

Certificate of Conformity

NO.: ED161017052E

The following products have been tested by us with the listed standards and found in conformity with the council EMC directive 2014/30/EU. It is possible to use CE marking to demonstrate the conformity with this EMC Directive.

Applicant :
Address :
Manufacturer :
Address :
Trade Mark : N/A
EUT : Foldable Bluetooth headphone
M/N : P326.701, P326.703, P326.705
Test Standards : EN55013: 2013
EN61000-3-2: 2014
EN61000-3-3: 2013
EN55020: 2007+A11: 2011



The certificate is based on a single evaluation of one sample of above-mentioned products. It does not imply an assessment of the whole production and does not permit the use of the test lab. logo.

Ver.1.0

EMC TEST REPORT

For

Foldable Bluetooth headphone

Model No.: P326.701, P326.703, P326.705

Prepared for :
Address :

Prepared By : EMTEK(DONGGUAN)CO., LTD.
Address : No.281, Guantai Road, Nancheng District, Dongguan,
Guangdong, China.

Tel : +86-769-22807078
Fax: +86-769-22807079

Report Number : ED161017052E
Date of Test : October 17, 2016 to October 26, 2016
Date of Report : October 26, 2016

TABLE OF CONTENTS

Test Report Description	Page
1. DESCRIPTION OF STANDARDS AND RESULTS (EUT)	6
2. GENERAL INFORMATION.....	7
2.1. Description of Device (EUT)	7
2.2. Description of Support Device	8
2.3. Description of Test Facility	8
2.4. Measurement Uncertainty	9
3. MEASURING DEVICES AND TEST EQUIPMENT.....	10
3.1. For Power Line Conducted Emission	10
3.2. For Disturbance Power Test	10
3.3. For Harmonic / Flicker Measurement	10
3.4. For Electrostatic Discharge Test	10
3.5. For Electrical Fast Transient/Burst Immunity Test	10
3.6. For EN55020 Immunity Test	11
4. POWER LINE CONDUCTED MEASUREMENT	12
4.1. Block Diagram of Test Setup	12
4.2. Conducted Power Line Emission Measurement Standard and Limits	12
4.3. EUT Configuration on Measurement	12
4.4. Operating Condition of EUT	13
4.5. Test Procedure.....	13
4.6. Measurement Results	13
5. DISTURBANCE POWER TEST	18
5.1. Block Diagram of Test Setup	18
5.2. Test Standard	18
5.3. 4.3 Disturbance Power Limit	18
5.4. EUT Configuration on Test.....	18
5.5. Operating Condition of EUT	18
5.6. Test Procedure.....	19
5.7. Disturbance Power Test Results	19
6. HARMONIC CURRENT MEASUREMENT.....	22
6.1. Block Diagram of Test Setup	22
6.2. Measuring Standard	22
6.3. Operating Condition of EUT	22
6.4. Test Results.....	22
7. VOLTAGE FLUCTUATIONS & FLICKER MEASUREMENT	23
7.1. Block Diagram of Test Setup	23
7.2. Measuring Standard	23
7.3. Operating Condition of EUT	23
7.4. Test Results.....	23
8. ELECTROSTATIC DISCHARGE TEST.....	25
8.1. Block Diagram of Test Setup	25
8.2. Test Standard	25
8.3. Severity Levels and Performance Criterion	26
8.4. EUT Configuration	26
8.5. Operating Condition of EUT	26
8.6. Test Procedure.....	27
8.7. Test Results.....	27
9. ELECTRICAL FAST TRANSIENT/BURST TEST.....	29

9.1.	Block Diagram of Test Setup	29
9.2.	Test Standard	29
9.3.	Severity Levels and Performance Criterion	30
9.4.	EUT Configuration	30
9.5.	Operating Condition of EUT	30
9.6.	Test Procedure.....	31
9.7.	Test Results.....	31
10.	PHOTOGRAPH.....	33
10.1.	Photo of Conducted Emission Measurement.....	33
10.2.	Photo of Disturbance Power Measurement.....	33
10.3.	Photo of Harmonic/Flicker Measurement.....	34
10.4.	Photo of Electrostatic Discharge Test	34
10.5.	Photo of Electrical Fast Transient /Burst Test.....	35

APPENDIX (Photos of the EUT) (3 pages)

TEST REPORT DESCRIPTION

Applicant :
Manufacturer :
EUT : Foldable Bluetooth headphone
Model No. : P326.701, P326.703, P326.705
Input Rating : DC 3.7V Battery, DC 5V from adapter

Measurement Procedure Used:

EN55013:2013
EN61000-3-2:2014, EN 61000-3-3:2013
EN55020: 2007 +A11: 2011
(IEC 61000-4-2: 2008, IEC 61000-4-4: 2012)

The device described above is tested by EMTEK(DONGGUAN)CO., LTD. and 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. The measurement results are contained in this test report and EMTEK(DONGGUAN)CO., LTD. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the EN55013, EN61000-3-2, EN61000-3-3 and EN55020 requirements.

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

Date of Test : October 17, 2016 to October 26, 2016

Prepared by : Abby Li
Abby Li/ Editor

Reviewer : Alan He
Alan He/ Supervisor

Approved & Authorized Signer : Sam Lv
Sam Lv/ Manager



Modified History

Rev.	Summary	Date of Rev.	Report No.
V1.0	Original Report	/	ED161017052E

1. DESCRIPTION OF STANDARDS AND RESULTS (EUT)

EMISSION			
Description of Test Item	Standard	Limits	Results
Disturbance Voltage at the Mains Terminal	EN 55013: 2013	Clause 4	Pass
Disturbance Voltage at the Antenna Terminal	EN 55013: 2013	--	N/A
Disturbance Power	EN 55013: 2013	Clause 4	Pass
Radiated Disturbance	EN 55013: 2013	Clause 4	N/A
Harmonic Current Emissions	EN 61000-3-2: 2014	Class A	Pass
Voltage Fluctuation and Flicker	EN 61000-3-3: 2013	Clause 5	Pass
IMMUNITY			
Description of Test Item	Basic Standard	Performance Criteria	Results
Immunity Against Input Interference Test (S1)	EN 55020: 2007+A11:2011	--	N/A
RF Voltages Immunity Test (S2)	EN 55020: 2007+A11:2011	Table 12, 13	N/A
Ambient Electromagnetic Fields Immunity Test (S3)	EN 55020: 2007+A11:2011	Table 17, 19	N/A
Screening Effectiveness Test (S4)	EN 55020: 2007+A11:2011	--	N/A
Keyed Carried (S5)	EN 55020: 2007+A11:2011	--	N/A
Electrostatic Discharge (ESD)	IEC 61000-4-2: 2008	B	Pass
Electro Fast Transient (EFT)	IEC 61000-4-4: 2012	B	Pass
Note: N/A is an abbreviation for Not Applicable.			

