



## **FCC RF EXPOSURE REPORT**

*For*

**Geospace Seismic Recorder with Internal Battery**

**MODEL NUMBER: GSB**

**FCC ID: WAOGSB**

**REPORT NUMBER: 4788200390.1-3**

**ISSUE DATE: May 30, 2018**

*Prepared for*

**Geospace Technologies Corporation  
7007 Pinemont Houston, TX 77040.USA**

*Prepared by*

**UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch  
Room 101, Building 10, Innovation Technology Park,  
Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China  
Tel: +86 769 33817100  
Fax: +86 769 33244054  
Website: [www.ul.com](http://www.ul.com)**



Revision History

Rev.	Issue Date	Revisions	Revised By
--	05/30/2018	Initial Issue	



## TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS .....	4
2. TEST METHODOLOGY .....	5
3. FACILITIES AND ACCREDITATION .....	5
4. REQUIREMENT .....	6



## 1. ATTESTATION OF TEST RESULTS

### Applicant Information

Company Name: Geospace Technologies Corporation  
Address: 7007 Pinemont Houston, TX 77040.USA

### Manufacturer Information

Company Name: Geospace Technologies Corporation  
Address: 7007 Pinemont Houston, TX 77040.USA

### EUT Description

EUT Name: Geospace Seismic Recorder with Internal Battery  
Model: GSB  
Brand Name: Geospace Technologies  
Sample Status: Normal  
Sample ID: 1230384  
Sample Received Date: October 26, 2017  
Date of Tested: November 15, 2017 ~ May 30, 2018

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47CFR§2.1091	Complies

Tested By:

Denny Huang  
Engineer Project Associate

Checked By:

Shawn Wen  
Laboratory Leader

Approved By:

Stephen Guo  
Laboratory Manager



## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091.

## 3. FACILITIES AND ACCREDITATION

Accreditation Certificate	<p><b>A2LA (Certificate No.: 4102.01)</b> UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA.</p> <p><b>IAS (Lab Code: TL-702)</b> UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has demonstrated compliance with ISO/IEC Standard 17025:2005, General requirements for the competence of testing and calibration laboratories</p> <p><b>FCC (FCC Designation No.: CN1187)</b> UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules</p> <p><b>IC(Company No.: 21320)</b> UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with Industry Canada. The Company Number is 21320.</p> <p><b>VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011)</b> UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793. Facility Name: Chamber D, the VCCI registration No. is G-20019 and R-20004 Shielding Room B , the VCCI registration No. is C-20012 and T-20011</p>
---------------------------	---



## 4. REQUIREMENT

### LIMIT AND CALCULATION METHOD

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.  
Limits for General Population/Uncontrolled Exposure

### RF EXPOSURE LIMIT

Frequency Range (MHz)	E-field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (Minutes)
0.3 -- 1.34	614	1.63	(100)*	30
1.34 -- 30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30 -- 300	27.5	0.073	0.2	30
300 -- 1500	--	--	f/1500	30
1500 -- 100,000	--	--	1.0	30

### CALCULATION METHOD

$$S = PG / 4\pi R^2$$

Where:

S=power density

P=power input to antenna

G=power gain of the antenna in the direction of interest relative to an isotropic radiator

R=distance to the center of radiation of the antenna



### **CALCULATED RESULTS**

ZigBee Mode					
Frequency	Output Power	Output Power	Power Density	Limit	Test Result
MHz	dBm	mW	mW/cm <sup>2</sup>	mW/cm <sup>2</sup>	--
2405~2480	3	2	0.001	1.0	Complies

Note: 1. Antenna Gain=3.3.0dBi (Numeric 2.14),  $\pi=3.141$ .  
2. The Power comes from turn up power which declared by customer.  
3. The minimum separation distance of the device is greater than 20 cm.  
4. Calculate by WORST-CASE mode.

### **END OF REPORT**