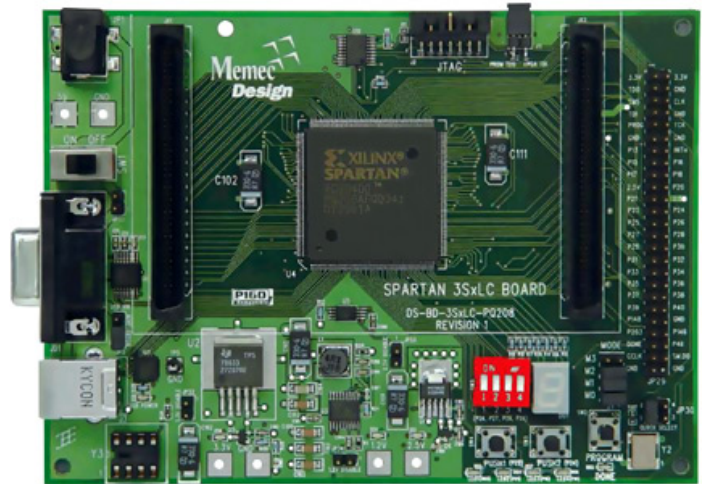


The module is designed for reception, analysis and control of incoming data from various user transducers – up to 300 (weight, temperature, humidity, intensity of illumination, vibration, angularity, magnetic field and etc.).

Memec (Avnet) debugging boards, user-defined daughterboard with DAC/ADC devices were applied for the controller implementation. The system includes the Microblaze soft-processor core. It exchanges data via BRAM with four Picoblaze cores which preprocessing data from the appropriate sensors.



Hardware IP cores are realized as well as embedded uLinux Web-server with direct access through CGI interface to configuration parameters of the sensors.

## Specifications

FPGA-type	Xilinx Spartan3-700A
Employed buses and FPGA interfaces and memory	LMB, OPB, FSL SDRAM, PLM Flash, Toshiba Flash
Employed connectivity interfaces	<ul style="list-style-type: none"> <li>Ethernet 10/100</li> <li>GPIO</li> <li>USB 1.1</li> <li>UART</li> <li>JTAG</li> </ul>
Developed IP cores	<ul style="list-style-type: none"> <li>IIC</li> <li>Flash memory controller</li> <li>Application-specific IP cores</li> </ul>
Peculiarities	<ul style="list-style-type: none"> <li>Processor Microblaze-80 MHz</li> <li>Four processors Picoblaze -80 MHz</li> <li>uLinux operating system</li> </ul>
Design tools	ISE Xilinx, EDK, ChipScope Pro, gcc, Crosscompiler Toolchain Microblaze, CGI, Picoblaze assembler
Lead time	3 months