iWave
Embedding Intelligence

i.MX53 MXM SOM Module

Rainbow G11M is a cost effective automotive grade SOM module which integrates the latest Freescale's i.MX536 CPU, onboard DDR2 RAM, Micro SD and eMMC Flash. The module optimized for both performance and power to meet demands of high-end advanced embedded requirements. The i.MX53's full HD capability with sophisticated video processing and the 2D/3D graphic accelerator provide the rich multimedia experience.

This highly integrated module comes with optimized drivers and software packages for various operating systems and suitable for various embedded applications including Industrial, Automotive and Medical

APPLICATIONS : Automotive IVI, Rear Seat Entertainment, Instrument Cluster, Portable Navigation, Telematics, Industrial HMI, Telehealth, POS Terminal, Security Systems, High-end PDAs, Digital Signage.

iW-RainboW-G11M-MXM HIGHLIGHTS

800MHz to 1.2GHz Core Operation

1080p HD decode, 720p HD encode

2D, 3D Hardware Graphics Accelerators

Open GL, Open VG Support

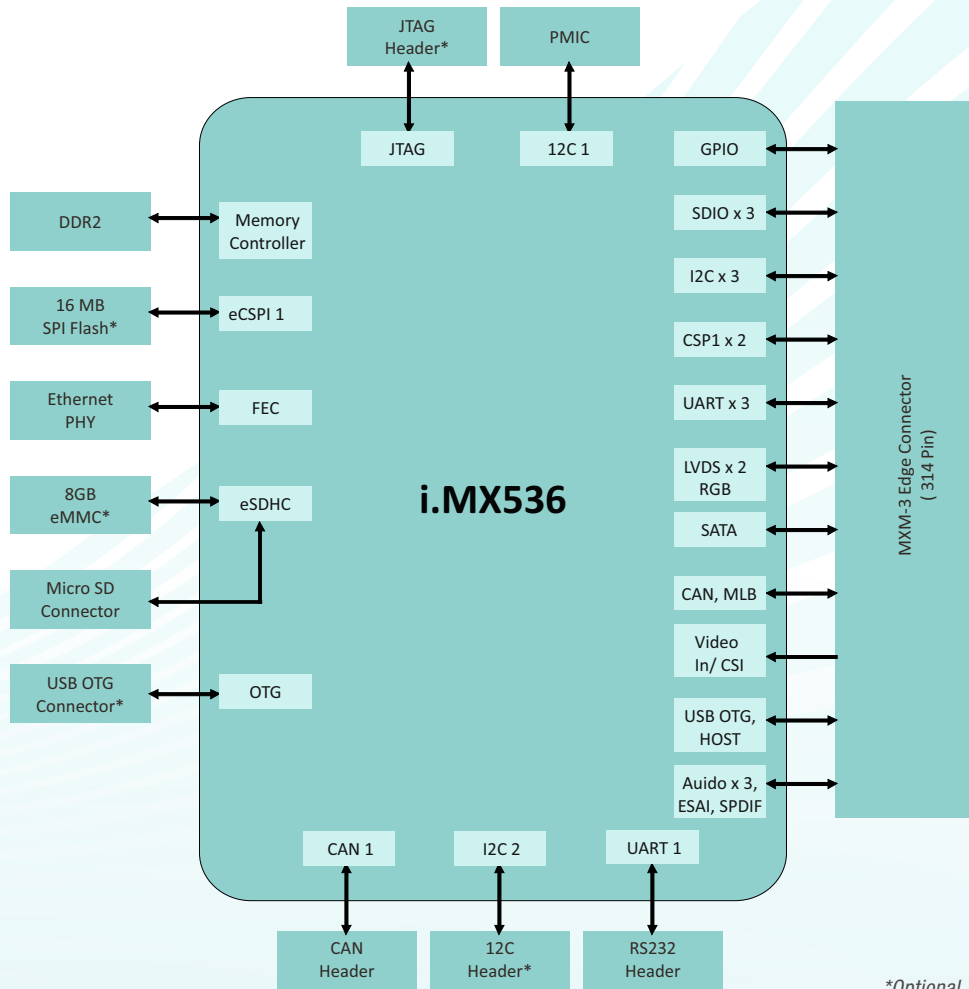Automotive temperature grade support*

Power efficient

Quick time to market

SPECIFICATIONS

CPU	
Freescale's i.MX536 @ 800 MHz	
RAM	
512MB DDR2 RAM (Expandable to 1GB)	
Storage	
2GB MicroSD card	
16MB SPI Flash*	
8GB eMMC Flash*	
On-board Peripherals	
Ethernet PHY	
RS232 PHY	
Headers & Switches	
Boot Mode Switches	
JTAG Header*	
I2C, CAN Headers*	
Reset button	
Form factor	
85mm x 85mm	

MXM-3 Expansion Connector
UART - 3 Ports
I2C - 2 Ports
SDIO - 3 Ports
SPI – 2 Ports
Audio – 3 Ports
LVDS Channel – 2 Ports
SATA – 1 Port
CAN – 1 Port
Ethernet – 1 Port
GPIO – 16 Nos
MLB, ESAI, SPDIF Ports
Power Input
5V, DC Input
Temperature
Industrial Grade -40°C to +85°C
OS Support**
Linux 2.6.35, Android 2.3, WEC7*, QNX*

*Optional
** Note: Device drivers provided are for specific interface chipsets, which are used in iWave's Carrier board.

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Windows Embedded Silver Partner

freescale Connect — Proven Partner

i.MX536 SOM BLOCK DIAGRAM

Block diagram elements:

- JTAG Header* → JTAG
- PMIC → 12C 1
- DDR2 ↔ Memory Controller
