S32K148 Automotive Telematics Box (T-Box)
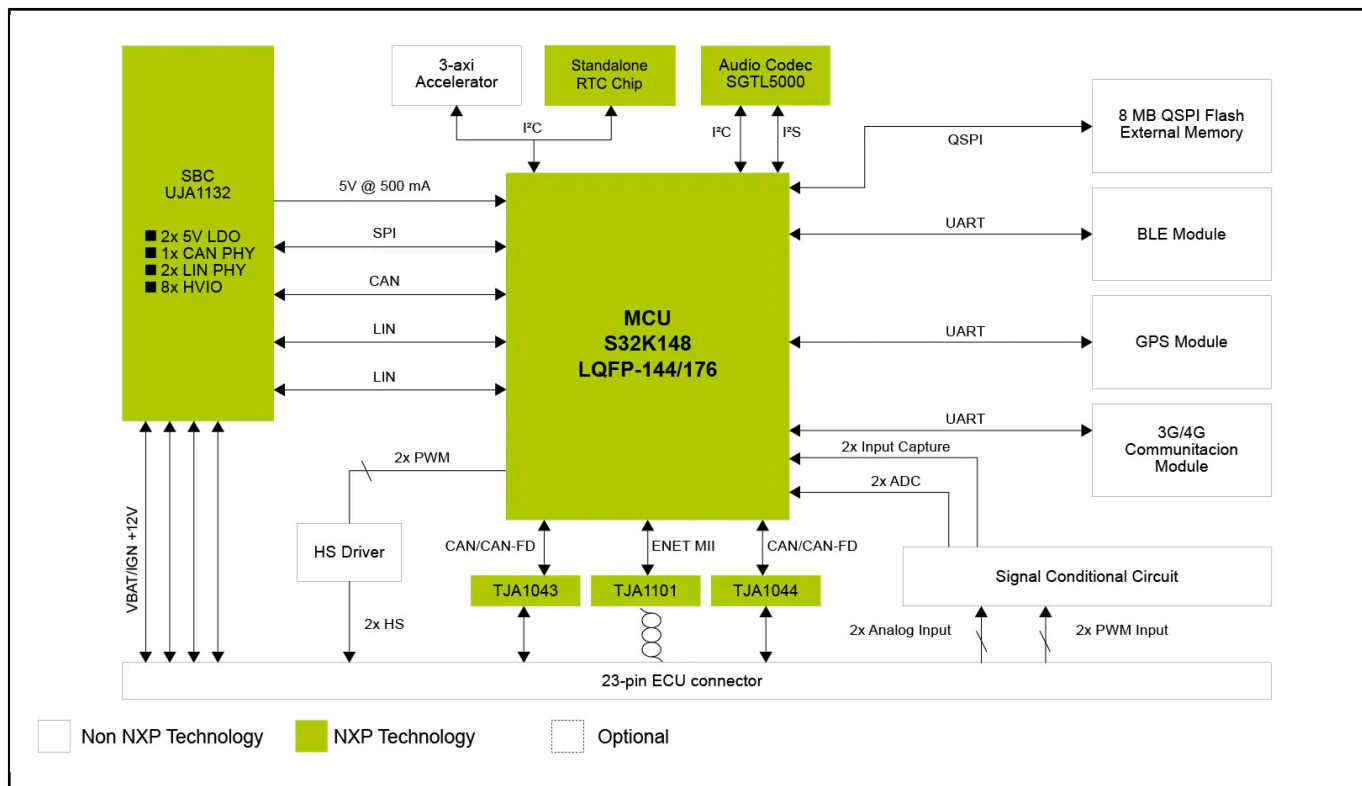
S32K148-T-BOX

