

|          |               |       |    |              |
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|            |   |                           |                     |                    |
|------------|---|---------------------------|---------------------|--------------------|
| Product :  | FETK-S1.1A  |                           |                     |                    |
| Title :    | Release Notes   |                           |                     |                    |
| File :     | FETK-S1.1A_Release-Notes_V18.docx   |                           |                     |                    |
| TTNR :     | F-00K-110-101   |                           |                     |                    |
| Comments : | <p>Currently shipped: <b>1011226A010/01</b></p> <p>FPGA-Boot version: V1.0.11<br/> FPGA-A version: V1.22.6<br/> Hardware-state: A010/01</p> |                           |                     |                    |
| Created:   | Name<br>R. Mai  | Department<br>DAP/XPC-Fe3 | Signature<br>R. Mai | Date<br>2024-08-21 |
| Released:  | Name<br>A. Sprenger   | Department<br>DAP/XPC-Fe3 | Signature<br>R. Mai | Date<br>2024-08-21 |

## Changes

| Revision | Description   | Date       | Name     | Signature |
|----------|---|------------|----------|-----------|
| 01       | 10111312A010/01 - for FETK-S1.1A - Initial version  | 2018-02-20 | Sprenger | Sprenger  |
| 02       | 10111433A010/01 - New or Enhanced Functions <a href="#">[3.1]</a> and Firmware Modification <a href="#">[5.3]</a> | 2018-06-07 | Mai      | Mai       |
| 03       | 10111434A010/01 –Bug fix [chapter <a href="#">3.1</a> and <a href="#">5.3</a> ]                                   | 2018-07-17 | Mai      | Mai       |
| 04       | 10111530A010/01 - New or Enhanced Functions <a href="#">[3.1]</a> and Firmware Modification <a href="#">[5.3]</a> | 2018-09-11 | Mai      | Mai       |
| 05       | 10111626A010/01 - New or Enhanced Functions <a href="#">[3.1]</a> and Firmware Modification <a href="#">[5.3]</a> | 2018-11-29 | Mai      | Mai       |
| 06       | 1011175A010/01 - New or Enhanced Functions <a href="#">[3.1]</a> and Firmware Modification <a href="#">[5.3]</a>  | 2019-03-05 | Mai      | Mai       |
| 07       | 1011175A010/01 - New or Enhanced Functions <a href="#">[3.1]</a>  | 2019-05-29 | Mai      | Mai       |
| 08       | 1011175A010/01 - New or Enhanced Functions <a href="#">[3.1]</a>  | 2019-09-05 | Mai      | Mai       |
| 09       | 10111137A010/01 - New or Enhanced Functions <a href="#">[3.1]</a> and Firmware Modification <a href="#">[5.3]</a> | 2020-06-10 | Mai      | Mai       |
| 10       | 10111145A010/01 - New or Enhanced Functions <a href="#">[3.1]</a> and Firmware Modification <a href="#">[5.3]</a> | 2020-09-17 | Mai      | Mai       |

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|    |  |            |     |     |
|----|--|------------|-----|-----|
| 11 | 101111617A010/01 - New or Enhanced Functions <a href="#">[3.1]</a> and Firmware Modification <a href="#">[5.3]</a> | 2021-03-10 | Mai | Mai |
| 12 | 101111745A010/01 - New or Enhanced Functions <a href="#">[3.1]</a> and Firmware Modification <a href="#">[5.3]</a> | 2021-09-17 | Mai | Mai |
| 13 | 101111917A010/01 - New or Enhanced Functions <a href="#">[3.1]</a> and Firmware Modification <a href="#">[5.3]</a> | 2022-02-25 | Mai | Mai |
| 14 | 101112012A010/01 - New or Enhanced Functions <a href="#">[3.1]</a> and Firmware Modification <a href="#">[5.3]</a> | 2022-05-25 | Mai | Mai |
| 15 | 101112110A010/01 - New or Enhanced Functions <a href="#">[3.1]</a> and Firmware Modification <a href="#">[5.3]</a> | 2022-09-16 | Mai | Mai |
| 16 | 10111226A010/01 - New or Enhanced Functions <a href="#">[3.1]</a> and Firmware Modification <a href="#">[5.3]</a>  | 2022-11-18 | Mai | Mai |
| 17 | 10111226A010/01 - New or Enhanced Functions <a href="#">[3.1]</a> and Firmware Modification <a href="#">[5.3]</a>  | 2023-03-16 | Mai | Mai |
| 18 | 10111226A010/01 - New or Enhanced Functions <a href="#">[3.1]</a>  | 2024-08-21 | Mai | Mai |

