

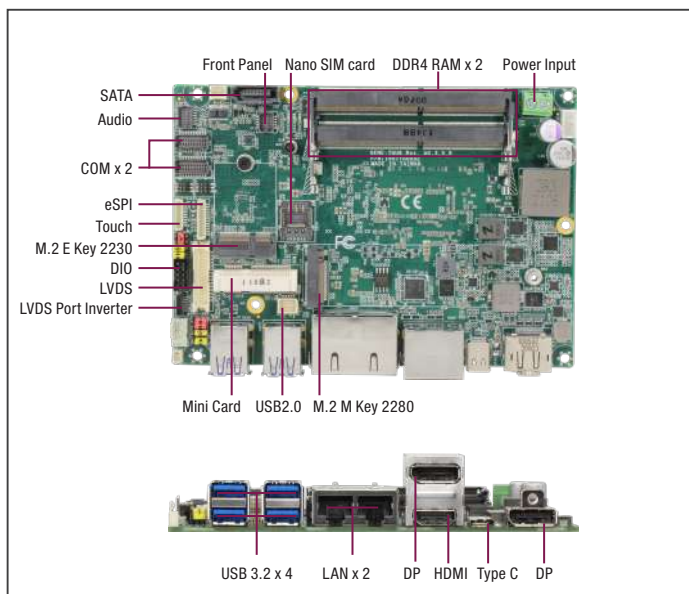
GENE-TGU6

3.5" SubCompact Board with 11th Generation Intel® Core™ i7/i5/i3/Celeron® CPU



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Features

- DDR4 SODIMM Slot x 2, up to 64GB, support IB ECC
- HDMI 2.0 x 1, DP 1.4 x 2, Type-C DP x 1, LVDS/eDP x 1
- 2.5GbE x 1, GbE x 1
- USB 3.2 Gen 2 x 4, USB 2.0 x 2, USB Type-C x 1
- M.2 2280 M-Key x 1, M.2 2230 E-Key x 1
- Wide DC Input 9~36V (Optional: 12V Only)



INTERNAL I/O	
USB	USB 2.0 x 2
SERIAL PORT	COM 1, COM 3, COM 4 (RS-232/422/485) COM 2 (RS-232/422/485, supports 5V/12V/RI)
VIDEO	LVDS/eDP x 1 (Default: LVDS) 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)
DIO/GPIO	GPIO 8-bit
SMBus/I2C	SMBus/I2C x 1 (Default: SMBus)
TOUCH	4/5/8-wire Touch Controller x 1 (Optional)
FAN	4pins Smart Fan x 1
SIM	Nano SIM x 1
FRONT PANEL	HDD LED, PWR LED, Power Button, Buzzer, Reset
OTHERS	—
EXPANSION	
Mini PCI-E/mSATA	Full-size mSATA / mPCIe x 1 (Default: mSATA, select by BIOS)
M.2	M.2 2280 M-Key x 1 (PCIe 4.0 [x4] x 1) M.2 2230 E-Key x 1 (PCIe 3.0 [x1], USB 2.0)
OTHERS	—
ENVIRONMENT & CERTIFICATION	
OPERATING TEMP.	32°F ~ 140°F (0°C ~ 60°C) WITAS 2: -40°F ~ 185°F (-40°C ~ 85°C) on selected CPU SKU
STORAGE TEMP.	-40°F ~ 185°F (-40°C ~ 85°C)
OPERATING HUMIDITY	0% ~ 90% relative humidity, non-condensing
MTBF (HOURS)	329,884
EMC	CE/FCC Class A

