

Prüfbericht-Nr.: <i>Test report no.:</i>	CN22J98Z 004	Auftrags-Nr.: <i>Order no.:</i>	168349697	Seite 1 von 13 <i>Page 1 of 13</i>	
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	2021-12-29		
Auftraggeber: <i>Client:</i>	ZTE Corporation ZTE Plaza, Hi-Tech Park, Nanshan District, Shenzhen, Guangdong, P.R.China				
Prüfgegenstand: <i>Test item:</i>	RichMedia Box				
Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i>	ZXV10 B866V2-H, ZXV10 B866V6-H, ZXV10 B866V2-H1, ZXV10 B866V2HA, ZXV10 B866V2J, ZXV10 B866V6, ZXV10 B866V6-H1, ZXV10 B866V6HA, ZXV10 B860H V6.1, ZXV10 B860H V6.0, ZXV10 B867V2, ZXV10 B867V2Hi, ZXV10 B870V2H, ZXV10 B870V6H, ZXV10 B870V2J (Trademark: ZTE)				
Auftrags-Inhalt: <i>Order content:</i>	Test Report				
Prüfgrundlage: <i>Test specification:</i>	CFR47 FCC Part 15: Subpart B, Class B Section 15.107 CFR47 FCC Part 15: Subpart B, Class B Section 15.109				
Wareneingangsdatum: <i>Date of sample receipt:</i>	2022-01-05	Please refer to Photo Document			
Prüfmuster-Nr.: <i>Test sample no.:</i>	A003194305-002				
Prüfzeitraum: <i>Testing period:</i>	2022-01-11 - 2022-01-24				
Ort der Prüfung: <i>Place of testing:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.				
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.				
Prüfergebnis*: <i>Test result*:</i>	Pass				
geprüft von: <i>tested by:</i>	X <u>Tim Zhang</u>	genehmigt von: <i>authorized by:</i>	X <u>Lin Lin</u>		
Datum: <i>Date:</i>	2022-01-25 <small>Signed by: Tim Zhang</small>	Ausstellungsdatum: <i>Issue date:</i>	2022-01-25 <small>Signed by: Lin Lin</small>		
Stellung / Position:	Project Manager	Stellung / Position:	Reviewer		
Sonstiges / Other:	FCC ID: Q78-ZXV10905X4				
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>	Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>				
* Legende:	1 = sehr gut P(ass) = entspricht o.g. Prüfgrundlage(n)	2 = gut 2 = good P(ass) = passed a.m. test specification(s)	3 = befriedigend F(ail) = entspricht nicht o.g. Prüfgrundlage(n) 3 = satisfactory F(ail) = failed a.m. test specification(s)	4 = ausreichend N/A = nicht anwendbar 4 = sufficient N/A = not applicable	5 = mangelhaft N/T = nicht getestet 5 = poor N/T = not tested
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. <i>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.</i>					

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Test Report No.:

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Test Summary

5.1.1 CONDUCTED EMISSION ON AC MAINS

RESULT: Pass

5.1.2 RADIATED EMISSIONS

RESULT: Pass

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1 General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Photographs of the Test Set-up

Appendix B: Test Results of FCC 15B

2 Test Sites

2.1 Test Facilities

TÜV Rheinland (Shenzhen) Co., Ltd.

No. 362 Huanguan Road Middle, Longhua District, 518110, Shenzhen, P. R. China.

FCC Accreditation Designation No.: CN1260

ISED wireless device testing laboratory: 25069

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Conducted Emission				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
EMI Test Receiver	R&S	ESR3	102428	2022-08-10
Artificial Mains Network	R&S	ENV216	102333	2022-08-10
Artificial Mains Network	R&S	ENV432	101411	2022-08-10
EMC32 test software	R&S	EMC32(Ver.10.50.00)	N/A	N/A
Radiated Emission (10m chamber)				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
10m SAC	ETS-Lindgren	SAC10	CT001632-Q1399	2024-03-01
EMI Test Receiver 1	R&S	ESR7	102022	2022-08-10
EMI Test Receiver 2	R&S	ESR7	102023	2022-08-10
Bilog Antenna 1	TESEQ	CBL6112D	51321	2022-08-08
Bilog Antenna 2	TESEQ	CBL6112D	51322	2022-07-11
Preamplifier 1 (30-1000MHz)	SCHWARZBECK	BBV9745	115	2022-08-13
Preamplifier 2 (30-1000MHz)	EMCI	EMC9135-P	980629	2022-08-13
Preamplifier 3 (1-18GHz)	FIT	SCU-18F	180076	2022-08-13
Horn Antenna	R&S	HF907	102707	2022-07-10
EMC32 test software	R&S	EMC32(Ver.10.50.00)	N/A	N/A

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to

manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table.

