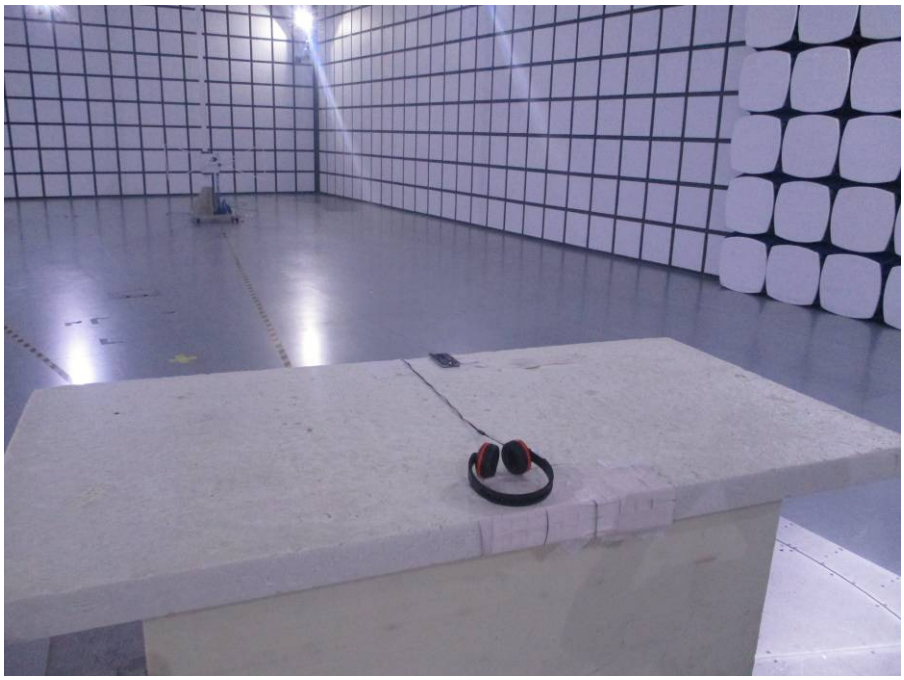
Discharge type	Level (kV)	Polarity	Test Point	Result / Observations
Air Discharge	2,4,8	+	1	A
Air Discharge	2,4,8	-	1	A
Contact Discharge	4	+	2	A
Contact Discharge	4	-	2	A
Horizontal Coupling	4	+	3	A
Horizontal Coupling	4	-	3	A
Vertical Coupling	4	+	3	A
Vertical Coupling	4	-	3	A

Results:

A: No degradation in the performance of the EUT was observed.

8 Photographs

8.1 Radiated Emissions (30MHz-1GHz) Test Setup



8.2 Electrostatic Discharge Test Setup

8.3 EUT Constructional Details