

AURIX™ TC37xEXT variants

About this document

Scope and purpose

This document is an addendum to the TC37xEXT Product Data Sheet and User's Manual, listing all planned product variants, key parameters such as memory size and optional features.

The User's Manual lists functions implemented on the Silicon, but this document counts functions that are pinning dependent; i.e. functions are counted that are connected to at least one package pin. As pins are overlaid with several functions the pinning needs to be checked (see Product Data Sheet) to determine the number of usable functions in an application.

Naming conventions

Prefix:

- SAK: T_{ambient} Temperature Range from -40 °C up to +125 °C.
- SAL: T_{ambient} Temperature Range from -40 °C up to +150 °C (packaged device).

Feature package:

- P: Standard feature.
- E: Emulation device with all features of the emulated standard type, additionally full MCDS, overlay functionality for calibration, AGBT as trace interface for development (depending on the package).
- C,V,Z: Customer Specific.
- A: ADAS ext. Memory.
- T: ADAS + emulation.
- X: Extended Feature device. These products contain the extended memory (EMEM) of the ADAS subsystem. The ADAS peripherals SPU and RIF are not available.
- M: MotionWise software.
- F: Extended Flash.
- G: Additional Connectivity.
- H: ADAS Standard feature.
- N: Standard feature with AMU.

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1 TC37xEXT AB step

1 TC37xEXT AB step

A table listing the TC37xEXT AB step variants.

Table 1 TC37xEXT_AB step

SAK-TC377TX-96F300S	SAL-TC377TX-96F300S	SAK-TC377TX-64F300S
Step		
AB	AB	AB
Production Status		
Standard	Standard	Customer Specific
Package Type		
PG-LFBGA-292	PG-LFBGA-292	PG-LFBGA-292
Pinout		
TX	TX	TX
Reference Silicon		
TC37xEXT	TC37xEXT	TC37xEXT
Temperature Range (Ambient)		
SAK	SAL	SAK
Chip ID		
<i>Attention: The value of SCU_CHIPID in the UCODE field contains the default value 0 not the µCode version.</i>		
0xA9017781	0xA9017781	0xA7017781
Cores / Checker Cores		
3/3	3/3	3/3
Max. Freq. (MHz)		
300	300	300
Program Flash (MB)		
6	6	4
Data Flash0 (single-ended) (KB)		
256	256	256
Total SRAM (without EMEM and Cache) (KB)		
992	992	992
EMEM Size (KB)		
3072	3072	3072
DSPR (KB)		
240 in CPU0&1; 96 other	240 in CPU0&1; 96 other	240 in CPU0&1; 96 other
DLMU (KB)		
64 per CPU	64 per CPU	64 per CPU

1 TC37xEXT AB step

Table 1 TC37xEXT_AB step (continued)

SAK-TC377TX-96F300S	SAL-TC377TX-96F300S	SAK-TC377TX-64F300S
PSPR (KB)		
64 per CPU	64 per CPU	64 per CPU
LMU (KB)		
0	0	0
DAM (KB)		
32	32	32
AMU¹⁾		
No	No	No
ADC (Primary Groups/Channels)		
4/32	4/32	4/32
ADC (Secondary Groups/Channels)		
4/60	4/60	4/60
ADC (Fast Compare Channels)		
4	4	4
ADC (EDSADC Channels)		
6	6	6
CAN (Modules/Nodes)		
3/3x4	3/3x4	3/3x4
FlexRay (Modules/Channels)		
1/1x2	1/1x2	1/1x2
HSSL Modules		
1	1	1
ASCLIN Modules / with ASC & LIN / with 3-wire SPI		
12/12/11	12/12/11	12/12/11
QSPI Modules / with LVDS		
5/2	5/2	5/2
SENT Channels		
15	15	15
MSC Modules		
2	2	2
PSI5 Channels		
2	2	2

¹ AMU is abbreviated as ASC Modeling Unit. For Additional details about AMU, Contact an Infineon Representative

1 TC37xEXT AB step
Table 1 TC37xEXT_AB step (continued)

SAK-TC377TX-96F300S	SAL-TC377TX-96F300S	SAK-TC377TX-64F300S
PSI5-S Module		
Yes	Yes	Yes
SDMMC Module		
Yes	Yes	Yes
Max. Ethernet Availability: 1Gbit/100Mbit/No		
2x1Gbit/s	2x1Gbit/s	2x1Gbit/s
MCDS Availability²⁾		
MCDS	MCDS	MCDS
ADAS Cluster Available		
No	No	No
CIF		
Yes	Yes	Yes
HSM Available		
Yes	Yes	Yes

² Refer to the **MCDS availability** section of this document for additional details.

2 Memory maps of TC37xEXT variants

2 Memory maps of TC37xEXT variants

This section shows the influence of above feature variants on the memory map.

Program Flash

Variants:

- 6 MB: umbrella (3 x 2 MB), see User's Manual.
- 4 MB: 2 MB + 2 MB (see Figure below).

