

Safety Human Exposure

1.1 Radio Frequency Exposure Compliance

1.1.1 Electromagnetic Fields

RESULT:

Pass

Report No.	: CN23M3U2 002
Test item	: Kohler Amplifier
Identification / Type No.	: K-30319-NA, K-30319IN-NA
FCC ID	: N82-KOHLER054
IC:	4554A-KOHLER054
HVIN:	K-30319-NA, K-30319IN-NA
Test standard	: CFR47 FCC Part 2: Section 2.1091 CFR47 FCC Part 1: Section 1.1310 KDB 447498 D01 General RF Exposure Guidance v06 RSS 102 Issue 6 December 15 2023

Stand-alone SAR evaluation:

➤ **FCC requirements**

FCC requirement: Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 20cm normally can be maintained between the user and the device.

MPE Calculation Method according to OET Bulletin 65

Power Density: $S_{(mW/cm^2)} = PG/4\pi R^2$ or $EIRP/4\pi R^2$

Where:

S = power density (mW/cm²)

P = power input to the antenna (mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (cm)

The nominal maximum conducted output power specified:

Bluetooth: 10.41 dBm

From the peak RF output power, the minimum mobile separation distance, d=20 cm, as well as the antenna gain (Max. 3.69 dBi for Bluetooth), the RF power density can be calculated as below:

For Bluetooth: $S_{(mW/cm^2)} = PG/4\pi R^2 = 0.0051$ mW/cm²

Limits for Maximum Permissible Exposure (MPE) according to FCC Part 1.1310: 1.0 mW/cm²

* Refer to CN23M3U2 001 for power data.

Conclusion: SAR test is exempted

➤ **IC requirements:** The EUT shall comply with the requirement of RSS-102 section 2.5.2.

Exemption from Routine Evaluation Limits – RF Exposure Evaluation

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:

at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $1.31 \times 10^{-2} f^{0.6834}$ W (adjusted for tune-up tolerance), where f is in MHz;

- RF exposure evaluation exempted power for Bluetooth: 2.676 W

The nominal maximum conducted output power specified:

Bluetooth: 10.41 dBm

Antenna Gain: 3.69 dBi for Bluetooth

The Max. e.i.r.p. for Bluetooth: 14.10 dBm = 0.026 W

e.i.r.p. for the Bluetooth is less than the RF exposure evaluation exempted power. So RF exposure evaluation is not required.

“RF Radiation Exposure Statement Caution: This Transmitter must be installed to provide a separation distance of at least 20 cm from all persons.”