

# SBC-S32V234

## QUICK START GUIDE (QSG)

Getting started instructions and a Guide to all Hardware, Software, Tools and Document resources

Rev 6

[www.nxp.com/SBC-S32V234](http://www.nxp.com/SBC-S32V234)



EXTERNAL USE



SECURE CONNECTIONS  
FOR A SMARTER WORLD

# WHAT IS QUICK START GUIDE?

We at NXP continuously strive to provide an easy-to-use enablement package for our devices. This document serves as a launch-pad to navigate all essential resources that we provide to get started with S32V2 SoC and SBC-S32V234 board.

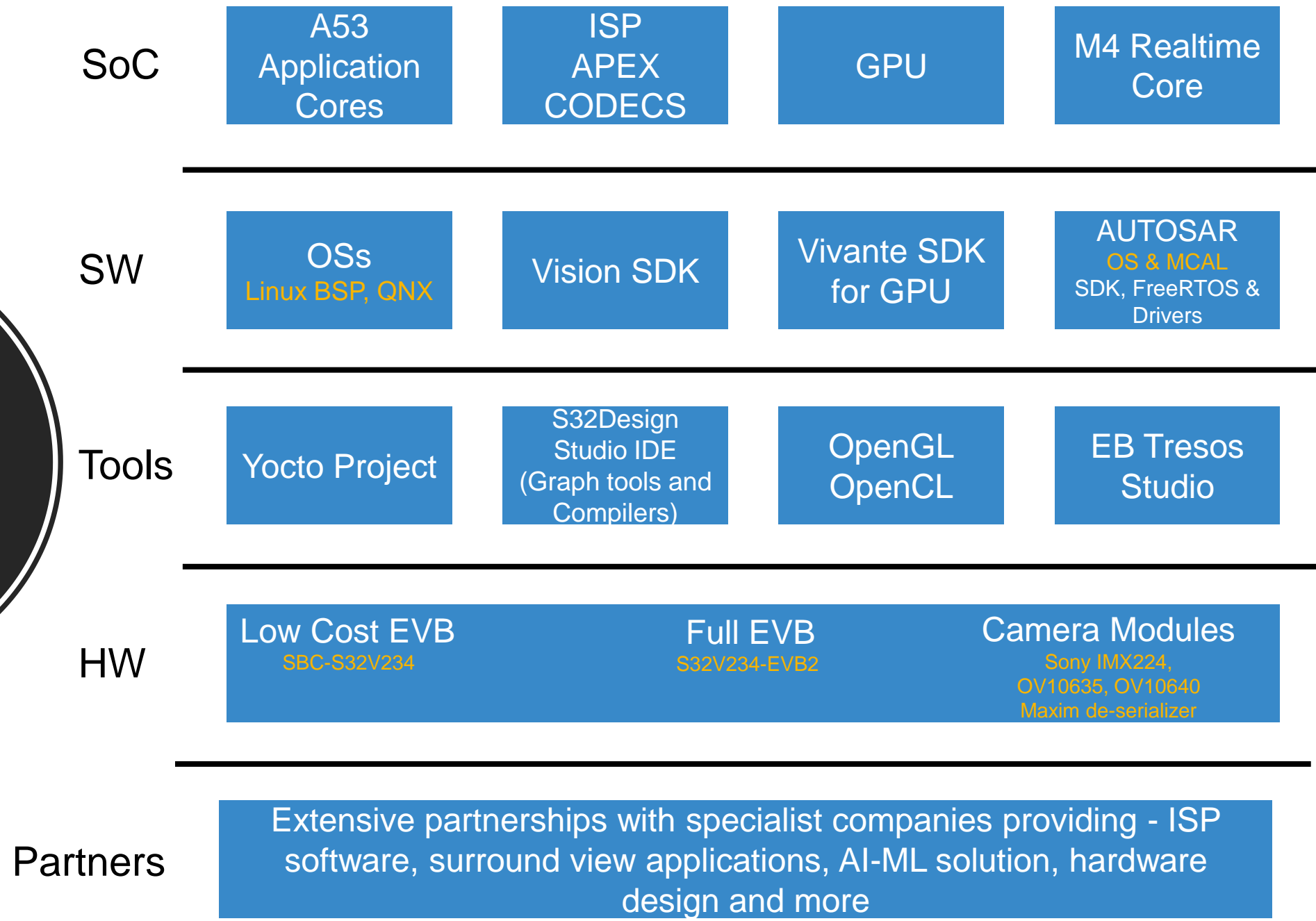
This document contains instructions on how to get started with the S32V2 vision processor, SBC-S32V234 board and associated software components.

# Contents

- Overview of a complete Ecosystem
- Getting Started Instructions
  - Out-of-box experience: SBC-S32V234
  - Tutorials
- Resource Guide
  - Evaluation boards & Camera modules
  - OS and SDK
  - Drivers and other Software
  - IDE and Tools
  - Documentation
  - Support
  - Enablement Roadmap



# Ecosystem Overview



\*Software under development and will be available in Q3/Q4 2018. Contact NXP for more information.

