

TEST REPORT

Reference No...... : WTD22D07138832W003
FCC ID : 2A7QF-BO897
Applicant..... : Barn Owl Tech, Inc.
Address..... : 1215 Kelso Pl, 80921, Colorado Springs, Colorado, United States
Manufacturer : HuaRui Technology(ShenZhen)CO.,Ltd
Address..... : 401,building 3, No.32, Dafu Road, Zhangge community, Fucheng street, Longhua District, Shenzhen, China
Product..... : 4g cellular camera
Model(s). : BO897
Standards..... : FCC 1.1307
Date of Receipt sample : 2022-07-11
Date of Test : 2022-07-11 to 2022-07-25
Date of Issue..... : 2022-09-08
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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3 Revision History

Test Report No.	Date of Receipt Sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTD22D07138832W003	2022-07-11	2022-07-11 to 2022-07-25	2022-09-08	Original	-	Valid

4 General Information

4.1 General Description of E.U.T.

Product:	4g cellular camera
Model(s):	BO897
Model Description:	N/A
WCDMA Band(s):	FDD Band II/IV/V
LTE Band(s):	FDD Band 2/4/5/12/13/14/66/71
Hardware Version:	BO897MV04
Software Version:	BO897NC2Dx1418049
Highest frequency (Exclude Radio):	27MHz
Storage Location:	Internal Storage

4.2 Details of E.U.T.

Operation Frequency:	WCDMA Band II: 1850~1910MHz
	WCDMA Band V: 824~849MHz
	WCDMA Band IV: 1710~1755MHz
	LTE Band 2: 1850~1910MHz
	LTE Band 4: 1710~1755MHz
	LTE Band 5: 824~849MHz
	LTE Band 12: 699~716MHz
	LTE Band 13: 777~787MHz
	LTE Band 14: 788~798MHz
	LTE Band 66: 1701~1780MHz
Type of Modulation:	LTE Band 71: 663~698MHz
	BPSK, QPSK, 16QAM
Antenna installation:	External antenna with RP-SMA connector
Antenna Gain:	WCDMA Band II: 1.71dBi
	WCDMA Band V: 1.79dBi
	WCDMA Band IV: 1.71dBi
	LTE Band 2: 1.71dBi
	LTE Band 4: 1.71dBi
	LTE Band 5: 1.79dBi
	LTE Band 12: 1.79dBi
	LTE Band 13: 1.79dBi
	LTE Band 14: 1.79dBi
	LTE Band 66: 1.71dBi
Ratings:	LTE Band 71: 1.79dBi
	DC 9V

4.3 Test Facility

The test facility has a test site registered with the following organizations:

ISED CAB identifier: CN0013. Test Firm Registration No.: 7760A.

Waltek Testing Group Co., Ltd. Has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files. Registration number 7760A, October 15, 2016.

FCC Designation No.: CN1201. Test Firm Registration No.: 523476.

Waltek Testing Group Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration number 523476, September 10, 2019.

5 Test Summary

Test Items	Test Requirement	Result
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	1.1307(b)(1)	PASS

6 RF Exposure

Test Requirement: FCC Part 1.1307

Test Mode: The EUT work in test mode(Tx).

6.1 Requirements

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

6.2 The procedures / limit

FCC Part 1.1307:

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ;

*Plane-wave equivalent power density

6.3 MPE Calculation Method

Predication of MPE limit at a given distance

$$S = \frac{PG}{4\pi R^2}$$

S = power density (in appropriate units, e.g. mW/cm²)

P = power input to the antenna (in appropriate units, e.g., mW).

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain.

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

From the peak EUT RF output power, the minimum mobile separation distance, d=20cm, as well as the gain of the used antenna, the RF power density can be obtained

Remark:

FCC Part 1.1307:

Mode	Antenna Gain (dBi)	Antenna Gain (numeric)	Max.Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (mW/cm ²)	Limit of Power Density (mW/cm ²)
WCDMA (Band II)	1.71	1.483	23.00	199.526	0.0588	1
WCDMA (Band V)	1.79	1.510	23.00	199.526	0.0599	0.564
WCDMA (Band IV)	1.71	1.483	23.00	199.526	0.0588	1
LTE (Band 2)	1.71	1.483	23.50	223.872	0.0660	1
LTE (Band 4)	1.71	1.483	23.50	223.872	0.0660	1
LTE (Band 5)	1.79	1.510	24.00	251.189	0.0755	0.566
LTE (Band 12)	1.79	1.510	24.00	251.189	0.0755	0.466
LTE (Band 13)	1.79	1.510	24.00	251.189	0.0755	0.521
LTE (Band 14)	1.79	1.510	24.00	251.189	0.0755	0.530
LTE (Band 66)	1.71	1.483	24.00	251.189	0.0741	1
LTE (Band 71)	1.79	1.510	24.50	281.838	0.0847	0.455

WCDMA (Band V): Power Density (S)(mW/cm²)=846.6/1500=0.564

LTE (Band 5): Power Density (S)(mW/cm²)=848.3/1500=0.566

LTE (Band 12): Power Density (S)(mW/cm²)=699.7/1500=0.466

LTE (Band 13): Power Density (S)(mW/cm²)=782.0/1500=0.521

LTE (Band 14): Power Density (S)(mW/cm²)=795.5/1500=0.530

LTE (Band 71): Power Density (S)(mW/cm²)=683/1500=0.455

=====End of Report=====