



OPERATIONAL DESCRIPTION – ADDENDUM

(3x3 Radio Module)

The following describes the software control used to ensure output power remains below the appropriate output power and eirp limits when multiple modules, co-located in the same host system, are operating in the same bands.

The system software monitors the output power of each radio to control output power in each band. It also monitors the operating frequencies of each radio to ensure only non-overlapping channels are used, blocking access to any channels (5GHz bands) or overlapping channels (2.4GHz band) already being used by a radio.

When more than one radio is operational in the 5150- 5250 MHz band then the maximum output power of each radio is reduced to ensure that the total power in the band remains below 17dBm and the eirp remains below 23dBm. For MIMO modes the output power is set to the lower of the maximum rated power or $14\text{dBm} - 10\text{Log}(N)$, where N is the number of radios active in the band. For SISO modes the output power is set to the lower of the maximum rated power or $17\text{dBm} - 10\text{Log}(N)$.

When more than one radio is operational in the 5250- 5350 MHz or 5470-5725 MHz bands then the maximum output power of each radio is reduced to ensure that the total power in the band remains below 24dBm and the eirp remains below 30dBm. For MIMO modes the output power is set to the lower of the maximum rated power or $21\text{ dBm} - 10\text{Log}(N)$, where N is the number of radios active in the band. For SISO modes the output power is set to the lower of the maximum rated power or $24\text{dBm} - 10\text{Log}(N)$.

In the 5.8GHz band the output power is reduced on any radios operating in HT40 mode when there are 2 or more radios operating within the band to maintain compliance with the EIRP limit of 36dBm (based on the peak output power for HT40 mode). For all other modes the output power is reduced once there are 4 or more active radios in the band to maintain an output power below 30dBm and eirp below 36dBm.

No power reduction per radio is required in the 2.4GHz band as, with 3 radios operational at the maximum rated power the total power and eirp remain below 30dBm and 36dBm respectively.

Test data submitted with the application verifies that the system is capable of operating with the dynamic range in output power required to allow multiple radios to operate in the different bands.