LITE LINE

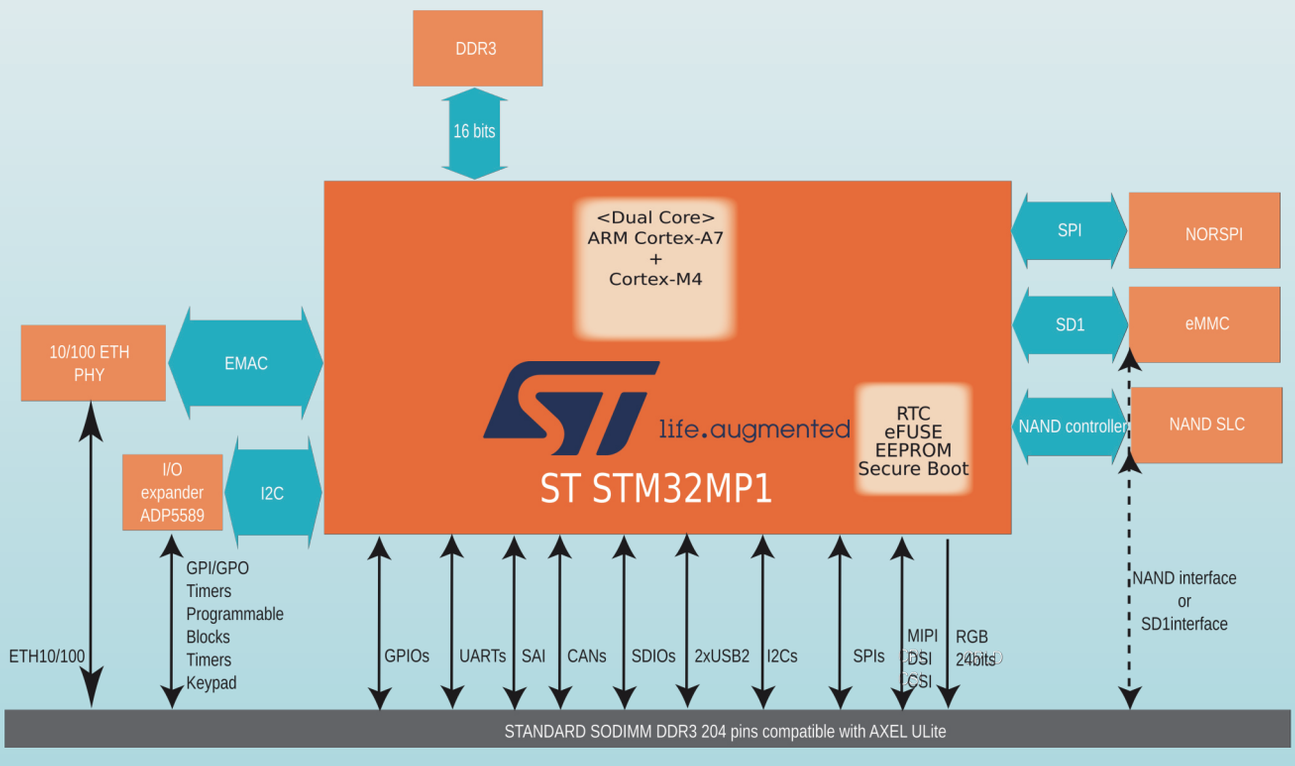
ETRA SOM

STM32 ARM Cortex MPU STMP132 CPU MODULE

- ARM Cortex A7 @6/800 MHz + Cortex-M4 209MHz
- High flexibility with up to 4 different SOC versions
- Single chip DDR3 RAM
- Advanced security thanks to Basic and advanced security configurations
- eMMC or NAND SLC mass storage on boord
- Boot from NOR for safe applications
- Fast Ethernet 10/100Mbps with PHY on board
- Expansion I/O with additional Timers/Keypads/IOs
- Single 5V Power Supply with very low power stand by
- pin to pin compatibility with AXEL ULite SOM based on i.MX6 UL

