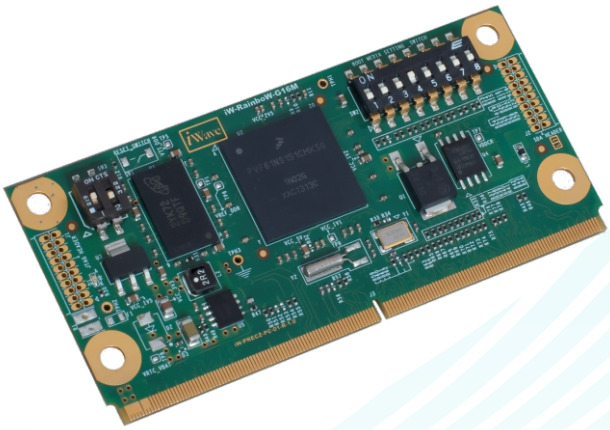
iWave
Embedding Intelligence

## System On Module RainboW-G16M-µMXM

# Vybrid µMXM Module



The RainboW-G16M-µMXM SOM is based on Freescale's Vybrid VF6xx/VF5xx family solution combining ARM Cortex-A5 and Cortex-M4 cores, which often eliminate the need for an external MCU for real time control applications. Vybrid devices also provide a powerful combination of on-chip encryption; secure boot, anti-tamper and anti-clone capabilities to secure sensitive or critical infrastructure applications such as smart grid or industrial control.

The µMXM SOM is a compact module packed with 256MB on board RAM & 256MB NAND Flash. The module brings all the Vybrid peripheral interfaces to a 314-pin MXM edge connector.

**APPLICATIONS:** Industrial Process Control & Kiosks, Smart Grid, Medical/Healthcare Devices, Smart Connected Devices, Battery Operated Handheld Devices

## iW-RainboW-G16M-µMXM HIGHLIGHTS

Dual Heterogeneous cores(VF6xx):
- ARM Cortex A5 @ 500 MHz
- ARM Cortex M4 @ 167 MHz

