



Freescale - MPC8349E-MITXE - MPC8349E-mITXE Reference Platform

Product Overview:

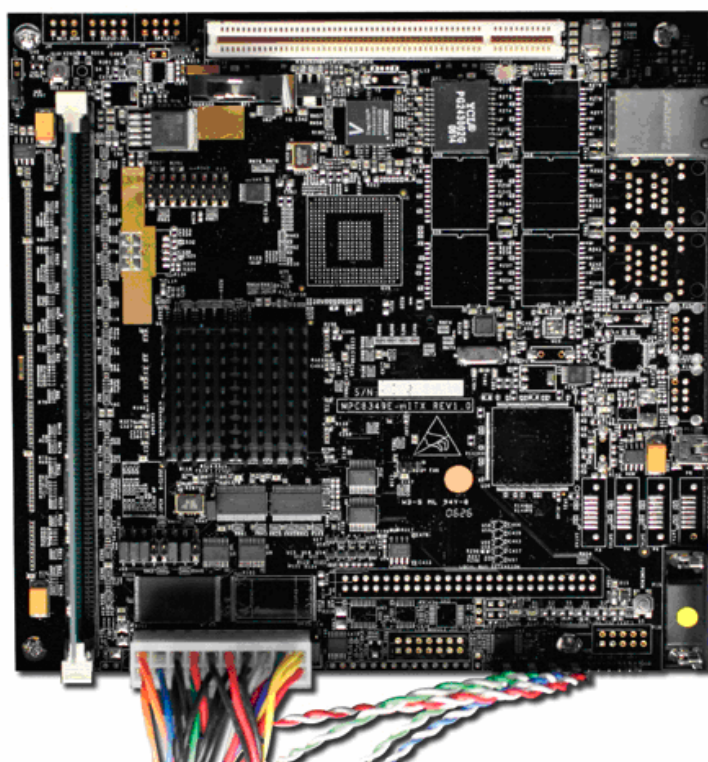
The MPC8349e-MITX-GP Industrial Evaluation platform not only demonstrates the capabilities of Freescale's MPC8349E processor but is an ideal solution for evaluating Freescale's Power™ Architecture Processors and software development around Power™ Architecture. This evaluation platform is specifically for customers who are NOT familiar with Power Architecture, to gain hands on experience.

In addition to the highly integrated MPC8349E processor, this platform leverages external components to support these additional features such as a Gigabit Ethernet port, a high-speed USB port, serial channels and a PCI slot.

The ability to provide a wide variety of interfaces and implement an array of industrial protocols has become important in industrial applications because it increases design versatility and compatibility, a requirement in the wide space of the Industrial arena. Additionally the Power Architecture technology melds more than 15 years of architectural evolution which has allowed Freescale to provide market altering solutions with long product life cycles. Handing customers the capability to increase features without repeated investment due to product compatibility.

A board support package (BSP) is pre-installed on the MPC8349E-mITX-GP. This BSP consists of a bootloader (u-boot), a generic PPC Linux-based system and associated file system. U-boot and the Linux kernel reside in the on-board Flash memory while the File system is pre-installed on the hard disk shipped with the MPC8349E-mITX-GP. Upon power up, the Linux system is running on the MPC8349E-mITX-GP.

The MPC8349E-mITX-GP BSP generation takes advantage of a tool called the Linux Target Image Builder or LTIB. LTIB is a suite of tools that leverages existing Open Source configuration scripts and source code



packages and bundles them all into a single BSP generation bundle. The source code packages include boot loaders and linux kernel sources as well as many user-space source code packages to build a complete BSP. LTIB also provides compiler packages required to build the BSP. Freescale developers use LTIB to create BSPs for a multitude of Freescale development targets. LTIB leverages as much BSP elements as possible for all Freescale targets that supported while offering the flexibility required to customize, as necessary, components that require platform specific modifications.

Kit Contents:

- CPU: Freescale MPC8349E running at 333/ 533 MHz (CPU/CSB (Coherent System Bus))
- Memory subsystem:
 - 128 MByte unbuffered DIMM SDRAM that is expandable to 1 Gbyte
 - 8 MByte Flash memory
- Interfaces:
 - 10/100/1000 BaseT Ethernet ports:
 - TSEC1, GMII interface: one 10/100/1000 BaseT RJ-45 with RJ-45 interface using Vitesse™ VSC8201 single port 10/100/1000
 - BaseT PHY
 - USB 2.0 Host and OTG:
 - USB2, ULPI interface: one USB2.0 type mini-AB receptacle connector, with SMSC
 - USB3300 Hi-Speed USB host/device/OTG PHY
 - ST M24256 serial EEPROM
 - Dallas™ DS1339 RTC with battery holder
- Board connectors:
 - ATX power supply connector
 - RS-232C connectors
 - 9-pin DB9 receptacle
 - 10- pin 2.54 mm connector
 - JTAG/COP for debugging
 - 6-layer PCB routing (4-layer signals, 2-layer power and ground)

