MPE evaluation for multiple transmitters that are able to transmit simultaneously

FCC ID: XUJX431PAD

The highest measured Peak power for each transmitter in this device:
(Peak leads to worst case calculation compared to average):

For WLAN (11b mode): 10.12 mW (10.05 dBm), with 3 dBi antenna gain

For BT (GFSK mode): 16.79 mW (12.25 dBm), with 3 dBi antenna gain

Criterion 1.

The power density for each transmitter must be under the given limit.

For WLAN (11b mode): $P_{radiated} = P_{conducted} + G_{linear}$ = 10.05 dBm + 3 dBi = 13.5 dBm = 22.39 mW
Power density S = $(P_{radiated}) / (4\pi \times d^2)$ = 22.39 / 5026 =0.00446 mW/cm^2
The calculated power density for this transmitter is far below the limit, so PASS.

For BT (GFSK mode): $P_{radiated} = P_{conducted} + G_{linear}$ = 12.25 dBm + 3 dBi = 15.25 dBm = 33.50 mW
Power density S = $(P_{radiated}) / (4\pi \times d^2)$ = 33.50 / 5026 =0.00667 mW/cm^2
The calculated power density for this transmitter is far below the limit, so PASS.

Criterion 2.

The sum of (maximum measured Peak power) / (Peak power limit) ratio of each transmitter shall be below 1.

Calculation: 0.01012W / 1W + 0.01679W / 1W = 0.02691
The calculated sum value is far below 1, so PASS.