

# Product Environmental Profile

## Trio QR450

Licensed VHF | UHF ( QR150 | QR450 – Half Duplex )





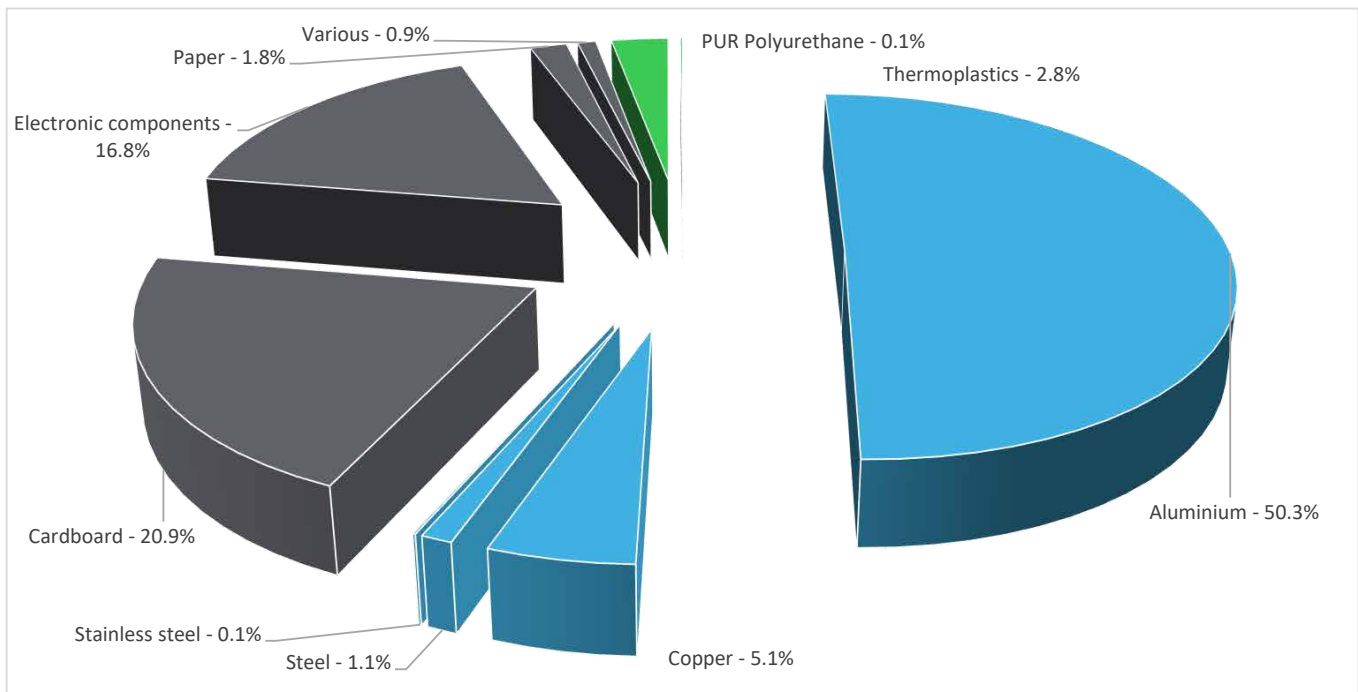
## General information

<b>Representative product</b>	Trio QR450 - TBURQR4LH-E00E1L00
<b>Description of the product</b>	Trio™ Q Data Radios are advanced, high-speed licensed digital data radios, providing both Ethernet and serial communications for complex and demanding applications in Point-to-Point and Point-to-Multipoint (Multiple Address Radio) Telemetry and remote SCADA systems.
<b>Description of the range</b>	Trio QR radios  The environmental impacts of this referenced product are representative of the impacts of the other products of the range which are developed with a similar technology.
<b>Functional unit</b>	To transport data using licensed UHF spectrum (400 - 450 MHz) for a distance up to 50 km and a duration of 10 years in accordance with relevant standers for harsh and hazardous environments. Using software-configurable channel operation for 12.5 & 25KHz and a data rate of up to 32kbps & 56kbps respectively.



## Constituent materials

**Reference product mass** 814.8 g including the product, its packaging and additional elements and accessories



Plastics	2.9%
Metals	56.6%
Others	40.4%



## Substance assessment

Products of this range are designed in conformity with the requirements of the RoHS directive (European Directive 2011/65/EU of 8 June 2011) and do not contain, or only contain in the authorised proportions, lead, mercury, cadmium, hexavalent chromium or flame retardants (polybrominated biphenyls - PBB, polybrominated diphenyl ethers - PBDE) as mentioned in the Directive

As the products of the range are designed in accordance with the RoHS Directive (European Directive 2002/95/EC of 27 January 2003), they can be incorporated without any restriction in an assembly or an installation subject to this Directive.