Assymetric Multi Processing

Industrial grade operating temperature

Ultra low power consumption

Security support & mixed signal capability

## SPECIFICATIONS

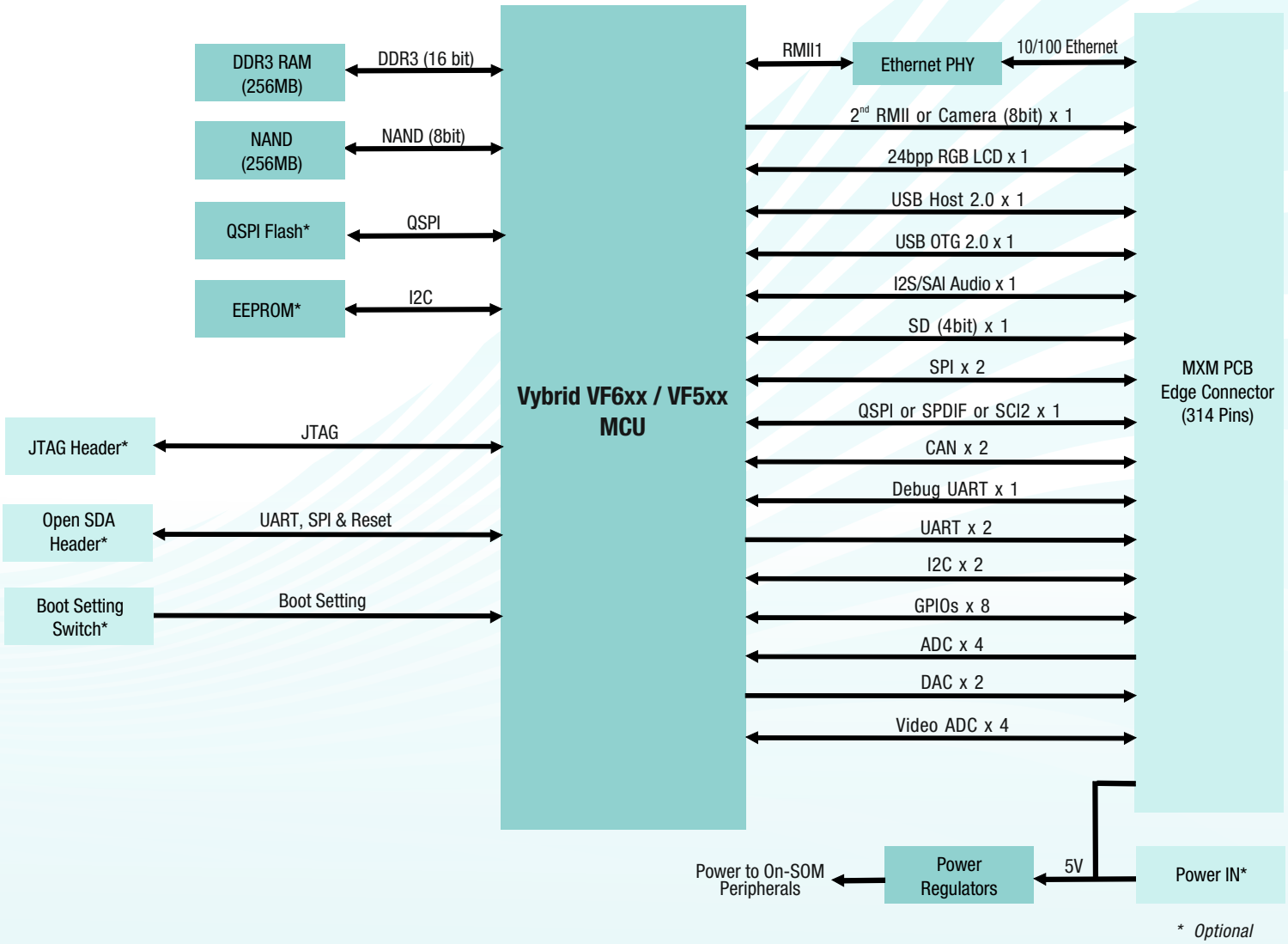
| | |
|---|---|
| **MCU:** | **MXM PCB Edge Connector Interfaces:** |
| Vybrid VF6xx/VF5xx Series Controller | 10/100 Ethernet PHY interface - 1 Port |
| **Memory:** | 2nd RMII or Camera (8bit) interface |
| 256MB DDR3 RAM (Expandable upto 1GB) | 24bpp RGB LCD Interface |
| 256MB NAND Flash (Expandable upto 2GB) | USB Host 2.0 - 1 Port |
| QSPI Flash* | USB OTG 2.0 - 1 Port |
| EEPROM* | I2S/SAI Audio - 1 Port |
| **On Board Peripherals Support:** | SD (4bit) - 1 Port |
| On module 10/100 Ethernet PHY | SPI - 2 Ports |
| JTAG Header* | QSPI or SPDIF or UART interface - 1 Port |
| Open SDA Header* | CAN - 2 Ports |
| DIP Switch for boot settings* | Debug UART - 1 Port |
| **Power Supply:** | UART - 2 Ports |
| 5V, 0.5A Input | I2C - 2 Ports |
| **Temperature Supported:** | GPIOs - 8 nos |
| -40°C to +85°C Industrial | 12 bit ADC - 4 channnels |
| **Form Factor:** | 12 bit DAC - 2 channnels |
| 85mm x 40mm | Video ADC - 4 channels |

* *Optional*

iWave
Embedding Intelligence

freescale Connect
Proven Partner

## Vybrid µMXM SOM BLOCK DIAGRAM




* *Optional*

### OS Support
Linux 3.0.15

### Deliverables
iW-RainboW-G16M-µMXM SOM
Board Support Package Release
User Manual

### Optional Kits
iWave's MXM Carrier Card

### Custom Development
BSP Development/OS Porting
Custom SOM/Carrier Development
Custom Application/GUI Development
Design Review and Support

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, Altera, 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.



**Optional items not included in the standard deliverables*

### Ordering the Vybrid µMXM SOM
The board can be ordered online from the iWave Website
http://www.iwavesystems.com/webforms

**iWave Systems Tech. Pvt. Ltd.,**
7/B, 29th Main, BTM Layout 2nd Stage,
Bangalore-560076,
India.
Ph:+91-80-26683700, 26786245
Email: mktg@iwavesystems.com
www.iwavesystems.com

**iWave Japan, Inc.**
8F-B, Kannai Sumiyoshi Building,
3-29, Sumiyoshi-cho, Naka-ku,
Yokohama, Kanagawa, Japan.
Ph: +81-45-227-7626
Email: info@iwavejapan.co.jp
www.iwavejapan.co.jp

iW-G16M-µMXM-BR-R0.1