

# System On Module iW-RainboW-G59M

## TI DRA821Ux OSM-MF Module



The DRA821Ux SoC based LGA Module is designed as per the Open Standard Module™ specification v1.1 (OSM). It integrates TI DRA821Ux offerings Dual 64-bit Arm® Cortex®-A72 microprocessor subsystem at up to 2.0 GHz, 4× Arm® Cortex®-R5F MCUs at up to 1.0 GHz subsystems can handle low-level, timing-critical processing tasks. Supports high speed interface such as Gen3 PCIe, One USB 3.1 Gen1 dual-role device subsystem, One 10Gb USXGMII. Real-time control and low-latency communication are enabled by a PCIe controller and a TSN capable Gigabit Ethernet switch.

**APPLICATIONS:** Automotive gateway, Vehicle compute, V2X/V2V, Building Automation Gateway, Telematics control unit

### iW-RainboW-G59M

#### HIGHLIGHTS

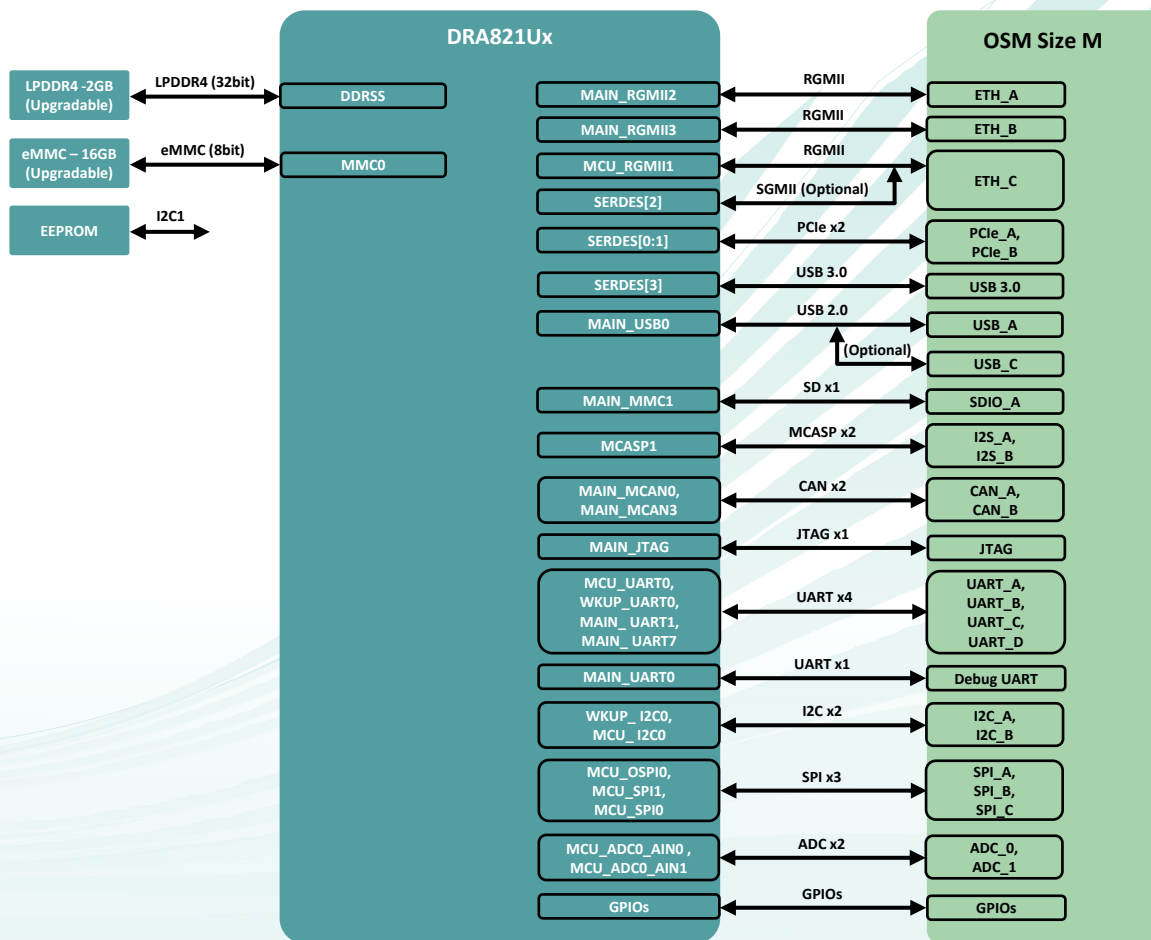
- DRA821Ux with 64-Bit Dual Arm Cortex-A72
- 4x ARM Cortex-R5F Subsystem
- 2GB LPDDR4 Expandable up to 8GB
- 16GB eMMC Flash Expandable up to 128GB
- High Speed Interface such as PCIe, USB3.1 & SGMII
- OSM v1.1 Size-MF LGA Solderable Module
- Industrial/Automotive grade Availability
- 10+ Years long term support

#### SPECIFICATIONS

<b>CPU:</b>
Dual ARM Cortex A72 @2GHz
2× Arm® Cortex®-R5F MCUs in isolated MCU subsystem
2× Arm® Cortex®-R5F MCUs in general compute partition
<b>Memory:</b>
2GB LPDDR4 expandable up to 8GB
16GB eMMC Flash expandable up to 128GB
2KB EEPROM
<b>OSM BGA Features:</b>
<b>Main Domain Interfaces</b>
SerDes Lane 0&1 for PCIe x2 Gen3
SerDes Lane3 for USB3.0
SerDes Lane2 for SGMII (Optional)
RGMII interface x2 Port
SD x1 Port
USB2.0 x1 Port
CAN x2 Port

Debug UART x1 Port
UART x2 Port
MCASP x1 Port
<b>MCU/Wakeup Domain Interfaces</b>
RGMII interface x1 Port
UART x2 Port
I2C x2 Ports
JTAG x1 Port
SPI x3 Port
ADC x2 Port
<b>OS Support</b>
Linux 6.1.80
<b>Form Factor</b>
45mm X 30mm (OSM-MF)
<b>Power</b>
5V, 2.5A through OSM LGA
<b>Environment Specification</b>
REACH & RoHS3 Compliant

## TI DRA821Ux OSM LGA Module Block Diagram



### OS SUPPORT

Linux 6.1.80

### DELIVERABLES

TI DRA821Ux OSM Module  
Board Support Package  
User Manual

### OPTIONAL KITS/Modules

TI DRA821Ux OSM Development Kit  
Heat Sink

### CUSTOM DEVELOPMENT

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

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

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### TI DRA821Ux OSM LGA Module

The device can be ordered online from the iWave Website

<https://www.iwavesystems.com/product/ti-dra821ux-osm-system-on-module/>

Or from our Local Partners in your region

<http://www.iwavesystems.com/about-us/business-partner.html>