

FCC Part 15.247 Certification **Test Report**

FCC ID: R32-RFM100

FCC Rule Part: 15.247

ACS Report Number: 04-0096-15C

Manufacturer: Onity, Inc.
Equipment Type: Modular Radio
Model: RFM100

RF Exposure Information



RFM100 Modular Radio – RF Exposure Compliance

Compliance with 47 CFR 15.247(b)(5)

“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 levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.”

The EUT is a repeater for a lighting control system that operates in the 902-928 MHz band as a 15.247(f) hybrid system. The EUT will only be used with a separation distance of 20 centimeters or greater between the antenna and the body of the user or nearby persons and can therefore be considered a mobile transmitter per 47 CFR 2.1091(b). The antenna is a quarter wave whip antenna that is permanently attached to the unit. The antenna has a gain of 0.0 dBi. The maximum peak conducted output power is 4 mW.

The maximum peak power is 4 mW for FCC ID: R32-RFM100. The transmit frequency is 904.86 to 924.87 MHz. Since the transmit frequency is less than 1.5 GHz, and the output power is less than 1.5 W ERP, the EUT is categorically excluded from routine environmental evaluation per 47 CFR 2.1091(c).

The MPE estimates are as follows:

Table 1 in 47 CFR 1.1310 defines the maximum permissible exposure (MPE) for the general population as $(f \text{ MHz}/1500) \text{ mW/cm}^2$. The exposure level at a 20 cm distance from the EUT's transmitting antenna is calculated using the general equation:

$$S = (PG)/4\pi R^2$$

Where: S = power density (mW/cm²)

P = power input to the antenna (mW)

G = numeric power gain relative to an isotropic radiator

R = distance to the center of the radiation of the antenna (20 cm = limit for MPE estimates)

PG = EIRP