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

EUT	: Foldable Bluetooth headphone
Model Number	: P326.701, P326.703, P326.705 (Note: These models are same except model number and appearance, here P326.701 was selected for full test.)
Trade Mark	: N/A
Power Supply For Test	: AC 230V/50Hz for adapter
Applicant	:
Address	:
Manufacturer	:
Address	:
Date of sample receiver	: October 17, 2016
Date of Test	: October 17, 2016 to October 26, 2016

2.2. Description of Support Device

Adapter : Model : YSV6-0501000
Input: AC 100-240V, 50/60Hz
Output: DC 5V, 1000mA

2.3. Description of Test Facility

Site Description

EMC Lab : Accredited by CNAS, 2015.09.24
The certificate is valid until 2018.07.03
The Laboratory has been assessed and proved to be in
compliance with CNAS/CL01:2006
The Certificate Registration Number is L3150

Accredited by TUV Rheinland, 2016.02.02
The certificate is valid until 2017.02.01
The Laboratory has been assessed according to the
requirements ISO/IEC 17025: 2005

Registered on FCC, June 18, 2014
The Certificate Number is 247565.

Registered on Industry Canada, February 19, 2014
The Certificate Number is 9444A.

Name of Firm : EMTEK(DONGGUAN)CO., LTD.
Site Location : No.281, Guantai Road, Nancheng District, Dongguan,
Guangdong, China

2.4. Measurement Uncertainty

Test Item	Uncertainty
Conducted Emission Uncertainty	: 2.42dB
Power clamp	: 2.86dB
Radiated Emission Uncertainty (3m Chamber)	: 3.34dB (30M~1GHz Polarize: H) 3.32dB (30M~1GHz Polarize: V)
Uncertainty for Flicker test	: 0.25%
Uncertainty for Harmonic test	: 0.014%
Uncertainty for R/S Test	: 2.10dB(80MHz-200MHz) 1.76dB(200MHz-1000MHz)
Uncertainty for C/S Test	: 1.45(Using CDN Test) 2.37(Using EM Clamp Test)
Uncertainty for test site temperature and humidity	: 0.6℃ 4%

3. MEASURING DEVICES AND TEST EQUIPMENT

3.1. For Power Line Conducted Emission

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCI	100137	May 18, 2016	1 Year
2.	L.I.S.N	Rohde & Schwarz	EMV216	100017	May 18, 2016	1 Year
3.	RF Switching Unit	CDS	RSU-M2	38401	May 18, 2016	1 Year

3.2. For Disturbance Power Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCS30	100018	May 18, 2016	1 Year
2.	Power Clamp	Rohde & Schwarz	MDS21	100220	June 09, 2015	1 Year
3.	RF Switching Unit	CDS	RSU-M2	38401	May 18, 2016	1 Year

3.3. For Harmonic / Flicker Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Power Frequency Test System	EMTEST	DPA500	U0526100506	May 18, 2016	1 Year
2.	AC Frequency Conversion Power	EMTEST	ACS 500	V526100507	May 18, 2016	1 Year
3.	PC	LENOVO	T2900D	SS12485803	May 18, 2016	1 Year

3.4. For Electrostatic Discharge Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	ESD Tester	TESEQAG	NSG437	EE166	June 09, 2016	1 Year

3.5. For Electrical Fast Transient/Burst Immunity Test

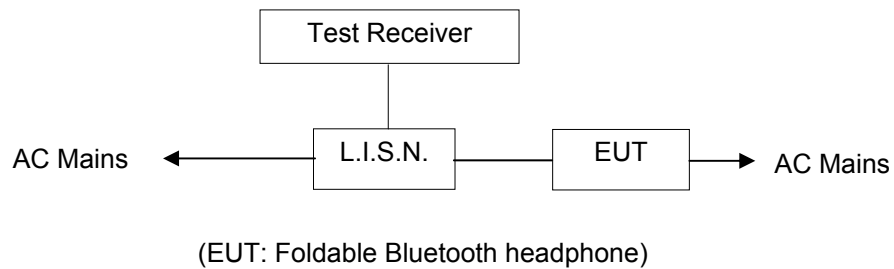
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Burst Tester	EM TEST	UCS500M6B	V0526100502	May 18, 2016	1 Year
2.	Coupling Clamp	EM TEST	HFK	0605-10	May 18, 2016	1 Year

3.6. For EN55020 Immunity Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	TS9980 Software	R&S	T80-K1V2.21	184	N/A	N/A
2.	Signal Generator	R&S	SMB100A	103041	May 18, 2016	1 Year
3.	Signal Generator	R&S	SMB100A	103042	May 18, 2016	1 Year
4.	Power Meter	R&S	NRVS	101761	May 18, 2016	1 Year
5.	Audio Analyzer	R&S	UPV	101473	May 18, 2016	1 Year
6.	Level Meter	R&S	URV35	100339	May 18, 2016	1 Year
7.	RF&System Control Panel	R&S	TS-RSP	100426	May 18, 2016	1 Year
8.	Power Foldable Bluetooth headphone	BONN	TS998AM	97483	May 18, 2016	1 Year
9.	TV Test signal Transmitter	R&S	SFU	101716	May 18, 2016	1 Year
10.	TV Generator PAL	R&S	SGPF	100204	May 18, 2016	1 Year
11.	TV Generator SECAM	Philips	PM5418	LO 604796	May 18, 2016	1 Year
12.	Stripline Test Cell	R&S	TS998JC	N/A	May 18, 2016	1 Year
13.	EMI Test Receiver	Rohde & Schwarz	ESCS30	828985/018	May 18, 2016	1 Year
14.	Absorbing Clamp	Rohde & Schwarz	MDS21	833711/025	May 18, 2016	1 Year
15.	Log.-Per. Antenna	SCHWARZBECK	VULP 9118E	N/A	May 18, 2016	1 Year
16.	Power Foldable Bluetooth headphone	PRANA	AP32MT215	N/A	May 18, 2016	1 Year

4. POWER LINE CONDUCTED MEASUREMENT

4.1. Block Diagram of Test Setup



4.2. Conducted Power Line Emission Measurement Standard and Limits

4.2.1. Standard:

EN55013:2013

4.2.2. Limits

Frequency	At mains terminals (dB μ V)	
	Quasi-peak Level	Average Level
150KHz ~ 0.5MHz	66 ~ 56*	56 ~ 46*
0.5MHz ~ 5MHz	56	46
5.0MHz ~ 30MHz	60	50

1. At the transition frequency the lower limit applies.
2. * decreasing linearly with logarithm of the frequency.

4.3. EUT Configuration on Measurement

The following equipments are installed on Conducted Emission Measurement to meet EN 55013 requirements and operating in a manner which tends to maximize its emission characteristics in a normal application.

