

NSD2100 Smart Display

The ideal platforms for multimedia, digital signage and HMI applications



- 1200nits High Brightness TFT LCD
- 5 inch ~ 22 inch, 1920 × 1080 pixel
- Resistive and Capacitive Touch Screen
- 9V ~ 36V Wide Range Power Input
- Over voltage protection (optional)
- Quad Band 3G Module (optional)
- ARM Cortex-A9 Processor
- Android 4.2/4.4, Yocto OS



➤ Overview

NSD2100 smart display is a combination of three components: a TFT LCD module with touch panel, a Freescale iMX6 Cortex-A9 processor and a Linux/Android operating system.

NSD2100 can work as a standalone device with a touch screen LCD and high-performance processor. Typical application would include digital signage devices, multimedia players, POS system, vending machines, home automation console, vehicle infotainment system, industrial equipment display and exercise equipment display.

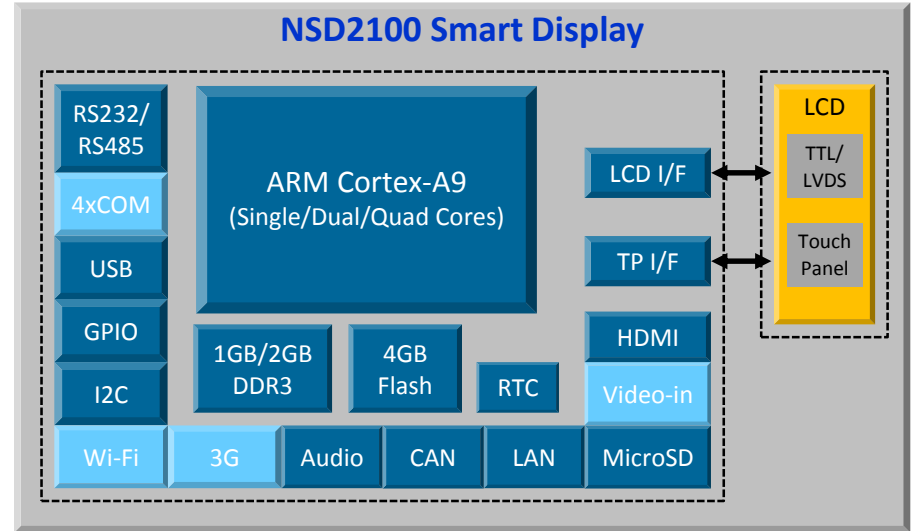
Since NSD2100 is an Android/Linux-based open system, many development tools and open source resources are available for product development. Developers can now obtain a huge amount of free resources to quickly complete the product design. This makes NSD2100 superior to other competitors, who use proprietary systems.

The NSD2100 is available with display sizes ranging from 5" to 22" LCD. Other LCD sizes can also be made available with prior customer requirements.

➤ Typical Applications

- ❑ Data logger
- ❑ Vehicle Infotainment
- ❑ Industrial Equipment
- ❑ Home Automation Console
- ❑ Digital signage
- ❑ POS, KIOSKs
- ❑ Gaming devices
- ❑ Machine control

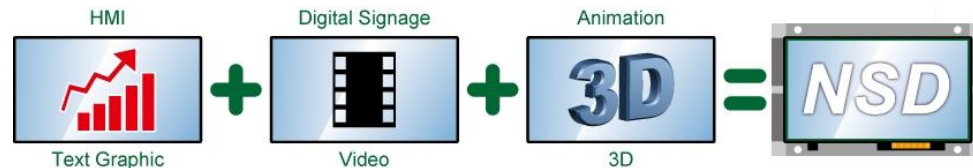
➤ Block Diagram



➤ NSD2100 Features

■ More than Just an HMI

NSD2100 is more than just a graphics-based visual tool. The fact is that NSD2100 can offer much more capability than a normal text and image displaying solution. With the built-in hardware video decoder, you can enjoy flawless video playback, and animated graphics, on your smart display.



➤ NSD2100 Features

■ High Performance Processor

The high-performance ARM Cortex-A9 processors help designers to implement complicated tasks that normally cannot be done by a lower end ARM9 processor.



■ Open Source Development Tool

The NSD2100 application software can be built using the open source Eclipse IDE or any other software development environment.



■ Free to Import External Resources

NSD2100 supports an open source operating system which enables developers to design their products through a large array of open source materials, such as applications, multiple language fonts, icons and images. This feature is different from the typical closed source product which only relies on one supplier to meet the fulfillment need from start to finish.

