

RF EXPOSURE EVALUATION REPORT

- **APPLICANT** : ShenZhen Gospell Smarthome Electronic Co., Ltd.
- PRODUCT NAME : WiFi Video Doorbell
- **MODEL NAME** : T5100HAA
- **BRAND NAME** : N/A
- FCC ID : TW5T5100HAA
- : 47CFR 2.1091 STANDARD(S) KDB 447498
- **ISSUE DATE** : 2018-03-05

Tested by:

Liang Yumer Liang Yumer (Test engineer)

Approved by: <u>Gan Yueming</u>

Gan Yueming (Supervisor)

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SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd. FL1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block67, BaoAn District, ShenZhen , GuangDong Province, P. R. China

Tel: 86-755-36698555 Fax: 86-755-36698525 E-mail: service@morlab.cn Http://www.morlab.cn





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Change History			
Issue	Date	Reason for change	
1.0	2018-03-05	First edition	





1. Technical Information

Note: Provide by manufacturer.

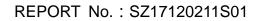
1.1 Applicant and Manufacturer Information

Applicant:	ShenZhen Gospell Smarthome Electronic Co., Ltd.
Applicant Address:	F/12 F518 Idea Land Baoyuan Road Baoan Central Area
Applicant Address.	shenzhen City P.R China
Manufacturer:	ShenZhen Gospell Smarthome Electronic Co., Ltd.
	East of 01st-04st Floor,Block A,No.1 Industrial park,
Manufacturer Address:	Fenghuanggang,South of No.1 Baotian Road,Xixiang
Manufacturer Address:	street,Bao'an District,Shenzhen City,Guangdong Province
	518126,P.R.China

1.2 Equipment Under Test (EUT) Description

EUT Type: WiFi Video Doorbell	
Hardware Version: T5100HAA_M02	
Software Version: V1.8.0	
Frequency Bands: WLAN 2.4GHz:2.412GHz-2.462GHz;	
Modulation Mode: WLAN 2.4GHz: 802.11b/g/n-20MHz	
Antenna type: FPC Antenna	
Antenna Gain: 2.1dBi	

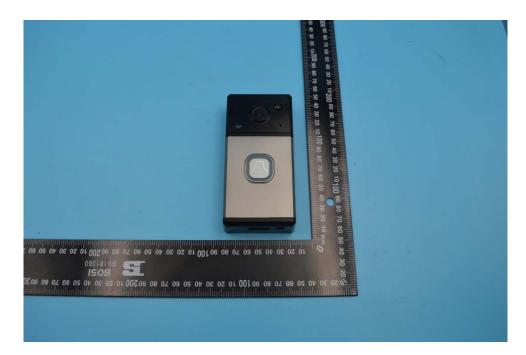






1.3 Photographs of the EUT

1. EUT front view



2. EUT rear view





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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.

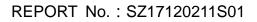
EUT Identity	Hardware Version	Software Version
1#	T5100HAA_M02	V1.8.0

1.4 Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title	
1	47 CFR§2.1091	Radio frequency 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.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm²)	Averaging time (minutes)
(E	B) Limits for General	Population/Uncontro	lled 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

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

f = frequency in MHz

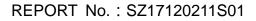
* = Plane-wave equivalent power density



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3. Measurement Of conducted Peak Output Power

1.	Wifi	Peak	output	power
•••			0 0 0 0 0 0	p 0 11 0 1

David	Ohannal	Frequency	Output Power(dBm)			
Band	Channel	(MHz)	802.11b	802.11g	802.11n20	
	1	2412	13.56	16.19	16.21	
Wifi	6	2437	13.93	16.36	16.35	
	11	2462	12.79	15.58	15.45	

4. RF Exposure Evaluation

Standalone transmission MPE evaluation

Bands	Frequency (MHz)	Antenna Gain (dBi)	Conducted Peak Power (dBm)	EIRP (mW)	Power density (mW/cm²)	Limit for MPE (mW/cm²)
2.4GHz	2437	2.1	16.36	70.146	0.014	1.0

1. MPE calculation method

Power Density = EIRP/ $4\pi R^2$

Where: EIRP = P·G

P = Peak output power

G = Antenna gain

R = Separation distance (20cm)





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
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 LongChan	
	Road, Block 67, BaoAn District, ShenZhen, GuangDong	
	Province, P. R. China	

_____ END OF REPORT _____

