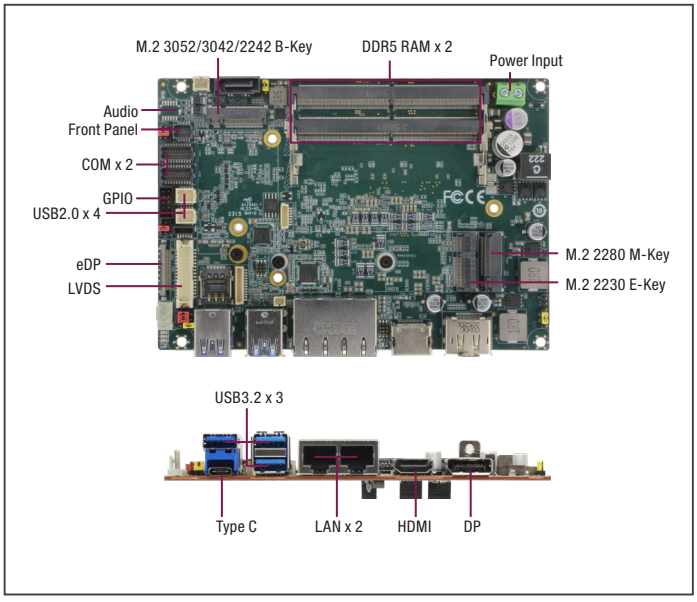
GENE-RAP6

3.5” SubCompact Board with 13th Generation Intel® Core™ i7/i5/i3 Processor SoC



Features

- 13th Generation Intel® Core™ i7/i5/i3/U-series Processor SoC
- DDR5 4800, Dual Channel SODIMM x 2, up to 64GB
- LVDS x 1, eDP x1, DP x 1, HDMI x 1
- 2.5GbE x 1, GbE x 1, SATA 6Gb/s x 1, GPIO x 8-bit
- USB 3.2 Gen 2 x 3, USB 2.0 x 4, USB Type C x 1, RS-232/422/485 x 4
- M.2 2280 M-Key x 1, M.2 2230 E-Key x 1, M.2 3052/3042/2242 B-Key x 1
- Wide DC Input 9-36V

2.5Giga LAN · DDR5 · Audio · LVDS · USB 3.2 Gen 2

Specifications

System	
Form Factor	3.5" SubCompact Board
CPU	13th Generation Intel® Core™/U-series Processors: Intel® Core™ i7-1370PE (6PC+8EC/20T, 1.90 GHz, 28W) Intel® Core™ i7-1370PRE (6PC+8EC/20T, 1.90 GHz, 28W) Intel® Core™ i5-1340PE (4PC+8EC/16T, 1.80 GHz, 28W) Intel® Core™ i5-1335UE (2PC+8EC/12T, 1.30 GHz, 15W) Intel® Core™ i3-1320PE (4PC+4EC/12T, 1.70 GHz, 28W) Intel® Processor U300E (1PC+4EC/6T, 1.10 GHz, 15W)
Chipset	Integrated with Intel® SoC
Memory Type	DDR5 4800, Dual Channel SODIMM x 2, Max. 64GB, Non-ECC
BIOS	UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Security	TPM 2.0 (Optional)
RTC Battery	Lithium Battery 3V/240mAH
Dimensions	5.75" x 4" (146mm x 101.7mm), 0.94 lbs (0.43 kg)
OS Support	Windows 10/11 (64bit) Ubuntu 22.04.2/5.19.0-32-generic
Power	
Power Requirement	+9V~36V (Optional: +12V)
Power Supply Type	AT/ATX
Connector	Phoenix 2-pin Connector
Power Consumption	Intel® Core™ i7-1370PE, DDR5 32GB x 2, 5.33A@ +12V (TYPICAL) Intel® Core™ i7-1370PE, DDR5 32GB x 2, 8.55A@ +12V (MAX)
Display	
Controller	Intel® Iris® Xe Graphics Intel® UHD Graphics
LVDS/eDP	LVDS x 1, Dual Channel 18/24bit, up to 1920 x 1080 eDP 1.4 x 1, up to 3840 x 2160 (Optional)
Display Interface	HDMI 2.1 x 1, up to 8K x 4K@60Hz or 4K x 2K@120Hz DP 1.4 x 1, up to 7680 x 4320@60Hz 30bpp (support DP++)
Multiple Display	Up to 4 Simultaneous Displays
Audio	
Codec	Realtek ALC897
Audio Interface	Line-In/Line-Out/Mic (Audio function not available for WiTAS SKU)
Speaker	—
External I/O	
Ethernet	Intel® I219 1GbE, RJ-45 x 1 Intel® I226 2.5GbE, RJ-45 x 1
USB	USB 3.2 Gen 2 x 3 USB Tpye-C x 1 (USB3.2 Gen2 maximum 5V/3A , DP1.4)
Serial Port	—
Video	HDMI 2.1 x 1, DP 1.4 x 1

