

SWIFT SMOKE DETECTOR MPE CALCULATION

This Exhibit serves to demonstrate that the requirements for Maximum Permissible Exposure to RF energy as described in FCC regulations CFR47 §15.247(i), §1.1307(b)(1), and §1.1310 (as amended 1 APR 2020) are met by the equipment described below. This exhibit is submitted as part of the Application for Equipment Certification.

Grantee Name: Honeywell International, Inc.

Grantee FRN: 0021453741

Equipment FCC ID: AUBSWIFTPHOTO

Equipment Description: Wireless Fire System Photoelectric Smoke Detector

This equipment has two modes of operation: FHSS and DTS, in the band 902 to 928MHz. MPE calculation for each mode is shown below.

FHSS MODE

The calculation employs the following formula:

$$S = \frac{PG}{4\pi D^2}$$

Where:

S is MPE value in mW/cm² taken from §1.1310 Table 1 (B) "Limits for General Population / Uncontrolled Exposure." Using the mid-band frequency for FHSS of 915MHz, **S** = f/1500 = 915MHz/1500 = 0.61 mW/cm².

P is the transmitter power into the antenna in milliwatts. Per the test report submitted with this Application for Equipment Certification, transmitter power is 17dBm. A path loss to the antenna is taken as 0.5dB, giving a final value of **P** = 16.5dBm or 44.67mW.

G is the numerical gain of the highest gain antenna. **G** = 5.10dBi or 3.236 (numerical).

D is the minimum separation distance between the antenna and nearby personnel in cm. In normal use it is expected that personnel will be at least 20cm from the antenna.

Using the values stated above and solving the equation for **D** a separation distance of 4.344cm is obtained. This is less than the expected 20cm minimum separation distance, demonstrating that the equipment does not pose a personnel hazard for RF exposure.

DTS MODE

The calculations for the DTS mode use the same methodology as above for FHSS mode. However, **P** is 12.5dBm or 17.78mW. The resultant **D** of 2.740cm again demonstrates that the equipment poses no hazard.