

## Standalone SAR test exclusion considerations

| RF feature   | Mode (Worst case) | Transmitting Frequency(MHz) | Test separation distance (mm) | ANT Gain (dBi) | Max. Tune-up burst power (dBm) <sup>Note1</sup> | Duty Factor(dB) <sup>Note2</sup> | Max Power (dBm) | Max Power (mW) | Power thresholds | SAR test exclusion thresholds |
|--------------|-------------------|-----------------------------|-------------------------------|----------------|---|----------------------------------|-----------------|----------------|------------------|-------------------------------|
| Bluetooth    | 1Mbps             | 2 480.0                     | 36.20                         | 0.50           | 7.00  | -                                | 7.00            | 5.011 9        | 0.22             | 3.00                          |
| Bluetooth LE | 1Mbps             | 2 480.0                     | 36.20                         | 0.50           | -4.00   | -                                | -4.00           | 0.398 1        | 0.02             | 3.00                          |
| Mesh         | O-QPSK            | 2 475.0                     | 26.50                         | 1.00           | 18.00   | -17.64                           | 0.36            | 1.086 4        | 0.06             | 3.00                          |
|              |                   |                             |                               |                |   |                                  |                 |                |                  |                               |
|              |                   |                             |                               |                |   |                                  |                 |                |                  |                               |
|              |                   |                             |                               |                |   |                                  |                 |                |                  |                               |
|              |                   |                             |                               |                |   |                                  |                 |                |                  |                               |
|              |                   |                             |                               |                |   |                                  |                 |                |                  |                               |
|              |                   |                             |                               |                |   |                                  |                 |                |                  |                               |
|              |                   |                             |                               |                |   |                                  |                 |                |                  |                               |

Note1. Please refer to the operation description for Max Tune-up power.

Note2. For mesh mode, max power tune-up for Burst on time is 18dBm. And the worst case duty cycle is 1.7%. (Transmit on time: 0.7ms, Transit on+off time: 40.7ms)  
Thus the source based time average output power is 0.36dBm.

### KDB 447498 D01 clause 4.3.1 Step 1) SAR test exclusion thresholds for 100MHz to 6GHz at test separation distances ≤ 50 mm

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$  for 1g SAR and  $\leq 7.5$  for 10g extremity SAR

#### Sample Calculation

$$= [(5.0119\text{mW} / 36.2\text{mm})] \times [\sqrt{2.48\text{GHz}}] = 0.22$$

Note. The calculation result was rounded to two decimal place for comparison.

**Conclusion :** SAR evaluation for general population exposure conditions by measurement or numerical simulation is not required