



S32K3 Automotive Telematics Box (T-Box) Reference Design Board

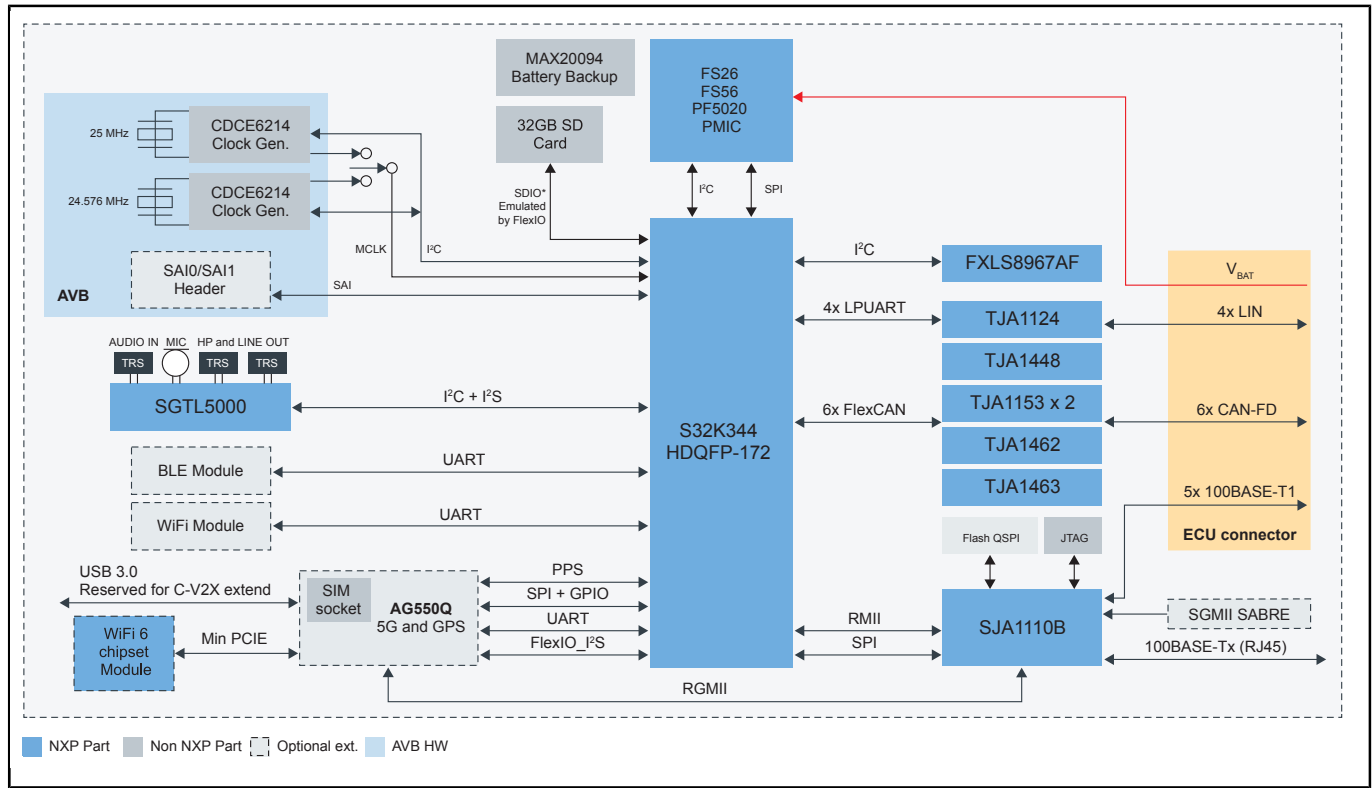
S32K3-T-BOX

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The S32K3 Automotive Telematics Box (T-BOX) is a compact, highly-optimized reference design board engineered to develop cost-effective vehicle networking and telematics applications.

Based on the S32K344 MCU with lockstep Arm® Cortex®-M7, the S32K3-T-BOX provides a reference for automotive applications such as 5G telematics box plus gateway and automotive Ethernet AVB with remote diagnostic, low-predictable latency, TSN Ethernet support and a wealth of communication interfaces (CAN FD/LIN/Ethernet/SJA1110). It can be directly used by carmakers, suppliers and software ecosystem partners to accelerate the development and shorten time-to-market.