Details of ROHS and REACH substances information are available on the Schneider-Electric Green Premium website

<http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page>



## Additional environmental information

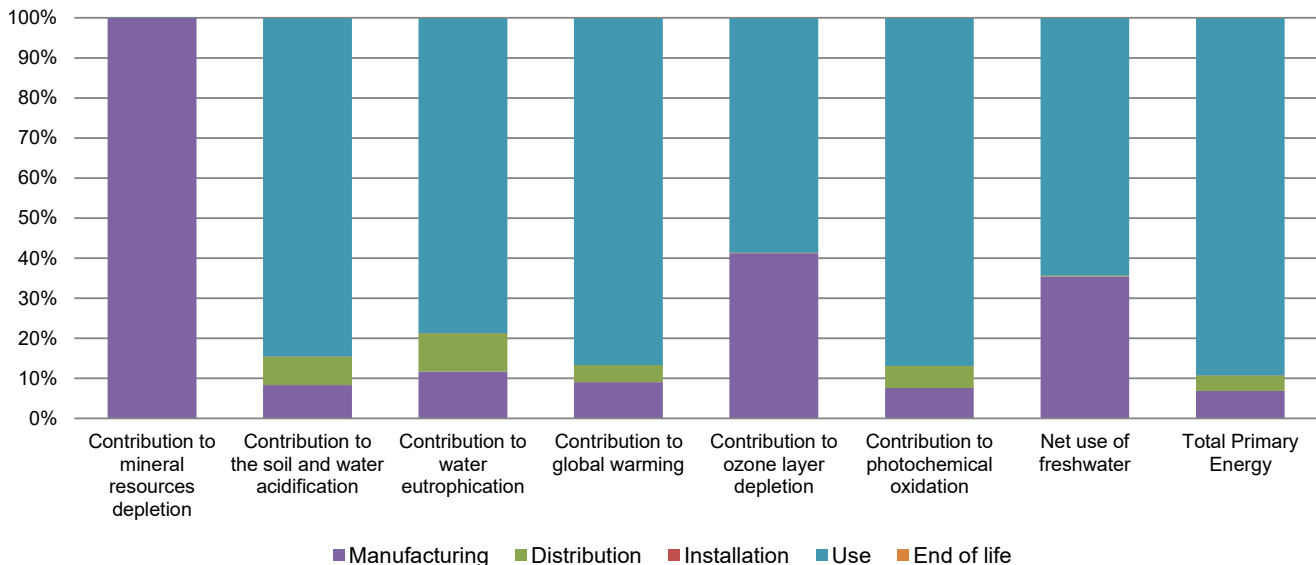
The Trio QR450 presents the following relevant environmental aspects

<b>Manufacturing</b>	Manufactured at a Schneider Electric production site ISO14001 certified
<b>Distribution</b>	Weight and volume of the packaging optimized, based on the European Union's packaging directive Packaging weight is 198.6 g, consisting of 89% Cardboard, 8% Paper and 3% Plastic (PET) Product distribution optimised by setting up local distribution centres
<b>Installation</b>	The product does not require any special installation materials or operations. Installation is to be performed by qualified personnel.
<b>Use</b>	The product does not require special maintenance operations.
<b>End of life</b>	End of life optimized to decrease the amount of waste and allow recovery of the product components and materials  This product contains PCBA ( 182 g) that should be separated from the stream of waste so as to optimize end-of-life treatment.  The location of these components and other recommendations are given in the End of Life Instruction document which is available on the Schneider-Electric Green Premium website  <a href="http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page">http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page</a>  Recyclability potential: <b>68%</b> Based on "ECO'DEEE recyclability and recoverability calculation method" (version V1, 20 Sep. 2008 presented to the French Agency for Environment and Energy Management: ADEME).

# Environmental impacts

Reference life time	10 years			
Product category	Other equipments - Active product			
Installation elements	No special components needed			
Use scenario	The estimated use scenario is an active mode of 3.4% of the time with an average power use of 24W, and a stand-by mode of 96.6% with a 5W power use.			
Geographical representativeness	The product can be used in all regions, but the majority of products are deployed in Australia (60%), South Africa (15%) and Brazil (7%)			
Technological representativeness	Trio™ Q Data Radios are advanced, high-speed licensed digital data radios, providing both Ethernet and serial communications for complex and demanding applications in Point-to-Point and Point-to-Multipoint (Multiple Address Radio) Telemetry and remote SCADA systems.			
Energy model used	Manufacturing	Installation	Use	End of life
	China	Australia	Australia	Australia

