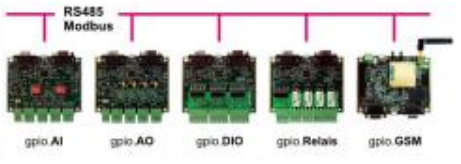
Portfolio of taskit

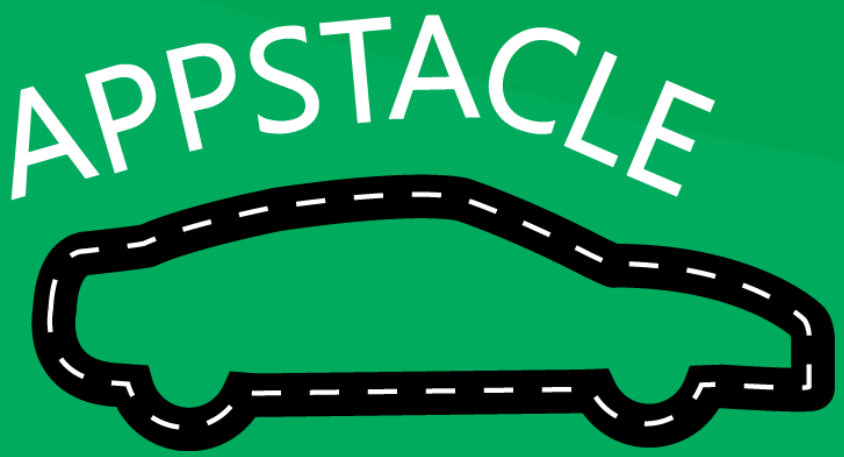
taskit

- CPU Modules
- Gateways
- HMI
- Automation
- And more...

GPiO.NET
flexible automation



APPSTACLE



open standard
APplication
Platform for carS
and TrAnsportation
vehiCLEs

Appstacle Project Board

taskit

ITEA 3

taskit

agenda

- Who
- Capabilities
- Hardware for APPSTACLE
- Pricing Strategy
- Ordering
- Deployment
- Maintenance
- How to Use?

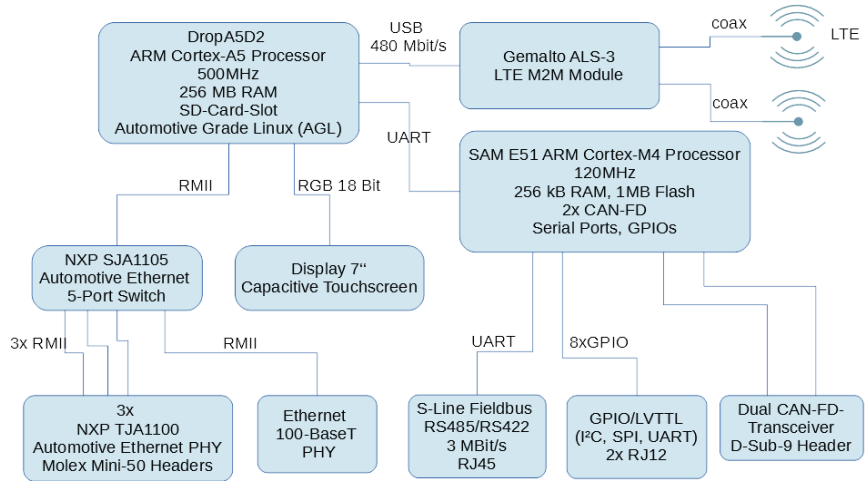
APPSTACLE Hardware Who

Technical Contact for Service and Questions

- 1st Amir Foumani (afoumani@taskit.de – 0049 30 611 295 35)
- 2nd Cris Vigneri (cvigneri@taskit.de – 0049 30 611 295 27)
- 3rd Cornelius Voigt (cvoigt@taskit.de – 0049 30 611 295 24)

APPSTACLE Hardware Capabilities

- **AGL**
- **Preinstalled kuksa**
- **GPS (Glonass)**
- **Automotive Ethernet**
- Switch
- CAN-Bus
- Display
- LTE-Modem



