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Auftrags-Nr.: 164008388 Prüfbericht-Nr.: 17035858 001 Order No.: Test Report No.:

Auftragsdatum: 08. 10, 2013 Kunden-Referenz-Nr.: N/A

Order date: Client Reference No.:

SHENZHEN AOWEISHI TECHNOLOGY CO., LTD Floor 6, Block 5, MengLiYuan Industrial Park, YouSong Road, LongHua New District, Auftraggeber:

Client: Shenzhen 518100, Guangdong, P. R. China

Prüfgegenstand: Wireless Transmitter Test item:

Bezeichnung / Typ-Nr.: TX58CE Identification / Type No.:

Auftrags-Inhalt: Safety test report for R&TTE approval

Prüfgrundlage: EN 60950-1:2006+A11+A1+A12 Test specification:

Wareneingangsdatum: 08, 10, 2013

Date of receipt:

Order content:

Prüfmuster-Nr.: A000025123-001 A000076149-001 Test sample No.:

16. 10. 2013-23, 10, 2013, Prüfzeitraum: 20, 06, 2014--28, 06, 2014 Testing period:

TÜV Rheinland (Shenzhen) Co., Ort der Prüfung: Place of testing:

Prüflaboratorium: TÜV Rheinland (Shenzhen) Co., Testing laboratory: Ltd.

Pass Prüfergebnis\*: Test result\*:

geprüft von / tested by:

Jun. 27, 2014 Paddy Qiu / Assiant Project Manager Unterschrift Name / Stellung Datum

Sianature Name / Position Date

kontrolliert von I reviewed by:

June 27, 2014 Colin Fan / Reviewer Name / Stellung

Note to the Third to the total of the 25° 10° 35° 40° 41° 42° 43° 46° 47° 48° 48° 507.

Datum Name / Position Date

Unterschrift Signature

Sonstiges / Other:

This short report includes following parts:

- Test report with cover page (14 pages)

- equipment list (8 page)

- Photo documentation (3 pages)

Prüfmuster vollständig und unbeschädigt Zustand des Prüfgegenstandes bei Anlieferung: Test item complete and undamaged Condition of the test item at delivery:

5 = mangelhaft 4 = ausreichend 3 = befriedigend Legende: 2 = gut 1 = sehr gut N/T = nicht getestet N/A = nicht anwendbar F(ail) = entspricht nicht o.g. Prüfgrundlage(n) P(ass) = entspricht o.g. Prüfgrundlage(n) 5 = poor4 = sufficient 3 = satisfactory 2 = good1 = very good Legend: F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not testedP(ass) = passed a.m. test specification(s)

Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.

This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.



#### **TEST REPORT**

#### **IECEN 60950-1**

# Information technology equipment – Safety – Part 1: General requirements

 Report Number
 17035858 001

 Date of issue
 See cover page

 Total number of pages
 See cover page

Applicant's name .....: See cover page

Address .....: See cover page

Test specification:

Standard ...... EN 60950-1:2006+A11+A1+A12

Test procedure...... Safety test report for R&TTE approval

Non-standard test method..... N/A

Test Report Form No. ..... IECEN60950 1C

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This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

Test item description.....: Wireless Transmitter

Trade Mark .....

Manufacturer...... The same as applicant

Model/Type reference : TX58CE

Ratings..... DC 6~16V



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Testing procedure and testing location: See cover page						
☐ CB Testing Labor	atory:					
Testing location/ address	:					
☐ Associated CB La	boratory:					
Testing location/ address	:					
Tested by (name +	signature):					
Approved by (name	e + signature):					
☐ Testing procedure:	ТМР					
Testing location/ address	:					
Tested by (name +	signature):					
Approved by (name	+ signature):					
☐ Testing procedure:	WMT					
Testing location/ address	:					
Tested by (name +	signature):					
Witnessed by (nam	e + signature):					
Approved by (name	+ signature):					
☐ Testing procedure:	SMT					
Testing location/ address	:					
Tested by (name +	signature):					
Approved by (name	e + signature):					
Supervised by (nan	ne + signature):					
☐ Testing procedure:	RMT					
Testing location/ address	:					
Tested by (name +	signature):					
Approved by (name	+ signature):					
Supervised by (nan	ne + signature):					



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Report No	o.: 170358	358 001
	<u> </u>	
		Į.

