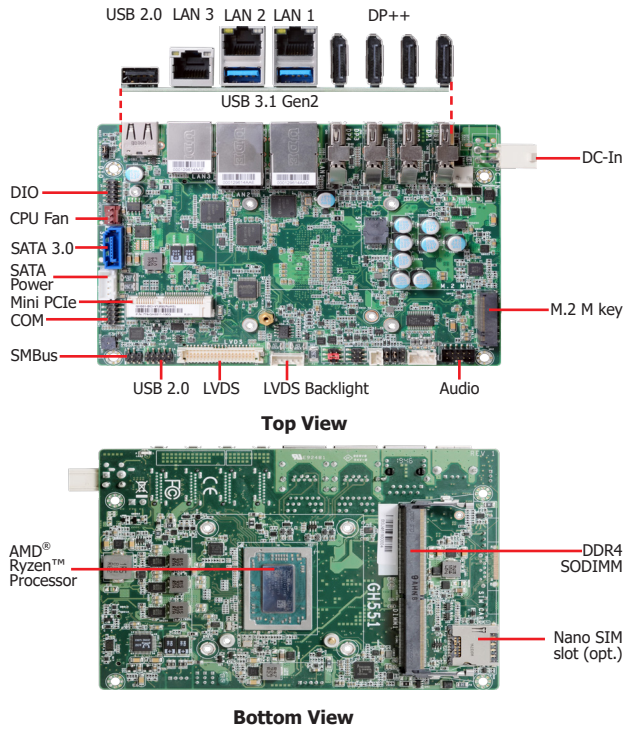


GH551



Features

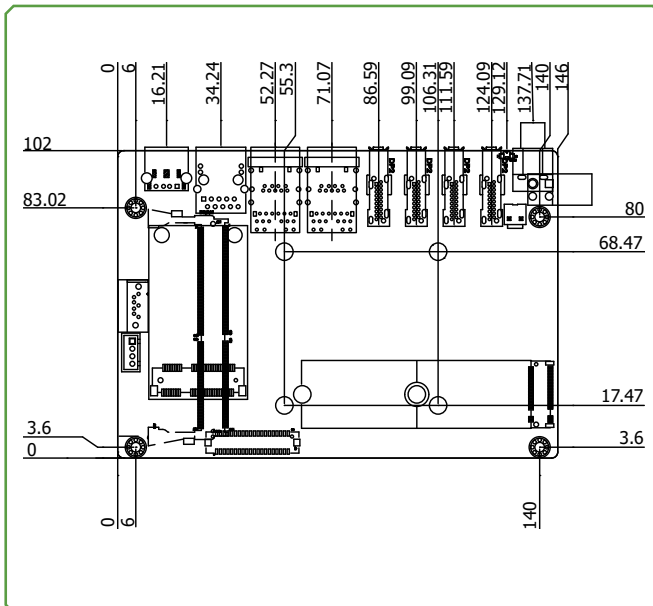
- 1 DDR4 2400MHz SODIMM up to 16GB
- Multiple displays: max. 4 DP++/3 DP++ + LVDS
- DP++ resolution up to 4096x2160 @ 60Hz
LVDS resolution up to 1920x1200 @ 60Hz
- Support Audio Speaker out
- Multiple Expansion: 1 M.2 M Key, 1 Mini PCIe
- Rich I/O: 3 GbE, 2 USB 3.1 Gen2, 1 USB 2.0



