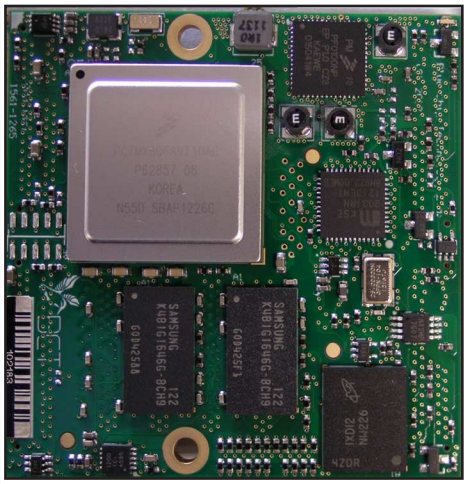
BlueChip Technology

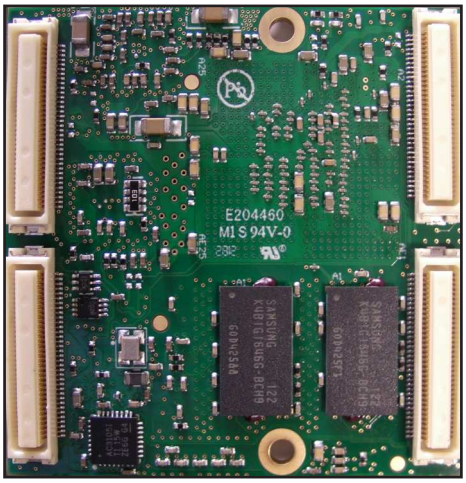
DATASHEET

KEY FEATURES

- Freescale ARM Cortex™ A9 Dual/ Quad Core 1GHz processor
- OpenGL ES 2.0 3D acceleration with 4 shaders (up to 200MT/s), OpenCL, 2D accelerator and OpenVG™ 1.1 hardware acceleration
- Full 1080p encode/decode supporting multiple high resolution video inputs/ outputs simultaneously
- Freescale Smart Speed ensures low power consumption
- Extensive IO including Gigabit LAN and CAN
- Free proven and tested design package to reduce your time to market
- Wide temperature range support
- Linux, Android and Windows OS



RM3 Top



RM3 Bottom

Only 50mm x 50mm

RM3 SYSTEM ON MODULE

Blue Chip Technology have brought the power of the latest ARM processor to their successful range of SOM (System On Module) boards. Based on the Freescale i.MX6™ chipset, the Dual and Quad Core ARM® Cortex™ A9 core delivers up to a five times increase in performance on the previous generation of Cortex A8 devices. Offered with either Dual or Quad Core processors the RM3 can support multiple high resolution graphics displays with independent content. Our free design package provides reference schematics and drivers for a wide range of interfaces to ensure that you are able to take your new product to market quickly.

A SOM board is an off-the-shelf building block with all of the functionality of a high performance single board computer - CPU, chipset, RAM, Flash, Ethernet, CAN, etc but without the usual constraints. Instead you choose the board size/profile, the inputs /outputs and the connectors that suits your product best and then fit one of our SOMs to provide the level of performance required.

Basing your new product on our SOM means the most expensive, complex and highest risk elements of the design are already proven whilst your host board design is a simple task which can be completed quickly and cost effectively. Blue Chip Technology can either support you when you design your own hostboard or design it for you. Blue Chip Technology also provide a full BSP to ensure that your product gets to market as quickly as possible.

The compact RM3 (50*50mm) is an ideal off-the-shelf solution for high performance, low-power embedded applications requiring graphics, video, cameras, CAN, LAN or featuring high-resolution touch screen displays. Whether your market is medical, multimedia, vision, automotive, digital signage or many others the RM3 is the perfect heart for your new product.

Microsoft® Windows® Embedded Partner

BS EN ISO 9001
Certificate No 33069

RM3 SYSTEM ON MODULE

TECHNICAL SPECIFICATION

System

- Freescale i.MX6 ARM Cortex-A9 1GHz Dual/Quad Core Processor with TrustZone*
- Cortex A9 NEON™ MPE (Media Processing Engine) Co-Processor per Core
- 32KB Instruction Cache + 32KB Data Cache per core
- 1 MB unified I/D L2 cache, shared by two/four cores
- 512MB 64 bit DDR3 RAM
- Hardware Accelerators
- VPU - Video Processing Unit
- IPUv3H - Image Processing Unit version 3H (2 IPUs)
- GPU3Dv4 - 3D Graphics Processing Unit (OpenGL ES 2.0) version 4
- GPU2Dv2 - 2D Graphics Processing Unit (BitBlt)
- GPUVG - OpenVG 1.1 Graphics Processing Unit
- ASRC - Asynchronous Sample Rate Converter

Enhanced IO

- 1 x SPI Bus - 2 devices
- 2 x UARTs
- 2 x I2S
- 2 x SD/MMC
- 1 x HS USB
- 1 x HS USB ULPI Bus
- 2 x I2C Bus
- 1 x OneWire Bus
- GPIO
- 10/100/1000 Ethernet
- PCI-E
- Other interfaces available - please contact Blue Chip Technology

Expansion

- 1x 16 bit Asynchronous Bus (similar to X-Bus)

Local Storage

- 1GB NAND Flash
- Integrated SATA-II interface

Display/Audio

- Dual HD displays (DVI/HDMI & LCD) supported simulataneously and independently. Total raw pixel rate of all interfaces is up to 450Mpixels/sec, 24 bpp.
- One video camera/capture port - concurrent operation with dual video channels
- I2S and
- 1 x Mono Channel microphone input
- 1 x Mono Channel Audio output

Operating System Support

- Linux Ubuntu 10.04 LTS
- Android 4.0 (Ice Cream Sandwich)
- Windows Embedded Compact 7

Power

- Power Supply - 5 volt, 3.3 volt
- Power Consumption Operating- TBA watts

System Management

- 1 x Power LED

Environmentals/Mechanicals

- Operating temperature range
- Standard 0°C to +60°C
- Extended -30°C to +85°C
- Operating Humidty 5 to 85%

Board Ordering Options

- RM3-1000-DUAL-512M-1GF-STD
- Dual 1GHz ARM Cortex A9, 512MB DDR3, 1GB NAND Flash, 0 to 60°C Operating Temperature
- RM3-1000-DUAL-512M-1GF-AUTO
- Dual 1GHz ARM Cortex A9, 512MB DDR3, 1GB NAND Flash, -30 to 85°C Operating Temperature
- RM3-1000-QUAD-512M-1GF-STD
- Quad 1GHz ARM Cortex A9, 512MB DDR3, 1GB NAND Flash, 0 to 60°C Operating Temperature
- RM3-1000-DUAL-512M-1GF-STD
- Quad1GHz ARM Cortex A9, 512MB DDR3, 1GB NAND Flash, -30 to 85°C Operating Temperature

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