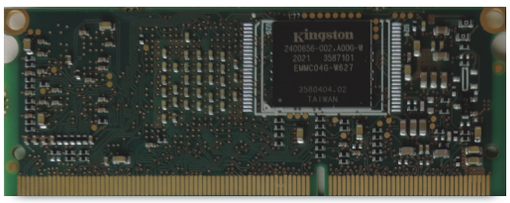
ETRA SOM is part of DAVE Embedded Systems'portfolio of system on module solutions based on ST MIcroelectronics's solutions. ETRA SOM System On Module can be provided with ST STM32MP1 System On Chip. This System On Chip is designed with ARM Cortex-A7 plus a Cortex-M architecture integrated together. This System On Module is designed to support a compatibility within the existing AXEL ULite System On Module based on NXP i.MX6 UL System On Chip enabling and easy update of all existing products and the generation of new solutions based on a brand new product with 15years availability within industrial qualification. The ETRA SOM System On Module has the same form factor, the same size and a compatible pinout with AXEL ULite System On Module. This SOM permits to use all functionalities available from the System On Chip. Starting from the ARM Cortex-A7 architecture with up to 2 cores available and the Cortex-M4 the ETRA SOM System On module integrates on board a single chip DDR3 and multiple choices for storage.

Infact ETRA SOM System On Module can host a NOR SPI plus either an eMMC flash or a NAND Single Level Chip flash depending on what customers prefer. These options are also available to be mounted and connected on the carrier board because of both buses are available at pinout level. Another important features of this System On Module is the possibility to have either an expander with a large number of additional IOs and a RGB display interface. Last but not least also the Fast ethernet tranceiver is already on board. ETRA SOM System On Module is designed for industrial application providing access to all ST STM32MP1 System On Chip features and supports the industrial temperature range from -40°C to 85°.
The ETRA SOM System On Module is provided within a Software Development Kit which enable customers to get complete control of the board. The Software Development Kit is called DESK DAVE Embedded Software Kit and it is based on the ST Microelectronics official Software Development Kits.



CPU	ST STM32MP1 ARM Cortex A7 @ 600MHz or 800 MHz Cortex-M4 @ 209MHz Single and Dual, GPU, Security
Supervisor	On-board power supply supervision and power sequencer Watchdog and RTC
Cache	L1: 32Kbyte instruction, 32Kbyte data L2: Unified data/instruction, 256 K
Memory	
SDRAM	Up to 512 DDR3-LV, x16 data bus width
NOR	SPI NOR 4 - 32 MB on request
eMMC or NAND SLC	All sizes, on request. Not available simultaneously
Interfaces (full-spec models) *	
LAN	Ethernet 10/100 Mbps (PHY on board)
UART	up to 8x UART ports
USB	up to 2x 2.0 OTG port (PHY on board)
CAN	up to 2x CAN
SDIO	up to 2x SDIO/MMC 1/4/8bit mode
Audio	Up to 4 I²S / SAI and 1x SPDIF
Video Output	1x RGB Parallel port 24 bit 1x DSI
Video Input	1x CSI port 8/12/14 bit parallel
I/O Expander	Multiple I/O available with ADP5889
RTC/Watchdog	Available both on board
Other	up to 6x I2C channels up to 6x SPI channels GPIOs with interrupt capabilities up to 2x 8/10/12/14/16 ADC (12bit) up to Dual DAC
Mechanical	
Connectors	SODIMM 204 pin
Size	67.50mm x 25.40mm
Temperature	Commercial (0°C / +70°C) temperature range Industrial (-40°C / +85°C) temperature range
PSU	
Input	Single 5V +/- 5%, on-board voltage regulation very low power stand by
Software	
Linux	U-Boot / Kernel 5.x or newer

Other options can be available. Visit wiki.dave.eu for details about DESK: DAVE Embedded Software Kit



Product code configurator *

Visit our WIKI page:
https://wiki.dave.eu/index.php/ETRA_SOM/Part_number_composition

Evaluation Kit

The ETRA SOM System On Module has his own evaluation kit which permits customers to start immediately developing the application. All schematics and layout footprint are provided. Additionally we offer a live session together with our technical team in order to make the `hello world` together and quickly start up our support to customer project. DAVE Embedded Systems provides a number of possible embedded design services and we are very happy to assist you making your experience within our solutions as best as we can.

*: interface availability depends on pin multiplexing. Please contact helpdesk@dave.eu

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