Product :	FETK-S1.1A			
Title :	Release Notes			
File :	FETK-S1.1A_Release-Notes_V11.docx			
TTNR :	F-00K-110-101			
Comments :	Currently shipped: **101111617A010/01** FPGA-Boot version: V1.0.11 FPGA-A version: V1.16.17 Hardware-state: A010/01			
Created:	Name R. Mai	Department PGA/PRM-M	Signature R. Mai	Date 2021-03-10
Released:	Name A. Sprenger	Department EAL-AR	Signature A. Sprenger	Date 2021-03-10

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 [3.1] and Firmware Modification [5.3]	2018-06-07	Mai	Mai
03	10111434A010/01 –Bug fix [chapter 3.1 and 5.3]	2018-07-17	Mai	Mai
04	10111530A010/01 - New or Enhanced Functions [3.1] and Firmware Modification [5.3]	2018-09-11	Mai	Mai
05	10111626A010/01 - New or Enhanced Functions [3.1] and Firmware Modification [5.3]	2018-11-29	Mai	Mai
06	1011175A010/01 - New or Enhanced Functions [3.1] and Firmware Modification [5.3]	2019-03-05	Mai	Mai
07	1011175A010/01 - New or Enhanced Functions [3.1]	2019-05-29	Mai	Mai
08	1011175A010/01 - New or Enhanced Functions [3.1]	2019-09-05	Mai	Mai
09	10111137A010/01 - New or Enhanced Functions [3.1] and Firmware Modification [5.3]	2020-06-10	Mai	Mai
10	10111145A010/01 - New or Enhanced Functions [3.1] and Firmware Modification [5.3]	2020-09-17	Mai	Mai

11	101111617A010/01 - New or Enhanced Functions [3.1] and Firmware Modification [5.3]	2021-03-10	Mai	Mai

Table of content

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 3rd 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: **aaabbbcddd/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**

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 TC26x-PD TC27x-ED C-Step [1)] TC27X-PD TC29x-ED TC29x-PD	V11.8.0	V7.2.8	V4.1.9	V6.4.3	V4.6.2

[1)] 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 7.3.4 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

3.1.2In INCA 7.3.2 and HSP 12.2.0

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

3.1.3In 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

3.1.4In INCA 7.2.14 and HSP 11.14.0

Issue Identifier	Description
ETKPRG-387	Support of standard XCP debugging

3.1.5In INCA 7.2.13 and HSP 11.13.0

Issue Identifier	Description
n/a	Support of XCP Time Correlation

3.1.6In 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

3.1.7In 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

3.1.8In 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"

3.1.9In 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

3.1.10In 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

3.1.11 In INCA 7.2.8 and HSP 11.8.0

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

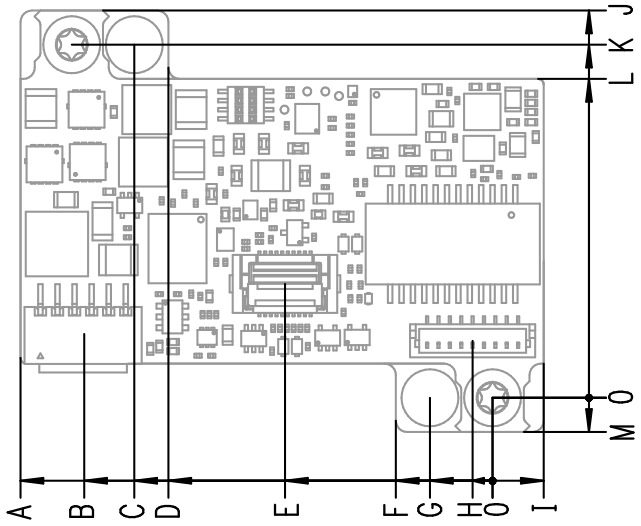
3.2 Known issues

None.

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	

DIM	MILLIMETERS	INCHES
A	$41.50^{+0.2}_{-0.2}$	$1.634^{+0.008}_{-0.008}$
B	$35.90^{+0.3}_{-0.3}$	$1.413^{+0.012}_{-0.012}$
C	$31.50^{+0.1}_{-0.1}$	$1.240^{+0.004}_{-0.004}$
D	$28.50^{+0.2}_{-0.2}$	$1.122^{+0.008}_{-0.008}$
E	$18.25^{+0.3}_{-0.3}$	$0.719^{+0.012}_{-0.012}$
F	$8.50^{+0.2}_{-0.2}$	$0.335^{+0.008}_{-0.008}$
G	$5.50^{+0.1}_{-0.1}$	$0.217^{+0.004}_{-0.004}$
H	$1.75^{+0.2}_{-0.2}$	$0.069^{+0.008}_{-0.008}$
I	$4.5^{+0.2}_{-0.2}$	$0.177^{+0.008}_{-0.008}$
J	$34.00^{+0.2}_{-0.2}$	$1.339^{+0.008}_{-0.008}$
K	$31.00^{+0.1}_{-0.1}$	$1.220^{+0.004}_{-0.004}$
L	$28.00^{+0.2}_{-0.2}$	$1.102^{+0.008}_{-0.008}$
M	$3.00^{+0.2}_{-0.2}$	$0.118^{+0.008}_{-0.008}$

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 - 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" - 583933: correction of wake up and keep alive behaviour between FETK and E891
Version 1.6.26	- support of FETK Alias name - RP improvements for Roundtrip time with ES830 - Bugfix (603463)
Version 1.7.5	- Performance improvements on DAP interface - Bugfix: 604175: High jitter of DAQ packets
Version 1.13.7	Bugfix - 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
Version 1.14.5	ETKF-1016: Improve startup behavior of DAP
Version 1.16.17	ETKF-1289: Disallow illegal DAP settings in hwcfg.lua ETKF-1367: Improve error handling in hwcfg.lua plugins

Delivery condition:

The FPGA version 1.16.17 will be programmed into all shipments

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.

7 Abbreviations

ASCET-RP	Rapid Prototyping Software of ETAS
CPLD	**C**omplex **P**rogrammable **L**ogic **D**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	**F**ield **P**rogrammable **G**ate **A**rray; interface component to the application hardware
Hot-fix	Software bug-fix for a refresh version
HS	**H**eat **S**preader
HSP	**H**ardware **S**ervice **P**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	**M**easurement & **C**alibration
PCB	**P**rinted **C**ircuit **B**oard
RP	**R**apid **P**rototyping
SBB	**S**ervice **B**ased **B**ypass
Tool chain	MC hardware (e.g. ES89x) and software (e.g. INCA)
XCP	Universal Measurement and Calibration Protocol