

Bureau Veritas Consumer Product Services, Inc.	Test Report Number:
One Distribution Center Circle #1, Littleton, MA 01460	EX0743-5-4 Issue 1



CFR Title 47 FCC Parts

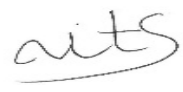
1.1307, 1.1310, 2.1091

RF Exposure Exhibit

Prepared for SmartSense by Digi

Product Name: TM-B3SENSOR

Hardware Version: 50002144-01 Rev A

Prepared by Yunus Faziloglu Sr. Wireless Engineer	Approved by Ahmed Ait Ahmed EMC Manager
	
Issue Date: Nov 1, 2024	Issue Number: 1



This test result relates only to the described test object.

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The test is traceable to national standard or related international standard

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1 Device Under Test

1.1 Product Information

Project Number:	EX0743-5
Applicant Information:	SmartSense by Digi
	186 Lincoln St. Suite 8
	Boston, MA 02111
Product Marketing Name:	TM-B3SENSOR
Hardware Version	50002144-01 Rev A
Separation Distance:	20cm
Exposure Category of DUT:	Mobile
Multiple Simultaneous RF Sources:	No
Type of Evaluation:	MPE Calculation
Evaluation Method:	447498 D01 General RF Exposure Guidance v06
Deviations from Standard:	None

1.2 Technical Information

Radio Description	Bluetooth Low Energy
FCC ID:	2ATZ3-B3SENSOR
Exposure Category of Transmitter:	Mobile
Maximum Conducted Output Power (mW):	99.5mW (Average)
Maximum Tune-up Tolerance (dB):	N/A
Maximum Antenna Gain (dBi):	2.93dBi Maximum Peak

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2 Test Laboratory Information

Location of Test Lab:	One Distribution Center Circle #1 Littleton, MA 01460 (978) 486-8880
Key Contact:	Yunus Faziloglu Yunus.faziloglu@bureauveritas.com
Laboratory Accreditations:	BUREAU VERITAS CONSUMER PRODUCTS SERVICES, INC is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories.
ISO/IEC 17025:2017:	1627-01
FCC Test Site Number:	US1028

3 RF Exposure Limit:

According to CFR Title 47 FCC section 1.1310, the criteria listed in the following table shall be used to evaluate Maximum Permissible Exposure (MPE) to radiofrequency electromagnetic fields.

TABLE 1 TO § 1.1310(E)(1)—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(i) LIMITS FOR OCCUPATIONAL/CONTROLLED EXPOSURE				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*(900/f ²)	<6
30-300	61.4	0.163	1.0	<6
300-1,500			f/300	<6
1,500-100,000			5	<6
(ii) LIMITS FOR GENERAL POPULATION/UNCONTROLLED 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
300-1,500			f/1500	<30
1,500-100,000			1.0	<30

f = frequency in MHz. * = Plane-wave equivalent power density.

4 RF Exposure – MPE Evaluation

	Prediction of MPE limit at a given distance				
	Equation from page 18 of OET Bulletin 65, Edition 97-01				
	$S = \frac{PG}{4\pi R^2}$				
where:	S = power density				
	P = power input to the 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				
	Maximum peak output power at the antenna terminal:	19.978	(dBm)		
	Maximum peak output power at the antenna terminal:	99.5	(mW)		
	Antenna gain(typical):	2.93	(dBi)		
	Maximum antenna gain:	1.96	(numeric)		
	Prediction distance:	20	(cm)		
	Prediction frequency:	2440	(MHz)		
	MPE limit for uncontrolled exposure at prediction frequency:	1	(mW/cm^2)		
	Power density at prediction frequency:	0.038862	(mW/cm^2)		

5 Conclusion

EUT complies with FCC section 1.1310 MPE limits for general population as a mobile device.

Document Revisions

Issue No.	Summary of Changes	Date Issued	Prepared by	Approved by
1	Original Release	Nov 1, 2024	YF	AA

End of Report