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RF Radiation Hazard Assessment

FCC KDB 447498 D04
Interim General RF Exposure Guidance v01
Report Number: CE4013BRev1
April 2024

Tritium Pty Ltd
TRI153-28 RFID Reader
Model No: TRI153-28

COMPLIANCE ENGINEERING
EMC - Shielding - Environmental

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RF Radiation Hazard Assessment

Client Details:	**Company:**	Tritium Pty Ltd
	Address:	48 Miller St, Murarrie QLD 4172 Australia
	Contact:	Paul Forbes
	Phone:	07 3147 8561
	Email:	pforbes@tritium.com.au
Product Details:	**Device:**	TRI153-28 RFID Reader
	Model:	TRI153-28
	Serial:	0268
	FCC ID:	2AFHX-TRI15328
	IC:	21662-TRI15328
Reference:		FCC KDB 447498 D04 Interim General RF Exposure Guidance v01 RF exposure procedures and equipment authorization policies for mobile and portable devices
Summary:		Based on the assessment of the documentation provided the TRI153-28 RFID Reader is exempt from further evaluation in accordance with FCC KDB 447498 D04 Interim General RF Exposure Guidance v01, Appendix B Exemptions for single RF sources, Section B.2 Blanket 1mW Blanket Exemption
Test Date:		1st February 2024
Operator:		Gabriel Mendez Compliance Engineering Pty Ltd 90 Indian Drive, Keysborough Victoria, Australia 3173 Telephone: +61 3 9763 3079 Email: info@compeng.com.au

		30th April 2024
Prepared By: *Gabriel Mendez* *Test Engineer* *Compliance Engineering*	***Approved By:*** *Matthew Grimwood* *EMC Laboratory Manager* *Compliance Engineering*	***Date***

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Revision History			
Revision	**Issue Date**	**Remarks**	**Revised by**
0	5-02-2024	Initial release	-
1	30-4-2024	• Amended date on page 2 • Test Site Company number included	GM

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1. INTRODUCTION

Compliance Engineering was engaged to perform an assessment of the TRI153-28 RFID Reader, to determine whether this device is exempt from further evaluation.

The assessment was performed in accordance with the requirements of FCC KDB 447498 D04 Interim General RF Exposure Guidance v01, Appendix B Exemptions for single RF sources, Section B.2 Blanket 1mW Blanket Exemption

The information used for the assessment was taken from report CE4013A as tested by Compliance Engineering.

2. EUT DETAILS

The highest recorded power from the EUT was 0.1dBµA/m (0.00004mW) as detailed in report CE4013A.

Equipment Under Test (*Information supplied by client*):	
Product Name:	TRI153-28 RFID Reader
Model Number:	TRI153-28
Serial Number:	0268
Product Description:	RFID sub-assembly for Tritium Electric Vehicle Charge Stations.
Equipment type:	Other Class B digital devices & peripherals
Highest Clock Frequency (CPU):	27.12 MHz
Hardware Version:	v02
Software/Firmware Version:	NA
Operating Temperature:	-20 to 50 C
Radio Type:	RFID
Radio Technology:	ISO/IEC 14443
Assigned frequency band:	13.56 MHz
Spreading:	No
Modulation:	ASK
Number of channels:	One

Channel spacing:	N/A	
Number of antennas:	1	
Radio module	FCC-ID:	2AFHX-TRI15328
	IC:	21662-TRI15328
Antenna	Type:	Loop, PCB track
	Gain:	
Power Supply	V_{NOM}:	24 VDC
	V_{MIN}:	12 VDC
	V_{MAX}:	24 VDC

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3. TEST FACILITY

All measurements were performed at Compliance Engineering, 90 Indian Drive Keysborough, Victoria, Australia.

A2LA (ISO 17025-2017) – Certificate No: 2829.01
Compliance Engineering is accredited to ISO 17025-2017 by American Association for Laboratory Accreditation (A2LA) which is an ILAC member and has mutual recognition agreements with the National Voluntary Laboratory Accreditation Program (NVLAP)

All measurements within this report have been performed in accordance with Compliance Engineering's scope of A2LA accreditation.

The current full scope of accreditation can be found on the A2LA website: www.a2la.org

FCC – Registration No: 982700
Compliance Engineering has been recognized and is listed as an FCC part 47 CFR 2.948 measurement facility to perform compliance testing on equipment under Parts 15 and 18. The Designation Number is AU0006 and the Test Firm Registration Number is 982700.

Innovation, Science & Economic Development Canada (ISED) - Registration No: 27266
Compliance Engineering's 3m indoor semi-anechoic chamber (iOATS) has been accepted by Innovation, Science & Economic Development Canada (ISED) for performing radiated measurements in accordance with RSS-102, RSS-GEN, RSS-210, RSS-247, RSS-248 – ISED Canada Registration No: 27266.

4. HUMAN EXPOSURE LIMITS

Appendix B Exemptions for single RF sources considerations.

B.2 Blanket 1 mW Blanket Exemption
The 1 mW Blanket Exemption of § 1.1307(b)(3)(i)(A) applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power of no more than 1 mW, regardless of separation distance.

The 1 mW blanket exemption applies at separation distances less than 0.5 cm, including where there is no separation. This exemption shall not be used in conjunction with other exemption criteria other than those for multiple RF sources in paragraph § 1.1307(b)(3)(ii)(A).

The 1 mW exemption is independent of service type and covers the full range of 100 kHz to 100 GHz, but it shall not be used in conjunction with other exemption criteria or in devices with higher-power transmitters operating in the same time-averaging period. Exposure from such higher-power transmitters would invalidate the underlying assumption that exposure from the lower-power transmitter is the only contributor to SAR in the relevant volume of tissue.

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5. RESULTS:

Based on the assessment of the documentation provided the TRI153-28 RFID Reader is exempt from SAR evaluation

Transmitter	Power Max (dbm)	Power Max (mW)	Frequency (MHz)	Blanket Exemption Limit (mW)	Exempt SAR
TRI153-28 RFID Reader	-43.63	0.00004	13.56	1	Yes

6. CONCLUSION:

Based on an assessment of the documentation provided on the TRI153-28 RFID Reader is exempt from SAR evaluation in accordance with FCC KDB 447498 D04 Interim General RF Exposure Guidance v01, Appendix B Exemptions for single RF sources, Section B.2 Blanket 1mW Blanket Exemption.