

RPS183-Q670E RPS183-H610E

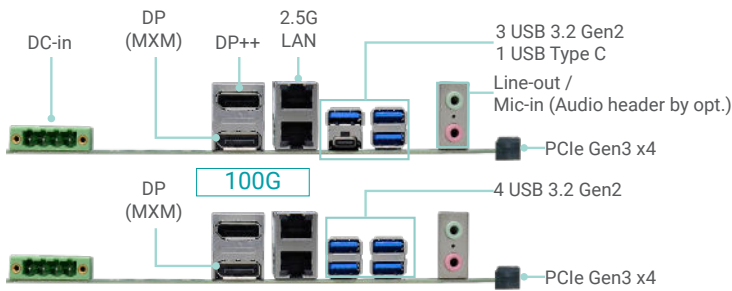
14th/13th/12th Gen Intel® Core™

Desktop

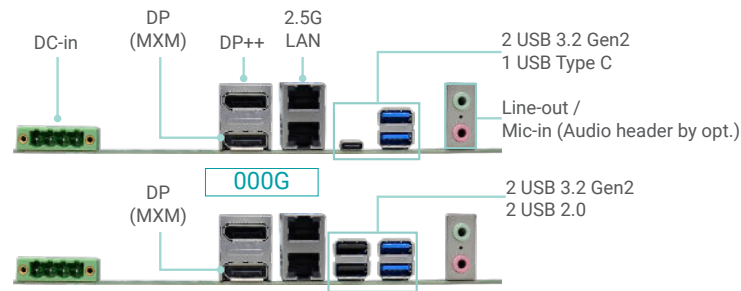
Mini-ITX



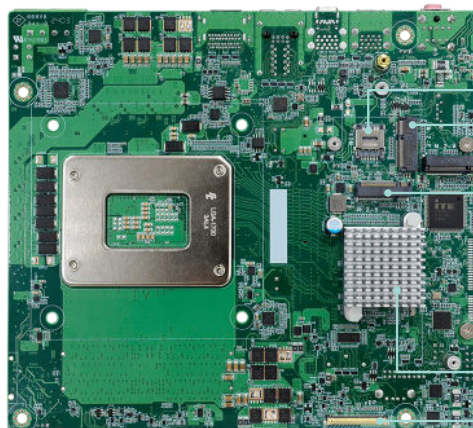
IoT Solutions Alliance



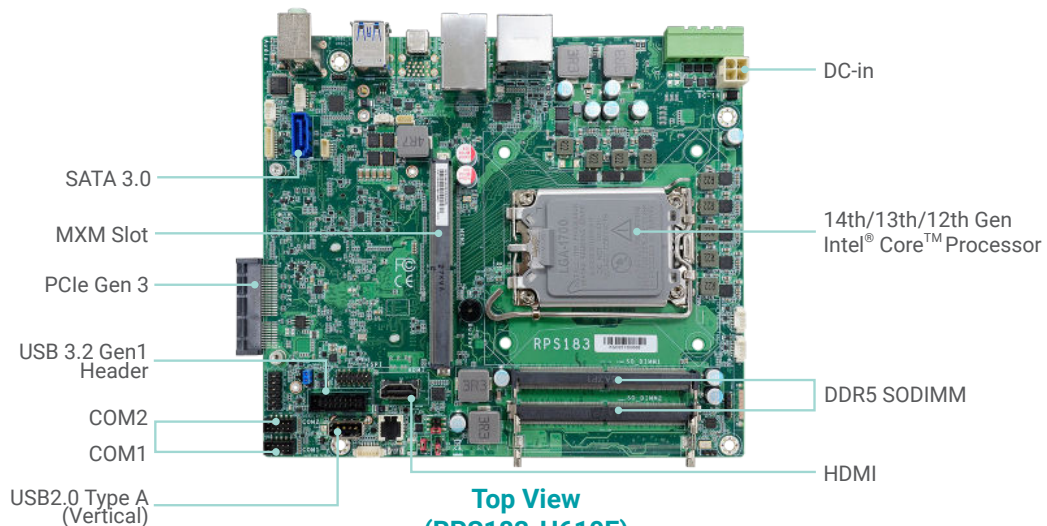
**Rear View
(RPS183-Q670E)**



**Rear View
(RPS183-H610E)**



Bottom View



