

Ledworks SRL

TEST REPORT

SCOPE OF WORK

EMC TESTING– TMD01USB

REPORT NUMBER

200708034GZU-001

ISSUE DATE

27 August 2020

[REVISED DATE]

[-----]

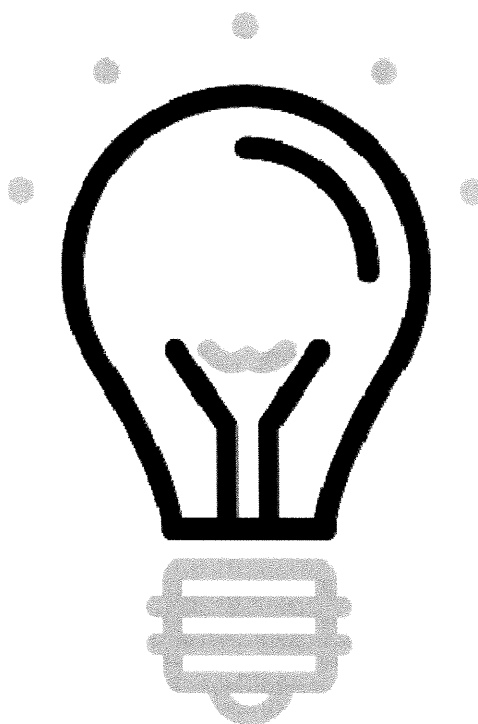
PAGES

34

DOCUMENT CONTROL NUMBER

EN 301 489-17-c

© 2017 INTERTEK



TEST REPORT

Applicant Name & : Ledworks SRL
Address : Via Tortona 37, 20144 MILANO, ITALY
Manufacturing Site : Letaron Electronic Co., Ltd.
Xinsi Management District, Hengli Town, Dongguan City,
GUANGDONG PROVINCE Guangdong
Intertek Report No: : 200708034GZU-001

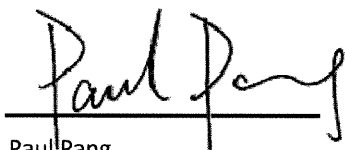
Test standards

EN 301 489-1 V2.1.1
EN 301 489-17 V3.1.1

Sample Description

Product : Music Player
Model No. : TMD01USB
Electrical Rating : Input: 5Vdc, 2.5W max., Tma= 25°C.
Serial No. : Not Labeled
Date Received : 08 July 2020
Date Test : 08 July 2020 to 02 August 2020
Conducted

Prepared and Checked By



Paul Pang

Sr. Project Engineer

Approved By:



Helen Ma

Team Leader

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

Room 02, & 101/E201/E301/E401/E501/E601/E701/E801 of Room 01 1-8/F., No. 7-2. Caipin Road, Science City, GETDD,
Guangzhou, Guangdong, China

TEST REPORT

CONTENT

TESTREPORT	1
CONTENT	3
1. TEST RESULTS SUMMARY	4
2. EMC RESULTS CONCLUSION	5
3. LABORATORY MEASUREMENTS	6
4. EQUIPMENT USED DURING TEST	7
5. EMI TEST	10
5.1 CONTINUOUS CONDUCTED DISTURBANCE VOLTAGE TEST	10
5.1.1 <i>Block Diagram of Test Setup</i>	10
5.1.2 <i>Test Setup and Procedure</i>	10
5.1.3 <i>Test Data and curve</i>	11
5.2 RADIATED DISTURBANCE	12
6. HARMONICS OF CURRENT	13
6.1 BLOCK DIAGRAM OF TEST SETUP	13
6.2 TEST SETUP AND PROCEDURE.....	13
7. FLICKER	14
7.1 BLOCK DIAGRAM OF TEST SETUP	14
7.2 TEST SETUP AND PROCEDURE.....	14
8. EMS TEST	15
8.1 ELECTROSTATIC DISCHARGE IMMUNITY.....	17
8.2 RADIATED ELECTROMAGNETIC FIELD IMMUNITY.....	20
8.3 ELECTRICAL FAST TRANSIENT/BURST.....	22
8.4 SURGE IMMUNITY	23
8.5 INJECTED CURRENT.....	25
8.6 VOLTAGE DIPS AND INTERRUPTIONS.....	26
9. APPENDIX I - PHOTOS OF TEST SETUP	28
10. APPENDIX II – PHOTOS OF EUT	31

TEST REPORT

1. TEST RESULTS SUMMARY

Test Item	Standard		Result
	ETSI EN 301 489-17	ETSI EN 301 489-1	
Continuous conducted disturbance voltage	7.1	8.4	Pass
Radiated disturbance	7.1	8.2	N/A
Harmonic of current	7.1	8.5	Pass
Flicker	7.1	8.6	Pass
ESD immunity	7.2	9.3	Pass
Radiated EM field immunity	7.2	9.2	Pass
EFT immunity	7.2	9.4	Pass
Surge immunity	7.2	9.8	Pass
Inject current immunity	7.2	9.5	Pass
Voltage dips and interruption immunity	7.2	9.7	Pass

Remark:

1. The symbol "N/A" in above table means Not Applicable.
2. When determining the test results, measurement uncertainty of tests has been considered.

TEST REPORT

2. EMC RESULTS CONCLUSION

RE: EMC Testing Pursuant to Radio Equipment Directive 2014/53/EU Performed on the Music Player, Model: TMD01USB.

We tested the Music Player, Model: TMD01USB, to determine if it was in compliance with the relevant EN standards as marked on the Test Results Summary. We found that the unit met the requirements of EN 301 489-1, EN 301 489-17 standards when tested as received. The worst case's test data was presented in this test report.

The product covered by this report is named twinkly music dongle sticker intended for Audio/Video, Information and Communication Technology Equipment use only. It is a microphone that transforms the music listen from the environment into digital parameters send by IP traffic on the local WI-FI, then the smart lights transform these parameters on live light effects combined with the music. It is supplied by 5Vdc SELV power source through the USB port. The USB port has only the function to power up the system and there is no digital communication.

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