# S32V2 Partner Support Network

Hardware



S32V Training



Premium Toolchain Software



Vision Software Partners



Camera Image Partners



Distribution & E-tailer Support



# GETTING STARTED



# How To Get Started?

- This section will walk you through the steps of “how to get started?”
  - We will start with the simple out-of-box experience and move forward to gain understanding of different pieces of HW & SW one by one



## Step-1

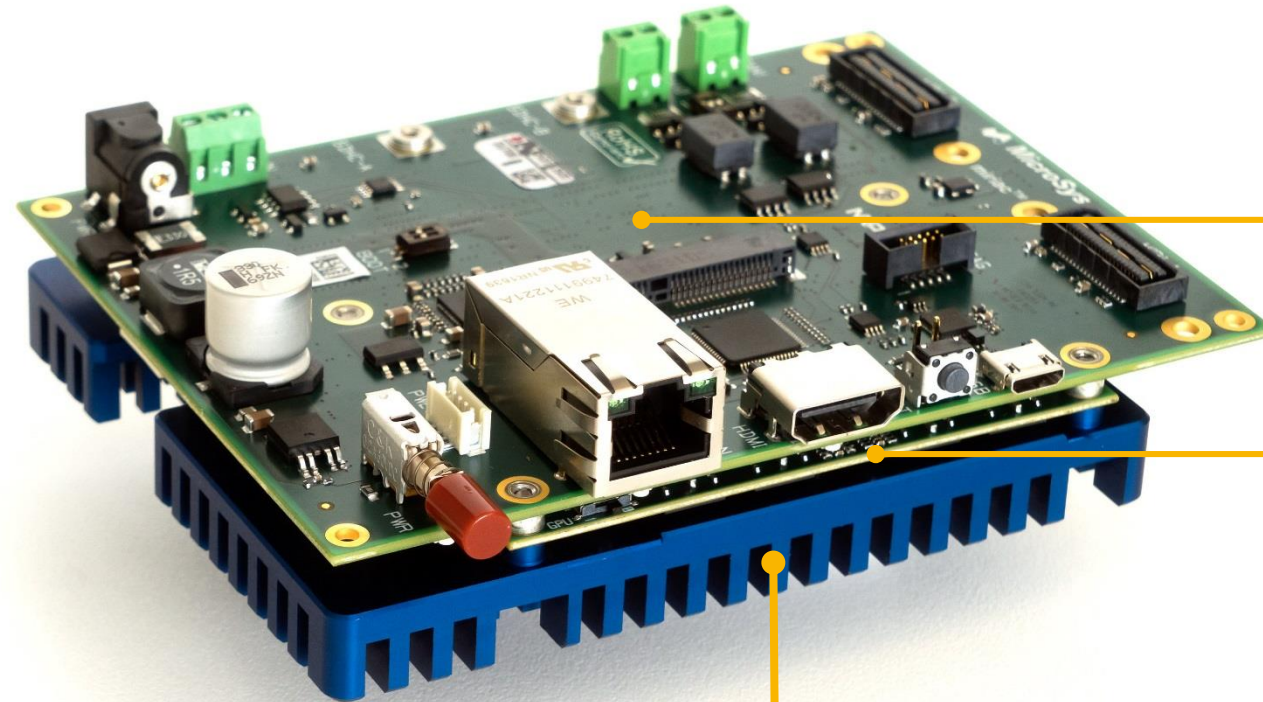
First of all, please make sure your board is working!!!!  
Please follow the steps of [Out-of-Box Experience](#)

# Out-of-box experience: SBC-S32V234

1 of 4

The SBC-S32V234 is a low-cost development platform for the S32V2 vision processor.

SBC-S32V234 is a system-on-module concept developed by NXP partner, *MicroSys Electronics GmbH*. It is comprised of a Module board mounted on a Carrier board. The Module board contains S32V234 processor, memories and power regulators for the module board and the Carrier board contains all system specific i/o like camera connectors, ethernet port, display port, SD card slot, CAN ports etc. This design gives customers flexibility to design their own carrier board while still reusing the same module board.



Carrier Board  
(CRX-S32V234)

Module Board  
(MPX-S32V234)

