

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	Chuangtong 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

Tested by Andy Zhu Supervisor / EMC Department	Approved by Glyn He Assistant Manager / EMC Department
	

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

1. CERTIFICATION

FCC ID:	2AQ5R-RDWM15209
PRODUCT:	5.8GHz Microwave Radar Module
BRAND NAME:	RADIAWAVE
MODEL NO.:	RDWM15209
ADDITIONAL NO.:	N/A
APPLICANT:	Shenzhen KTC Commercial Display Technology CO., LTD.
STANDARDS:	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 ²)	AVERAGE TIME (minutes)
LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE				
300-1500	F/1500	30
1500-100,000	1.0	30

F = Frequency in MHz

3. MPE CALCULATION FORMULA

$$P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$$

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 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 strength in V/m

$$V/m = 10^{(dB_{\mu V/m} - 120)/20}$$

P = Power in Watts

G = Antenna gain in dBi

d = Measurement distance in metres

Power ≈ 0.012677 (mW)

dBm = 10 * log₁₀(0.00191) ≈ -18.97 (dBm)

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

--- END ---