RF Exposure evaluation

According to 447498 D01 General RF Exposure Guidance v06

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] *[√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where f(GHz) is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation

The result is rounded to one decimal place for comparison

Worse case is as below:

FOR BLE:

[2402MHz: -6.32dBm (0.23mW) output power]

(0.23mW /5mm)*[√2.402(GHz)]= 0.07<3.0 for 1-g SAR

FOR 2.4G WIFI:

[2437MHz: 9.02dBm (7.98mW) output power]

(7.98mW /5mm)*[√2.437(GHz)]= 2.49<3.0 for 1-g SAR

FOR 5G WIFI

BAND 1

[5240MHz: 7.58dBm (5.73mW) output power]

((5.73mW /5mm)*[√5.200(GHz)]= 2.61<3.0 for 1-g SAR

BAND 4

[5825MHz: 7.33dBm (5.41mW) output power]

(5.41mW /5mm)*[√5.825(GHz)]= 2.61<3.0 for 1-g SAR

FOR BLE , 2.4G WIFI and 5G WIFI simultaneous transmission:

BLE: [2402MHz: -6.32dBm (0.23mW) output power]

(0.23mW /5mm)*[√2.402(GHz)/7.5]=0.01 w/kg

2.4GWIFI: [2437MHz: 9.02dBm (7.98mW) output power]

(7.98mW /5mm)*[√2.437(GHz)/7.5]=0.33 w/kg

5GWIFI(BAND1):[5240MHz: 7.58dBm (5.73mW) output power]

(5.73mW /5mm)*[√5.240(GHz)/7.5]=0.35w/kg

5GWIFI(BAND4): [5825MHz: 7.33dBm (5.41mW) output power]

(5.41mW /5mm)*[√5.825(GHz)/7.5]= 0.35 w/kg

Then total=0.01+0.33+0.35+0.35=1.04 w/kg<1.6w/kg (SAR limit)

Then SAR evaluation is not require