- 16 MB SPI Flash* ↔ eCSPI 1
- Ethernet PHY ↔ FEC
- 8GB eMMC* ↔ eSDHC
- Micro SD Connector → eSDHC
- USB OTG Connector* ↔ OTG

i.MX536

- GPIO
- SDIO x 3
- I2C x 3
- CSP1 x 2
- UART x 3
- LVDS x 2 RGB
- SATA
- CAN, MLB
- Video In/ CSI
- USB OTG, HOST
- Auido x 3, ESAI, SPDIF

MXM-3 Edge Connector (314 Pin)

- CAN 1 → CAN Header
- I2C 2 → 12C Header*
- UART 1 → RS232 Header

*Optional

OS SUPPORT

Linux 2.6.35
Android 2.3
WEC7*
QNX *

*Optional

DELIVERABLES

RainboW-G11M Module
Board Support Packages
User manual

OPTIONAL KITS

RainboW-G11D-MXM
(i.MX53 Development Platform)

CUSTOM DEVELOPMENT

Custom SOM/ Carrier development
BSP Development/ OS Porting
Design Review & Support

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iWave Systems Technologies, established in 1999, focuses on Product Engineering Services involving Embedded Hardware, Software & FPGA. The company designs and develops cutting edge products and solutions. iWave has been an innovator in the development of highly integrated, high performance, low power and low cost System On Modules and Development Platforms. iWave's expertise has brought out multiple SOMs based on ARM, Freescale, Intel Atom, Marvell and TI Processors.

iWave Systems has won the confidence of its customers over the years by being a reliable partner in developing innovative products. Our engineers combine outstanding System design experience to deliver Quality Solutions. iWave specializes across Industrial, Automotive and Medical domains. We support our customers by being time efficient, which in turn helps our customers accelerate time to market their products. iWave is a Windows embedded Silver partner and a winner of the Partner Excellence Award.

Note: iWave reserves the right to change these specifications without notice as part of iWave's continuous effort to meet the best of breed specification. The registered trademarks are proprietary of their respective owners.

*Optional items not included in the standard deliverables

Ordering the i.MX536 SOM

The module can be ordered online from the iWave Website
http://www.iwavesystems.com/webforms

IW-G11M-MXM-BR-R1.0