S32R47 High-Performance Imaging Radar Processor for Automotive and Industrial Applications
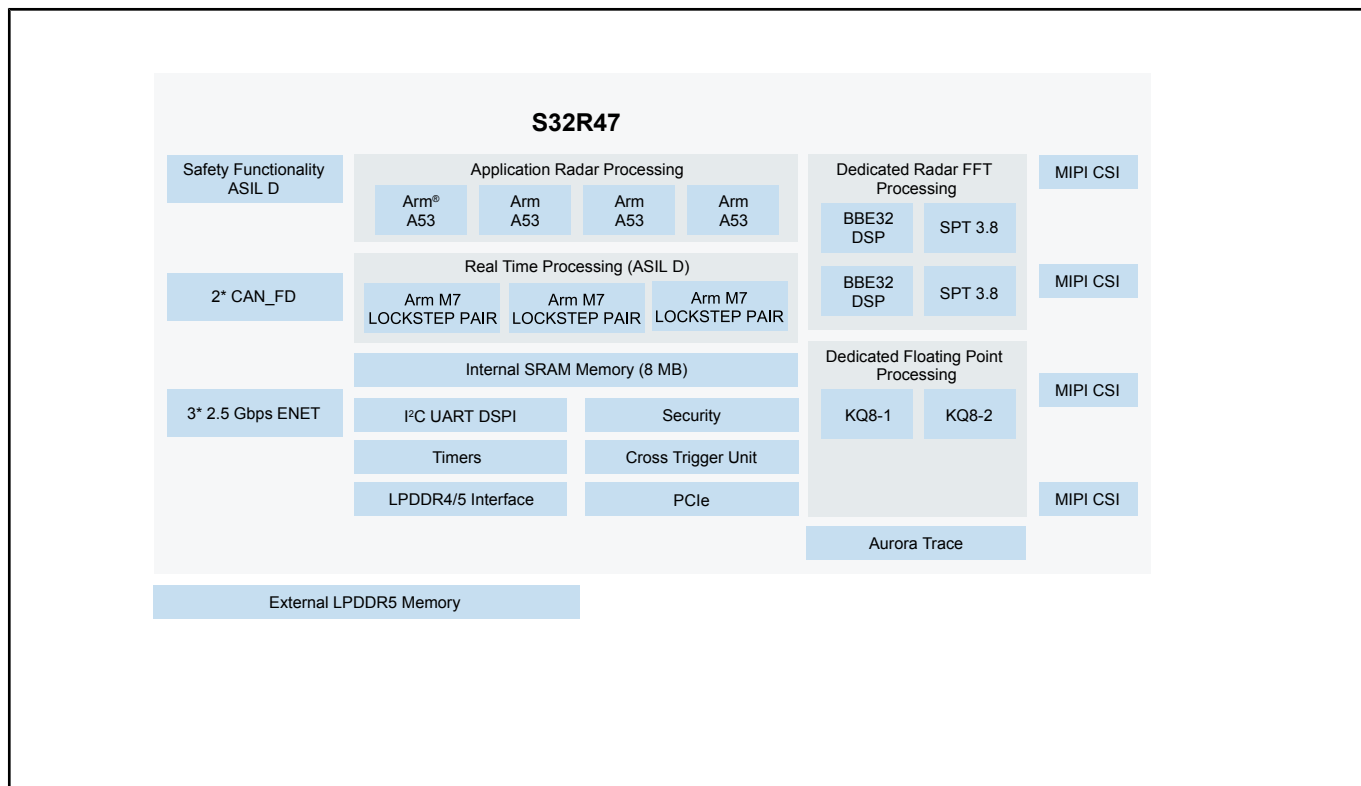
S32R47

