



**THE DATASHEET OF
MCIMX6X3EVN10AB**





i.MX 6 Series Portfolio Overview

AMF-CON-T0060

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Product Marketing



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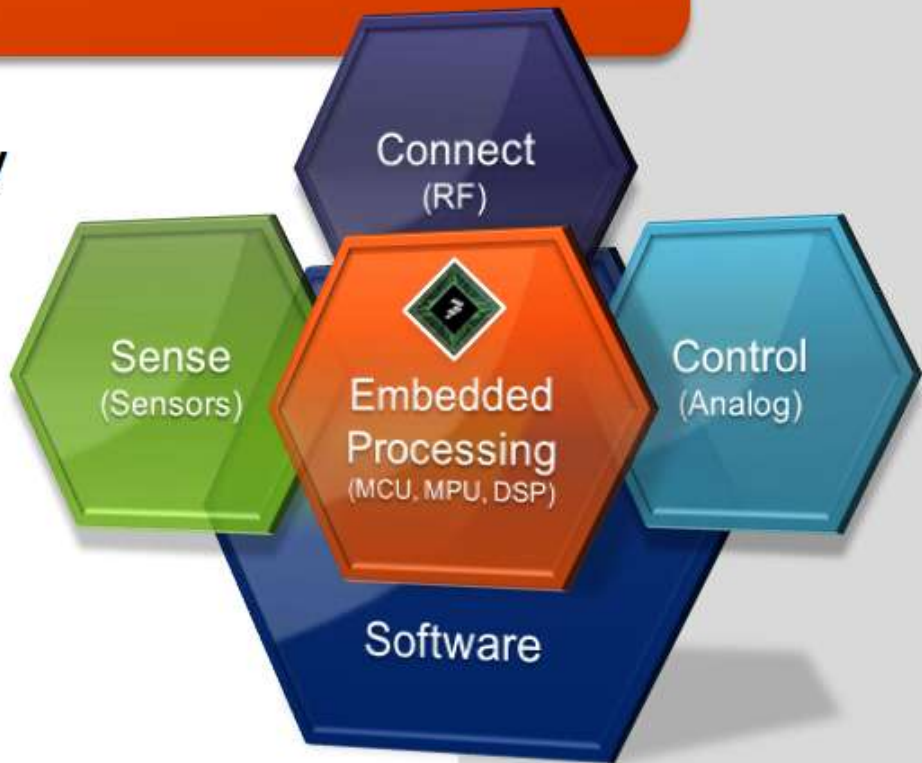
A Global Leader of Embedded Processing Solutions

Two Core Product Groups

- Automotive, Industrial & Multi-Market Solutions
 - Microcontrollers
 - Sensors
 - Analog
- Networking and Multimedia Solutions
 - Communications Processors
 - Applications Processors
 - RF Power

Four Primary Markets

- Automotive
- Industrial
- Networking
- Consumer



Platform-Level Solutions

>50 Year Legacy

>5,500 Engineers

>6,000 Patent Families

>18,000 Customers



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i.MX Smart Devices



Giant Waterproof Tablet – i.MX53



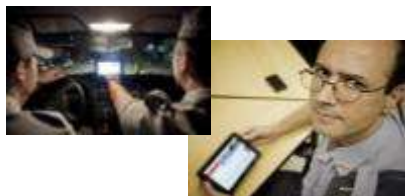
Honeywell Lynx Touch security panel with the i.MX25



