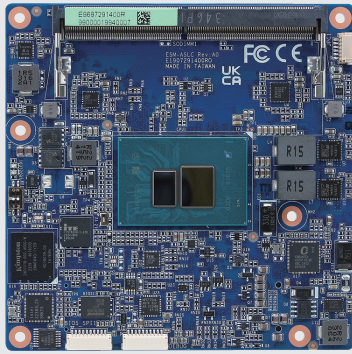


ESM-ASLC

Onboard Intel Atom® x7000RE Series Processors Type6 COMe Compact Module



Features

- PICMG COM R3.1 Type 6 module with Intel Atom® x7000RE Processors
- 1 x 262-pin DDR5 4800MHz S0-DIMM socket, supports up to 16GB Max, support In-Band ECC memory protection (selected SKUs)
- 1 x Intel® i226-IT
- Intel® HD Audio Integrated in SOC
- Onboard TPM 2.0 Optional
- COMe Type 6 Basic Size: 3.74" x 3.74" (95 x 95 mm)
- DC in +9V ~ +19V



DDR5
S0-DIMM



USB 3.2



DP



HDMI



LVDS

Specifications

System Information

Processor	Intel Atom® x7000RE Series Processors
System Memory	1 x 262-pin DDR5 4800MHz S0-DIMM socket, supports up to 16GB Max, support In-Band ECC memory protection (selected SKUs)
I/O Chipset	EC ITE IT5782VG-I-128/BX or Super IO Equivalent
Watchdog Timer	H/W Reset, 1Sec. ~ 65535Sec. and 1Sec./Step
BIOS	AMI uEFI BIOS, 256 Mbit SPI Flash ROM
H/W Status Monitor	Monitoring System Temperature Voltage and FAN Status with Auto Throttling Control
TPM	Onboard TPM 2.0 Optional

Expansion

Expansion	4 x PCIe x1 (Gen3) or 1 x PCIe x4 (Gen3) or 2 x PCIe x1 (Gen3)
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Storage

Storage	eMMC 5.1 Up to 128GB (Optional)
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Display

Graphic Chipset	Intel® UHD Graphics
Spec. & Resolution	1 x HDMI 2.0b: 4096x2160 @60Hz 1 x DP 1.4a: 4096x2160 @60Hz 1 x LVDS (via eDP-to-LVDS): 1920x1080 @60Hz, LVDS via CH7511B or 1 x eDP 1.4b (By BOM Optional): 4096x2160 @60Hz
Multiple Display	Triple Display Support
LVDS	CH7511B (eDP to LVDS)
DDI	3 x DDI DDI1: 2 CH LVDS (via eDP-to-LVDS) or eDP (By BOM Optional) DDI2: DDI Signal TCP0: DDI2 signal or Type C signal

Audio

Audio Interface	Intel® HD Audio Integrated on CPU
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Ethernet

LAN Chipset	1 x Intel® i226-IT
Ethernet Interface	10/100/1000/2500 Base-Tx GbE Compatible

Software Support

OS	Windows 11 64-bit, Linux
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Certification

Certification Information	CE, FCC Class, RoHS Compliant
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I/O

USB	8 x USB2.0, 2 x USB3.2 Gen 2x1 or 8 x USB2.0, 4 x USB3.2 Gen 2x1 or 8 x USB2.0, 4 x USB3.2 Gen 2x1
COM Port	2 x UART (RX/TX Only)
SATA	2 x SATA III or N/A
DIO	1 x 8-bit GPIO
MIO	1 x SMBus 1 x LPC 1 x eSPI (W-B 10Px1 1.0mm 90D for debug conn) 1 x I ² C 1 x SPI

