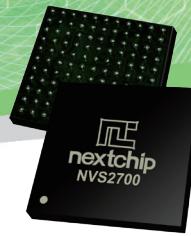


# Megapixel ISP embedded SoC for Automotive Ethernet AVB Camera NVS2700



NVS2700 is a cost effective SoC for Automotive Ethernet AVB Camera solution. It has low latency H.264 codec, Ethernet AVB MAC controller and Megapixel CMOS ISP. All functions are merged with one chip, so it makes enable the very small form-factor and can reduce the cost. The ISP functions in NVS2700 include AE/AWB, DPC, BLC, Color Interpolation, noise reduction, ACCE, HLC, etc. Automotive camera functions in NVS2700 are 190° fisheye lens distortion correction, top-view, 2 or 3 section view, PIP, defog and static and dynamic parking guide line OSG.

## Features

- ARM Cortex-R4 (8KB I/D-Cache)
- Low Latency H.264 Encoder
- Ethernet AVB 1.0 compliant
- Temperature/voltage monitoring sensor
- VGA(640x480) ~ SXGA(1280x1024) resolution sensor support
- Programmable AE/AWB/GAMMA
- Nextchip Local Tone Mapping(NLTM)
- 190° lens distortion correction
- Top-view
- 2 or 3 section view
- Morphing view
- Trailer Ball Zoom(Enhanced Crop & zoom)
- Defog
- ACCE (D-WDR)
- 2D-NR
- Dynamic & static parking guide line
- PIP (Org. & LDC/Top-view/Section view)

## Specifications

Input I/F	<ul style="list-style-type: none"><li>• Up to SXGA CMOS sensor Bayer input</li><li>• Compressed WDR 12bit Bayer input</li><li>• 12bit parallel 1280x1024p@30fps</li><li>• 12bit parallel 1280x720p@60fps</li><li>• 10bit parallel YUV 422 input</li></ul>
Output I/F	<ul style="list-style-type: none"><li>• Digital Output(VGA ~ SXGA)<ul style="list-style-type: none"><li>- BT.656/BT.601/SMPTE296M</li><li>- HDMI/HD-SDI Interface</li></ul></li><li>• H.264 bitstream through Ethernet AVB MAC</li></ul>
Etc	<ul style="list-style-type: none"><li>• Operating voltage : 1.2V/1.8V/3.3V</li><li>• AEC-Q100 grade 2 (-40°C ~ 105°C)</li><li>• Package : 121-FBGA (8mmx8mm 0.65p)</li></ul>

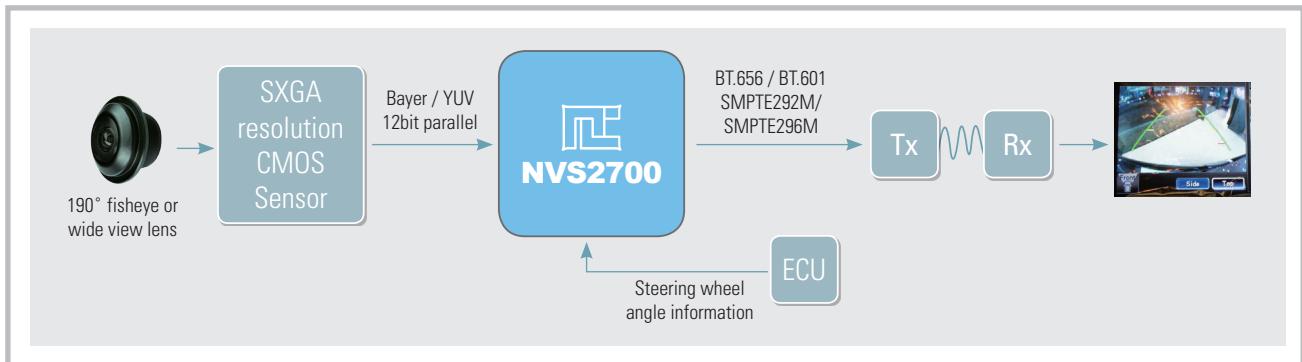
## Applications

- Megapixel automotive camera
- Ethernet AVB automotive camera



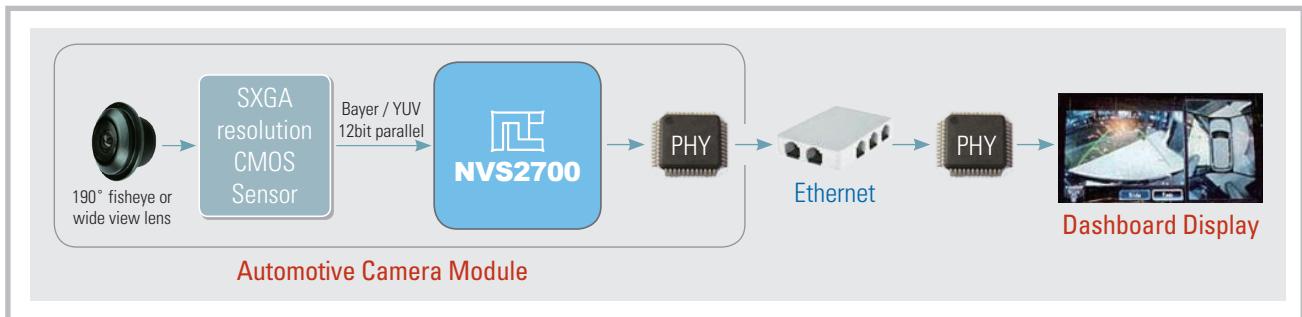
# Application Diagram

## Automotive Camera Application



- Provide differentiated automotive rear/front/side view camera images through SXGA resolution sensor and specialized programmable ISP functions.

## Ethernet AVB automotive Camera



- Include low latency H.264 encoder, ethernet AVB Tx and whole ISP function with one chip for automotive ethernet camera system.

## NVS2700 ISP function

