IEEE C95.1 2005
KDB 447498 D03
47 C.F.R. Part 1, Subpart I, Section 1.1310
47 C.F.R. Part 2, Subpart J, Section 2.1091

RF EXPOSURE REPORT

For

BiopticRR20 RFID module

STMB003-B, STMB003-BXXXXXXXXXXXXXXXXXXXXX (Which "X" can be any character)

Trade Name: BiOptic inc.

Issued to

BiOptic Inc.
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Issued by

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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	November 01, 2019	Initial Issue	ALL	May Lin
01	November 04, 2019	See the following Note Rev. (01)	P.5	May Lin

Rev (01):
1. *Revised the section 2.*

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1. TEST RESULT CERTIFICATION

APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
IEEE C95.1 2005 KDB 447498 D03 47 C.F.R. Part 1, Subpart I, Section 1.1310 47 C.F.R. Part 2, Subpart J, Section 2.1091	No non-compliance noted

Approved by: *Reporter:*

Kevin Tsai
Deputy Manager
Compliance Certification Services Inc.

May Lin
Report coordinator
Compliance Certification Services Inc.

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2. LIMIT

Environmental evaluation and exposure limit according to FCC CFR 47 part 1, 1.1307(b), 1.1310.

§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), except in the case of portable devices which shall be evaluated according to the provisions of FCC part 2.1093 of the chapter.

TABLE 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)
(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

Note 1 to Table 1: Occupational/controlled exposure limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when a person is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

Note 2 to Table 2: General population/uncontrolled exposure limits apply in situations in which the general public may be exposed, or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

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3. EUT SPECIFICATION

EUT	BiopticRR20 RFID module
Model	STMB003-B, STMB003-BXXXXXXXXXXXXXXXXXXXX (Which "X" can be any character)
Trade Name	BiOptic inc.
Model Discrepancy	All the above models are identical except for the designation of model numbers. The suffix of (Which "X" can be any character) on model number is just for marketing purpose only.
Frequency band (Operating)	☒ 13.56MHz ☐ Others
Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation) ☐ Others
Exposure classification	☐ Occupational/Controlled exposure ☒ General Population/Uncontrolled exposure (E=60.77 V/m, E=824/f V/m)
Antenna Specification	Coil Antenna
Result Power	13.56MHz 71.22 dBuV/m (3m)
Evaluation applied	☒ MPE Evaluation* ☐ SAR Evaluation ☐ N/A

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4. TEST RESULTS

No non-compliance noted.

EUT parameter (data from the separate report)	
Result Power in dBuV/m	71.22 dBuV/m (3m)
Limit of E-field strength (V/m)	60.77 V/m

Exposure evaluation	
Given $R = R_3 + 40\log(3/0.2)$ or $R = R_3 + 40\log(3/0.15)$ $E = 10^{((R-120)/20)}$	Where: ● E: E field Strength ● R$_3$: Result Power on 3m ● R: Result Power on 0.2m or 0.15m

Evaluation distance (m)	Frq. (MHz)	Result power (dBuV/m)	Electric Field Strength (V/m)	Limit of Electric Field Strength (V/m)
0.2	13.56	71.22	0.81881	60.77

-- End of Test Report --