i.MX Automotive Customers

- NXP has solid, long-standing customer relationships with nearly every automotive manufacturer and Tier 1 supplier in the world. We know what it takes to meet the stringent requirements of the global automotive market.
- NXP has dedicated account teams for most car OEM’s including BMW, GM, Ford, Chrysler, Daimler, VW/Audi, Fiat, Renault, PSA, Volvo, and Hyundai Kai.
WHY I.MX?
i.MX Applications Processor Values

- **Scalability for Maximum Platform Reuse**
  - Pin compatibility and software portability
  - CPU (single/dual/quad, asymmetric), GPU, IO
  - Software: Linux, Android, Windows-embedded, RTOS

- **Trust**
  - Longevity: minimum of 10-15 years in all markets
  - Quality, robustness, zero-defect methodology
  - Security and Safety
  - Qualifications: Automotive AEC-Q100, JEDEC Industrial and Consumer
  - [www.nxp.com/productlongevity](http://www.nxp.com/productlongevity)

- **Enablement for Ease of Use**
  - Industry-leading ecosystem, partnerships and support
  - Design collateral, distribution, communities
  - System solutions: SoC, sensors, memory, PMIC, connectivity
WHY I.MX?

SCALABILITY
i.MX Roadmap

Performance and Integration

Prior to 2014

- i.MX 6Quad
- i.MX 6Dual
- i.MX 6DL
- i.MX 6Solo
- i.MX 6SL
- i.MX 5x
- i.MX 3x
- Vybrid
- i.MX 2x

2015

- i.MX 6QuadPlus
- i.MX 6DualPlus
- i.MX 6SoloX
- i.MX 68x

2016

- i.MX 7Dual
- i.MX 7Solo
- i.MX 6UL
- i.MX 6ULL

2017

- i.MX 7ULP

ARM9
ARM11
Cortex-A8
Cortex-A9
A9+M4
A5+M4
A7
A7+M4
A35+M4
A72+A53+M4
A53+M4

i.MX 9
i.MX 8QuadMax
i.MX 8QuadPlus
i.MX 8Quad
i.MX 8Dual
i.MX 8DualLite
i.MX 8QuadXPlus
i.MX 8DualXPlus
i.MX 8DualX

Vybrid
i.MX 6Solo
i.MX 6Quad
i.MX 6Dual
i.MX 6x
i.MX 7x
i.MX 7x
i.MX 8x

i.MX 6Quad
i.MX 6Dual
i.MX 6DL
i.MX 6Solo
i.MX 6SL
i.MX 5x
i.MX 3x
i.MX 2x
i.MX 6 Series: Supreme Scalability and Flexibility
Leverage One Design into Diverse Product Portfolio

Scalable series of **TEN** ARM-based SoC Families

Expanded series for performance, power efficiency and lower BOM
i.MX 8 FAMILY
i.MX 8 Series: 3 families of parts with targeted features

i.MX 8 family
Advanced Graphics and Performance
ARM® v8-A
(32-bit/ 64-bit)

i.MX 8M family
Advanced Audio and Video
ARM® v8-A
(32-bit/ 64-bit)

i.MX 8X family
Safety Critical & Efficient Performance
ARM® v8-A
(32-bit/ 64-bit)

i.MX 7
Power Efficiency & BOM Cost Optimizations
ARM® v7-A
(32-bit)
i.MX 8 Series: Supreme Scalability and Flexibility

Scalable series of THREE ARM-based SoC Families

NEW

i.MX 8X Family
- i.MX 8DualX
- i.MX 8DualX-Plus
- A35
- M4

i.MX 8M Family
- i.MX 8M Solo
- i.MX 8M Dual
- A53
- M4

i.MX 8 Family
- i.MX 8 Quad
- A72
- A53
- M4

Pin Compatible

Software Compatible
## i.MX 8 Family

### Up and To The Right

<table>
<thead>
<tr>
<th>Model</th>
<th>CPU</th>
<th>GPU</th>
<th>Virtual</th>
<th>Vision</th>
<th>Display</th>
<th>VPU</th>
<th>DDR</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.MX 8QMax</td>
<td>3.5x</td>
<td>5x</td>
<td>New</td>
<td>10x</td>
<td>4x</td>
<td>8x</td>
<td>3x</td>
</tr>
<tr>
<td>i.MX 8QPlus</td>
<td>2.5x</td>
<td>2.5x</td>
<td>New</td>
<td>5x</td>
<td>4x</td>
<td>8x</td>
<td>3x</td>
</tr>
<tr>
<td>i.MX 8Quad</td>
<td>1.5x</td>
<td>2.5x</td>
<td>New</td>
<td>5x</td>
<td>4x</td>
<td>8x</td>
<td>3x</td>
</tr>
</tbody>
</table>

