



Portwell PQ7-M102XL is designed with Intel's ultra low power US15WPT chipset which features less than 5W overall power consumption and -40~85 degree wide temperature support. It is suitable for intelligent grid technology applications to control and monitor smart meter and to integrate the electricity from wind and solar power for more efficient usage of energy to the country.

## FEATURES

- Atom™ Z510PT (1.1GHz) or Z520PT (1.33GHz)
- Intel® US15WPT integrated GMA 500 Graphic, full hardware acceleration of H.264, MPEG2, VC1 and WMV9 is supported
- Support Two SATA Ports from Qseven Golden Finger
- Ultra Low CPU and SCH TDP (Under 5W) for fan-less application
- Internal LVDS and SDVO interface for dual independent display
- On board 512MB DDR2 supported
- 4Mbit flash ROM for easy BIOS upgrade and video BIOS for DFP

## ORDERING GUIDE

AB1-3310	PQ7-M102XL-1100-0512
AB1-3311	PQ7-M102XL-1330-0512
AB1-3312	PQ7-M102XL-1330-1024
AB1-3388	PQ7-M102XL-1100-1024
B8302470	(GP).Heat spreader.70x62x8mm for PQ7-M102-0512
B8302920	(GP).Heat spreader.70x62x8mm for PQ7-M102-1024
B8302490	(GP).Heat Spreader+Pipe 70x62x8mm for PQ7-M102-0512

## GENERAL

Processor	- Intel® 45nm Atom™ Z520PT/Z510P up to 1.33 GHz (2.2W) with 512KB Cache in FC-BGA package - FSB: 533/400 Mhz/s - Support Intel® Hyper-Threading, Virtualization, Execute Disable Bit, and SpeedStep Technology
Chipset	- Intel® US15WPT (3.5W) - Support Intel® Graphics Media Accelerator 500 Technology
BIOS	- AMI Core8 BIOS - Support ACPI 3.0, SMBIOS 2.3.3, Legacy Free
Memory	- Memory down, up to 1GB DDR2 533MT/s SDRAM
Storage Devices	- SATA 1.5Gb/s x2 - Secure Digital I/O(SDIO) x1 with Revision 1.1
Watchdog Timer	- Programmable via S/W from 1sec to 255min
Ethernet	Intel® 82574IT Gigabit LAN x 1 (supported vPro, Jumbo Frames, sync protocol indicator)
Audio	Intel® High Definition Audio (2x channels delivering 192-kHz 32-bit, and 8x channels delivering 96-kHz 32-bit)
Expansion Interface	- 1x SDVO Port up to 160 MHz pixel clock - 1x PCI Expressx1 Gen1 (2.5 GT/s) - LPC Interface (4-bit-wide bus operating at 4 times the clock speed , 33.3 MHz) - 8x Universal Serial Bus 2.0 (480 Mb/s bus comprehends the high-speed / full-speed / low-speed data ranges)
Hardware Monitoring	- EMC1402 CPU and System Temperature
Power Requirement	- Typical: 5V, 5VSB, VBA - Support AT and ATX mode
Dimension	70mm(L) x 70mm(W), 2.7"(L) x 2.7"(W), PCB: 8 layers
Environment	- Operation Temperature: -40~85 °C - Storage Temperature: -40~85 °C - Relative Humidity: 5~90%
MTBF	Over 120,000 hours at 40 Degree Celsius

## DISPLAY

Graphic Controller	Intel® US15WPT integrated Graphics Media Accelerator 500, up to 200MHz
Graphic Memory	Intel® Dynamic Video Memory Technology (Max 8MB UMA / Max 256MB DVMT)
Display Interface	SDVO: resolution up to 1024 x 768 (XGA) LVDS: 1x 18bpp/24bpp (resolution up to 1366 x 768)

