

# Additional services

## Introduction

Trenz Electronic GmbH offers additional services other than the store products and custom hardware adaptations. These services include programming with customer firmware/FPGA designs and pre-assembly services. Depending on the scope, fixed rates or specific pricing models are used. Trenz Electronic does not assume any liability resulting from incorrect customer specifications/designs.

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- Minimum order quantity: usually 100 pieces, otherwise a price surcharge must be added**
- Indicated prices are ballpark prices, price adjustments possible depending on volume and other variables**
- Costs for verification sample: Hardware price + 100 Euro.
  - Each service must be tested and approved by the customer by means of initial samples.
  - Each adaption of the design after confirmation of initial samples will make another loop of verification samples necessary.
  - Risks arising from explicit instructions from the customer are borne by the customer (e.g. reduction of test steps to optimize costs).
  - Depending on the category, additional information must be provided, see questionnaire.

## General conditions and notes

## Custom firmware/FPGA design programming

Category	Description	Price per piece (guide prices)	Note
A	Recording (Flash/SD /eMMC) with customer design	<ul style="list-style-type: none"><li>• depending on duration 0.8 EUR /min</li></ul>	<ul style="list-style-type: none"><li>• without verification on standard test system</li></ul>
A1	Recording (Flash/SD /eMMC) with customer design with verification	<ul style="list-style-type: none"><li>• depending on duration 0.8 EUR /min</li></ul>	<ul style="list-style-type: none"><li>• start with verification of programming tools without design test</li></ul>
B	Extended test with start of customer design	<ul style="list-style-type: none"><li>• Price after inspection</li><li>• Surcharge for first sample</li></ul>	<ul style="list-style-type: none"><li>• Clarification of compatibility needed</li><li>• Extended test instructions necessary<ul style="list-style-type: none"><li>◦ Content must be coordinated with Trenz developer</li><li>◦ Final instructions must be confirmed by the customer</li></ul></li><li>• NRE costs for setup depending on effort</li></ul>

C	Full Custom Test Environment	<ul style="list-style-type: none"> <li>• Price after inspection</li> <li>• Surcharge for first sample</li> <li>• possible storage costs</li> </ul>	<ul style="list-style-type: none"> <li>• Complete test, instruction and equipment provided by customers</li> <li>• NRE costs for setup depending on effort</li> </ul>
D	Custom CPLD Firmware	<ul style="list-style-type: none"> <li>• 3 EUR</li> </ul>	<ul style="list-style-type: none"> <li>• Clarification of compatibility needed</li> </ul>
D1	PMIC or other controller / Custom PLL(with NVM)	<ul style="list-style-type: none"> <li>• Price after inspection <ul style="list-style-type: none"> <li>◦ min. 3 EUR</li> <li>◦ depending on duration additionally 0.8 EUR/min</li> </ul> </li> <li>• Surcharge for first sample</li> </ul>	<ul style="list-style-type: none"> <li>• NRE costs for setup depending on effort</li> <li>• Extended test instructions necessary <ul style="list-style-type: none"> <li>◦ Content must be coordinated with Trenz developer</li> <li>◦ Final instructions must be accepted by the customer</li> </ul> </li> </ul>
E	EFuse Programming / Encrypting Key	<ul style="list-style-type: none"> <li>• Price after inspection <ul style="list-style-type: none"> <li>◦ min. 3 EUR</li> <li>◦ depending on duration additionally 0.8 EUR/min</li> </ul> </li> <li>• Surcharge for first sample</li> </ul>	<ul style="list-style-type: none"> <li>• NRE costs for setup depending on effort</li> <li>• Programming always without warranty</li> <li>• Customer provides script and instructions for programming, which are integrated into a given Trenz script environment. <ul style="list-style-type: none"> <li>◦ Content can /must be coordinated with Trenz developer</li> </ul> </li> <li>• Design is not started, verification only by programming tools</li> <li>• Contract template available, must be approved</li> <li>• Data storage requirements</li> </ul>

