MPE Calculations

The device is not a portable device (i.e. intended to be worn on the body or be hand-held), so it is classified as being either a mobile device or a fixed mounted device. The user's manual specifies a minimum separation distance of at least 20cm, consistent with this classification. As shown in the calculations below, the power density 20cm from the device is below the maximum permitted level for uncontrolled exposure.

FCC part 1.1310, Table 1 limits the power density for uncontrolled exposure. The power density, P_d (mW/cm^2) calculated from the maximum EIRP, P_t (mW) and the distance, d (m), between the transmitting antenna and the closest person, can be calculated using:

$$P_d = P_t/(4 \pi d^2)$$

Frequency	MPE Limit (mW/cm^2)	Output Power (mW)	Max. Antenna Gain (dBi)[1]	EIRP (mW)	Pd at 20cm (mW/cm^2)	Distance where Pd = limit (cm)
2412 to 2462 MHz	1.00	72.4	3.2	151.4	0.03	3.5
5180 to 5320 MHz	1.00	45.7	5.0	144.5	0.03	3.4
5500 to 5700 MHz	**1.00**	**70.8**	**5.0**	**223.9**	**0.04**	**4.2**
5745 to 5825 MHz	1.00	61.7	5.0	195.0	0.04	3.9

The maximum power spectral density 20cm from the antenna is calculated to be 0.04 mW/cm^2 which is 4% of the allowed limit.

The module may be co-located with the following FCC ID(s): PKRNVWE725 or FCC ID VV7-MBMF3507G. The rf exposure evaluation for these devices co-located with the WiFi module are addressed in separate documents

[1] Antenna gain is the highest antenna gain in each band for the antennas covered by this application.