Icephone, Medical Phone with i.MX31



Navico Marine Navigation i.MX51



Maxtrack tablet for Brazilian Police with i.MX51



Avaak Vue Personal Video Network With the i.MX25



Invoxia IP Phone - i.MX503



Gigaset DECT phone with i.MX233

Sophia systems' non-contact card Reader/Writer for DoCoMo with i.MX51



AMX 20.3" Modero X Series Panoramic Table Top Touch Panel with i.MX53



Televic in Belgium trams using MX51



Line6 "Stagescape" audio mixing system with i.MX51



i.MX233 based i'mWatch



Sharp e-Dictionary with i.MX28



Harris military communication equipment with i.MX27



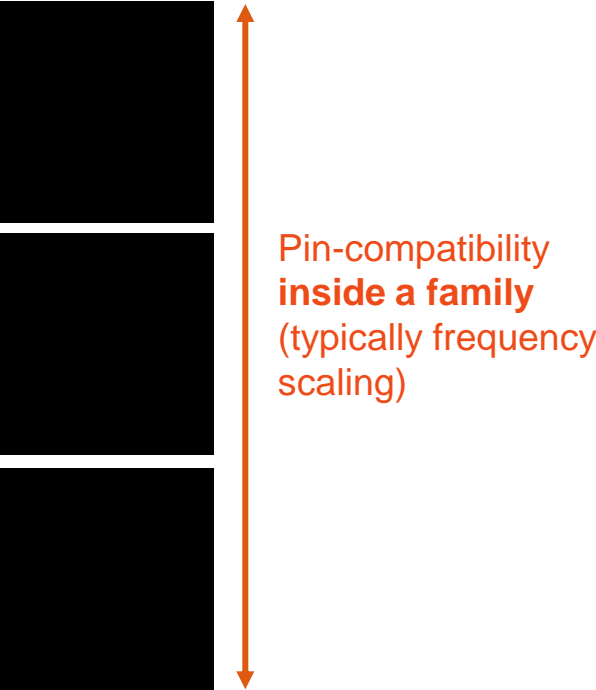
Japanese Boarding Gate Pass Reader with i.MX27



Self service touch screen terminal

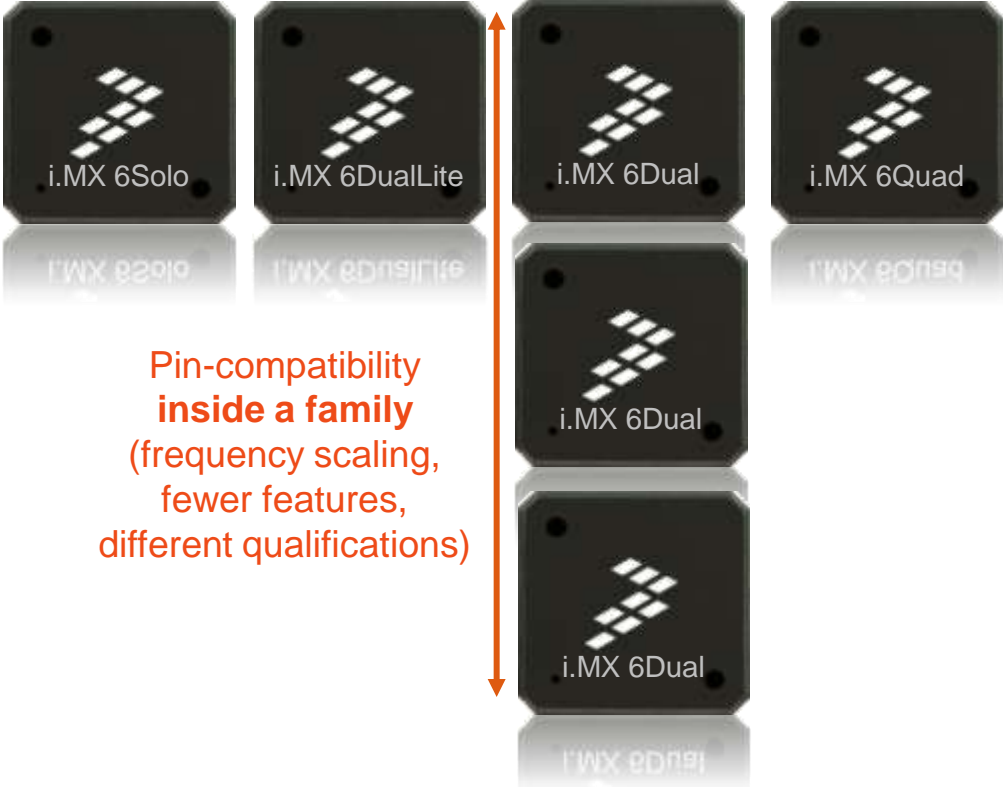
Freescale i.MX 6: unmatched pin-compatibility

