

# RF EXPOSURE **EVALUATION REPORT**

**APPLICANT** 

Testo Instruments (Shenzhen) Co., Ltd

PRODUCT NAME

testo 510i

MODEL NAME

testo 510i

TRADE NAME

testo

**BRAND NAME** 

testo

FCC ID

2ACVD-1510

47CFR 2.1093

STANDARD(S)

General RF Exposure

**ISSUE DATE** 

OBAL SERVIC M. System

SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd.

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	Change History		
Issue	Issue Date Reason for change		
1.0	1.0 2015-11-17 First edition		
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# **TEST REPORT DECLARATION**

Applicant	Testo Instruments (Shenzhen) Co., Ltd		
Applicant Address	Block A, B4 Building, China Merchants Guangming Sci&Tech Park, No.3009 Guan Guang Road, Guangming New District, Shenzhen City		
Manufacturer	Testo Instruments (Shenzhen) Co., Ltd		
Manufacturer Address	Block A, B4 Building, China Merchants Guangming Sci&Tech Park, No.3009 Guan Guang Road, Guangming New District, Shenzhen City		
Product Name	testo 510i		
Model Name	testo 510i		
Brand Name	testo		
HW Version	V1.1		
SW Version	V1.0		
Test Standards	47CFR 2.1093; KDB 447498 D01 General RF Exposure Guidance v05r02		
Issue Date	2015-11-17		
SAR Evaluation	Not Required		

Tested by		Tin Jim	
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## 1.. TECHNICAL INFORMATION

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

# 1.3. Identification of Applicant

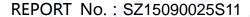
Company Name:	Testo Instruments (Shenzhen) Co., Ltd	
Address:	Block A, B4 Building, China Merchants Guangming Sci&Tech Park,	
The MORE MO	No.3009 Guan Guang Road, Guangming New District, Shenzhen City	

## 1.2. Identification of Manufacturer

Company Name:	Testo Instruments (Shenzhen) Co., Ltd		
Address:	Block A, B4 Building, China Merchants Guangming Sci&Tech Park,		
B ORLAN MORN	No.3009 Guan Guang Road, Guangming New District, Shenzhen City		

# 1.3. Equipment Under Test (EUT)

Model Name:	testo 510i
Serial Number	49100301
Trade Name:	testo
Brand Name:	testo
Hardware Version:	V1.1
Software Version:	V1.0
Frequency Bands:	Bluetooth 4.0:2402-2480MHz;
Modulation Mode:	Bluetooth 4.0: GFSK;
Antenna type:	Fixed Internal Antenna
Development Stage:	Identical prototype





## 1.3.1. Photographs of the EUT

#### EUT front view



## 2. EUT rear view





#### 1.3.2. 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#	V1.1	V1.0	

# 1.4. Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title
1 OPLAS	47 CFR§2.1093	Radiofrequency Radiation Exposure Evaluation: portable devices
2	KDB 447498 D01v05r02	General RF Exposure Guidance



## 2. DEVICE CATEGORY AND RF EXPOSURE LIMIT

Per user manual, this device is a Bluetooth device. 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)

Limits for General Population/Uncontrolled exposure: 0.08 W/kg as averaged over the whole-body and spatial peak SAR not exceeding 1.6 W/kg as averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the hands, wrists, feet and ankles where the spatial peak SAR shall not exceed 4 W/kg, as averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). General Population/Uncontrolled limits apply when the general public may be exposed, or when persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or do not exercise control over their exposure. Warning labels placed on consumer devices such as cellular telephones will not be sufficient reason to allow these devices to be evaluated subject to limits for occupational/controlled exposure in paragraph (d)(1) of this section.





## 3. MEASUREMENT OF CONDUCTED PEAK OUTPUT POWER

## 1. Bluetooth Average output power

Band	Channel	Frequency	Output Power(dBm)
	(MHz)	(MHz)	GFSK
QLAB	0	2402	-0.73
BT	19	2440	-1.16
LAB TOR	39	2480	-1.58

## 4. RF EXPOSURE EVALUATION

The device only incorporates a Bluetooth transmitter, so standalone SAR evaluation is required for Bluetooth and simultaneous SAR is not required.

Standalone transmission SAR evaluation

According to KDB 447498 section 4.3.1, the 1-g SAR test exclusion thresholds at test separation Distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[ $\sqrt{f(GHz)}$ ]  $\leq 3.0$ 

The maximum tune-up limit power is 0.89mW @ 2.402GHz

use 5mm as the most conservative minimum test separation distance,

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[ $\sqrt{f(GHz)}$ ] =**0.28**  $\leq$  3.0

So SAR evaluation is not required for this device.



# ANNEX A 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
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## 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

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