

Traka 21 (EUT) RF Exposure calculation: -

FCC ID: **2BGGU-KC10156**

IC ID: **32616-KC10156**

The **Traka21** EUT is key management system and houses a 13.56MHz RFID Reader for which certification is sought. The module operates at 13.56 MHz and is wall mounted at a typical distance of 20cm or more from a user. For the purposes of this exclusion calculation a distance of 200mm has been used as the worst case. The power used is the maximum H-field strength measured from the RFID transmitter. Evaluation is for worst case General population/uncontrolled exposure.

RFID operation:

Maximum measured PK power from the RFID transmitter was 42.25 dBuV/m @3m. This equates to an EIRP of -52.9dBm (or 0.000005 mW).

FCC Evaluation is for exposure potential against the Exclusion limits given in **KDB447498** D04 v01 section 2.1.2.

Per § 1.1307(b)(3)(i)(A), a single RF source is exempt RF device (from the requirement to show data demonstrating compliance to RF exposure limits, as previously mentioned) if the available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption applies to all operating configurations and exposure conditions, for the frequency range 100 kHz to 100 GHz, regardless of fixed, mobile, or portable device exposure conditions. This is a standalone exemption, and it cannot be applied in conjunction with any other test exemption.

As measured values for the RFID transmitter in the EUT were: 42.25 dBuV/m @ 3m which is -52.9 dBm (or 0.000005 mW) and any antenna gain is included in the field strength measurement, the EUT is excluded from RF Exposure / SAR testing requirements in stand-alone operation as it meets the <1mW exemption requirement.

Canada:

With reference to **RSS-102 issue 5** section 2.5.2 bullet point 1) RF exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm, except when the device operates as follows:

- below 20 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than **1 W** (adjusted for tune-up tolerance).

In these cases, the information contained in the RF exposure technical brief may be limited to information that demonstrates how the e.i.r.p. was derived.

Therefore, the RFID transmitter using the measured power stated above is also exempt from routine SAR/RF exposure evaluation according to RSS-102 Issue 5.

The above RF evaluation demonstrates compliance with the exemption criteria.

This calculation was prepared by Daniel Sims of Kiwa Ltd, Acting as Agent towards FCC & ISCED certifications.

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Signed:



(Radio Approvals Manager)

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