Preproduction

Last Updated: Nov 11, 2025

The S32R47 is a radar application microprocessor unit (MPU) that enables next-generation imaging radar sensors to support ADAS Level 2+ to Level 4 addressing the most demanding use cases like debris detection in inclement weather. Dedicated radar processing accelerators meet demanding sensor level features for long distance, fine resolution and extended dynamic range.
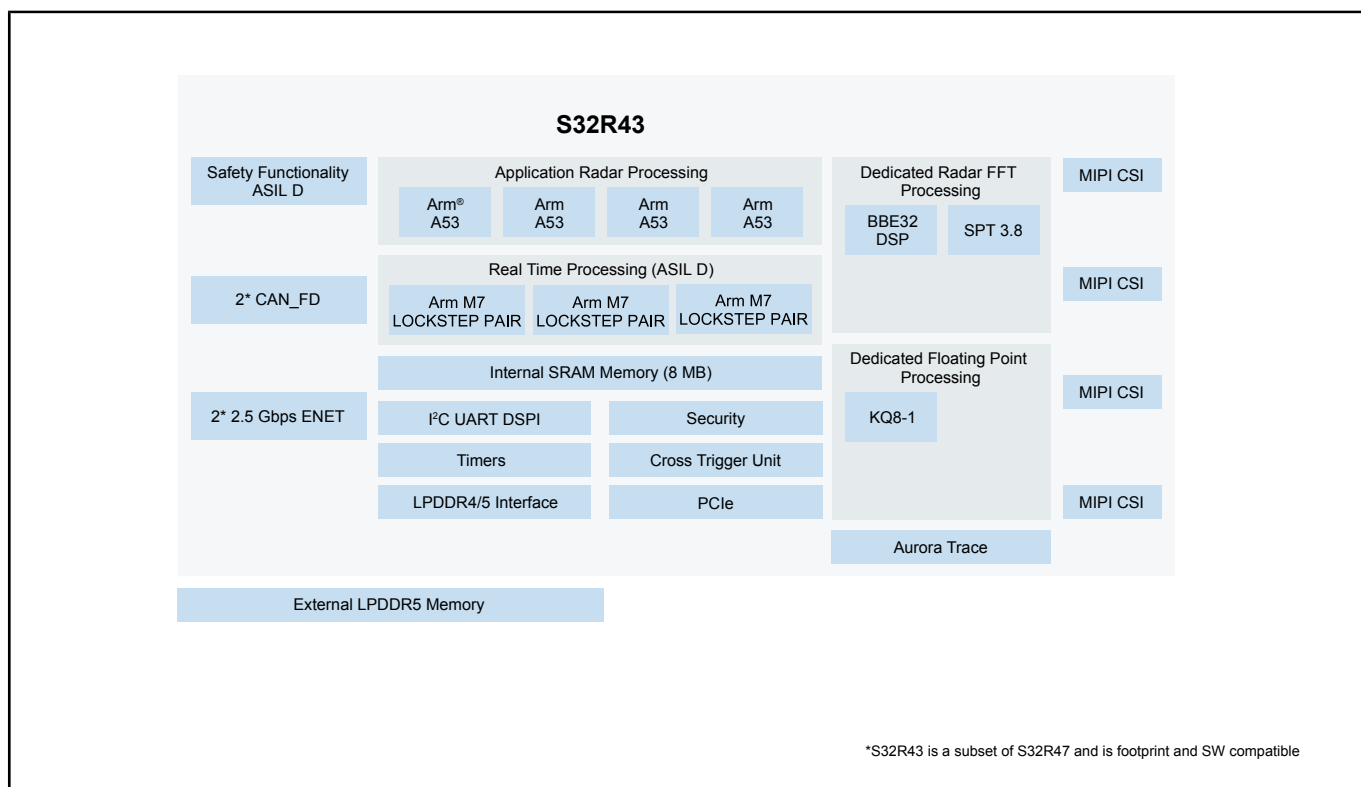
The S3243 is a package compatible variant of the S32R47 to serve different performance classes.

The chip is highly software compatible with NXP's S32R41 and S32R45 radar processors and SAF85xx radar SoCs.

S32R47 Block Diagram

S32R47

Safety Functionality ASIL D	**Application Radar Processing** Arm® A53 / Arm A53 / Arm A53 / Arm A53	**Dedicated Radar FFT Processing** BBE32 DSP / SPT 3.8

Application Radar Processing

Arm® A53 | Arm A53 | Arm A53 | Arm A53

Real Time Processing (ASIL D)

Arm M7 LOCKSTEP PAIR | Arm M7 LOCKSTEP PAIR | Arm M7 LOCKSTEP PAIR

Safety Functionality ASIL D

2* CAN_FD

3* 2.5 Gbps ENET

Internal SRAM Memory (8 MB)

I²C UART DSPI | Security

Timers | Cross Trigger Unit

LPDDR4/5 Interface | PCIe

Dedicated Radar FFT Processing

BBE32 DSP | SPT 3.8

BBE32 DSP | SPT 3.8

Dedicated Floating Point Processing

KQ8-1 | KQ8-2

Aurora Trace

MIPI CSI

MIPI CSI

MIPI CSI

MIPI CSI

External LPDDR5 Memory

S32R43 Block Diagram

S32R43

Safety Functionality ASIL D

Application Radar Processing

Arm® A53 | Arm A53 | Arm A53 | Arm A53

Real Time Processing (ASIL D)

Arm M7 LOCKSTEP PAIR | Arm M7 LOCKSTEP PAIR | Arm M7 LOCKSTEP PAIR

2* CAN_FD

2* 2.5 Gbps ENET

Internal SRAM Memory (8 MB)

I²C UART DSPI | Security

Timers | Cross Trigger Unit

LPDDR4/5 Interface | PCIe

Dedicated Radar FFT Processing

BBE32 DSP | SPT 3.8

Dedicated Floating Point Processing

KQ8-1

Aurora Trace

MIPI CSI

MIPI CSI

MIPI CSI

MIPI CSI

External LPDDR5 Memory

*S32R43 is a subset of S32R47 and is footprint and SW compatible

View additional information for S32R47 High-Performance Imaging Radar Processor for Automotive and Industrial Applications.

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