



**FCC Part 1 Subpart I
FCC Part 2 Subpart J**

RF EXPOSURE REPORT

FOR

CAR CAMERA

MODEL NUMBER: 725-100

FCC ID: 2AOMN-725100

REPORT NUMBER: 12021721-E4V3

ISSUE DATE: JANUARY 18, 2018

Prepared for
725-1 Corporation
195 Page Mill Road, Suite 115
Palo Alto, CA, 94306

Prepared by
UL VERIFICATION SERVICES INC.
47173 BENICIA STREET
FREMONT, CA 94538, U.S.A.
TEL: (510) 771-1000
FAX: (510) 661-0888



Revision History

Rev.	Issue Date	Revisions	Revised By
V1	1/10/2018	Initial Issue	---
V2	1/17/2018	Updated antenna gains for LTE bands in section 6	Huda Mustapha
V3	1/18/2018	Updated results table in section 6 by removing 2.4 GHz band	Huda Mustapha

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	4
2. TEST METHODOLOGY	5
3. REFERENCES	5
4. FACILITIES AND ACCREDITATION	5
5. MAXIMUM PERMISSIBLE RF EXPOSURE	6
5.1. FCC RULES	6
5.2. EQUATIONS.....	7
6. RF EXPOSURE RESULTS.....	9

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: 725-1 Corporation
195 Page Mill Road, Suite 115
Palo Alto, CA, 94306

EUT DESCRIPTION: Car Camera

MODEL: 725-100

SERIAL NUMBER: N746100AALM (Radiated), N746100AAMD (Conducted)

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 1 SUBPART I & PART 2 SUBPART J	Complies

UL Verification Services Inc. calculated the RF Exposure of the above equipment in accordance with the requirements set forth in the above standards, using test results reported in the test report documents referenced below and/or documentation furnished by the applicant. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations of these calculations. The results show that the equipment is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

Approved & Released For
UL Verification Services Inc. By:



FRANCISO DEANDA
OPERATIONS LEADER
UL Verification Services Inc.

Calculated By:



HUDA MUSTAPHA
LEAD PROJECT ENGINEER
UL Verification Services Inc.

2. TEST METHODOLOGY

All calculations were made in accordance with FCC OET Bulletin 65 Edition 97-01.

3. REFERENCES

All measurements were made as documented in test report UL Verification Services Inc. Document 12021721-E1V2 for operation in the 2.4 GHz band, Document 12021721-E2V2 for operation in the 5 GHz bands and Document 12021721-E3V2 for BLE.

Output power, duty cycle and antenna gain data was excerpted from the applicable test reports referenced above.

For the cellular bands, output power data was excerpted from report no. T150112W01-MF under FCC ID N7NHL7548. Antenna gain values were provided by the customer.

4. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://ts.nist.gov/standards/scopes/2000650.htm>.

5. MAXIMUM PERMISSIBLE RF EXPOSURE

5.1. FCC RULES

§1.1310 The criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of §2.1093 of this chapter.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz

* = Plane-wave equivalent power density

Notes:

- (1) Occupational/controlled exposure limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when a person is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.
- (2) General population/uncontrolled exposure limits apply in situations in which the general public may be exposed, or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure

5.2. EQUATIONS

POWER DENSITY

Power density is given by:

$$S = \text{EIRP} / (4 * \text{Pi} * D^2)$$

Where

S = Power density in mW/cm²

EIRP = Equivalent Isotropic Radiated Power in mW

D = Separation distance in cm

Power density in units of mW/cm² is converted to units of W/m² by multiplying by 10.

DISTANCE

Distance is given by:

$$D = \text{SQRT} (\text{EIRP} / (4 * \text{Pi} * S))$$

Where

D = Separation distance in cm

EIRP = Equivalent Isotropic Radiated Power in mW

S = Power density in mW/cm²

SOURCE-BASED DUTY CYCLE

Where applicable (for example, multi-slot cell phone applications) a duty cycle factor may be applied.

$$\text{Source-based time-averaged EIRP} = (\text{DC} / 100) * \text{EIRP}$$

Where

DC = Duty Cycle in %, as applicable

EIRP = Equivalent Isotropic Radiated Power in W

MIMO AND COLOCATED TRANSMITTERS (IDENTICAL LIMIT FOR ALL TRANSMITTERS)

For multiple chain devices, and colocated transmitters operating simultaneously in frequency bands where the limit is identical, the total power density is calculated using the total EIRP obtained by summing the EIRP (in linear units) of each transmitter.

$$\text{Total EIRP} = (\text{EIRP1}) + (\text{EIRP2}) + \dots + (\text{EIRPn})$$

where

EIRPx = Source-based time-averaged EIRP of chain x or transmitter x

The total EIRP is then used to calculate the Power Density or the Distance as applicable.

MIMO AND COLOCATED TRANSMITTERS

For multiple colocated transmitters operating simultaneously in frequency bands where different limits apply:

The Power Density at the specified separation distance is calculated for each transmitter chain or transmitter.

The fraction of the exposure limit is calculated for each chain or transmitter as
(Power Density of chain or transmitter) / (Limit applicable to that chain or transmitter).

The fractions are summed.

Compliance is established if the sum of the fractions is less than or equal to one.

6. RF EXPOSURE RESULTS

In the table below, Power and Gain are entered in units of dBm and dBi respectively and conversions to linear forms are used for the calculations.

Colocated transmitters

Band	(GHz)	0.8	1.9	2.4	5
Mode		LTE	LTE	BLE	WLAN
Transmitter		Cell	Cell	Chain 0	Chain 0
Separation Distance	(cm)	20	20	20	20
Output Power	(dBm)	24.0	24.0	1.1	20.8
Antenna Gain	(dBi)	-4.6	0.0	1.4	-3.1
Duty Cycle	(%)	100	100	54	87
Source Based EIRP	(mW)	87.1	251.2	1.0	51.0
FCC Power Density	(mW/cm ²)	0.02	0.05	0.00	0.01
FCC Power Density Limit	(mW/cm ²)	0.55	1	1	1
Fraction of Limit	(%)	3.2	5.0	0.0	1.0
Sum of Fractions (%)	9.3				

Notes:

- 1) The manufacturer configures output power so that the maximum power, after accounting for manufacturing tolerances, will never exceed the maximum power level measured.
- 2) The antenna gain in the tables above is the maximum antenna gain among various channels within the specified band.

END OF REPORT