Key Features:

- MPC8349 Mini-ITX System Board
- Murex 2677 Mini-ITX chassis
- F10903-C AD/DC Adaptor
- DB9 (male) to DB9 (female) gender changer
- Ethernet Cable with Ferrite Core
- DB9 (male) to DB9 (female) cable
- USB Cable with Ferrite Core
- Warranty Card

Ordering Information:

Products:

| Part Number | Manufacturer | Farnell P/N | Newark P/N |
|------------------|--------------|-------------|------------|
| MPC8349E-MITX-GP | Freescale | 1692095 | 14M6286 |

Associated Products:

| Part Number | Manufacturer | Description | Farnell P/N | Newark P/N |
|----------------|----------------|---|-------------|------------|
| SPC4800 | SPC Technology | USB 2.0 Cable Assembly | 4556604 | 83K3790 |
| SPC19944 | SPC Technology | Shielded Serial Cable Assembly | 1702769 | 83K3689 |
| CWA-STANDARD-N | Freescale | Software, suite licence, c/w, standard | 1750496 | 26R5712 |
| USBMLCF | Freescale | USB ColdFire Multilink | 1535884 | 01M6486 |
| MPC8349EVVAGDB | Freescale | 32Bit MPU E300 Core | 1692110 | NA |
| MPC8349VVALFB | Freescale | 32Bit MPU E300 Core | 1692111 | NA |
| MPC8349EVVALFB | Freescale | 32Bit MPU E300 Core | 1643077 | NA |
| MAX811TEUS-T | Maxim | Voltage detector IC | 1737159 | 68K9471 |
| MAX3232CDBE4 | TI | RS-232 Transceiver IC | 1470457 | 26M0603 |
| M24256-BWMN6P | ST | 256 Kbit serial I ² C bus EEPROM | 1224411 | 26M1752 |
| PCF8574T/3,518 | NXP | I/O Expander IC | | 15R2233 |
| PCF8574ADW | TI | I/O Expander IC | 1758146 | 37K0655 |
| SN74ACT245PW | TI | Octal Bus Transceivers With 3-State Outputs | 9590374 | 98K0225 |

| | | | | |
|------------------|---------|---|---------|---------|
| SN74HC373PW | TI | Octal Transparent D-Type Latches With 3-State Outputs | 1287558 | 26M3293 |
| DS1339U-33+ | Maxim | Real Time Clock IC | 1379717 | 08J6240 |
| MAX1953EUB+ | Maxim | Voltage Regulator | 1606628 | 68K4529 |
| MIC2505-2BM | Micrel | Power Distribution Load Switch IC | NA | 12B1565 |
| MIC29502BU | Micrel | Linear Voltage Regulator IC | NA | 83F5944 |
| LP2994M/NOPB | NS | LP2994 - DDR Termination Regulator | 1685698 | 41K7310 |
| MC74LCX16373DTG | ON Semi | Low-Voltage CMOS 16-Bit Transparent Latch | 1706048 | 98H0715 |
| MC74VHC1G04DFT1G | ON Semi | Inverter Logic IC | 6389478 | 09H2337 |
| MC74VHC1G32DFT1 | ON Semi | Single 2 Input OR Gate | NA | 67H6765 |
| M74VHC1G125DFT1G | ON Semi | Single Non Inverting Buffer, 3-State | 1567276 | 61K1055 |
| NCP1117ST50T3G | ON Semi | 1.0A Low-Dropout Positive Fixed & Adjustable Voltage Regulators | 1147874 | 71J6563 |
| MC74LVX08DT | ON Semi | Quad 2-Input AND Gate | 1705887 | 42K1002 |
| MC74VHC1G08DFT1G | ON Semi | Single 2-Input AND Gate | 1353867 | 67H6751 |
| MC74VHC1G14DFT1G | ON Semi | Single Schmitt-Trigger Inverter | 1353868 | 67H6763 |
| MC74AC74DTR2G | ON Semi | Dual D-Type Positive Edge Trigger | NA | 42K0819 |

Similar Products:

| Part Number | Manufacturer | Description | Support Device | Farnell P/N | Newark P/N |
|------------------|--------------|---|----------------|-------------|------------|
| MPC8349E-MITXE | Freescale | MPC8349E Reference Design Kit | MPC8349E | 1692096 | 14M6287 |
| MPC8349EA-MDS-PB | Freescale | MPC8349 Hardware / Software - Dev Kit (Dev Tool) | MPC8349E | NA | 14M6288 |
| MPC8313E-RDB | Freescale | MPC8313E Reference Design Kit | MPC8313E | 1692097 | NA |
| MPC8313E-RDB. | Freescale | MPC8313E Reference Design Kit | MPC8313E | 1690052 | NA |
| MPC8315E-RDB | Freescale | MPC8315E Hardware / Software - Reference Design Kit | MPC8315E | 1750497 | NA |
| MPC8323E-RDB | Freescale | MPC8323E Hardware / Software - | MPC8323E | 1692093 | NA |

| | | Reference Design Kit | | | |
|---------------|------------------|--------------------------|----------|---------|---------|
| ASP 8347 | Analogue & Micro | MPC8347 Development Kit | MPC8347 | 1496222 | 61M4869 |
| MPC8360E-RDK | Freescale | MPC8360E Development Kit | MPC8360E | 1692119 | NA |
| MPC8360E-RDK. | Freescale | MPC8360E Development Kit | MPC8360E | NA | NA |

