

## SAR Test exclusion documentation according to FCC § 1.1307(b)(3), RSS-102



BNetzA-CAB-13/21-08

This SAR test exclusion document is referring to the Test report identification no.: 24013198\_Rev.01\_FCC Part 95 M and 24013199\_Rev.01\_RSS-251\_Issue2.

| Contains the module with the Certification numbers |              |
|----------------------------------------------------|--------------|
| FCC ID                                             | ZKS-QR4000   |
| IC ID                                              | 9849A-QR4000 |
| HVIN (Hardware Version Identification Number)      | Rev. A       |
| PMN (Product Marketing Name)                       | QR4000       |
| FVIN (Firmware Version Identification Number)      | 8            |
| HMN (Host Marketing Name)                          | QR4000       |

| Equipment Under Test (EUT) |                           |                           |                    |
|----------------------------|---------------------------|---------------------------|--------------------|
| EUT / Technology           | Operating Frequency [GHz] | EIRP Average power. [dBm] | Antenna Gain [dBi] |
| QR4000 / FMCW RADAR        | 76.365 (WF0/CF0)          | 25.7**                    | 17.5               |
|                            | 76.605 (WF0/CF1)          | 24.5**                    | 17.5               |
|                            | 76.125 (WF1/CF0)          | 26.8**                    | 17.5               |
|                            | 76.845 (WF1/CF3)          | 23.9**                    | 17.5               |

\*\* measurement results are taken from TÜV Nord HF Test report no. 24013198\_Rev.00\_FCC Part 95 M and 24013199\_Rev.01\_RSS-251\_Issue2.

## SAR test exclusion according to FCC § 1.1307(b)(3)

According to FCC § 1.1307(b)(3)(i)(C) and the Table 1 in (C), the EUT is exempted from SAR evaluation.

## SAR test exclusion for 76 – 81 GHz RADAR devices

| Operating Frequency<br>[GHz] | d <sub>separation</sub><br>[cm] | Power measured<br>[mW] | EIRP Power limit<br>[mW] | Exclusion<br>[Yes / No] |
|------------------------------|---------------------------------|------------------------|--------------------------|-------------------------|
| 76.400                       | 20                              | 371.54                 | 6297.6                   | Yes                     |
| 76.638                       | 20                              | 281.84                 | 6297.6                   | Yes                     |
| 76.139                       | 20                              | 478.63                 | 6297.6                   | Yes                     |
| 76.860                       | 20                              | 245.47                 | 6297.6                   | Yes                     |

## SAR test exclusion according to RSS-102 Issue 5 Section 2.5.2

According to RSS-102 Issue 5 section 2.5.2, if the EUT operates at or above 6 GHz and the source-based, time-averaged maximum e.i.r.p of the device is equal to or less than 5 W (adjusted for tune-up tolerance), then it is exempted from SAR evaluation.

## SAR test exclusion for 76 – 81 GHz RADAR devices

| Operating Frequency [GHz] | d <sub>separation</sub> [cm] | Power measured [mW] | EIRP Power limit [mW] | Exclusion [Yes / No] |
|---------------------------|------------------------------|---------------------|-----------------------|----------------------|
| 76.400                    | > 20                         | 371.54              | 5000.0                | Yes                  |
| 76.638                    | > 20                         | 281.84              | 5000.0                | Yes                  |
| 76.139                    | > 20                         | 478.63              | 5000.0                | Yes                  |
| 76.860                    | > 20                         | 245.47              | 5000.0                | Yes                  |

**ATTESTATION:** I attest that the EUT meets the exemption from the routine evaluation limits according to FCC § 1.1307(b)(3) as well as meets the exemption from the routine evaluation limits in section 2.5 “Exemption Limits for Routine Evaluation” of RSS-105 issue 5; that the Technical Brief was prepared and the information contained therein is correct; that the device evaluation was performed or supervised by me; that applicable measurement methods and evaluation methodologies have been followed; and that the device meets the SAR and/or RF field strength limits of FCC § 1.1307(b)(3) and RSS-102 issue 5.

|               |                    |
|---------------|--------------------|
| Signature     |                    |
| Name          | Mr. Ralf Trepper   |
| Designation   | Laboratory Manager |
| Date of issue | 2024-09-11         |