



RF EXPOSURE Test Report

Report No.: MTi231221010-01E2

Date of issue: 2024-04-25

Applicant: igloocompany Pte. Ltd.

Product: Deadbolt Go

Model(s): DBX1, DBX2

FCC ID: 2AYD7-DBX

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>



Instructions

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Test Result Certification	
Applicant:	igloocompany Pte. Ltd.
Address:	71 Ayer Rajah Crescent #01-25 Singapore 139951
Manufacturer:	igloocompany Pte. Ltd.
Address:	71 Ayer Rajah Crescent #01-25 Singapore 139951
Product description	
Product name:	Deadbolt Go
Trademark:	igloo
Model name:	DBX1
Serial Model:	DBX2
Standards:	N/A
Test procedure:	KDB 447498 D01 v06
Date of Test	
Date of test:	2024-04-18 to 2024-04-25
Test result:	Pass

Test Engineer	:	<i>James Qin</i>
		(James Qin)
Reviewed By	:	<i>David. Lee</i>
		(David Lee)
Approved By	:	<i>Leon Chen</i>
		(Leon Chen)



RF EXPOSURE EVALUATION

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) Radiation as specified in §1.1307(b)

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)
(A) 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
(B) 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

MPE Calculation Method

Friis transmission formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2)$

Where

P_d = Power density in mW/cm²

P_{out} = output power to antenna in mW

G = Numeric gain of the antenna relative to isotropic antenna

π = 3.1415926

R = distance between observation point and center of the radiator in cm(20cm)

P_d the limit of MPE, 1mW/cm². If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.



Measurement Result

Operation Frequency: 2402-2480MHz,

Power density limited: 1mW/ cm²

Antenna Type: PCB Antenna;

Antenna gain: 1.9dBi

R=20cm

$mW=10^{(dBm/10)}$

antenna gain Numeric= $10^{(dBi/10)}=10^{(1.9/10)}=1.55$

BLE:

Channel Freq. (MHz)	modulation	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result	Power density Limits
		(dBm)		tune-up power		Gain			
				(dBm)	(mW)	(dBi)	Numeric	(mW/cm2)	(mW/cm2)
2402	GFSK-1M	3.65	3±1	4	2.512	1.9	1.55	0.0008	1
2441		3.84	3±1	4	2.512	1.9	1.55	0.0008	1
2480		3.69	3±1	4	2.512	1.9	1.55	0.0008	1
2402	GFSK-2M	3.65	3±1	4	2.512	1.9	1.55	0.0008	1
2441		3.82	3±1	4	2.512	1.9	1.55	0.0008	1
2480		3.68	3±1	4	2.512	1.9	1.55	0.0008	1

For the max result: $0.0008 \leq 1.0$, No SAR is required.

----END OF REPORT----