**Top View
(RPS183-H610E)**

KEY FEATURES



DDR5

2 DDR5 SODIMM up to 64GB



Wide Voltage

Power input 19~24V



Multiple Display

1 DP++(CPU), 1 DP++(MXM),
1 USB Type C(DP Alt-mode),
1 eDP(MXM),
1 internal HDMI(MXM)



Multiple Expansion

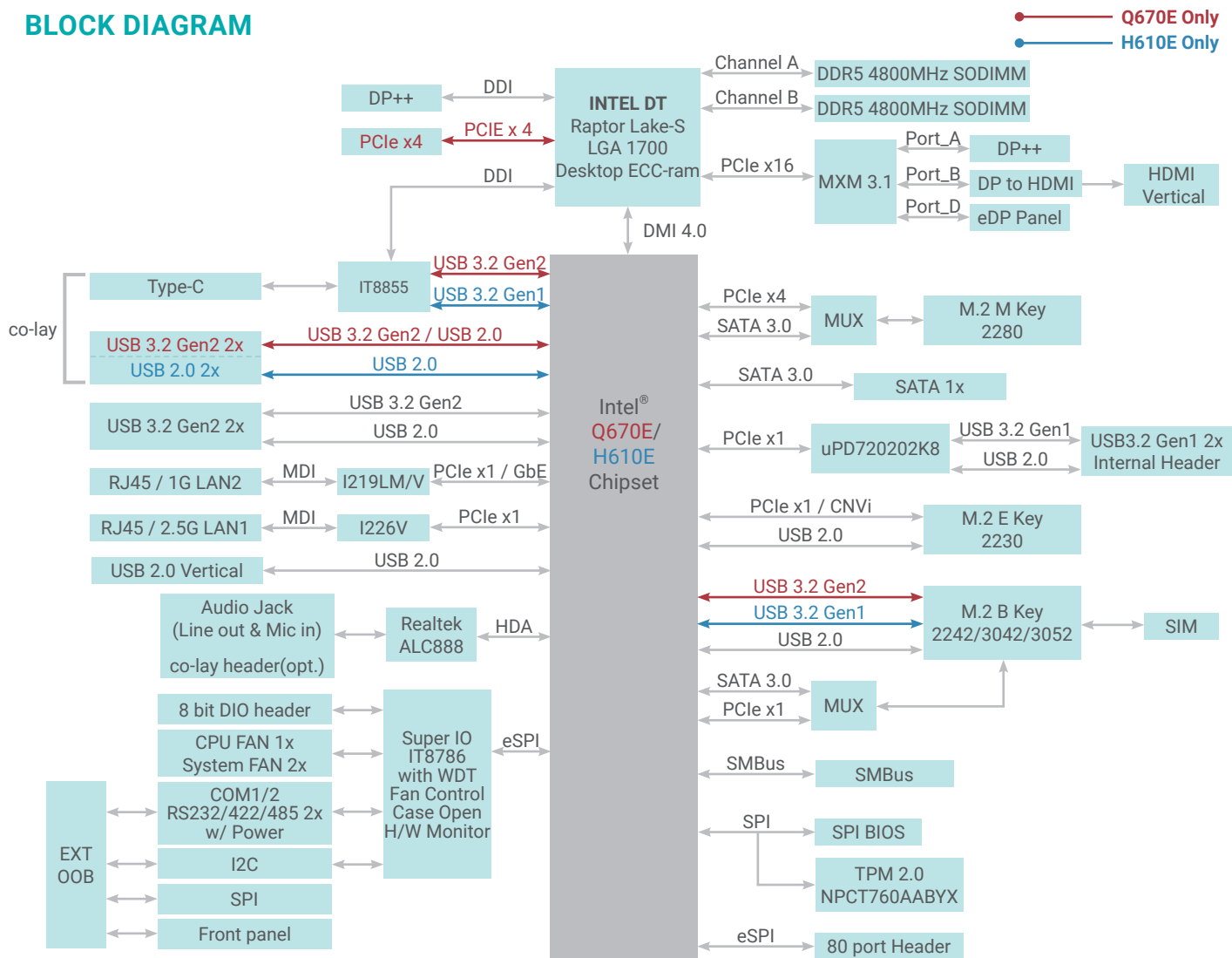
1 PCIe x4 (side), 1 M.2 M Key,
1 M.2 E Key, 1 M.2 B Key



