



SECURE CONNECTIONS  
FOR A SMARTER WORLD

FACT SHEET  
NXP-CDC-OBOX1

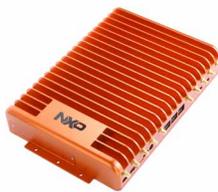
# ORANGEBOX AUTOMOTIVE CONNECTIVITY DOMAIN CONTROLLER (CDC) DEVELOPMENT PLATFORM

OrangeBox accelerates the domain-based architectures of the future through its unified wireless connectivity platform, with state-of-art security at its heart.

OrangeBox is a comprehensive development platform providing extensive secure wireless connectivity to develop automotive solutions that meet the connectivity domain or zonal controller requirements. It incorporates the scalable i.MX 8XLite applications processor, an S32K safety co-processor, and the wireless connectivity required to implement secure car access, V2X, Wi-Fi, BLE, UWB and cellular connectivity between the vehicle and the outside world in a secure and safe manner.

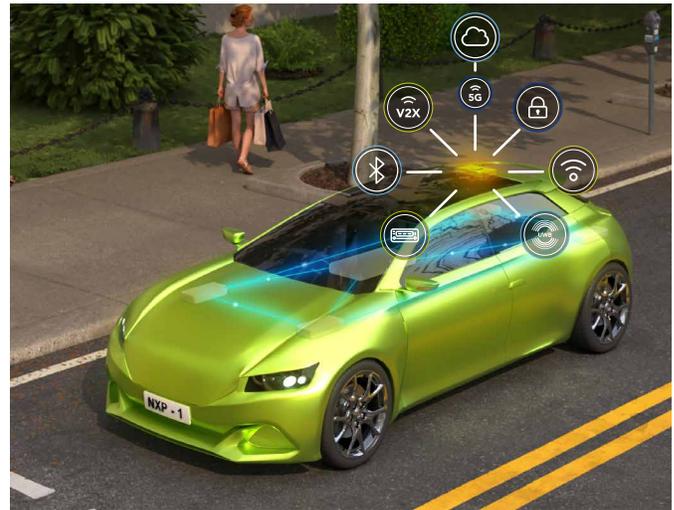
## ORANGEBOX:

- Consolidates wireless and wired connectivity solutions within a vehicle, including V2X, secure car access, radio and Wi-Fi technologies, into a single connectivity domain controller
- Drives the secure digital transformation of vehicles by enabling a consistent implementation of state-of-the-art security within the centralized domain-based architecture
- Simplifies access to integrated connectivity technologies through one software platform to reduce costs and streamline development



## TECHNICAL HIGHLIGHTS

- Integrates a wide range of wireless technologies from V2X, Wi-Fi 6, Bluetooth, broadcast radio to secure car access with Ultra-Wideband (UWB) and Bluetooth Low Energy 6.0 (BLE)



- A single, security enhanced, modular system that provides a unified interface between the vehicle, with all of its wired and wireless technologies, and the outside world
- Scalable processor sub-system with high performance V2X security integration
- The flexibility to adapt to regional requirements for cellular connectivity and V2X or keeping up with changing technologies. This accelerates time-to-market, reduces complexity and provides a flexible development platform ready for application deployment
- Ideal for development, evaluation and proof of concept demonstrations powered by NXP hardware and software
- 5G cellular and high precision GPS connectivity provided via 3rd party solutions
- The OrangeBox platform integrates seamlessly with NXP's [GoldBox](#) vehicle networking platform and the central vehicle gateway, enabling other automotive systems to easily leverage wireless connectivity. By complementing GoldBox, OrangeBox serves as a focal point where wireless data can enter and exit the car, from broadcast radio to Wi-Fi to 5G signals, providing the interface to the rest of the world.

## FEATURES

- Processing
  - i.MX 8XLite 2XArm® Cortex®-A35 cores; 1 x Cortex-M4F core
  - S32K144 Cortex-M4F core
- Memory
  - 2 GB LPDDR4
  - 32 GB eMMC
  - 64 MB serial NOR
- Wireless Communications
  - Wi-Fi 6 and Bluetooth
  - Cellular (4/5G)
  - DSRC V2X
  - Secure Access (BLE 6.0 and UWB)
  - Precision Global Positioning (GNSS)
  - Radio Tuner (AM/FM/Digital)

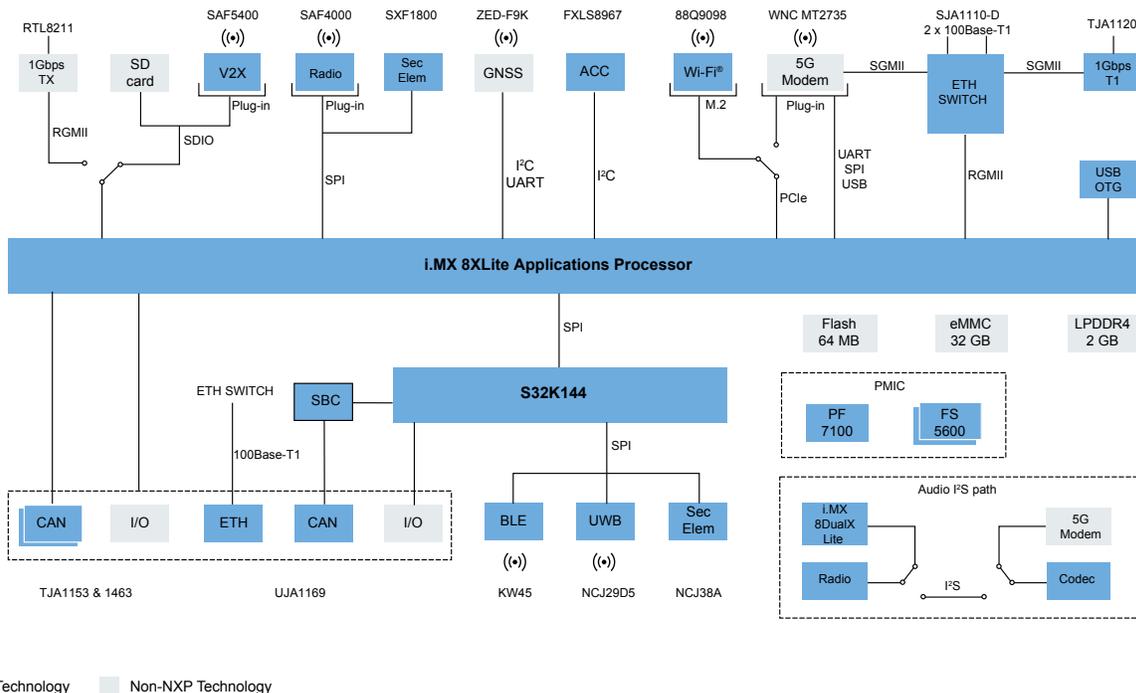
- Networking
  - 1 Gbps Ethernet
  - CAN
- Safety and Security
  - Secure elements
  - Dedicated HSM (Hardware Security Module) and V2X accelerators

## SOFTWARE AND TOOLS

Hardware design files, software tools and board support packages (BSPs) are available from NXP to use as a reference for starting designs. Additional information can be found at [www.nxp.com/OrangeBox](http://www.nxp.com/OrangeBox).



## ORANGEBOX AUTOMOTIVE CONNECTIVITY DOMAIN CONTROLLER SYSTEM BLOCK DIAGRAM



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[www.nxp.com](http://www.nxp.com)

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