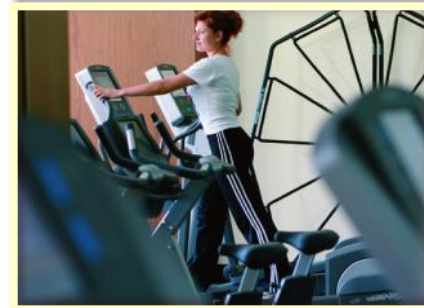


BF-NSD Smart Display series

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, Ubuntu OS



➤ Overview

BF-NSD 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.

BF-NSD 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.

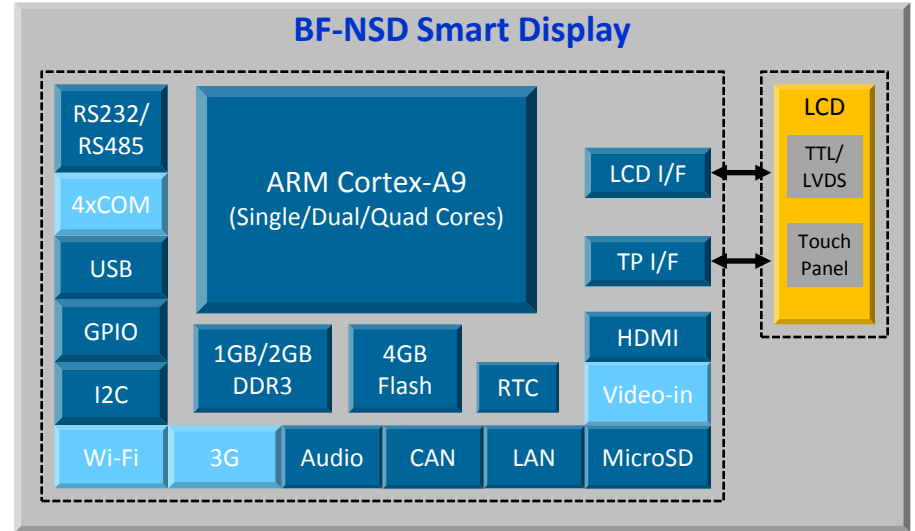
Since BF-NSD is an Android/Linux-based open system, many development tools and open source resources are available for product development. Developers can now obtain a huge amount of free resources to quickly complete the product design. This makes BF-NSD superior to other competitors, who use proprietary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

The BF-NSD 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

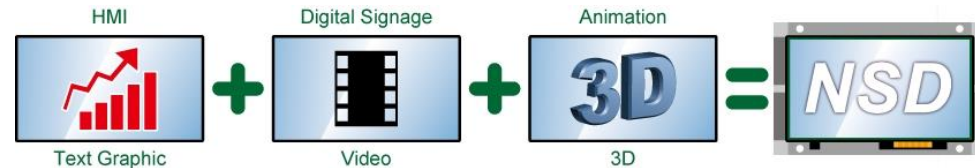
➤ Block Diagram



➤ BF-NSD Features

■ More than Just an HMI

BF-NSD is more than just a graphics-based visual tool. The fact is that BF-NSD 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.



➤ BF-NSD 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 BF-NSD application software can be built using the open source Eclipse IDE or any other software development environment.



■ Free to Import External Resources

BF-NSD 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.

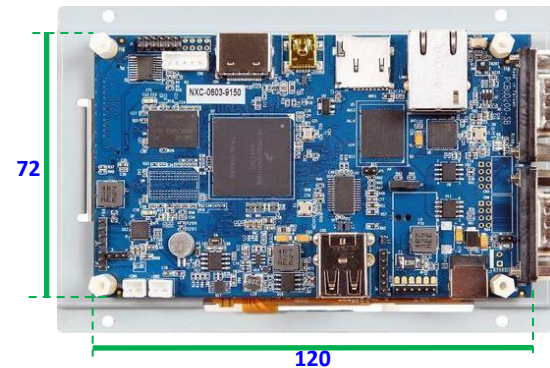


➤ BF-NSD Product Selection Guide

	BF-NSD-0500	BF-NSD-0700	BF-NSD-1000	BF-NSD-1500	BF-NSD-2100
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 4.2.2 / Ubuntu 12.04				
Other Hardware Specifications	*** See subsequent pages ***				