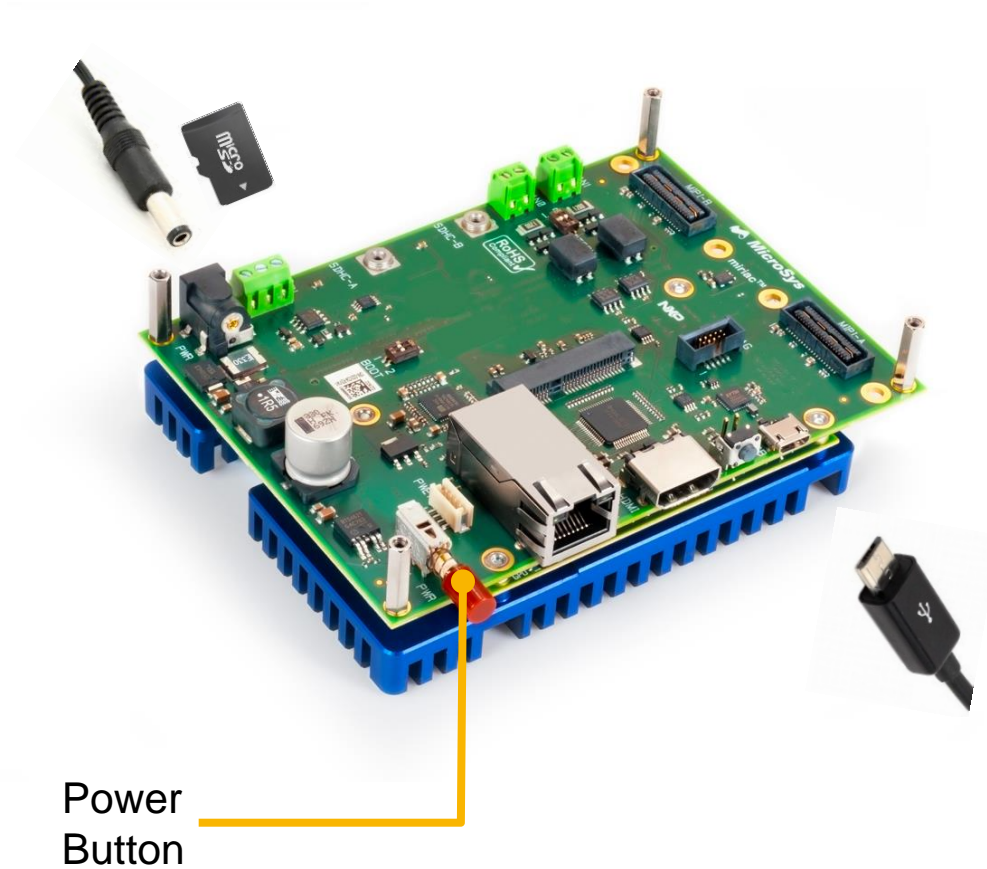
Heat Shield





# Out-of-box experience: SBC-S32V234

2 of 4



1

## Connect Power Supply and USB Cable

Connect board with 12V/2A DC power supply. Keep the board power off.  
Connect one end of the USB cable to the PC and the other end to the micro-B connector on the SBC-S32V234 board. Allow the PC to automatically configure the USB drivers.

2

## Install and Start Serial Terminal

Install and open any serial terminal (e.g. TeraTerm, Putty etc.). Select the port where board is connected and configure it to 115200 baud rate, 8 data bits, no parity and 1 stop bit.

3

## Insert the SD card and Power on the Device

The box contains SD card pre-installed with Linux BSP\*. Please make sure it is inserted into SD card slot.  
Power on the device by pressing Power Button.  
You can now see SBC-S32V234 booting U-boot followed by Linux in the terminal window. Username: "root", no password

4

## Learn More About the SBC-S32V234

Access more documents at  
[nxp.com/SBC-S32V234](http://nxp.com/SBC-S32V234)  
[nxp.com/S32V](http://nxp.com/S32V)

# Out-of-box experience: Linux BSP

3 of 4

NXP's SW team has developed a Linux Board Support Package(BSP)

NXP periodically updates its SW so users are encouraged to check following locations for latest BSP

[www.nxp.com/s32v](http://www.nxp.com/s32v) >> **Software & Tools** >> **“Automotive SW – Linux BSP”**

 **Automotive SW - Linux BSP** (REV 16) **UPDATED**  
FLEXERA 1 KB SW32XX-LINUXBSP01D 2018-03-27 11:58:00 [Download](#)



<input type="checkbox"/>	+	File Description	File Size	File Name
<input type="checkbox"/>	+	Aquantia firmware for the BlueBox LS2084A	192.3 KB	<a href="#">↓ Aquantia_binaries.tgz</a>
<input type="checkbox"/>	+	Benchmark results	103.7 KB	<a href="#">↓ Auto_Linux_BSP_19.0_Benchmark.pdf</a>
<input type="checkbox"/>	+	GPU userspace libraries and VTK tools	89.8 MB	<a href="#">↓ binaries_gpu_userspace_vtk_6.2.4.zip</a>
<input type="checkbox"/>	+	Precompiled binaries	736.4 MB	<a href="#">↓ binaries_auto_linux_bsp19.0.tgz</a>
<input type="checkbox"/>	+	Precompiled binaries for BlueBox	480.6 MB	<a href="#">↓ binaries_auto_linux_bsp19.0_bluebox.tgz</a>
<input type="checkbox"/>	+	Precompiled binaries with VSDK	814.7 MB	<a href="#">↓ binaries_auto_linux_bsp19.0_vsdk.tgz</a>
<input type="checkbox"/>	+	Quality package	2.9 MB	<a href="#">↓ Auto_Linux_BSP_19.0_Quality_Package.zip</a>
<input type="checkbox"/>	+	Quick start guide	201.6 KB	<a href="#">↓ Auto_Linux_BSP_19.0_BlueBox_Quick_Start.pdf</a>
<input type="checkbox"/>	+	Quick start guide	3.4 MB	<a href="#">↓ Auto_Linux_BSP_19.0_Quick_Start.pdf</a>
<input type="checkbox"/>	+	Release notes	110.4 KB	<a href="#">↓ Auto_Linux_BSP_19.0_Release_Notes.pdf</a>
<input type="checkbox"/>	+	Software content reports	4.8 MB	<a href="#">↓ Auto_Linux_BSP_19.0_BOM.zip</a>
<input type="checkbox"/>	+	User manual	3.7 MB	<a href="#">↓ Auto_Linux_BSP_19.0_User_Manual.pdf</a>