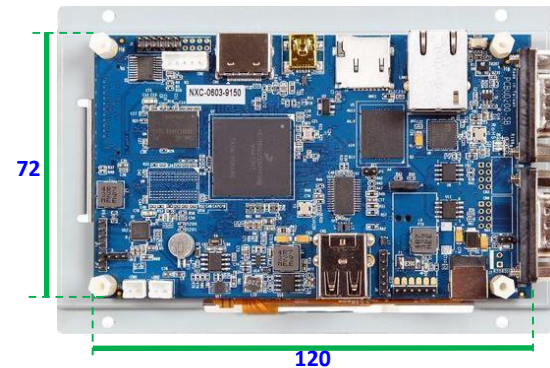


➤ NSD2100 Product Selection Guide

	NSD2105WV	NSD2107WV	NSD2110WX	NSD2115XG	NSD2122FD
Display Type	5" (800 x 480 WVGA)	7" (800 x 480 WVGA)	10.1" (1280 x 800 WXGA)	15" (1024 x 768 XGA)	21.5" (1920 x 1080 Full HD)
Touch Screen	Resistive (4-wire)	Resistive (4-wire) or Projected Capacitive	Projected Capacitive	Resistive (4-wire)	IR Touch
Other LCD Specifications	*** See subsequent pages ***				
Processor / RAM	Single-Core (iMX6S) 1GHz / 1GB DDR3	Quad-Core (iMX6Q) 1GHz / 2GB DDR3 or Dual-Core (iMX6D) 1GHz / 1GB DDR3			
DC Input	+5V	+12V			
OS	Android 4.2 / 4.4, Yocto				
Other Hardware Specifications	*** See subsequent pages ***				

➤ NSD2105 Specifications

(unit: mm)



**Compact LCD Module
with powerful processor**

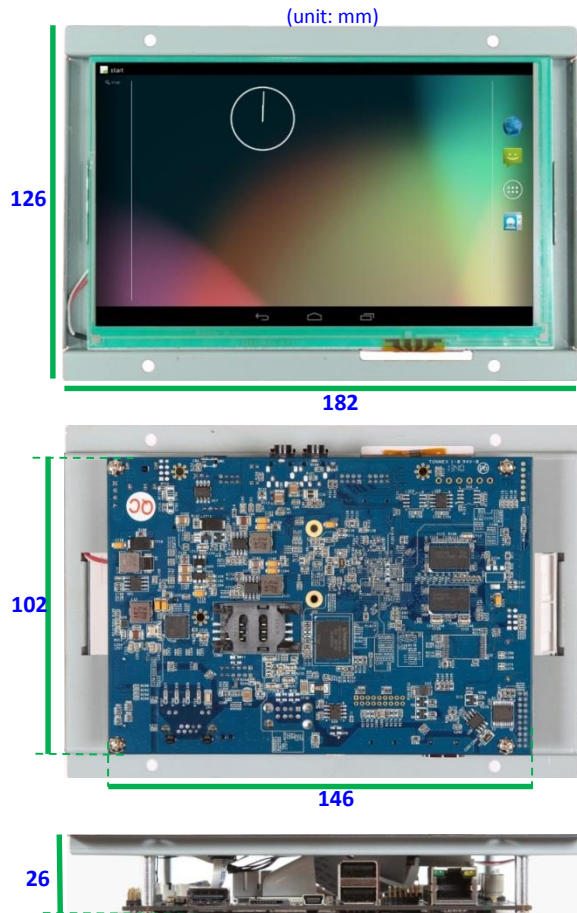
	NSD2105WV
Display Type	5-inch (800x480 WVGA)
Colors / Luminance	16.7M / 250 cd/m ²
Backlight / Lifetime	LED / 20K hours
Touch Screen	Resistive (4-wire)
Processor / RAM	Single-Core (iMX6S) 1GHz / 1GB DDR3
Power Input	DC +5V
NAND Flash	4GB NAND Flash (eMMC)
OS	Android 4.2/4.4, Yocto
Audio / Video	2x speaker connector + 1x MIC In + 1x headphone + 1x Line-in + 1x HDMI connector
Network	1 x 10M/100M/1000M bps Ethernet LAN
USB / SD Card	1x USB2.0 OTG port + 2x USB2.0 Host + 1x microSD card slot
UART / GPIO	1x RS232 + 1x RS485 + 8-bit GPIO
Expansion Functions	CAN bus, LVDS, I ² C, etc (require an expansion board)
Weight / Dimension	240g / 92x139x29 mm
Environment	Operating Temperature: 0°C to 50°C
Optional Modules	(a). WiFi + Bluetooth module (b). 4x RS232/RS422 module