Internal I/O	
USB	USB 2.0 x 4
Serial Port	COM 1, COM 2 (RS-232/422/485, supports 5V/12V/RI) COM 3, COM 4 (RS-232/422/485)
Video	LVDS x 1 eDP x 1 Inverter x 1 (12V/2A)
SATA	SATA 6.0 Gb/s x 1 +5V SATA Power Connector x 1
Audio	Audio Header x 1 (Optional, Audio function not available for WiTAS SKU)
DIO/GPIO	GPIO 8-bit
SMBus/I2C	SMBus/I2C x 1 (Default: SMBus)
Touch	—
Fan	4pins Smart Fan x 1
Sim	Nano SIM x 1
Front Panel	HDD LED, PWR LED, Power Button, Buzzer, Reset
Others	—
Expansion	
Mini PCIe/mSATA	—
M.2	M.2 2280 M-Key x 1 (PCIe 4.0 [x4] x 1) M.2 3052/3042/2242 B-Key x 1 (PCIe 3.0 [x2]/SATA + USB3.2), Default: SATA (selected by BOM) M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB2.0)
Others	FPC x 1 (PCIe 4.0 [x4] x1), Only support Graphic or NVME
Environment & Certification	
Operating Temp.	32°F ~ 140°F (0°C ~ 60°C) WiTAS2: -40°F ~ 185°F (-40°C ~ 85°C)
Storage Temp.	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	338,172
EMC	CE/FCC Class A