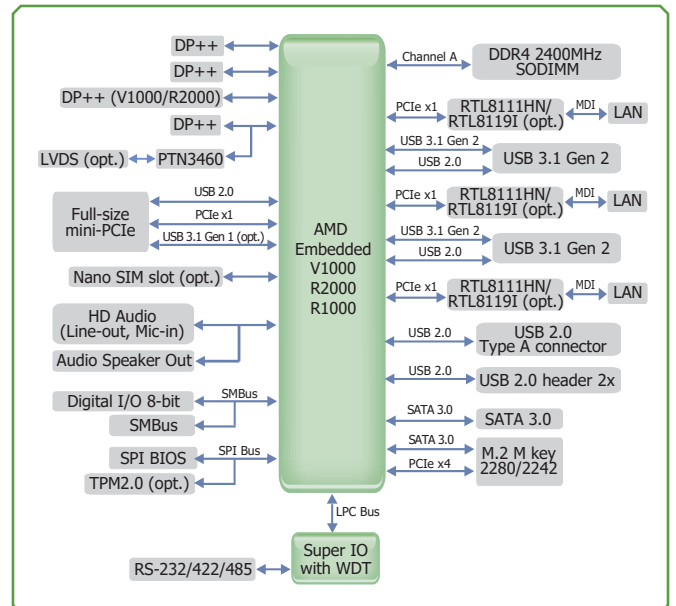
Ordering Information

Model Name	P/N	Processor	Memory	GbE	Display	USB 3.1 Gen2	USB 2.0	RS-232/422/485	Power	Temp.
GH551-BCI-V1605B	770-GH5512-000G	V1605B	1 SODIMM	3	4 x DP++	2	2	1	12V DC	-5 to 65°C
GH551-BCI-V1202B	770-GH5512-100G	V1202B	1 SODIMM	3	3 x DP++ / 1 x LVDS	2	2	1	12V DC	-5 to 65°C
GH551-ECI-V1404I	770-GH5512-200G	V1404I	1 SODIMM	3	4 x DP++	2	2	1	12V DC	-30 to 80°C
GH551-BCI-R1606G	770-GH5512-300G	R1606G	1 SODIMM	3	3 x DP++	2	2	1	12V DC	-5 to 65°C
GH551-BCI-R1505G	770-GH5512-400G	R1505G	1 SODIMM	3	2 x DP++ / 1 x LVDS	2	2	1	12V DC	-5 to 65°C
GH551-BCI-R2514	770-GH5512-800G	R2514	1 SODIMM	3	4 x DP++	2	2	1	12V DC	-5 to 65°C
GH551-BCI-R2514	770-GH5512-900G	R2514	1 SODIMM	3	3 x DP++ / 1 x LVDS	2	2	1	12V DC	-5 to 65°C
GH551-BCI-R2314	770-GH5512-A00G	R2314	1 SODIMM	3	3 x DP++ / 1 x LVDS	2	2	1	12V DC	-5 to 65°C
GH551-BCI-R2312	770-GH5512-B00G	R2312	1 SODIMM	3	2 x DP++ / 1 x LVDS	2	2	1	12V DC	-5 to 65°C

