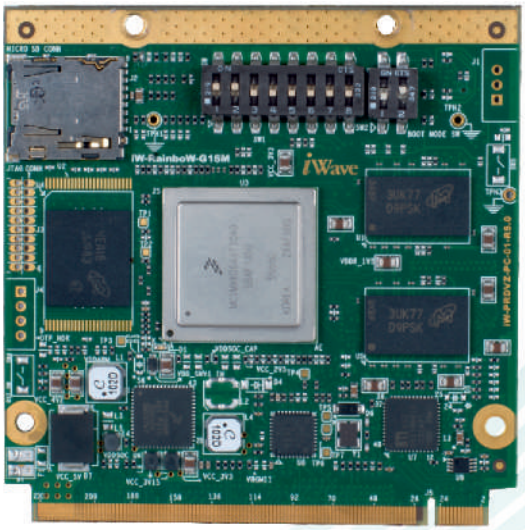
iWave
Embedding Intelligence

System On Module iW-RainboW-G15M-Q7

i.MX6 Qseven Module



iWave Systems offers high performance Qseven SOM module based on NXP's i.MX6 ARM Cortex-A9 processor for faster and multimedia focused applications. With extreme peripheral integration, the CPU supports industry latest high-performance interfaces, such as PCIe Gen2, Gigabit Ethernet, SATA 3.0, HDMI 1.4, SDXC, MIPI CSI/DSI and 64-Bit DDR3 interfaces.

The module is compatible to Qseven R2.0 ARM specification and features 1GHz ARM Cortex A9 Quad Plus/Dual Plus/Quad/Dual/Dual Lite/Solo core CPU, on-board 1GB DDR3 RAM, eMMC Flash, Micro SD slot and JTAG headers.

APPLICATIONS : Industrial HMI, Automotive IVI, Video & Navigation, Graphical Instrument Clusters, Portable Medical Devices, Intelligent Industrial Control Systems and Home Energy Management Systems

iW-RainboW-G15M-Q7 HIGHLIGHTS

ARM Cortex A9 @1GHz/800MHz Quad Plus/Dual Plus/Quad/Dual/Dual Lite/ Solo core

64-bit DDR3-1066 support

OpenGL® ES 2.0 3D, OpenVG™ 1.1 graphics accelerators

Multi format HD1080p HW decode and encode

Four simultaneous display support

Technical and quick customization support

10+ years, long term support

SPECIFICATIONS

CPU
i.MX6 1GHz/800MHz ARM Cortex A9 QP/DP/Q/D/DL/S
PMIC
NXP PF0100 PMIC
RAM
1GB DDR3 for Q/D/DL (Expandable up to 4GB[1])
512MB DDR3 for Solo (Expandable up to 2GB[1])
Storage
8GB eMMC Flash (Expandable[1])
2MB SPI Flash (Expandable[1])
On-board Micro SD Slot
Qseven Edge Connector
PCIe v2.0 x 1 lane
HDMI 1.4
SATA 3.0 x 1[3]
Gigabit Ethernet
Dual LVDS
USB2.0 Host x4
USB2.0 OTG
AC97 Audio
8-bit SD/MMC
CAN,SPI, I2C
Debug UART x1

Data UART x 1
PWM
GPIOs
Expansion Connector [2]
Camera CSIx2 (8-bit)
MIPI CSI, DSI
24-Bit RGB LCD IF
Dual UART
3x3 Key, Memory Bus
ESAI, SPDIF
MLB
I2C3, PWM, GPIO
Temperature
-40°C to 85°C
Board Form Factor
Qseven R2.0 Compatible
Power Input
5V, 1A Typical
Operating Systems
Linux 4.1.15
Android Nougat 7.1.1
Debug Support
Onboard JTAG Header[1]

1 Contact iWave for memory expansion support.
2 Not populated in mass production SOM.
3 Support available only for i.MX6 Quad and Dual SOMs.
Note: device drivers provided are for specific interface chipsets which are used in iWave's carrier board.