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## 1 General Information

### 1.1 Safety Notice

Calibration activities influence the behavior of the ECU and the systems controlled by the ECU. This may result in unexpected behavior of the vehicle and thus can lead to safety critical situations. Only well trained personnel should be allowed to perform calibration activities.

### 1.2 System Requirements

To access the ECU the FETK-S1.1A has to be connected via ES89x modules.

The system can be used for high speed Measurement, Calibration and ECU flash programming with INCA. Support of ASCET / INTECRIO Rapid Prototyping applications e.g. functional prototyping – bypass depends on the functionality of connected modules. For supported tool versions refer to chapter 2.4. The FETK-S1.1A and ES89x system use the standardized protocol "XCP on Ethernet" for PC communication. Thus 3<sup>rd</sup> party tools can be connected to the ECU as well.

## 2 Version Syntax and Tool-Chain Information

### 2.1 Version-Syntax of the FETK-S1.1A

The **FETK-S1.1A hardware version** information is located on the product sticker and can be read out of the FETK using the firmware update tool HSP or XETK Configuration Tool.

Overall Hardware Version Syntax: **aaabbbccddd/ee**

Description of PLD-Code Information (modification details refer chapter 3)

**aaa** FPGA-Boot-Code version (1.0.0, 1.0.1, 1.0.2, ...)  
**bbb** FPGA-Code version (1.0.0, 1.0.1, 1.0.2, ...)

The hardware version of the PCB is also located on the label attached to the PCBs. These version is subordinate to the Overall hardware state cannot be read out by software.

PCB Hardware State Syntax: **deee/ff**

Description of Hardware-Information (modification details refer chapter 4)

**c** PCB Version (A=V1.0, B=V1.1, C=V1.2, ...)  
**ddd** PCB Hardware State (010, 011, 012, ...)  
**ee** PCB Population Variant (00, 01, 02, ...)

The first delivered hardware state of the FETK-S1.1A is the following:

FETK-S1.1A: **10111312A010/01**

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## 2.2 Version information of the tool chain components

To get this FETK running with the other components of the tool chain please make sure that the version mentioned below or a newer one is used. If your software, firmware or hardware version is older, please update it using HSP tool.

If you have any problems to get this FETK running please contact our local customer support or sales representative.

Updates or refreshes can be downloaded from the ETAS homepage:

<http://de.etasgroup.com>

<http://en.etasgroup.com>

## 2.3 Hardware support

The FETK-S1.1A is supported by ES891.

## 2.4 Software and microcontroller support

| Microcontroller               | HSP     | INCA   | ETK Tools | ASCET-RP | INTECRIO |
|-------------------------------|---------|--------|-----------|----------|----------|
| TC26x-ED                      | V11.8.0 | V7.2.8 | V4.1.9    | V6.4.3   | V4.6.2   |
| TC26x-PD                      |         |        |           |          |          |
| TC27x-ED C-Step <sup>1)</sup> |         |        |           |          |          |
| TC27X-PD                      |         |        |           |          |          |
| TC29x-ED                      |         |        |           |          |          |
| TC29x-PD                      |         |        |           |          |          |

<sup>1)</sup> and higher versions (microcontroller steps) if they support the C-step specifications

### 3 What's New - Release Notes

This chapter lists the main improvements compared to a previous shipped FETK product. Additionally, a detailed list of already known issues can be found here.