Competitors



Freescale

Pin-compatibility between families

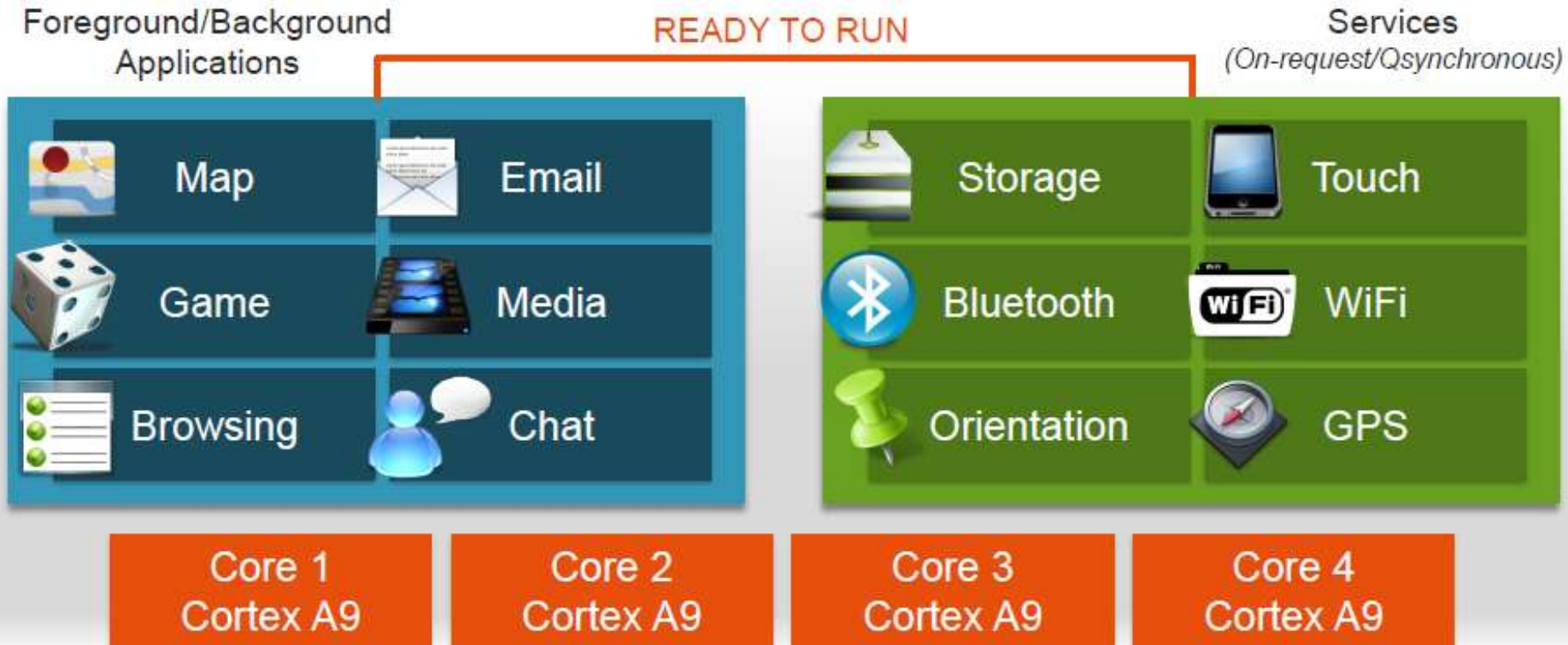


Android Support Quad Core

The Good News: Heavy Lifting Already Done

The work required to go from 1 to 2 cores was much greater than to go from 2 to 4 (or more) cores... Android 3.0 (Honeycomb) natively supported Quad core out of the box in June 2011

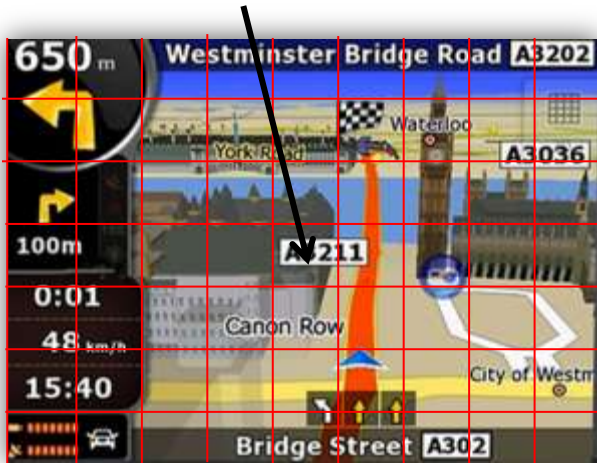
If you have 4 threads and 4 cores, Android will schedule a thread per core



