

Provide design and mass-production for consumer product and industrial equipment

Elbert

Marvell ARMADA(PXA168)

Available OS such as:

Windows Embedded CE

Linux

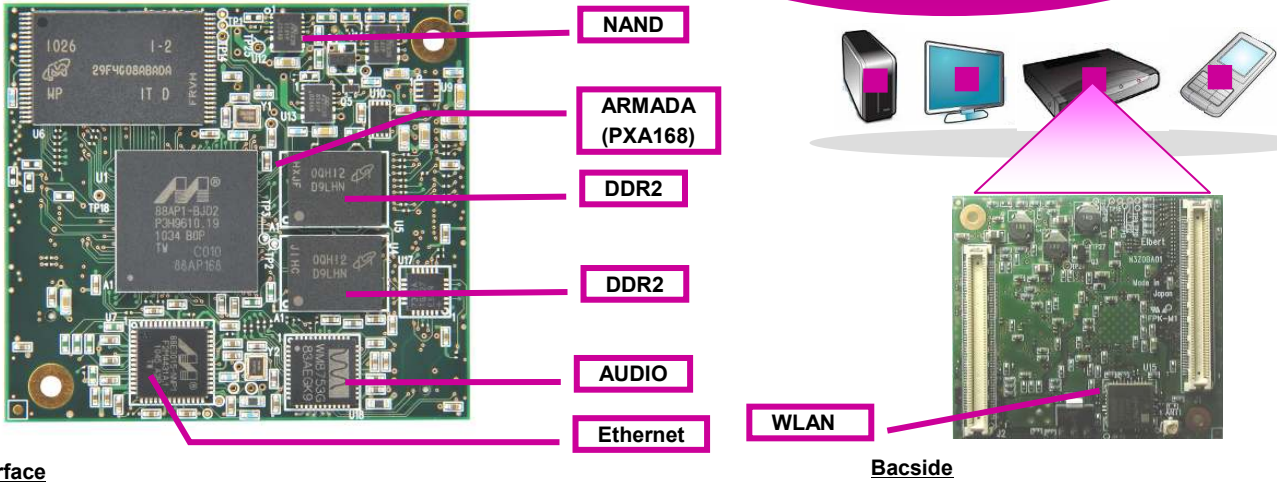
Android

Ver.1.03

Elbert – Best choice for mass- production

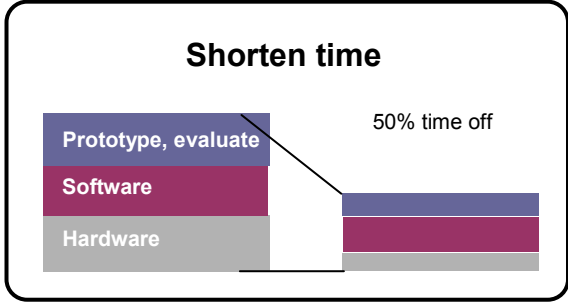
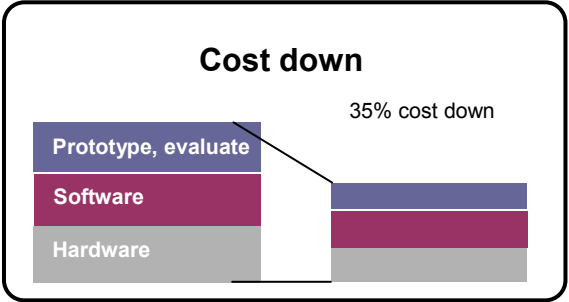
- Size: 5cm x 4.5cm
- ARMADA(PXA168), NAND FlashMemory DDR2, power supply, audio, ethernet PHY, W-LAN module(802.11b/g) and so on.
- Easy to take off [Sandgate4] from base board for final production.

Finished OS porting
Start application development at once!
Use developed S/W via Sandgate4 as is!!



Save cost and shorten term by using Elbert

- Improve **software quality**, save time and cost for hardware.
- Make hardware difference from other maker.
- Shorten develop term, able to **release product much more earlier** than others.
- Able to take off Elbert to final product or mass-production.
- Have no enough time to study new OS, theme and knowledge.
- Catch correct information of driver, OS porting more quicker.



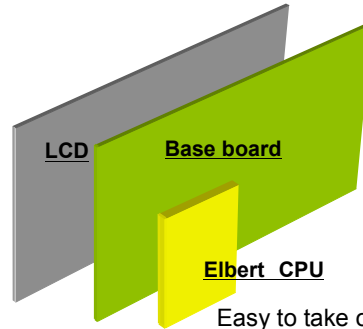
Sandgate4- Evaluation platform

- Compact size, best for demonstration
- Able to build prototype at once
- Able to develop H/W and S/W at same time for saving time
- Includes LinuxBSP, WindowsCE BSP, various driver C source- WiFi/ Lan, PCB diagram, parts list, design information
- Embed to mass- production as is.
- Design info, circuit diagram, parts list

NTT DOCOMO
FOMA Module
Under planning



Choose WinCE or Linux BSP



Sandgate4



Easy to take off Elbert for mass- production

Recommend to customize by extension connector.