➤ Ordering Information

Part No.	OS	Common Specifications
NSD2105WV-SYR	Yocto	** See the table above
NSD2105WV-SAR	Android	

Part No.	Description
WLS-006	(RTL8723 WiFi + BT) + Antenna (8cm/2dBi, SMA plug reverse)
D120	4xCOM port module (4x RS232/RS422 module)

➤ NSD2107 Specifications



➤ Optional Modules

Part No.	Description
WLS-006	(RTL8723 WiFi + BT) + Antenna (8cm/2dBi, SMA plug reverse)
D100	4-ch Video capture (NTSC/PAL) module
D120	4xCOM port module (4x RS232/RS422 module)
WCDMA-001	Quad-Band 3G (WCDMA) module

	NSD2107WV
Display Type	7-inch (800x480 WVGA)
Colors / Luminance	262K / 300 cd/m ²
Backlight / Lifetime	LED / 20K hours
Touch Screen	Resistive (4-wire) or Capacitive
Processor / RAM / Flash	Quad-Core (iMX6Q) 1GHz / 2GB DDR3 / 4GB Flash or Dual-Core (iMX6D) 1GHz / 1GB DDR3 / 4GB Flash
Power Adapter	DC +12V
OS	Android 4.2/4.4, Yocto
Audio / Video	2x speaker connector + 1x MIC In + 1x headphone + 1x Line-in + 1x HDMI connector
Network	1x 10M/100M/1000M bps Ethernet LAN
USB / SD Card	1x USB2.0 OTG port + 2x USB2.0 Host + 1x microSD card
UART / I²C / GPIO	1x RS232 + 1x RS485 + 1x I ² C master + 8-bit GPIO
Weight / Dimension	375g / 126x182x26 mm
Environment	Operating Temperature: -20°C to +70°C
Optional Function ("V" on part number)	1x CAN bus + additional 8-bit GPIO + over voltage/current protection
Optional Modules	** See the tables below

➤ Ordering Information

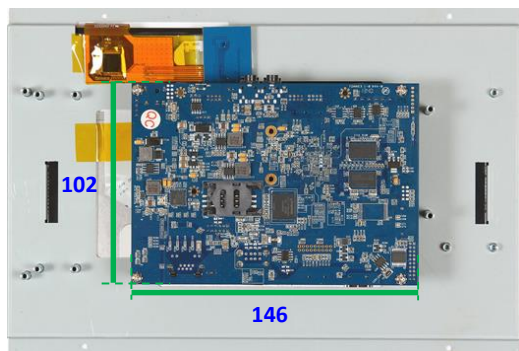
Part No.	OS	CPU	RAM	CAN Bus	GPIO	Voltage Protection	Common Specifications
NSD2107WV-QYR	Yocto	iMX6Q Quad-Core	2GB DDR3	NO	8-bit	NO	See the table above
NSD2107WV-QAR	Android			YES	16-bit	YES	
NSD2107WV-QYR-V	Yocto			YES	16-bit	YES	
NSD2107WV-QAR-V	Android			YES	16-bit	YES	
NSD2107WV-DYR	Yocto	iMX6D Dual-Core	1GB DDR3	NO	8-bit	NO	
NSD2107WV-DAR	Android			YES	16-bit	YES	
NSD2107WV-DYR-V	Yocto			YES	16-bit	YES	
NSD2107WV-DAR-V	Android			YES	16-bit	YES	

➤ NSD2110 Specifications

(unit: mm)



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➤ Optional Modules

Part No.	Description
WLS-006	(RTL8723 WiFi + BT) + Antenna (8cm/2dBi, SMA plug reverse)
D100	4-ch Video capture (NTSC/PAL) module
D120	4xCOM port module (4x RS232/RS422 module)
WCDMA-001	Quad-Band 3G (WCDMA) module

	NSD2110WX
Display Type	10.1-inch (1280x800 WXGA)
Colors / Luminance	16.7M / 300 cd/m ²
Backlight / Lifetime	LED / 15K hours
Touch Screen	Projected capacitive
Processor / RAM / Flash	Quad-Core (iMX6Q) 1GHz / 2GB DDR3 / 4GB Flash or Dual-Core (iMX6D) 1GHz / 1GB DDR3 / 4GB Flash
Power Input	DC +12V
OS	Android 4.2/4.4, Yocto
Audio / Video	2x speaker connector + 1x MIC In + 1x headphone + 1x Line-in + 1x HDMI connector
Network	1x 10M/100M/1000M bps Ethernet LAN
USB / SD Card	1x USB2.0 OTG port + 2x USB2.0 Host + 1x microSD card slot
UART / I ² C / GPIO	1x RS232 + 1x RS485 + 1x I ² C master + 8-bit GPIO
Weight / Dimension	750g / 183x268x33 mm
Environment	Operating Temperature: 0°C to +50°C
Optional Function ("V" on part number)	1x CAN bus + additional 8-bit GPIO + over voltage/current protection
Optional Modules	*** See the tables below