- CPU: CPU Performance Factor
- GPU: GPU Performance Factor
- Virtual: Virtualization Factor
- Vision: Vision Performance Factor
- Display: Display Performance Factor
- VPU: VPU Performance Factor
- DDR: DDR Memory Performance Factor
i.MX 8 - The Dance of the Logos

Full upgrade across all major peripheral classes
Full Integration
eCockpit on i.MX 8 Family

[Diagram of eCockpit on i.MX 8 Family]

Before eCockpit … Function Duplication over Multiple Platforms

<table>
<thead>
<tr>
<th>Duplicated:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECU housing and design NRE</td>
</tr>
<tr>
<td>10 layer cluster PCB</td>
</tr>
<tr>
<td>5-6 power supplies / circuit protection</td>
</tr>
<tr>
<td>Applications Processor &amp; Software</td>
</tr>
<tr>
<td>256MB DDR / 128MB NOR</td>
</tr>
<tr>
<td>Cluster VMCU + ASIL B OS</td>
</tr>
<tr>
<td>Speaker</td>
</tr>
<tr>
<td>CAN Tx/Rx and harness</td>
</tr>
<tr>
<td>Debug ports and hardware</td>
</tr>
<tr>
<td>Discrete components and connectors</td>
</tr>
</tbody>
</table>

**Cluster:**

- I/O Gauges
- Display
- Parallel RGB
- DDR
- NOR
- SPI, I/O

**HUD:**

- Display
- CAN
- Power
- Vehicle MCU
- Apps Processor
- 10-12 Layer PCB

**Infotainment:**

- WiFi
- TV
- AM/FM DAB/HD
- Power
- CAN
- Vehicle MCU
- Apps Processor
- DDR
- NAND/eMMC
- NOR
- Ethernet
i.MX 8 eCockpit Design example

Single Supplier for All Graphics and Display Processing

Infotainment Display

Cluster Display

HUD

Additional e-Cockpit ECU requirements:
- Advanced Applications Processor (Delta from Infotainment SoC)
- ASIL B ARM Hypervisor
- Additional DDR / Additional program NVM
- Cluster plus optional HUD LVDS Serializers
- Cluster plus optional HUD Deserializers

Eliminated:
- ECU housing and design NRE
- 10 layer cluster PCB
- 5-6 power supplies / circuit protection
- Applications Processor & Software
- 256MB DDR / 128MB NOR
- Cluster VMCU + ASIL B OS
- Speaker
- CAN Tx/Rx and harness
- Debug ports and hardware
- Discrete components and connectors
i.MX 8 Family eCockpit Solutions

Advantages

- **Dual Independent Display Controllers**
- **Configurable GPU Cores**
  - Single Monolithic GPU
  - Dual Independent GPUs
- **Industry Standard ARM enablement**
- **SoC Level Virtualization**
i.MX SOFTWARE
Leadership Software – i.MX Linux Enablement

- Silver Member of Linux Foundation
- AGL Working Group Bronze Member
- Over the past 15 years shipping i.MX applications processors, there have been 39,000+ Linux downloads
- Multiple i.MX 6 series customer engagements are using GENIVI solutions
- NXP has more compliant platforms than ANY semiconductor vendor
- Reference: http://www.genivi.org/compliant-products

i.MX 6 and 7 series GA on Linux kernel 4.1 (Oct/16)
i.MX Android Enablement

Commitment: 11 (soon to be 12) Android OS versions released over past 8 years

Broad Acceptance: 25,000+ downloads of BSP to date

Fast Development: ~4 months from development start to production release on multiple Android versions

Cross market robustness: Automotive, Embedded/Industrial, Consumer

Continued support: New OS releases for min. 2 years after silicon production

Leadership: i.MX – only Android system shipping in a top 5 OEM infotainment platform today
**Strongest Operating Systems for i.MX Applications Processors**