#### 3.1 New or Enhanced Functions

##### 3.1.1 In INCA 7.5.2 and HSP 14.2.0

| Issue Identifier | Description  |
|------------------|--|
| ETKF-2898        | Multiple distab 17 events config and output areas  |
| TFS 761633       | TI_I751 [INCA/FETK S1B] - Measurement breaks after disconnecting and reconnection of ECU VCC |

##### 3.1.2 In INCA 7.4.4 and HSP 13.4.0

| Issue Identifier | Description                                  |
|------------------|--|
| ETKF-2128        | Limitation and control of the XCP event rate |
| ETKF-2269        | Optimize TEA-DEV interrupt source detection  |

##### 3.1.3 In INCA 7.4.3 and HSP 13.3.0

| Issue Identifier         | Description   |
|--------------------------|---|
| TFS 687725               | Two HW reinits need for XCP measurement                           |
| ETKF-2141,<br>ETKSW-3119 | Add counter for how many resets watchdog disable should be active |
| ETKF-1901                | Additional monitor variables for counting ECU resets              |

##### 3.1.4 In INCA 7.4.2 and HSP 13.2.0

| Issue Identifier | Description   |
|------------------|---|
| TFS 687725       | Two HW reinits need for XCP measurement             |
| TFS 683889       | INCA freezes on motor test bench sporadically       |
| ETKPRG-1364      | Execution of arbitrary ECU access sequences (Stabi) |

##### 3.1.5 In INCA 7.4.1 and HSP 13.1.0

| Issue Identifier | Description   |
|------------------|---|
| ETKPRG-1230      | XCP use-case support: improve DISTAB17 memory distribution  |
| TFS 681600       | XCP Debugging with FETK-S1.1A/B and 3-Pin DAP does not work |

##### 3.1.6 In INCA 7.4.0 and HSP 13.0.0

| Issue Identifier | Description                                |
|------------------|--|
| ETKF-1304        | Drop support for TC27x A-step from sic_dap |

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|           |   |
|-----------|---|
| ETKF-1794 | TEA-MGR: Reject conflicting CONF_EVENT/CONF_RASTER commands                                       |
| ETKF-1792 | Resource optimization: Investigate possible resource usage savings regarding internal debug logic |
| ETKF-1576 | TEA-MGR: Support new XCP command XETK_CONF_WAIT_STATE   |

### 3.1.7 In HSP 12.6.0

| Issue Identifier | Description                                     |
|------------------|---|
| ETKF-1588        | Implementation to measure bypass roundtrip time |

### 3.1.8 In INCA 7.3.4 and HSP 12.4.0

| Issue Identifier | Description   |
|------------------|---|
| ETKF-1264        | MAXWAIT - implement chosen solution                             |
| ETKF-1289        | Disallow illegal DAP settings in hwcfg.lua (160MHz + 2-Pin-DAP) |
| ETKF-1144        | Implement XCP Command Get_Version                               |
| ETKF-872         | Extend XCP "START_STOP_SYNC                                     |

### 3.1.9 In INCA 7.3.2 and HSP 12.2.0

| Issue Identifier     | Description  |
|----------------------|--|
| ETKF-1027            | Implement Concurrent XCP debugging and flashing                                    |
| ETKF-1205;<br>623845 | TEA-MGR Implementation of Handling host port disconnection in stacked ES8xx system |
| ETKF-1016            | FETK-S1.1 - Improve startup behavior of DAP  |

### 3.1.10 In INCA 7.3.1 and HSP 12.1.0

| Issue Identifier | Description                                       |
|------------------|---|
| 618562           | FETK-S1: trig_ecu_stby_rst unconnected            |
| 627542           | Change to DAP initialization telegrams            |
| ETKF-1104        | Prevent issues when switching between DAP modes   |
| ETKF-1022        | Added monitor variables for EDE ingress profiling |
| ETKF-1064        | Increased data size of Trace-FIFO to 4 KByte      |