Compulsory indicators		Trio QR450 - TBURQR4LH-E00E1L00					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	1.36E-02	1.36E-02	0*	0*	4.70E-06	0*
Contribution to the soil and water acidification	kg SO <sub>2</sub> eq	9.63E-01	7.99E-02	6.88E-02	0*	8.14E-01	2.64E-04
Contribution to water eutrophication	kg PO <sub>4</sub> <sup>3-</sup> eq	1.61E-01	1.89E-02	1.53E-02	0*	1.27E-01	1.04E-04
Contribution to global warming	kg CO <sub>2</sub> eq	5.38E+02	4.87E+01	2.29E+01	0*	4.66E+02	2.83E-01
Contribution to ozone layer depletion	kg CFC11 eq	3.19E-05	1.31E-05	3.52E-08	0*	1.87E-05	1.21E-08
Contribution to photochemical oxidation	kg C <sub>2</sub> H <sub>4</sub> eq	8.69E-02	6.58E-03	4.79E-03	0*	7.55E-02	2.41E-05
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	8.85E-01	3.13E-01	2.14E-03	0*	5.69E-01	1.68E-04
Total Primary Energy	MJ	8.26E+03	5.63E+02	3.24E+02	0*	7.38E+03	1.21E+00



Optional indicators		Trio QR450 - TBURQR4LH-E00E1L00					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	7.10E+03	4.77E+02	3.22E+02	0*	6.30E+03	9.86E-01
Contribution to air pollution	m <sup>3</sup>	4.66E+04	3.82E+03	4.59E+02	0*	4.24E+04	8.52E+00
Contribution to water pollution	m <sup>3</sup>	3.00E+04	4.67E+03	3.78E+03	0*	2.15E+04	1.48E+01
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	4.01E-01	4.01E-01	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	4.49E+02	1.74E+01	3.64E-01	0*	4.31E+02	0*
Total use of non-renewable primary energy resources	MJ	7.82E+03	5.46E+02	3.24E+02	0*	6.94E+03	1.21E+00
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	4.49E+02	1.67E+01	3.64E-01	0*	4.31E+02	0*
Use of renewable primary energy resources used as raw material	MJ	7.85E-01	7.85E-01	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	7.81E+03	5.43E+02	3.24E+02	0*	6.94E+03	1.21E+00
Use of non renewable primary energy resources used as raw material	MJ	2.43E+00	2.43E+00	0*	0*	0*	0*
Use of non renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*
Use of renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*
Waste categories	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Hazardous waste disposed	kg	4.09E+01	2.73E+01	0*	0*	1.26E+01	1.04E+00
Non hazardous waste disposed	kg	3.11E+02	1.74E+01	6.87E-01	0*	2.93E+02	0*
Radioactive waste disposed	kg	1.81E-01	1.17E-02	4.39E-04	0*	1.68E-01	0*
Other environmental information	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	7.03E-01	6.94E-02	0*	1.91E-01	0*	4.43E-01
Components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	6.75E-02	0*	0*	0*	0*	6.75E-02
Exported Energy	MJ	6.08E-04	5.71E-05	0*	5.51E-04	0*	0*

\* represents less than 0.01% of the total life cycle of the reference flow

Life cycle assessment performed with EIME version EIME v5.8.1, database version 2016-11 in compliance with ISO14044.

The use phase is the life cycle phase which has the greatest impact on the majority of environmental indicators (based on compulsory indicators).

According to this environmental analysis, proportionality rules may be used to evaluate the impacts of other products of this range.

Depending on the impact analysis, the environmental indicators of other products in this family may be proportionally extrapolated by the energy consumption values and the mass of the enclosure.

Please note that the values given above are only valid within the context specified and cannot be used directly to draw up the environmental assessment of an installation.

<i>Registration number</i>	ENVPEP1810009_V1-EN	<i>Drafting rules</i>	PCR-ed3-EN-2015 04 02
<i>Date of issue</i>	02/2019		
<i>Validity period</i>	5 years	<i>Information and reference documents</i>	<a href="http://www.pep-ecopassport.org">www.pep-ecopassport.org</a>
<i>Independent verification of the declaration and data</i>			
Internal	X	External	
<i>The elements of the present PEP cannot be compared with elements from another program.</i>			
<i>Document in compliance with ISO 14021:2016 « Environmental labels and declarations - Self-declared environmental claims (Type II environmental labelling) »</i>			

Schneider Electric Industries SAS

Country Customer Care Center  
<http://www.schneider-electric.com/contact>

35, rue Joseph Monier  
CS 30323  
F- 92506 Rueil Malmaison Cedex  
RCS Nanterre 954 503 439  
Capital social 896 313 776 €

[www.schneider-electric.com](http://www.schneider-electric.com)

ENVPEP1810009EN\_V1

Published by Schneider Electric

© 2019 - Schneider Electric – All rights reserved

02/2019