Prüfbericht-Nr.: *Test report no.*:	**CN23AZPG 002**	**Auftrags-Nr.:** *Order no.*:	**168443305**	Seite 1 von 14 *Page 1 of 14*
Kunden-Referenz-Nr.: *Client reference no.*:	N/A	**Auftragsdatum:** *Order date:*	2023-09-11	
Auftraggeber: *Client*:	**Botslab,Inc.** 919 North Market Street, Suite 950, Wilmington, New Castle, Delaware, USA			
Prüfgegenstand: *Test item*:	Botslab PT 4G LTE Cellular Camera			
Bezeichnung / Typ-Nr.: *Identification / Type no.*:	FCC:W314, W314lite, W314pro, W314s IC:W314 (Trademark: Botslab)			
Auftrags-Inhalt: *Order content*:	Test Report			
Prüfgrundlage: *Test specification*:	47 CFR FCC Part 2.1091	RSS-102 Issue 5		

Wareneingangsdatum: *Date of sample receipt*:	2023-09-12	Please refer to Photo Document
Prüfmuster-Nr.: *Test sample no:*	A003560228-001~003	
Prüfzeitraum: *Testing period*:	2023-09-13 - 2023-09-19	
Ort der Prüfung: *Place of testing*:	TÜV Rheinland (Shenzhen) Co., Ltd.	
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland (Shenzhen) Co., Ltd.	
Prüfergebnis*: *Test result**:	Pass	

geprüft von: tested by:	X Chris Chen Signed by: Chris Chen	**genehmigt von:** *authorized by*:	X Lin Lin Signed by: Lin Lin
Datum: *Date:* 2023-12-20		**Ausstellungsdatum:** *Issue date:* 2023-12-20	
Stellung / Position:	Department Manager	**Stellung** / Position:	Reviewer

Sonstiges / *Other*:	FCC ID: 2A22Z-W314 IC: 27673-W314, HVIN: W314
Zustand des Prüfgegenstandes bei Anlieferung: *Condition of the test item at delivery*:	Prüfmuster vollständig und unbeschädigt *Test item complete and undamaged*

* Legende:	P(ass) = entspricht o.g. Prüfgrundlage(n)	F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
* *Legend:*	*P(ass) = passed a.m. test specification(s)*	*F(ail) = failed a.m. test specification(s)*	*N/A = not applicable*	*N/T = not tested*

Anmerkungen
Remarks

1	Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben. Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden. *The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system.* *Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.*
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3	Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben. Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt. *Test clauses with remark of * are subcontracted to qualified subcontractors and descripted under the respective test clause in the report.* *Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.*
4	Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnisen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2021, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezueglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019. The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the “Zero Guard Band Rule” and “Simple Acceptance” in accordance with ILAC G8:2019 and IEC Guide 115:2021, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019.

TEST SUMMARY

5.1.1 RF EXPOSURE COMPLIANCE

RESULT: Pass

CONTENTS

1. General Remarks

1.1 Complementary Materials

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

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

Radio Spectrum Testing					
Equipment	**Manufacturer**	**Model**	**Serial No.**	**Cal. Date**	**Cal. until**
Signal Analyzer	R&S	FSV 40	101440	2023-08-06	2024-08-05
Wideband Radio Communication Tester	R&S	CMW500	165339	2023-07-26	2024-07-25

2.3 Traceability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, 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 basics 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:

Items		**Extended Uncertainty**
Radio Spectrum	Output Power (dBm)	U=0.5dB, k=2, σ=95%

2.6 Location of Original Data

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

2.7 Status of Facility Used for Testing

The TÜV Rheinland (Shenzhen) Co., Ltd. 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 **Botslab PT 4G LTE Cellular Camera** which supports WCDMA and LTE functions.

All models are identical, only the model no. is different for market strategy.

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**
Product Name:	Botslab PT 4G LTE Cellular Camera
Test Model No.:	W314
FCC Model No.:	W314, W314lite, W314pro, W314s
IC Model No.:	W314
Trademark:	Botslab
FCC ID:	2A22Z-W314
IC:	27673-W314
HVIN:	W314
Operating Voltage:	Internal battery operated (3.6Vdc)
Testing Voltage:	Fully charged battery
Technical Specification of WCDMA	
Operational Frequency:	WCDMA Band 2: 1850 to 1910 MHz WCDMA Band 4: 1710 to 1755 MHz WCDMA Band 5: 824 to 849 MHz
Type of Modulation:	QPSK, 16QAM
Power Class:	Class 3
Subcarrier spacing:	200 KHz
TX and RX Antenna Ports:	1 * TRX, 1 * RX-only
Antenna Type:	Dipole
Antenna Number:	2
Antenna Gain:	Provided by the Client
	WCDMA Band 2: 3.21dBi
	WCDMA Band 4: 2.86dBi
	WCDMA Band 5: 0.24dBi
Technical Specification of LTE	
Operational Frequency:	LTE Band 2: 1850 to 1910 MHz LTE Band 4: 1710 to 1755 MHz

	LTE Band 5: 824 to 849 MHz LTE Band 12: 699 to 716 MHz LTE Band 13: 777 to 787 MHz LTE Band 14: 788 to 798 MHz LTE Band 66: 1710 to 1780 MHz LTE Band 71: 663 to 698 MHz
Type of Modulation:	QPSK, 16QAM
Power Class:	Class 3
Subcarrier spacing:	LTE Band 2: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5: 1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 12: 1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 14: 5MHz, 10MHz LTE Band 66: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz
TX and RX Antenna Ports:	1 * TRX, 1 * RX-only
Antenna Type:	Dipole
Antenna Number:	2
Antenna Gain:	Provided by the Client
	LTE Band 2: 3.21dBi
	LTE Band 4: 2.86dBi
	LTE Band 5: 0.24dBi
	LTE Band 12: 0.78dBi
	LTE Band 13: 0.37dBi
	LTE Band 14: 0.36dBi
	LTE Band 66: 3.54dBi
	LTE Band 71: 0.95dBi

3.3 Independent Operation Modes

The basic operation modes are:

A. WCDMA mode
B. LTE mode
C. Standby
D. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

- Bill of Material	- Circuit Diagram
- PCB Layout	- Instruction Manual
- Photo Document	- Rating Label

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted 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.

