

Ethernet, USB, Serial Communication Interfaces and Other Interfaces

Type	Ethernet	USB 3.2 Gen 2	USB 3.2 Gen 1	USB 2.0	RS232 /422 /485	RS232	Other	Digital I/O	TPM	
2I640HW Series	2,5GbE x2	-	1	5	1	3	-	DI x4 DO x4	TPM 2.0 (Firmware)	
2I640CW Series			2	3	2		SMBUS			
2I640DW Series			GbE x3	2	-		2			2
PICO-EHL4 Series	GbE x2	2	-	2	2	-	SMBUS eSPI CAN x2	DIO x4		
GENE-EHL5-A10-0002 (0004, 0006, 0008)	GbE x2	2	-	4	4	-	SMBUS	DIO x16		-
GENE-EHL5-A10-0001 (0003)							SMBUS			TPM 2.0 (HW)
GENE-EHL5-A10-0005 (0007, 0009)							SMBUS CAN x2			
MIX-EHLD1 Series	GbE x2	-	2	4	1	5	-	DI x4 DO x4	-	

RAM, Storage and Expansion

Type	RAM (Slot, Spec, Total)	Storage	Expansion Slots
PICO-EHL4 Series	4GB LPDDR4x 3200 on board (max. 16GB is supported)	eMMC 5.1 32GB mSATA (full-size) *1 SATA	mPCIe (full-size) *1 M.2 2230 E-Key (PCIe x1)
2I640HW Series	4GB LPDDR4x 3200 on board (max. 8GB is supported)	mSATA (full-size)	M.2 2242/3042 B-Key (PCIe x2/USB 3.2 Gen 2) + nanoSIM
2I640CW Series		SATA	
2I640DW Series		M.2 2242 B-Key (PCIe x2/SATA)	
GENE-EHL5-A10-0001, 0002, 0004, 0005, 0006, 0008, 0009)	SODIMM, DDR4 3200, 32GB	M.2 2242 B-Key (PCIe x2/SATA) SATA	M.2 3052 B-Key (USB 3.2 Gen2/USB 2.0) + nanoSIM M.2 2280 B-Key (PCIe x1) M.2 2230 E-Key (PCIe x1)
GENE-EHL5-A10-0003, 0007		eMMC 5.1 32GB M.2 2242 B-Key (PCIe x2/SATA) SATA	
MIX-EHLD1 Series	SODIMM x2, DDR4 3200, 32GB	mSATA (half/full-size) M.2 2280 M-key (PCIe x2) SATA	M.2 3042/3052 B-Key (PCIe x1) + SIM

*1: The same slot

Processor

Type	Processor	Cores Threads	Base Freq. [GHz]	Turbo Freq. [GHz]	TDP [W]	Graphics	GPU EU	Base Freq. [MHz]	Burst Freq. [MHz]	PCIe Gen	SATA Gen	In band ECC
PICO-EHL4-A10-0004	Intel Atom x6211E	2C/2T	1,3	3	6	UHD Graphics for 10th Gen	16	350	750	3.0	3.0	Y
GENE-EHL5-A10-0006												
2I640CW-EI3												
2I640DW-EI3	Intel Atom x6413E	4C/4T	2	2,6	10		16	500				
2I640HW-EI3												
MIX-EHLD1-A10-X6413												
PICO-EHL4-A10-0005	Intel Atom x6425E	4C/4T	2	3	12		32	500				
GENE-EHL5-A10-0007												
GENE-EHL5-A10-0008												
PICO-EHL4-A10-0006	Intel Atom x6425RE	4C/4T	1,9	-	12		32	400				
GENE-EHL5-A10-0009												
PICO-EHL4-A10-0001	Intel Celeron N6210	2C/2T	1,2	2,6	6,5		32	250				
GENE-EHL5-A10-0001												
GENE-EHL5-A10-0002												
PICO-EHL4-A10-0002	Intel Celeron J6412	4C/4T	2	2,6	10		16	400				
2I640CW-J12												
2I640DW-J12												
2I640HW-J12												
GENE-EHL5-A10-0003												
GENE-EHL5-A10-0004												
MIX-EHLD1-A10-J6412												
PICO-EHL4-A10-0003	Intel Pentium J6426	4C/4T	2	3	10	32	850					
GENE-EHL5-A10-0005												

Displays and Audio

Type	LVDS	eDP	HDMI	DP	VGA	Touch Screen Controller	Concurrent Displays	Audio
2I640DW Series	-	eDP 1.3 2-Lane 1920 x 1200 at 60Hz	HDMI 1.4b x2 3840 x 2160 at 60Hz	-	-	-	3	-
2I640CW Series			HDMI 1.4b x2 3840 x 2160 at 60Hz			Yes		
2I640HW Series			LVDS 18/24bit 2Ch 1920 x 1080 at 60Hz			HDMI 2.0b 4096 x 2160 at 60Hz		
GENE-EHL5-A10-0001 (0003, 0005, 0007, 0009)	LVDS 18/24bit 2Ch 1920 x 1080 at 60Hz	-	HDMI 2.0b 4096 x 2160 at 60Hz	DP 1.4 4096 x 2160 at 60Hz	-	4/5/8-wire resistive	3	Line In Line Out Mic In Speaker out
GENE-EHL5-A10-0006	LVDS 18/24bit 2Ch 1920 x 1080 at 60Hz	-	HDMI 2.0b 4096 x 2160 at 60Hz	DP 1.4 4096 x 2160 at 60Hz	-	-		
GENE-EHL5-A10-0002	LVDS 18/24bit 2Ch 1920 x 1080 at 60Hz	-	-	-	1	-	2	
GENE-EHL5-A10-0004								
GENE-EHL5-A10-0008								
MIX-EHLD1-A10-J6412	LVDS 18/24bit 2Ch 1920 x 1080 at 60Hz	-	HDMI 2.0b 4096 x 2160 at 60Hz	-	1	-		
MIX-EHLD1-A10-X6413								
PICO-EHL4-A10-0001 (0002, 0004)	LVDS 18/24bit 1Ch 1440 x 900 at 60Hz	eDP 1.3 4-Lane 4096 x 2160 at 60Hz	HDMI 2.0b x2 4096 x 2160 at 60Hz	-	-	-	3	-
PICO-EHL4-A10-0003 (0005, 0006)	-		HDMI 2.0b x2 4096 x 2160 at 60Hz	-	-	-		

Environment and Mechanical Design

Type	Dimensions	Operating Temperature	Power Supply	Form Factor	Cooling Solution
PICO-EHL4-A10-0001	100 x 72mm	0...+60°C	12V DC	Pico-ITX	Heatspreader on the bottom side
PICO-EHL4-A10-0002					
PICO-EHL4-A10-0003					
PICO-EHL4-A10-0004					
PICO-EHL4-A10-0005					
PICO-EHL4-A10-0006					
2I640HW-EI3	102 x 88mm	-20...+70°C	9...36V DC	SFF	
2I640HW-J12					
2I640DW-EI3			9...24V DC		
2I640DW-J12					
GENE-EHL5-A10-0002	146 x 102mm	0...+60°C	12V DC	3,5"	Heatsink on the top side
GENE-EHL5-A10-0004					
GENE-EHL5-A10-0006					
GENE-EHL5-A10-0008					
GENE-EHL5-A10-0001					
GENE-EHL5-A10-0003					
GENE-EHL5-A10-0005					
GENE-EHL5-A10-0007					
GENE-EHL5-A10-0009					
MIX-EHLD1-A10-J6412	170 x 170mm		12V DC	mini-ITX	Heatsink + Fan on the top side
MIX-EHLD1-A10-X6413					