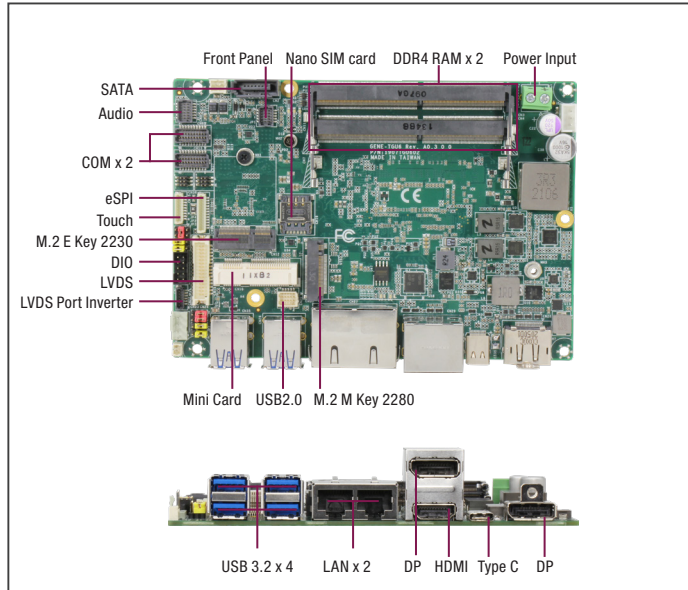


# GENE-TGU6

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



## Specifications

FORM FACTOR	
FORM FACTOR	3.5" SubCompact Board
CPU	Intel® 11th Generation Core™/Celeron CPU: i7-1185G7E (4C, 1.8GHz, up to 4.4GHz, TDP-up 28W) i5-1145G7E (4C, 1.5GHz, up to 4.1GHz, TDP-up 28W) i3-1115G4E (2C, 2.2GHz, up to 3.9GHz, TDP-up 28W) Celeron® 6305E (2C, 1.8GHz, TDP 15W)
CHIPSET	Integrated with Intel® SoC
MEMORY TYPE	DDR4 3200MHz, Dual Channel SODIMM x 2, up to 64GB, Support IBCEC (select SKUs)
BIOS	UEFI
WAKE ON LAN	Yes
WATCHDOG TIMER	255 Levels
SECURITY	TPM2.0
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	+9-36V (Optional: +12V)
POWER SUPPLY TYPE	AT/ATX
CONNECTOR	Phoenix 2-pin Connector
POWER CONSUMPTION	Intel® i7-1185G7E, DDR4 3200MHz 32GB x2, 4.96A@ +12V(TYPICAL) Intel® i7-1185G7E, DDR4 3200MHz 32GB x2, 7.32A@ +12V(MAX)
DISPLAY	
CONTROLLER	Intel® Iris® Xe Graphics Intel® UHD Graphics
LVDS/eDP	LVDS Dual Channel 18/24bit x 1, up to 1920 x 1080 (Option: eDP1.4b up to 3840 x 2160)
DISPLAY INTERFACE	HDMI 2.0b x 1, up to 4K x 2K 60Hz DP1.4 x 2, up to 4K x 2K 60Hz Type C DP1.4a x 1, up to 4K x 2K 60Hz
MULTIPLE DISPLAY	Up to 4 Simultaneous Displays
AUDIO	
CODEC	Realtek ALC897/892
AUDIO INTERFACE	Line-in/Line-out/MIC
SPEAKER	—
EXTERNAL I/O	
ETHERNET	Intel® i219LM, 10/100/1000Base, RJ-45 x1 Intel® i225LM, 10/100/2500Base, RJ-45 x1
USB	USB3.2 Gen 2 x 4 USB3.2 Gen 2 Type C x 1 (PD 5V/3A)
SERIAL PORT	—
VIDEO	HDMI 2.0b x 1, DP1.4 x 2, Type C DP1.4a x 1

