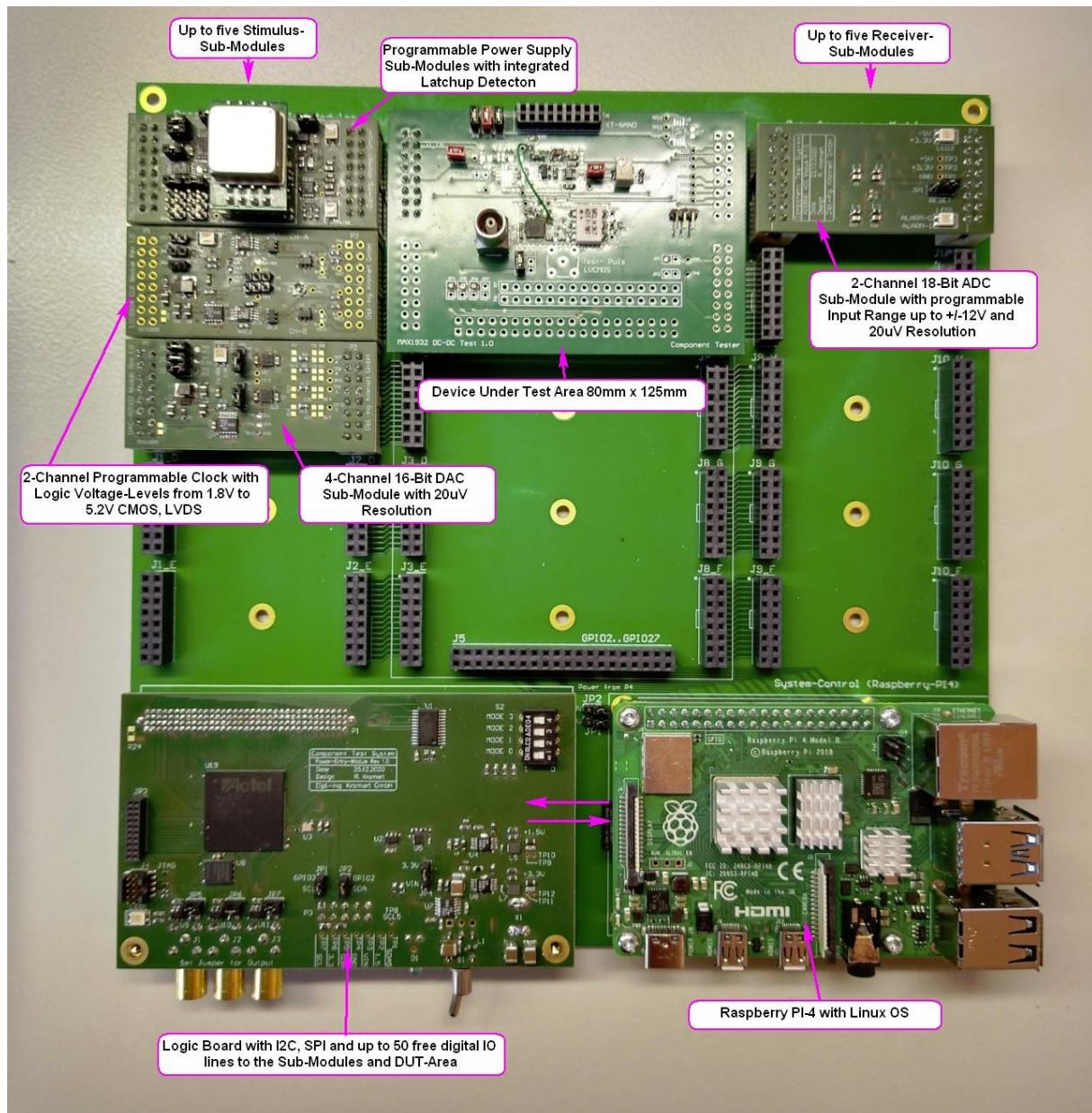


Raspberry Scratch-Board



- **PWR-Sub-Module**
 - 0.8 .. 21V /3A, programmable
 - Latch-Up-Detection, programmable
 - Latch-Up Protection, two modes
 - Power-Measurement: Input-V, Output-V, Output-I
 - I2C-Bus
 - 6 GPIO channels to FPGA
- **CLK-Sub-Module**
 - 2 Channels
 - 1kHz ..68 MHz
 - Output: Differential LVDS
 - Output: Differential CMOS

- Output Voltage level programmable from 1.8V to 5.2V (CMOS)
- Power-Measurement: Input-V, Output-V, Output-I
- I2C-Bus
- 6 GPIO channels to FPGA

- **DAC-Sub-Module**
 - 2 Channels
 - 16 Bit
 - Output: 0V .. 5V,
 - Output-Range programmable: 1.25V, 2.5V, 5V
 - LSB Resolution from 76.3uV down to 19.0 uV
 - Power-Measurement: Input-V, Output-V, Output-I
 - I2C-Bus
 - 6 GPIO channels to FPGA

- **ADC-Sub-Module**
 - 2 Channels
 - 18 Bit
 - 1us conversion time
 - Input range programmable from +/- 0.625* Vref up to +/- 3*Vref , Vref = 4.096V
 - LSB Resolution from 93.75uV down to 19.53 uV
 - SPI-Bus
 - 6 GPIO channels to FPGA

- **FPGA-Sub-Module**
 - ProAsic3, 1 million gates, free VHDL Integrated-Design-Environment (Liberio SoC V11.9)
 - M-RAM 1 Megabyte
 - 3 Lemo User-I/Os, buffered
 - Temperature-Sensor, 16 bit, 0.0078°C LSB Resolution
 - Power-Measurement: Input-V, Output-V, Output-I
 - 25 GPIO channels to Raspberry PI
 - 30 GPIO Channels to Stimulus Sub-Modules
 - 30 GPIO Channels to Data-Acquisition Sub-Modules
 - I2C-Bus
 - SPI-Bus

- **Raspberry PI 4**
 - Linux OS
 - 2x USB 2.0
 - 2x USB 3.0
 - Gigabit Ethernet
 - WLAN
 - 4 GByte RAM
 - Dual 4k display ports

- **Mainboard, passive**
 - 5 Stimulus Module slots
 - 5 Data-Acquisition Module slots
 - 1 FPGA slot
 - 1 Raspberry CPU slot

- **Simple Wall-Mount Power-Adapter: AC to DC 24V /2A max**

