

Bureau Veritas Consumer Product Services, Inc.	Test Report Number:
One Distribution Center Circle #1, Littleton, MA 01460	EX0154-7 Issue 1



CFR Title 47 FCC Part 2.1093

Report Exhibit

Prepared for Rockwell Automation

This report presents the environmental impact of human exposure to radiofrequency radiation for
TLSZ Guardmaster GuardLocking Switch

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Issue date: Aug 29, 2023

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This test result relates only to the described test object.

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Customer must not use this test report as the product certification of each accreditation body or each national organization.
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:	X0154
Applicant Information:	Rockwell Automation
	2 Executive Dr. Chelmsford, MA 01824
Test Item Description:	TLSZ Guardmaster GuardLocking Switch
Model Number:	440G-TZS21UPRH, 440G-TZS21UPLH, 440G-TZS21UTRH, 440G-TZS21UTLH
Separation Distance:	0mm
Exposure Category of DUT:	Portable
Multiple Simultaneous RF Sources:	No
Type of Evaluation:	Extremity SAR Exemption Calculation
Evaluation Method:	447498 D01 General RF Exposure Guidance v06
Deviations from Standard:	None

Technical Information

FCC ID:	USM-440G-TZ
Transmit Frequency:	125kHz
Exposure Category of Transmitter:	Portable
Maximum field strength (dBuV/m @ 3m):	69.8dBuV/m at 3m (highest fundamental measured on Model 440G-TZS21UPLH)
Maximum EIRP (mW):	0.00287mW (converted from maximum field strength)
Maximum Tune-up Tolerance (dB):	N/A

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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

3.1 SAR-based Exemption per 447498 D01 General RF Exposure Guidance v06

3.1.1 125kHz RFID

SAR exemption calculation for 125kHz at 0mm is based on

Per 447498 D01 General RF Exposure Guidance v06 Section 4.3.1 a), b)1) using 50mm separation and 0.1GHz and applying it to 125kHz using c)2) as follows,

- a) $(7.5/\sqrt{0.1\text{GHz}}) * 50\text{mm} = 1185.9\text{mW}$
- b)1) $1185.9 + ((50-50) * (100/150)) = 1185.9\text{mW}$
- c)2) $1185.9 * (1 + \log(100/0.125)) * \frac{1}{2} = 2314.34\text{mW}$

EIRP for 125kHz RFID is 0.00287mW and therefore exempt from stand-alone SAR testing.

3.1.2 Conclusion

Device meets the SAR test exemption criteria based on the calculations shown above.

Document Revisions

Issue No.	Summary of Changes	Date Issued	Prepared by	Approved by
1	Original Release	Aug 29, 2023	RMB	YF

End of Report