S32K3 Telematics Box (T-Box) Reference Design Board Block Diagram



S32K3 Family Overview Block Diagram

| K311 | K312 | K314 | Common Features | K322 | K324 | K341 | K342 | K344 | K328 | K338 | K348 | K358 | |
|-----------------------------|------------------|-----------------------|--|---------------------------|-----------------------|--------------------------------|-----------------------|-----------------------|-------------------------|-------------------------|--------------------------|--|--|
| 1 x Arm® Cortex-M7 @120 MHz | | 1x Cortex-M7 @240MHz | AEC-Q100, 125 °C, 3,3/5 V | 2 x Cortex-M7 @240 MHz | | 1 Lockstep Cortex-M7 @ 240 MHz | | | 2 x Cortex-M7 @ 240 MHz | 3 x Cortex-M7 @ 240 MHz | 1 LS Cortex-M7 @ 240 MHz | 1 LS Cortex-M7 + 1 Cortex-M7 @ 240 MHz | |
| 1 MB Flash | 2 MB Flash | 4 MB Flash | HSE-B Crypto Security Engine | 2 MB Flash | 4 MB Flash | 1 MB Flash | 2 MB Flash | 4 MB Flash | 8 MB Flash | | | | |
| 128 K SRAM | 192 K SRAM | 512 K SRAM | FOTA (Firmware Over-the-Air) | 256 k SRAM | 512 k SRAM | 256 k SRAM | 256 k SRAM | 512 k SRAM | 1152 KB SRAM | 1152 KB SRAM | 1152 KB SRAM | 1152 KB SRAM | |
| up to 84 I/Os | up to 143 I/Os | up to 218 I/Os | Low-Power Operating Modes and Peripherals (LP UART, FlexIO) | up to 143 I/Os | up to 218 I/Os | up to 143 I/Os | up to 143 I/Os | up to 218 I/Os | up to 218 I/Os | | | | |
| 16-ch, eDMA | | 32-ch, eDMA | ASIL B/D Safety: (ECC Memories, MPU, CRC, Watchdogs) | 32-ch, eDMA | | | | | 32-ch, eDMA | | | | |
| 3 x CAN (3 x FD) | 6 x CAN (6 x FD) | | 100 Mbit/s Ethernet (TSN) | 4 x CAN (4 x FD) | 6 x CAN (6 x FD) | 4 x CAN (4 x FD) | 4 x CAN (4 x FD) | 6 x CAN (6 x FD) | 8 x CAN (8 x FD) | 8 x CAN (8 x FD) | 8 x CAN (8 x FD) | 8 x CAN (8 x FD) | |
| | | | eMIOS Timers, Analogue Comparator, Logic Control Unit, Body Cross Triggering Unit, Trigger Mux | 100 Mbit/s Ethernet (TSN) | | | | | 1 Gbit/s Ethernet (TSN) | | | | |
| 2 x I2C | 2 x I2C | 2 x I2C | JTAG | 2 x I2C | 2 x I2C | 2 x I2C | 2 x I2C | 2 x I2C | 2 x I2C | | | | |
| 4 x SPI* | | 6 x SPI* | S32 Design Studio IDE | 4 x SPI* | 6 x SPI* | 4 x SPI* | 4 x SPI* | 6 x SPI* | 6 x SPI* | | | | |
| 2 x 24-ch, 12-bit ADC | | 3 x 24-ch, 12-bit ADC | Real-Time Drivers (AUTOSAR® and Non-AUTOSAR) | 2 x 24-ch, 12-bit ADC | 3 x 24-ch, 12-bit ADC | 2 x 24-ch, 12-bit ADC | 2 x 24-ch, 12-bit ADC | 3 x 24-ch, 12-bit ADC | 3 x 24-ch, 12-bit ADC | | | | |
| | | | 2 x SAI (FS) | 2 x SAI (FS) | | | | | 2 x SAI (FS) | | | | |
| | | | Quad SPI | Quad SPI | | | | | Quad SPI + SDHC (SDIO) | | | | |
| LOFP-48 | HDQFP-172 | | Security FW Safety Software Framework Application Software | HDQFP-172 | | | | HDQFP-172 | | | | | |
| HDQFP-100 | | | | HDQFP-100 | | HDQFP-100 | HDQFP-100 | | | | | | |
| | | MAPBGA-257 | | | MAPBGA-257 | | | MAPBGA-257 | MAPBGA-289 | | | | |

View additional information for [S32K3 Automotive Telematics Box \(T-Box\) Reference Design Board](#).

Note: The information on this document is subject to change without notice.

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