E1	EFuse programming / encrypting key and advanced testing with start of customer design	<ul style="list-style-type: none"> <li>Price after inspection <ul style="list-style-type: none"> <li>min. 3 EUR</li> <li>depending on duration additionally 0.8 EUR/min</li> </ul> </li> <li>Surcharge for first sample</li> </ul>	<ul style="list-style-type: none"> <li>NRE costs for setup depending on effort</li> <li>Programming always without warranty</li> <li>Customer provides script and instructions for programming, which are integrated into a given Trenz script environment. <ul style="list-style-type: none"> <li>Content can /must be coordinated with Trenz developer</li> </ul> </li> <li>start design</li> <li>Contract template available, must be approved</li> <li>Data storage requirements</li> </ul>
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\*Category color:

- Green: Standard service
- Yellow: Extended standard service
- Red: Special services that are checked separately and only offered under certain conditions

## Mounting adjustments

Category	Description	Price per piece (guide prices)	Note
F	Custom assembly	<ul style="list-style-type: none"> <li>Price after inspection</li> <li>Surcharge for first sample</li> <li>possible storage costs</li> </ul>	<ul style="list-style-type: none"> <li>NRE costs for setup depending on effort</li> <li>without additional checks</li> </ul>
F1	Custom assembly with verification	<ul style="list-style-type: none"> <li>Price after inspection</li> <li>Surcharge for first sample</li> <li>possible storage costs</li> </ul>	<ul style="list-style-type: none"> <li>NRE costs for setup depending on effort</li> <li>Advanced checks like photos</li> </ul>

\*Category color:

- Green: Standard service
- Yellow: Extended standard service
- Red: Special services that are checked separately and only offered under certain conditions

## Questionnaire

Required for category	Question/required data	Description
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all (A*,B,C,D*,E*)	What are the MD5 checksum for all submitted files?	<ul style="list-style-type: none"> <li>for each file a MD5 checksum must be created, this can be created e.g. with Powershell "Get-FileHash" command</li> <li>The checksum serves to identify the programming files</li> </ul>
A1,B,C,D1,E1	Which tests should be performed?	<ul style="list-style-type: none"> <li>List/screenshots with the additional checks</li> <li>Verification of integration into the test system by Trenz developers required</li> </ul>
B,C,D*,E1	Which tool version is used?	<ul style="list-style-type: none"> <li>Information about the program and program version</li> </ul>
A1,A2,B	What compatibility of B2B IOs?	<ul style="list-style-type: none"> <li>Clarification of IO compatibility with Trenz Electronic test hardware</li> <li>Verification of integration into the test system by Trenz developers necessary</li> </ul>
C	Transmission of a complete test description and test equipment	<ul style="list-style-type: none"> <li>Detailed test description and test equipment with serial number for all individual parts</li> </ul>
C	How many cycles may the test equipment be used?	<ul style="list-style-type: none"> <li>Information on the wear of the test equipment and replacement</li> </ul>
C	Is replacement equipment also provided?	<ul style="list-style-type: none"> <li>Is replacement equipment provided or subsequent delivery in the event of HW failure (wear)?</li> </ul>
F/F1	Mounting instructions available?	<ul style="list-style-type: none"> <li>Assembly instructions are provided by the customer or can be provided by Trenz Electronic</li> </ul>
F/F1	Loctite?	<ul style="list-style-type: none"> <li>Additional security</li> </ul>

F/F1	Are there customer supplied articles?	<ul style="list-style-type: none"> <li>Ordering/delivery of materials from the customer or by Trenz Electronic</li> </ul>
F/F1	Are packaging regulations to be observed?	<ul style="list-style-type: none"> <li>Instructions and regulations for packing the product</li> </ul>

## More service offers

For additional service offers, the shipping costs are borne by the customer. 50 Euro initial cost for first basic inspection and first error analysis regardless of whether it can be repaired or not.