← Download precompiled Linux binaries from here

← Download Linux user manual from here



## ***How to Install the latest BSP onto an SD card?***

- Download latest binaries as shown on previous page
- Extract the compressed file
- All SBC-S32V234 specific files can be found in folder: *binary\_auto\_linux\_bspxx.x\ls32v234sbc*

 fsl-image-auto-s32v234sbc.sdcard	11/25/2018 10:15 ...	SDCARD File	344,064 KB
 fsl-image-auto-s32v234sbc.tar.gz	11/25/2018 10:15 ...	GZ File	82,831 KB
 Image	11/25/2018 10:15 ...	File	7,897 KB
 Image-s32v234sbc.dtb	11/25/2018 10:15 ...	DTB File	21 KB
 u-boot-s32v234sbc	11/25/2018 10:15 ...	S32 File	304 KB

- Use the ***.sdcard*** image to flash sd-card using tools like “*Win32 Disk Imager*”

# Learn: Linux BSP

- Two most important software components for S32V2 devices are Linux and Vision SDK
- Linux runs on the S32V2 vision processor and supports various NXP development boards
- NXP uses the Yocto project to create a custom Linux BSP
- Refer to the *Linux user manual* for more information on customizing Linux using Yocto
- To understand different components of Linux BSP please read: [1a\\_understand\\_Linux\\_BSP.pdf](#)  
(download [Quick Start Package](#) to locate this file)



- Vision SDK is the collection of libraries that can be used to create Vision specific programs
- Includes libraries for
  - ISP – Image Signal Processor
  - APEX – Image Cognition Processor
  - IOs – MIPI-CSI2, display etc...
- Also includes useful utilities and 3<sup>rd</sup> party software to aid development
  - e.g. OpenCV, FFmpeg, Pthreads etc
- Go to next page for Vision SDK download instructions
- To understand different components of Linux BSP please read: [1b\\_understand\\_Vision\\_SDK.pdf](#)  
(download [Quick Start Package](#) to locate this file)



# Learn: Vision SDK

Download Vision SDK...

[www.nxp.com/s32v](http://www.nxp.com/s32v) >> Software & Tools >> “Vision SDK SW”



### Vision SDK Software (REV 1.2.0)

Download

The Vision Software Development Kit (VSDK) for S32V234 vision processor family provides a comprehensive environment for NXP. S32V234 supports computation intensive applications for



	File Description	File Size	File Name
<input type="checkbox"/>	+ README.md	962 bytes	↓ README.md
<input type="checkbox"/>	+ VisionSDK RTM 1.3.0 installer for Linux host.	517.3 MB	↓ VisionSDK_S32V2_RTM_1_3_0.bin
<input type="checkbox"/>	+ VisionSDK RTM 1.3.0 installer for Windows host.	891.2 MB	↓ VisionSDK_S32V2_RTM_1_3_0.exe
<input type="checkbox"/>	+ VisionSDK RTM 1.3.0 list of known bugs.	778.7 KB	↓ VisionSDK_S32V2_RTM_1_3_0_NLKOBS.xlsx
<input type="checkbox"/>	+ VisionSDK RTM 1.3.0 pre-built SD Card image based on Debian roots.	1.8 GB	↓ VisionSDK_S32V2_RTM_1_3_0_img_debian.tar.gz
<input type="checkbox"/>	+ VisionSDK RTM 1.3.0 pre-built SD Card image based on Yocto roots.	1.4 GB	↓ VisionSDK_S32V2_RTM_1_3_0_img_yocto.tar.gz
<input type="checkbox"/>	+ VisionSDK RTM 1.3.0 quality package.	44.4 MB	↓ VisionSDK_S32V2_RTM_1_3_0_QualityPackage.zip
<input type="checkbox"/>	+ VisionSDK RTM 1.3.0 release notes.	37 KB	↓ VisionSDK_S32V2_RTM_1_3_0_ReleaseNotes.txt
<input type="checkbox"/>	+ VisionSDK RTM 1.3.0 software content register.	1 MB	↓ VisionSDK_S32V2_RTM_1_3_0_SCR.xlsx
<input type="checkbox"/>	+ VisionSDK RTM 1.3.0 user guide.	1.5 MB	↓ VisionSDK_S32V2_RTM_1_3_0_UserGuide.pdf

