

**Report No.: FA511219** 

# **RF Exposure Evaluation Report**

APPLICANT : TomTom International BV

**EQUIPMENT**: GPS Navigation System

**BRAND NAME**: TomTom

MODEL NAME : 4GE40

FCC ID : S4L4GE40

IC ID : 5767A-4GE40

STANDARD : 47 CFR Part 2.1093

FCC KDB 447498 D01 v05r02

IC RSS-102 Issue 4 (March 2010)

We, SPORTON INTERNATIONAL INC., would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1093, IC RSS-102 Issue 4 (March 2010), and pass the limit. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by: Eric Huang / Deputy Manager

Approved by: Jones Tsai / Manager





#### SPORTON INTERNATIONAL INC.

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FCC ID: S4L4GE40; IC ID: 5767A-4GE40

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Report Version : Rev. 01

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# **Revision History**

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA511219	Rev. 01	Initial issue of report	Feb. 13, 2015

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## 1. Administration Data

Testing Laboratory			
Test Site	SPORTON INTERNATIONAL INC.		
Test Site Location	No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978		

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Applicant			
Company Name	TomTom International BV		
Address	De Ruijterkade 154, 1011 AC Amsterdam The Netherlands		

Manufacturer			
Company Name	Tech-Giant (Shanghai) Computer Co., Ltd		
Address	C#,No.1, South Rongteng Road , Songjiang Export Processing Zone, Shanghai, China		

## 2. General Information

### 2.1 Description of Device Under Test (DUT)

Product Feature & Specification			
DUT Type	GPS Navigation System		
Brand Name	TomTom		
Model Name	4GE40		
FCC ID	S4L4GE40		
IC ID	5767A-4GE40		
Wireless Technology and Frequency Range	Bluetooth: 2402 MHz ~ 2480 MHz		
Mode	Bluetooth v2.1+EDR		
Antenna Type	Ground Chip Antenna		
HW Version	PR2		
SW Version	14.600		
DUT Stage	Production Unit		

**Remark:** The above DUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

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### 3. Maximum RF output power among production units

Mada / Band	Average Power (dBm)	
Mode / Band	v2.1+EDR	
2.4GHz Bluetooth	4.0	

### 4. RF Exposure Evaluation

Bluetooth	mW	Separation	Frequency	Exclusion
Max Power (dBm)		Distance (mm)	(GHz)	Thresholds
4.00	3.00	5	2.48	0.94

#### Note:

1. Per KDB 447498 D01v05r02, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]  $\cdot [\sqrt{f(GHz)}] \le 3.0$  for 1-g SAR and ≤ 7.5 for 10-g extremity SAR

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

#### **Conclusion:**

- According to KDB 447498 D01v05r02 exclusion thresholds is 0.94 < 3, RF exposure evaluation is not required.
- 2. For IC, according to RSS-102 Clause 2.5.1, Bluetooth Max output power is 4.00dBm, antenna gain is 1.72dBi, and EIRP is 5.72dBm, (EIRP = Average power + Gain) both conducted power and radiated power are smaller than 20mw. Therefore, stand-alone SAR is excluded, and the consideration of simultaneous transmission with Bluetooth is exempt.

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