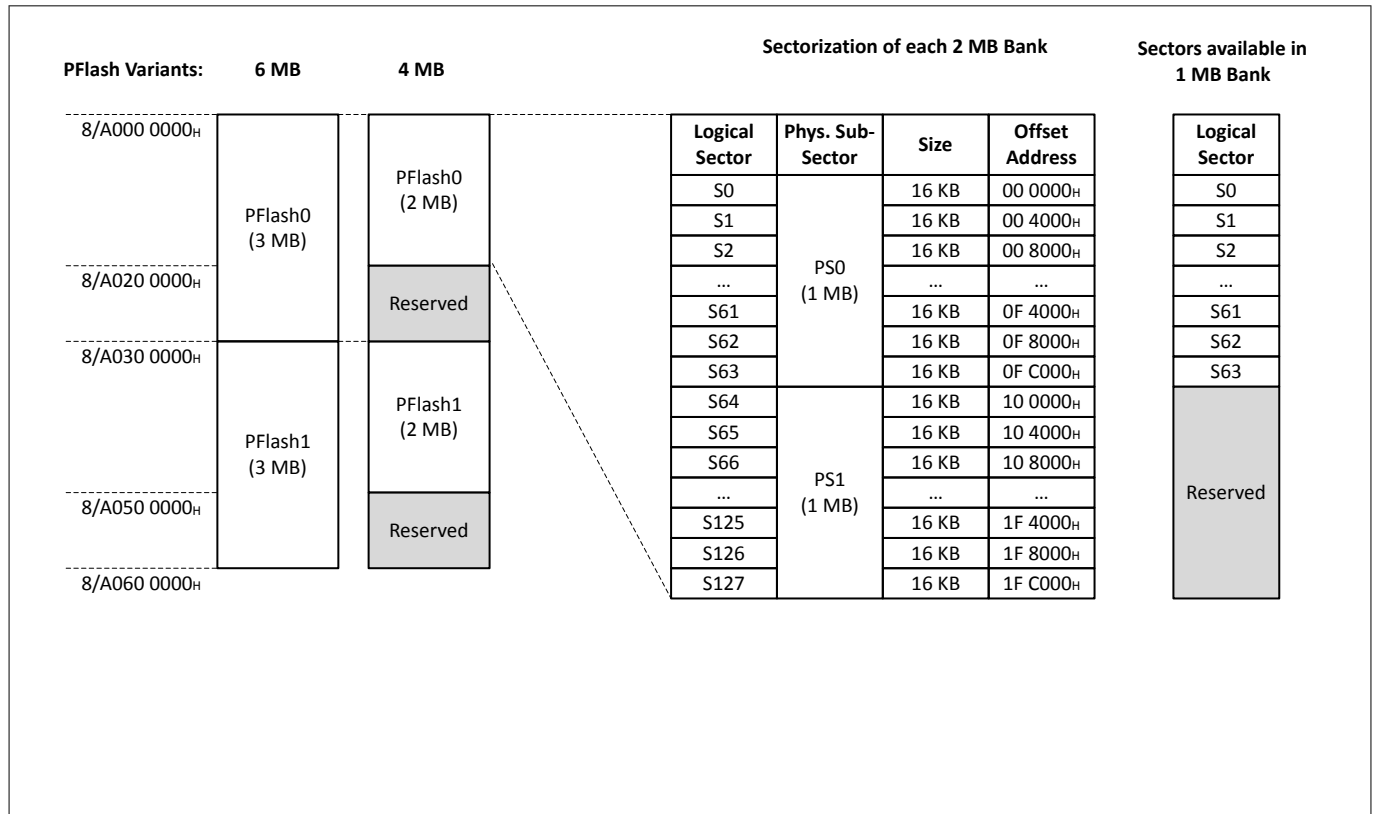


Figure 1 PFlash variants

MCDS availability

- MCDS is not intended for use in productive devices. It may not be tested and is not covered by the safety case. For this functionality, please refer to the Aurix 2G Emulation device Data Sheet.

Revision history
Revision history

Document version	Date of release	Description of changes
V1.0	2019-03-05	<ul style="list-style-type: none"> First release.
V1.1	2019-06-12	<ul style="list-style-type: none"> Chapter 1: Removed the following Variants in the 'Variants Table' - SAL-TC377TE-96 F300S, SAL-TC375TE-96 F300W, SAK-TC375TE-96 F300W, SAK-TC374TE-96 F300W, SAL-TC370TE-96 F300 Chapter 2: Updated the Memory Maps of TC37xEXT variants to remove the Ethernet and ADC variation on the memory maps. Chapter 1: TC37xEXT AB step variants table format changed to fit all the contents. Chapter 1: Added new row in the variant tables called "AMU" with the footnote for additional details. Chapter: About this document: Feature package definitions are updated to consistent with the product naming nomenclature definition.
V1.2	2019-08-21	<ul style="list-style-type: none"> Chapter 1: Added the following Variants in the 'Variants Table' - SAK-TC377TX-64F300S and update the Memory maps section.
V1.3	2020-01-10	<ul style="list-style-type: none"> Page 1: About the document: Feature Package 'X' definition is updated to remove CIF. Chapter 1: Added new row in the variant tables called "CIF" indicating the Camera Interface availability.
V1.4	2020-11-19	<ul style="list-style-type: none"> Chapter 1: Added a Foot note for the 'MCDS Availability' to explain its usage. Chapter 2: Added 'MCDS Availability' section to describe its usage.

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