SMARC-sXAL4 (E2)

Latest Generation Intel Atom®, Pentium® and Celeron® Processor Series

- Up to 8 GByte LPDDR4 memory down
- Triple display support
- 2x USB 3.0, 4x USB 2.0 (optional 1x USB OTG), 1x SATA, eMMC onboard, up to 2x LAN
- Industrial grade temperature

POSSIBILITIES START HERE kontron S&T Group

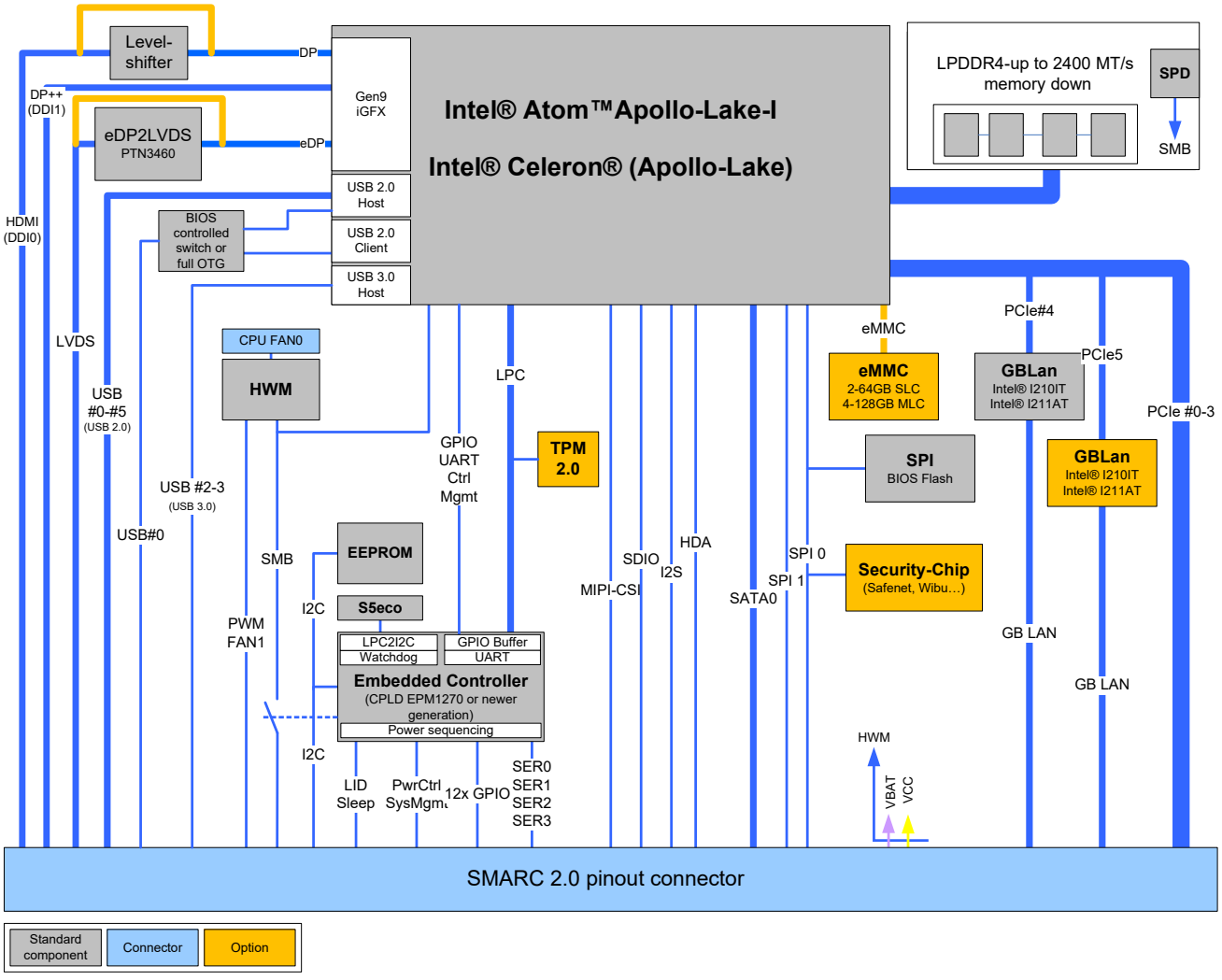
TECHNICAL INFORMATION

COMPLIANCE	SMARC 2.0
DIMENSIONS (H X W X D)	82 x 50 mm
CPU	Intel Atom®/ Pentium®/ Celeron® series For details see table (CPU Variants) given below
CHIPSET	-
MAIN MEMORY	Up to 8 GByte LPDDR4 memory down
GRAPHICS CONTROLLER	Intel HD Gfx Gen9
ETHERNET CONTROLLER	Intel® I210IT/I211AT (up to 2x)
ETHERNET	10/100/1000 MBit Ethernet
STORAGE	1x SATA 6 Gb/s
FLASH ONBOARD	up to 128 GByte eMMC (MLC)
PCI EXPRESS®	up to 4x PCIe x1 (without LAN)
PANEL SIGNAL	1x HDMI (on request DP), 1x DP++, 1x LVDS dual channel (on request eDP)
USB	2x USB 3.0 (incl. USB 2.0) + 4x USB 2.0, alternatively USB #0 as OTG
SERIAL	4x serial interfaces (2x RX/TX only)
OTHERS FEATURES	HD Audio and I2S, 5x I2C, 2x SPI, Camera Interface (2x MIPI CSI), 12x GPIOs
SPECIAL FEATURES	Trusted Platform Module TPM 2.0 Industrial Temperature Grade versions
FEATURES ON REQUEST	0x LAN -> 4x PCIe | 1x LAN | 2x LAN eMMC: up to 32 GByte pSLC RAM: from 2 GByte to 8 GByte LPDDR4 Kontron APPROTECT security solution based on Wibu-Systems CodeMeter®
BIOS	AMI Aptio V
OPERATING SYSTEM	Windows® 10, Enterprise, Windows 10 IoT, Linux, VxWorks
POWER SUPPLY	5V only
TEMPERATURE	SMARC-sXAL: Commercial temperature: 0 °C to +60 °C operating, -30 °C to +85 °C non-operating SMARC-sXAL E2: Industrial temperature: -40 °C to +85 °C operating, -40 °C to +85 °C non-operating