EUT : Foldable Bluetooth headphone
Model Number : P326.701

4.4. Operating Condition of EUT

4.4.1. Setup the EUT as shown in Section 4.1.

4.4.2. Turn on the power of all equipments.

4.4.3. Let the EUT work in measuring mode (Charging, Line in) and measure it.

4.5. Test Procedure

The EUT is put on the table which is 0.8 meter high above the ground and connected to the AC mains through a Line Impedance Stabilization Network (L.I.S.N.). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are checked to find out the maximum conducted emission according to the EN55013 regulations during conducted emission measurement. And the voltage probe had been used for the load terminals measurement according to the EN55013 standard.

The bandwidth of the test receiver (R&S ESCI) is set at 200Hz in 9K~150KHz range and 9KHz in 150K~30MHz range.

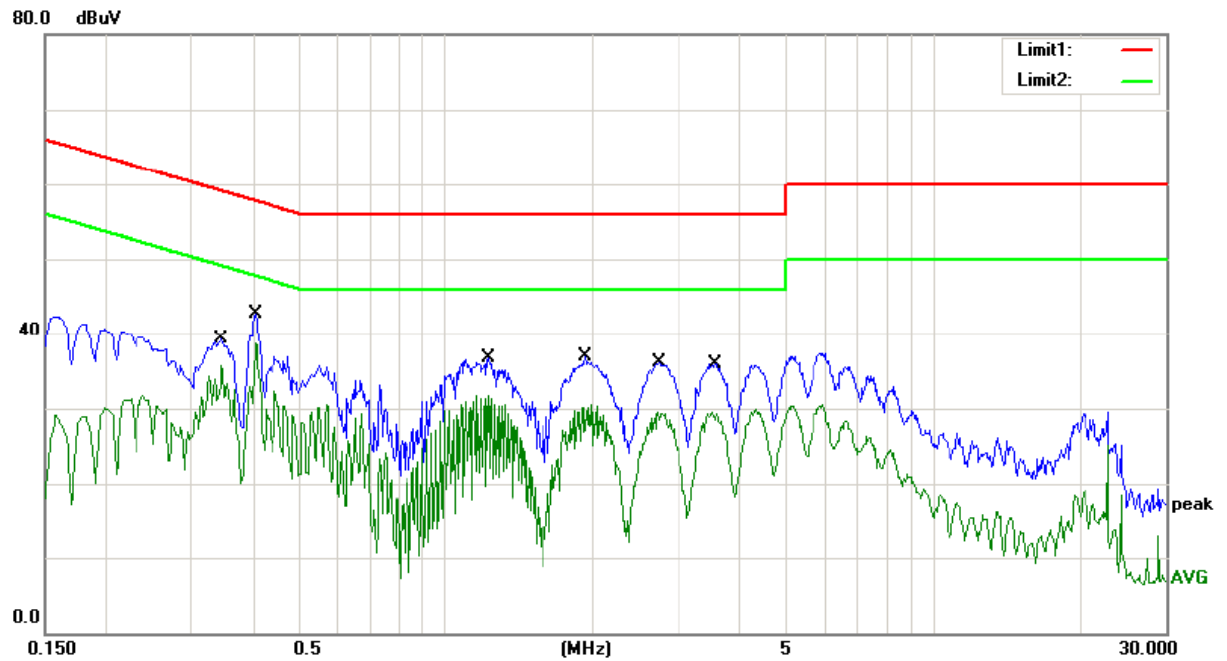
The scanning curves in below a few pages.

4.6. Measurement Results

PASS.

The frequency spectrum from 30 MHz to 300 MHz is investigated.

Please see the attached pages.