➤ BF-NSD-0500 Specifications

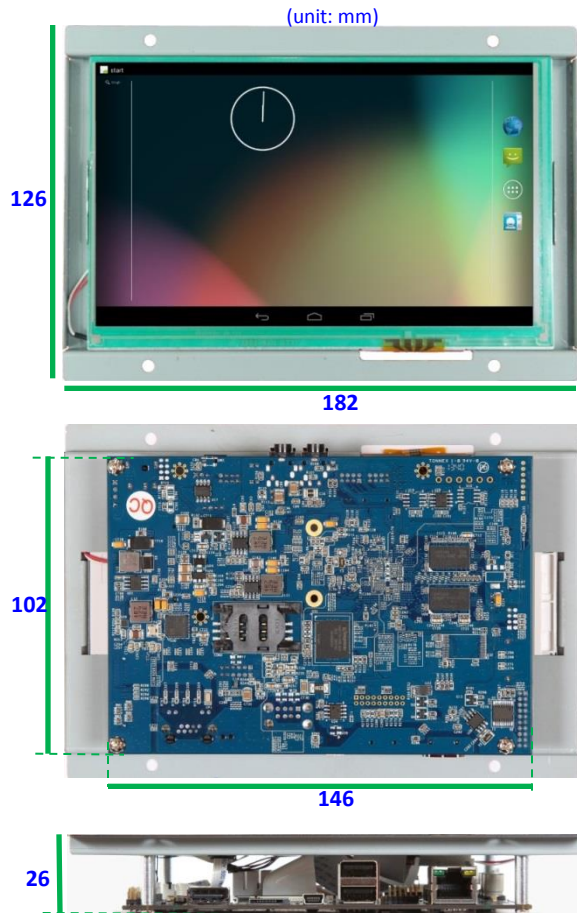
(unit: mm)



**Compact LCD Module
with powerful processor**

	BF-NSD-0500
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 4.2.2 / Ubuntu 12.04
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	WiFi + Bluetooth module 4x RS232/RS422 module

➤ BF-NSD-0700 Specifications

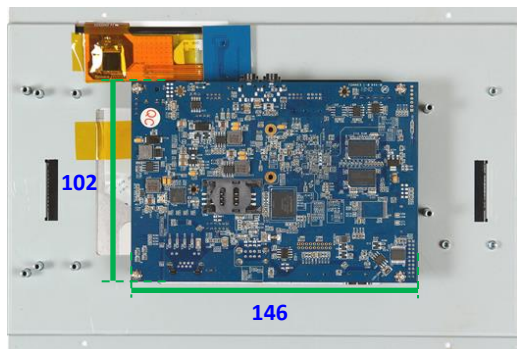


	BF-NSD-0700
Display Type	7-inch (800x480 WVGA)
Colors / Luminance	262K / 300 cd/m ²
Backlight / Lifetime	LED / 20K hours
Touch Screen	Resistive (4-wire) or Capacitive
Processor / RAM / Flash	Quad-Core (iMX6Q) 1GHz / 2GB DDR3 / 4GB Flash or Dual-Core (iMX6D) 1GHz / 1GB DDR3 / 4GB Flash
Power Adapter	DC +12V
OS	Android 4.2.2 / Ubuntu 12.04
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	375g / 126x182x26 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

➤ Optional Modules

Description
(RTL8723 WiFi + BT) + Antenna (8cm/2dBi, SMA plug reverse)
4-ch Video capture (NTSC/PAL) module
4xCOM port module (4x RS232/RS422 module)
Quad-Band 3G (WCDMA) module

➤ BF-NSD-1000 Specifications



	BF-NSD-1000
Display Type	10.1-inch (1280x800 WXGA)
Colors / Luminance	16.7M / 350 cd/m ²
Backlight / Lifetime	LED / 20K 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 4.2.2 / Ubuntu 12.04
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

➤ Optional Modules

Description
(RTL8723 WiFi + BT) + Antenna (8cm/2dBi, SMA plug reverse)
4-ch Video capture (NTSC/PAL) module
4xCOM port module (4x RS232/RS422 module)
Quad-Band 3G (WCDMA) module

➤ BF-NSD-1500 Specifications

	BF-NSD-0015
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 4.2.2 / Ubuntu 12.04
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	<TBD>
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

➤ BF-NSD-2100 Specifications

	BF-NSD-0021
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 4.2.2 / Ubuntu 12.04
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	<TBD>
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

➤ Optional Modules

Description
(RTL8723 WiFi + BT) + Antenna (8cm/2dBi, SMA plug reverse)
4-ch Video capture (NTSC/PAL) module
4xCOM port module (4x RS232/RS422 module)
Quad-Band 3G (WCDMA) module