Parameter	Uncertainty
Radiated Emission (10m SAC), 30MHz to 1000MHz	± 4.66 dB
Radiated Emission (10m SAC), above 1000MHz	± 4.35 dB
Conducted Emission, (9kHz to 150kHz)/(150kHz to 30MHz)	± 3.70 dB / ± 3.30 dB

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A & B of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) Co., Ltd. file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The TÜV Rheinland (Shenzhen) Co., Ltd. Test facility located at No. 362 Huanguan Road Middle, Longhua District, 518110, Shenzhen, P. R. China. is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3 General Product Information

3.1 Product Function and Intended Use

The EUT is a RichMedia Box, which supports Bluetooth(dual mode), 2.4GHz Wi-Fi 802.11 b/g/n and 5GHz Wi-Fi 802.11a/n/ac wireless technology.

The basic model and all the series models' circuit theory, electrical design and the key components are the same, but the configuration maybe varies with different requirements which is Flash capacity for all models.

The EUT have four adapters, details as below table:

Description	Model	Rating	Manufacturer
Adapter 1#	UWP-12W-1210S	Input: 100-240V, 50/60Hz, 0.6A Output: 12.0V, 1.0A	I.T.E&AV POWER SUPPLY
Adapter 2#	KL-WA120100-B	Input: 100-240V, 50/60Hz, 0.6A Output: 12.0V, 1.0A	XIAMEN KELI ELECTRONIC CO., LTD
Adapter 3#	MN012E-L120100	Input: 100-240V, 50/60Hz, 0.6A Output: 12.0V, 1.0A	XIAMEN CASTEC ELECTRONIC INDUSTRY CO., LTD
Adapter 4#	RD1201000-C55-35MGD	Input: 100-240V, 50/60Hz, 0.6A Output: 12.0V, 1.0A	Shenzhen Ruide electronic industrial Co., Ltd.

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Technical Specification of EUT

General Information of EUT	Value
Kind of Equipment:	RichMedia Box
Type Designation:	ZXV10 B866V2-H, ZXV10 B866V6-H, ZXV10 B866V2-H1, ZXV10 B866V2HA, ZXV10 B866V2J, ZXV10 B866V6, ZXV10 B866V6-H1, ZXV10 B866V6HA, ZXV10 B860H V6.1, ZXV10 B860H V6.0, ZXV10 B867V2, ZXV10 B867V2Hi, ZXV10 B870V2H, ZXV10 B870V6H, ZXV10 B870V2J
Trademark:	ZTE
FCC ID:	Q78-ZXV10905X4
Operating Voltage:	AC 120~240V, 50/60Hz input via adapter
Testing Voltage:	AC 120V, 60Hz

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, WIFI operation + HDMI(4K)+S/PDIF
- B. On, WIFI operation + AV+S/PDIF
- C. On, RJ45 operation + HDMI(4K)+S/PDIF
- D. On, RJ45 operation + AV+S/PDIF
- E. On, USB Playing + HDMI(4K)+S/PDIF
- F. On, USB Playing + AV+S/PDIF
- G. On, TF card Playing + HDMI(4K)+S/PDIF
- H. On, TF card Playing + AV+S/PDIF
- I. On, BT operation
- J. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- Application Form
- Operation Description
- Schematics
- PCB Layout
- User Manual
- Block Diagram
- Rating Label
- Parts List

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All tests were performed according to the procedures in ANSI C63.4: 2014.

According to clause 3.1, all tests were performed on model ZXV10 B866V2-H in this report.

