RF exposure evaluation

According to 447498 D01 General RF Exposure Guidance v05r02 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies

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:

$$[(\text{max. power of channel, including tune-up tolerance, mW})/ (\text{min. test separation distance, mm})] \cdot [\sqrt{f(GHz)}\ ] \leq 3.0$$

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 for Bluetooth as below:

[2441MHz: 2.29dBm (1.69 mW) output power]

(1.69 mW /5mm) •[√ 2.441(GHz)]=0.53 <3.0 for 1-g SAR

So, SAR evaluation for Bluetooth is not required

Worse case for BLE as below:

[2442MHz: 4.84dBm (3.05 mW) output power]

(3.05 mW /5mm) •[√ 2.442(GHz)]=0.95 <3.0 for 1-g SAR

So, SAR evaluation for Bluetooth is not required

Worse case for WiFi as below:

[802.11b (2462MHz): 7.92dBm (6.19 mW) output power]

(6.19mW /5mm) •[√ 2.437(GHz)]=1.94 <3.0 for 1-g SAR

[802.11g (2437MHz): 8.38dBm (6.89 mW) output power]

(6.89mW /5mm) •[√ 2.437(GHz)]=2.15 <3.0 for 1-g SAR

So, SAR evaluation for WiFi is not required

[802.11a (5180MHz): 7.86dBm (6.11 mW) output power]

(6.11mW /5mm) •[√ 5.180(GHz)]=2.79 <3.0 for 1-g SAR

So, SAR evaluation for WiFi is not required