<table>
<thead>
<tr>
<th>Supplier</th>
<th>i.MX 6, 7 and 8 series ARM Cortex-A technology</th>
<th>i.MX 6SoloX, i.MX 7 and 8 series ARM Cortex-M technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>NXP Semiconductor</td>
<td>Yocto Linux OS and Android OS (Brillo OS on selected devices)</td>
<td>FreeRTOS</td>
</tr>
<tr>
<td>Mentor Embedded</td>
<td>Linux OS and Nucleus RTOS</td>
<td>Nucleus RTOS</td>
</tr>
<tr>
<td>Micrium</td>
<td>uC/OS II and III RTOS</td>
<td>uC/OS II and III RTOS</td>
</tr>
<tr>
<td>QNX</td>
<td>Neutrino RTOS</td>
<td>-</td>
</tr>
<tr>
<td>Green Hills</td>
<td>INTEGRITY RTOS</td>
<td>-</td>
</tr>
<tr>
<td>Adeneo</td>
<td>Windows Embedded</td>
<td>-</td>
</tr>
<tr>
<td>Express Logic</td>
<td>ThreadX RTOS (coming soon)</td>
<td>ThreadX RTOS (coming soon)</td>
</tr>
</tbody>
</table>

**Notes:**
- Yocto Linux OS and Android OS (Brillo OS on selected devices) by NXP Semiconductor.
- Nucleus RTOS by Mentor Embedded.
- uC/OS II and III RTOS by Micrium.
- Neutrino RTOS by QNX.
- INTEGRITY RTOS by Green Hills.
- Windows Embedded by Adeneo.
- ThreadX RTOS (coming soon) by Express Logic.
i.MX 6 Reference Designs (with Production Silicon)

- All Boards NXP designed
- All Boards NXP supported
- Common set of boards for 6Q/D/DL/S
- SoloLite will have its own EVK

<table>
<thead>
<tr>
<th>Board Type</th>
<th>i.MX 6Quad</th>
<th>i.MX 6Dual</th>
<th>i.MX 6Dual Lite</th>
<th>i.MX 6Solo</th>
<th>i.MX 6SoloLite</th>
</tr>
</thead>
<tbody>
<tr>
<td>SABRE–AI for Auto ($1499)</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SABRE Platform for Smart Devices ($999)</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SABRE Board for Smart Devices ($399)</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.MX 6SL EVK ($599)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔</td>
</tr>
</tbody>
</table>

i.MX 6 maximizes use of reference boards across derivative parts
## Small Package Options for i.MX Processors

<table>
<thead>
<tr>
<th>i.MX product families</th>
<th>Smallest Ball Grid Array (BGA) planned</th>
<th>Package on Package (PoP)</th>
<th>Single Chip Module (SCM)</th>
<th>3rd-party System on Module (SOM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.MX 6Quad i.MX 6Dual</td>
<td>21x21, 0.8p, FC-PBGA 624</td>
<td>12x12, 0.5p, FC-CSP 569</td>
<td>17x14, 0.65p, 1GB or 2GB LPDDR2, 16MB SPI NOR + PMIC</td>
<td>Many</td>
</tr>
<tr>
<td>i.MX 6SoloX</td>
<td>14x14, 0.65p 17x17, 0.8p</td>
<td>Not planned</td>
<td>Launching soon</td>
<td>Several</td>
</tr>
<tr>
<td>i.MX 6UltraLite</td>
<td>9x9, 0.5p 14x14, 0.8p</td>
<td>Possible if good business case</td>
<td>TBD</td>
<td>Several</td>
</tr>
<tr>
<td>i.MX 7Dual i.MX 7Solo</td>
<td>12x12, 0.4p 19x19, 0.75p</td>
<td>Possible if good business case</td>
<td>TBD</td>
<td>Several</td>
</tr>
</tbody>
</table>
Introducing the SCM-i.MX 6D/6Q

- It’s the world’s smallest single chip system.
- Solution integrates fully featured dual-core or quad-core processor, fully integrated power management system, memory, and enhanced security features in a single chip system module, all in the size of a dime.
- Breakthrough time to market—get there in about 6 months or less.
- Highly integrated with NXP’s high-end dual and quad core apps processor, which provides full suite of features and functions addressing broad range of customer needs.
- Unprecedented ultra-small form factor with greater than 50% reduction over current discrete solutions.
PCB Space Reduction Achieved by SCM-i.MX 6Dual/6Quad
SCM-i.MX 6Dual/6Quad Quick Start Board

