

EasyEVSE Development Platform (i.MX 93, Linux OS, Wi-Fi 6)



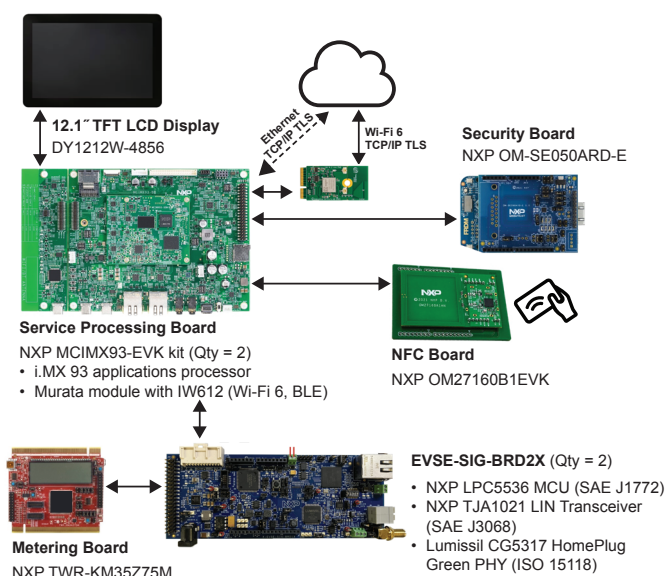
NXP EasyEVSE EV Charging Station Development Platform based on the i.MX 93 applications processor using Linux® operating system allows the rapid simulation of an electric vehicle supply equipment (EVSE) and a secure connection to an IoT central application.

The development platform consists of a selection of evaluation boards and the firmware, middleware and operating system software from NXP to allow customers to seamlessly implement the customer configurable application.

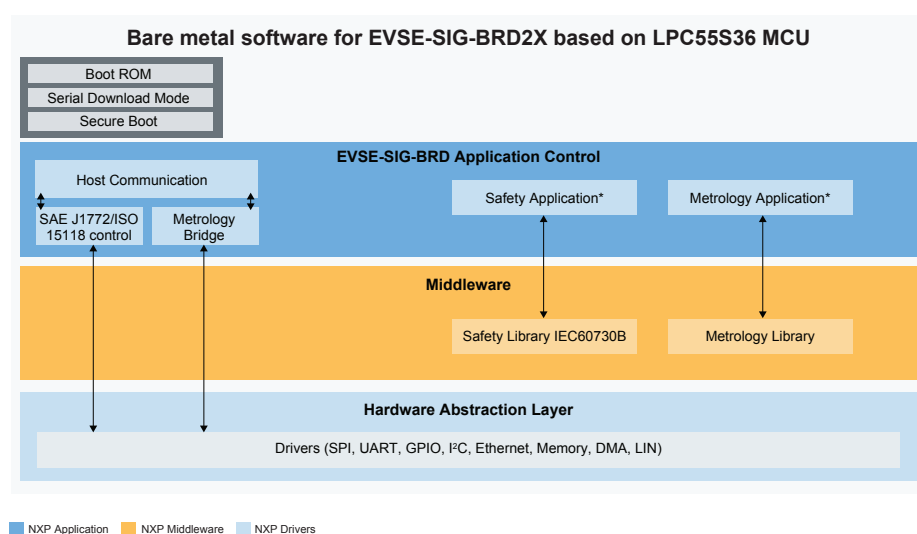
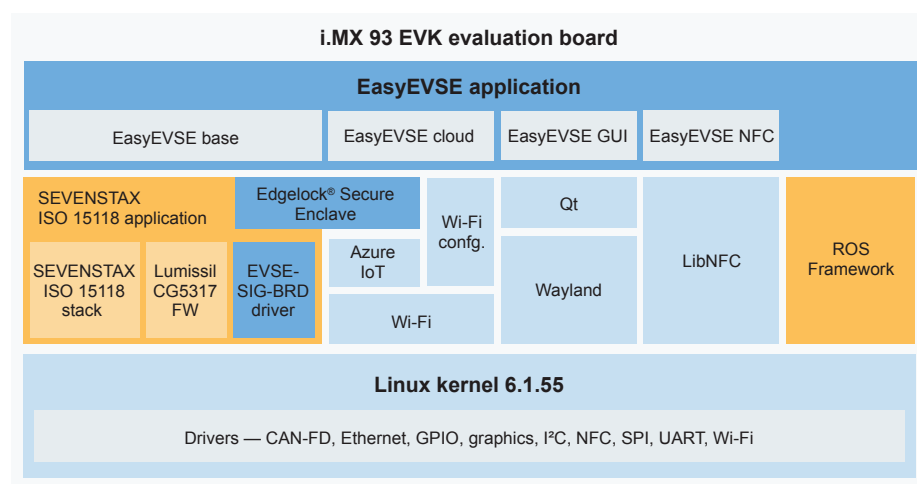
Features for your design

- Integrate ISO 15118-2/-20 standard charging communications between the EV and EVSE to support Plug and Charge and bi-directional power transfer
- Connect EVSE to cloud over Ethernet, or Wi-Fi™ via Murata module built with NXP IW612 Wi-Fi 6 + Bluetooth LE SoC
- Authenticate cloud services by leveraging resilient EdgeLock™ SE050 secure element or on-chip secure enclave

- Enable accurate billing, and monitor/respond to power line faults by using modifiable pre-certified metrology software
- Tap to authenticate with the NFC PN7160 Plug and Play controller