### 3.1.11 In INCA 7.2.14 and HSP 11.14.0

| Issue Identifier | Description                       |
|------------------|-----------------------------------|
| ETKPRG-387       | Support of standard XCP debugging |

|          |               |       |    |              |
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### 3.1.12 In INCA 7.2.13 and HSP 11.13.0

| Issue Identifier | Description                     |
|------------------|---------------------------------|
| n/a              | Support of XCP Time Correlation |

### 3.1.13 In INCA 7.2.12 and HSP 11.12.0

| Issue Identifier | Description   |
|------------------|---|
| n/a              | HDC preparation for performance improvements on DAP interface |
| 604175           | High jitter of DAQ packets                                    |

### 3.1.14 In INCA 7.2.11 and HSP 11.11.0

| Issue Identifier | Description  |
|------------------|--|
| n/a              | Support of FETK Alias name   |
| n/a              | Improve round trip time for FETK in combination with ES830 (Rapid prototyping) |
| 603463           | FETK sporadically generates wrong measurement values for trace raster          |
| 604549           | ECU traps in case of non trace measurement and trace configuration in A2L      |

### 3.1.15 In INCA 7.2.10 and HSP 11.10.0

| Issue Identifier | Description  |
|------------------|--|
| 583933           | correction of wake up and keep alive behaviour between FETK and E891 |
| n/a              | Initial support of "Trace to RAM"                                    |

### 3.1.16 In INCA 7.2.9 and HSP 11.9.1

| Issue Identifier | Description  |
|------------------|--|
| 595943           | FETK-S1.1 + HSP11.9.0 is incompatible with ES891 + HSP11.8.0 |

### 3.1.17 In INCA 7.2.9 and HSP 11.9.0

| Issue Identifier | Description   |
|------------------|---|
| 589837           | FETK-S1 does not initialize DAP interface after LBIST |
| 585919           | 3 pin DAP setting is inconsistent for FETK-S1.1A      |

### 3.1.18 In INCA 7.2.8 and HSP 11.8.0

| Issue Identifier | Description                            |
|------------------|--|
| n/a              | Initial version, support of FETK-S1.1A |



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### 3.2 Known issues

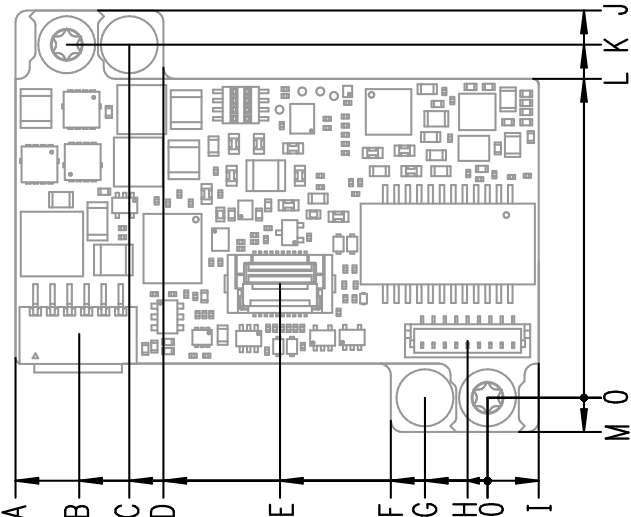
None.

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## 4 Product Variants

In general the FETK-S1.1A can be purchased in one variant.