## Features

- DDR4 SODIMM Slot x 2, up to 64GB, support IBCEC
- HDMI 2.0b x 1, DP1.4 x 2, Type C DP x 1, LVDS/eDP x 1
- 2.5GbE x 1, GbE x 1
- USB 3.2 Gen2 x 4, USB2.0 x2, 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	USB2.0 x 2
SERIAL PORT	COM1, COM3, COM4 (RS232/422/485) COM2 (RS232/422/485, supports 5V/12V/RI)
VIDEO	LVDS/eDP x 1 (Default: LVDS) eDP: up to 1080P@60Hz
SATA	SATA III x 1 +5V SATA Power Connector x 1
AUDIO	Audio Header x 1
DIO/GPIO	8-Bit
SMBus/I2C	SMBus/I2C x 1(Default: SMBus)
TOUCH	4/5/8-wire Touch Controller x 1 (optional)
FAN	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-Sized mSATA/mPCIe x 1 (default: mSATA, select with BIOS)
M.2	M-Key 2280 x 1 (PCIex4) E-Key 2230 x 1 (PCIe, USB2.0)
OTHERS	—
ENVIRONMENT & CERTIFICATION	
OPERATING TEMP.	32°F ~ 140°F (0°C ~ 60°C), WiTAS1 -4°F ~ 158 °F (-20°C ~ 70°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)	329,884
EMC	CE/FCC Class A