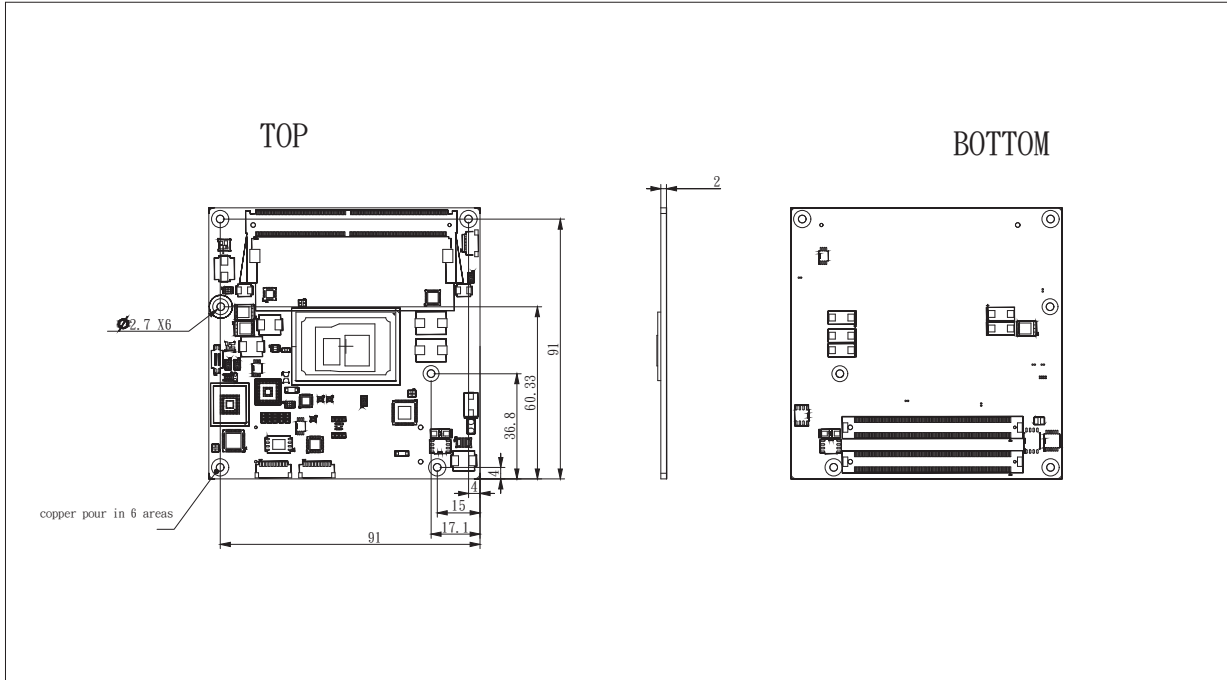
Mechanical & Environmental

Operating Temp.	Extended -40°C ~ 85°C (-40°F ~ 185°F)
Storage Temp.	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	40°C @ 95% Relative Humidity, Non-condensing
Weight	0.44lbs (0.2Kg)
Power Requirement	+9V ~ +19V
Power Mode	AT/ATX
Dimension (L x W)	3.74" x 3.74" (95 x 95 mm)

ESM-ASLC

Onboard Intel Atom® x7000RE Series Processors Type6
COMe Compact Module

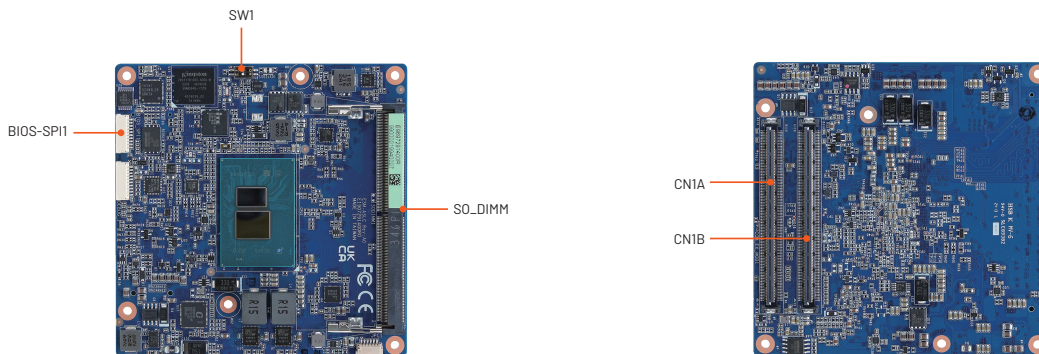
Mechanical Drawing



Ordering Information

P/N	CPU	PCH	LVDS/eDP	TPM	Memory	Storage	Operating Temp.	Thermal Solution
ESM-ASLC-X13RE-A1R	Intel® Atom® SoC Processor x7213RE	NA	LVDS/eDP	Onboard TPM 2.0 (Optional)	1	eMMC 5.1 Up to 128GB (Optional)	-40 ~ 80°C (-40°F ~ 176°F)	TBD
ESM-ASLC-X33RE-A1R	Intel® Atom® SoC Processor x7433RE	NA	LVDS/eDP	Onboard TPM 2.0 (Optional)	1	eMMC 5.1 Up to 128GB (Optional)	-40 ~ 80°C (-40°F ~ 176°F)	TBD
ESM-ASLC-X35RE-A1R	Intel® Atom® SoC Processor x7835RE	NA	LVDS/eDP	Onboard TPM 2.0 (Optional)	1	eMMC 5.1 Up to 128GB (Optional)	-40 ~ 80°C (-40°F ~ 176°F)	TBD