APPSTACLE Hardware APB is a Must

Maximum efficiency for APPSTACLE

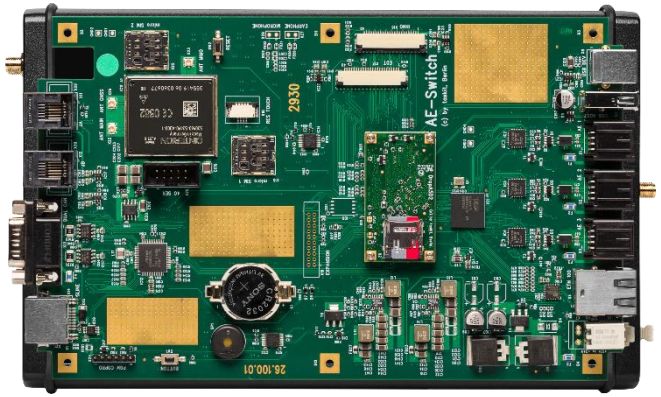
- hardware is ready and feasible for every user story (10/10)
- taskit provide special service for project partner for demonstrations
- partner will be faster with the APPSTACLE project board
- first unit is for free
- maximum advantage for every project partner
- every demonstration must be shown on the real hardware (APB)

APPSTACLE Hardware Pricing

project	• First for free • More for 99 Euro
kuksa	• 199 Euro • Excl. housing
market	• 1,300 Euro • Incl. housing

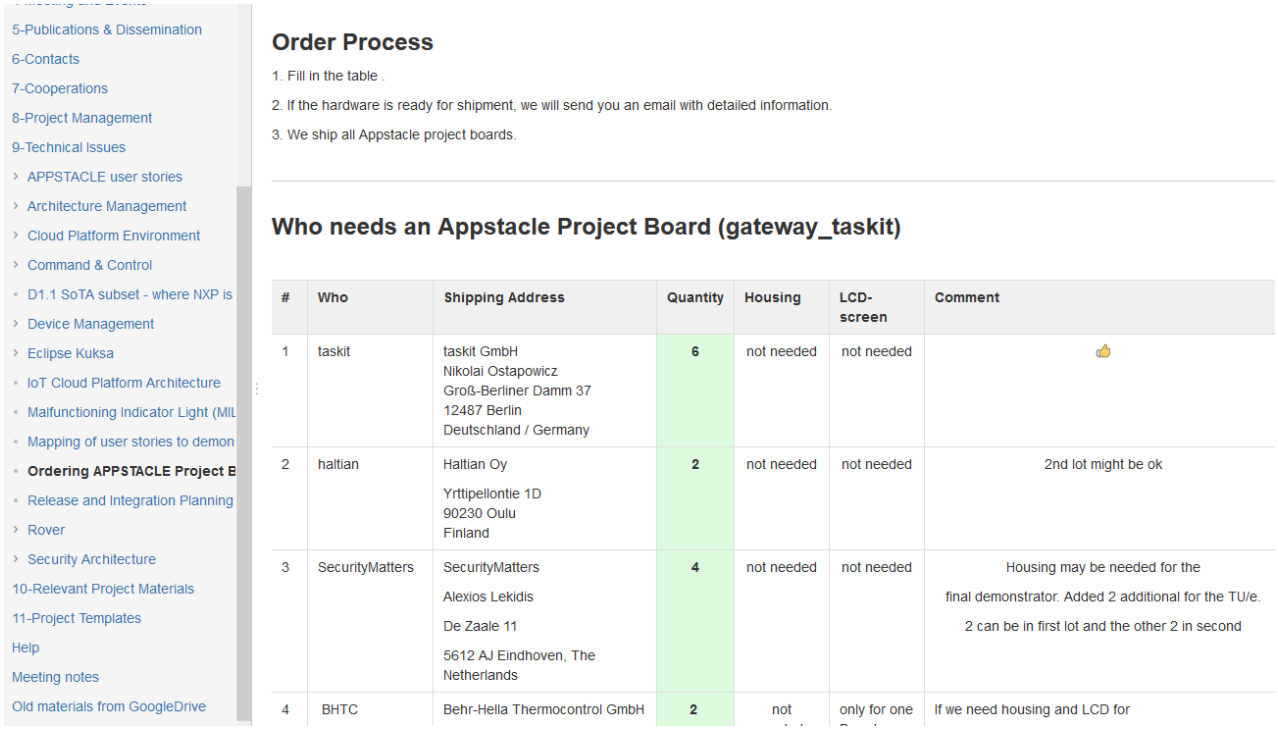
APPSTACLE Hardware Strategy

- Online marketing
- www.amazon.de
- www.taskit.de
- Newsletter
- Providing via Eclipse



