

Amended RF Emissions Statement

The instant device, a Part 15 spread spectrum transmitter, is a stationary security communication module to be installed within an enclosure which is to be mounted on alarm panels. No part of the device is accessible after the panel is installed. Accordingly, the device is not designed to be used by any person, nor is it accessible by the general public. The device communicates with a fixed local area network.

This transmitter does not fit within the definition of a “mobile device” set forth in section 2.1091(b) of the Commission’s rules, 47 C.F.R. § 2.1091(b), because it is designed to be used in fixed locations. In addition, the transmitter does not meet the definition of a “portable device” contained in section 2.1093(b), because it is not designed to be used by any person. Furthermore, section 1.1307(b)(1), which is referenced by section 15.247(b)(4), categorically excludes this Part 15 device from the requirement to conduct a routine environmental evaluation for RF exposure since the device is neither a millimeter wave device, nor an unlicensed personal communications service device.

In any event, based on the maximum output power and antenna gain information contained in the underlying equipment authorization application, the emissions for the device are well below the maximum exposure limits set forth in sections 1.1310 and 2.1093(d). Specifically, the device utilizes a dipole antenna, which produces a 2.1 dB gain relative to isotropic. However, mounting the antenna in the plastic housing of the security module results in a loss, which produces an effective net antenna gain of 0 dBi relative to isotropic. The peak output power of the transmitter is 300 milliwatts (mw). The device is powered from the panel into which it is installed and transmits alarm messages as they occur, in 22 millisecond (ms) packets, repeated 28 times over a five-minute period. When the device is not transmitting alarm messages and is in administrative mode it transmits one 22 ms packet every six hours. After the transmission, the RF circuits are shut down.

In addition, the worst-case duty factor for the device is: $22 \text{ ms} * (28 \text{ intervals} + 1) = 638 \text{ ms}$. The worst-case average isotropic power output averaged over 30 minutes is: $300 \text{ mw} * 0.0003544 = 0.1063 \text{ mw}$. The plastic package of the security module positions the antenna more than 3 centimeters (cm) behind the front surface of the module. The average isotropic radiated power density for the device at a 3 cm distance is: $0.1063 / (4 \pi * 3^2) = 0.1063 / 113.1 = 0.0009399 \text{ mw/cm}^2$. The operating frequency for the device is: 917.58 MHz. Section 1.1310 establishes the general population/uncontrolled exposure limit for a device operating at this frequency is 917.58/1500 frequency or 0.61172 mw/cm². Accordingly, the RF emissions for the device are well within the limits set by the Commission.