Document List:

Datasheets:

| Part Number | Description | Size |
|-------------------|---|-------|
| MAX811TEUS | MAX811TEUS – Plastic encapsulated devices | 58KB |
| MAX3232 | RS-232 Transceiver IC | 609KB |
| M24256 | 256 Kbit serial I²C bus EEPROM | 465KB |
| PCF8574 | Remote 8-bit I/O expander for I²C-bus | 132KB |
| SN74ACT245 | Octal Bus Transceivers With 3-State Outputs | 694KB |
| SN74HC373 | Octal Transparent D-Type Latches With 3-State Outputs | 726KB |
| DS1339U-33+ | Real Time Clock IC | 208KB |
| VSC8201 | VSC8201 Datasheet | 2MB |
| MAX1953EUB+ | MAX1953EUB+ Voltage Regulator | 432KB |
| MIC2505-2BM | MIC2505 Data sheet | 620KB |
| MIC29502BU | Linear Voltage Regulator IC | 133KB |
| USB3300 | High speed USB host or device phy | 345KB |
| IRU1206-18CY | 1A Very low dropout positive fixed and adjustable regulators | 94KB |
| LP2994M | DDR Termination Regulator | 258KB |
| MC74LCX16373 | MC74LCX16373: Low-Voltage CMOS 16-Bit Transparent Latch | 106KB |
| MX29LV640D T/B | MX29LV640D T/B Datasheet | 2.4MB |
| MC74VHC1G04 | Inverter Logic IC | 72KB |
| MC74VHC1G32DF T1G | Single 2 Input OR Gate | 73KB |
| M74VHC1G125DFT 1G | Single Non Inverting Buffer, 3-State | 79KB |
| NCP1117ST50T3G | 1.0A Low-Dropout Positive Fixed & Adjustable Voltage Regulators | 211KB |
| MC74LVX08DT | MC74LVX08: Quad 2-Input AND Gate | 110KB |
| 74VHC1G08DF | Single 2-Input AND Gate | 73KB |
| MC74VHC1G14DF T1G | Single Inverter, Schmitt Input | 71KB |
| MC74AC74DT | Dual D-Type Positive Edge Trigger | 157KB |

Application Notes:

| File Name | Size |
|--|--------|
| AN2859SW_FPM Frequency Pulse Measurement (FPM) eTPU Function API | 2KB |
| AN2858SW_PPA Pulse Period Accumulate (PPA) eTPU Function API | 2KB |
| AN3055 : Migration from MPC834x Revision 1.x to Revision 3.x | 483KB |
| MPC8349EAMDSPBUM : MPC8349EA MDS Processor Board User Manual | 3.1MB |
| AN3422 : Linux Startup Guide for the MPC8349E-MITX-GP Platform | 1.53MB |
| MPC8349EMITXGPFS : MPC8349E-mITX-GP Evaluation Platform Fact Sheet | 255KB |

Hardware & Software:

| File Name | Size |
|---|---------|
| Evaluation: CodeWarrior for ColdFire Architectures | 301MB |
| CodeWarrior for ColdFire v7.1.2 Patch | 162MB |
| Evaluation: CodeWarrior for ColdFire Architectures | 301.6MB |
| CodeWarrior for ColdFire v7.1.2 Patch | 161.9MB |
| MPC8349E-MITX-GP Bill of Material | 38KB |
| MPC8349E-mITX-GP Reference Platform Board Errata | 72KB |
| Office-in-a-Box Based on MPC8349E-mITX | 188KB |
| MPC8349E-mITX-GP Evaluation Platform Fact Sheet | 245KB |
| MPC8349E-mITX Reference Design Platform Allegro Layout File | 2.7MB |
| MPC8349e-MITX-GP Industrial Reference Platform Orcad Schematics | 384KB |
| MPC8349e-MITX-GP Industrial Reference Platform Schematics | 444KB |
| Errata to MPC8349e-MITX-GP Industrial Reference Platform Schematics | 54KB |
| MPC8349E Reference Platform Gerber File | 1.55MB |
| OrCAD symbols for MPC8349E TBGA device | 17KB |
| IBIS models for 8343E, 8347E, and 8349E | 438KB |
| MPC834x BSDL Models | 412KB |
| MPC8349EAMDS Processor Board Schematics | 852KB |
| MPC8349E Reference Platform Schematics | 711KB |