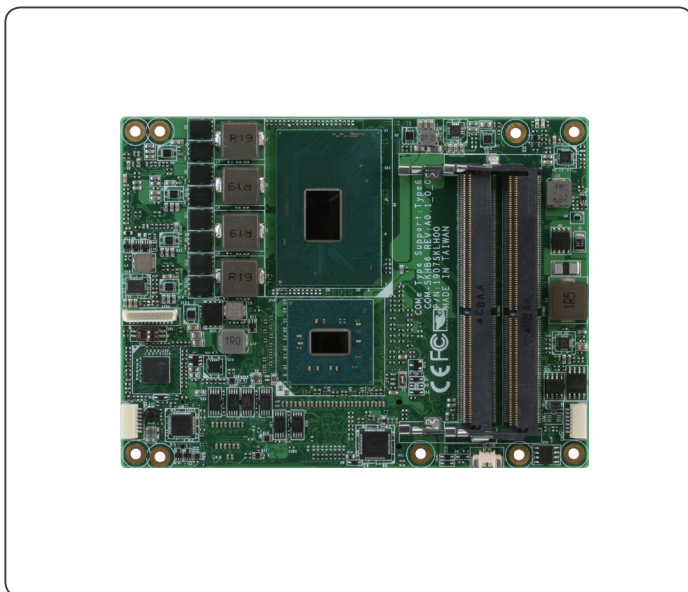


# 06 COM-KBHB6

COM Express CPU Modules

COM Express Type 6 Basic Size with 7th Gen. Intel® XEON E3 Processors

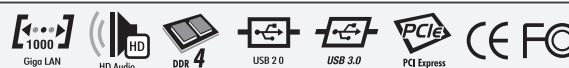


## Features

- Intel® XEON E3 Processors with PCH CM238
- DDR4 SODIMM x 2, up to 32GB, ECC Support by SKU
- Gigabit Ethernet x 1
- Up to 3x DDI Display Support
- SATA x 4, USB2.0 x 8, USB 3.0 x 4, GPIO x 8b
- PCIe[x1] x 8, PCIe[x16] x 1
- COM Express Type 6, Basic Size, 125mm x 95mm

## Specifications

System	
Form Factor	COM Express, Basic Module, Pin-out Type 6
CPU	Onboard 7th Generation Intel® XEON™ Processor, H-series, BGA type
CPU Frequency	E3-1505M v6, up to 3GHz
Chipset	Onboard 7th Generation Intel® CM238 PCH
Memory Type	DDR4, SO-DIMMx2, ECC support
Max. Memory Capacity	32GB
BIOS	AMI BIOS
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	Nominal: +12V
Power Supply Type	AT/ ATX
Power Consumption (Typical)	3.10A @12V, when 100% loading in Windows® 10
Dimension (L x W)	4.92" x 3.75" (125mm x 95mm)
Operating Temperature	32 °F ~ 140 °F (0 °C ~ 60 °C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	80,000
Certification	CE/FCC
Display	
VGA/LCD Controller	GT2-P530
Video Output	CRT, up to 2ch LVDS/eDP, DDI x 2 (default)
I/O	
Ethernet	Intel® 219LM, Gigabit Ethernet
Audio	High Definition Audio
USB Port	USB 2.0 x 8, USB 3.0 x 4
Serial Port	TX/RX x 2
HDD Interface	SATA 3.0 x 4
Onboard SSD	—
Expansion Slot	PCI-Express [x16] x1 PCI-Express [1] x 8 LPC bus x1, SMBus x 1
DIO	GPIO 8-bit
TPM	Option (TPM 2.0)