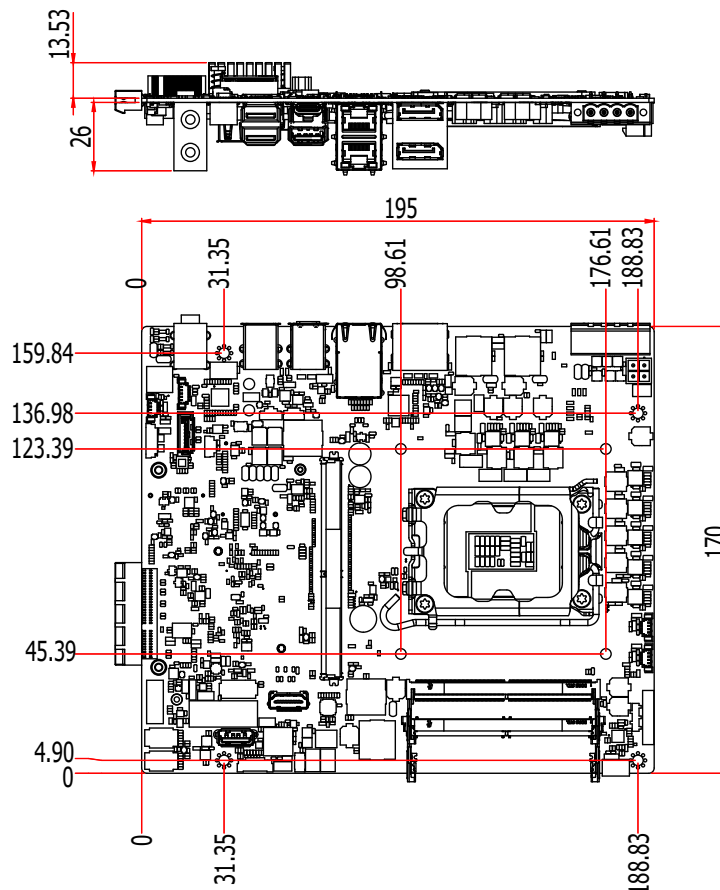
Rich I/O

2 Intel® 2.5GbE,
up to 4 USB 3.2 Type A,
up to 1 USB Type C

BLOCK DIAGRAM



MECHANICAL DRAWING



SPECIFICATION

Model Name		RPS183-Q670E	RPS183-H610E
SYSTEM	Processor	14th Generation Intel® LGA 1700 Socket Processors, TDP support up to 65W Intel® Core™ i9-14900 (24 Cores, 36M Cache, up to 5.8 GHz); 65W Intel® Core™ i9-14900T (24 Cores, 36M Cache, up to 5.5 GHz); 35W Intel® Core™ i7-14700 (20 Cores, 33M Cache, up to 5.4 GHz); 65W Intel® Core™ i7-14700T (20 Cores, 33M Cache, up to 5.2 GHz); 35W Intel® Core™ i5-14500 (14 Cores, 24M Cache, up to 5.0 GHz); 65W Intel® Core™ i5-14500T (14 Cores, 24M Cache, up to 4.8 GHz); 35W Intel® Core™ i5-14400 (10 Cores, 20M Cache, up to 4.7 GHz); 65W Intel® Core™ i5-14400T (10 Cores, 20M Cache, up to 4.5 GHz); 35W Intel® Core™ i3-14100 (4 Cores, 12M Cache, up to 4.7 GHz); 60W Intel® Core™ i3-14100T (4 Cores, 12M Cache, up to 4.4 GHz); 35W Intel® Core™ i300 (2 Cores, 6M Cache, 3.9 GHz); 46W Intel® Core™ i300T (2 Cores, 4M Cache, 3.4 GHz); 35W 13th Generation Intel® LGA 1700 Socket Processors, TDP support up to 65W Intel® Core™ i9-13900E (24 Cores, 36M Cache, up to 5.2 GHz); 65W Intel® Core™ i9-13900TE (24 Cores, 36M Cache, up to 5.0 GHz); 35W Intel® Core™ i7-13700E (16 Cores, 30M Cache, up to 5.1 GHz); 65W Intel® Core™ i7-13700TE (16 Cores, 30M Cache, up to 4.8 GHz); 35W Intel® Core™ i7-13700T (16 Cores, 30M Cache, up to 4.9 GHz); 35W Intel® Core™ i5-13500E (14 Cores, 24M Cache, up to 4.6 GHz); 65W Intel® Core™ i5-13500TE (14 Cores, 24M Cache, up to 4.5 GHz); 35W Intel® Core™ i5-13500T (14 Cores, 24M Cache, up to 4.6 GHz); 35W Intel® Core™ i5-13400E (10 Cores, 20M Cache, up to 4.6 GHz); 65W Intel® Core™ i3-13100E (4 Cores, 12M Cache, up to 3.3 GHz); 60W Intel® Core™ i3-13100TE (4 Cores, 12M Cache, up to 4.1 GHz); 35W Intel® Core™ i3-13100T (4 Cores, 12M Cache, up to 4.2 GHz); 35W 12th Generation Intel® LGA 1700 Socket Processors, TDP support up to 65W Intel® Core™ i9-12900E (16 Cores, 30M Cache, up to 5.0 GHz); 65W Intel® Core™ i9-12900TE (16 Cores, 30M Cache, up to 4.8 GHz); 35W Intel® Core™ i7-12700E (12 Cores, 25M Cache, up to 4.8 GHz); 65W Intel® Core™ i7-12700TE (12 Cores, 25M Cache, up to 4.6 GHz); 35W Intel® Core™ i5-12500E (6 Cores, 18M Cache, up to 4.5 GHz); 65W Intel® Core™ i5-12500TE (6 Cores, 18M Cache, up to 