智慧工業物聯網方案

工業控制人機介面

Vic Lin 林凡翔

NuMicro® HMI Platform

Small Size TFT-LCD

Median Size TFT-LCD

Large Size TFT-LCD

TFT-LCD					
Serials		**M467**	**NUC980**	**N9H**	**MA35D1**
LCD Resolution (Recommendation)		< 480 x 272	< 320x240	< 1024 x 768	1920 x 1080
LCD Interface		SPI / i80	SPI	SPI / i80 / RGB	SPI / i80 / RGB
CPU Core & Speed		Up to 200 MHz, Cortex-M4	Up to 300 MHz, Arm9	Up to 300 MHz, Arm9	Up to 800 MHz, Dual A35 + Cortex-M4
Flash		1024 KB	External	External	External
RAM Size		512 KB	Up to 128 MB	Up to 128 MB	Up to 512 MB
Video Codec		-	-	JPEG & H.264 Codec	JPEG & H.264 Decoder
2D GFx		-	-	●	●
OS	**RTOS**	Mbed, FreeRTOS, RT-Thread	FreeRTOS, RT-Thread	FreeRTOS, RT-Thread	RT-Thread
	Linux	-	●	●	●

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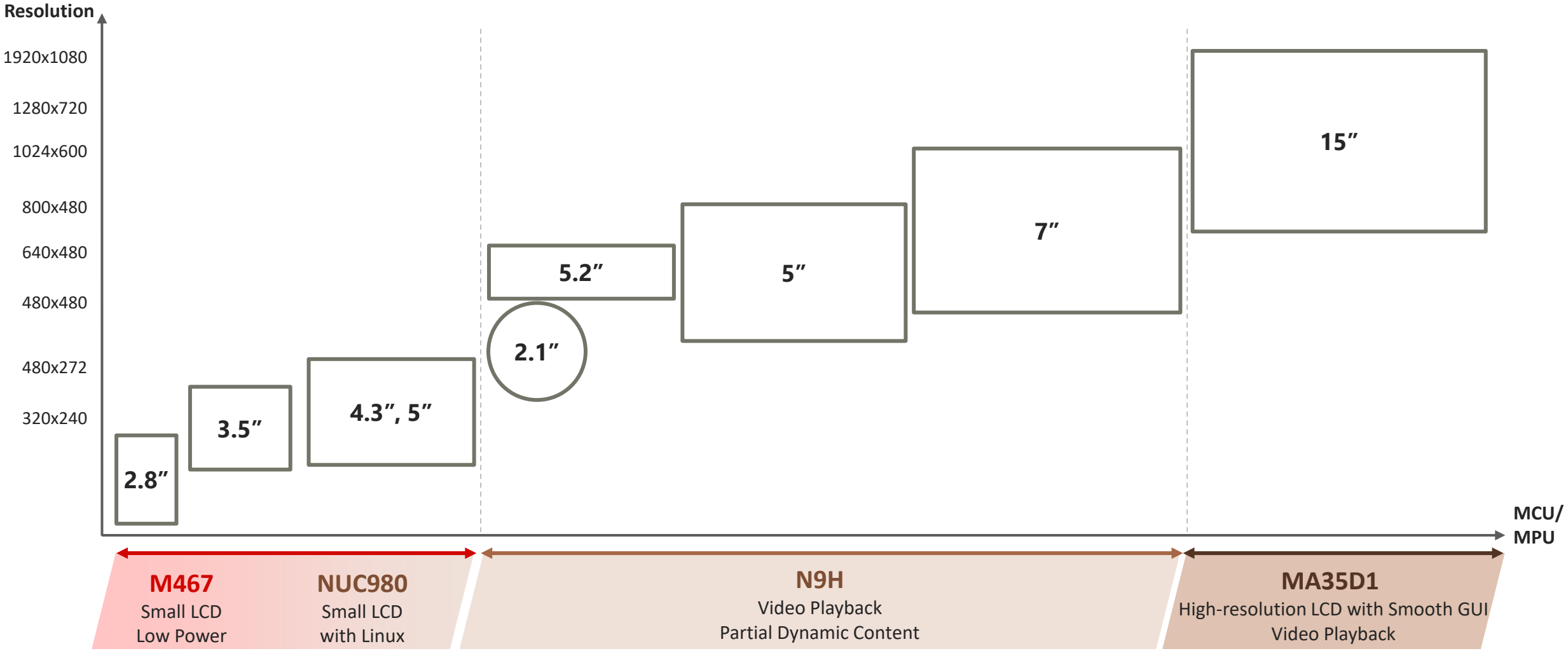
NuMicro® HMI Platform vs. TFT-LCD Resolution



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Third-party Graphic Libraries

SEGGER
emWin & AppWizard

LVGL

Altia

Qt

Qt Linux
Qt for MCU

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Get Started with NuMicro® HMI Platform

1 NuMicro® HMI Platforms

4.3” 480x272

NuMaker-HMI-M467

3.5” 320x240

NuMaker-IIoT-NUC980G2D

7” 800x480

NuMaker-HMI-N9H30

7” 1024x600

NuMaker-HMI-MA35D1-S1

2 Third-party Graphics Libraries

SEGGER
emWin & AppWizard

LVGL

Altia

Qt

3 Download BSP & Docs

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Get Started with NuMicro® HMI Platform

3 Steps to Build Up Embedded GUI by GUI Tool

Step1 Compose a UI by SEGGER AppWizard

Step2 Export & Save

Step3 Compiling and Program to target board

NuMaker-HMI EVBs

- Helps designers complete a professional interface
- Generates the corresponding C source code
- Significantly reduces development complexity and time

Platforms vs. Target Markets

CPU **Flash/ RAM** **OS** **Graphic Library** **Display**	Cortex-M4 @ 200 MHz 1024 KB/ 512 KB Non-OS/ RTOS emWin/ LVGL EBI, SPI: 480x272	
CPU **Flash/ RAM** **OS** **Graphic Library** **Video Accelerator** **Display**	Arm9 @ 200/ 240/ 300 MHz EXT. / 128 MB Non-OS/ RTOS/ Linux emWin/ LVGL/ Qt 2D GFx, JPEG & H.264 Codec EBI/ RGB: 1024x600	
CPU **Flash/ RAM** **OS** **Graphic Library** **Display**	Arm9 @ 300 MHz EXT. / 128 MB Non-OS/ RTOS/ Linux emWin/ Altia EBI, SPI: 320x240	
CPU **Flash/ RAM** **OS** **Video Accelerator** **Graphic Library** **Display**	Dual A35 @ 800 MHz + M4 EXT. / 512 MB Non-OS/ RTOS/ Linux 2D GFx, JPEG & H.264 Decoder emWin/ LVGL/ Qt RGB: 1920x1080	

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谢谢

謝謝

Děkuji

Bedankt

Thank you

Kiitos

Merci

Danke

Grazie

ありがとう

감사합니다

Dziękujemy

Obrigado

Спасибо

Gracias

Teşekkür ederim

Cảm ơn