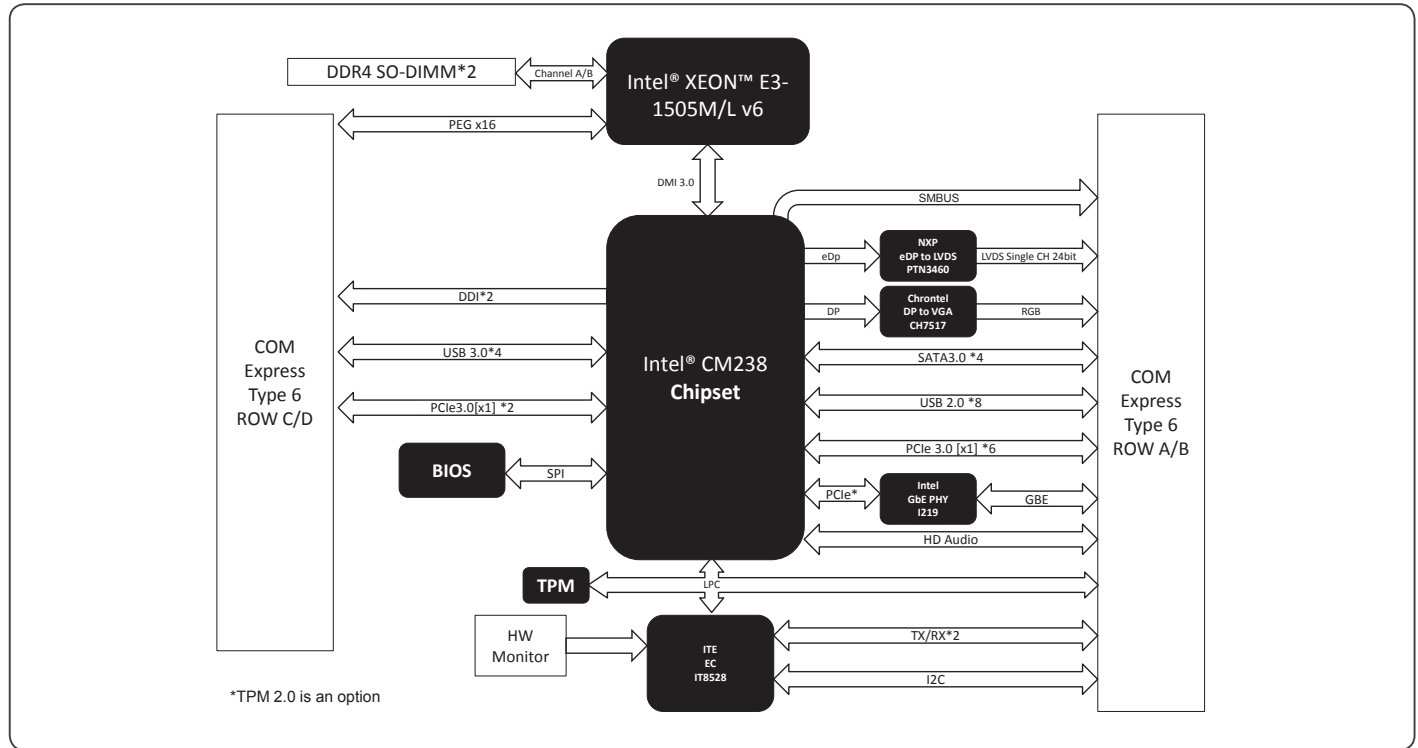
## Packing List

- M2.5 Screw x 5
- Product CD
- COM-KBHB6

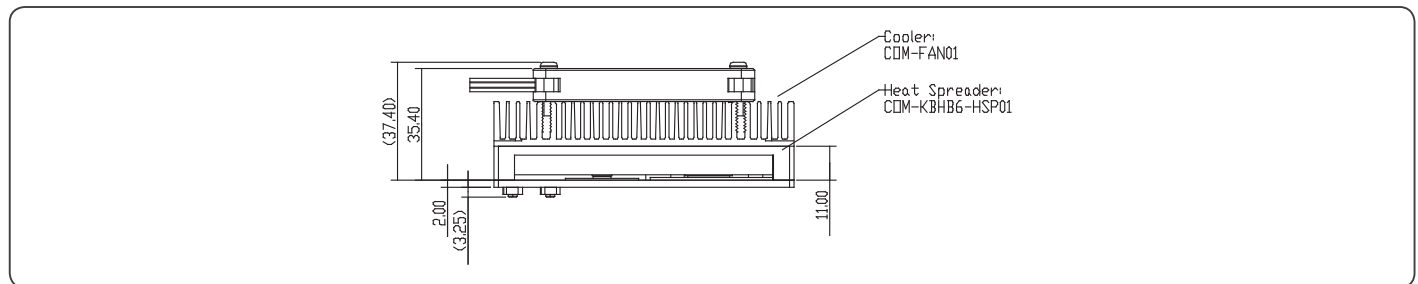
## Optional Accessories

- **ECB-920A-A10-0001**  
COM Express Type 1/6/10 Carrier Board, Gigabit Ethernet, USB, 2 COM, 4 SATA, PCIe, AT/ATX, Legacy Free, Rev. A1.0
- **COM-KBHB6-HSP01**  
Heat Spreader, For COM-KBHB6, Onboard CPU
- **COM-FAN01**  
CPU Cooler, 45W, for COM Express Basic size, to be used with Heat Spreader

## Block Diagram Unit: mm



## Dimension Unit: mm



## Ordering Information

Part Number	COM Express Type	CPU	PCH	Memory	Display	LVDS	Storage	LAN	USB	UART	Expansion Slot	Power	Working Temp	Others
COM-KBHB6-A10-0004	6 (COM.0 Rev 3.0)	7th Gen. Intel® XEON™ 1505M v6/2.7GHz	CM238	DDR4 SODIMM x 2, up to 32GB, ECC support	CRT, LVDS/eDP, DDI x 2 (up to 3)	18/24b 2CH (LVDS share with eDP)	SATA x 4	GbE x 1	USB3.0 x 4 USB2.0 x 8	2 (Tx/Rx)	PCI-E[x1] x 8 PCI-E[x16] x 1	12V	0°C ~ 60°C	I2C, LPC, GPIO, SMBUS

## CPU Support Chart

CPU	Base Frequency/ Turbo Boost GHz	Core/ Thread	Last level Cache	ECC Support/ Chipset	TDP	Graphic
E3-1505M v6	3.0/4.0	4/8	8M	yes/CM238	45W/35W	GT2 - P530
E3-1505L v6	2.2/3.0	4/8	8M	yes/CM238	25W	GT2 - P530
i7-7820EQ	3.0/3.7	4/8	8M	—	45W/35W	GT2 - 530
i5-7440EQ	2.9/3.6	4/4	6M	—	45W/35W	GT2 - 530
i5-7442EQ	2.1/2.9	4/4	6M	—	25W	GT2 - 530

CPU	Base Frequency/ Turbo Boost GHz	Core/ Thread	Last level Cache	ECC Support/ Chipset	TDP	Graphic
i3-7100E	2.9	2/4	3M	yes/CM238	35W	GT2 - 530
i3-7102E	2.1	2/4	3M	yes/CM238	25W	GT2 - 530