

08/05/2025

RF Exposure Analysis – Routine Evaluation Exemption

Applicant: Balluff GmbH
FCC ID: 2AGZY-BFIDM35
Model number/name: BF-IDM35, BIS M-408-082-401-07-S4, BIS M-458-082-401-07-S4

The above device operates in the 13.56 MHz frequency band.

The following FCC Rule Parts are applicable:

Part 2.1091 – Radiofrequency radiation exposure evaluation: mobile devices

Part 1.1307(b)(3)(i)(A) - Blanket RF exposure exemption (i)

Part 1.1307(b)(3)(i)(C) - MPE test exemption (ii)

Part 1.1307(b)(3)(i)(B) - SAR test exemption (iii)

For the above device:

Operating Frequency: 13.56 MHz

Tx Power_{max} (declared) with antenna BIS M-408 ANT (BIS01HJ):
55.41 dBμV/m @3m = -39.82 dBm (EIRP) = -41.97 dBm (ERP) = **0.06 * 10⁻⁶ W**

Tx Power_{max} (declared) with antenna BIS M-458 ANT (BIS01HK):
68.01 dBμV/m @3m = -27.22 dBm (EIRP) = -29.37 dBm (ERP) = **1.2 * 10⁻⁶ W***

*) Worst case value used for the evaluation

*Measured radiated power – Ref KDB447498 D04 Section 3.1.2 –
When an antenna port is not available on the device to support conducted power measurement, e.g.: with built-in integral antennas, the available maximum output power or ERP, whichever is larger, and tolerance allowed for production units shall be used to determine RF exposure test exemption and compliance.*

Evaluation

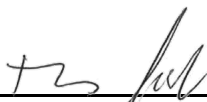
From Part 1.1307, RF exposure exemption applies if the maximum transmitted power is less than the maximum of the following three criteria:

- i) Less than 1 mw Blanket exemption. P_{TH} = 0.001 W – §1.1307(b)(3)(i)(A)
- ii) determination of exemption under the MPE-based §1.1307(b)(3)(i)(C), if i) not met
- iii) determination of exemption under the SAR-based §1.1307(b)(3)(i)(B) if both i) and ii) are not met;

Conclusion:

The source-based, time-averaged power of 1.2 * 10⁻⁶ W is less than 1 mW and therefore the above device is exempt from evaluation in accordance with §1.1307(b)(3)(i)(A).

Yours faithfully,



Thomas Graf

Head of Product Development - Identification and Location Hardware