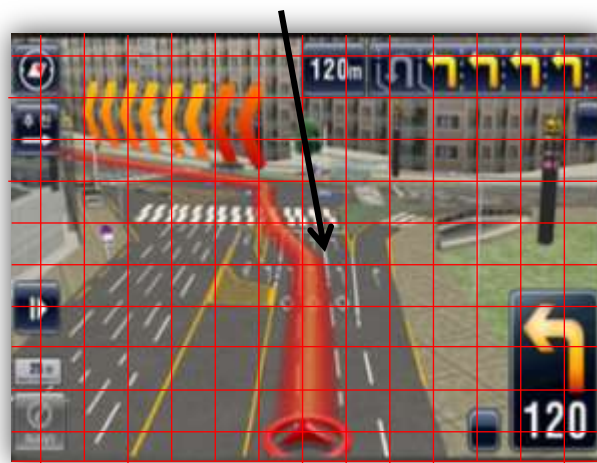
Tile Based Rendering (Chunkers)

- Size of scene buffer unknown before rendering
 - Possible overflow if scene requires more data than expected
- Good rendering method for baseline GUI/3D Apps with smaller object count (less details)
 - More bandwidth efficient than FMR in simple (yesterday) use cases
- For next generation dynamic scenes in new and future applications with lots of objects, details and post-processing effects, tile based Chunkers require multi-pass memory access to constantly process changing 3D/scene data
 - PC Level Applications (Performance, Quality, Effects) → Tablets → Smartphones → Infotainment

Tile



Tile



Tile (Complex Scene)



i.MX 6 Series VPU: Transcoding & Full-duplex

On-fly-transcoding

Source Resolution (decoded stream)	Max # Streams @ 30fps Target Resolution (encoded stream)		
	SD (720x480)	HD720p (1280x720)	HD1080p (1920x1080)
SD	4	--	--
HD720p	2	2 (24fps, TBD))	--
HD1080p	1	1	1 (24fps) 1 (TBD for 30fps)

Full-duplex

	Standard	Profile	Performance	
Full-duplex HW Codec	H.264	BP	720p@30fps, 1080p@24fps	20Mbps
			1080p@30fps (TBD) Dual 720p@30fps (TBD) <i>(TBD, current VPU standalone testing shows 29fps for bitrate less than 5Mbps, but see room for encoder optimization)</i>	5Mbps
	MPEG4	Simple	720p@30fps	15Mbps
	H.263	P0/P3	720p@30fps	15Mbps

	i.MX 6SoloLite	i.MX 6Solo	i.MX 6DualLite	i.MX 6Dual	i.MX 6Quad
Ethernet	1x 10/100	1x GbE* + IEEE1588 * performance limited to 480Mbps	1x GbE* + IEEE1588 * performance limited to 480Mbps	1x GbE*+ IEEE1588 * performance limited to 480Mbps	1x GbE*+ I EEE1588 * performance limited to 480Mbps
USB	3x USB2.0 HS • 1x OTG + PHY • 1x Host + PHY • 1x Host HSIC	4x USB2.0 HS • 1x OTG + PHY • 1x Host + PHY • 2x Host HSIC	4x USB2.0 HS • 1x OTG + PHY • 1x Host + PHY • 2x Host HSIC	4x USB2.0 HS • 1x OTG + PHY • 1x Host + PHY • 2x Host HSIC	4x USB2.0 HS • 1x OTG + PHY • 1x Host + PHY • 2x Host HSIC
CAN	-	2x FlexCAN	2x FlexCAN	2x FlexCAN	2x FlexCAN
MLB	-	MLB 25/50/150	MLB 25/50/150	MLB 25/50/150	MLB 25/50/150
PCIe	-	1x PCIe 2.0 (x1 lane)	1x PCIe 2.0 (x1 lane)	1x PCIe 2.0 (x1 lane)	1x PCIe 2.0 (x1 lane)
SD/MMC	3x SD/MMC 4.4 1x SDXC	3x SD/MMC 4.4 1x SDXC	3x SD/MMC 4.4 1x SDXC	3x SD/MMC 4.4 1x SDXC	3x SD/MMC 4.4 1x SDXC
MIPI	-	MIPI-CSI2 MIPI-DSI	MIPI-CSI2 MIPI-DSI	MIPI-CSI2 MIPI-DSI MIPI-HSI	MIPI-CSI2 MIPI-DSI MIPI-HSI
Camera Interface	1x Input • 1x 16-bit Parallel	2x Inputs • 2x 20-bit Parallel • 2x lane MIPI-CSI2	2x Inputs • 2x 20-bit Parallel • 2x lane MIPI-CSI2	3x Inputs • 2x 20-bit Parallel • 4x lane MIPI-CSI2	3x Inputs • 2x 20-bit Parallel • 4x lane MIPI-CSI2
HDD I/F	-	-	-	S-ATA II 3Gbps	S-ATA II 3Gbps
Audio Acc.	-	ASRC	ASRC	ASRC	ASRC
Audio	3x I2S SPDIF Tx/Rx	3x I2S SPDIF Tx/Rx ESAI	3x I2S SPDIF Tx/Rx ESAI	3x I2S SPDIF Tx/Rx ESAI	3x I2S SPDIF Tx/Rx ESAI