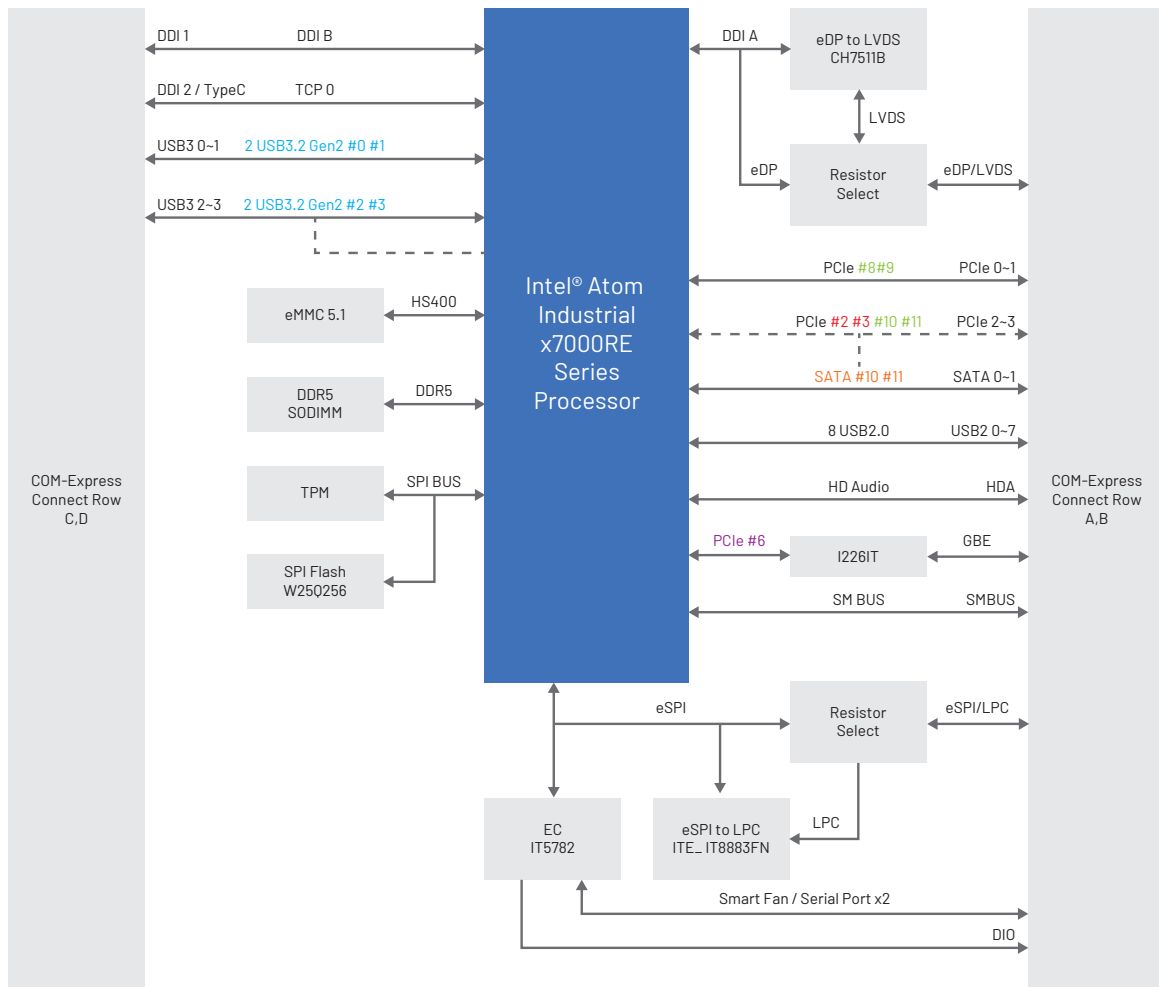
I/O Overview



ESM-ASLC

Onboard Intel Atom® x7000RE Series Processors Type6 COMe Compact Module

Block Diagram



	ME1	ME2	ME3
	BOM 1	BOM 2	BOM 3
CPU Lane#	Function	Function	Function
0	USB0	USB0	USB0
1	USB1	USB1	USB1
2	PCIe2	USB2	USB2
3	PCIe3	USB3	USB3
6	I226		
8	PCIe0	PCIeX4 (0~3)	PCIe0
9	PCIe1		PCIe1
10	SATA0		SATA0
11	SATA1		SATA1

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US

sales@assured-systems.com

Sales: +1 347 719 4508
Support: +1 347 719 4508

1309 Coffeen Ave
Ste 1200
Sheridan
WY 82801
USA

EMEA

sales@assured-systems.com

Sales: +44 (0)1785 879 050
Support: +44 (0)1785 879 050

Unit A5 Douglas Park
Stone Business Park
Stone
ST15 0YJ
United Kingdom

VAT Number: 120 9546 28
Business Registration Number: 07699660