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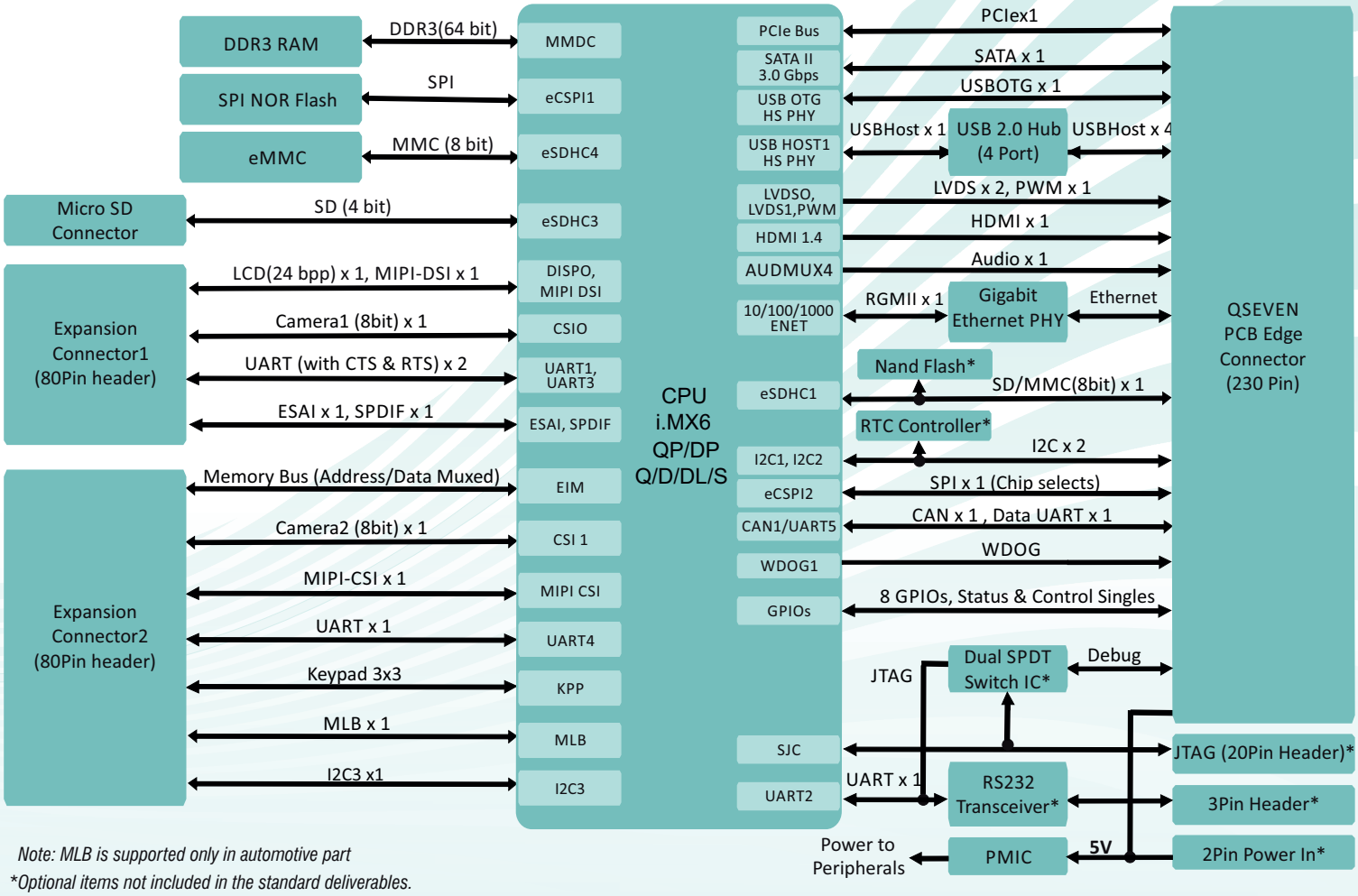
i.MX6 Qseven MODULE BLOCK DIAGRAM



Note: MLB is supported only in automotive part

**Optional items not included in the standard deliverables.*

OS SUPPORT

Linux 4.1.15
Android Nougat 7.1.1

DELIVERABLES

i.MX6 Qseven SOM Module
Board Support Packages
User Manual

OPTIONAL KITS

iMX6 Qseven Development Kit
7" LCD Display Kit with Cap touch
Camera modules
Heat Spreader / Heat Sink

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, 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 in breed specification. The registered trademarks are proprietary of their respective owners.

Ordering the i.MX6 Qseven Module

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

iW-G15M-Q7-BR-R1.5

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