Site site #1

Phase: **L1**

Temperature: 24

Limit: (CE)EN55013_QP

Power: AC 230V/50Hz

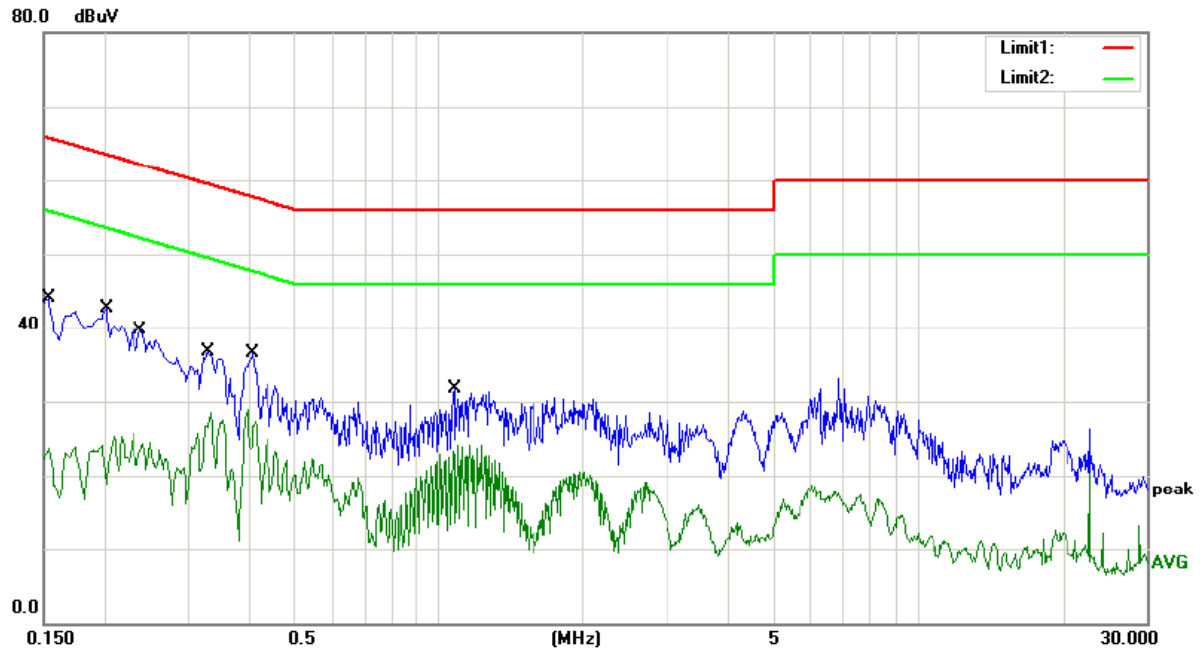
Humidity: 55 %

Mode: Charging

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.3460	25.64	10.06	35.70	59.06	-23.36	QP	
2		0.3460	25.54	10.06	35.60	49.06	-13.46	AVG	
3		0.4060	29.52	10.08	39.60	57.73	-18.13	QP	
4	*	0.4060	28.55	10.08	38.63	47.73	-9.10	AVG	
5		1.2180	23.56	10.10	33.66	56.00	-22.34	QP	
6		1.2180	19.38	10.10	29.48	46.00	-16.52	AVG	
7		1.9300	24.10	10.10	34.20	56.00	-21.80	QP	
8		1.9300	19.96	10.10	30.06	46.00	-15.94	AVG	
9		2.7220	22.50	10.10	32.60	56.00	-23.40	QP	
10		2.7220	18.71	10.10	28.81	46.00	-17.19	AVG	
11		3.5820	22.06	10.10	32.16	56.00	-23.84	QP	
12		3.5820	19.28	10.10	29.38	46.00	-16.62	AVG	

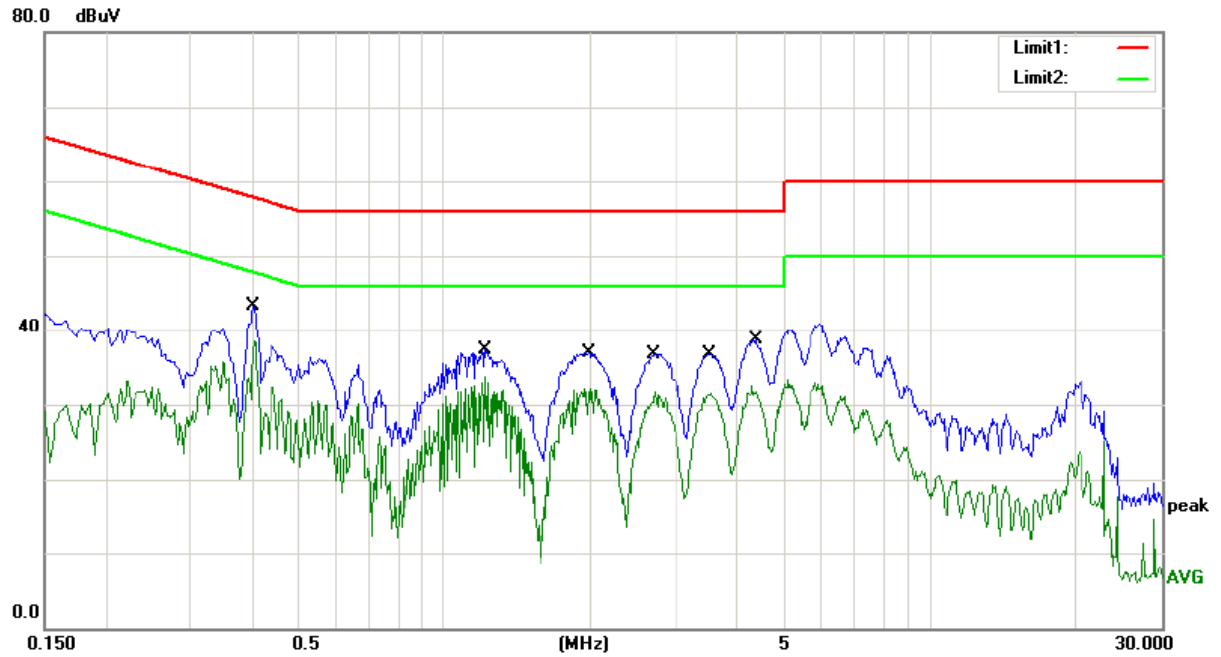
*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: washington



Site site #1 Phase: **N** Temperature: 24
 Limit: (CE)EN55013_QP Power: AC 230V/50Hz Humidity: 55 %
 Mode: Charging
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1540	30.31	10.01	40.32	65.78	-25.46	QP	
2		0.1540	13.72	10.01	23.73	55.78	-32.05	AVG	
3		0.2020	29.58	10.02	39.60	63.53	-23.93	QP	
4		0.2020	10.53	10.02	20.55	53.53	-32.98	AVG	
5		0.2380	26.67	10.03	36.70	62.17	-25.47	QP	
6		0.2380	13.89	10.03	23.92	52.17	-28.25	AVG	
7		0.3300	22.54	10.06	32.60	59.45	-26.85	QP	
8		0.3300	16.55	10.06	26.61	49.45	-22.84	AVG	
9		0.4100	22.42	10.08	32.50	57.65	-25.15	QP	
10	*	0.4100	16.57	10.08	26.65	47.65	-21.00	AVG	
11		1.0780	18.46	10.10	28.56	56.00	-27.44	QP	
12		1.0780	3.42	10.10	13.52	46.00	-32.48	AVG	

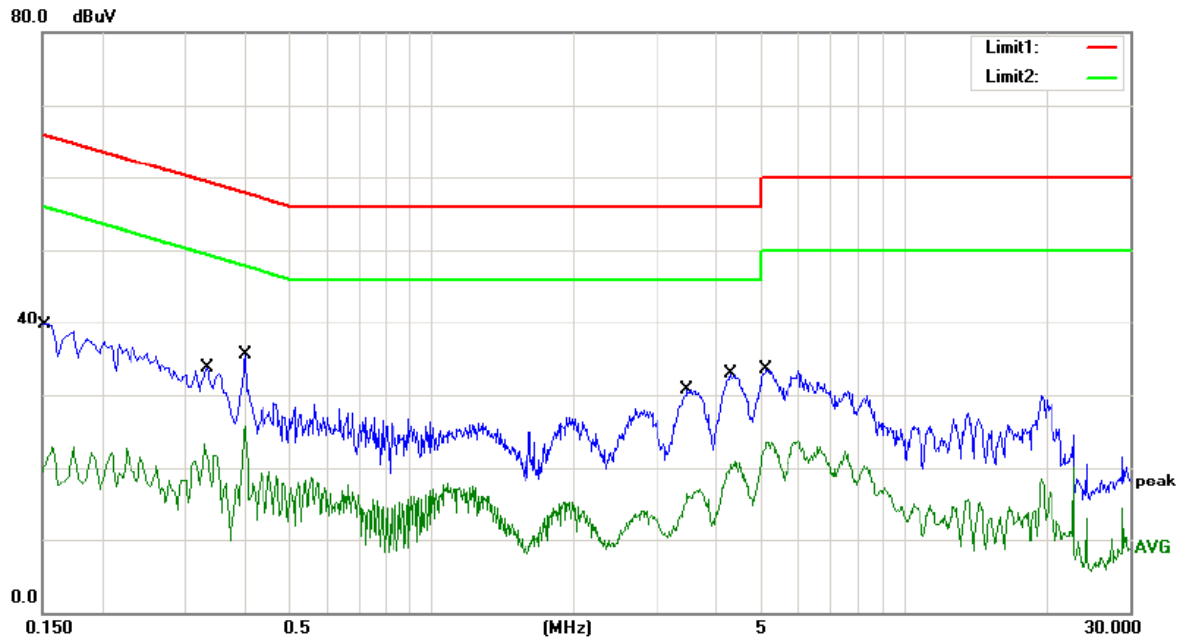
*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: washington



