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Vybrid µMXM Development Board

iW-RainboW-G16D, Vybrid µMXM Development Kit incorporates Vybrid VF6xx SOM and Pico-ITX form factor carrier card. As it is based on Freescale's Vybrid VF6xx/VF5xx family solution combining ARM Cortex-A5 and Cortex-M4 cores, it eliminates 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 Vybrid µMXM Development Kit is packed with 256MB on board RAM & 256MB NAND Flash and powered with Linux 3.0.15 OS. The module brings all the Vybrid peripheral interfaces to a 314-pin MXM edge connector which can be validated on the carrier board.

APPLICATIONS : Industrial Process Control & Kiosks, Smart Grid, Medical/Healthcare Devices, Smart Connected Devices, Battery operated handheld devices

iW-RainboW-G16D-µMXM HIGHLIGHTS

Dual Heterogeneous cores: ARM Cortex A5 @500 MHz & ARM Cortex M4 @ 167 MHz

Asymmetric Multi Processing

Commercial grade powering temperature

Ultra low power consumption

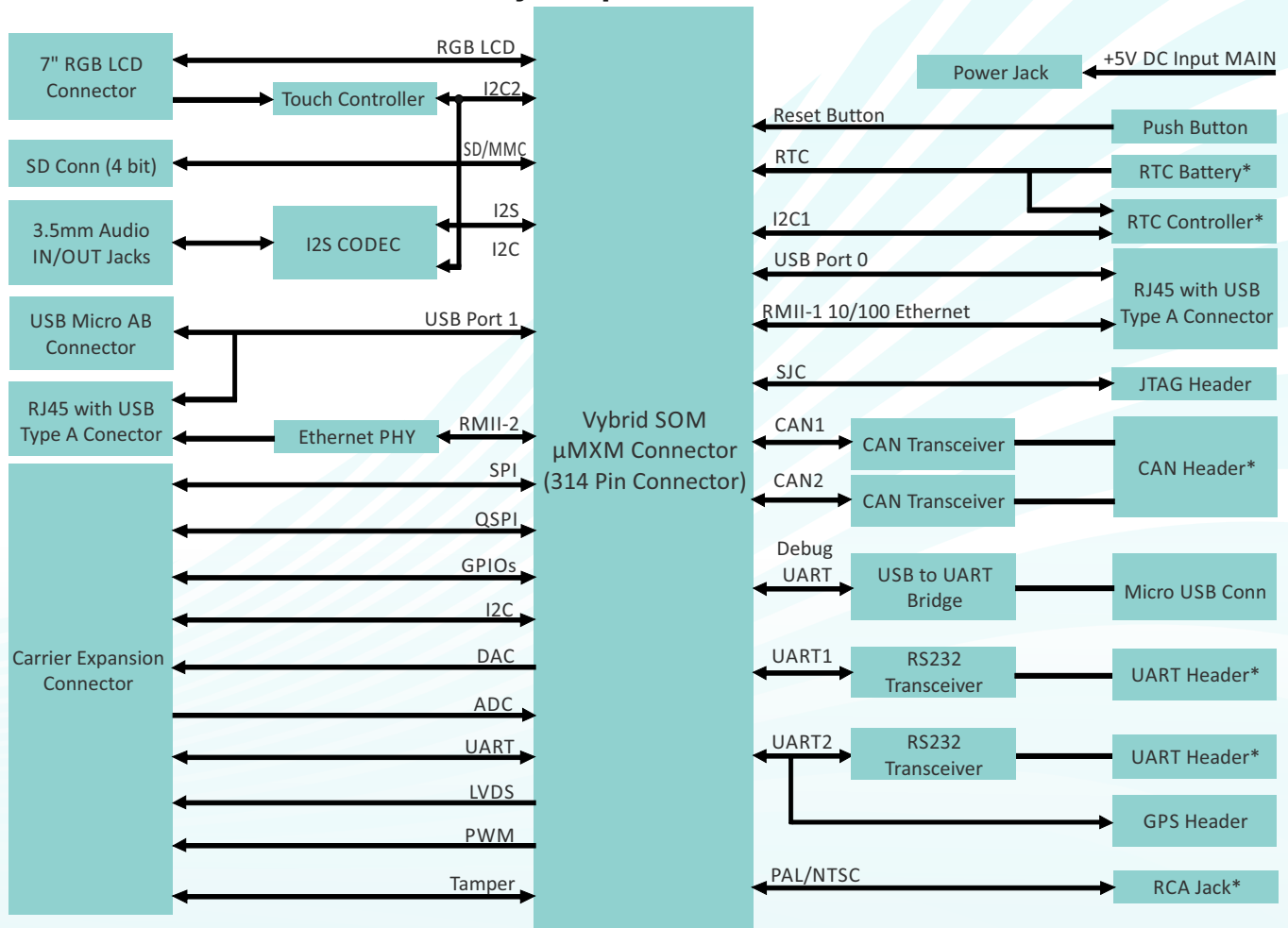Security support & Mixed signal capability

SPECIFICATIONS

Vybrid µMXM SOM
Vybrid VF6xx CPU
256MB DDR3 RAM
256MB NAND Flash (default boot device)
OS: Linux 3.0.15

µMXM Carrier Board
RS232 Debug Console - 1 Port
Standard SD - 1 Port
USB 2.0 Host x 1 Port
USB 2.0 OTG as a device - 1 Port
10/100 Ethernet - 2 Port
I2S Audio Codec-Audio Jack
I2C Resistive touch controller
RGB Display interface (Display not included)

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Vybrid µMXM DEVELOPMENT BOARD BLOCK DIAGRAM

Block diagram elements:

- 7" RGB LCD Connector — RGB LCD
- Touch Controller — I2C2
- SD Conn (4 bit) — SD/MMC
- 3.5mm Audio IN/OUT Jacks — I2S CODEC — I2S / I2C
- USB Micro AB Connector — USB Port 1
- RJ45 with USB Type A Conector — Ethernet PHY — RMII-2
- Carrier Expansion Connector — SPI, QSPI, GPIOs, I2C, DAC, ADC, UART, LVDS, PWM, Tamper
- Vybrid SOM µMXM Connector (314 Pin Connector)
- Power Jack — +5V DC Input MAIN
- Push Button — Reset Button
- RTC Battery* — RTC
- RTC Controller* — I2C1
- USB Port 0
- RJ45 with USB Type A Connector — RMII-1 10/100 Ethernet
- JTAG Header — SJC
- CAN Transceiver — CAN1 / CAN2 — CAN Header*
- USB to UART Bridge — Debug UART — Micro USB Conn
- RS232 Transceiver — UART1 — UART Header*
- RS232 Transceiver — UART2 — UART Header* / GPS Header
- RCA Jack* — PAL/NTSC

*Optional

OS SUPPORT
Linux 3.0.15

DELIVERABLES
iW-RainboW-G16D Platform
Board Support Packages
Power Adapter
User Manual

OPTIONAL KITS
iW-RainboW-G16M-µMXM
(Vybrid SOM Module)

CUSTOM DEVELOPMENT
Custom SOM/ Carrier development
BSP Development/ OS Porting
Design Review & 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, 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.

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Optional items not included in the standard deliverables

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