- SCM-i.MX6D (1GB LPDDR2 + PMIC PF0100 + 16MB SPI NOR)
- Micro-SD card socket
- Standard SD card socket
- HDMI connector
- JTAG (10 pin)
- USB (UART to USB serial debug)
- USB device mode
- MIPI Camera connector (compatible with Raspberry Pi 2 camera module)
- LVDS display (w/ cap. touch) connector (compatible with Element14 9.7” LCD display with mini-HDMI connection)
- Wi-Fi available via SDIO interface* (compatible with Murata SD module)
- Arduino R.3 header compatible (no ADC)
  - AUDMUX, SPDIF, ENET (10/100), SPI, UART muxed with Arduino headers.
i.MX ECOSYSTEM
MICR Software and Service (MSS)
Software, Professional Support & Services

Complimentary Software & Tools
- Kinetis Design Studio, Software Development Kit, Pin Config, Power Estimator/Analyzer, Bootloader, RTOS, Linux & Android BSPs, Manufacturing tools…

Professional Services
- Managing Skills Gaps & Engineering Capacity
- Global Staffing Capability
- Vested Interest in Mutual Success
- Graphic, Security, Linux/Android, Cloud.

Hardware Services
- 1st Time Boot
- Schematics & Layout Review
- Design Simulation

Professional Support
- Risk Reduction
- Fast Answers
- Hot Fixes

Complimentary Support
- NXP Development and Reference Boards
- NXP Communities
- Technical Information Center
- Systems Engineering (Apps) Organization
- Distributor and Field Application Engineering

Software Products / Technology
- AVB, Miracast, HDCP2.x, TRLE, TEE, Home Kit, CarPlay, Android Auto, MICROEJ AUTOSAR, GPU Driver optimizations, AGL, Genivi, XBMC, HAB

Embedded Processing Solutions

Graphic, Security, Linux/Android, Cloud.
Available Software Products / Technologies

• **AVB** (Audio Video Bridging) ([nxp.com/AVB](https://www.nxp.com/AVB))
  - Delivering high quality A/V over Ethernet
  - End node (full-stack or audio only) and AVB bridge solutions available

• **TEE** (Trusted Execution Environment) ([nxp.com/TEE](https://www.nxp.com/TEE))
  - Used to implement a safe zone within the application processor
  - TEE offers protection against software attacks in a rich OS environment (like Android or Linux)

• **TRLE** (Tessellation Run Length Encoding) ([nxp.com/TRLE](https://www.nxp.com/TRLE))
  - NXP's TRLE technology provides an efficient, lossless image compression that leverages use of GPUs while minimizing memory requirements.

*Android™ Auto, Apple® CarPlay(TM), AUTOSAR® MCAL for i.MX Applications Processors, MIRACAST™ for Linux, Homekit / Mfi, Thread Connectiviry Stack*

Check our website for more information: **[www.NXP.com/SWtech](https://www.NXP.com/SWtech)**
MSS Case Study
<table>
<thead>
<tr>
<th>Function</th>
<th>Required Time (sec)</th>
<th>Measure Time (sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Splash screen</td>
<td>0.5</td>
<td>0.266</td>
</tr>
<tr>
<td>Park assist Camera Video</td>
<td>1.5</td>
<td>1.39</td>
</tr>
<tr>
<td>Park assist Camera Audio</td>
<td>1.5</td>
<td>1.41</td>
</tr>
<tr>
<td>Splash Video</td>
<td>2.0</td>
<td>1.6</td>
</tr>
<tr>
<td>Park assist HMI</td>
<td>4.6</td>
<td>2.8</td>
</tr>
</tbody>
</table>

**Achievements:**

- Fast boot (with HAB) for splash video, rear view camera and early audio
- Provided example Qt QML park assist assist application.
  - Cameras are displayed prior to HMI boot, then HMI is added without flicker in camera feeds.
- Provided requested features on 2 different customer boards
- Assisted customer with integration of HMI strategy into their application.
Telematics platform

Solution

i.MX6S/Q
+ Linux BSP
+ Professional Services

Accomplishments

• Development of a Test and Debug environment
• Support and maintenance of the Linux kernel
Telematics Platform

Achievements:

- Custom BSP port to customer board including:
  - IEEE1588 Timestamping
  - Spansion NOR H/W protection PPB (persistent protection bit) & Automatic ECC
  - USB SIM reader
  - Optimized Ethernet PHY
    - Support BCBR PHY to link up within 150ms after Power-up
  - Support for single image file and alternate image programming method

Solution

i.MX6 DL  
+  
Linux 3.14.28 BSP  
+  
Professional Services
Instrument Cluster

Solution

i.MX6DualPlus
+ Linux BSP
+ Professional Services

Achievements:

• Captured business away from competitor
• Hit delivery milestones on time!
Instrument Cluster

Solution

i.MX6(DL/DP) + Integrity BSP + 3D Graphics + Professional Services

Achievements:

• Qualified graphical stack to secure customer release plan
• Delivered the first ports to GHS Integrity for the 4.x and 5.x version of the driver, supporting i.MX6DQP and i.MX6DL
• Hardened and stabilized the Graphical stack
Solution

i.MX 6DualLite
+ Autosar MCALs
+ Integration Consulting

Achievements:

• Provided RTM Release and Support
• Assisted Partner/Customer with integration into their application.
Payload Camera

Solution

i.MX6D
+
Linux BSP
+
Professional Services
AVB Audio switch

Solution

i.MX6Quad
+ Linux BSP
+ AVB audio
+ Professional Services

Achievement:

• 1st commercial solution with Audio-Video Bridging
Solution

i.MX6 D
+ Linux 3.10.53 BSP
+ Miracast Sink
+ HDCP 2.2
+ MSFT PlayReady
+ Professional Services
Gas Pump

Solution

i.MX6 D
+ Linux 3.14.28 BSP
+ MQX 4.2.0 BSP with OpenAmp
+ Professional Services

Achievements:

• Innovation project with MQX+ Linux running on each core of i.MX6 D with intercore communication
• Major cost reduction in Hardware (5 boards reduced to 1)
• Due to service team involvement, NXP will displace competitor device with Kinetis for final production solution.
Audio Switch

Achievements:

- Rewrite audio drivers to use FIQ for switching at lower level instead of user space.
- Create audio drivers for audio sound cards and codecs used on customer board: AK5384, AK4425, AK4122, TAS5558
- Enable SPDIF
- Extended support for 96kHz for audio I/O
- Extend audio routing to provide the ability to take any of the four wired inputs (2 TOS link, 2 Analog), and switch them to any of the 6 outputs (4 amplified, 1 Digital COAX, 1 Analog).
Enterprise IP Phone

Requirements
Port Android support to existing production quality HW platform
Develop and integrate middleware customer specific features into Android: Networking, Security
Connectivity: BT
Provide support until production launch (planned in Q1’17)

Achievements
Established NXP as a platform provider
4 intermediate milestone releases made on time to customer

Solution
i.MX6DL +
Android BSP +
Networking (Eth) +
Security +
Professional Services
i.MX AUTOMOTIVE
Automotive Solutions

Infotainment

Surround View Park Assist System

Instrument Cluster

Smart Key
HUMAN MACHINE INTERFACE

ANDROID TRIPLE DISPLAY
Android Triple-Display

- The user can play different video by clicking control button for specifying the target device

Triple display output
- 1x 1080p HDMI
- 2x 720p LVDS

Main Display UI
Multiple Display Applications

Rear Seat Entertainment
• Media Playback
• TV
• Games
• Controls

KTV
• HDMI TV
• VOD
• AD.

Advertising Machine
HUMAN MACHINE INTERFACE

MIRACAST SOURCE/SINK
Miracast

**Miracast** is a peer-to-peer wireless screencast standard formed via Wi-Fi Direct connections in a manner similar to Bluetooth. It was created by the Wi-Fi Alliance and billed as an open alternative to Apple's AirPlay Mirroring. Both the sending and receiving devices must be Miracast certified for the technology to work.

http://www.wi-fi.org/wi-fi-certified-miracast%E2%84%A2

Miracast allows a portable device or computer to send, securely, up to 1080p HD video and 5.1 surround sound (AAC and AC3 are optional codecs, mandated codec is LPCM — 16 bits 48 kHz 2 channels).
Miracast Source/Sink Example
Miracast Source/Sink from FSL BSP