Summary of testing:	
Tests performed (name of test and test clause): 1.6.2, Input Current Test 1.7.11, Durability of Marking Test 4.5.1, Maximum Temperature Test 5.3, Fault Condition Test	Testing location: See cover page
Summary of compliance with National Difference List of countries addressed: EU Group Differences, EU Special National Condition	

 ${\begin{tabular}{|c|c|c|c|c|c|c|}\hline $X$ The product fulfils the requirements of <u>listed standards on cover page</u>$ 

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Test item particulars	
Equipment mobility	[x] movable [] hand-held [] transportable [] stationary [] for building-in [] direct plug-in
Connection to the mains:	[] pluggable equipment [] type A [] type B [] permanent connection [] detachable power supply cord [] non-detachable power supply cord [x] not directly connected to the mains
Operating condition:	[x] continuous [] rated operating / resting time:
Access location:	[x] operator accessible [] restricted access location
Over voltage category (OVC):	[]OVC I [] OVC II [] OVC III [] OVC IV [x] other: DC supplied with max. 16V
Mains supply tolerance (%) or absolute mains supply values	N/A
Tested for IT power systems:	[] Yes [x] No
IT testing, phase-phase voltage (V):	N/A
Class of equipment:	[] Class I [] Class II [x] Class III [] Not classified
Considered current rating of protective device as part of the building installation (A)	N/A
Pollution degree (PD)	[] PD 1 [x] PD 2 [] PD 3
IP protection class	IP20
Altitude during operation (m)	2000
Altitude of test laboratory (m)	<2000
Mass of equipment (kg)	59g
Possible test case verdicts:	
- test case does not apply to the test object:	N/A
- test object does meet the requirement:	P (Pass)
- test object does not meet the requirement:	F (Fail)
Testing	
Date of receipt of test item	See cover page
Date(s) of performance of tests	See cover page
General remarks:	
The test results presented in this report relate only to the This report shall not be reproduced, except in full, with aboratory.  "(see Enclosure #)" refers to additional information ap "(see appended table)" refers to a table appended to the	out the written approval of the Issuing testing pended to the report.
Throughout this report a ☐ comma / ☒ point is used	as the decimal separator.



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Manufacturer's Declaration per sub-clause 6.2.5 of IECEE 02: The application for obtaining a CB Test Certificate includes more than one factory location and a Not applicable declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided..... When differences exist; they shall be identified in the General product information section. Name and address of factory (ies)...... The same as applicant General product information: 1. The equipment is a wireless transmitter which used to transmit the video/audio signal via wireless technology. 2. The equipment is supplied by external DC supply, rated voltage 6-16Vdc. The external DC source considered to comply to LPS which specified by manufacturer. Maximum operating temp.: 55°C. EUT operated with altitude up to 2000m above sea level. Abbreviations used in the report: - normal conditions N.C. - single fault conditions S.F.C - functional insulation OP - basic insulation ВΙ double insulation DI - supplementary insulation SI - between parts of opposite polarity BOP - reinforced insulation RI Indicate used abbreviations (if any)



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	IEC 60950-1		
Clause	Requirement + Test	Result - Remark	Verdict
1	General		P
1.5	Components	(see appended tables 1.5.1)	Р
1.6	Power interface	(see appended tables 1.6.2)	Р
1.7	Marking and instructions		Р
2	PROTECTION FROM HAZARDS		Р
2.1	Protection from electric shock and energy hazards	Class III product, all voltage not exceeding 42.4Vpeak or 60V d.c.	Р
2.2	SELV circuits	Class III product, all voltage not exceeding 42.4 Vpeak or 60V d.c.	Р
2.3	TNV circuits		N/A
2.4	Limited current circuits		N/A
2.5	Limited power sources		N/A
2.6	Provisions for earthing and bonding		N/A
2.7	Overcurrent and earth fault protection in primary circuits		N/A
2.8	Safety interlocks		N/A
2.9	Electrical insulation	Functional insulation only	Р
2.10	Clearances, creepage distances and distances through insulation	Class III product	N/A
3	WIRING, CONNECTIONS AND SUPPLY		Р
3.1	General		N/A
3.2	Connection to a mains supply		N/A



