

Radio Frequency Exposure Compliance

FCC ID: 2AYR6-2021TBD1236

IC: 26905-2021TBD1236

HVIN:DIAM-LED1236 FPC 2020

RESULT: Pass

Test Specification

Test standard	:	CFR47 FCC Part 2.1091
		RSS-102 Issue 5 March 2015
		FCC KDB Publication 447498 v06

Limit : CFR47 FCC Part 1.1310

FCC requirement: Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 20cm normally can be maintained between the user and the device.

MPE Calculation Method according to OET Bulletin 65

Power Density: $S_{(\text{mW/cm}^2)} = PG/4\pi R^2$ or $EIRP/4\pi R^2$

Where:

S = power density (mW/cm^2)

P = power input to the antenna (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 (cm)

The nominal maximum conducted output power specified:

BLE: -12.80 dBm

From the peak RF output power, the minimum mobile separation distance, d=20 cm, as well as the antenna gain (-3.00 dBi), the RF power density can be calculated as below:

For BLE: $S_{(\text{mW/cm}^2)} = PG/4\pi R^2 = 0.000005 \text{ mW/cm}^2$

Limits for Maximum Permissible Exposure (MPE) according to FCC Part 1.1310: 1.0 mW/cm^2

IC requirements: The EUT shall comply with the requirement of RSS-102 section 2.5.2.

Exemption from Routine Evaluation Limits – RF Exposure Evaluation

RF exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm, except when the device operates as follows:

at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $1.31 \times 10^{-2} f^{0.6834}$ W (adjusted for tune-up tolerance), where f is in MHz; RF exposure evaluation exempted power for 2.4G DTS: 2.676 W

The e.i.r.p. of EUT is less than the RF exposure evaluation exempted power. So RF exposure evaluation is not required.

“RF Radiation Exposure Statement Caution: This Transmitter must be installed to provide a separation distance of at least 20 cm from all persons.”