

# RF Exposure Report

**Report Number:** 208729-4

**Revision Level:** 2

**Client:** Tractotomy Systems, Inc.

214 Devcon Dr. San Jose, CA 95112

**Equipment Under Test:** Multifunctional IoT Platform Sensor Device

**Model Number:** FBO-2005

**FCC ID:** 2AXA8-FBO-2005

**IC ID:** 27299-FBO2005

**Applicable Standards:** 47 CFR § 2.1091

RSS-102, Issue 6

FCC KDB 447498 D01 General RF Exposure Guidance v06

**Report issued on:** 13 June 2024

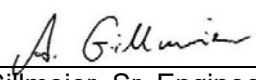
**Result:** Compliant




FOR THE SCOPE OF ACCREDITATION UNDER CERTIFICATE NUMBER: 1935.01

Report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, or any agency of the Federal Government.

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 EMC/RF

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## 1 General Information

### 1.1 Client Information

**Name:** Trackonomy Systems, Inc.  
**Address:** 214 Devcon Dr.  
**City, State, Zip, Country:** San Jose, CA 95132

### 1.2 Test Laboratory

**Name:** SGS North America, Inc.  
**Address:** 12310 World Trade Drive, Suite 106/107  
**City, State, Zip, Country:** San Diego, CA 92128, USA  
**Accrediting Body:** A2LA  
**Type of lab:** Testing Laboratory  
**Certificate Number:** 1935.01  
**Designation ID:** US1346  
**CAB ID:** US0236

### 1.3 General Information of EUT

**Type of Product:** Multifunctional IoT Platform Sensor Device  
**Model Number:** FBO-2005  
**Serial Number:** *Sample 1* (Conducted Sample x 1)  
**Frequency Ranges:** 2402 – 2480 MHz  
**Antenna Model:** FBO-2005-ANT  
**Antenna Type:** Inverted F PCB Antenna  
**Antenna Gain\*:** 1.5 dBi (max.)  
**Max Conducted Output Power:** 10 dBm

\*Data was not measured by SGS laboratory and therefore SGS is not responsible for accuracy. Data obtained via customer, specification sheet, previous filing or other.

### 1.4 Operating Modes and Conditions

Maximum power levels were utilized for all calculations. Single transmission only.

## 2 RF Exposure

### 2.1 Test Results

Test Description	Product Specific Standard	Test Result
RF Exposure	FCC Part 2.1091 RSS-102	Compliant

### 2.2 Test Method

The formula below calculates power density.

$$S = \frac{PG}{4\pi R^2} \quad \text{Or} \quad S = \frac{EIRP}{4\pi R^2}$$

Where;

S = Power density (mW/cm<sup>2</sup>)

P = Maximum sourced based average power delivered to antenna port (mW)

G = Maximum power gain of the antenna in the direction of interest relative to an isotropic radiator (dBi) (numerical value)

R = Distance between by-stander and antenna (cm)

EIRP = Equivalent (or effective) isotropically radiated power

### 2.3 Limits

The table below shows the limits applicable for equipment subject to FCC §15.247 and §2.1091.

Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (Minutes)
0.3 – 1.34	614	20.4	*(100)	30
1.34 - 30	824/f	26.97	*(180/f <sup>2</sup> )	30
30 - 300	27.5	33.62	0.2	30
300 - 1500	/	/	f/1500	30
1500 – 100,000	/	/	1.0	30

f = frequency in MHz

\* = Plane-wave equivalent power density

The table below shows the limits applicable for equipment subject to RSS-102 issue 5.

Limits for General Public/Uncontrolled Environment

Frequency Range (MHz)	Electric field strength (V <sub>RMS</sub> /m)	Magnetic field strength (A <sub>RMS</sub> /m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (Minutes)
10 - 20	27.46	1.63	2	6
20 - 48	$58.07/f^{0.25}$	$0.1540/f^{0.25}$	$8.944/f^{0.5}$	6
48 - 300	22.06	0.05852	1.291	6
300 - 6000	$3.142f^{0.3417}$	$0.008335f^{0.3417}$	$0.02619f^{0.6834}$	6
6000 - 15000	61.4	0.163	10	6
15000 - 150000	61.4	0.163	10	$616000/f^{1.2}$
150000 - 300000	$0.158f^{0.5}$	$4.21 \times 10^{-4} f^{0.5}$	$6.67 \times 10^{-5} f$	$616000/f^{1.2}$

f = frequency in MHz

## 2.4 Single transmission RF Exposure Levels (mW/cm<sup>2</sup>)

2.4 GHz band, BLE per FCC §2.1091

Freq. (MHz)	Antenna Gain		Tune up conducted power		Evaluation Distance (cm)	Power Density (mW/cm <sup>2</sup> )	MPE Limit (mW/cm <sup>2</sup> )
	(dBi)	numerical	(dBm)	(mW)			
2402	1.5	1.41	10	10	20	0.003	1

2.4 GHz band, BLE per RSS-102

Freq. (MHz)	Antenna Gain		Tune up conducted power		Evaluation Distance (cm)	Power Density (mW/cm <sup>2</sup> )	MPE Limit (mW/cm <sup>2</sup> )
	(dBi)	numerical	(dBm)	(mW)			
2402	1.5	1.41	10	10	20	0.003	5.35

## 2.5 Simultaneous Conditions

N/A

### 3 Revision History

Revision Level	Description of changes	Page Affected	Revision Date
1	Initial release	-	May 30, 2024
2	Sample serial number and Conducted power correction	3 and 5	June 12, 2024