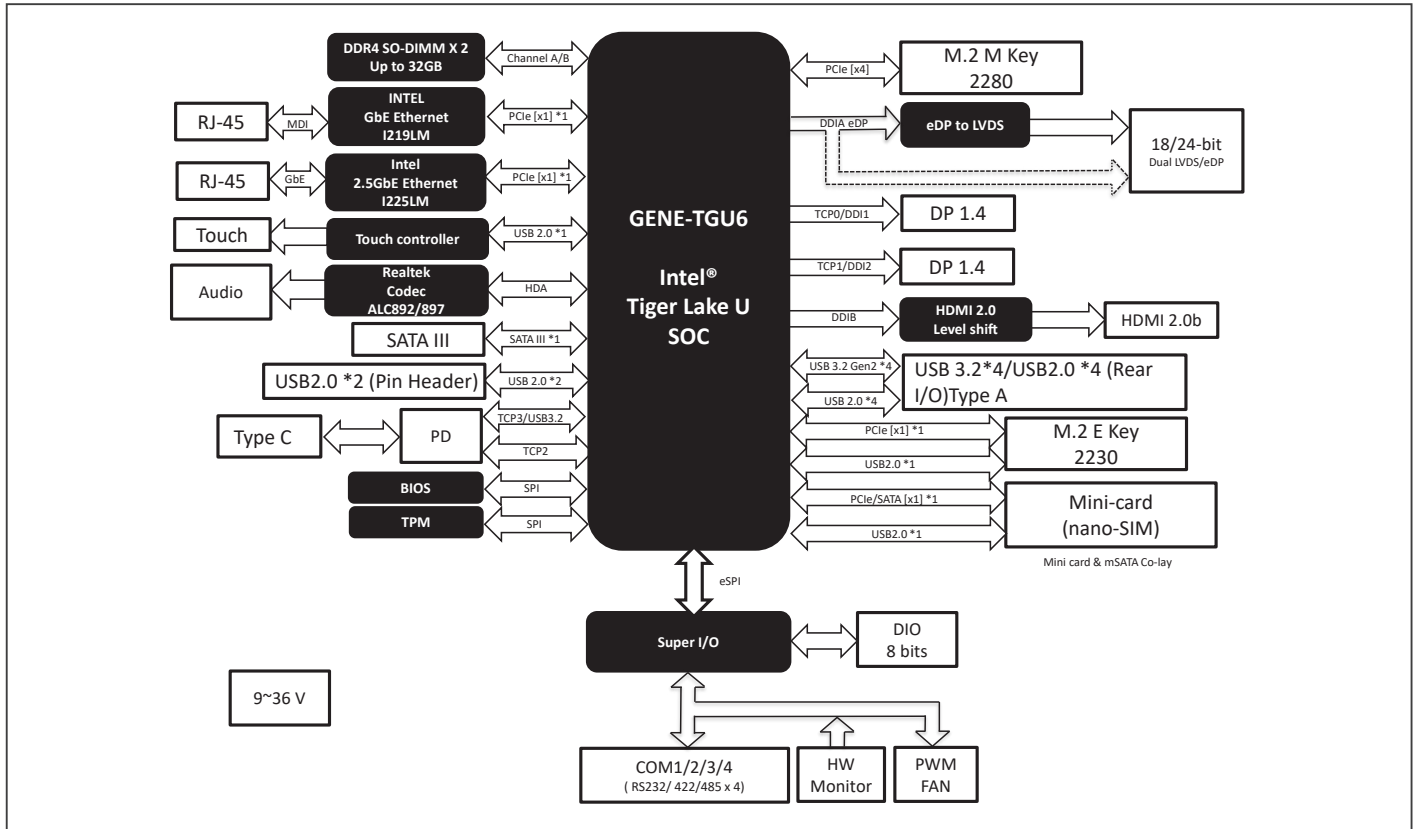
## Optional Accessories

Part Number	Description	QTY per Board
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
GENE-TGU6-FAN01	CPU Cooler.3600RPM.Smart FAN	1
GENE-TGU6-HSK01	Heatsink	1
GENE-TGU6-HSP01	HeatSpreader	1

## Packing List

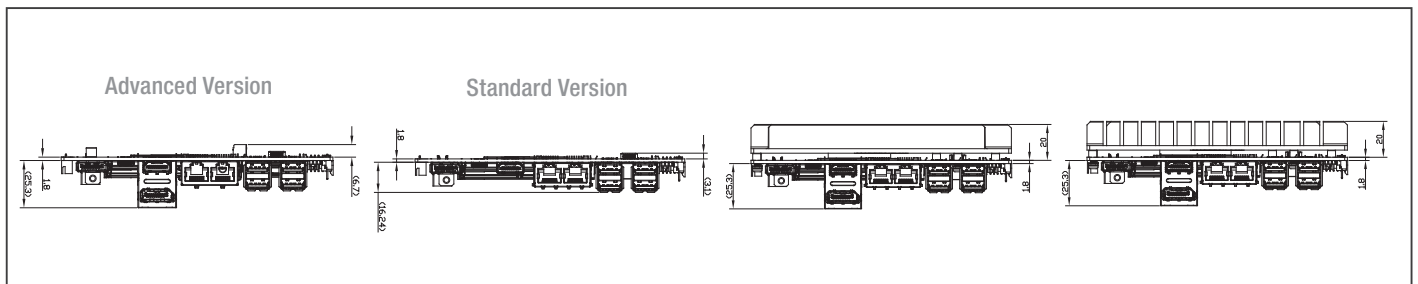
Part Number	Description	QTY
GENE-TGU6	GENE-TGU6 MB	1

