

# RF EXPOSURE REPORT

Applicant	Shenzhen KTC Commercial Display Technology CO.,LTD.
Address	No.4023, Northern Wuhe Road, Bantian Street, Longgang District, Shenzhen City, Guangdong Province, P.R. China

Manufacturer or Supplier	Radiawave Technologies Co., Ltd.
Address	Chuangtou Building 1302, Tengfei Road, Longgang, Shenzhen,, Guangdong, P.R.
Product	5.8GHz Microwave Radar Module
Brand Name	RADIAWAVE
Model	RDWM15209
Additional Model & Model Difference	N/A
Date of tests	Dec. 27, 2022 ~ Feb. 06, 2023

**FCC Part 2 (Section 2.1091)**

**KDB 447498 D01 V06**

**IEEE C95.1**

**CONCLUSION: The submitted sample was found to COMPLY with the test requirement**

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Approved by Glyn He  
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Date: Feb. 28, 2023

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Test Report No.: FM2212WDG0202

## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FM2212WDG0202	Original release	Feb. 28, 2023

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## 1. CERTIFICATION

<b>FCC ID:</b>	2AQ5R-RDWM15209
<b>PRODUCT:</b>	5.8GHz Microwave Radar Module
<b>BRAND NAME:</b>	RADIAWAVE
<b>MODEL NO.:</b>	RDWM15209
<b>ADDITIONAL NO.:</b>	N/A
<b>APPLICANT:</b>	Shenzhen KTC Commercial Display Technology CO., LTD.
<b>STANDARDS:</b>	FCC Part 2 (Section 2.1091)
	KDB 447498 D01 V06
	IEEE C95.1



## 2. RF EXPOSURE LIMIT

### LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

FREQUENCY RANGE (MHz)	ELECTRIC FIELD STRENGTH (V/m)	MAGNETIC FIELD STRENGTH (A/m)	POWER DENSITY (mW/cm <sup>2</sup> )	AVERAGE TIME (minutes)
<b>LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE</b>				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

## 3. MPE CALCULATION FORMULA

$$Pd = (Pout * G) / (4 * pi * r^2)$$

where

Pd = power density in mW/cm<sup>2</sup>

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

## 4. CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.



### 5. ANTENNA GAIN

The antennas provided to the EUT, please refer to the following table:

Transmitter Circuit	Peak Gain (dBi)	Antenna Type
Chain 0	5.0	PCB Antenna

### 6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

The tuned conducted Power (declared by client)

Mode	Frequency (MHz)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
TX	5800-5810	-19	±2	-21	-17

The measured conducted Power

Mode	Frequency (MHz)	E (dBµV/m)	Averaged Power (dBm)
TX	5800	81.26	-18.97

Note:

$$E = \frac{\sqrt{30 PG}}{d}$$

E =Electric field streng in v/m

$$V/m=10^{(dBuv/m -120)/20}$$

P =Power in Watts

G =Antenna gain in dBi

d =Measurement distance in metres

Power ≈0.012677 (mW)

dBm=10\*log<sub>10</sub><sup>(0.00191)</sup>≈ -18.97 (dBm)

FREQUENCY BAND (MHz)	MAX POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
5800-5810	-17	5.0	20	0.00001	1

--- END ---