4.3 Special Accessories and Auxiliary Equipment

Table 3: Auxiliary Equipment Used during Test

Description	Manufacturer	Model	S/N
Portable Laptop	Lenovo	ThinkPad T480	10Q67059
LCD 4K Color Display	PHILIPS	272P7V	AUCA1833000075472
Soundbar	Fenda	NS-HTSB22	/
RJ45 cable	/	/	/
AV cable	/	/	/
HDMI cable	/	/	/
Optical fiber cable	/	/	/

4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

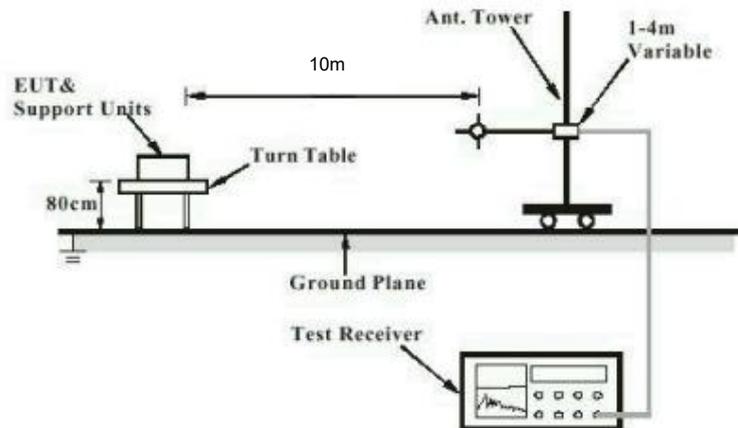


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

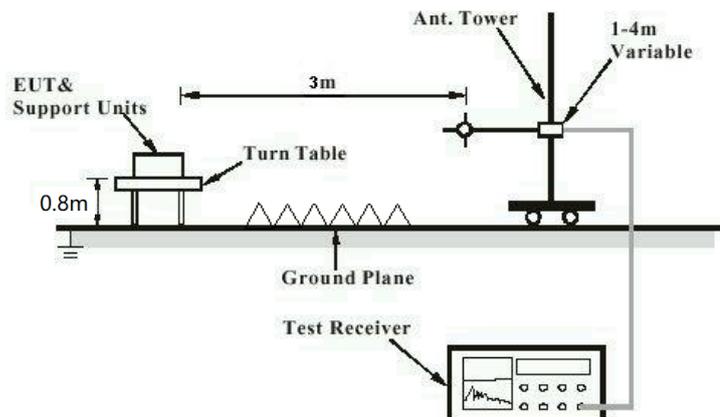
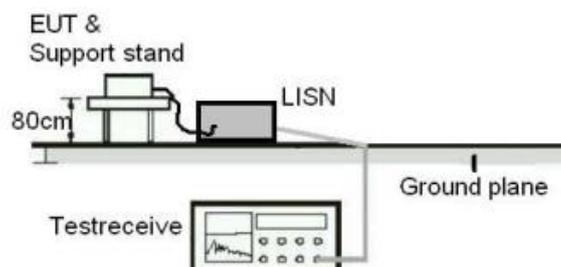


Diagram of Measurement Configuration for Mains Conduction Measurement



5 Test Results

5.1.1 Conducted Emission on AC Mains

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.107(a)
Basic standard	: ANSI C63.4:2014
Frequency range	: 0.15 – 30MHz
Classification	: Class B
Limits	: FCC Part 15.107(a)
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2022-01-12 to 2022-01-21
Input voltage	: AC 120V, 60Hz
Operation mode	: A, B, C, D, E, F, G, H, I
Earthing	: Not connected
Ambient temperature	: 23.1 °C
Relative humidity	: 52 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix B.

5.1.2 Radiated Emissions

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.109(a)
Basic standard	: ANSI C63.4:2014
Frequency range	: 30MHz to 5 th harmonic of the highest frequency
Classification	: Class B
Limits	: FCC Part 15.109(a)
Kind of test site	: 10m Semi-Anechoic Chamber

Test Setup

Date of testing	: 2022-01-17 to 2022-01-24
Input voltage	: AC 120V, 60Hz
Operation mode	: A, B, C, D, E, F, G, H, I
Earthing	: Not connected
Ambient temperature	: 23 °C
Relative humidity	: 50 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix B.

6 Photographs of the Test Set-Up

For photographs of the test set-up, refer to the appendix A.

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