4.3 GHz); 35W Intel® Core™ i3-12100E (4 Cores, 12M Cache, up to 4.2 GHz); 60W Intel® Core™ i3-12100TE (4 Cores, 12M Cache, up to 4.0 GHz); 35W Intel® Pentium® G7400E (2 Cores, 6M Cache, 3.6 GHz); 46W Intel® Pentium® G7400TE (2 Cores, 6M Cache, 3.0 GHz); 35W Intel® Celeron® G6900E (2 Cores, 4M Cache, 3.0 GHz); 46W Intel® Celeron® G6900TE (2 Cores, 4M Cache, 2.4 GHz); 35W	
	Chipset	Intel® Q670E Chipset	Intel® H610E Chipset
	Memory	2x 262-pin SODIMM up to 64GB Dual Channel DDR5 4800MHz	2x 262-pin SODIMM up to 64GB Dual Channel DDR5 4800MHz
	BIOS	AMI SPI 256Mbit	AMI SPI 256Mbit
GRAPHICS	Controller	Intel® UHD Graphics 700 series	Intel® UHD Graphics 700 series
	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	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	1 x DP++(CPU): Resolution up to 4096x2304 @ 60Hz 1 x DP++(MXM): Resolution by MXM 1 x USB Type C: DP Alt-mode, Resolution up to 4096x2304 @60Hz 1 x eDP(MXM): Resolution by MXM 1 x Internal HDMI: Resolution by MXM	1 x DP++(CPU): Resolution up to 4096x2304 @ 60Hz 1 x DP++(MXM): Resolution by MXM 1 x USB Type C: DP Alt-mode, Resolution up to 4096x2304 @60Hz 1 x eDP(MXM): Resolution by MXM 1 x Internal HDMI: Resolution by MXM
	Multiple Display	1 DP++(CPU) + 1 DP++(MXM) + 1 USB Type C(DP Alt-mode) + 1 eDP(MXM) + 1 internal HDMI(MXM)	1 DP++(CPU) + 1 DP++(MXM) + 1 USB Type C(DP Alt-mode) + 1 eDP(MXM) + 1 internal HDMI(MXM)
	Interface	1 x PCIe Gen 3 x4 (Locate at board side) 1 x M.2 2280 M Key (PCIe Gen3x4, SATA3) 1 x M.2 2230 E Key (PCIe Gen3x1, USB 2.0, support Intel® CNVi) 1 x MXM Type-A/B/B+ 1 x M.2 2242/3042/3052 B Key (PCIe Gen3x1, USB 3.2 Gen2, USB 2.0)	1 x M.2 2280 M Key (PCIe Gen3x4, SATA3) 1 x M.2 2230 E Key (PCIe Gen3x1, USB 2.0, support Intel® CNVi) 1 x MXM Type-A/B/B+ 1 x M.2 2242/3042/3052 B Key (PCIe Gen3x1, USB 3.2 Gen1, USB 2.0)
EXPANSION	Interface		
AUDIO	Audio Codec	Realtek ALC888S	Realtek ALC888S
ETHERNET	Controller	1 x Intel® I226LM(vPro)(10/100/1000/2500Mbps) 1 x Intel® I226V (10/100/1000/2500Mbps)	1 x Intel® I219V (10/100/1000/2500Mbps) 1 x Intel® I226V (10/100/1000/2500Mbps)
REAR I/O	Ethernet	2 x 2.5GHz RJ45	2 x 2.5GHz RJ45
	USB	4 x USB 3.2 Gen2 or 3 x USB 3.2 Gen2 + 1 x USB Type C	2 x USB 3.2 Gen2 + 2 x USB 2.0 or 2 x USB 3.2 Gen2 + 1 x USB Type C
	Display	1 x DP++, 1 DP++(MXM) 1 x USB Type C	1 x DP++, 1 DP++(MXM) 1 x USB Type C

