

# Simulyzer-RT System Presentation



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Bestell-Nr.:	-
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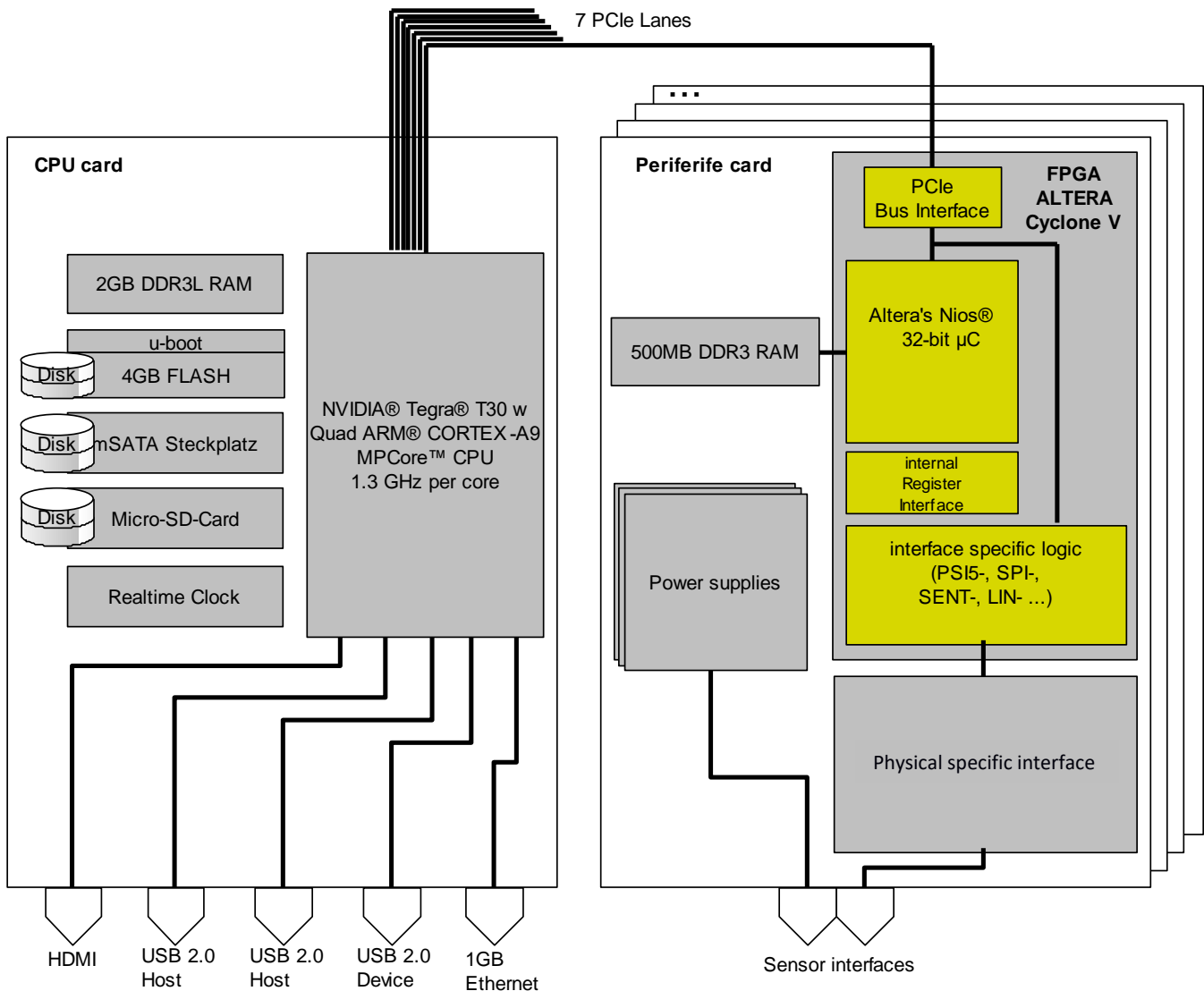
### 1. General

The Simulyzer RT (Rack Technology) system serves usual sensor bus system of automotive areas with a communication system. The systems is able to communicate as well with many sensor interfaces of external sensors as with external control units (ECUs).

All chassis are designed as 19"-systems. The plug-in cards are designed as europe cards in format 160x100mm (Europa4Format). For internal communication of the cards a PCIe 2.1 bus with maximum data rate of 2.5Gbit/s is implemented. The timestamps of the various peripheral cards will be synchronized.

The communication of the system to higher-level PCs is carried out normally via a 1 GB Ethernet interface. Operating of one or more Simulyzer-RT systems can be done either online from a higher-level PC application or by saving and calling the data locally.

Within the chassis there is always one CPU-1 plug-in card. This card merge the PCIe communication of the several interfaces. The CPU1- plug in card contains a 4 core ARM CPU, working space, SSD storage for file system as well as USB and Ethernet interfaces.



Operating system is Ubuntu Linux.

## 2. Interface cards

All 19" Chassis types can be plugged with multiple peripheral cards beneath the mandatory CPU-1 card.  
The following configurations are possible:

- **DIO-1:**  
16 x SPI, with firmware either for SPI master (ECU) or SPI slave (sensor mode)
- **PSI5-ECU-1:**  
8 x PSI5 in ECU mode
- **PWR-ANA-1:**  
8 x Power-analog to serve the adjustable single supply of 8 sensor with exact measurement of power supply voltage and current. Additionally there are 8x3 multi-use analog inputs available.
- **CAN-1:**  
8 x CAN, with firmware either for ECU or sensor mode







In planning stage are the following interface cards

- 8 x SENT in ECU mode
- 8 x SENT in sensor mode
- 8 x PSI5 in sensor mode
- 8 x DSI3 in sensor mode

### 3. Case/Chassis

The following chassis are available:

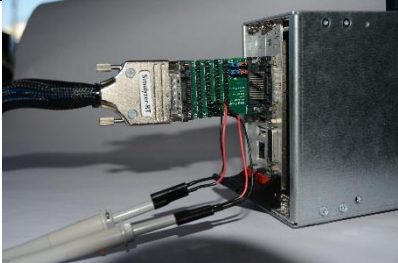



<p>Compact chassis for 1 CPU and 2 peripheral cards as an extreme compact implementation. It can be used as a smaller table top unit or for application with restricted space area. The 12 VDC power supply has to be served externally.</p>		
<p>Standard chassis for 1 CPU and up to 7 peripheral card at 19", 4HE case including power supply 90-264 VAC</p>		
<p>Special cases are customisable</p>		

### 4. Application range

Typical application ranges are:

- Measurement of sensor characteristic
- Calibration of sensors
- Permanent operation tests with sensors
- EMC measurement of sensors
- Band-end programming of sensors
- Simulation of sensor data to test ECUs and ECU algorithms; also with different interface types.

### 5. Attachments

<p>Measurement adapter for DIO-1 card to monitor the SPI signale.</p>	
<p>External 12V power supply unit fort the Comact Chassis.</p>	
<p>Readymade cable for the DIO-1 card deliverable in various length. All 48 signals via HF-line with Z = 50Ohm</p>	
<p>Console cable for CPU-1 card. Offers a serial Linux-console-interface via USB connector.</p>	

### 6. Weitere Informationsquellen und Tutorials

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