HUMIDITY	93 % relative Humidity at 40 °C, non-condensing (according to IEC 60068-2-78)

CPU VARIANTS

CPU	x7-E3950	x5-E3940	x5-E3930	N4200	N3350
CORES	4	4	2	4	2
FREQUENCY BASE	1.60 GHz	1.60 GHz	1.30 GHz	1.10 GHz	1.10 GHz
FREQUENCY BURST	2.00 GHz	1.80 GHz	1.80 GHz	2.50 GHz	2.40 GHz
TDP	12 W	9.5 W	6.5 W	6 W	6 W
CACHE	2 MByte L2 Cache	2 MByte L2 Cache	2 MByte L2 Cache	2 MByte L2 Cache	2 MByte L2 Cache

BLOCK DIAGRAM



VARIANTS

PART NO.	CPU	RAM	FLASH	DISPLAY	LAN	TPM	SECURITY CHIP	TEMPERATURE
51012-0408-11-4	N4200	4 GByte LPDDR4	8 GByte eMMC pSLC	LVDS, HDMI, DP	1x	yes	no	commercial
51012-0204-11-2	N3350	2 GByte LPDDR4	4 GByte eMMC pSLC	LVDS, HDMI, DP	1x	yes	no	commercial
51013-0408-13-5	E3930	4 GByte LPDDR4	8 GByte eMMC pSLC	LVDS, HDMI, DP	1x	yes	no	industrial E2
51013-0416-16-5	E3940	4 GByte LPDDR4	16 GByte eMMC pSLC	LVDS, HDMI, DP	2x	yes	no	industrial E2
51013-0832-16-7	E3950	8 GByte LPDDR4	32 GByte eMMC pSLC	LVDS, HDMI, DP	1x	yes	no	industrial E2

All product specifications are subject to change without notice.

CARRIER

ARTICLE	PART NO.	DESCRIPTION
SMARC EVALUATION CARRIER 2.0	51300-0000-00-0	SMARC Evaluation Carrier for SMARC modules according to the SMARC 2.0 standard (without SMARC module)

COOLING

ARTICLE	PART NO.	DESCRIPTION
HSP SMARC-sXAL4	51012-0000-99-1	Heatspreader for SMARC-sXAL4 (only for 51012-XXXXX-XX-X)
HSP SMARC-sXAL4 E2	51013-0000-991	Heatspreader for SMARC-sXAL4 (only for 51013-XXXXX-XX-X)
SMARC PASSIVE UNI COOLER (W/O HSP)	51099-0000-99-1	SMARC Passive Uni Cooler

ACCESSORIES

ARTICLE	PART NO.	DESCRIPTION
SMARC MOUNTING KIT	51117-0000-00-0	Mounting Kit for SMARC modules

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