SPECIFICATION

Model Name		RPS183-Q670E	RPS183-H610E
REAR I/O	Audio	1 Audio Jack (Line-out/Mic-in) (Audio header by opt.)	1 Audio Jack (Line-out/Mic-in) (Audio header by opt.)
INTERNAL I/O	USB	2 x USB 3.2 Gen1 Header 1 x USB 2.0 Type A	2 x USB 3.2 Gen1 Header 1 x USB 2.0 Type A
	Display	1 x eDP(MXM) 1 x HDMI(MXM)	1 x eDP(MXM) 1 x HDMI(MXM)
	Serial	2 x RS-232/422/485	2 x RS-232/422/485
	SATA	1 x SATA 3.0	1 x SATA 3.0
	DIO	1 x 8-bit DIO (BOX HEADER 1*10P/1.00mm)	1 x 8-bit DIO (BOX HEADER 1*10P/1.00mm)
	SPI	1 x SPI (BOX HEADER 1*7P/1.25mm)(For OOB)	1 x SPI (BOX HEADER 1*7P/1.25mm)(For OOB)
	I2C	2 x I2C (BOX HEADER, 1*5P/1.0m)	2 x I2C (BOX HEADER, 1*5P/1.0m)
	FAN	1 x CPU, 2 x System (WAFER,1*4P/1.25mm)	1 x CPU, 2 x System (WAFER,1*4P/1.25mm)
WATCHDOG TIMER	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds	System Reset, Programmable via Software from 1 to 255 Seconds
SECURITY	TPM	dTPM (default) fTPM (option)	dTPM (default) fTPM (option)
POWER	Type	DC IN	DC IN
	Connector	4-pin Terminal 19~24V DC-In	4-pin Terminal 19~24V DC-In
	Consumption	Idle: i9-13900E 65W with MXM A4500: 24V @ 2.03A (48.72W), 19V @ 2.50A (47.50W) Max: i9-13900E 65W with MXM A4500: 24V @ 11.66A (279.84W), 19V @ 14.73A (279.87W)	Idle: i9-13900E 65W with MXM A4500: 24V @ 2.03A (48.72W), 19V @ 2.50A (47.50W) Max: i9-13900E 65W with MXM A4500: 24V @ 11.66A (279.84W), 19V @ 14.73A (279.87W)
		Idle: i9-13900E 65W : 24V @ 2.60A (62.40W), 19V @ 3.13A (59.47W) Max: i9-13900E 65W: 24V @ 6.40A (153.60W), 19V @ 8.08A (153.52W)	Idle: i9-13900E 65W : 24V @ 2.60A (62.40W), 19V @ 3.13A (59.47W) Max: i9-13900E 65W: 24V @ 6.40A (153.60W), 19V @ 8.08A (153.52W)
	RTC Battery	CR2032 Coin Cell	CR2032 Coin Cell
OS SUPPORT	Microsoft	Windows 10 IoT Enterprise 64-bit Windows 11 LTSC	Windows 10 IoT Enterprise 64-bit Windows 11 LTSC
	Linux	Linux Ubuntu 22.04	Linux Ubuntu 22.04
ENVIRONMENT	Temperature	Operating w/o MXM: -5°C ~ 65°C Operating w/i MXM: By MXM spec Storage: -40°C ~ 85°C	Operating w/o MXM: -5°C ~ 65°C Operating w/i MXM: By MXM spec Storage: -40°C ~ 85°C
	Humidity	Operating: 5% ~ 90% RH Storage: 5% ~ 90% RH	Operating: 5% ~ 90% RH Storage: 5% ~ 90% RH
	MTBF	RPS183-Q670E 480,169 hrs @ 25°C; 281,641 hrs @ 45°C; 182,084 hrs @ 60°C; Calculation model: Telcordia Issue 4 Environment: GB, GC – Ground Benign, Controlled	RPS183-H610E 480,169 hrs @ 25°C; 281,641 hrs @ 45°C; 182,084 hrs @ 60°C; Calculation model: Telcordia Issue 4 Environment: GB, GC – Ground Benign, Controlled
MECHANISM	Dimensions	195mm (7.7") x 170mm (6.7")	195mm (7.7") x 170mm (6.7")
	Height	PCB: 1.6mm Top Side: 26.0mm(Audio); 25.79mm(RJ45) Bottom Side: 13.53mm	PCB: 1.6mm Top Side: 26.0mm(Audio); 25.79mm(RJ45) Bottom Side: 13.53mm
CERTIFICATION	Certification	CE, FCC, RoHS	CE, FCC, RoHS