Specifications

SYSTEM	
FORM FACTOR	3.5" SubCompact Board
CPU	11th Generation Intel® Core™/Celeron® Processors: Intel® Core™ i7-1185G7E (4C/8T, 1.80 GHz, 15W) Intel® Core™ i5-1145G7E (4C/8T, 1.5 GHz, 15W) Intel® Core™ i3-1115G4E (2C/4T, 2.20 GHz, 15W) Intel® Celeron® 6305E (2C/2T, 1.80 GHz, 15W) Intel® Core™ i7-1185GRE (4C/8T, 1.80 GHz, 15W)
CHIPSET	Integrated with Intel® SoC
MEMORY TYPE	DDR4 3200, 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
DIMENSION	5.75" x 4" (146mm x 101.7mm)
OS SUPPORT	Windows 10 (64bit) Linux Ubuntu 20.04.2/Kernel 5.8
POWER	
POWER REQUIREMENT	+9V~36V (Optional: +12V)
POWER SUPPLY TYPE	AT/ATX
CONNECTOR	Phoenix 2-pin Connector
POWER CONSUMPTION	Intel® Core™ i7-1185G7E, DDR4 3200MHz 32GB x 2, 4.96A @+12V (Typical) Intel® Core™ i7-1185G7E, DDR4 3200MHz 32GB x 2, 7.32A @+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 2.0 x 1, up to 4K x 2K@60Hz DP 1.4 x 2, up to 4K x 2K@60Hz DP 1.4 x 1 (via USB Type-C), up to 4K x 2K@60Hz
MULTIPLE DISPLAY	Up to 4 Simultaneous Displays
AUDIO	
CODEC	Realtek ALC897
AUDIO INTERFACE	Line-In/Line-Out/Mic
SPEAKER	—
EXTERNAL I/O	
ETHERNET	Intel® I219 1GbE, RJ-45 x1 Intel® I225/I226 2.5GbE, RJ-45 x 1
USB	USB 3.2 Gen 2 x 4 USB Type-C x 1 (USB 3.2 Gen 2, DP 1.4, PD 5V/3A)
SERIAL PORT	—
VIDEO	HDMI 2.0 x 1, DP 1.4 x 2, Type-C DP 1.4 x 1