## 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	i7-1185G7E	DP x2, TypeC DP x1 HDMI x1, LVDS x1	GbE x1 2.5GbE x1	USB 3.2 Gen2 x 4 USB 3.2 Gen2 TypeC x1 USB 2.0 x 2	—	4	SATA x1 mSATA (Full size)x1	M.2 M Key 2280 x 1 M.2 E Key 2230 x 1	2.0	9~36V	0°C ~ 60°C	DIO x 8, nano SIM, Touch Controller
GENE-TGU6-A10-0012	i7-1185G7E	DP x1, TypeC DP x1 HDMI x1, LVDS x1	GbE x1 2.5GbE x1	USB 3.2 Gen2 x 4 USB 3.2 Gen2 TypeC x1 USB 2.0 x 2	—	4	SATA x1 mSATA (Full size)x1	M.2 M Key 2280 x 1 M.2 E Key 2230 x 1	—	12V	0°C ~ 60°C	DIO x 8, nano SIM
GENE-TGU6-A10-0013	i5-1145G7E	DP x2, TypeC DP x1 HDMI x1, LVDS x1	GbE x1 2.5GbE x1	USB 3.2 Gen2 x 4 USB 3.2 Gen2 TypeC x1 USB 2.0 x 2	—	4	SATA x1 mSATA (Full size)x1	M.2 M Key 2280 x 1 M.2 E Key 2230 x 1	2.0	9~36V	0°C ~ 60°C	DIO x 8, nano SIM, Touch Controller
GENE-TGU6-A10-0014	i5-1145G7E	DP x1, TypeC DP x1 HDMI x1, LVDS x1	GbE x1 2.5GbE x1	USB 3.2 Gen2 x 4 USB 3.2 Gen2 TypeC x1 USB 2.0 x 2	—	4	SATA x1 mSATA (Full size)x1	M.2 M Key 2280 x 1 M.2 E Key 2230 x 1	—	12V	0°C ~ 60°C	DIO x 8, nano SIM
GENE-TGU6-A10-0015	i3-1115G4E	DP x2, TypeC DP x1 HDMI x1, LVDS x1	GbE x1 2.5GbE x1	USB 3.2 Gen2 x 4 USB 3.2 Gen2 TypeC x1 USB 2.0 x 2	—	4	SATA x1 mSATA (Full size)x1	M.2 M Key 2280 x 1 M.2 E Key 2230 x 1	2.0	9~36V	0°C ~ 60°C	DIO x 8, nano SIM, Touch Controller
GENE-TGU6-A10-0016	i3-1115G4E	DP x1, TypeC DP x1 HDMI x1, LVDS x1	GbE x1 2.5GbE x1	USB 3.2 Gen2 x 4 USB 3.2 Gen2 TypeC x1 USB 2.0 x 2	—	4	SATA x1 mSATA (Full size)x1	M.2 M Key 2280 x 1 M.2 E Key 2230 x 1	—	12V	0°C ~ 60°C	DIO x 8, nano SIM
GENE-TGU6-A10-0017	Celeron 6305E	DP x2, TypeC DP x1 HDMI x1, LVDS x1	GbE x1 2.5GbE x1	USB 3.2 Gen2 x 4 USB 3.2 Gen2 TypeC x1 USB 2.0 x 2	—	4	SATA x1 mSATA (Full size)x1	M.2 M Key 2280 x 1 M.2 E Key 2230 x 1	2.0	9~36V	0°C ~ 60°C	DIO x 8, nano SIM, Touch Controller
GENE-TGU6W1-A10-0012	i7-1185G7E	DP x2, TypeC DP x1 HDMI x1, LVDS x1	GbE x1 2.5GbE x1	USB 3.2 Gen2 x 4 USB 3.2 Gen2 TypeC x1 USB 2.0 x 2	—	4	SATA x1 mSATA (Full size)x1	M.2 M Key 2280 x 1 M.2 E Key 2230 x 1	—	12V	W1(-20°C ~ 70°C)	DIO x 8, nano SIM
GENE-TGU6W2-A10-0018	i7-1185GRE	DP x2, TypeC DP x1 HDMI x1, LVDS x1	GbE x1 2.5GbE x1	USB 3.2 Gen2 x 4 USB 3.2 Gen2 TypeC x1 USB 2.0 x 2	—	4	SATA x1 mSATA (Full size)x1	M.2 M Key 2280 x 1 M.2 E Key 2230 x 1	—	12V	W2(-40°C ~ 85°C)	DIO x 8, nano SIM

Note: All specifications are subject to change without notice.