

TGU9A2

ULT



Front View



Rear View

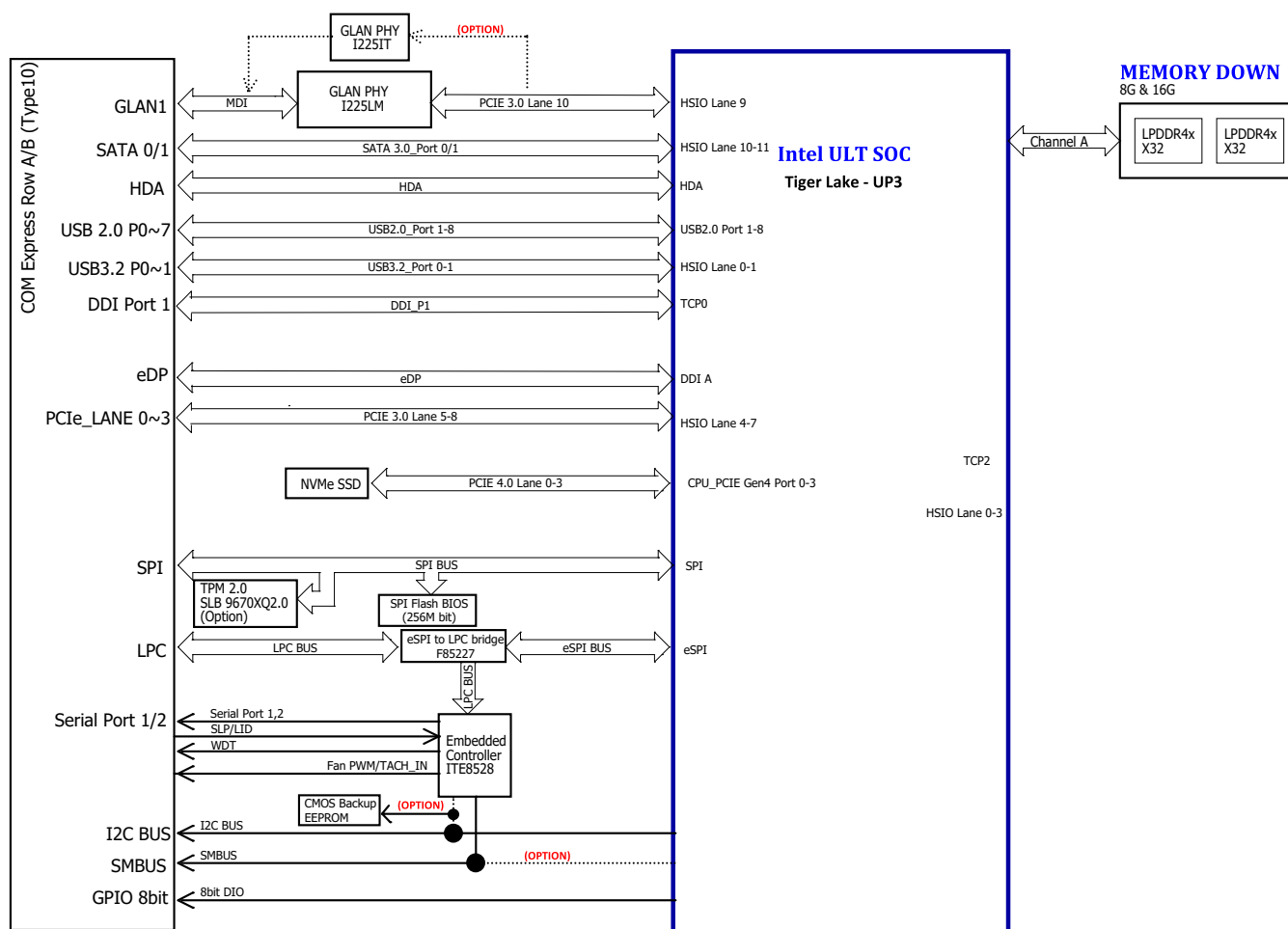
Features

- Single Channel LPDDR4X 4266MHz Memory Down up to 16GB
- Two independent displays: DDI + eDP
- DP++ supports 4K x 2K resolution
- Multiple expansion: 1 PCIe x4, 1 I2C, 1 SMBus
- Rich I/O: 1 Intel GbE, 2 USB 3.2, 8 USB 2.0