### 4.1 FETK-S1.1A

| Item number                     | F-00K-110-101  |   |             |        |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |   |                                      |   |   |                                      |   |   |                                     |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |
|---------------------------------|--|---|-------------|--------|---|---------------------------------------|---|---|---------------------------------------|---|---|---------------------------------------|---|---|---------------------------------------|---|---|---------------------------------------|---|---|--------------------------------------|---|---|--------------------------------------|---|---|--------------------------------------|---|---|-------------------------------------|---|---|---------------------------------------|---|---|---------------------------------------|---|---|---------------------------------------|---|---|--------------------------------------|---|
| Description                     | FETK-S1.1A Emulator Probe for the Infineon AURIX TC2xxx microprocessor family  |   |             |        |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |   |                                      |   |   |                                      |   |   |                                     |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |
| For details refer the datasheet |  <table border="1" data-bbox="582 1288 965 1915"> <thead> <tr> <th>DIM</th> <th>MILLIMETERS</th> <th>INCHES</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>41.50<sup>+0.2</sup><sub>-0.2</sub></td> <td>1.634<sup>+0.008</sup><sub>-0.008</sub></td> </tr> <tr> <td>B</td> <td>35.90<sup>+0.3</sup><sub>-0.3</sub></td> <td>1.413<sup>+0.012</sup><sub>-0.012</sub></td> </tr> <tr> <td>C</td> <td>31.50<sup>+0.1</sup><sub>-0.1</sub></td> <td>1.240<sup>+0.004</sup><sub>-0.004</sub></td> </tr> <tr> <td>D</td> <td>28.50<sup>+0.2</sup><sub>-0.2</sub></td> <td>1.122<sup>+0.008</sup><sub>-0.008</sub></td> </tr> <tr> <td>E</td> <td>18.25<sup>+0.3</sup><sub>-0.3</sub></td> <td>0.719<sup>+0.012</sup><sub>-0.012</sub></td> </tr> <tr> <td>F</td> <td>8.50<sup>+0.2</sup><sub>-0.2</sub></td> <td>0.335<sup>+0.008</sup><sub>-0.008</sub></td> </tr> <tr> <td>G</td> <td>5.50<sup>+0.1</sup><sub>-0.1</sub></td> <td>0.217<sup>+0.004</sup><sub>-0.004</sub></td> </tr> <tr> <td>H</td> <td>1.75<sup>+0.2</sup><sub>-0.2</sub></td> <td>0.069<sup>+0.008</sup><sub>-0.008</sub></td> </tr> <tr> <td>I</td> <td>4.5<sup>+0.2</sup><sub>-0.2</sub></td> <td>0.177<sup>+0.008</sup><sub>-0.008</sub></td> </tr> <tr> <td>J</td> <td>34.00<sup>+0.2</sup><sub>-0.2</sub></td> <td>1.339<sup>+0.008</sup><sub>-0.008</sub></td> </tr> <tr> <td>K</td> <td>31.00<sup>+0.1</sup><sub>-0.1</sub></td> <td>1.220<sup>+0.004</sup><sub>-0.004</sub></td> </tr> <tr> <td>L</td> <td>28.00<sup>+0.2</sup><sub>-0.2</sub></td> <td>1.102<sup>+0.008</sup><sub>-0.008</sub></td> </tr> <tr> <td>M</td> <td>3.00<sup>+0.2</sup><sub>-0.2</sub></td> <td>0.118<sup>+0.008</sup><sub>-0.008</sub></td> </tr> </tbody> </table> | DIM                                       | MILLIMETERS | INCHES | A | 41.50 <sup>+0.2</sup> <sub>-0.2</sub> | 1.634 <sup>+0.008</sup> <sub>-0.008</sub> | B | 35.90 <sup>+0.3</sup> <sub>-0.3</sub> | 1.413 <sup>+0.012</sup> <sub>-0.012</sub> | C | 31.50 <sup>+0.1</sup> <sub>-0.1</sub> | 1.240 <sup>+0.004</sup> <sub>-0.004</sub> | D | 28.50 <sup>+0.2</sup> <sub>-0.2</sub> | 1.122 <sup>+0.008</sup> <sub>-0.008</sub> | E | 18.25 <sup>+0.3</sup> <sub>-0.3</sub> | 0.719 <sup>+0.012</sup> <sub>-0.012</sub> | F | 8.50 <sup>+0.2</sup> <sub>-0.2</sub> | 0.335 <sup>+0.008</sup> <sub>-0.008</sub> | G | 5.50 <sup>+0.1</sup> <sub>-0.1</sub> | 0.217 <sup>+0.004</sup> <sub>-0.004</sub> | H | 1.75 <sup>+0.2</sup> <sub>-0.2</sub> | 0.069 <sup>+0.008</sup> <sub>-0.008</sub> | I | 4.5 <sup>+0.2</sup> <sub>-0.2</sub> | 0.177 <sup>+0.008</sup> <sub>-0.008</sub> | J | 34.00 <sup>+0.2</sup> <sub>-0.2</sub> | 1.339 <sup>+0.008</sup> <sub>-0.008</sub> | K | 31.00 <sup>+0.1</sup> <sub>-0.1</sub> | 1.220 <sup>+0.004</sup> <sub>-0.004</sub> | L | 28.00 <sup>+0.2</sup> <sub>-0.2</sub> | 1.102 <sup>+0.008</sup> <sub>-0.008</sub> | M | 3.00 <sup>+0.2</sup> <sub>-0.2</sub> | 0.118 <sup>+0.008</sup> <sub>-0.008</sub> |
| DIM                             | MILLIMETERS  | INCHES                                    |             |        |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |   |                                      |   |   |                                      |   |   |                                     |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |
| A                               | 41.50 <sup>+0.2</sup> <sub>-0.2</sub>  | 1.634 <sup>+0.008</sup> <sub>-0.008</sub> |             |        |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |   |                                      |   |   |                                      |   |   |                                     |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |
| B                               | 35.90 <sup>+0.3</sup> <sub>-0.3</sub>  | 1.413 <sup>+0.012</sup> <sub>-0.012</sub> |             |        |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |   |                                      |   |   |                                      |   |   |                                     |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |
| C                               | 31.50 <sup>+0.1</sup> <sub>-0.1</sub>  | 1.240 <sup>+0.004</sup> <sub>-0.004</sub> |             |        |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |   |                                      |   |   |                                      |   |   |                                     |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |
| D                               | 28.50 <sup>+0.2</sup> <sub>-0.2</sub>  | 1.122 <sup>+0.008</sup> <sub>-0.008</sub> |             |        |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |   |                                      |   |   |                                      |   |   |                                     |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |
| E                               | 18.25 <sup>+0.3</sup> <sub>-0.3</sub>  | 0.719 <sup>+0.012</sup> <sub>-0.012</sub> |             |        |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |   |                                      |   |   |                                      |   |   |                                     |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |
| F                               | 8.50 <sup>+0.2</sup> <sub>-0.2</sub>   | 0.335 <sup>+0.008</sup> <sub>-0.008</sub> |             |        |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |   |                                      |   |   |                                      |   |   |                                     |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |
| G                               | 5.50 <sup>+0.1</sup> <sub>-0.1</sub>   | 0.217 <sup>+0.004</sup> <sub>-0.004</sub> |             |        |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |   |                                      |   |   |                                      |   |   |                                     |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |
| H                               | 1.75 <sup>+0.2</sup> <sub>-0.2</sub>   | 0.069 <sup>+0.008</sup> <sub>-0.008</sub> |             |        |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |   |                                      |   |   |                                      |   |   |                                     |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |
| I                               | 4.5 <sup>+0.2</sup> <sub>-0.2</sub>  | 0.177 <sup>+0.008</sup> <sub>-0.008</sub> |             |        |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |   |                                      |   |   |                                      |   |   |                                     |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |
| J                               | 34.00 <sup>+0.2</sup> <sub>-0.2</sub>  | 1.339 <sup>+0.008</sup> <sub>-0.008</sub> |             |        |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |   |                                      |   |   |                                      |   |   |                                     |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |
| K                               | 31.00 <sup>+0.1</sup> <sub>-0.1</sub>  | 1.220 <sup>+0.004</sup> <sub>-0.004</sub> |             |        |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |   |                                      |   |   |                                      |   |   |                                     |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |
| L                               | 28.00 <sup>+0.2</sup> <sub>-0.2</sub>  | 1.102 <sup>+0.008</sup> <sub>-0.008</sub> |             |        |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |   |                                      |   |   |                                      |   |   |                                     |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |
| M                               | 3.00 <sup>+0.2</sup> <sub>-0.2</sub>   | 0.118 <sup>+0.008</sup> <sub>-0.008</sub> |             |        |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |   |                                      |   |   |                                      |   |   |                                     |   |   |                                       |   |   |                                       |   |   |                                       |   |   |                                      |   |

