

## FCC SAR Exclusion Report

Product name : Dräger Bluetooth module 17x10  
Applicant : Dräger Safety AG & Co. KGaA  
FCC ID : X6O-BT02

Test report No. : 2010500464 005 Ver 1.00

## Laboratory information

### Accreditation

Telefication complies with the accreditation criteria for test laboratories as laid down in ISO/IEC 17025:2017. The accreditation covers the quality system of the laboratory as well as the specific activities as described in the authorized annex bearing the accreditation number L021 and is granted on 30 November 1990 by the Dutch Council For Accreditation (RvA: Raad voor Accreditatie).

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### Documentation

The test report must always be reproduced in full; reproduction of an excerpt only is subject to written approval of the testing laboratory. The documentation of the testing performed on the tested devices is archived for 10 years at Telefication Netherlands.

### Testing Location

<b>Test Site</b>	Kiwa Telefication BV
<b>Test Site location</b>	Wilmersdorf 50 7327 AC Apeldoorn The Netherlands  Tel. +31 88998 3393
<b>Test Site FCC</b>	NL0001

**Revision History**

Version	Date	Remarks	By
V0.50	12-08-2021	Draft version	R.T
V1.00	03-11-2021	Final version	R.T

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## 1 General Description

### 1.1 Applicant

**Client name:** Dräger Safety AG & Co. KGaA  
**Address:** Revalstr. 1 23560 Lübeck Germany  
**Telephone:** +49 (0)4501 882 1623  
**E-mail:** Lutz.rueffert@draeger.com  
**Contact name:** Lutz Ruffert

### 1.2 Manufacturer

**Manufacturer name:** Dräger Safety AG & Co. KGaA  
**Address:** Revalstr. 1 23560 Lübeck Germany  
**Telephone:** +49 (0)4501 882 1623  
**E-mail:** Lutz.rueffert@draeger.com  
**Contact name:** Lutz Ruffert

### 1.3 Tested Equipment Under Test (EUT)

**Product name:** Dräger Bluetooth module 17x10  
**Brand name:** Dräger Safety  
**FCC ID:** X6O-BT02  
**Model(s):** BT02  
**Software version:** Zephyr OS 2.2,1  
**Hardware version:** 3709318-03  
**Date of receipt:** 09-08-2021  
**Tests started:** 12-08-2021  
**Testing ended:** 12-08-2021

## 1.4 SAR Measurement Evaluation

### 1.4.1 Maximum Output Power

The maximum radiated power including tune-up tolerance is shown as below.

Mode	Output power (dBm)
Bluetooth LE	6.77*

\* from Telefication report 210500464 004 Ver 2.00

### 1.4.2 SAR Testing Exclusions, Portable use

According to KDB 447498 D01, the SAR test exclusion condition is based on source-based time-averaged maximum conducted output power, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions. The SAR exclusion threshold is determined by the following formula.

- For the test separation distance  $\leq 50$  mm

$$\frac{\text{Max. Tune up Power}_{(mW)}}{\text{Min. Test Separation Distance}_{(mm)}} \times \sqrt{f_{(GHz)}} \leq 3.0$$

When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test exclusion.

- For the test separation distance  $> 50$  mm, and the frequency at 100 MHz to 1500 MHz

$$\left[ (\text{Threshold at 50 mm in Step 1}) + (\text{Test Separation Distance} - 50 \text{ mm}) \times \left( \frac{f_{(MHz)}}{150} \right) \right]_{(mW)}$$

- For the test separation distance  $> 50$  mm, and the frequency at  $> 1500$  MHz to 6 GHz

$$[(\text{Threshold at 50 mm in Step 1}) + (\text{Test Separation Distance} - 50 \text{ mm}) \times 10]_{(mW)}$$

Mode	Max. Tune-up Power (dBm)	Max. Tune-up Power (mW)	Ant. to Surface (mm)	Calculated Result	Require SAR Testing?
Bluetooth LE	6.77	4,75	5	1.78	No

Note:

- When separation distance  $\leq 50$  mm and the calculated result shown in above table is  $\leq 3.0$ , the SAR testing exclusion is applied.
- When separation distance  $> 50$  mm and the device output power is less than the calculated result (power threshold, mW) shown in above table, the SAR testing exclusion is applied.

## 1.5 Summary

Since the SAR testing for all device orientations apply SAR test exclusion per KDB 447498, SAR testing for this device is not required.