

# **Certification Exhibit**

# FCC ID: 2ADCB-RMODIT

# FCC Rule Part: 47 CFR Part 2.1091

# ACS Project Number: 16-3027

Manufacturer: Acuity Brands Lighting, Inc. Model: RMODIT

# **RF Exposure**

# **General Information:**

Applicant:	Acuity Brands Lighting, Inc.
Environment:	General Population/Uncontrolled Exposure
Exposure Conditions:	Mobile

The EUT contains a 2.4 GHz radio and 900 MHz radio; both of which can operate simultaneously.

## **Technical Information:**

	Device 1 Details (Acuity Brands Lighting, Inc., N- Light Wireless RF Module, RMODIT, FCCID: 2ADCB- RMODIT, IC: 6715C- RMODIT)	Device 1 Details (Acuity Brands Lighting, Inc., N-Light Wireless RF Module, RMODIT, FCCID: 2ADCB-RMODIT, IC: 6715C-RMODIT)	
Frequency Band(s) (MHz)	2402 - 2480	904 - 926	
Antenna Type(s)	SMD 2.4GHz Chip	Chip	
	Antenna	Dipole	
		Monopole	
Antenna Gain (dBi)		1	
	3	0	
		0	
Conducted Power (dBm)	9.55	19.14	
Conducted Power (mW)	9.02	82.04	
Maximum Peak EIRP (mW)	17.99	103.28	
Maximum Peak ERP (mW)	10.96	62.95	

### Table 1: Technical Information

## **MPE Calculation:**

The Power Density (mW/cm<sup>2</sup>) is calculated as follows:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = power density (in appropriate units, e.g. mW/cm2)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

### Table 2: MPE Calculation (Including Collocated Devices)

Transmit Frequency (MHz)	Radio Power (dBm)	Power Density Limit (mW/Cm2)	Radio Power (mW)	Antenna Gain (dBi)	Antenna Gain (mW eq.)	Distance (cm)	Power Density (mW/cm^2)	Radio
2402	9.55	1.00	9.02	3	1.995	20	0.004	А
904	19.14	0.60	82.04	1	1.259	20	0.021	В

### Summation of MPE ratios – Simultaneous Transmissions

This device contains multiple transmitters which can operate simultaneously; therefore the maximum RF exposure is determined by the summation of MPE ratios. The limit is such that the summation of MPE ratios is  $\leq$  1.0.

	Scenario 1	Scenario 2
Radio A (2.4 GHz)	х	
Radio B (900MHz)	х	
Radio A MPE Ratio	0.00357874	
Radio B MPE Ratio	0.034092039	
MPE Ratio Summation:	0.037670779	

### **Table 3: Summation of MPE Ratios**