4.3 Special Accessories and Auxiliary Equipment

Table 3: List of Accessories and Auxiliary Equipment

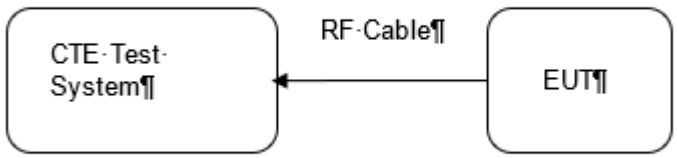
Name	Model	Manufacturer	S/N
Evaluation Kit	EVK2	Telit	N/A

4.4 Countermeasures to achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Constructional Data Form or the Technical Construction File. No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Equipment Configuration for Transmitter Measurement



5. Test Results

5.1 Transmitter Requirements & Test Suites

5.1.1 RF Exposure Compliance

RESULT: **Pass**

Test date	:	2023-09-13 to 2023-09-19
Test standard	:	47 CFR FCC Part 2.1091 RSS-102 Issue 5
Limit	:	Table 1 of 47 CFR FCC Part 1.1310 Table 4 of RSS-102 Issue 5
Kind of test site	:	Shielded room

TEST SETUP

Test Channel	:	Low/ Middle/ High
Operation Mode	:	A, B
Ambient temperature	:	23 ℃
Relative humidity	:	49%
Atmospheric pressure	:	101.0 kPa

This device is mobile device, and the applicant declares that the minimum separation distance is greater than 20cm. Therefore MPE measurement or computational modeling should be used to determine compliance.

MPE Calculation is based on the conducted power, and considering maximum power and antenn gain. The following formula is used to MPE evaluation.

$$Pd = \frac{Pout * G}{4R^2\pi}$$

Where
P_d = power density in mW/cm^2 or W/m^2
P_{out} = output power to antenna in mW or W
G_{num} = Antenna gain in numeric
π = 3.14159
R = Distance between observation point and the center of radiator in cm or m

Note: The WCDMA and LTE modes can not transmit simultaneous.

FCC Test Result

Operating Mode	Band	Maximum Conducted Output Power		Antenna Gain (dBi)	Max. E.R.P./E.I.R.P. (dBm)	Min. Distance (cm)	Calculation (mW/cm^2)	FCC Limit (mW/cm^2)	Result
		Measured Power (dBm)	Max. Power incl. tune-up (dBm)						
WCDMA	2	23.34	25	3.21	28.21	20	0.132	1.0	PASS
	4	23.45	25	2.86	27.86	20	0.122	1.0	PASS
	5	23.08	25	0.24	25.24	20	0.067	0.549	PASS

Operating Mode	Band	Maximum Conducted Output Power		Antenna Gain (dBi)	Max. E.R.P./E.I.R.P. (dBm)	Min. Distance (cm)	Calculation (mW/cm^2)	FCC Limit (mW/cm^2)	Result
		Measured Power (dBm)	Max. Power incl. tune-up (dBm)						
LTE	2	23.14	25	3.21	28.21	20	0.132	1.0	PASS
	4	23.01	25	2.86	27.86	20	0.122	1.0	PASS
	5	24.09	25	0.24	25.24	20	0.067	0.549	PASS
	12	23.68	25	0.78	25.78	20	0.075	0.466	PASS
	13	24.04	25	0.37	25.37	20	0.069	0.518	PASS
	14	24.10	25	0.36	25.36	20	0.068	0.525	PASS
	66	23.81	25	3.54	28.54	20	0.142	1.0	PASS
	71	23.69	25	0.98	25.98	20	0.079	0.442	PASS

IC Test Result

Operating Mode	Band	Maximum Conducted Output Power		Antenna Gain (dBi)	Max. E.R.P./E.I.R.P. (dBm)	Distance (cm)	Calculation (W/m²)	IC Limit (W/m²)	Result
		Measured Power (dBm)	Max. Power incl. tune-up (dBm)						
WCDMA	2	23.34	25	3.21	28.21	20	1.317	4.476	PASS
	4	23.45	25	2.86	27.86	20	1.215	4.242	PASS
	5	23.08	25	0.24	25.24	20	0.655	2.576	PASS

Operating Mode	Band	Maximum Conducted Output Power		Antenna Gain (dBi)	Max. E.R.P./E.I.R.P. (dBm)	Distance (cm)	Calculation (W/m²)	IC Limit (W/m²)	Result
		Measured Power (dBm)	Max. Power incl. tune-up (dBm)						
LTE	2	23.14	25	3.21	28.21	20	1.317	4.476	PASS
	4	23.01	25	2.86	27.86	20	1.215	4.242	PASS
	5	24.09	25	0.24	25.24	20	0.655	2.576	PASS
	12	23.68	25	0.78	25.78	20	0.753	2.302	PASS
	13	24.04	25	0.37	25.37	20	0.685	2.474	PASS
	14	24.10	25	0.36	25.36	20	0.683	2.498	PASS
	66	23.81	25	3.54	28.54	20	1.421	4.242	PASS
	71	23.69	25	0.98	25.98	20	0.788	2.22	PASS

6. List of Tables

========== END OF REPORT ==========