← VSDK installers

← Prebuilt Linux binaries supporting VSDK

← VSDK user guide



- Vision SDK is an essential part for vision application development
- The Linux BSP that comes with the SBC-S32V234 and downloaded as shown earlier are generic BSPs
  - It does not support Vision SDK out-of-the box.
  - So, the user needs to include device drivers, apply device tree file patches and include shared libraries to create a Linux BSP that supports VSDK
- For ease of use, NXP provides the precompiled Linux BSP binaries with all VSDK specific modifications
  - Please follow the instructions on next couple of pages to re-flash the sd-card.
  - Alternatively, user can also follow the “*section 17 ADAS/Vision Yocto Layer*” of the *Linux user manual* to create these binaries from scratch using Yocto



# Prepare: Flash Linux BSP that supports Vision SDK

2 of 3

Use Linux Machine for this task

1. Download the pre-compiled binaries: [www.nxp.com/s32v](http://www.nxp.com/s32v) >> **Software & Tools** >> **“Vision SDK SW”**

**Vision SDK Software** (REV 1.2.0) Download

The Vision Software Development Kit (VSDK) for S32V234 vision processor family provides a comprehensive environment for NXP. S32V234 supports computation intensive applications for

<input type="checkbox"/>	+	File Description	File Size	File Name
<input type="checkbox"/>	+	README.md	962 bytes	<a href="#">↓ README.md</a>
<input type="checkbox"/>	+	VisionSDK RTM 1.3.0 installer for Linux host.	517.3 MB	<a href="#">↓ VisionSDK_S32V2_RTM_1_3_0.bin</a>
<input type="checkbox"/>	+	VisionSDK RTM 1.3.0 installer for Windows host.	891.2 MB	<a href="#">↓ VisionSDK_S32V2_RTM_1_3_0.exe</a>
<input type="checkbox"/>	+	VisionSDK RTM 1.3.0 list of known bugs.	778.7 KB	<a href="#">↓ VisionSDK_S32V2_RTM_1_3_0_NLKOB.xlsx</a>
<input type="checkbox"/>	+	VisionSDK RTM 1.3.0 pre-built SD Card image based on Debian rootfs.	1.8 GB	<a href="#">↓ VisionSDK_S32V2_RTM_1_3_0_img_debian.tar.gz</a>
<input type="checkbox"/>	+	<b>VisionSDK RTM 1.3.0 pre-built SD Card image based on Yocto rootfs.</b>	1.4 GB	<a href="#">↓ VisionSDK_S32V2_RTM_1_3_0_img_yocto.tar.gz</a>
<input type="checkbox"/>	+	VisionSDK RTM 1.3.0 quality package.	44.4 MB	<a href="#">↓ VisionSDK_S32V2_RTM_1_3_0_QualityPackage.zip</a>
<input type="checkbox"/>	+	VisionSDK RTM 1.3.0 release notes.	37 KB	<a href="#">↓ VisionSDK_S32V2_RTM_1_3_0_ReleaseNotes.txt</a>
<input type="checkbox"/>	+	VisionSDK RTM 1.3.0 software content register.	1 MB	<a href="#">↓ VisionSDK_S32V2_RTM_1_3_0_SCR.xlsx</a>
<input type="checkbox"/>	+	VisionSDK RTM 1.3.0 user guide.	1.5 MB	<a href="#">↓ VisionSDK_S32V2_RTM_1_3_0_UserGuide.pdf</a>

Prebuilt Linux binaries supporting VSDK

Out-of-box  
experience

Learn:  
Linux BSP &  
Vision SDK

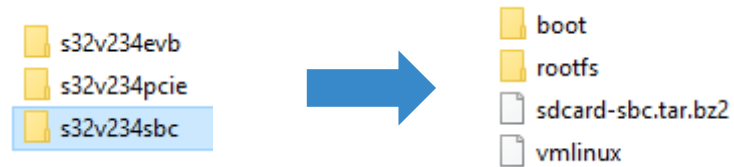
**Prepare:**  
Flash Linux BSP  
that supports  
Vision SDK

Run:  
Run Vision SDK  
demos

Develop:  
S32 Design Studio IDE  
ISP and APEX Projects



- Unzip the file and go to **build\_content\v234\_linux\_build\s32v234sbc**



- You can find all components of Linux BSP in **boot** and **rootfs** folders



- Please follow the steps in [2\\_prepare\\_sd\\_card.pdf](#) document to flash these files into an sd-card
- Insert this sd-card into the board and turn on power supply.
  - observe that the system is booting...



