Section 15.247(i) – Radio Frequency Hazard Information

As per Section 15.247 (i) spread spectrum transmitters operating in the 2400 – 2483.5 MHz band are required to be operated in a manner that ensures that the public is not exposed to RF energy levels in accordance with CFR 47, Section 1.1307(b)(1).

The device when in operation is fixed and a safe distance could be maintained when events are undertaken.

In accordance with Section 1.1310 the Maximum Permissible Exposure (MPE) limits for the General Population / Uncontrolled Exposure of 1 mW/cm^2 has been applied.

The maximum distance from the antenna at which the MPE is met or exceeded is calculated from the equation relating field strength in V/m, transmit power in watts, transmit antenna gain and separation distance in metres:

E, V/m $= (\sqrt{(30 * P * G)}) / d$
Power density, mW/cm^2 $= E^2/3770$
E for MPE: $1 = E^2/3770$
$E = \sqrt{1*3770}$
$E = 61.4$ V/m

The highest radiated power has been measured to be +23.3 dBm or 0.2089 watts EIRP.

Therefore:
$E = \sqrt{(30 * P * G)} / d$

$d = \sqrt{(30 * P * G)} / E$

$d = \sqrt{(30 * 0.2089)} / 61.4$

$d = 0.041$ m or 4.1 cm

Result: Complies if a minimum safe distance of 20 cm is specified in the set up instructions for this system.