iWave

STM32MP13X OSM Size-OF LGA Module

The STM32MP13X SoCs based LGA modules are designed as per the Open Standard Module™ Size-0 Specification – the smallest form factor in the standard. This module can be integrated with different STM32MP13X family MPUs.

The LGA module is rich with all the OSM Size-0 features. The module supports both secure boot and basic security supported variants of the SoCs. This OSM LGA Module can be used for a wide variety of industrial and security-based applications

iW-RainboW-G54M HIGHLIGHTS

STM32MP13X with ARM v7 Architecture

Upto 1GB DDR3L Memory

On SOM 16Mb QSPI Flash for loading Bootloader

OSM v1.1 Size-0F LGA Module with 15mm x 30mm form factor

10+ years of Product Longevity Program

Industrial Grade

SPECIFICATIONS

SoC
STM32MP131: 1 x Cortex-A7 (Available with and without Secure boot + Cryptography)
STM32MP133: 1 x Cortex-A7 (Available with and without Secure boot + Cryptography)
STM32MP135: 1 x Cortex-A7 (Available with and without Secure boot + Cryptography)

PMIC
All Power required for the Module generated using STPMIC1EPQR PMIC from STM

Memory & Storage
DDR3L – 512MB (expandable up to 1GB)
QSPI Flash – 16Mb

OSM LGA Features
RGMII x 1
USB2.0 Host x 1
USB2.0 OTG x 1
SDIO x 2 (1 x 8 bit & 1 x 4 bit)
SPI x 2

CAN x 2 (Available only in MP133 or MP135)
I2C x 2
I2S x 2
UART with flow control x 2
UART w/o flow control x 2
Debug UART x 1
PWM x 6
ADC x 2
JTAG x 1
OSM GPIOs x 16

OS Support
Linux 6.1.28 (or higher)

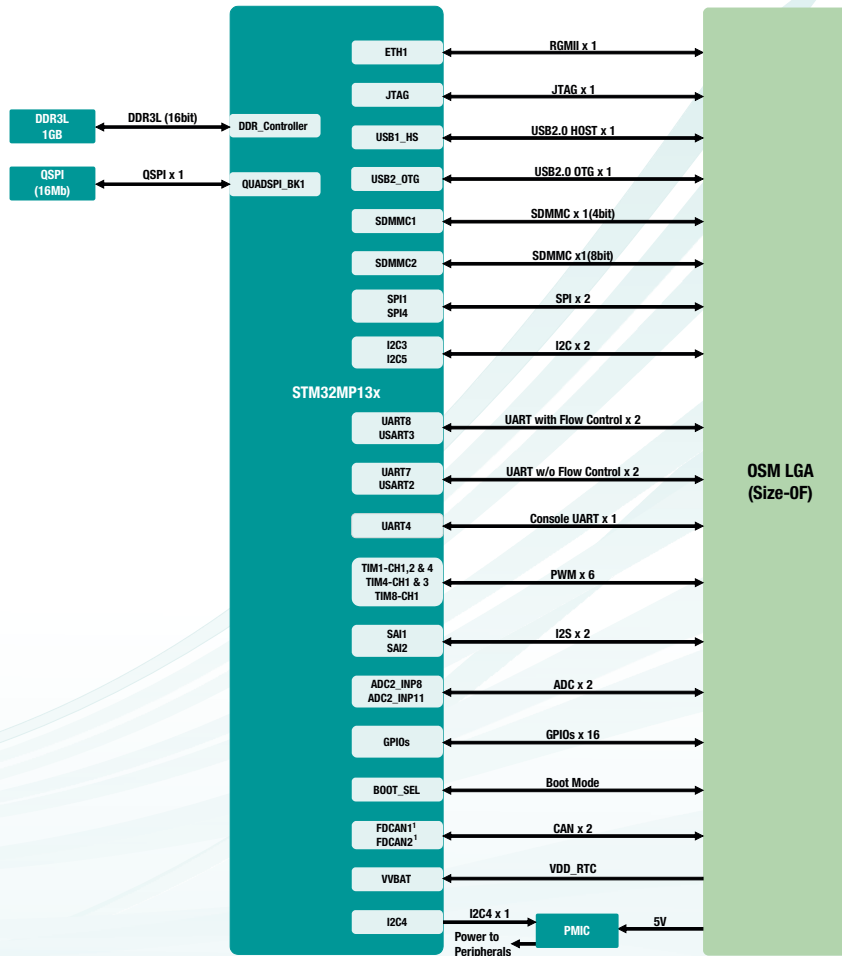| Power Input: |
|---|
| 5V, 0.5A through OSM LGA |