Packing List

Part Number	Description	QTY
GENE-RAP6	GENE-RAP6 MB	1

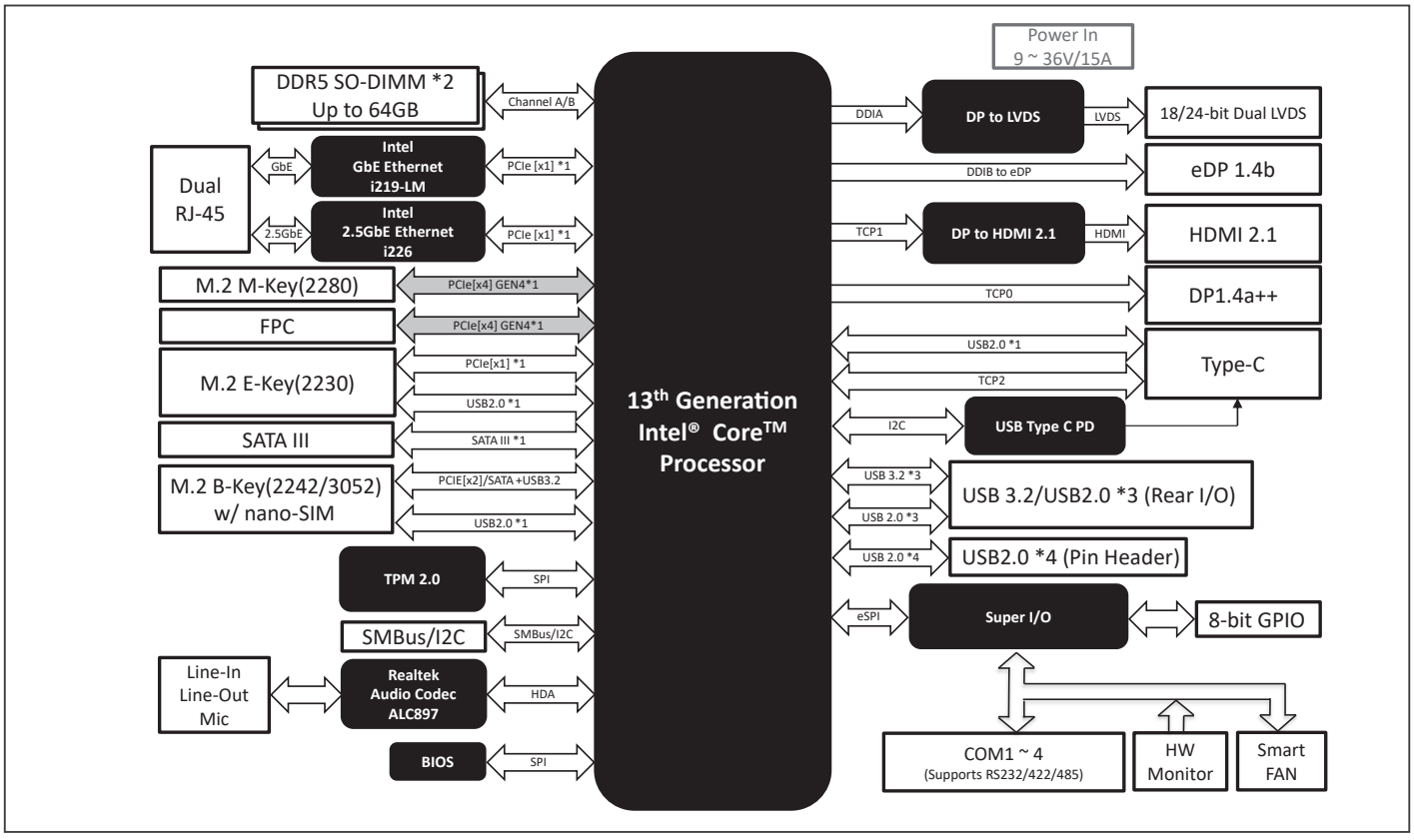
Optional Accessories

Part Number	Description	QTY
GENE-ADP6-FAN01	CPU Cooler.12V.4800RPM.Smart FAN	1
GENE-ADP6-HSP01	Heatspreader.146*80*11mm	1
GENE-ADP6-HSK01	Heatsink. 146*101.6*25mm	1
1702150155	SATA HDD Power, Cable 15cm	1
170X000398	Power Cable, DC JACK, 30cm	1
170204010R	Power Cable, Double 4P, 10cm	1
170X000156	Audio Cable, 25cm	1
1709100108	Front Panel Cable, 10cm	1
170X000231	COM Port Cable, 30cm	2
170010010D	USB 2.0 Cable, 10cm	2

Note: All specifications are subject to change without notice.

