REPORT No.: SZ21040368S01

RF EXPOSURE

EXEMPT REPORT

APPLICANT	:	dormakaba EAD GmbH
PRODUCT NAME	:	data collection terminal
MODEL NAME	:	9600-K6 HID, 9600-K6 SBH
BRAND NAME	:	dormakaba
FCC ID	:	NVI-KT9600K6H
STANDARD(S)	:	FCC 47CFR Part 2(2.1093)
RECEIPT DATE	:	2021-07-09
TEST DATE	:	2021-08-03 to 2021-08-26
ISSUE DATE	:	2021-11-29

Edited by: Zeng Xiaoying (Rapporteur)

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MORLAB
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DIRECTORY

Change History		
Version	**Date**	**Reason for Change**
1.0	2021-11-29	First edition

1. Technical Information

Note: Provide by applicant.

1.1 Applicant and Manufacturer Information

Applicant:	dormakaba EAD GmbH
Applicant Address:	Albertistr. 3, 78056 Villingen-Schwenningen, Germany
Manufacturer:	In-Tech Electronics Ltd
Manufacturer Address:	Unit A,13/F, Wing Tai Centre,12 Hing Yip Street, Kwun Tong Kowloon, Hong Kong

1.2 Equipment under Test (EUT) Description

Product Name:	data collection terminal
Sample No.:	2#
Hardware Version:	04
Software Version:	V9
Frequency Bands:	13.56MHz, 125kHz
Modulation Mode:	13.56MHz: ASK 125kHz: AM
Antenna Type:	PCB Antenna
Antenna Gain:	0dBi

Note 1: According to the certificate holder, they declared that the models 9600-K6 HID, 9600-K6 SBH only different in the model 9600-K6 SBH add USB port inside, the others are the same. The main measuring model is 9600-K6 HID, only the results for 9600-K6 HID were recorded in this report.

1.3 Applied Reference Documents

Leading reference documents for testing:

Identity	Document Title	Method determination /Remark
FCC 47CFR Part 2(2.1093)	Radio Frequency Radiation Exposure Assessment: portable devices	No deviation
KDB 447498 D01v06	General RF Exposure Guidance	No deviation
Note 1: Additions to, deviation, or exclusions from the method shall be judged in the "method determination" column of add, deviate or exclude from the specific method shall be explained in the "Remark" of the above table. **Note 2:** When the test result is a critical value, we will use the measurement uncertainty give the judgment result based on the 95% confidence intervals.		

2. Device Category and RF Exposure Limit

Per user manual, this device is a data collection terminal. Based on 47CFR 2.1093, this device belongs to portable device category with General Population/Uncontrolled exposure.

Portable Devices: 47CFR 2.1093(b)
For purposes of this section, a portable device is defined as a transmitting device designed to be used so that the radiating structure(s) of the device is/are within 20 centimeters of the body of the user.

General Population/Uncontrolled Exposure: 47CFR 2.1093(d) (2)
The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity. Warning labels placed on low-power consumer devices such as cellular telephones are not considered sufficient to allow the device to be considered under the occupational/controlled category, and the general population/uncontrolled exposure limits apply to these devices.

Table 1—Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for General Population/Uncontrolled Exposure				
0.1–1.34	614	1.63	*(100)	6
1.34-30	1842/f	4.89/f	*($900/f^2$)	6
30-300	61.4	0.163	1.0	6
(B) Limits for General Population/Uncontrolled Exposure				
0.1–1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*($180/f^2$)	30
30-300	27.5	0.073	0.2	30

f = frequency in MHz * = Plane-wave equivalent power density

3. RF Exposure Assessment

➢ **Standalone Transmission Assessment:**

E-field Strength Result (Test frequency range from 0.1-1.34 MHz)				
Test Loading	**E-field Strength (dBμV/m)**	**E-field Strength (V/m)**	**Limit (V/m)**	**Result**
13.56MHz	57.67	0.000765	614	PASS

➢

E-field Strength Result (Test frequency range from 0.1-1.34 MHz)				
Test Loading	**E-field Strength (dBμV/m)**	**E-field Strength (V/m)**	**Limit (V/m)**	**Result**
125kHz	102.55	0.134122	824/f (60.77)	PASS

➢ **Simultaneous Transmission Assessment:**

According to the user manual, both the 13.56MHz and 125kHz transmitters in the device cannot operate simultaneously, therefore simultaneous transmission analysis is not required.

➢ **Conclusion:**

This device complies with human exposure basic restrictions defined in FCC 47CFR Part 2(2.1093) and FCC 47CFR Part 1.1310.

Annex A Testing Laboratory Information

1. Identification of the Responsible Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Laboratory Address:	FL.1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

2. Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Address:	FL.1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

3. Facilities and Accreditations

All measurement facilities used to collect the measurement data are located at FL.3, Building A, FeiYang Science Park, Block 67, BaoAn District, Shenzhen, 518101 P. R. China. The test site is constructed in conformance with the requirements of ANSI C63.10-2013and CISPR Publication 22; the FCC designation number is CN1192, the test firm registration number is 226174.

END OF REPORT