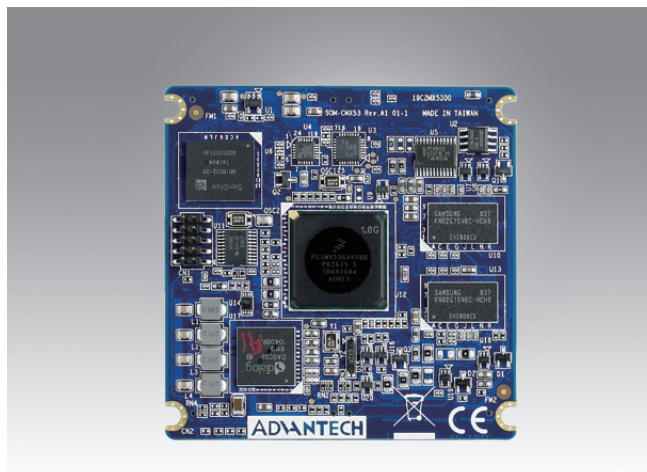


ROM-1210

COM with Freescale
i.MX53 Series Processor



Features

- Freescale ARM Cortex™-A8 i.MX53 1 GHz high performance processor
- Supports OpenGL ES 2.0 and OpenVG™ 1.1 hardware accelerators
- Supports full HD 1080p video decode and HD 720p video encode hardware engine
- Freescale Smart Speed™ Technology supports low power consumption
- Industrial design with 3.3V I/O voltage and wide range working temperature
- Rich I/O for high expansion capability
- Supports SATA storage interface and CAN-bus for vehicle applications
- Supports Android 2.3, Embedded Linux2.6, Windows® Embedded Compact 7

Introduction

Industrial Design, I/O intensive COM

ROM-1210 Computer-on-Module (COM) integrates ARM Cortex-A8 1 GHz Freescale i.MX53 series ultra low power SoC and I/O solution chips to be Windows® Embedded Compact 7, Android 2.3, and Linux solution-ready! Freescale i.MX53 supports 2D, 3D graphics acceleration, full HD 1080P video decoding and HD 720p video encoding hardware engine. ROM-1210 with 3.3V I/O Voltage current and wide-range temperature support is specially designed for industrial applications.

Design-in Package Ensures Efficient Evaluation and Implementation

The Design-in Package not only includes all the necessary H/W boards, fixtures and LCD related cables, but also includes the Advantech-customized API, utility & reference codes. And of course, it includes all design related documentation including a white paper for detailed technical know-how.

Two supporting mechanisms are included in the Design-in Package:

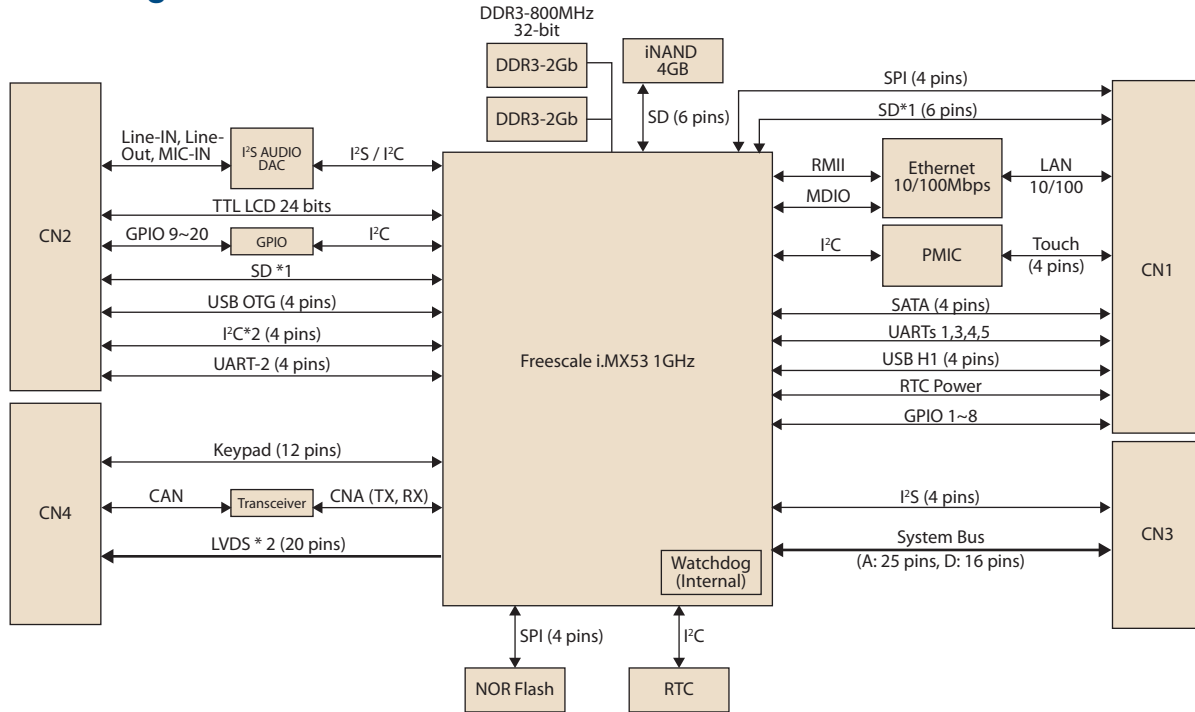
Reference Kit: Includes the Advantech reference Customer Solution Board (CSB) and all documentation relating to CSB design and manufacture (e.g. : Schematics, and pin definition file).