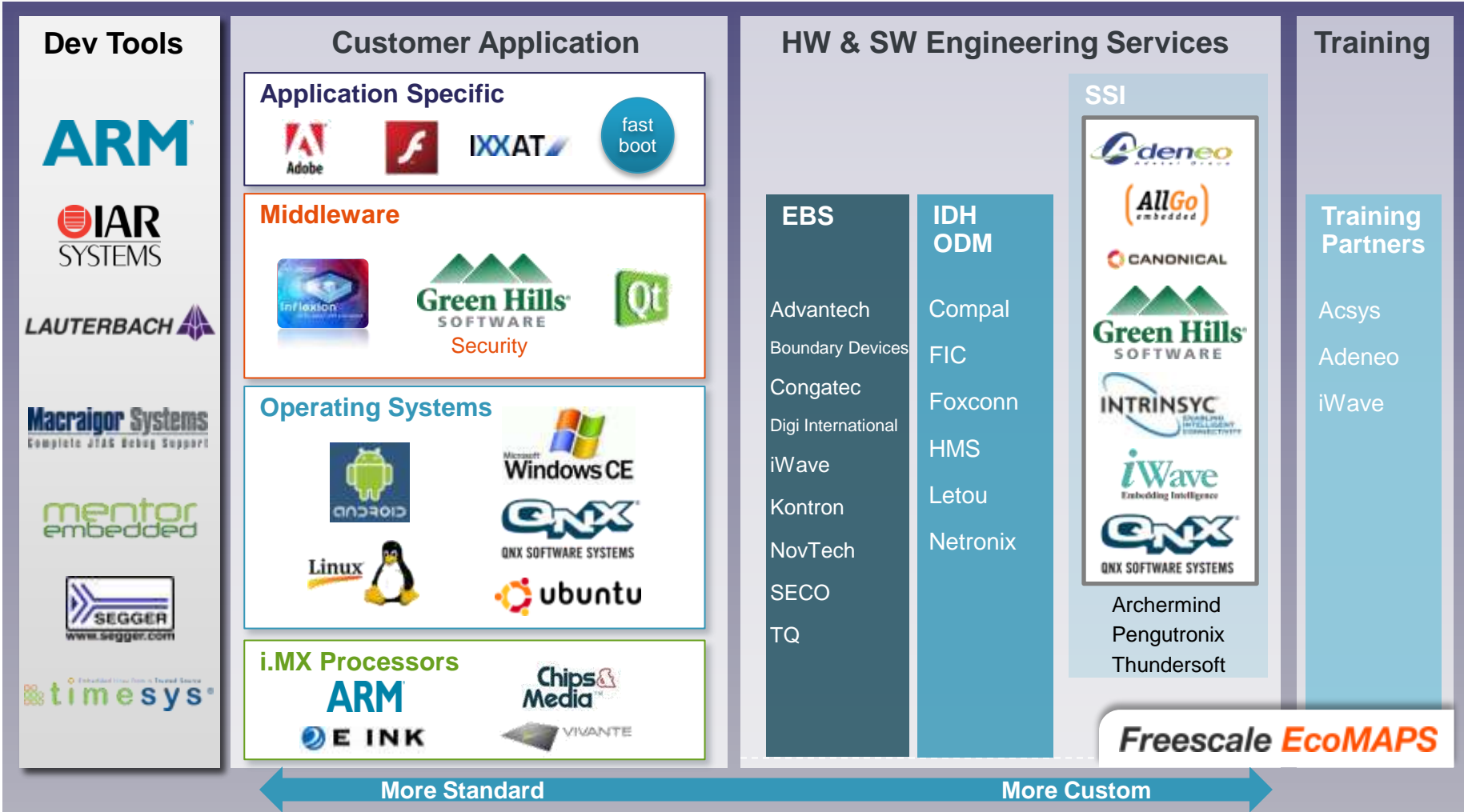


i.MX 6 Series feature list (3/4)