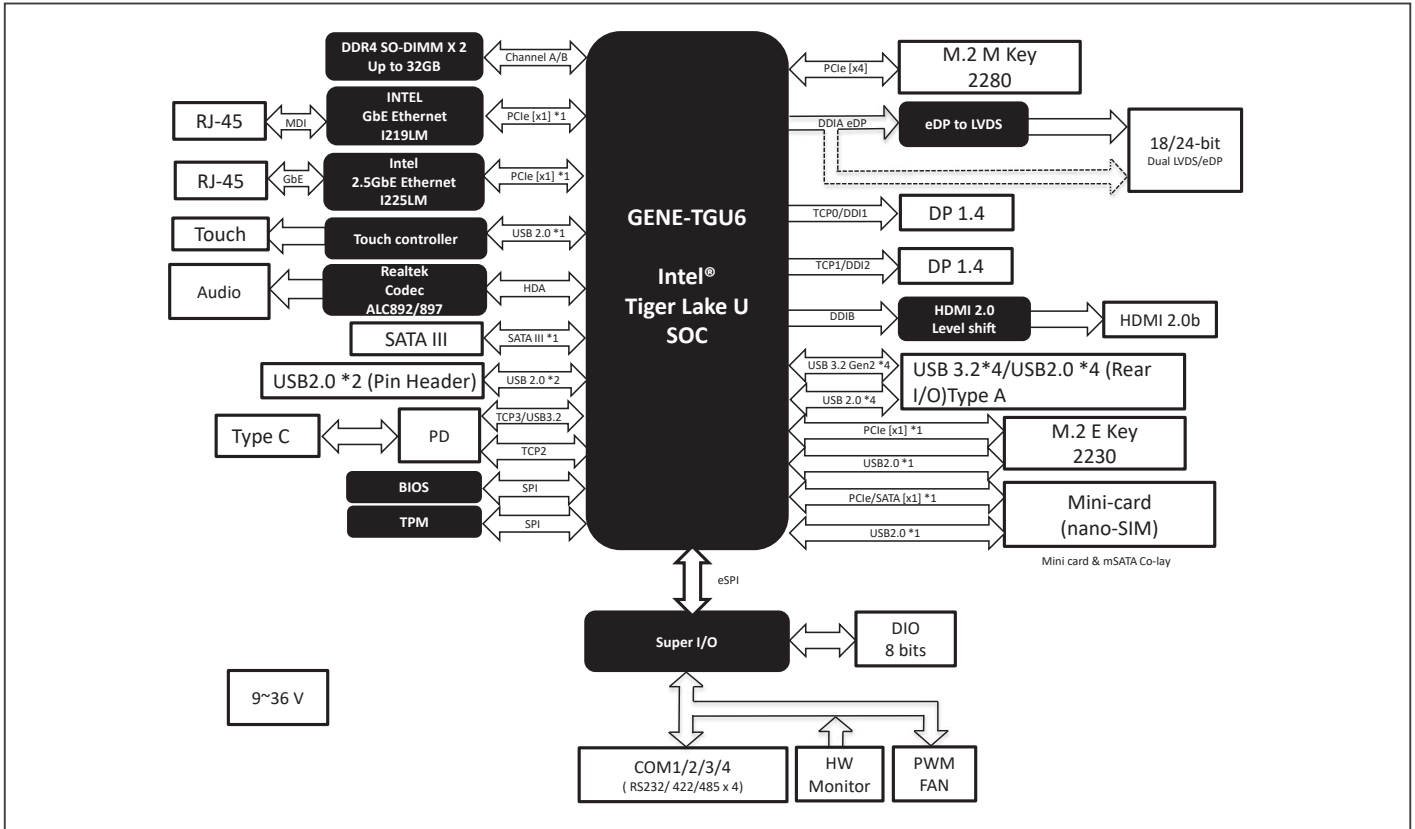
Optional Accessories

Part Number	Description	QTY per Board
GENE-TGU6-FAN01	CPU Cooler.360ORPM	1
GENE-TGU6-HSK01	Heatsink	1
GENE-TGU6-HSP01	HeatSpreader	1
1702150155	SATA HDD Power, Cable 15cm	1
170204010R	Power Cable,10cm	1
170X000156	Audio Cable, 25cm	1
170X000231	COM Port Cable, 30cm	2
170010010D	USB 2.0 Cable, 10cm	1

Packing List

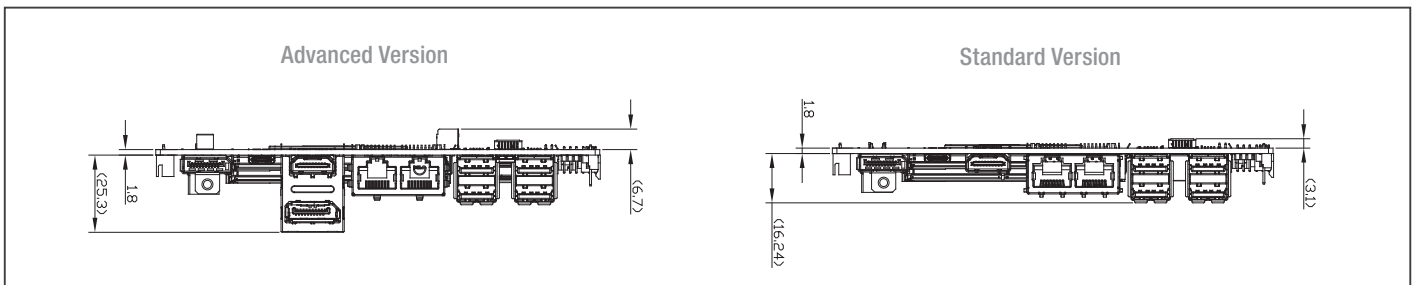
Part Number	Description	QTY
GENE-TGU6	GENE-TGU6 MB	1