ORDERING INFORMATION

Model Name	P/N	Memory	Rear I/O			Internal I/O			TPM	Power	Operating Temp.
			Display	2.5 GbE	USB	M.2	Display	USB			
RPS183-H610EDB	770-RPS1831-000G	2 DDR5	2 DP*++	2	2 USB 3.2 Gen2, 1 USB Type C	1 M/B/E Key	1 eDP*, 1 HDMI*	2 USB 3.2 Gen1, 1 USB 2.0 Type A	w/TPM	19~24VDC	-5 to 65°C
RPS183-Q670EDB	770-RPS1831-100G				3 USB 3.2 Gen2, 1 USB Type C						
RPS183-H610EDB	770-RPS1831-200G				2 USB 3.2 Gen2, 2 USB 2.0 Type A						
RPS183-Q670EDB	770-RPS1831-300G				4 USB 3.2 Gen2						

(NOTE: * Full functionality requires MXM implementation)

OPTIONAL ITEMS

Model Name	P/N	Description
Active Thermal Solution(65W)	A71-101137-000G	Thermal solution (For 65W, Height: 46mm)
Active Thermal Solution(35W)	A71-101136-000G	Thermal solution (For 35W, Height: 39mm)
PSU(450W, 24V)	671-745001-000G	Meanwell HRP-450-24
Power adapter (360W, 24V)	671-136001-000G	Meanwell GST360B24-C6P
Power adapter (160W, 24V)	671-116005-000G	Meanwell GST160A24-DFIA
Power terminal converting cable (Spade-to-Phoenix 4P)	A81-004398-018G	20cm, for Meanwell HRP-450-24
Power terminal converting cable (ATX 6P-to-Phoenix 4P)	A81-004397-018G	20cm, for Meanwell GST360B24-C6P
Power terminal converting cable (DC5.5-to-ATX 2x2P)	A81-004110-009G	20cm, for Meanwell GST160A24-DFIA

PACKING LIST

· 1 RPS183 motherboard
· 1 Serial ATA data cable (Length: 500mm)
· 1 I/O shield (P/N: TBD)
· 3 M.2 screw/standoff