APPSTACLE Hardware Ordering

- https://flexi.oulu.fi/confluence/pages/viewpage.action?pageId=31032127



5-Publications & Dissemination
6-Contacts
7-Cooperations
8-Project Management
9-Technical Issues
› APPSTACLE user stories
› Architecture Management
› Cloud Platform Environment
› Command & Control
• D1.1 SoTA subset - where NXP is
› Device Management
› Eclipse Kuksa
• IoT Cloud Platform Architecture
• Malfunctioning Indicator Light (MIL
• Mapping of user stories to demon
• **Ordering APPSTACLE Project B**
• Release and Integration Planning
› Rover
› Security Architecture
10-Relevant Project Materials
11-Project Templates
Help
Meeting notes
Old materials from GoogleDrive

Order Process

1. Fill in the table .
2. If the hardware is ready for shipment, we will send you an email with detailed information.
3. We ship all Appstacle project boards.

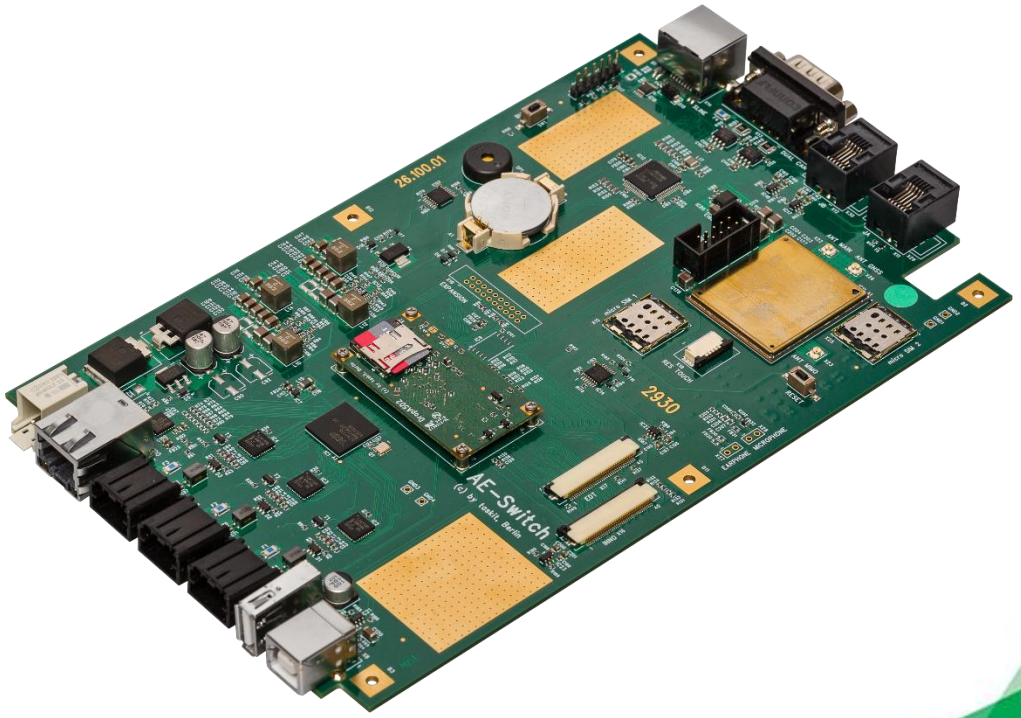
Who needs an Appstacle Project Board (gateway_taskit)

#	Who	Shipping Address	Quantity	Housing	LCD-screen	Comment
1	taskit	taskit GmbH Nikolai Ostapowicz Groß-Berliner Damm 37 12487 Berlin Deutschland / Germany	6	not needed	not needed	👍
2	haltian	Haltian Oy Yrttipellontie 1D 90230 Oulu Finland	2	not needed	not needed	2nd lot might be ok
3	SecurityMatters	SecurityMatters Alexios Lekidis De Zaale 11 5612 AJ Eindhoven, The Netherlands	4	not needed	not needed	Housing may be needed for the final demonstrator. Added 2 additional for the TU/e. 2 can be in first lot and the other 2 in second
4	BHTC	Behr-Hella Thermocontrol GmbH	2	not	only for one	If we need housing and LCD for

APPSTACLE Hardware Deployment

Optional things you can order @taskit:

- housing
- antennas
- battery
- cables
- powerplug
- …



APPSTACLE Hardware Maintenance

- Maintenance is possible
- Hardwarelayer (Board Support Package)
- Future-proof

APPSTACLE Hardware Pricing

VIDEO

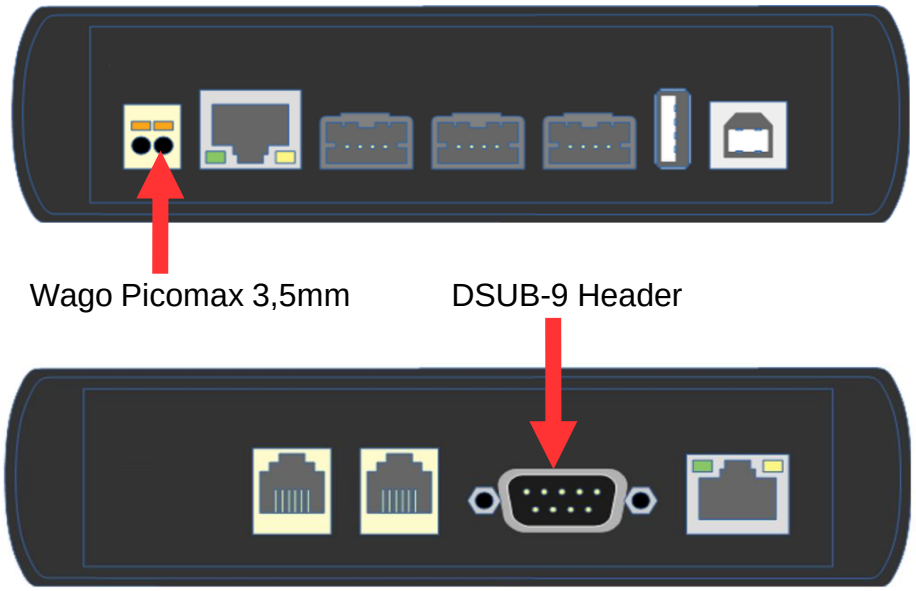
How to Use?

Overview

- Power Supply
- AGL-Terminal
- USB
- 100Base-T Ethernet
- Automotive Ethernet
- LTE-Modem
- CAN / OBD
- ELM327 Simulator
- Other features

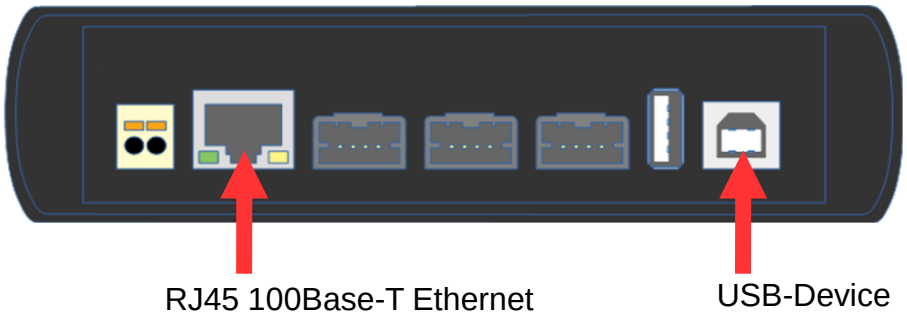
Power Supply

- Voltage between 8 and 28V
- Wago clamps:
  - +Vcc → left connector
  - Ground → right connector
- DSUB-9:
  - +Vcc → Pin 9
  - Ground → Pin 3, 5 and 6



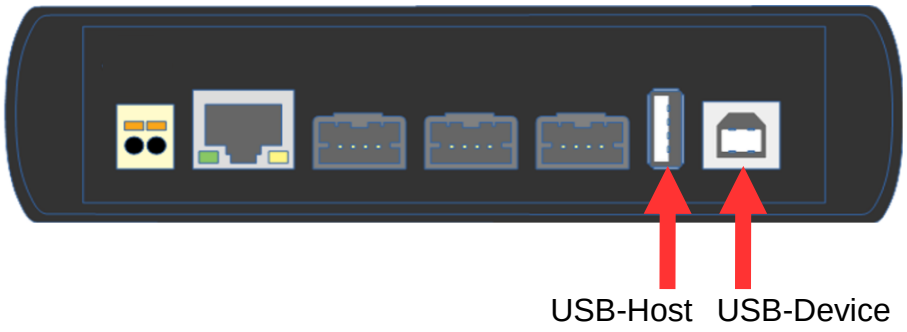
AGL-Terminal

- User = “root”, None password
- Default AGL-Terminal on USB-Device
- SSH connection over IP-Address or kuksa-gateway.local (if Ethernet configured)