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## 5 Firmware Modifications

### 5.1 General remarks to this chapter

The programmable logic code within the FETK-S1.1A is stored onto programmable logic devices (FPGA). For the version syntax please refer to chapter 2.1.

#### Attention:

For updating the FETK - firmware with a later version by using HSP, all FETK firmware packages will be updated one after another. This will last a few minutes and must not be cancelled by the user. In case the firmware update had been finished unsuccessfully due to some reason, the update will have to be repeated. HSP will program the rescue packages onto the FETK. This procedure makes the firmware update fail-safe.

### 5.2 FPGA-Boot-Code

| Revision       | Description     |
|----------------|-----------------|
| Version 1.0.11 | Initial Version |

Delivery condition:

The FPGA-Boot version 1.0.11 will be programmed into all shipments

### 5.3 FPGA-Code

| Revision        | Description  |
|-----------------|--|
| Version 1.3.12  | Initial Version  |
| Version 1.4.33  | Bugfix: - 589837: FETK-S1 does not initialize DAP interface after LBIST<br>- 585919: 3 pin DAP setting is inconsistent for FETK-S1.1A  |
| Version 1.4.34  | 595943: FETK-S1.1 + HSP11.9.0 is incompatible with ES891 + HSP11.8.0   |
| Version 1.5.30  | - Initial support of "Trace to RAM"<br>- 583933: correction of wake up and keep alive behaviour between FETK and E891  |
| Version 1.6.26  | - support of FETK Alias name<br>- RP improvements for Roundtrip time with ES830<br>- Bugfix (603463)   |
| Version 1.7.5   | - Performance improvements on DAP interface<br>- Bugfix: 604175: High jitter of DAQ packets  |
| Version 1.13.7  | Bugfix - 618562: FETK-S1: trig_ecu_stby_rst unconnected<br>- 627542: Change to DAP initialization telegrams<br>- ETKF-1104: Prevent issues when switching between DAP modes<br>- ETKF-1022: Added monitor variables for EDE ingress profiling<br>- ETKF-1064: Increased data size of Trace-FIFO to 4 Kbyte |
| Version 1.14.5  | ETKF-1016: Improve startup behavior of DAP   |
| Version 1.16.17 | ETKF-1289: Disallow illegal DAP settings in hwcfg.lua<br>ETKF-1367: Improve error handling in hwcfg.lua plugins  |