* Populated by default



Block Diagram



Specifications

SYSTEM	Processor	Intel® Core™ i7-1185G7E Processor (Core 4; Max speed 2.8 GHz; TDP 15-28W) Intel® Core™ i7-1185GRE Processor (Core 4; Max speed 2.8 GHz; TDP 15-28W) Intel® Core™ i5-1145G7E Processor (Core 4; Max speed 2.6 GHz; TDP 15-28W) Intel® Core™ i5-1145GRE Processor (Core 4; Max speed 2.6 GHz; TDP 15-28W) Intel® Core™ i3-1115G4E Processor (Core 2; Max speed 3.0 GHz; TDP 15-28W) Intel® Core™ i3-1115GRE Processor (Core 2; Max speed 3.0 GHz; TDP 15-28W) Intel® Celeron® 6305RE Processor (Core 2; Max speed 1.8 GHz; TDP 15W)	
	Memory	Memory Down up to 16GB	Single Channel LPDDR4X 4266MHz
	BIOS	AMI SPI 256Mbit	
	Controller	Intel® Iris® Xe graphics	
GRAPHICS	Feature	OpenGL 5.0, DirectX 12, OpenCL 2.1 HW Decode: WMV9, AVC/H264, JPEG/MJPEG, HEVC/H265, VP9, AV1 HW Encode: AVC/H264, JPEG, HEVC/H265, VP9	
	Display	1 x DDI (HDMI/DVI/DP++) 1 x eDP	eDP: resolution up to 3840x2160 @ 60Hz HDMI: resolution up to 3840x2160 @ 30Hz DP++: resolution up to 4096x2160 @ 60Hz
	Dual Displays	DDI + eDP	
	Interface	1 x PCIe x4 (Gen 3) 1 x I2C 1 x SMBus 2 x SPI 2 x UART (TX/RX)	
EXPANSION	Interface	1 x PCIe x4 (Gen 3) 1 x I2C 1 x SMBus 2 x SPI 2 x UART (TX/RX)	
AUDIO	Interface	HD Audio	
ETHERNET	Controller	1 x Intel® Ethernet I225IT (10M/100M/1000M/2.5Gbps)	
I/O	USB	2 x USB 3.2 Gen.2 8 x USB 2.0	
	SATA	2 x SATA 3.0 (up to 6Gb/s)	
	NVMe SSD	1 x 64GB/128GB/256GB/512GB/1024GB on board SSD (available upon request)	
	DIO	1 x 8-bit DIO	
WATCHDOG TIMER	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds	
SECURITY	TPM	BIOS default support FTPM, TPM2.0 by request	
POWER	Type	4.75V~20V, 5VSB, VCC_RTC (ATX mode)	4.75V~20V, VCC_RTC (AT mode)
OS SUPPORT		Windows: Windows 10 IoT Enterprise 64-bit Linux	
ENVIRONMENT	Temperature	Operating: -5 to 65°C, -40 to 85°C	Storage: -40 to 85°C
	Humidity	Operating: 10 to 90% RH	Storage: 10 to 90% RH
	MTBF	1,230,760 hrs @ 25°C ; 845,813 hrs @ 45°C ; 598,810 hrs @ 60°C 464,366 hrs @ 70°C ; 309,043 hrs @ 85°C Calculation Model : Telcordia Issue 4 Environment : GB, GC - Ground Benign, Controlled	
	Dimensions	COM Express® Mini	84mm (3.3") x 55mm (2.16")
MECHANICAL	Compliance	PICMG COM Express® R3.0, Type 10	
STANDARDS AND CERTIFICATIONS	Certification	CE, FCC, RoHS	

Ordering Information

Model Name	CPU	Memory	eDP	DIO	TPM	SSD	Operating temp.	Part Number
TGU9A2-T16-1185GRE	I7 1185GRE	16 GB	eDP	DIO	TPM 2.0	64 GB	-40-85°C	770-TGU9A21-000G
TGU9A2-T86-1185GRE	I7 1185GRE	8 GB	eDP	DIO	TPM 2.0	64 GB	-40-85°C	770-TGU9A21-100G
TGU9A2-T86-1145GRE	I5 1145GRE	16 GB	eDP	DIO	N/A	64 GB	-40-85°C	770-TGU9A21-200G
TGU9A2-B86-1115G4E	I3 1115G4E	8 GB	eDP	DIO	N/A	64 GB	-5-65°C	770-TGU9A21-300G
TGU9A2-B86-6305E	Celeron 6305E	8 GB	eDP	DIO	N/A	64 GB	-5-65°C	770-TGU9A21-400G

Packing List

• Heat Sink (i7 & i5 Series)	A71-008169-000G
• CPU Cooler (i3 & Celeron Series)	A71-108139-000G

Optional Items

• Heat spreader	TBD
• Bulk Box	TBD
• COM100-B carrier board kit	770-COM104-000G