Form Factor:
OSM Size 0F - 15mm x 30mm

Operating Temperature:
-40°C to +85°C (Industrial)

Environment Specification: REACH & RoHS3

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STM32MP13X OSM Size-0F Block Diagram

ETH1	RGMII x 1	
JTAG	JTAG x 1	
USB1_HS	USB2.0 HOST x 1	
USB2_OTG	USB2.0 OTG x 1	
SDMMC1	SDMMC x 1(4bit)	
SDMMC2	SDMMC x1(8bit)	
SPI1 SPI4	SPI x 2	
I2C3 I2C5	I2C x 2	
UART8 USART3	UART with Flow Control x 2	
UART7 USART2	UART w/o Flow Control x 2	
UART4	Console UART x 1	
TIM1-CH1,2 & 4 TIM4-CH1 & 3 TIM8-CH1	PWM x 6	
SAI1 SAI2	I2S x 2	
ADC2_INP8 ADC2_INP11	ADC x 2	
GPIOs	GPIOs x 16	
BOOT_SEL	Boot Mode	
FDCAN1[1] FDCAN2[1]	CAN x 2	
VVBAT	VDD_RTC	
I2C4	I2C4 x 1	5V

STM32MP13x

OSM LGA (Size-0F)

DDR3L 1GB — DDR3L (16bit) — DDR_Controller

QSPI (16Mb) — QSPI x 1 — QUADSPI_BK1

PMIC — Power to Peripherals

Note:

[1] CAN is available only in STM32MP133 & STM32MP135 series SoCs

* STM32MP135 SoC supports additionally Camera and Display support. To utilize the same, Custom Carrier Board design is required

OS SUPPORT
Linux 6.1.28 (or higher)

DELIVERABLES
STM32MP13X Size-0F LGA Module
Board Support Package
User Manual
Quick Start Guide

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

iWave Systems Technologies is an ISO 9001:2015 certified company, head quartered in Bangalore India established in the year 1999. The company focuses on providing embedded solution and services for Industrial, Medical, Automotive and various other Embedded Computing applications. iWave Systems offers wide range of System On Modules and Single Board Computers built using wide range of CPU and FPGA SoC platforms with different form factors such as Qseven, SMARC, SODIMM and HPC by closely working with Tier-1 silicon companies such as NXP, Xilinx, Intel etc.

iWave Systems offers various state of art ready ODM solutions such as Connected Telematic Control Unit / OBD II devices for the automotive edge analytics, Comprehensive ARINC818 solutions for the low latency Aerospace applications and Rugged IP rated performance scalable HMI solutions for Industrial applications.

iWave Systems also provides comprehensive Engineering design services involving Embedded Hardware, FPGA and Software development. iWave offers carrier board and custom hardware development with manufacturing and certification services.iWave's Hardware expertise spans complex board design up to 30 layers; Analog, Digital & RF Designs; FPGA Development up to 3+ million gates and VHDL / Verilog RTL Development & Verification. Our Software expertise ranges from OS Porting, Firmware & Device Drivers Development and Wireless & Protocol Stacks.

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STM32MP13X OSM LGA Module
The device can be ordered online from the iWave Website
https://www.iwavesystems.com/product/stm32mp13x-osm-0f-lga-module/
Or from our Local Partners in your region
http://www.iwavesystems.https://www.iwavesystems.com/

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