USB

- USB2.0-Host at USB Typ-A or USB2.0-Device at Typ-B
- USB-Host has no AGL-Terminal function !
- Role can be change with usb.sh shell script:
  - “./home/root/usb.sh host”
  - “./home/root/usb.sh device”
  - AGL restart is necessary



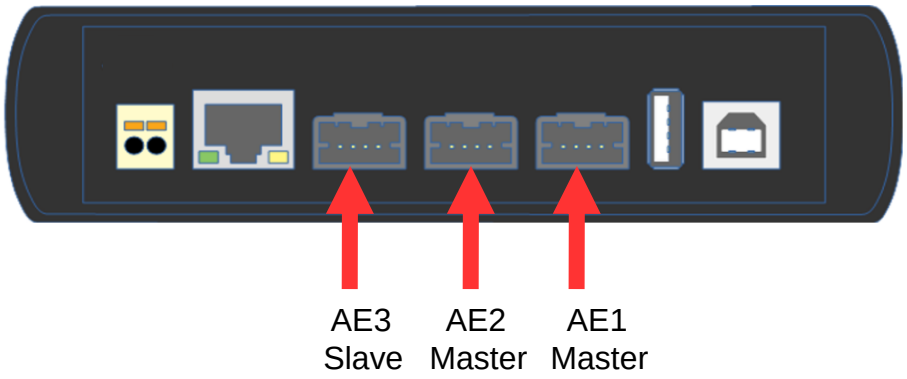
100Base-T Ethernet

- DHCP is default client, Server if configurable
- AGL-Terminal over SSH with IP address or kuksa-gateway.local
- Ethernet Switch:
  - By default in promiscuous mode
  - Each packet that comes in via one of the five ports, is forwarded to all other Ethernet-ports (3 external; 1 internal)
  - This behavior can be modified with the "sja1105-tool"

RJ45 100Base-T Ethernet

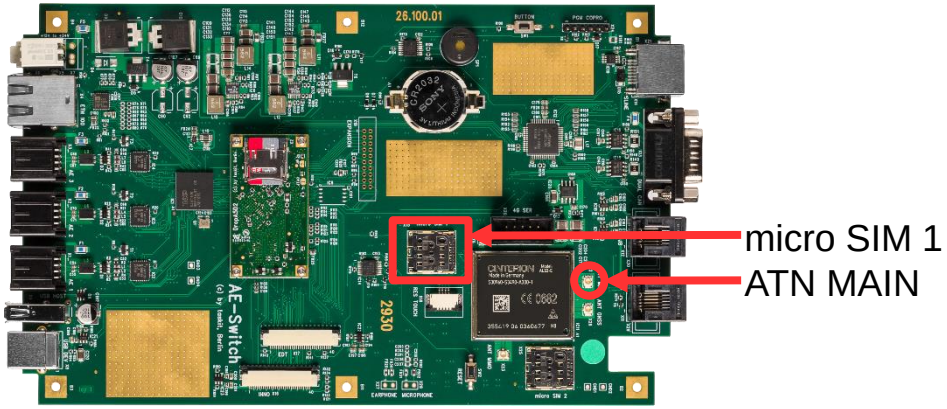
Automotive Ethernet

- 3x Automotive Ethernet 100MBit/s
- Molex Mini-50 Header
- 2x “Master” and 1x “Slave” PHY, configurable over SMD jumper (soldering required)



Modem

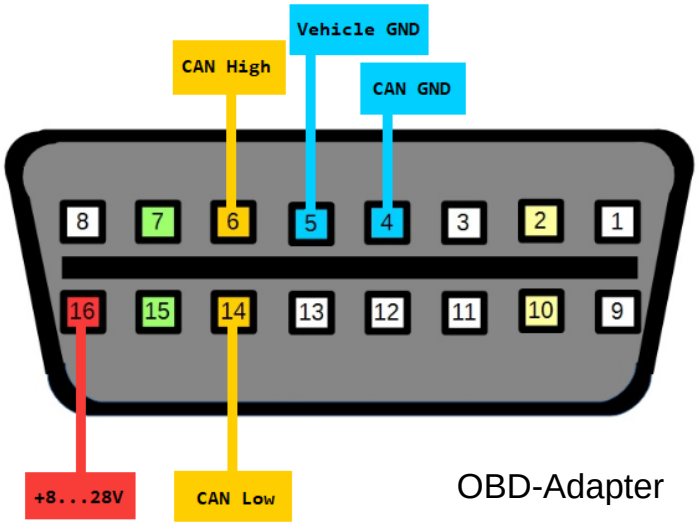
- LTE-Modem is deactivate by default
- Insert Micro SIM-Card on “micro SIM 1”-connector
- Connect LTE-Antenna on “ATN MAIN”-connector
- Change the “/etc/chatsripts/ppap”-file:
  - In *READY-AT+CPIN="0000"-OK ' '*-Line replace “0000” by SIM-Card PIN
  - In *' ' AT+CGDCONT=1,"IP","internet"*-Line replace “internet” by SIM-Card APN
- Start the Modem-Service with “systemd start ppp@ppp0”-command
- Start the Modem-Service by Boot with “systemd enable ppp@ppp0”-command