		A. Carrier and Car	
	Page 9 of 14	Report No.: 170	35858 00°
	IEC 60950-1		
Clause	Requirement + Test	Result - Remark	Verdict
3.3	Wiring terminals for connection of external conductors		N/A
3.4	Disconnection from the mains supply		N/A
3.5	Interconnection of equipment	SELV circuits only, no data port.	Р
4	PHYSICAL REQUIREMENTS		Р
4.1	Stability	Less than 7kg	N/A
4.2	Mechanical strength	Class III product, no hazardous voltage or energy hazards internal.	N/A
4.3	Design and construction	Class III product, no hazardous voltage or energy hazards. LEDs are used for indication only.	Р
4.4	Protection against hazardous moving parts		N/A
4.5	Thermal requirements	(see appended table 4.5)	Р
4.6	Openings in enclosures	No opeinings	N/A
4.7	Resistance to fire	Equipment is supplied by external DC source which considered comply to L.P.S. No fire enclosure required.	Р
5	ELECTRICAL REQUIREMENTS AND SIMULATED	ABNORMAL CONDITIONS	Р
5.1	Touch current and protective conductor current	No direct mains connection. No possible touch current considered.	N/A
5.2	Electric strength	Class III equipment	N/A
5.3	Abnormal operating and fault conditions	(See append table 5.3)	Р
6	CONNECTION TO TELECOMMUNICATION NETW	/ORKS	N/A



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	IEC 60950-1	
Clause	Requirement + Test Result - Remark	Verdict
6.1	Protection of telecommunication network Service persons, and users of other equipment connected to the network, from hazards in the equipment	N/A
6.2	Protection of equipment users from overvoltages on telecommunication networks	N/A
6.3	Protection of the telecommunication wiring system from overheating	N/A
7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS	N/A
7.1	General	N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment	N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system	N/A
7.4	Insulation between primary circuits and cable distribution systems	N/A
A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE	N/A
В	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 5.3.2)	e 4.7.2.2 and N/A
С	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)	N/A
D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT T (see 5.1.4)	ESTS N/A
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)	N/A
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE D (see 2.10 and Annex G)	ISTANCES N/A



	<u> </u>	ort No.: 17035858 00
Clause	IEC 60950-1	
Clause	Requirement + Test Result - Remark	Verdict
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES	N/A
Н	ANNEX H, IONIZING RADIATION (see 4.3.13)	N/A
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.0	6) N/A
K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)	N/A
L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELE BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)	CTRICAL P
М	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.	1) N/A
N	ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)	3.9, N/A
Р	ANNEX P, NORMATIVE REFERENCES	
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)	N/A
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROPROGRAMMES	DL N/A
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)	N/A
Т	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WA' (see 1.1.2)	TER N/A
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERIINSULATION (see 2.10.5.4)	LEAVED N/A
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)	N/A
W	ANNEX W, SUMMATION OF TOUCH CURRENTS	N/A
X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)	N/A
Υ	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)	N/A
Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G	i.2) N/A



