



## **Certification Exhibit**

**FCC ID: 2ADCB-RMODIT**

**FCC Rule Part: 47 CFR Part 2.1091**

**TÜV SÜD Project Number: 72151775**

Manufacturer: Acuity Brands Lighting, Inc.  
Model: RMODIT

## **RF Exposure**

**General Information:**

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

The 900MHz ISM radio is collocated and transmits simultaneously with the 2.4GHz BTLE radio.

**Technical Information:****Table 1: Technical Information**

	<i>Device 1 Details</i>	<i>Device 2 Details</i>
<b>Frequency Band(s) (MHz)</b>	904-926	2402-2480
<b>Antenna Type(s)</b>	Inverted F PCB Trace Antenna	Molex 0479480001 Chip Antenna
<b>Antenna Gain (dBi)</b>	2.1	3
<b>Conducted Power (dBm)</b>	19.06	9.48
<b>Conducted Power (mW)</b>	80.54	8.87

**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/cm<sup>2</sup>)

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/Cm <sup>2</sup> )	Radio Power (mW)	Antenna Gain (dBi)	Antenna Gain (mW eq.)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Radio
904	19.06	0.60	80.54	2.1	1.622	20	0.026	A
2402	9.48	1.00	8.87	3	1.995	20	0.004	B

**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 ≤ 1.0.

**Table 3: Summation of MPE Ratios**

	Scenario 1
Radio A (900 MHz ISM)	x
Radio B (2.4GHz BTLE)	x
Radio A MPE Ratio	0.043117441
Radio B MPE Ratio	0.00352152
MPE Ratio Summation:	0.04663896