Software architecture



Hardware offering

Order full kit by EVSE-iMX93 includes EVKs, cable harness, software, documentation		
Items included		Description
Service processing board	MCIMX93-EVK	i.MX 93 applications processor evaluation kit
	Wi-Fi 6 + BLE module	Murata module with NXP IW612 (included in MCIMX93-EVK)
EVSE signal board for ISO 15118 communication	EVSE-SIG-BRD2X	Signal board with NXP LPC55S36 MCU, Lumissil CG5317 HomePlug Green PHY, NXP SJA1110 Ethernet switch and TJA1021 LIN transceiver
Security board	OM-SE050ARD-E	SE050 Arduino® compatible development kit
Metering board	TWR-KM35Z75M	KM series tower system module for KM35 MCUs
NFC board	OM27160BIEVK	Development kits for PN7160 plug'n play NFC controller
Display panel	DY1212W-4856	TFT LCD panel with LDB support 12.1"

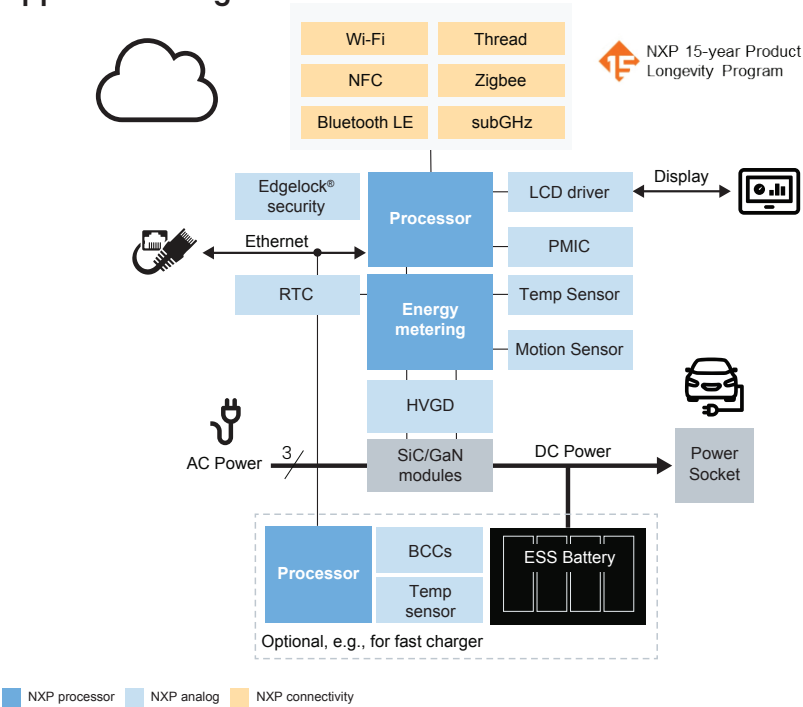
Other enablement

- Getting Started User Guide
- User Manual
- Complementary Development Software



EVSE-iMX93 Hardware

Application diagram



EasyEVSE development platform options summary

URL on nxp.com	www.nxp.com/EasyEVSELinux	www.nxp.com/EasyEVSEFreeRTOS	www.nxp.com/EasyEVSEAzureRTOS
Development Platform Type	MPU, Linux OS	MCU, FreeRTOS	MCU, Azure RTOS
Control Processor (OS)	i.MX 93 applications processor (Linux OS)	i.MX RT1060/64 crossover MCU (FreeRTOS)	i.MX RT1060/64 crossover MCU (Azure RTOS)
Power MCU (OS)	LPC55S36 MCU (bare metal)	LPC55S36 MCU (bare metal)	NA
EVSE to EV Signaling	ISO 15118-2/-20 (Lumissil CG5317 HomePlug Green PHY); SAE J1772 (LPC55S36); SAE J3068 LIN-CP (TJA1021)	ISO 15118-2/-20 (Lumissil CG5317 HomePlug Green PHY); SAE J1772 (LPC55S36); SAE J3068 LIN-CP (TJA1021)	NA
Security	TCP/IP TLS via EdgeLock™ SE050 secure element or Secure Enclave on i.MX 93 processor	Arm® Mbed TLS over OpenSSL and PKSI1 via EdgeLock™ SE050 secure element	TCP/IP TLS via EdgeLock™ SE050 secure element
Wireless Connectivity	Wi-Fi 6 and Bluetooth LE (IW612 on Murata module)	LWIP over Wi-Fi 4 (IW416 on Murata module)	ClarinoxWiFi™ Wi-Fi 4 Stack (IW416 on u-blox module)
Wired Connectivity	Ethernet, CAN, UART, USB, I²C, SPI, SDIO	Ethernet, CAN, UART, USB, I²C, SPI, SDIO	Ethernet, CAN, UART, USB, I²C, SPI, SDIO
Tap to Authentic-ate	NFC controller (OM27160)	NFC front end (CLRC663)	NFC front end (CLRC663)
Metrology	Kinetis metrology MCU (KM35Z75)	Kinetis metrology MCU (KM35Z75)	Kinetis metrology MCU (KM35Z75)
Human Machine Interface	12.1-inch TFT LVDS display	4.3-inch LCD capacitive touch panel	4.3-inch LCD capacitive touch panel
Graphical User Interface	Qt over Wayland	LVGL	Azure RTOS GUIX
Cloud Service	Microsoft Azure IoT Central	Microsoft Azure IoT Central	Microsoft Azure IoT Central

Visit nxp.com/EasyEVSE for more details

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