# Run: Examples available in the Linux

- There are many precompiled demo applications from Vision SDK that are available in **home/root/vsdk** folder.
- In this step, we will run one of the demos available on the sd-card.
  - Refer Vision SDK User Guide for demo specific information.
- Run the most simple examples...
  - ISP : `isp_somyimx224_csi_dcu.elf`  
user needs to connect S32V-SONYCAM to MIPI-A port and a display(default 1080p) via HDMI port
  - APEX: `apex_add.elf`
  - ISP+APEX: `apex_isp_fast9.elf`  
user needs to connect S32V-SONYCAM to MIPI-A port and a display(default 1080p) via HDMI port

```
root@s32v234evb:~/vsdk# ls
apex_add.elf
apex_downsample_upsample_cv.elf
apex_emulation_test.elf
apex_face_detection_cv.elf
apex_fast9_cv.elf
apex_gauss5x5_cv.elf
apex_histogram_cv.elf
apex_indirect_input_cv.elf
apex_integral_image_cv.elf
apex_isp_face_detection_cv.elf
apex_isp_fast9.elf
apex_isp_ldw_cv.elf
apex_isp_segmentation.elf
apex_orb_cv.elf
apex_roi_cv.elf
apexcv.elf
apexcv_pro_affine.elf
apexcv_pro_aggcf.elf
apexcv_pro_blockmatching.elf
apexcv_pro_brief.elf
apexcv_pro_canny.elf
apexcv_pro_fast.elf
apexcv_pro_gftt_corners.elf
apexcv_pro_hog.elf
apexcv_pro_hough.elf
apexcv_pro_image_pyramid.elf
apexcv_pro_image_pyramid_multi.elf
apexcv_pro_laplacian_pyramid.elf
apexcv_pro_lbp.elf
apexcv_pro_lkpyramid.elf
apexcv_pro_lktracker.elf
apexcv_pro_orb.elf
apexcv_pro_remap.elf
apexcv_pro_tno.elf
data
encoded_stream.h264
gdc_cppunitapp.elf
hello.elf
isp_h264dec_single_stream.elf
isp_jpeg_4stream.elf
isp_ov10635_viu_dcu.elf
isp_ov10640_quad.elf
isp_sonyimx224_csi_dcu.elf
isp_sonyimx224_default.elf
isp_sonyimx224_h264enc.elf
isp_sonyimx224_rgb_yuv_gs8.elf
isp_stereo_apexbm.elf
isp_stereo_calib.elf
multi_thread.elf
neon_eigen_add.elf
neon_fft_cv.elf
neon_gauss3x3_cv.elf
web_server.elf
```

Out-of-box  
experience

Learn:  
Linux BSP &  
Vision SDK

Prepare:  
Flash Linux BSP  
that supports  
Vision SDK

Run:  
Run Vision SDK  
demos

Develop:  
S32 Design Studio IDE  
ISP and APEX Projects

# Run: Compile and Run Demos from VSDK

- Vision SDK also comes with many software examples
  - Face Detection demo
  - Lane departure warning demo
  - CNN image classifier demo
  - Feature tracking demo,
  - Stereo disparity demo
  - Pedestrian detection demo
  - Audio Video Bridging demo
  - **many more.....**  
(visit: `vsdk_installation_dir/s32v234_sdk/demos`)
- This step will show the user how to compile and run these demo examples on the board
- Here, we will compile a simple ISP demo and run it on the SBC-S32V234 board
- Please read document **3\_compile\_demo\_example\_tutorial\_x.x.pdf** in the quick start package for detailed instructions.



# Develop: S32 Design Studio IDE

1 of 2

- Now that we have our device up and running, the next step is to start the application development.
- To aid the developer, NXP provides no-cost IDE called [S32 Design Studio \(S32DS-NG\)](#)
  - use **S32 Design Studio v3.1** or greater
  - **Note:** Starting from S32DS v3.1, S32DS does not support any device by default. Device support can only be added by S32DS Extensions and Update tools.
  - **Note:** [S32 Design Studio for Vision](#) is now archived and no longer recommended for new developments
- Features
  - an Eclipse based IDE
  - S32DS Extensions and Update tool to include support for latest
    - Vision SDK
    - Peripheral SDK and FreeRTOS
    - Toolchains for ARM, APEX and ISP cores
    - Graph tools for easy ISP and APEX code development
    - Demos
- Let us set-up S32DS and get started with it