Site site #1 Phase: **L1** Temperature: 24
 Limit: (CE)EN55013_QP Power: AC 230V/50Hz Humidity: 55 %
 Mode: Line IN
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.4020	30.13	10.07	40.20	57.81	-17.61	QP	
2	*	0.4020	28.46	10.07	38.53	47.81	-9.28	AVG	
3		1.2140	22.80	10.10	32.90	56.00	-23.10	QP	
4		1.2140	18.83	10.10	28.93	46.00	-17.07	AVG	
5		1.9820	23.40	10.10	33.50	56.00	-22.50	QP	
6		1.9820	22.09	10.10	32.19	46.00	-13.81	AVG	
7		2.6940	23.01	10.10	33.11	56.00	-22.89	QP	
8		2.6940	20.33	10.10	30.43	46.00	-15.57	AVG	
9		3.5140	22.50	10.10	32.60	56.00	-23.40	QP	
10		3.5140	21.19	10.10	31.29	46.00	-14.71	AVG	
11		4.3620	24.16	10.10	34.26	56.00	-21.74	QP	
12		4.3620	20.91	10.10	31.01	46.00	-14.99	AVG	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: washington



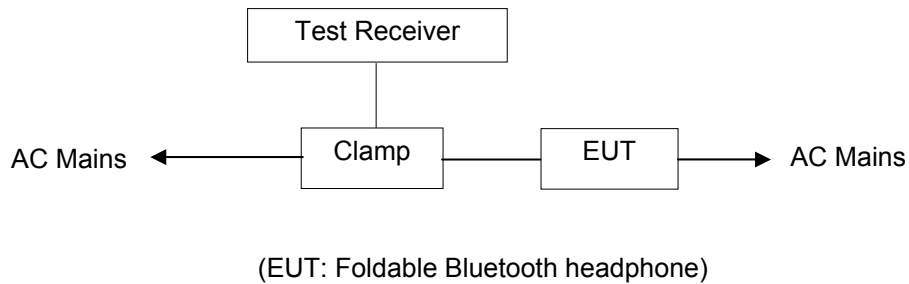
Site site #1 Phase: **N** Temperature: 24
 Limit: (CE)EN55013_QP Power: AC 230V/50Hz Humidity: 55 %
 Mode: Line IN
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1540	25.29	10.01	35.30	65.78	-30.48	QP	
2		0.1540	11.63	10.01	21.64	55.78	-34.14	AVG	
3		0.3340	20.54	10.06	30.60	59.35	-28.75	QP	
4		0.3340	13.19	10.06	23.25	49.35	-26.10	AVG	
5		0.4020	22.43	10.07	32.50	57.81	-25.31	QP	
6	*	0.4020	15.56	10.07	25.63	47.81	-22.18	AVG	
7		3.4740	17.97	10.10	28.07	56.00	-27.93	QP	
8		3.4740	6.14	10.10	16.24	46.00	-29.76	AVG	
9		4.2780	18.89	10.10	28.99	56.00	-27.01	QP	
10		4.2780	9.31	10.10	19.41	46.00	-26.59	AVG	
11		5.1100	21.10	10.10	31.20	60.00	-28.80	QP	
12		5.1100	13.37	10.10	23.47	50.00	-26.53	AVG	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: washington

5. DISTURBANCE POWER TEST

5.1. Block Diagram of Test Setup



5.2. Test Standard

EN55013:2013

5.3.4.3 Disturbance Power Limit

All emanations from devices or system including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

Frequency MHz	Interference Power Limits dB(pW)	
	Quasi-peak Value	Average Value
30 ~ 300	45 Increasing Linearly with Frequency to 55 (Q.P.)	35 Increasing Linearly with Frequency to 45 (A.V.)

5.4. EUT Configuration on Test

The EN55013 regulations test method must be used to find the maximum emission during disturbance power test. The configuration of EUT is the same as used in conducted emission test.

5.5. Operating Condition of EUT

5.5.1. Turn on the power.

5.5.2. Let the EUT work in test mode (Line in) and measure it.

5.6. Test Procedure

The EUT is placed on the ground and away from other metallic surface at least 0.4m. It is connected to the power mains through an extension cord of 6m min. The absorber clamp clamps the cord and moves from the far end to the EUT to measure the disturbing energy emitted from the cord.

The bandwidth of the test receiver(R&S ESCS30) is set at 120kHz.

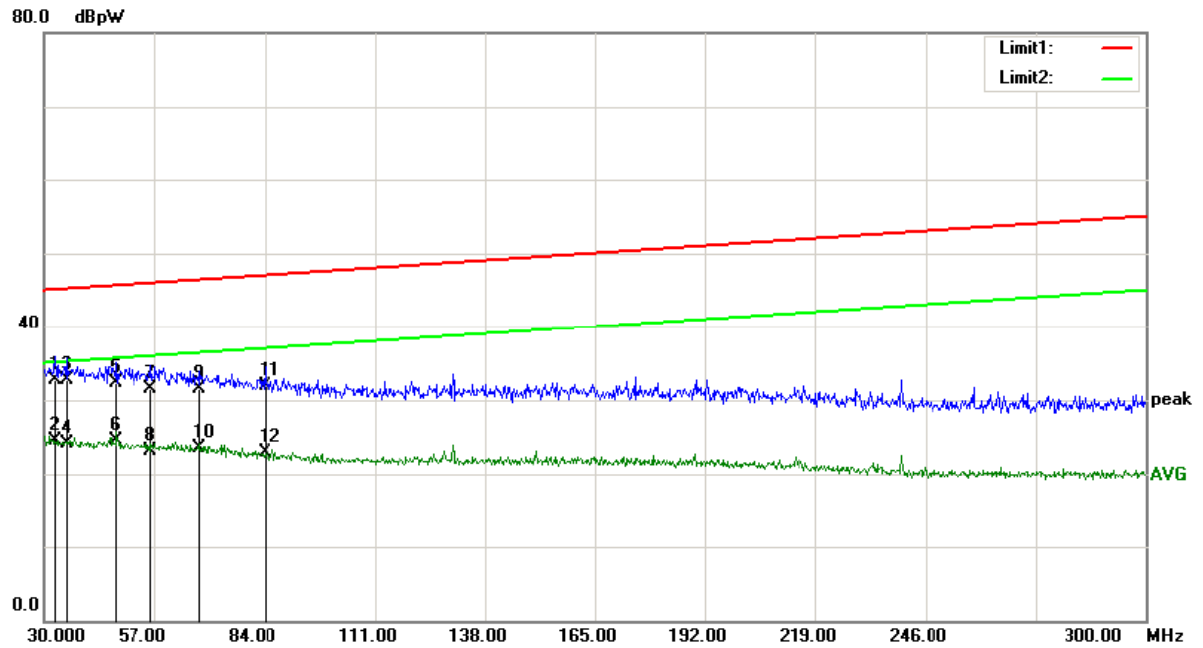
The scanning curves in below a few pages.

