

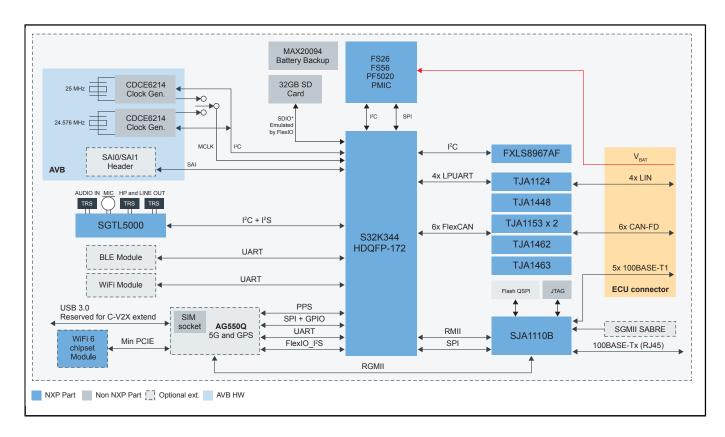
S32K3 Automotive Telematics Box (T-Box) Reference Design Board

S32K3-T-BOX

Last Updated: May 2, 2024

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

I ALC DI MER I AL COLUMNY I ALC DI MER I	z @240 MHz 2 MB Flash 4 MB Flash Cryp	HSE-B		kstep Cortex-M7 @ 240 MHz	2 x Cortex-M7 @ 240 MHz	3 x Cortex-M7 @ 240 MHz	1 LS Cortex-M7	1 LS Cortex-M7 + 1 Cortex-M7	
1 MB Flash2 MB Flash4 MB Flash4 MB Flash4 MB Flash1 MB Flash2 MB Flash4 MB Flash1 152 KB SRAM1 152 K							C 210 III I2	@ 240 MHz	
up to 44 Dosup to 143 I/osup to 218 I/osup to 143 I/osup to 1			2 MB Flash 4 MB Flash 1 MB Flash 2 MB Flash 4 MB Flash			8 MB Flash			
1-c-dr. EDMA 32-ch. eDMA Low-Power Operating Modes and Peripherels (LP LART, Flexico) Low-Power Operating (LP LART, Flexico) <thlow-power operating<br="">(LP LART, Flexico)</thlow-power>	192 K SRAM 512 K SRAM (Firm		512 k SRAM 256 k SRAM	256 k SRAM 512 k 3	SRAM 1152 KB SRAM	1152 KB SRAM	1152 KB SRAM	1152 KB SRAW	
16-h. eDMA 32-h. eDMA Modes and Peripherils (LP UART, Flexio) 32-h. eDMA 32-h. eDMA 32-h. eDMA 32-h. eDMA 32-h. eDMA 32-h. eDMA 3 x CAN (3 x FD) $6 \times CAN$ (3 x FD) $6 \times CAN$ (3 x FD) $6 \times CAN$ (3 x FD) $6 \times CAN$ (2 x FC) $6 \times CAN$ (2 x FC) $6 \times CAN$ (2 x FC) $8 \times CAN$			up to 218 I/Os up to 143 I/Os	up to 143 I/Os up to 2	18 I /Os	up to 21	18 I /Os		
$ \frac{3 \times FD}{(3 \times FD)} = \frac{6 \times CAN (6 \times FD)}{100 Mbl/s} = \frac{4 \times FD}{Ehernor(5s, MPU, CCC, Watchdogs)} = \frac{4 \times FD}{CCC, Watchdogs)} = \frac{100 Mbl/s}{CCC, Watchdogs)} = 100 Mb$	MA 32-ch. eDMA Mode	Modes and Peripherals	eripherals 32-ch. eDMA			32-ch. eDMA			
2 x FC 2 x FC <th2 fc<="" th=""> 2 x FC</th2>		(4 x FD) (6 x CAN 4 x CAN (6 x FD) (4 x FD)				8 x CAN (8 x FD)	8 x CAN (8 x FD)	
$\frac{2 \times FC}{2 \times 2 \times$	TUU WUUUS	CDC (Matshdaga)	ASIL B/D Safety: [CCC Memories, MPU, 100 Mbil/s Ethernet (TSN) CRC, Watchdogs)			1 Gbit/s Ethernet (TSN)			
4 x SPI* 6 x SPI* 6 x SPI* 4 x SPI* 6 x SPI*	2 x FC 2 x FC	2 × FC	2 × FC 2 × FC	2 x FC 2 x	PC	2 × FC			
2 x 24-ch, 12-bit ADC 3 x 24-ch, 12-bit ADC 2 x 24-ch, 12-bit ADC 3 x 24-ch, 12-bit ADC 2 x SAI (FS) JTAG 2 x SAI (FS) 2 x SAI (FS) 2 x SAI (FS)	6 x SPI* Compa Unit, Bo	Comparator, Logic Control 4 × SPI* 6 Unit, Body Cross Triggering	6 x SPI* 4 x SPI*	4 x SPI* 6 x 5	SPI*	6 x SPI*			
2 x SAI (FS)	3 x 24-ch.	2 x 24-ch. 3	3 x 24-ch. 2 x 24-ch. 12-bit ADC 12-bit ADC	2 x 24-ch. 3 x 24 12-bit ADC 12-bit.	ch. ADC	3 x 24-ch. 12-bit ADC			
Quad SPI \$32 Design Studio IDE Quad SPI Quad SPI Quad SPI SDHC (SDIO)	2 × SAI (I ² S)	JTAG	2 x SAI (FS)			2 x SA	I (I²S)		
	Quad SPI	S32 Design Studio IDE							
LOFP-48 HDQFP-172 Real-Time Drivers (AUTOSAR® and Non-AUTOSAR® HDQFP-100 HDQFP-100 HDQFP-100	(A	(AUTOSAR [®] and	HDQFP-100 HDQFP-100 HDQFP-100			HDQFF	-172		
HDQFP-100 MAPBGA-257 MAPBGA-257 MAPBGA-257 MAPBGA-257 MAPBGA-257 MAPBGA-257 MAPBGA-257 MAPBGA-257	MAPBGA-257 Set	Security F/W Safety Software Framework			3A-257	МАРВС	GA-289		

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

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