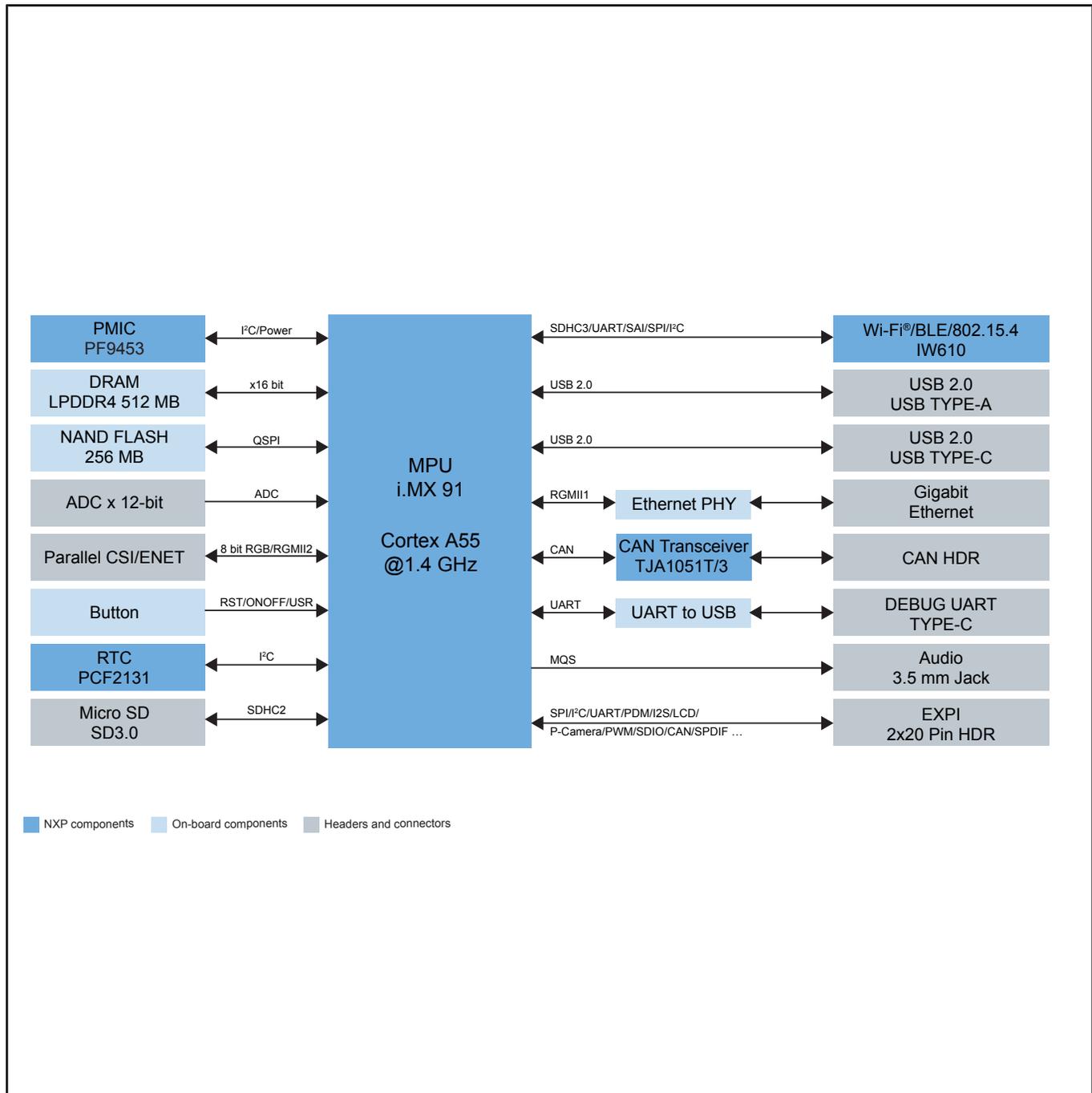# FRDM i.MX 91S Development Board

FRDM-IMX91S

Last Updated: Dec 23, 2025

The FRDM i.MX 91S development board is an ultra low-cost and compact development board featuring the i.MX 91 applications processor. Equipped with an onboard IW610G module, featuring NXP's Tri-Radio solution with Wi-Fi 6 + Bluetooth Low Energy 5.4 + 802.15.4, the board is ideal for developing modern Industrial and IoT applications. This development board includes LPDDR4, NAND flash storage for quick boot times, PMIC and expansion capabilities.

FRDM i.MX 91S Block Diagram

PMIC PF9453	←I²C/Power→	
DRAM LPDDR4 512 MB	←x16 bit→	
NAND FLASH 256 MB	←QSPI→	
ADC x 12-bit	←ADC→	**MPU i.MX 91**
Parallel CSI/ENET	←8 bit RGB/RGMII2→	**Cortex A55 @1.4 GHz**
Button	←RST/ONOFF/USR→	
RTC PCF2131	←I²C→	
Micro SD SD3.0	←SDHC2→	

←SDHC3/UART/SAI/SPI/I²C→		**Wi-Fi®/BLE/802.15.4** IW610
←USB 2.0→		USB 2.0 USB TYPE-A
←USB 2.0→		USB 2.0 USB TYPE-C
←RGMII1→	Ethernet PHY	Gigabit Ethernet
←CAN→	**CAN Transceiver** TJA1051T/3	CAN HDR
←UART→	UART to USB	DEBUG UART TYPE-C
←MQS→		Audio 3.5 mm Jack
←SPI/I²C/UART/PDM/I2S/LCD/ P-Camera/PWM/SDIO/CAN/SPDIF ...→		EXPI 2x20 Pin HDR

■ NXP components   ■ On-board components   ■ Headers and connectors

View additional information for FRDM i.MX 91S Development Board.

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