5.7. Disturbance Power Test Results

PASS.

The frequency range from 30MHz to 300 MHz is investigated.

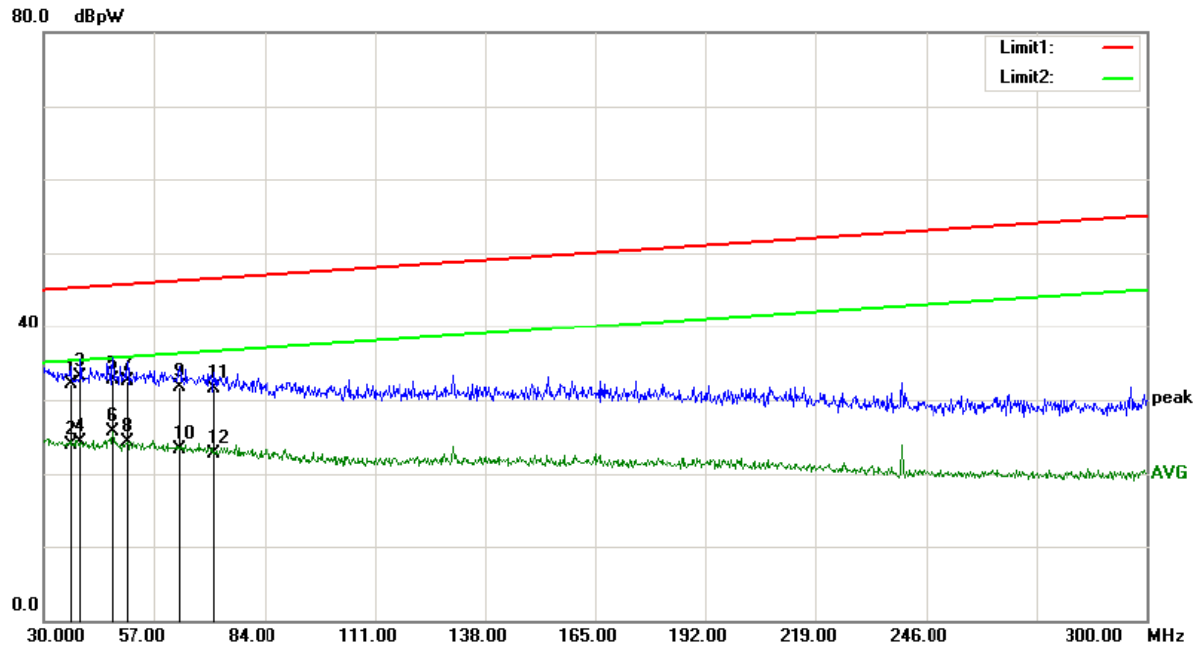
Please see the attached pages.



Site site #1 AC Mains Temperature: 24
 Limit: (Clamp)EN55013_QP Power: AC 230V/50Hz Humidity: 55 %
 Mode: Line IN
 Note:

No.	Mk.	Freq. MHz	Reading Level dBpW	Final Correct dB	Measure- ment dBpW	Limit dBpW	Over dB	Detector	Position cm	Comment
1		32.7000	9.08	23.72	32.80	45.10	-12.30	QP	0	
2	*	32.7000	0.83	23.72	24.55	35.10	-10.55	AVG	0	
3		35.4000	8.99	23.64	32.63	45.20	-12.57	QP	0	
4		35.4000	0.54	23.64	24.18	35.20	-11.02	AVG	0	
5		47.5500	9.13	23.27	32.40	45.65	-13.25	QP	0	
6		47.5500	1.16	23.27	24.43	35.65	-11.22	AVG	0	
7		56.1900	8.42	23.14	31.56	45.97	-14.41	QP	0	
8		56.1900	0.03	23.14	23.17	35.97	-12.80	AVG	0	
9		68.0700	8.90	22.70	31.60	46.41	-14.81	QP	0	
10		68.0700	0.71	22.70	23.41	36.41	-13.00	AVG	0	
11		84.0000	10.00	21.90	31.90	47.00	-15.10	QP	0	
12		84.0000	0.94	21.90	22.84	37.00	-14.16	AVG	0	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: washington



Site site #1 Line IN Line Temperature: 24
 Limit: (Clamp)EN55013_QP Power: AC 230V/50Hz Humidity: 55 %
 Mode: Line IN
 Note:

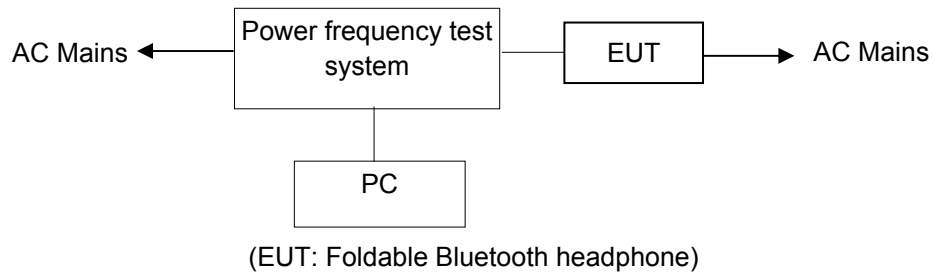
No.	Mk.	Freq. MHz	Reading Level dBpW	Final Correct dB	Measure- ment dBpW	Limit dBpW	Over dB	Detector	Position cm	Comment
1		36.4800	8.49	23.61	32.10	45.24	-13.14	QP	0	
2		36.4800	0.33	23.61	23.94	35.24	-11.30	AVG	0	
3		38.9100	9.57	23.53	33.10	45.33	-12.23	QP	0	
4		38.9100	0.68	23.53	24.21	35.33	-11.12	AVG	0	
5		46.7400	9.40	23.30	32.70	45.62	-12.92	QP	0	
6	*	46.7400	2.32	23.30	25.62	35.62	-10.00	AVG	0	
7		50.2500	9.40	23.20	32.60	45.75	-13.15	QP	0	
8		50.2500	1.17	23.20	24.37	35.75	-11.38	AVG	0	
9		63.2100	8.75	22.94	31.69	46.23	-14.54	QP	0	
10		63.2100	0.41	22.94	23.35	36.23	-12.88	AVG	0	
11		71.5800	8.98	22.52	31.50	46.54	-15.04	QP	0	
12		71.5800	0.09	22.52	22.61	46.54	-23.93	QP	0	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: washington

6. HARMONIC CURRENT MEASUREMENT

6.1. Block Diagram of Test Setup

6.1.1. Block Diagram of Harmonic Test Setup



6.2. Measuring Standard

EN61000-3-2:2014 Class A

6.3. Operating Condition of EUT

Same as Section 4.3 except that the test setup replaced by Section 6.1.

6.4. Test Results

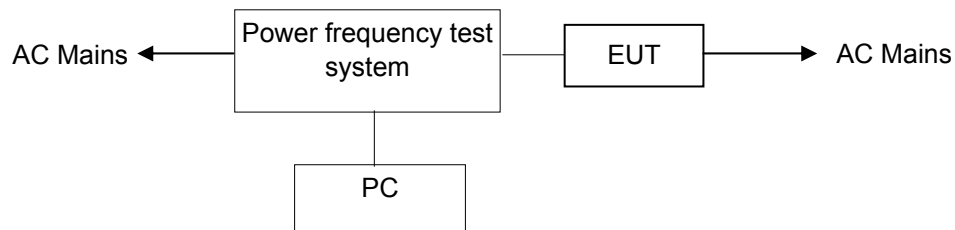
Not Applicable.

Because power of EUT is less than 75W, according to standard EN61000-3-2, Harmonics Current is not required.

7. VOLTAGE FLUCTUATIONS & FLICKER MEASUREMENT

7.1. Block Diagram of Test Setup

7.1.1. Block Diagram of Flicker Test Setup



(EUT: Foldable Bluetooth headphone)

7.2. Measuring Standard

EN61000-3-3: 2013

7.3. Operating Condition of EUT

Same as Section 4.3 except that the test setup replaced by Section 7.1.

7.4. Test Results

PASS.

Please refer to the following page.

Test Report

Report title:	Flicker
Company Name:	EMTEK
Date of test:	11:26 17.October 2016
Tester:	Ken
Standard used:	EN/IEC 61000-3-3 Flicker
Short time (Pst):	10 min
Observation time:	10 min (1 Flicker measurement)
Flickermeter:	230V / 50Hz
Flicker Impedance:	Zref (IEC 60725)
Customer:	
E. U. T.:	Foldable Bluetooth headphone
M/N	P326.701
Mode	Charging

Test Result	PASS
-------------	------

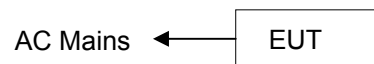
Maximum Flicker results

	EUT values	Limit	Result
Pst	0.033	1.00	PASS
Plt	0.033	0.65	PASS
dc [%]	0.016	3.30	PASS
dmax [%]	0.270	4.00	PASS
dt [s]	0.000	0.50	PASS

8. ELECTROSTATIC DISCHARGE TEST

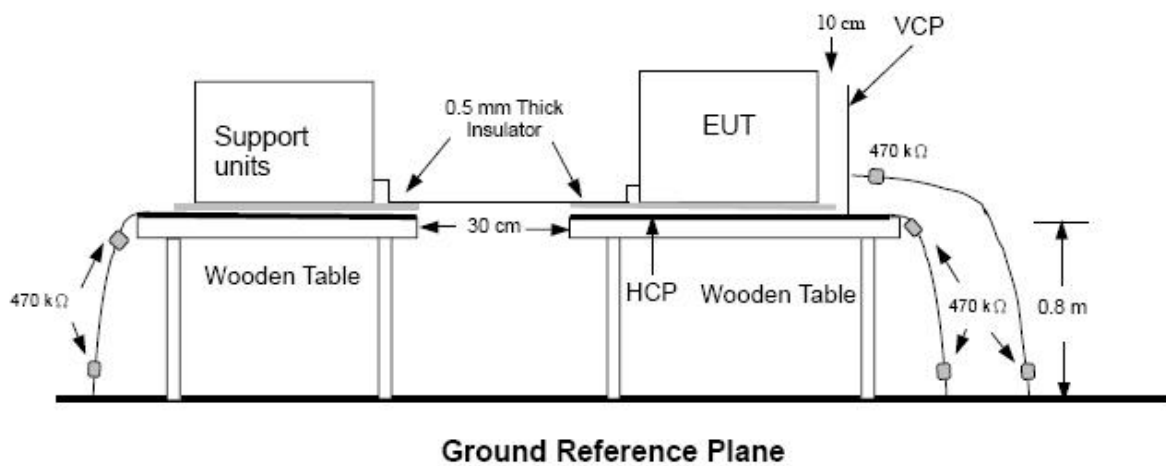
8.1. Block Diagram of Test Setup

8.1.1. Block diagram of connection between the EUT and simulators



(EUT: Foldable Bluetooth headphone)

8.1.2. Block Diagram of ESD Test Setup



(EUT: Foldable Bluetooth headphone)

8.2. Test Standard

EN55020: 2007 +A11: 2011

(IEC 61000-4-2: 2008 (Severity Level: 2 / Contact Discharge: $\pm 4\text{KV}$

Severity Level: 3 / Air Discharge: $\pm 8\text{KV}$))

8.3. Severity Levels and Performance Criterion

8.3.1. Severity level

Level	Test Voltage Contact Discharge (KV)	Test Voltage Air Discharge (KV)
1.	±2	±2
2.	±4	±4
3.	±6	±8
4.	±8	±15
X	Special	Special

8.3.2. Performance criterion: **B**

8.4. EUT Configuration

The configuration of EUT is listed in Section 4.3

8.5. Operating Condition of EUT

8.5.1. Setup the EUT as shown in Section 8.1.

8.5.2. Turn on the power of all equipments.

8.5.3. Let the EUT work in test mode (Charging, Line in) and measure it.

8.6. Test Procedure

8.6.1. Air Discharge:

This test is done on a non-conductive surfaces. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed

8.6.2. Contact Discharge:

All the procedure shall be same as Section 8.6.1. except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

8.6.3. Indirect discharge for horizontal coupling plane:

At least 20 single discharges shall be applied to the horizontal coupling plane, at points on each side of the EUT. The discharge electrode positions vertically at a distance of 0.1m from the EUT and with the discharge electrode touching the coupling plane.