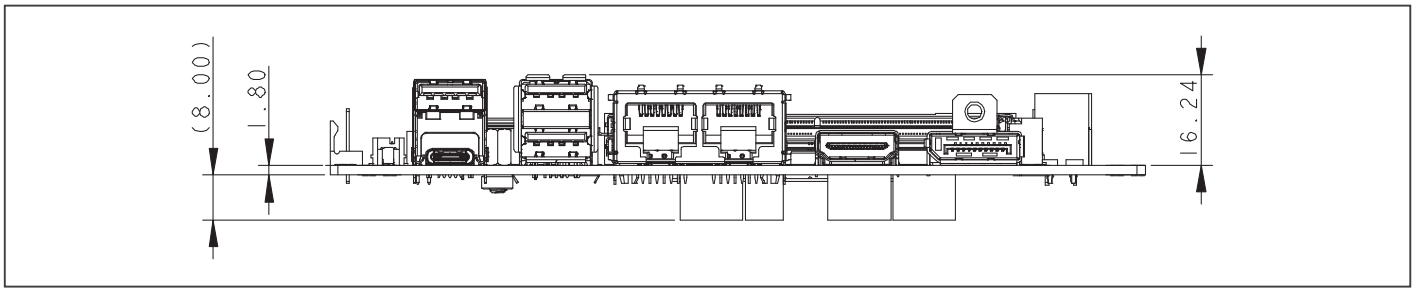
2026/03/30
Downloaded from Arrow.com.

Block Diagram



Dimension

Unit: mm



Ordering Information

Part Number	CPU	Display	LAN	USB	COM	Storage	Expansion Slot	TPM	Power	Temp	Others
GENE-RAP6-A10-0001	Intel® Core™ i7-1370PE	HDMI x 1, DP++ x 1, LVDS x 1, eDP x 1, Type-c DP x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 3 USB Type-C x 1 USB 2.0 x 4	4	SATA x 1	M.2 2280 M-Key x 1 M.2 3052 B-Key x 1 M.2 2230 E-Key x 1	2.0	9~36V	0°C ~ 60°C	Audio, Nano SIM, GPIO x 8, SMBUS
GENE-RAP6-A10-0002	Intel® Core™ i5-1340PE	HDMI x 1, DP++ x 1, LVDS x 1, eDP x 1, Type-c DP x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 3 USB Type-C x 1 USB 2.0 x 4	4	SATA x 1	M.2 2280 M-Key x 1 M.2 3052 B-Key x 1 M.2 2230 E-Key x 1	2.0	9~36V	0°C ~ 60°C	Audio, Nano SIM, GPIO x 8, SMBUS
GENE-RAP6-A10-0003	Intel® Core™ i5-1335UE	HDMI x1, DP++ x1, LVDS x1, Type-c DP x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 3 USB Type-C x 1 USB 2.0 x 4	4	SATA x 1	M.2 2280 M-Key x 1 M.2 3052 B-Key x 1 M.2 2230 E-Key x 1	—	12V	0°C ~ 60°C	Audio, Nano SIM, GPIO x 8, SMBUS
GENE-RAP6-A10-0004	Intel® Core™ i3-1320PE	HDMI x 1, DP++ x 1, LVDS x 1, eDP x 1, Type-c DP x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 3 USB Type-C x 1 USB 2.0 x 4	4	SATA x 1	M.2 2280 M-Key x 1 M.2 3052 B-Key x 1 M.2 2230 E-Key x 1	2.0	9~36V	0°C ~ 60°C	Audio, Nano SIM, GPIO x 8, SMBUS
GENE-RAP6-A10-0005	Intel® Processor U300E	HDMI x1, DP++ x1, LVDS x1, Type-c DP x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 3 USB Type-C x 1 USB 2.0 x 4	4	SATA x 1	M.2 2280 M-Key x 1 M.2 3052 B-Key x 1 M.2 2230 E-Key x 1	—	12V	0°C ~ 60°C	Audio, Nano SIM, GPIO x 8, SMBUS
GENE-RAP6W2-A10-0006	Intel® Core™ i7-1370PRE	HDMI x1, DP++ x1, LVDS x1, Type-c DP x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 3 USB Type-C x 1 USB 2.0 x 4	4	SATA x 1	M.2 2280 M-Key x 1 M.2 3052 B-Key x 1 M.2 2230 E-Key x 1	2.0	12V	-40°C ~ 85°C	Nano SIM, GPIO x 8, SMBUS

Downloaded from Arrow.com.