# Develop: S32 Design Studio IDE

2 of 2

- In this part we will download, install and learn S32 Design Studio
- Please follow the steps below...
  1. Download and install **S32DS v3.1** or later from [here](#)
  2. Open S32DS and create a new workspace
  3. Include S32V2xx support using **S32DS Extensions and Updates** tool
    - Go to **Help >> S32DS Extensions and Update**
    - Select **S32 Design Studio Platform Package, S32 Design Studio Platform Tools package, Vision extension package for S32V2xx and S32V2xx development package**
    - **Click** on **Install/Update** to install selected packages
    - **S32DS** is now ready for S32V2xx application development
  4. To learn S32DS, go to **Help >> Getting Started** and go through the **Quick Start Guide** document.
    - To learn more about the S32 Design Studio please refer to the **S32 Design Studio User Guide** at **Help >> Getting Started >> Resources >> User Manuals**
  5. Now let us import, compile and run built-in example
    - Navigate to **Getting Started Help >> Getting Started >> Resources >> Tutorials** page and follow instructions of following “HOW TO” documents, one-by-one
      1. **ISP: Create An ISP Project From Example in S32DS.pdf**
      2. **EVB: Build a Project and Setup a Debug Configuration for debugging in S32 Design Studio.pdf**
      3. **EVB: S32V234 EVB Linux - Static IP address configuration.pdf / S32V234 EVB Linux - DHCP IP address setup.pdf**
      4. **DEBUGGING: Setup A Remote Linux Connection in S32DS S32V234.pdf**
  6. Congratulation! You have just compiled and ran your first program using S32DS
- Explore more Documents, Videos and Tutorials available in S32DS to learn more about S32DS

20




# *Develop: Create ISP and APEX projects using Visual Graph Tool*

- After becoming an Expert with S32DS, let us move forward to develop an application that uses ISP and APEX
  - APEX and ISP visual graph tools provide easy to use graphical interface to develop vision pipeline
  - Code generated from APEX and ISP graph tools can be used in any application developed with or without IDE
- Please follow the Tutorials below to learn “*ISP and APEX program development using visual graph tools?*” (both tutorials can be found in quick start package and S32DS)

[4a\\_ISP\\_graph\\_tool\\_in-depth\\_tutorial.pdf](#)

[4b\\_APEX\\_graph\\_tool\\_in-depth\\_tutorial.pdf](#)





Congratulation!  
You successfully started with  
S32V2 Processors!

For more understanding on different Vision SDK components please **start** with the following documents...

1. VisionSDK\_UserGuide (available at VSDK download site and at s32v234\_sdk\docs\vsdk)
2. ISP: SDI\_Software\_User\_Guide (s32v234\_sdk\docs\drivers)
3. ISP: Sequencer\_Driver\_Software\_User\_Guide (s32v234\_sdk\docs\drivers)
4. APEX: APEX\_Programming\_Overview (s32v234\_sdk\docs\apex)
5. APEX: UG-10267-03-16-ACF\_User\_Guide (s32v234\_sdk\docs\apex\acf)

# RESOURCE GUIDE





# Hardware: SBC-S32V234

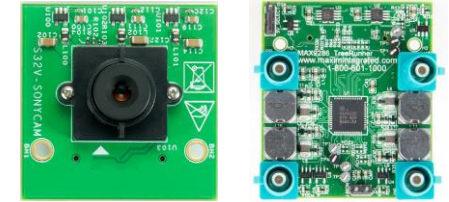
- *List of necessary documents and files for SBC-S32V234*
- *Part number of Processor: **FS32V234CMN1VUB***

Documents	Description
SBC-S32V234 User Guide	This document describes all components and connections on EVB
Module Schematic	Schematic for module board that mounts S32V234 processor, memories, control MCU etc. Only available via special request directly made to MicroSys.
Carrier Schematic	Schematic for carrier board that incorporates all peripherals like Ethernet, MIPI connectors, CANs, LINs etc

**Download:** [www.nxp.com/sbc-s32v234](http://www.nxp.com/sbc-s32v234) >> **DOCUMENTATION / SOFTWARE & TOOLS**

# Hardware: Camera Modules

- List of supported image sensors & camera modules



Camera Module	Documents*	Description
S32V-SONYCAM	For Sensor: Contact Sensor manufacturer For Module schematics: Contact Module manufacturer**	MIPI based camera with Sony IMX224 sensor. Connects directly with MIPI ports of the carrier board
OV10640CSP-S32V		MIPI based camera with OmniVision 10640 sensor. Connects directly with MIPI ports of the carrier board
MXOV10635-S32V		OmniVision 10635 sensor based camera with Maxim serializer. Connects to the MAX9286S32V234 de-serializer board with coaxial cable with FAKRA (Jack-Jack) connectors***. The packaging does not include cable.
MAX9286S32V234		Maxim 9286 de-serializer board. Connects directly with MIPI ports of carrier board and can connects with up to 4 remote camera. Connects to the MXOV10635-S32V camera with coaxial cable with FAKRA (Jack-Jack) connectors***. The packaging does not include cable.

**Buy from NXP: [www.nxp.com/sbc-s32v234](http://www.nxp.com/sbc-s32v234) >> BUY/PARAMETRICS**  
**Buy from Distribution Partners: Arrow, Avnet, Digi-Key, E14, Future or Mouser**  
**Buy from Maxim: [maximintegrated.com](http://maximintegrated.com) >> ORDER**

\*All support questions must be made to sensor or module manufacturer  
 \*\*S32V-SONYCAM & MAX9286S32V234 schematics are also available at [nxp.com/sbc-s23v234](http://nxp.com/sbc-s23v234) >> SOFTWARE & TOOLS  
 \*\*\*NXP does not sell cables. Cables should be bought from external vendors.