CAN / OBD

Adapter:

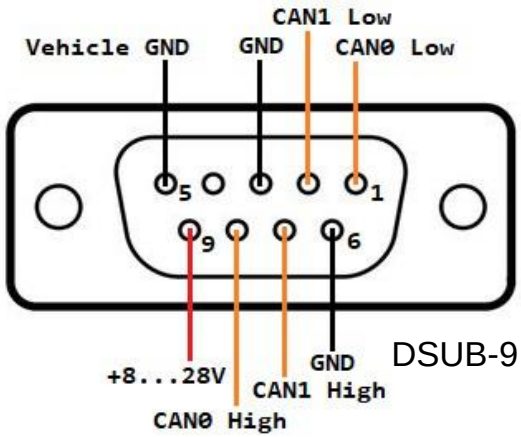
- Two CAN-Interfaces on DSUB-9
- CiA 303-1 conform assignment
- DSUB-9-OBD-Adapter is deliverable by taskit
- With OBD-Adapter only CAN1 is usable



OBD-Adapter

Communication Interfaces:

- ELM327 Simulator with AT-Command shell
- TCP-API: Port 28289 for CAN0 and 28288 for CAN1
- CoAP-API: Resources can0 and can1 (put-requests)



DSUB-9

Thank you

Thank you.

Backup

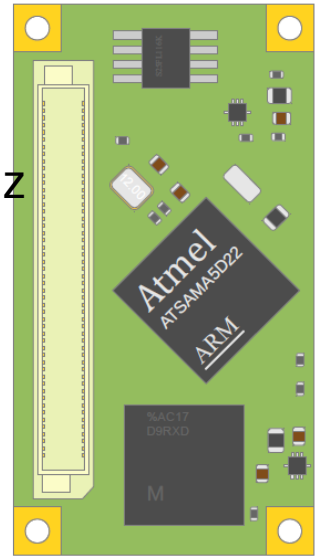
ELM327 Simulator

- Function behaves ELM327 chip
- Datasheet for ELM327: https://www.elmelectronics.com/wp-content/uploads/2016/07/ELM327DS.pdf
- CAN default values: Baudrate: 500KBit/s; MessageID: 0x7DF; MessageID-Length: 11 Bit; Receive Filter ID: 0x7E8; Receive Filter Mask: 0xFFFFFFFF; Receive Timeout: 0x32 (200 milli seconds)
- Commands can be send over TCP-Port 28289 (CAN0) and 28288 (CAN1) or over CoAP-Resource /can0 and /can1
- To transmit a CAN message, send a hexdezimal ASCII message, which not begin with "AT". Spaces and other characters will be ignored. [Example: 01 0C which will return the engine rpm, like 410C1AF8]

Other features

- CR2032 Battery for real time clock (RTC)
- Framebuffer /dev/fb0 for TFT-Display (deliverable from taskit)
- Two USART interfaces with TTL-Signals on JACK_A and JACK_B
  - reachable over TCP-API on Ports 27006 and 27007
  - reachable over CoAP-API on recources jack_a (get/put) and jack_b (get/put)

Technical information DropA5D2



Technical description:

- Atmel ATSAMA5D22 Emb. Processor @500 MHz
- ARM Cortex-A5 Core
- Tamper Detection
- Memory Management Unit (MMU)
- Secure Data Storage
- ARM V7-A Thumb2 Instruction Set.
- 64kB Level-1 Cache (32kB Instruction, 32kB Data)
- 128kB Level-2 Cache (available also for general use)
- Separated 16-Bit DDR-RAM Bus and 16-Bit EBI (External Bus Interface)
- NEON™ Media Processing Engine, including Vector Floating Point Unit (VFPv4)
- Jazelle (direct Bytecode Execution) Java Acceleration
- ARM TrustZone® Advanced Security Functions