- Android Jelly Bean 4.2 or later version adds Miracast Source support by default. NXP expands the software to support Miracast Sink:
  - Wi-Fi P2P
  - RTSP streaming decoding (up to 1080P resolution)
  - Compatible for variable Wi-Fi cards
    - Silex AR6233X SDIO card (Atheros AR6103)
    - Realtek 8723AS SDIO card
  - Delivery:
    - Freescale proprietary java archive and native library
    - Simple APIs to customize Miracast Sink Application.
    - Demo Sink Application
  - Non- Supported features:
    - TDLS (Tunneled Direct Link Setup)
    - HDCP (High-bandwidth Digital Content Protection)

https://community.freescale.com/docs/DOC-102180
HUMAN MACHINE INTERFACE

CARPLAY AND ANDROID AUTO
Introduction to Apple CarPlay and Android Auto

Apple CarPlay and Android Auto provide a user interface optimized for the driver and “projected” onto the automotive infotainment system, almost entirely controlled by the phone.

• The functionality is limited to that appropriate for the driver
  - No video playback, no emails, no facebook, no web browsing, no typing

• Key functionality
  - Navigation, hands-free phone, audio playback, hands-free messaging
  - many functions are voice activated (Siri or Google Now)
  - user interface icons are large and Apps are simplified
CarPlay System

- **i.MX6 SABRE for Automotive**
  - USB/SPI
  - LVDS or HDMI
  - HS USB
  - I/O
  - I/O or A/D
  - I2C/I2S
  - I2C/I2S

- **Audio Codec**
- **Power Amp**
- **For MFi Licensees under NDA only**

- **Siri**
- **Volume**
- **iPhone charging**
- **System power**
- **MFi Auth.**
- **Optional Radio Tuner**

- **CarPlay System**
  - Phone
  - Music
  - Maps
  - Messages
  - Now Playing
  - Car
Apple CarPlay Demo Setup: Overall System

- Audio Line Output
- Power Input 12V DC
- USB connector For MP3 library
- Micro USB OTG adaptor and iPhone cable
- MFi authentication Module 2.0C
- Microphone Input (for Siri)
- SD memory Card with firmware
- SABRE base board
- i.MX6 quad CPU board
- LVDS LCD Touch panel cable
- iPhone (5, 5S, 5C, 6 or 6+)
  With iOS 8 or later

For MFi Licensees under NDA only
VIRTUAL INSTRUMENT

DIGITAL CLUSTER
Digital Cluster

- Virtual cluster demo is built on top of the Linux fast boot demonstration published in the IMX Community.
- The boot time is roughly 1.5s. The demonstration is based on L3.0.101_4.1.1 BSP release running on i.MX6QSDP board.
ADVANCED DRIVER ASSISTANCE SYSTEMS

SURROUND VIEW
## i.MX 6 ADAS/Surround View Solution Overview

<table>
<thead>
<tr>
<th>Solution</th>
<th>Resolution</th>
<th>Part #</th>
<th>Feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVBS</td>
<td>D1 resolution ADAS</td>
<td>Intersil TW6865</td>
<td>CVBS -&gt; PCIe</td>
</tr>
<tr>
<td>CVBS</td>
<td>D1 resolution ADAS</td>
<td>Intersil TW9985</td>
<td>CVBS -&gt; MIPI CSI</td>
</tr>
<tr>
<td>LVDS</td>
<td>HD Digital (720p) ADAS</td>
<td>Maxim MAX9271+MAX9286</td>
<td>Camera-&gt;MAX9271( Coax) -&gt; MAX9286( MIPI-CSI)</td>
</tr>
<tr>
<td>Ethernet</td>
<td>HD Digital (720p) ADAS</td>
<td>MPC5604+Ethernet Switch</td>
<td>Camera-&gt;MPC5604 -&gt; Ethernet Switch</td>
</tr>
</tbody>
</table>
Ethernet Surround View – Digital HD 720P

MPC5604E + Ethernet Camera SW application
Ethernet Surround View – UDP & AVB

Required:
- iMX6DQ platform
- Broadcom switch
- MPC5604E MCU
- OV camera sensor

* AVB is provided by software service
Summary

1. Why NXP i.MX?

2. Not only key features enabled for automotive. And also, targeting on e-book, e-POS, IoT and so on…

3. Brings a wide range of components to today’s designs.

Sensor (G-sensor, e-Compass, Gyro, TPMS…), PMIC, NFC, Wireless charger, MCU