Red indicates change from column to the left

	i.MX 6SoloLite	i.MX 6Solo	i.MX 6DualLite	i.MX 6Dual	i.MX 6Quad
Display Resolution (@60Hz)	WXGA (WXGA=1366x768)	2x WXGA	2x WXGA	2x 4XGA or 2x [1080p + WXGA] (4XGA=2048x1536)	2x 4XGA or 2x [1080p + WXGA]
Display Interfaces	2x Outputs • 1x Parallel • EPDC	2x Outputs • 2x Parallel • 2x LVDS • HDMI • MIPI-DSI • EPDC	2x Outputs • 2x Parallel • 2x LVDS • HDMI • MIPI-DSI • EPDC	4x Outputs • 2x Parallel • 2x LVDS • HDMI • MIPI-DSI	4x Outputs • 2x Parallel • 2x LVDS • HDMI • MIPI-DSI
GPU 3D	-	Vivante GC880 • 53Mtri/s • 266Mpxl/s • OpenGL ES 1.1/2.0/3.0	Vivante GC880 • 53Mtri/s • 266Mpxl/s • OpenGL ES 1.1/2.0/3.0	Vivante GC2000 • 176Mtri/s • 1000Mpxl/s • OpenGL ES 1.1/2.0/3.0 • OpenCL 1.1 EP	Vivante GC2000 • 176Mtri/s • 1000Mpxl/s • OpenGL ES 1.1/2.0/3.0 • OpenCL 1.1 EP
GPU 2D (Vector Graphics)	Vivante GC355 • 300Mpxl/s • OpenVG 1.1	via GPU 3D • OpenVG 1.1	via GPU 3D • OpenVG 1.1	Vivante GC355 • 300Mpxl/s • OpenVG 1.1	Vivante GC355 • 300Mpxl/s • OpenVG 1.1
GPU 2D (BLIT)	Vivante GC320 • 600Mpxl/s	Vivante GC320 • 600Mpxl/s	Vivante GC320 • 600Mpxl/s	Vivante GC320 • 600Mpxl/s	Vivante GC320 • 600Mpxl/s
Video Dec	SW Only	1080p30 + D1 MPEG-2, H.264 MVC, VC1, MPEG-4/Xvid, DivX 6, H.263, MJPEG, VP6 / WebM VP8	1080p30 + D1 MPEG-2, H.264 MVC, VC1, MPEG-4/Xvid, DivX 6, H.263, MJPEG, VP6 / WebM VP8	1080p60 + D1 2x 1080p30 MPEG-2, H.264 MVC, VC1, MPEG-4/Xvid, DivX 6, H.263, MJPEG, VP6 / WebM VP8	1080p60 + D1 2x 1080p30 MPEG-2, H.264 MVC, VC1, MPEG-4/Xvid, DivX 6, H.263, MJPEG, VP6 / WebM VP8
Video Enc	-	1080p30 2x 720p H.264, H.263, MPEG-4, MPEG-2, MJPEG	1080p30 2x 720p H.264, H.263, MPEG-4, MPEG-2, MJPEG	1080p30 2x 720p H.264, H.263, MPEG-4, MPEG-2, MJPEG	1080p30 2x 720p H.264, H.263, MPEG-4, MPEG-2, MJPEG

Freescale EcoMAPS for i.MX Architectures



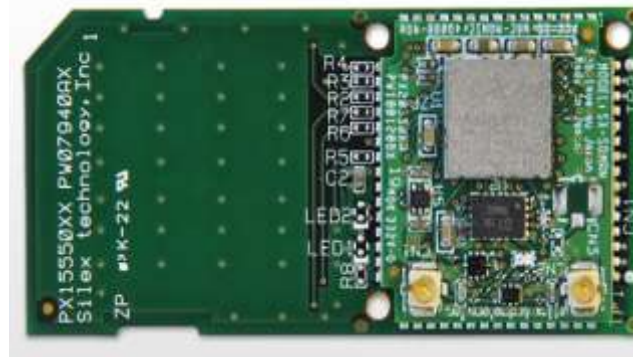
IDE: Integrated Development Environment
BDM: Background Debug Module

EBS: Embedded Board Solutions

IDH: Independent Design House
ODM: Original Design Manufacturer

SSI: Software & Solution Integrators

- 802.11a/b/g/n low power SDIO cad based on Qualcomm Atheros AR6003
- Wi-Fi driver software integrated with Freescale i.MX 6 platform
- Family of hardware solutions available
 - System-in-Package (SiP)
 - Radio Module
 - SD Card Form Factor





Backup



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