REPORT No. : SZ17070027S11

RF EXPOSURE EVALUATION REPORT

APPLICANT	:	dormakaba EAD GmbH
PRODUCT NAME	:	data collection terminal
MODEL NAME	:	9600-K6 HID 3G
TRADE NAME	:	Terminal 96 00
BRAND NAME	:	dormakaba
FCC ID	:	NVI-KT9600K6H3G
STANDARD(S)	:	47CFR 2.1091 KDB 447498 D01 General RF Exposure Guidance v06
ISSUE DATE	:	2017-10-09

SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd.

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DIRECTORY

Change History		
Issue	Date	Reason for change
1.0	2017-10-09	First edition

TEST REPORT DECLARATION

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
Product Name	data collection terminal
Model Name	9600-K6 HID 3G
Brand Name	dormakaba
HW Version	02
SW Version	V5
Test Standards	47CFR 2.1091; KDB 447498 D01 General RF Exposure Guidance v06
Issue Date	2017-10-09
SAR Evaluation	Not Required

Tested by : Peng Fuwei

Peng Fuwei (Test engineer)

Approved by : Peng Huarui

Peng Huarui (Supervisor)

1. TECHNICAL INFORMATION

Note: the following data is based on the information by the applicant.

1.1. Identification of Applicant

Company Name:	dormakaba EAD GmbH
Address:	Albertistr. 3, 78056 Villingen-Schwenningen, Germany

1.2. Identification of Manufacturer

Company Name:	In-Tech Electronics Ltd
Address:	Unit A,13/F, Wing Tai Centre,12 Hing Yip Street, Kwun Tong Kowloon, Hong Kong

1.3. Equipment Under Test (EUT)

Model Name:	9600-K6 HID 3G
Trade Name:	Terminal 96 00
Brand Name:	dormakaba
Hardware Version:	02
Software Version:	V5
Frequency Bands:	125KHz;13.56MHz;GSM 850/1900;WCDMA Band II/V;
Antenna type:	PCB Antenna

1.3.1. Identification of all used EUT

The EUT identity consists of numerical and letter characters, the letter character indicates the test sample, and the following two numerical characters indicate the software version of the test sample.

EUT Identity	Hardware Version	Software Version
1#	02	V5

1.4. Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title
1	**47 CFR§2.1091**	Radiofrequency Radiation Exposure Evaluation: mobile devices
2	**KDB 447498 D01v06**	General RF Exposure Guidance

2. DEVICE CATEGORY AND RF EXPOSURE LIMIT

Per user manual, Based on 47CFR 2.1091, this device belongs to mobile device category with General Population/Uncontrolled exposure.

Mobile Devices:

47CFR 2.1091(b)

For purposes of this section, a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons. In this context, the term “fixed location” means that the device is physically secured at one location and is not able to be easily moved to another location. Transmitting devices designed to be used by consumers or workers that can be easily re-located, such as wireless devices associated with a personal computer, are considered to be mobile devices if they meet the 20 centimeter separation requirement.

GENERAL POPULATION / UNCONTROLLED EXPOSURE

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)
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	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
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

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

3 MEASUREMENT OF CONDUCTED PEAK OUTPUT POWER

1. GSM Average output power

Band	Channel	Frequency (MHz)	Measured Output Power
			dBm
GPRS 850MHz	128	824.2	32.51
	190	836.6	32.75
	251	848.8	32.89
GPRS 1900MHz	512	1850.2	29.33
	661	1880.0	29.26
	810	1909.8	28.97
EGPRS 850MHz	128	824.2	29.39
	190	836.6	29.36
	251	848.8	29.54
EGPRS 1900MHz	512	1850.2	28.36
	661	1880.0	28.44
	810	1909.8	28.21

2. WCDMA Average output power

Item	band	WCDMA 850			WCDMA 1900		
	ARFCN	4132	4175	4233	9262	9400	9538
	subtest	dBm			dBm		
HSDPA	1	23.37	23.50	23.12	22.74	22.70	22.76
	2	23.36	23.58	23.16	22.71	22.74	22.71
	3	23.37	23.53	23.18	22.79	22.76	22.73
	4	22.87	23.00	22.62	22.24	22.2	22.26
HSUPA	1	23.45	24.07	23.89	23.27	22.93	23.25
	2	21.45	22.07	21.89	21.27	20.93	21.25
	3	22.45	23.07	22.89	22.27	21.93	22.25
	4	21.25	21.87	21.69	21.07	20.73	21.05
	5	23.41	23.91	23.86	23.26	23.01	23.21
HSPA+	1	23.08	23.63	24.05	22.98	22.72	22.72
Note: The Conducted RF Output Power test of WCDMA /HSDPA /HSUPA /HSPA+ was tested by power meter.							

3. RF EXPOSURE EVALUATION

Standalone transmission MPE evaluation

Frequency	Max Emission (dBuV/m)	E-field strength (V/m)	Limit of E-field strength (V/m)
13.56MHz	48.55	0.000268	60.03
125KHz	47.97	0.000250	614

Bands	Frequency (MHz)	Antenna Gain (dBi)	Conducted Average Power (dBm)	Time-averaging EIRP (mW)	Power density (mW/cm²)	Limit for MPE (mW/cm²)
GRPS850	848.8	0	32.89	1945.36	0.3872	0.5659
GRPS 1900	1850.2	0	29.33	857.04	0.1706	1.0
WCMDA Band II	1987.6	0	22.76	188.80	0.0376	1.0
WCMDA Band V	881.4	0	23.50	223.87	0.045	0.5876

ANNEX C GENERAL INFORMATION

1. Identification of the Responsible Testing Laboratory

Company Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Department:	Morlab Laboratory
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Responsible Test Lab Manager:	Mr. Su Feng
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

2. Identification of the Responsible Testing Location

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

***** END OF REPORT *****