



Project No.: TM-2203000602P  
Report No.: TMWK2203001188KR

FCC ID: KFR-ZP3113US-7

Page: 1 / 7  
Rev.: 00

**KDB 447498 D03**  
**47 C.F.R. Part 1, Subpart I, Section 1.1310**  
**47 C.F.R. Part 2, Subpart J, Section 2.1091**

## RF EXPOSURE REPORT

For

**4-in-1 Motion Sensor**

**Model: ZP3113US-7**

Trade Name: **VISION<sup>®</sup>**

*Issued to*

**Vision Automobile Electronics Industrial Co Ltd**  
No.78, Gongye 3rd Rd., Technology Industrial Park, Tainan, Taiwan, 70955

Issued By

**Compliance Certification Services Inc.**  
**No.11, Wugong 6th Rd., Wugu Dist.,**  
**New Taipei City 24891, Taiwan. (R.O.C.)**

**Issued Date: May 10, 2022**

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.  
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Report No.: TMWK2203001188KR

Page: 2 / 7  
Rev.: 00

## REVISION HISTORY

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	May 10, 2022	Initial Issue	ALL	Angel Cheng



Report No.: TMWK2203001188KR

Page: 3 / 7  
Rev.: 00

## TABLE OF CONTENTS

1. TEST RESULT CERTIFICATION .....	4
2. LIMIT .....	5
3. EUT SPECIFICATION.....	5
4. TEST RESULTS.....	6
5. MAXIMUM PERMISSIBLE EXPOSURE.....	7

Report No.: TMWK2203001188KR

## 1. TEST RESULT CERTIFICATION

### We hereby certify that:

The equipment has been tested by Compliance Certification Services Inc., and found compliance with the requirement of the applicable standards. The test record, data evaluation and Equipment under Test (EUT) configurations represented herein are true and accurate accounts of the measurement of the sample's RF characteristics under the conditions specified in this report.

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
KDB 447498 D03 47 C.F.R. Part 1, Subpart I, Section 1.1310 47 C.F.R. Part 2, Subpart J, Section 2.1091	No non-compliance noted
Statements of Conformity	
Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.	

Approved by:




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Kevin Tsai  
Deputy Manager  
Compliance Certification Services Inc.

Report No.: TMWK2203001188KR

## 2. LIMIT

According to §1.1310 (e) (B) Limits for General Population/Uncontrolled Exposure, the frequency range (MHz) for 300-1,500 of Power density(mW/cm<sup>2</sup>) should be **f/1500**.

## 3. EUT SPECIFICATION

EUT	4-in-1 Motion Sensor
Model	ZP3113US-7
Trade Name	<b>VISION<sup>®</sup></b>
Model Discrepancy	N/A
Frequency band (Operating)	<input type="checkbox"/> 802.11b/g/n HT20: 2412MHz ~ 2462MHz <input type="checkbox"/> 802.11n HT40: 2422MHz ~ 2452MHz <input checked="" type="checkbox"/> Others (908MHz)
Device category	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others
Exposure classification	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm <sup>2</sup> ) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=0.6mW/cm <sup>2</sup> )
Antenna Specification	Antenna Gain : -11.00 dBi (Numeric gain: 0.08)
Maximum Average output power	908MHz <b>-5.858 dBm</b> (0.260 mW)
Maximum Tune up Power	908MHz <b>-5.50 dBm</b> (0.282 mW)
Evaluation applied	<input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A
Frequency band (Operating)	<input type="checkbox"/> 802.11b/g/n HT20: 2412MHz ~ 2462MHz <input type="checkbox"/> 802.11n HT40: 2422MHz ~ 2452MHz <input checked="" type="checkbox"/> Others (908MHz)

Note: RF power data reference report (TMTN2203000443NR)

Report No.: TMWK2203001188KR

## 4. TEST RESULTS

No non-compliance noted.

### Calculation

$$\text{Given } E = \frac{\sqrt{30 \times P \times G}}{d} \quad \& \quad S = \frac{E^2}{377}$$

Where  $E$  = Field strength in Volts / meter

$P$  = Power in Watts

$G$  = Numeric antenna gain

$d$  = Distance in meters

$S$  = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377d^2}$$

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where  $d$  = Distance in cm

$P$  = Power in mW

$G$  = Numeric antenna gain

$S$  = Power density in mW / cm<sup>2</sup>

Report No.: TMWK2203001188KR

## 5. MAXIMUM PERMISSIBLE EXPOSURE

Substituting the MPE safe distance using  $d = 20$  cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where  $P =$  Power in mW

$G =$  Numeric antenna gain

$S =$  Power density in mW / cm<sup>2</sup>

900MHz :

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)	Result
1	908	0.282	0.08	20	0.000004	0.6	Pass