

MPE Evaluation

Applicant: LEDUP LIGHTING ECOTECH COMPANY LIMITED

FCC ID: 2BFA3NR2101B1

Model: SZG-BK01-30W-R

MPE Evaluation

RF Exposure Compliance Requirement

Standard Requirement

In 15.247(i), an equipment shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the limits in §§ 1.1310 and 2.1093 of this chapter.

Applications to the Commission for construction permits, licenses to transmit or renewals thereof, equipment authorizations or modifications in existing facilities must contain a statement confirming compliance with the limits unless the facility, operation, or transmitter is categorically excluded, as discussed below. Technical information showing the basis for this statement must be submitted to the Commission upon request.

According to KDB447498 D04 General RF Exposure Guidance v01, Appendix B

B.2 Blanket 1 mW Blanket Exemption

The 1 mW Blanket Exemption of § 1.1307(b)(3)(i)(A) applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power of no more than 1mW, regardless of separation distance.

EUT RF Exposure

According to the calculation formula of power:

$$\text{EIRP} = P \cdot G = (E \cdot d)^2 / 30, \text{ So } P = (E \cdot d)^2 / (30 \cdot G)$$

Where:

P= transmitter output power in watts,

G = numeric gain of the antenna in the direction of interest relative to an isotropic radiator (unitless),

E= electric field strength in V/m, ... $10^{((\text{dBuV/m})/20)/10^6}$

d=measurement distance in meters (m)---3m,

Maximum Electric field strength: 77.07 dBuV/m @ 433.92MHz

$$\text{The Maximum EIRP} = (10^{(77.07/20)/10^6} \times 3)^2 / 30 \times 1000\text{mW} = 0.015\text{mW} < 1\text{mW}$$

So the transmitter complies with the RF exposure requirements and the SAR is not required.

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