

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 ≤ 50 mm

| MHz | 5 | 10 | 15 | 20 | 25 | mm |
|------|-----|-----|-----|-----|-----|-----------------------------------|
| 150 | 39 | 77 | 116 | 155 | 194 | SAR Test Exclusion Threshold (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 | |
| 150 | 232 | 271 | 310 | 349 | 387 | SAR Test Exclusion Threshold (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 | |

Note: Manufacturer declared that the maximum antenna gain is 3.5dBi (Max.).

Conducted Power Results

| Test Mode | Channel | Frequency (MHz) | Measured Peak Output Power (dBm) |
|-----------|---------|-----------------|----------------------------------|
| GFSK | 00 | 2402 | -0.01 |
| | 39 | 2441 | -0.43 |
| | 78 | 2480 | -0.95 |
| π/4-DQPSK | 00 | 2402 | -0.02 |
| | 39 | 2441 | -0.5 |
| | 78 | 2480 | -0.93 |
| 8-DPSK | 00 | 2402 | 0.04 |
| | 39 | 2441 | -0.34 |
| | 78 | 2480 | -0.86 |

Manufacturing tolerance

| GFSK (Peak) | | | |
|------------------|-----------|------------|------------|
| Channel | Channel 0 | Channel 39 | Channel 78 |
| Target (dBm) | -0.5 | -0.5 | -1.0 |
| Tolerance ±(dB) | 1.0 | 1.0 | 1.0 |
| π/4-DQPSK (Peak) | | | |
| Channel | Channel 0 | Channel 39 | Channel 78 |
| Target (dBm) | -0.5 | -1.0 | -1.0 |
| Tolerance ±(dB) | 1.0 | 1.0 | 1.0 |
| 8-DPSK (Peak) | | | |
| Channel | Channel 0 | Channel 39 | Channel 78 |
| Target (dBm) | 0.0 | -0.5 | -1.0 |
| Tolerance ±(dB) | 1.0 | 1.0 | 1.0 |

Results

| Test Mode | Channel Frequency (MHz) | Max. Tune Up Power (dBm, Peak) | Max. Eirp including Tune Up (dBm, Peak) | Max. Eirp including Tune Up (mW, Peak) | Exemption Limit (mW) |
|-----------|-------------------------|--------------------------------|---|--|----------------------|
| GFSK | 2402 | 0.5 | 4.0 | 2.51 | 10 |
| | 2441 | 0.5 | 4.0 | 2.51 | 10 |
| | 2480 | 0.0 | 3.5 | 2.24 | 10 |
| π/4-DQPSK | 2402 | 0.5 | 4.0 | 2.51 | 10 |
| | 2441 | 0.0 | 3.5 | 2.24 | 10 |
| | 2480 | 0.0 | 3.5 | 2.24 | 10 |
| 8-DPSK | 2402 | 1.0 | 4.5 | 2.82 | 10 |
| | 2441 | 0.5 | 4.0 | 2.51 | 10 |
| | 2480 | 0.0 | 3.5 | 2.24 | 10 |

The antenna gain of the EUT for BT is 3.5dBi (Max). the Maximum Eirp is used for Routine Evaluation Exemption according to section 4.3.1 of KDB 447498 D01. So, the SAR evaluation is not required.