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	IEC 6	0950-1		
Clause	Requirement + Test		Result - Remark	Verdict
AA	ANNEX AA, MANDREL TEST (see 2.1	0.5.8)		N/A
ВВ	ANNEX BB, CHANGES IN THE SECO	ND EDITION		
СС	ANNEX CC, Evaluation of integrated	circuit (IC) c	current limiters	N/A
DD	ANNEX DD, Requirements for the mo	ounting mea	ns of rack-mounted	N/A
EE	ANNEX EE, Household and home/off	ice docume	nt/media shredders	N/A
ZA	NORMATIVE REFERENCES TO INTE THEIR CORRESPONDING EUROPEA			_
ZB	ANNEX (normative) SPECIAL NATIONAL CONDITIONS (E	N)		Р
ZC	A-DEVIATIONS (informative)			Р
<b>Zx</b> (A12.2011)	Protection against excessive sound p	pressure from	m personal music players (Not such product)	N/A



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1.5.1	TAI	TABLE: List of critical components						
Object/pa	rt No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity		
Plastic enclosure		Interchangeable	Interchangeable	HB, 1.5mm min, 80°C, ABS	UL 94	UL		
PCB		Interchangeable	Interchangeable	V-0, 105°C	UL796	UL		
Supplemer	ntary ir	nformation:						

1.6.2	6.2 TABLE: Electrical data (in normal conditions)							Р	
* * U (V)		I (mA)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/statu	S	
6		157		0.94			Max. normal operation		
16		62	-	0.99			Max. normal operation		
Supplemer	ntary	informati	on: Transmit	the audio s	ignal via wire	eless techno	logy.		

4.5	TABLE: Thermal requirements	TABLE: Thermal requirements						
	Supply voltage (V):	Supply voltage (V) See below						
	Ambient T <sub>min</sub> (°C):							
	Ambient T <sub>max</sub> (°C):							
Maximu	Maximum measured temperature T of part/at:		T (°C)		T <sub>max</sub> (°C)			
		6Vdc	16Vdc					
External enclosure near U4 (Plastic)		23.4	23.2	95-(55-23)=63				
Internal	enclosure near U4 (Plastic)	36.7	38.6	80-(55-23)=48				
PCB ne	ear HS	47.7	50.6	105-(55-23)=73				
U1*		39.0	40.4	105-(5	5-23)=73			
U4*		48.6	52.9	105-(55-23)=73				
DC connector		23.5	23.7	95-(55	-23)=63			
Ambien	t	23.3	23.1		_			

## Supplementary information:

- Heating test conducted at ambient temperature, and the max. ambient temperature 55°C declared by the manufacturer.
- \*PCB limit used: 105°C

Temperature T of winding	t <sub>1</sub> (°C)	$R_1(\Omega)$	t <sub>2</sub> (°C)	$R_2(\Omega)$	T (°C)	Allowed T <sub>max</sub> (°C)	Insulation class
No							



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5.3	TABLE: Fault condition tests							
	Ambient temperature (°C):  Power source for EUT: Manufacturer, model/type, output rating					see below		
							_	
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (mA)	Observation		
C6	s-c	16Vdc	1hr			Unit not operate. (62mA→142mA→62mA) The input current cycled between 62mA and 142mA. Max. measured temperature: U4*: 81.2°C PCB near HS*: 47.0°C Ambient: 22.2°C No damage, no hazards.		
U4 pin2-3	s-c	16Vdc	10mins			Unit shut down immediately. (62mA→0mA) Recoverable when remove the fault. No damage, no hazards.		

### **Photo Documentation**

**TÜV**Rheinland®

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<u>Product:</u> Wireless Transmitter