# Remote Camera Use Cases

- If user is intending to connect remote cameras with coaxial cables on LVDS lines using Maxim serializer and de-serializer, please order following parts

Use Case	Parts Needed
Single Camera Use Case	1x MXOV10635-S32V camera module 1x MAX9286S32V234 de-serializer board 1x Coaxial cables with FAKRA (Jack-Jack) connectors
Dual Camera Use Case	2x MXOV10635-S32V camera module 1x MAX9286S32V234 de-serializer board 2x Coaxial cables with FAKRA (Jack-Jack) connectors
Quad Camera/ Surround View Use Case	4x MXOV10635-S32V camera module 1x MAX9286S32V234 de-serializer board 4x Coaxial cables with FAKRA (Jack-Jack) connectors

# Software: OS

- *List of supported Operating Systems*

OS	Description
Linux BSP	Linux Board Support Package with fully configurable Yocto Distribution
AUTOSAR	AUTOSAR OS 4.2 is available only for Cortex-M4 core and MCAL 4.2 is available for both Cortex-M4 & Cortex-A53 cores
QNX BSP	Visit BlackBerry QNX for more information

Get Linux BSP & AUTOSAR: [www.nxp.com/s32v](http://www.nxp.com/s32v) >> SOFTWARE & TOOLS >> “Automotive SW - Linux BSP”  
Get QNX BSP: <https://blackberry.qnx.com/>



# Software: NXP Software (SDK & others)

- *List of NXP developed SDK and other important software*

Software	Description
Vision SDK	Vision SDK contains necessary libraries and tools essential to the vision processing. It enables programming of on-chip vision accelerator IPs. Works with Linux BSP and QNX BSP.
AVB Video Listener	Driver to receive AVB streams from cameras connected through Ethernet
Structural Core Self Test Library	Library of optimized tests for M4 & A53 cores and Neon
MBIST Manager	Driver for dedicated Memory Built-in Self Test IP of SoC
sBoot	Tests the S32V2 configuration after startup, to check the configuration related safety requirements of the S32V2 Safety Manual
Automotive Math & Motor Control Library	A precompiled off-the-shelf software library with the building blocks for motor control and general mathematical applications.

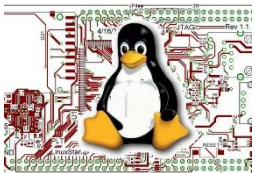
**Get all: [www.nxp.com/s32v](http://www.nxp.com/s32v) >> SOFTWARE & TOOLS**

# Tools

- *List of supported NXP or 3<sup>rd</sup> party tools*

Tool	Description
IDEs	NXP S32 Design Studio(S32DS-NG v3.1 or higher) Elektrobit Tresos Studio, Green Hills MULTI
Yocto Project	An open source collaboration project that provides templates, tools and methods to help you create custom Linux-based systems for embedded products.
DDR Tool	S32V DDR Configuration and Validation Suite ALPHA 0.8.0
Compilers	GCC or other ARM compilers for ARM cores, Green Hills Compiler, NXP compiler for APEX2 accelerator (integrated in S32DS and Vision SDK), Synopsys compiler for APEX2 accelerator
Debuggers	P&E Multilink/Cyclone, Lauterbach TRACE32, Green Hills MULTI
Vivante SDK	Vivante SDK can be used with Linux OS for GPU programming

Get S32DS: [www.nxp.com/s32ds](http://www.nxp.com/s32ds)  
Get DDR tool: [www.nxp.com](http://www.nxp.com)



# Documents: SoC

- *List of SoC specific documents*

Document*	Description
Fact Sheet	High level information on S32V2 Vision processor
Data Sheet	S32V2 vision processor datasheet for Electrical and Physical characteristics
Reference Manual	Detailed manual for SoC IPs
Safety Manual	A guide for safety system developers to build safety-related systems using the safety mechanisms of the s32v2
Errata	List of errata for SoC with bug fixing solution
Application Notes	Instructions on how to use the features of the S32V2 vision processor
Security Documents & SW	Contact NXP

**Get all: [www.nxp.com/s32v](http://www.nxp.com/s32v) >> DOCUMENTATION**

# Looking for Support? : [nxp.com/support](https://nxp.com/support)

*NXP has dedicated teams of experts to handle support questions*



## Technical Communities

Thousands of deep technical questions with answers from NXP support.



## Support Requests

Reach NXP support through private tickets when you can't ask in the public communities.



## Chat

Chat with us, if your question does not require an engineer to answer.

- Technical Communities:
  - This device is only supported via “Support Requests” option.
  - However, for other devices/tools, we highly recommend to reach [NXP community](#) first, so that all users can benefit from questions you ask
  - Useful community link:
    - [S32 Design Studio](#)
- Support Requests:
  - To get technical support for this device, user should raise [support tickets](#)
  - Moreover, if you do not want to discuss special questions on community you can use this option for other devices/tools as well.
- Chat:
  - All non-technical questions can be answered by a live Chat





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