



FCC ID: 2AUQB-STMB003-B
Report No.: T190828D01-MF

Page: 1 / 7
Rev.: 01

**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.

**(23141) 4F., No.108-3, Minquan Rd., Xindian District., New Taipei City, Taiwan
(R.O.C.)**

Issued by

Compliance Certification Services Inc.

Wugu Laboratory

**No.11, Wugong 6th Rd., Wugu Dist.,
New Taipei City 24891, Taiwan. (R.O.C.)**

Issued Date: November 01, 2019

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部分複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.



Report No.: T190828D01-MF

Page: 2 / 7

Rev.: 01

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.*



Report No.: T190828D01-MF

Page: 3 / 7

Rev.: 01

TABLE OF CONTENTS

1. TEST RESULT CERTIFICATION	4
2. LIMIT	5
3. EUT SPECIFICATION	6
4. TEST RESULTS	7



Report No.: T190828D01-MF

Page: 4 / 7

Rev.: 01

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.

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
<u>1.34-30</u>	<u>824/f</u>	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.



Report No.: T190828D01-MF

Page: 6 / 7

Rev.: 01

3. EUT SPECIFICATION

EUT	BiopticRR20 RFID module
Model	STMB003-B, STMB003-BXXXXXXXXXXXXXXXXXXXXX (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)	<input checked="" type="checkbox"/> 13.56MHz <input type="checkbox"/> Others
Device category	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others
Exposure classification	<input type="checkbox"/> Occupational/Controlled exposure <input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A

4. TEST RESULTS

No non-compliance noted.

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

<i>Exposure evaluation</i>	
<p><i>Given</i></p> $R = R_3 + 40 \log(3/0.2)$ <p>or</p> $R = R_3 + 40 \log(3/0.15)$ $E = 10^{((R-120)/20)}$	<p><i>Where:</i></p> <ul style="list-style-type: none"> ● E: E field Strength ● R₃: 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 --