Simultaneous Transmission Evaluation

According to 447489 D01, provision 7.2, Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneous transmitting antennas incorporated in a host device, based on the calculated/estimated, numerically modeled or measured field strengths or power density, is ≤ 1.0.

The MPE ratio of each transmitter is ratio of field strength or power density to MPE limit at that frequency.

MPE ratio on 802.11b: 0.013866mW/cm^2 / 1mW/cm^2 = 0.013866

MPE ratio on 802.11n20 (Main): 0.0052838mW/cm^2 / 1.0mW/cm^2 = 0.0052838

MPE ratio on 802.11n20 (Aux): 0.0052114mW/cm^2 / 1.0 mW/cm^2 = 0.0052114

MPE radio on Zigbee: 0.0012763mW/cm^2 / 1.0mW/cm^2 = 0.0012763

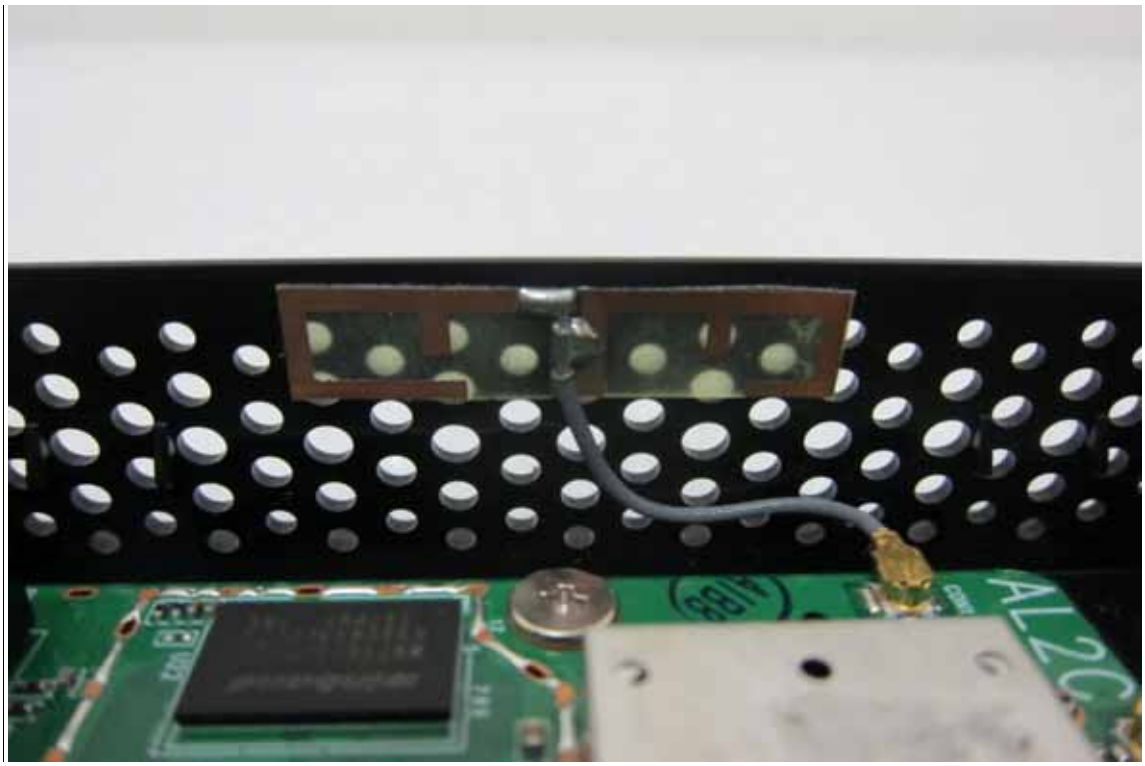
Scenario1: 802.11b #1+ Zigbee #2, where k is number of transmitter + antenna collocated within the host = 0.013866 + 0.0012763 = 0.015142

Scenario2: 802.11n20 #1+ 802.11n20#2+Zigbee, where k is number of transmitter + antenna collocated within the host =0.0052838 + 0.0052114 + 0.0012763 = 0.011772

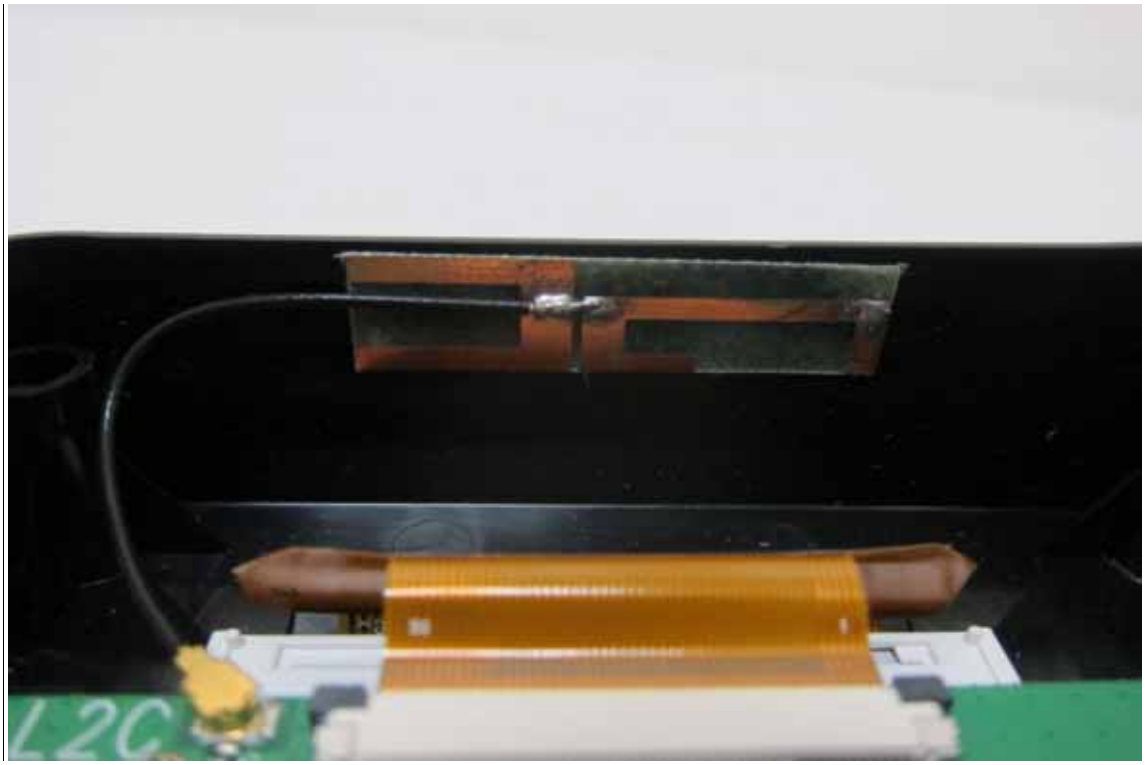
All three scenario are less than 1, and therefore the MPE with collocated (transmitter+antenna) is compliant with existing policy of RF exposure.

Location of distribution of transmitter + antenna

WLAN Antenna A



WLAN Antenna B



Zigbee Antenna