➤ Ordering Information

Part No.	OS	CPU	RAM	CAN Bus	GPIO	Voltage Protection	Common Specifications
NSD2110WX-QYC	Yocto	iMX6Q Quad-Core	2GB DDR3	NO	8-bit	NO	See the table above
NSD2110WX-QAC	Android						
NSD2110WX-QYC-V	Yocto						
NSD2110WX-QAC-V	Android						
NSD2110WX-DYC	Yocto	iMX6D Dual-Core	1GB DDR3	NO	8-bit	NO	
NSD2110WX-DAC	Android						
NSD2110WX-DYC-V	Yocto						
NSD2110WX-DAC-V	Android						
NSD2110WX-DAC-V	Android			YES	16-bit	YES	

➤ NSD2115 Specifications

	NSD2115XG
Display Type	15-inch (1024x768 XGA)
Colors / Luminance	16.7M / Standard: 300 cd/m ² High Brightness: 1200 cd/m ²
Backlight / Lifetime	LED / 30K hours
Touch Screen	Resistive (4-wire)
Processor / RAM / Flash	Quad-Core (iMX6Q) 1GHz / 2GB DDR3 / 4GB Flash or Dual-Core (iMX6D) 1GHz / 1GB DDR3 / 4GB Flash
Power Input	DC +12V
OS	Android 4.2/4.4, Yocto
Audio / Video	2x speaker connector + 1x MIC In + 1x headphone + 1x Line-in + 1x HDMI connector
Network	1x 10M/100M/1000M bps Ethernet LAN
USB / SD Card	1x USB2.0 OTG port + 2x USB2.0 Host + 1x microSD card
UART / I ² C / GPIO	1x RS232 + 1x RS485 + 1x I ² C master + 8-bit GPIO
Weight / Dimension	<TBD>
Environment	Operating Temperature: 0°C to 50°C
Optional Function ("-" on part number)	1x CAN bus + additional 8-bit GPIO + over voltage/current protection
Optional Modules	*** See the tables below

➤ Ordering Information

	15" LCD with resistive TP		21.5" LCD with IR TP	
	Android	Yocto	Android	Yocto
iMX6Q CPU	NSD2115XG-QAR NSD2115XG-QAR-V	NSD2115XG-QYR NSD2115XG-QYR-V	NSD2122FD-QAI NSD2122FD-QAI-V	NSD2122FD-QYI NSD2122FD-QYI-V
iMX6D CPU	NSD2115XG-DAR NSD2115XG-DAR-V	NSD2115XG-DYR NSD2115XG-DYR-V	NSD2122FD-DAI NSD2122FD-DAI-V	NSD2122FD-DYI NSD2122FD-DYI-V

➤ NSD2122 Specifications

	NSD2122FD
Display Type	21.5-inch (1920x1080 Full HD)
Colors / Luminance	16.7M / Standard: 300 cd/m ² High Brightness: 1200 cd/m ²
Backlight / Lifetime	LED / 30K hours
Touch Screen	IR touch
Processor / RAM / Flash	Quad-Core (iMX6Q) 1GHz / 2GB DDR3 / 4GB Flash or Dual-Core (iMX6D) 1GHz / 1GB DDR3 / 4GB Flash
Power Input	DC +12V
OS	Android 4.2/4.4, Yocto
Audio / Video	2x speaker connector + 1x MIC In + 1x headphone + 1x Line-in + 1x HDMI connector
Network	1x 10M/100M/1000M bps Ethernet LAN
USB / SD Card	1x USB2.0 OTG port + 2x USB2.0 Host + 1x microSD card
UART / I ² C / GPIO	1x RS232 + 1x RS485 + 1x I ² C master + 8-bit GPIO
Weight / Dimension	<TBD>
Environment	Operating Temperature: 0°C to 50°C
Optional Function ("-" on part number)	1x CAN bus + additional 8-bit GPIO + over voltage/current protection
Optional Modules	*** See the tables below

➤ Optional Modules

Part No.	Description
WLS-006	(RTL8723 WiFi + BT) + Antenna (8cm/2dBi, SMA plug reverse)
D100	4-ch Video capture (NTSC/PAL) module
D120	4xCOM port module (4x RS232/RS422 module)
WCDMA-001	Quad-Band 3G (WCDMA) module