LCD Kit: Includes the LCD, T/S and related cables. All goods are pre-verified and supported in Advantech's reference S/W package.

Specifications

| | | |
|----------------------------|---|---|
| Kernel | M/B | ROM-1210 |
| | CPU | Freescale i.MX535 Cortex-A8 1 GHz (i.MX536 Cortex-A8 800 MHz for wide temp. only) |
| | System RAM | 512 MB DDR3 (256 MB optional) |
| | Flash | 4 GB (up to 64 GB) |
| | Graphic Chip | 24-bit LCD controller by CPU |
| | RTC | Yes |
| | Watchdog Timer | Yes |
| | Power Management | Standard/idle/suspend mode |
| | Reset | H/W reset & S/W reset (by register setting) |
| | I/O (All interfaces with industrial TTL 3.3V Level) | UART |
| Ethernet LAN | | 10/100 Mbps |
| USB 2.0 Client | | 1 (OTG supported) |
| USB 2.0 Host | | 1 |
| SD/MMC | | 2 |
| SATA | | 1 |
| Touch | | 4 wire Resistive type |
| System Bus | | Yes (address: 25-pin, data: 16-pin) |
| I ² C Interface | | 2 |
| SPI Interface | | 1 |
| CAN-bus | | Yes (optional) |
| Keypad | | 6 x 6 matrix |
| GPIO | | 20-pin 3.3V TTL level GPIOs |
| I ² S | 1 | |
| Multimedia | Graphic Chip | CPU internal 24-bit LCD controller |
| | Resolution | Default 800 x 480 WVGA (320 x 240 - 1920 x 1080 as optional) |
| | LCD Interface | 2 x 24-bit LVDS connector |
| | Audio | Line-in, Line-out, MIC-in |
| Power | Power Input | 3.3 V _{oc} (+5%) & 3.6 V _{oc} (+5%) |
| | Power Consumption | Full run: 2.2 W Normal run: 0.8 W |
| Mechanical & Environment | Size | 68 x 68 x 7.5 mm |
| | Operating Temperature | 0 - 60° C (-40 -85° C by project base) |
| | Operating Humidity | 5 - 95 % relative humidity, non-condensing |
| Other | RoHS | Yes |
| | Certifications | CE/FCC Class A |
| | Software Support | Embedded Linux 2.6 (WEC7 and Android 2.3 by project support) |

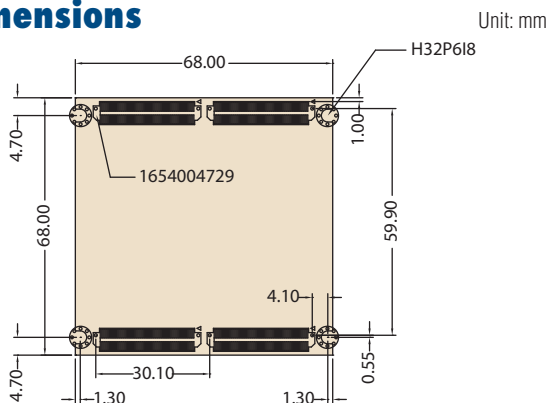
Block Diagram



Ordering Information

| Part No. | CPU | RAM | Flash Memory | 2D/3D | UART | LAN | USB Host | USB OTG | LCD | Touch | SATA | SD | CANBus | I ² C | SPI | Size | Power Input | Operating Temp. |
|-------------------|---------------------------|--------|--------------|-------|------|-----|----------|---------|--------|-------|------|----|--------|------------------|-----|------------------|-------------------|-----------------|
| ROM-1210CB-A60AAE | Freescale i.MX535 1 GHz | 256 MB | - | Yes | 5 | 1 | 1 | 1 | 24-bit | Yes | Yes | 2 | N/A | 2 | 1 | 68 x 68 x 7.5 mm | 3.3 V & 3.6 V +5% | 0 ~ 60° C |
| ROM-1210CF-A78AAE | Freescale i.MX536 800 MHz | 512 MB | 2 GB | Yes | 5 | 1 | 1 | 1 | 24-bit | Yes | Yes | 2 | 1 | 2 | 1 | 68 x 68 x 7.5 mm | 3.3 V & 3.6 V +5% | 0 ~ 60° C |
| ROM-1210IF-A78AAE | Freescale i.MX536 800 MHz | 512 MB | 2 GB | Yes | 5 | 1 | 1 | 1 | 24-bit | Yes | Yes | 2 | 1 | 2 | 1 | 68 x 68 x 7.5 mm | 3.3 V & 3.6 V +5% | -20 ~ 70° C |
| ROM-1210WF-A78AAE | Freescale i.MX536 800 MHz | 512 MB | 2 GB | Yes | 5 | 1 | 1 | 1 | 24-bit | Yes | Yes | 2 | 1 | 2 | 1 | 68 x 68 x 7.5 mm | 3.3 V & 3.6 V +5% | -40 ~ 85° C |

Dimensions



Design-in Package

| Part No. | Description |
|-----------------|--|
| ROM-1210DK-B00E | Development board for ROM-1210 |
| Power cord | 1700001524 for 3-pin USA standard power cord 170203183C for 3-pin Europe standard power cord 170203180A for 3-pin UK standard power cord |

Packing List

Bulk packing with 20 pcs in one box

**Sample image and related documentation included with Design-in kit only.