Block Diagram



Dimension

Unit: mm



Ordering Information

Part Number	CPU	Display	LAN	USB	RS-232	RS-232/422/485	Storage	Expansion Slot	TPM	Power	Operating Temp	Others
GENE-TGU6-A10-0011	Intel® Core™ i7-1185G7E	DP x 2, Type-C DP x 1 HDMI x 1, LVDS x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 4 USB 3.2 Gen 2 (Type-C) x 1 USB 2.0 x 2	—	4	SATA x 1 mSATA x 1 (Full-size)	M.2 2280 M-Key x 1 M.2 2230 E-Key x 1	2.0	9~36V	0°C ~ 60°C	Audio, DIO x 8, nano SIM, Touch Controller
GENE-TGU6-A10-0012	Intel® Core™ i7-1185G7E	DP x 1, Type-C DP x 1 HDMI x 1, LVDS x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 4 USB 3.2 Gen 2 (Type-C) x 1 USB 2.0 x 2	—	4	SATA x 1 mSATA x 1 (Full-size)	M.2 2280 M-Key x 1 M.2 2230 E-Key x 1	—	12V	0°C ~ 60°C	Audio, DIO x 8, nano SIM
GENE-TGU6-A10-0013	Intel® Core™ i5-1145G7E	DP x 2, Type-C DP x 1 HDMI x 1, LVDS x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 4 USB 3.2 Gen 2 (Type-C) x 1 USB 2.0 x 2	—	4	SATA x 1 mSATA x 1 (Full-size)	M.2 2280 M-Key x 1 M.2 2230 E-Key x 1	2.0	9~36V	0°C ~ 60°C	Audio, DIO x 8, nano SIM, Touch Controller,
GENE-TGU6-A10-0014	Intel® Core™ i5-1145G7E	DP x 1, Type-C DP x 1 HDMI x 1, LVDS x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 4 USB 3.2 Gen 2 (Type-C) x 1 USB 2.0 x 2	—	4	SATA x 1 mSATA x 1 (Full-size)	M.2 2280 M-Key x 1 M.2 2230 E-Key x 1	—	12V	0°C ~ 60°C	Audio, DIO x 8, nano SIM
GENE-TGU6-A10-0015	Intel® Core™ i3-1115G4E	DP x 2, Type-C DP x 1 HDMI x 1, LVDS x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 4 USB 3.2 Gen 2 (Type-C) x 1 USB 2.0 x 2	—	4	SATA x 1 mSATA x 1 (Full-size)	M.2 2280 M-Key x 1 M.2 2230 E-Key x 1	2.0	9~36V	0°C ~ 60°C	Audio, DIO x 8, nano SIM, Touch Controller
GENE-TGU6-A10-0016	Intel® Core™ i3-1115G4E	DP x 1, Type-C DP x 1 HDMI x 1, LVDS x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 4 USB 3.2 Gen 2 (Type-C) x 1 USB 2.0 x 2	—	4	SATA x 1 mSATA x 1 (Full-size)	M.2 2280 M-Key x 1 M.2 2230 E-Key x 1	—	12V	0°C ~ 60°C	Audio, DIO x 8, nano SIM
GENE-TGU6-A10-0017	Intel® Celeron® 6305E	DP x 2, Type-C DP x 1 HDMI x 1, LVDS x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 4 USB 3.2 Gen 2 (Type-C) x 1 USB 2.0 x 2	—	4	SATA x 1 mSATA x 1 (Full-size)	M.2 2280 M-Key x 1 M.2 2230 E-Key x 1	2.0	9~36V	0°C ~ 60°C	Audio, DIO x 8, nano SIM, Touch Controller
GENE-TGU6W1-A10-0012	Intel® Core™ i7-1185GRE	DP x 2, Type-C DP x 1 HDMI x 1, LVDS x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 4 USB 3.2 Gen 2 (Type-C) x 1 USB 2.0 x 2	—	4	SATA x 1 mSATA x 1 (Full-size)	M.2 2280 M-Key x 1 M.2 2230 E-Key x 1	—	12V	W1(-20°C ~ 70°C)	DIO x 8, nano SIM
GENE-TGU6W2-A10-0018	Intel® Core™ i7-1185GRE	DP x 2, Type-C DP x 1 HDMI x 1, LVDS x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 4 USB 3.2 Gen 2 (Type-C) x 1 USB 2.0 x 2	—	4	SATA x 1 mSATA x 1 (Full-size)	M.2 2280 M-Key x 1 M.2 2230 E-Key x 1	—	12V	W2(-40°C ~ 85°C)	DIO x 8, nano SIM

Note: All specifications are subject to change without notice.