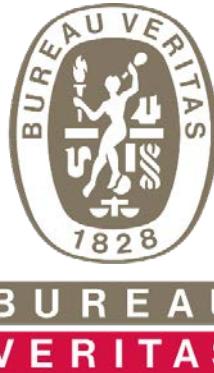


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One Distribution Center Circle #1, Littleton, MA 01460	EX0425-4 Issue 1



CFR Title 47 FCC Part 2.1091

Report Exhibit

Prepared for Dogwatch Inc.

This report presents the environmental impact of human exposure to radiofrequency radiation for

SmartFence Portal

SF-P10-2

Prepared by

Ryan M. Brown

Ryan Brown

Sr. EMC/Wireless Engineer

Approved by

Y. E. Faziloglu

Yunus Faziloglu

Wireless Manager

Issue date: Jul 27, 2023

Report No: EX0425-4 Issue 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 Information

1.1 Product Information

Project Number:	X0425
Applicant Information:	Dogwatch Inc.
	10 Michigan Drive Natick, MA 01760 USA
Test Item Description:	SmartFence Portal
Model Number:	SF-P10-2
Hardware Version of DUT:	SF-P10-2
Software Version of DUT:	N/A
Separation Distance:	20cm
Exposure Category of DUT:	Mobile
Multiple Simultaneous RF Sources:	No
Type of Test:	FCC RF Exposure Exemption Evaluation
Test Method:	CFR Title 47 FCC Part 1.1307(b)(3)
Deviations from Standard:	None

1.2 Technical Information

FCC ID:	L66DWSFP2
Exposure Category of Transmitter:	Mobile
Maximum field strength (dBuV/m @ 3m):	91.1 (External Antenna) 88.6 (Internal Antenna)
Maximum Tune-up Tolerance (dB):	N/A
Maximum Antenna Gain (dBi):	1.2dBi Peak (External Antenna) 1.4dBi Peak (Internal Antenna)

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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

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3 RF Exposure – Determination of Exemption – FCC Section 1.1307(b)(3)(i)

3.1 MPE-based Exemption – 1.1307(b)(3)(i)(C)

3.1.1 External Antenna Configuration:

Maximum field strength: 91.1 dBuV/m @ 3m

$EIRP = (E \times d)^2 / 30$ per FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Where

E = electric field strength in V/m

d = measurement distance in meters (m)

E = 91.1 dBuV/m = 0.035892193 V/m

Therefore $EIRP = (0.035892193 \times 3)^2 / 30 = 0.00038647 \text{ W} = -4.13 \text{ dBm}$

<u>Prediction of MPE limit at a given distance</u>	
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:	-4.13 (dBm)
Maximum peak output power at the antenna terminal:	0.3865 (mW)
Antenna gain(typical):	0 (dBi)
Maximum antenna gain:	1 (numeric)
Prediction distance:	20 (cm)
Prediction frequency:	924.1 (MHz)
MPE limit for uncontrolled exposure at prediction frequency:	0.616 (mW/cm^2)
Power density at prediction frequency:	0.000077 (mW/cm^2)

Resulting power density 0.000077 mW/cm² is below the 0.616mW/cm² limit, therefore External Antenna Configuration of the EUT meets FCC RF exposure limits for a mobile device.

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3.1.2 Internal Antenna Configuration:

Maximum field strength: 88.6 dBuV/m @ 3m

EIRP = $(E \times d)^2 / 30$ per FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Where

E = electric field strength in V/m

d = measurement distance in meters (m)

E = 88.6 dBuV/m = 0.026915348 V/m

Therefore EIRP = $(0.026915348 \times 3)^2 / 30 = 0.00021733$ W = -6.63dBm

<u>Prediction of MPE limit at a given distance</u>	
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:	-6.63 (dBm)
Maximum peak output power at the antenna terminal:	0.2173 (mW)
Antenna gain(typical):	0 (dBi)
Maximum antenna gain:	1 (numeric)
Prediction distance:	20 (cm)
Prediction frequency:	922.9 (MHz)
MPE limit for uncontrolled exposure at prediction frequency:	0.615 (mW/cm^2)
Power density at prediction frequency:	0.000043 (mW/cm^2)

Resulting power density 0.000043 mW/cm² is below the 0.615mW/cm² limit, therefore Internal Antenna Configuration of the EUT meets FCC RF exposure limits for a mobile device.

3.1.3 Conclusion

Device meets the exemption criteria for the environmental impact of human exposure to radiofrequency radiation using the calculations performed above.

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Document Revisions

Issue No.	Summary of Changes	Date Issued	Prepared by	Approved by
1	Original Release	Jul 27, 2023	RMB	YF

End of Report