

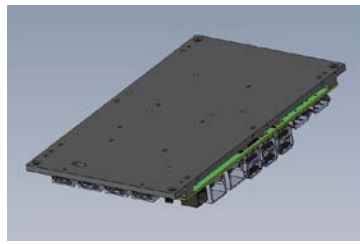
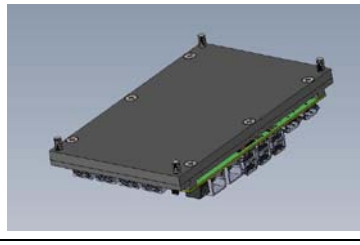
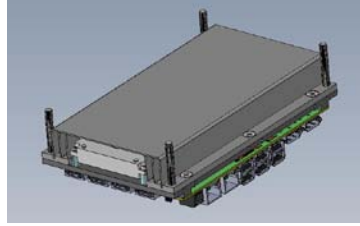
### Concerned Versions:

All versions of the Hurricane-QM57

### Description:

This application note describes the available heat sink solutions for the Hurricane-QM57 in commercial, industrial and extended temperature range. For detailed drawings or 3D files please contact our support [helpdesk@lippertembedded.com](mailto:helpdesk@lippertembedded.com)

### Solutions:

Heat Sink Type	Part Number	Suitable for CPU / Temperature Range	Suitable for HURRICANE-QM57	Remarks	Heat sink Measurements (l x w x h) / weight	Picture (shown from below the board)
Heat Spreader	765-0030-10	<b>Core i7-620UE 1.06 GHz</b> <b>Core i7-610E 2.53 GHz</b> Commercial temperature range 0°C to 60°C Industrial temperature range - 20°C to 60°C Extended temperature range - 40°C to 85°C	714-0006-10 714-0007-10 814-0006-10 814-0007-10 914-0006-10 914-0007-10	Additional cooling is necessary by mounting the heat spreader to a metal enclosure or by mounting an extra heat sink or heat pipe on the heat spreader. The heat spreader is already included on the board.	measurements approx. 185 x 115 x 4 mm / weight board and heat sink approx. 460 gr.	
Heat Pipe Adapter	765-0032-10	<b>Core i7-620UE 1.06 GHz</b> <b>Core i7-610E 2.53 GHz</b> Commercial temperature range 0°C to 60°C Industrial temperature range - 20°C to 60°C Extended temperature range - 40°C to 85°C	714-0006-10 714-0007-10 814-0006-10 814-0007-10 914-0006-10 914-0007-10	Heat pipe adapter for two standard 6 mm heat pipes (not included). It is mounted additionally on the heat spreader. Additional cooling is necessary by mounting the heat pipes to a metal enclosure or to an external cooler.	measurements approx. (heatspreader plus heat pipe adapter): 185 x 115 x 11 mm / weight board and heat sink approx. 840 gr.	
Active Cooler	765-0031-10	<b>Core i7-620UE 1.06 GHz</b> <b>Core i7-610E 2.53 GHz</b> Commercial temperature range 0°C to 60°C Industrial temperature range - 20°C to 60°C	714-0006-10 714-0007-10 814-0006-10 814-0007-10	Active cooler is mounted additionally on the heat spreader. It is designed to fulfill requirements of the commercial and industrial temperature range without additional cooling.	measurements approx. (heatspreader plus active cooler): 185 x 115 x 30 mm / weight board and heat sink approx. 1000 gr.	

### Remarks:

- All heat sinks are mounted with 4 mm spacers below the CPU boards. Add 4 mm to the measurements for the total height below the CPU board.
- The CPU temperature may never exceed 100°C