Radio Frequency Human Exposure Evaluation:

The Highest RF output power of the EUT was measured 14.82 dBm (30.33mW) at 2462 MHz, According to §1.1310 of the FCC rules, the power density limit for General Population/Uncontrolled Exposure at 2462 MHz is 1 mW/cm2. The maximum permissible exposure (MPE) is calculated to show the required separation distance that must be maintained during installation to maintain compliance with the power density limit.

The following formula was used to calculate the Power Density:

$Pd = (Pout * G) / (4*pi*r^2)$

Where
Pd = power density in mW/cm^2
Pout = output power to antenna in mW
G = gain of antenna in linear scale
Pi = 3.1416
R = Distance between observation point and the center of radiator in cm

Pd= 0.00978mW/cm2

To solve for the minimum mounting distance required:

Frequency: 2462MHz, Measured Power 14.82dBm & Gain 2.1dBi

$R = Sqrt ((P*G) / (4 * \pi * Pd))$

For the EUT, the calculation is as follows:

Pd = .00978mW/cm2
P = Output Power = 30.33 mW
G = Worst Case Gain = 2.1 dBi = 1.6218 in Linear scale.

R = Sqrt ((30.33 * 1.6218) / (4 * 3.1416 * 1))

R =1.9786 cm (Based on continuous transmission) which is less than 20cm.

Frequency: 5745MHz, Measured Power 11.92dBm & Gain 3.4dBi

R =1.6460 cm (Based on continuous transmission) which is less than 20cm.