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|                 |  |
|-----------------|--|
| Version 1.17.45 | <ul style="list-style-type: none"> <li>- ETKF-1357: Implement optional debug information for CableCom load</li> <li>- ETKF-1551: Vstby Follow-Up Story for changing signal names</li> <li>- ETKF-1500: Use common standby_controller for FETK-S and XETK</li> <li>- ETKF-1604: 'handshake_secu: correct reset value for handshake timeout'</li> <li>- ETKF-1577: Cleanup regdef.lua to optimize resources and drop unused functionality</li> <li>- ETKF-1588: Implementation to measure bypass roundtrip time (HDC)</li> </ul> |
| Version 1.19.17 | <ul style="list-style-type: none"> <li>- ETKF-1304: Drop support for TC27x A-step from sic_dap</li> <li>- ETKF-1794: TEA-MGR: Reject conflicting CONF_EVENT/CONF_RASTER commands</li> <li>- ETKF-1792: Resource optimization: Investigate possible resource usage savings regarding internal debug logic</li> <li>- ETKF-1576: TEA-MGR: Support new XCP command XETK_CONF_WAIT_STATE</li> </ul>  |
| Version 1.20.12 | <ul style="list-style-type: none"> <li>- ETKPRG-1230: XCP use-case support: improve DISTAB17 memory distribution</li> <li>- TFS 681600: XCP Debugging with FETK-S1.1A/B and 3-Pin DAP does not work</li> </ul>   |
| Version 1.21.10 | <ul style="list-style-type: none"> <li>- TFS 687725: Two HW reinits need for XCP measurement</li> <li>- TFS 683889: INCA freezes on motor test bench sporadically</li> <li>- ETKPRG-1364: Execution of arbitrary ECU access sequences</li> </ul>   |
| Version 1.22.6  | <ul style="list-style-type: none"> <li>- TFS 687725: Two HW reinits need for XCP measurement</li> <li>- ETKF-2141, ETKSW-3119 Add counter for how many resets watchdog disable should be active</li> <li>- ETKF-1901 Additional monitor variables for counting ECU resets</li> </ul>   |

Delivery condition:

The FPGA version 1.22.6 will be programmed into all shipments

|          |               |       |    |               |
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## 6 Hardware Modifications

### 6.1 General remarks to this chapter

Hardware issues or obsolete parts can make it necessary to modify the population of the FETK. Information about the modifications is listed underneath. The hardware state starts with version **A010/01**. For the version syntax please refer to chapter 2.1.

### 6.2 No modification at hardware state A010/01

### 6.3 Hardware delivery condition

The hardware state **A010/01** will be delivered with all new shipments.

|          |               |       |    |               |
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## 7 Abbreviations

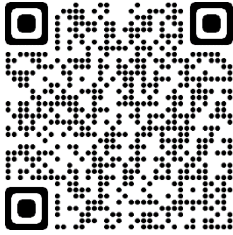
|            |   |
|------------|---|
| ASCET-RP   | Rapid Prototyping Software of ETAS  |
| CPLD       | <b>C</b> omplex <b>P</b> rogrammable <b>L</b> ogic <b>D</b> evice   |
| ES891      | MC hardware   |
| FETK       | Product (emulator test probe)   |
| ETK Tools  | Configuration Software, in order to configure a (X)ETK / FETK   |
| Firmware   | Software for MC hardware; necessary for implementation of new features or bug fixes   |
| FPGA       | <b>F</b> ield <b>P</b> rogrammable <b>G</b> ate <b>A</b> rray; interface component to the application hardware  |
| Hot-fix    | Software bug-fix for a refresh version  |
| HS         | <b>H</b> eat <b>S</b> preader   |
| HSP        | <b>H</b> ardware <b>S</b> ervice <b>P</b> ack; ETAS product which includes the firmware for the complete ETAS hardware, shipped together with INCA but also available as standalone product, download at ETAS homepage possible |
| INCA       | Measurement and Calibration Software of ETAS  |
| INTECRIO   | Rapid Prototyping Software of ETAS  |
| MC         | <b>M</b> easurement & <b>C</b> alibration   |
| PCB        | <b>P</b> rinted <b>C</b> ircuit <b>B</b> oard   |
| RP         | <b>R</b> apid <b>P</b> rototyping   |
| SBB        | <b>S</b> ervice <b>B</b> ased <b>B</b> ypass  |
| Tool chain | MC hardware (e.g. ES89x) and software (e.g. INCA)   |
| XCP        | Universal Measurement and Calibration Protocol  |

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## 8 Contact Information

### 8.1 Technical Support

For details of your local sales office as well as your local technical support team and product hotlines, take a look at the website: [www.etas.com/hotlines](http://www.etas.com/hotlines)



### 8.2 ETAS Headquarters

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