Type Designation: TX58CE

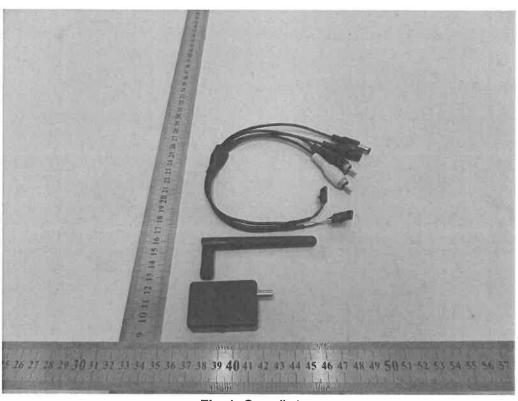


Fig. 1: Overall view

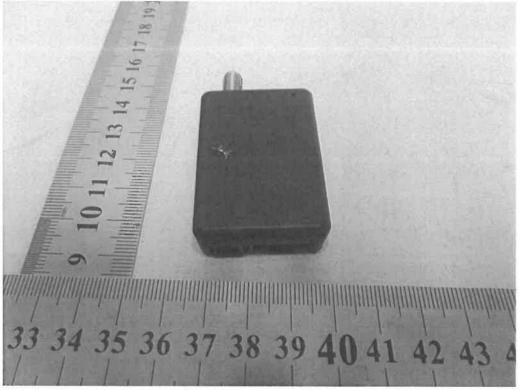


Fig. 2: Front and top view

## **Photo Documentation**

**TÜV**Rheinland®

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<u>Product:</u> Wireless Transmitter

Type Designation: TX58CE

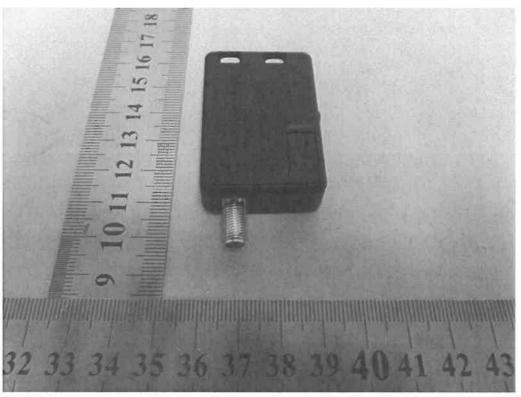


Fig. 3: Rear and bottom view

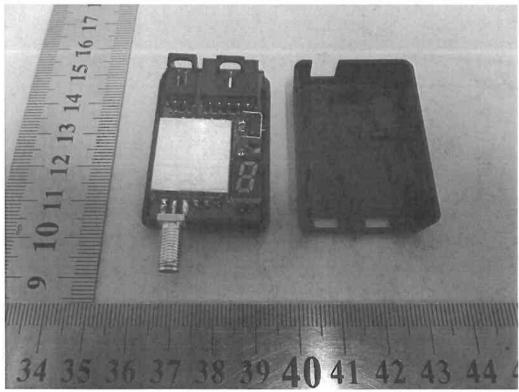


Fig. 4 Internal view

## **Photo Documentation**

**TÜV**Rheinland®

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Product:

Wireless Transmitter

Type Designation:

TX58CE

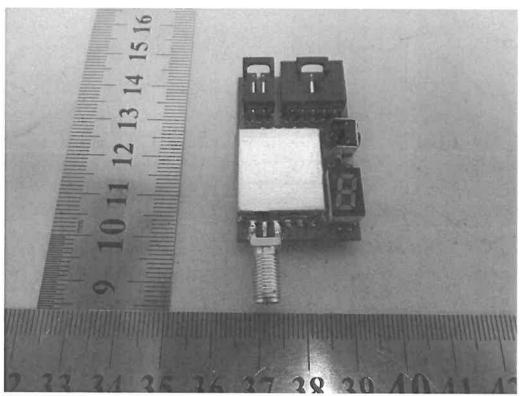


Fig. 5: Main Board top view

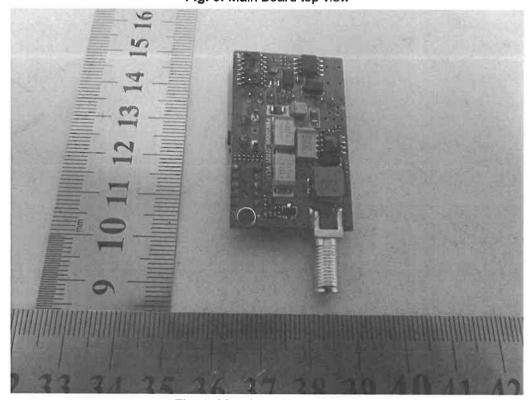


Fig. 6: Main board bottom view