

## RADIO FREQUENCY EXPOSURE

### Limit

According to section 4.3.1 of KDB 447498 D01 General RF Exposure Guidance v06, SAR evaluation is required if the separation distance between the user and/or bystander and the antenna and/or radiating element of the device is less than or equal to 20 cm, except when the device operates at or below the applicable output power level (adjusted for tune-up tolerance) for the specified separation distance defined in Appendix A.

### Appendix A

#### SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and $\leq 50$ mm

| MHz  | 5   | 10  | 15  | 20  | 25  | mm                                         |
|------|-----|-----|-----|-----|-----|--------------------------------------------|
| 150  | 39  | 77  | 116 | 155 | 194 | SAR Test<br>Exclusion<br>Threshold<br>(mW) |
| 300  | 27  | 55  | 82  | 110 | 137 |                                            |
| 450  | 22  | 45  | 67  | 89  | 112 |                                            |
| 835  | 16  | 33  | 49  | 66  | 82  |                                            |
| 900  | 16  | 32  | 47  | 63  | 79  |                                            |
| 1500 | 12  | 24  | 37  | 49  | 61  |                                            |
| 1900 | 11  | 22  | 33  | 44  | 54  |                                            |
| 2450 | 10  | 19  | 29  | 38  | 48  |                                            |
| 3600 | 8   | 16  | 24  | 32  | 40  |                                            |
| 5200 | 7   | 13  | 20  | 26  | 33  |                                            |
| 5400 | 6   | 13  | 19  | 26  | 32  |                                            |
| 5800 | 6   | 12  | 19  | 25  | 31  |                                            |
| MHz  | 30  | 35  | 40  | 45  | 50  | mm                                         |
| 150  | 232 | 271 | 310 | 349 | 387 | SAR Test<br>Exclusion<br>Threshold<br>(mW) |
| 300  | 164 | 192 | 219 | 246 | 274 |                                            |
| 450  | 134 | 157 | 179 | 201 | 224 |                                            |
| 835  | 98  | 115 | 131 | 148 | 164 |                                            |
| 900  | 95  | 111 | 126 | 142 | 158 |                                            |
| 1500 | 73  | 86  | 98  | 110 | 122 |                                            |
| 1900 | 65  | 76  | 87  | 98  | 109 |                                            |
| 2450 | 57  | 67  | 77  | 86  | 96  |                                            |
| 3600 | 47  | 55  | 63  | 71  | 79  |                                            |
| 5200 | 39  | 46  | 53  | 59  | 66  |                                            |
| 5400 | 39  | 45  | 52  | 58  | 65  |                                            |
| 5800 | 37  | 44  | 50  | 56  | 62  |                                            |

**Results****5.2G**

| RF Exposure at Separation distance (cm): 0.5 |         |                 |                       |                         |                      |                                   |      |                              |                            |
|----------------------------------------------|---------|-----------------|-----------------------|-------------------------|----------------------|-----------------------------------|------|------------------------------|----------------------------|
| Mode                                         | Antenna | Frequency [MHz] | Conducted Power [dBm] | Manufacturing tolerance |                      | Conducted Power including Tune Up |      | Calculation Value for 1g SAR | Exemption Limit for 1g SAR |
|                                              |         |                 |                       | Target Power [dBm]      | Tolerance $\pm$ [dB] | [dBm]                             | [mW] |                              |                            |
| 11A                                          | Ant1    | 5180            | 3.65                  | 3                       | 1                    | 4                                 | 2.51 | 1.14                         | 3                          |
| 11A                                          | Ant2    | 5180            | 2                     | 1.5                     | 1                    | 2.5                               | 1.78 | 0.81                         | 3                          |
| 11A                                          | Ant1    | 5200            | 5.36                  | 5                       | 1                    | 6                                 | 3.98 | 1.82                         | 3                          |
| 11A                                          | Ant2    | 5200            | 4.3                   | 4                       | 1                    | 5                                 | 3.16 | 1.44                         | 3                          |
| 11A                                          | Ant1    | 5240            | 5.73                  | 5                       | 1                    | 6                                 | 3.98 | 1.82                         | 3                          |
| 11A                                          | Ant2    | 5240            | 4.77                  | 4.5                     | 1                    | 5.5                               | 3.55 | 1.62                         | 3                          |

**5.8G**

| RF Exposure at Separation distance (cm): 0.5 |         |                 |                       |                         |                      |                                   |      |                              |                            |
|----------------------------------------------|---------|-----------------|-----------------------|-------------------------|----------------------|-----------------------------------|------|------------------------------|----------------------------|
| Mode                                         | Antenna | Frequency [MHz] | Conducted Power [dBm] | Manufacturing tolerance |                      | Conducted Power including Tune Up |      | Calculation Value for 1g SAR | Exemption Limit for 1g SAR |
|                                              |         |                 |                       | Target Power [dBm]      | Tolerance $\pm$ [dB] | [dBm]                             | [mW] |                              |                            |
| 11A                                          | Ant1    | 5745            | 5.48                  | 5                       | 1                    | 6                                 | 3.98 | 1.91                         | 3                          |
| 11A                                          | Ant2    | 5745            | 3.62                  | 3                       | 1                    | 4                                 | 2.51 | 1.20                         | 3                          |
| 11A                                          | Ant1    | 5785            | 5.03                  | 4.5                     | 1                    | 5.5                               | 3.55 | 1.71                         | 3                          |
| 11A                                          | Ant2    | 5785            | 3.35                  | 3                       | 1                    | 4                                 | 2.51 | 1.21                         | 3                          |
| 11A                                          | Ant1    | 5825            | 4.04                  | 3.5                     | 1                    | 4.5                               | 2.82 | 1.36                         | 3                          |
| 11A                                          | Ant2    | 5825            | 2.34                  | 2                       | 1                    | 3                                 | 2.00 | 0.96                         | 3                          |

Note:

Calculation Value = [(max. power of channel, mW) / (min. test separation distance, mm)]  $\cdot$  [ $\sqrt{f}$ (GHz)].

Conclusion: The SAR evaluation is not required.