

## 1. COLLOCATED MPE ANALYSIS

The modem may transmit simultaneously with other collocated radio transmitters within a host device, provided the following conditions are met:

- Each collocated radio transmitter has been certified by FCC/IC for mobile application (that will be met since SQNS module will have its own FCC ID and host device will have its own FCC ID)
- At least 20 cm separation distance between the antennas of the collocated transmitters and the user's body must be maintained at all times (host installation should taking care of that)

The output power and antenna gain in a collocated configuration must not exceed the limits and configurations stipulated in the following table 1. The power density calculations for the individual transmitters per wireless technology at an exposure minimum separation distance of 20cm.

### Exclusion of test condition:

*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 calculated or measured field strengths or power density, is  $\leq 1.0$ .*

$$\sum MPE\ ratio1 + MPE\ ratio2 + MPE\ ratio3 \leq 1.0$$

*The spreadsheet as FCC deduces, and releases is employed to conduct the measurement:*

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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**Table 1 : Collocated MPE Calculation (Worse Case Table)**

| Technology | Frequency (MHz) | Max Conducted Power (dBm) | Max Gain (dBi) | Duty Cycle | FCC Power Density @20cm (mW/cm <sup>2</sup> ) | FCC MPE Limit (mW/cm <sup>2</sup> ) | IC Power Density @20cm (W/m <sup>2</sup> ) | IC MPE Limit (W/m <sup>2</sup> ) |
|------------|-----------------|---------------------------|----------------|------------|---|-------------------------------------|--|----------------------------------|
| BT-BR      | 2441            | 7.18                      | 1.48           | 77         | 0.00113                                       | 1                                   | 0.01126                                    | 5.410                            |
| WLAN 5G    | 5230            | 16.54                     | 3.37           | 76.02      | 0.01482                                       | 1                                   | 0.14821                                    | 9.107                            |

Scenario 1:

BT-BR+WLAN 5G

| BT-BR (mW/cm <sup>2</sup> ) | FCC MPE limit (mW/cm <sup>2</sup> ) | BT-BR / MPE limit | WLAN 5G (mW/cm <sup>2</sup> ) | FCC MPE limit (mW/cm <sup>2</sup> ) | WLAN 5G / MPE limit | BT+ WLAN 5G | FCC Limit (mW/cm <sup>2</sup> ) |
|-----------------------------|-------------------------------------|-------------------|-------------------------------|-------------------------------------|---------------------|-------------|---------------------------------|
| 0.00113                     | 1                                   | 0.00113           | 0.01482                       | 1                                   | 0.01482             | 0.01595     | 1                               |

| BT-BR (W/cm <sup>2</sup> ) | ISED MPE limit (W/cm <sup>2</sup> ) | BT-BR / MPE limit | WLAN 5G (W/cm <sup>2</sup> ) | ISED MPE limit (W/cm <sup>2</sup> ) | WLAN 5G / MPE limit | BT+ WLAN 5G | ISED Limit (W/cm <sup>2</sup> ) |
|----------------------------|-------------------------------------|-------------------|------------------------------|-------------------------------------|---------------------|-------------|---------------------------------|
| 0.01126                    | 5.410                               | 0.00208           | 0.14821                      | 9.107                               | 0.01627             | 0.01836     | 1                               |

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