Category	Description	Price per piece (guide prices)	Note
	Repair of defective boards	<ul style="list-style-type: none"> <li>Price after inspection</li> </ul>	<ul style="list-style-type: none"> <li>A repair attempt will not be made for economic reasons if <ul style="list-style-type: none"> <li>the main SoC /FPGA is defective</li> <li>the PCB has mechanical damage</li> <li>if after the inspection the chance of repair is certified to be too low</li> </ul> </li> <li>Initial inspection and shipping costs for modules that are out of warranty</li> </ul>
	Reprogramming FTDI or CPLDs	<ul style="list-style-type: none"> <li>10 Euro License costs for FTDI (Xilinx version)</li> <li>20 Euro Processing fee</li> </ul>	<ul style="list-style-type: none"> <li>No incoming and outgoing inspection is carried out with this service, therefore no guarantee is given</li> </ul>

## Disclaimer

## Data Privacy

Please also note our data protection declaration at <https://www.trenz-electronic.de/en/Data-protection-Privacy>

## Document Warranty

The material contained in this document is provided "as is" and is subject to being changed at any time without notice. Trenz Electronic does not warrant the accuracy and completeness of the materials in this document. Further, to the maximum extent permitted by applicable law, Trenz Electronic disclaims all warranties, either express or implied, with regard to this document and any information contained herein, including but not limited to the implied warranties of merchantability, fitness for a particular purpose or non infringement of intellectual property. Trenz Electronic shall not be liable for errors or for incidental or consequential damages in connection with the furnishing, use, or performance of this document or of any information contained herein.

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## Technology Licenses

The hardware / firmware / software described in this document are furnished under a license and may be used /modified / copied only in accordance with the terms of such license.

## Environmental Protection

To confront directly with the responsibility toward the environment, the global community and eventually also oneself. Such a resolution should be integral part not only of everybody's life. Also enterprises shall be conscious of their social responsibility and contribute to the preservation of our common living space. That is why Trenz Electronic invests in the protection of our Environment.

## REACH, RoHS and WEEE

### REACH

Trenz Electronic is a manufacturer and a distributor of electronic products. It is therefore a so called downstream user in the sense of [REACH](#). The products we supply to you are solely non-chemical products (goods). Moreover and under normal and reasonably foreseeable circumstances of application, the goods supplied to you shall not release any substance. For that, Trenz Electronic is obliged to neither register nor to provide safety data sheet. According to present knowledge and to best of our knowledge, no [SVHC \(Substances of Very High Concern\) on the Candidate List](#) are contained in our products. Furthermore, we will immediately and unsolicited inform our customers in compliance with REACH - Article 33 if any substance present in our goods (above a concentration of 0,1 % weight by weight) will be classified as SVHC by the [European Chemicals Agency \(ECHA\)](#).

### RoHS

Trenz Electronic GmbH herewith declares that all its products are developed, manufactured and distributed RoHS compliant.

### WEEE

Information for users within the European Union in accordance with Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment (WEEE).

Users of electrical and electronic equipment in private households are required not to dispose of waste electrical and electronic equipment as unsorted municipal waste and to collect such waste electrical and electronic equipment separately. By the 13 August 2005, Member States shall have ensured that systems are set up allowing final holders and distributors to return waste electrical and electronic equipment at least free of charge. Member States shall ensure the availability and accessibility of the necessary collection facilities. Separate collection is the precondition to ensure specific treatment and recycling of waste electrical and electronic equipment and is necessary to achieve the chosen level of protection of human health and the environment in the European Union. Consumers have to actively contribute to the success of such collection and the return of waste electrical and electronic equipment. Presence of hazardous substances in electrical and electronic equipment results in potential effects on the environment and human health. The symbol consisting of the crossed-out wheeled bin indicates separate collection for waste electrical and electronic equipment.

Trenz Electronic is registered under WEEE-Reg.-Nr. DE97922676.

#### **Error rendering macro 'page-info'**

Ambiguous method overloading for method jdk.

proxy279.\$Proxy4022#hasContentLevelPermission. Cannot resolve which method to invoke for [null, class java.lang.String, class com.atlassian.confluence.pages.Page] due to overlapping prototypes between: [interface com.atlassian.confluence.user.ConfluenceUser, class java.lang.String, class com.atlassian.confluence.core.ContentEntityObject] [interface com.atlassian.user.User, class java.lang.String, class com.atlassian.confluence.core.ContentEntityObject]