Mechanical Drawing



Block Diagram



Specifications

SYSTEM	Processor	AMD® Ryzen™ Embedded V1605B, 4C/8T, 2MB Cache, 8 CU, 2.0GHz (3.6GHz), 15W AMD® Ryzen™ Embedded V1202B, 2C/4T, 1MB Cache, 3 CU, 2.3 GHz (3.2GHz), 15W AMD® Ryzen™ Embedded V1404I, 4C/8T, 2MB Cache, 8 CU, 2.0GHz (3.6GHz), 15W AMD® Ryzen™ Embedded R1606G, 2C/4T, 3 CU, 2.6GHz (3.5GHz), 15W AMD® Ryzen™ Embedded R1505G, 2C/4T, 3 CU, 2.4GHz(3.3GHz), 15W AMD® Ryzen™ Embedded R2514, 4C/8T, 8 CU, 2.1GHz (3.7GHz) AMD® Ryzen™ Embedded R2314, 4C/4T, 6 CU, 2.1GHz (3.5GHz) AMD® Ryzen™ Embedded R2312, 2C/4T, 3 CU, 2.7GHz (3.5GHz)	
	Memory	1 x 260-pin SODIMM up to 16GB	Single Channel DDR4 up to 2400MHz (ECC/non ECC support)
	BIOS	AMI SPI 64Mbit	
GRAPHICS	Controller	AMD® Radeon™ Vega Graphics	
	Feature	OpenGL 4.5, DirectX 12, OpenCL 2.1 HW Decode: AVC/H.264, MPEG2, VC1/WMV9, JPEG/MJPEG, HEVC/H265, VP8, VP9 HW Encode: MPEG2, AVC/H264, JPEG, HEVC/H265, VP8, VP9	
	Display	V1000/R2514/R2314: 4 x DP++ (1 x LVDS opt.) R2312/R1000: 3 x DP++(1 x LVDS opt.)	DP++: resolution up to 4096x2160 @ 60Hz LVDS: resolution up to 1920x1200 @ 60Hz
	Multiple Displays	V1000/R2514/R2314: 4 x DP++ (1 x LVDS opt.) R2312/R1000: 3 x DP++(1 x LVDS opt.)	
EXPANSION	Interface	1 x Full-size mini-PCIe (PCIe/USB 2.0, opt.: USB 3.1 Gen 1) 1 x M.2 2280/2242 M key (Support SATA/PCIe SSD) 1 x Nano SIM slot (opt.)	
AUDIO	Audio Codec	Realtek ALC888S	
ETHERNET	Controller	3 x Realtek® RTL8111HN/RTL8119I (10/100/1000Mbps)	
REAR I/O	Ethernet	3 x GbE (RJ-45)	
	USB	2 x USB 3.1 Gen2 1 x USB 2.0	
	Display	V1000/R2514/R2314: 4 x DP++ R2312/R1000: 3 x DP++	
INTERNAL I/O	Serial	1 x RS-232/422/485 (2.0mm pitch)	RS485 support auto flow control
	USB	1 x USB 2.0 (2.0mm pitch)	
	Display	1 x LVDS LCD Panel Connector	1 x Backlight Power
	Audio	1 x Mic-in 1 x Line-out 1 x Speaker-out (2 x 3W, 8ohm)	
	SATA	1 x SATA 3.0 (up to 6Gb/s) 1 x SATA Power	
	DIO	1 x 8-bit DIO	
	SMBus	1 x SMBus	
	WATCHDOG TIMER	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds
SECURITY	TPM 2.0	fTPM2.0 (default)	dTPM2.0 (opt.)
POWER	Type	Single 12V DC	
	Connector	4-pin Right Angle Type Connector (default)	DC Jack (available upon request) 4-pin Vertical Type Connector (available upon request)
	Consumption	Typical: V1605B:12V @ 1.35A (16.2Watt) Max.: V1605B:12V @ 2.37A (28.44Watt)	
	RTC Battery	CR2032 coin cell	
OS SUPPORT		Windows 10 IoT Enterprise (64-bit)	Linux
ENVIRONMENT	Temperature	Operating: -5 to 65°C, -30 to 80°C Storage: -40 to 85°C	
	Humidity	Operating: 10 to 90% RH	Storage: 10 to 90% RH
	MTBF	R1505: 612,770 hrs @ 25°C; 392,061 hrs @ 45°C ; 229,134 hrs @ 65°C V1605: 622,707 hrs @ 25°C; 408,558 hrs @ 45°C ; 246,634 hrs @ 65°C Calculation Model: Telcordia Issue 4 Environment: GB, GC - Ground Benign, Controlled	
MECHANICAL	Dimensions	3.5" SBC Form Factor	146mm (5.75") x 102mm (4.02")
	Height	PCB: 1.6mm	Top Side: 15.5mm, Bottom Side: 4.0mm
CERTIFICATIONS		CE, FCC Class B, RoHS	

Packing List

• 1 GH551 board	
• 1 COM cable (2P ports, Length: 250mm)	332-753040-000G
• SATA cable (Length: 500mm)	332-553001-005G
• SATA power cable (Length: 250mm)	A81-004041-016G
• Heatsink	for -5~65°C (Height: 35.0mm) A71-008136-030G for -30~80°C (Height: 44.9mm) A71-008136-040G

Optional Items

• USB 2.0 cable (2 ports, Length: 200mm)	A81-001032-016G
• Audio cable (Length: 160mm)	A81-022007-016G
• Power adapter (60W, 12V, DC Jack)	671-106012-000G
• 4 pin to DC jack cable (Length: 100mm)	A81-004051-016G
• Front panel cable (Length: 250mm)	A81-009307-001G
• Heat spreader (Height: 11mm)	A71-808336-000G