Last Updated: Apr 11, 2024

The S32K148-T-BOX is a reference design board engineered for out-of-the-box validated automotive telematics box (T-Box) applications.
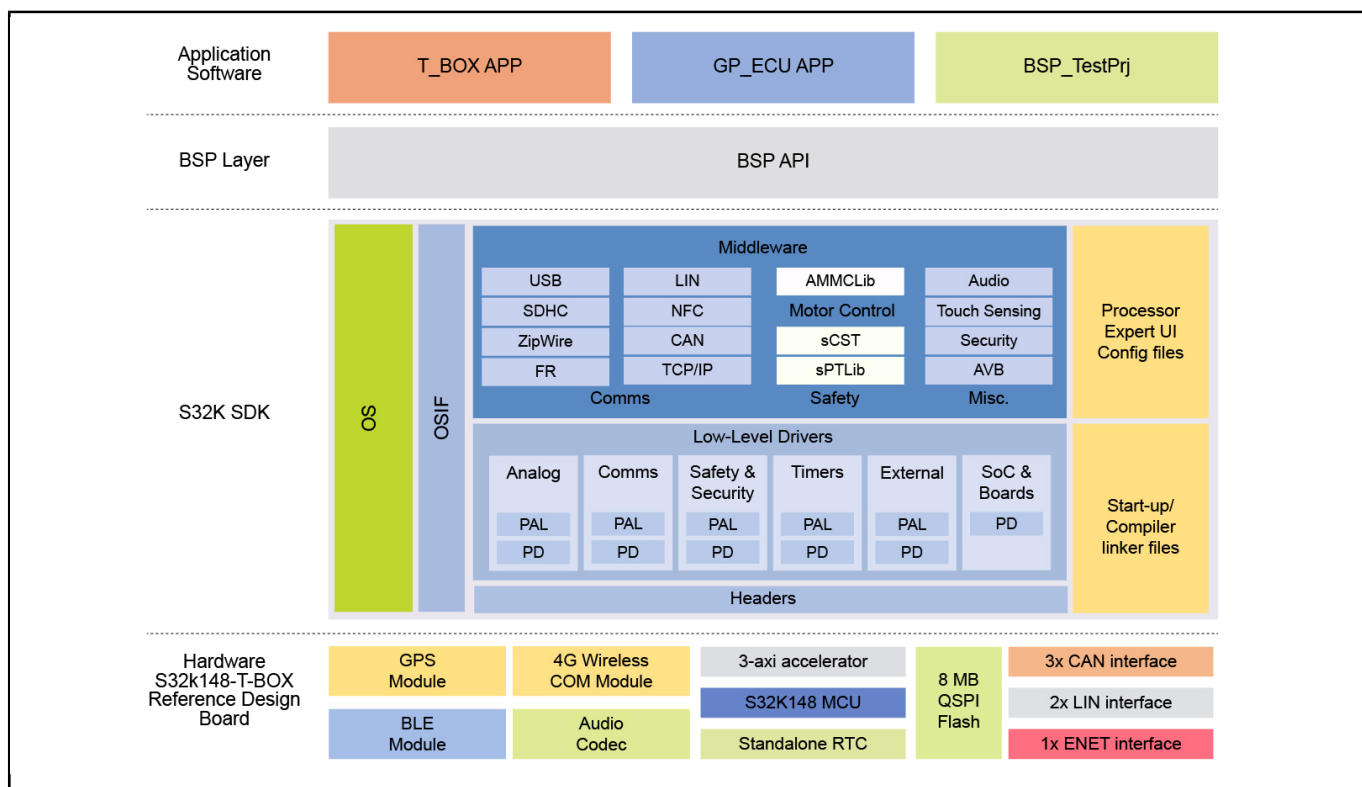
Based on the 32-bit Arm® Cortex®-M4F based S32K148 microcontroller, the S32K148-T-Box solution offers a flexible evaluation platform for the T-Box connected-car-standard terminal. The S32K148-T-Box solution is fully compatible with the S32K148EVB.

The S32K148-T-Box is only available for approved customers. Each request will be reviewed. Please see the S32K3 reference design board for an alternative solution.

T-BOX Architecture Block Diagram

SBC UJA1132
- 2x 5V LDO
- 1x CAN PHY
- 2x LIN PHY
- 8x HVIO

3-axi Accelerator

Standalone RTC Chip

Audio Codec SGTL5000

8 MB QSPI Flash External Memory

MCU S32K148 LQFP-144/176

BLE Module

GPS Module

3G/4G Communitacion Module

HS Driver

TJA1043 — TJA1101 — TJA1044

Signal Conditional Circuit

23-pin ECU connector

- 5V @ 500 mA
- SPI
- CAN
- LIN
- LIN
- I²C
- I²C
- I²S
- QSPI
- UART
- UART
- UART
- 2x Input Capture
- 2x ADC
- 2x PWM
- CAN/CAN-FD
- ENET MII
- CAN/CAN-FD
- 2x HS
- VBAT/IGN +12V
- 2x Analog Input
- 2x PWM Input

Non NXP Technology | NXP Technology | Optional

T-BOX Solution Block Diagram

Application Software: T_BOX APP | GP_ECU APP | BSP_TestPrj

BSP Layer: BSP API

S32K SDK: OS | OSIF

Middleware
USB	LIN	AMMCLib	Audio
SDHC	NFC	Motor Control	Touch Sensing
ZipWire	CAN	sCST	Security
FR	TCP/IP	sPTLib	AVB
Comms | Safety | Misc.

Low-Level Drivers
Analog	Comms	Safety & Security	Timers	External	SoC & Boards
PAL	PAL	PAL	PAL	PAL	PD
PD	PD	PD	PD	PD	
Headers

Processor Expert UI Config files

Start-up/ Compiler linker files

Hardware S32k148-T-BOX Reference Design Board:
GPS Module | 4G Wireless COM Module | 3-axi accelerator | 8 MB QSPI Flash | 3x CAN interface
BLE Module | Audio Codec | S32K148 MCU / Standalone RTC | | 2x LIN interface / 1x ENET interface

View additional information for S32K148 Automotive Telematics Box (T-Box).

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