8.6.4. Indirect discharge for vertical coupling plane:

At least 20 single discharge shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

8.7. Test Results

PASS.

Please refer to the following page.

Electrostatic Discharge Test Results

EMTEK(DONGGUAN)CO., LTD.

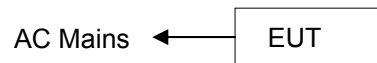
Applicant : _____ EUT : Foldable Bluetooth headphone M/N : P326.701 Power Supply : AC 230V/50Hz Test Mode : Charging, Line in	Test Date : October 17, 2016 Temperature : 22°C Humidity : 50% Test Engineer: Ken Criterion : B	
Air Discharge: ±2, 4, 8KV Contact Discharge: ±2, 4KV # For each point positive 10 times and negative 10 times		
Location	Kind A-Air Discharge C-Contact Discharge	Result
Slot of EUT 16 points	A	PASS
Port 5 points	C	PASS
HCP	C	PASS
VCP	C	PASS
Remark :	Test Equipment : ESD Tester (TESEQ AG, NSG437)	

Discharge should be considered on Contact and Air and Horizontal Coupling Plane (HCP) and Vertical Coupling Plane (VCP).

9. ELECTRICAL FAST TRANSIENT/BURST TEST

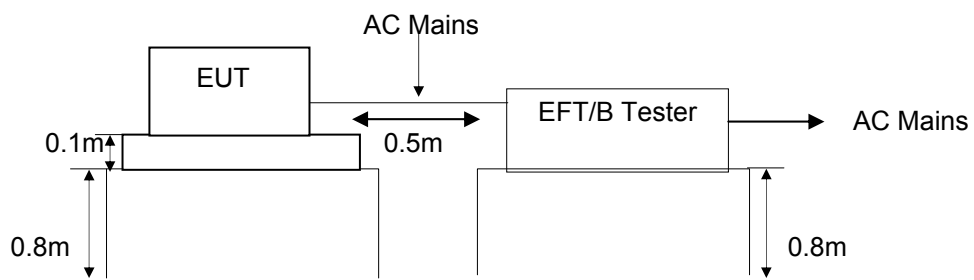
9.1. Block Diagram of Test Setup

9.1.1. Block Diagram of connection between the EUT and simulators



(EUT: Foldable Bluetooth headphone)

9.1.2. Block Diagram of EFT Test Setup



(EUT: Foldable Bluetooth headphone)

9.2. Test Standard

EN55020: 2007 +A11: 2011
(IEC 61000-4-4: 2012, Severity Level, Level 2: 1KV)

9.3. Severity Levels and Performance Criterion

9.3.1. Severity level

Open circuit output test voltage and repetition rate of the impulses				
Level	On power port, PE		On I/O (Input/Output) Signal data and control ports	
	Voltage peak KV	Repetition rate KHz	Voltage peak KV	Repetition rate KHz
1.	0.5 KV	5 or 100	0.25 KV	5 or 100
2.	1 KV	5 or 100	0.5 KV	5 or 100
3.	2 KV	5 or 100	1 KV	5 or 100
4.	4 KV	5 or 100	2 KV	5 or 100
X	Special	Special	Special	Special
NOTE 1 Use of 5 KHz repetition rates is traditional; however, 100 KHz is closer to reality. Product committees should determine which frequencies are relevant for specific products or product types.				
NOTE 2 With some products, there may be no clear distinction, between power ports and I/O ports, in which case it is up to product committees to make this determination for test purposes.				
“X” is an open level. The level has to be specified in the dedicated equipment specification.				

9.3.2. Performance criterion: **B**

9.4. EUT Configuration

The configurations of EUT are listed in Section 4.3.

9.5. Operating Condition of EUT

9.5.1. Setup the EUT as shown in Section 9.1.

9.5.2. Turn on the power of all equipments.

9.5.3. Let the EUT work in test mode (Charging, Line in) and measure it.

9.6. Test Procedure

The EUT is put on the table which is 0.8 meter high above the ground. This reference ground plane shall project beyond the EUT by at least 0.1m on all sides and the minimum distance between EUT and all other conductive structure, except the ground plane beneath the EUT, shall be more than 0.5m.

9.6.1. For input and output AC power ports:

The EUT is connected to the power mains by using a coupling device which couples the EFT interference signal to AC power lines. Both polarities of the test voltage should be applied during compliance test and the duration of the test is 2 mins.

9.6.2. For signal lines and control lines ports:

It's unnecessary to test.

9.7. Test Results

PASS.

Please refer to the following page.

Electrical Fast Transient/Burst Test Results

EMTEK(DONGGUAN)CO., LTD.

Standard :	☐ IEC 61000-4-4 ☒ EN 61000-4-4	Result : ☒ PASS / ☐ FAIL	
Applicant : _____			
EUT : <u>Foldable Bluetooth headphone</u>			
M/N : <u>P326.701</u>			
Input Voltage: <u>AC 230V/ 50Hz</u>			
Criterion : <u>B</u>			
Ambient Condition : <u>25 °C</u> <u>50% RH</u>			
Operation Mode : Charging, Line in			
Line : ☒ AC Mains	Line : ☐ Signal ☐ I/O Cable		
Coupling : ☒ Direct	Coupling : ☐ Capacitive		
Test Time : 120s			
Line	Test Voltage	Result (+)	Result (-)
L	1KV	PASS	PASS
N	1KV	PASS	PASS
PE			
L 、 N	1KV	PASS	PASS
L 、 PE			
N 、 PE			
L 、 N 、 PE			
Signal Line			
DC Line			
Note:			
Test Equipment		Burst Tester Model : UCS500M6B	

10. PHOTOGRAPH

10.1.Photo of Conducted Emission Measurement



10.2.Photo of Disturbance Power Measurement



10.3.Photo of Harmonic/Flicker Measurement



10.4.Photo of Electrostatic Discharge Test



10.5.Photo of Electrical Fast Transient /Burst Test



APPENDIX (Photos Of EUT)