ARMADA168 1.066GHz	Audio codec
OSC 26MHz	GPIO
DDR 256MB × 2	SD socket
NAND 512MB	USB
WiFi / LAN	Extended connector
FOMA module	NFC module

(BDT035)

Main usage and example

Example for final product

- Family remote control, DLNA client machine (Home server, move & music transmission system by home LAN)
- Home security (Inter phone)
- Portable navigation terminal
- Multimedia operation terminal (Printer, Multifunction machine)
- Multimedia operation terminal such as at convenience store
- ATM touch panel
- Camera module application ~Facial recognition system~
- GPS application
- Sensor application ~Biometrics authentication~
- Non-contact type IC card
- Guide terminal for exhibition
- Terminal for hospital bedside
- Terminal for particular application

Order terminal



Family restaurant...
For display menu, order and so on.

Handy terminal for industry



Stock, logistic center...
For handle inventory, delivery and so on.

Digital signage



Retail store, theater, cinema, airport, station... digital signage, sales promotion, goods search, guide...

Touch panel remote-control

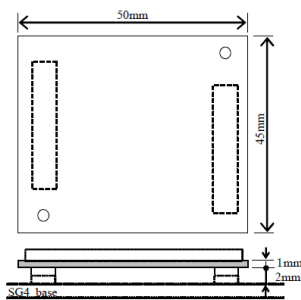


Karaoke...
Order songs and drink and so on.

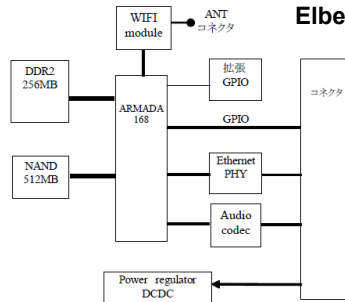
Elbert/ Sandgate4 specification

Elbert Item		Specification
Processor	Core	Marvell ARMADA(PXA168) 1.066GHz(Max)
	OSC	26MHz
	Peripheral	Memory I/F (DDR, NAND) , LCD I/F, Ethernet MAC, USB (HOST,OTG), GPIO, MMC/SD, I2C, I2S, UART
Memory	Flash Memory	NAND 512MB (MT29F4G08, 4Gb = 512Mx8bit)
	RAM	DDR2-400 256MB MT47H128M8(Micron, 1Gb = 128Mx8bit) x2
External I/O	WIFI module	LBWA18HEZPZ(Murata)
	Ethernet (PHY)	10/100BASE-T 88E3015(Marvell,QFP56) + 25MHzOSC
	Audio Codec	WM8753L(wolfson)
	Extension GPIO	MAX7312 (MAXIM,16GPIO) x1 w/I2C I/F
Power	5V (DC IN)	Provide via base board to connector
Voltage	3.3V	Down convert from 5V 88PG839 (Marvell) 2Amax. →I/O
	1.8V	Down convert from 5V 88PG839 (Marvell) 2Amax. →PLL,DDR2
	1.0V	Down convert from 5V 88PG839 (Marvell) 2Amax. →core
Electricity consumption		600mA @5V
Operating temperature limits		Normal temperature 0~70°C No condensation
Connector	Base board	FX11LA-116P (Hirose, 116pole) × 2
	Antena	U.FL-R-SMT-1
Size		50x45mm/h=5mm

Elbert size



Elbert hardware

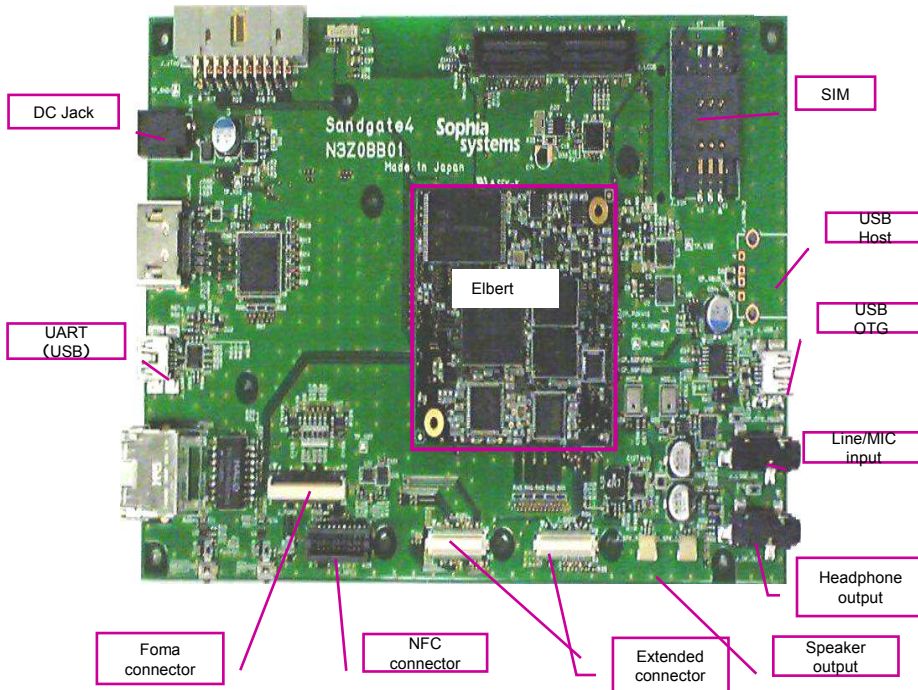


ITEM		SPECIFICATION
Display (LCD panel)	Display	TFT-LCD, 7" WVGA (16:9), LED back light
	Resolution, color	800RGB x 480, 262,144 (18bit)
Input	Key SW	Power on, Reset (on base board)
	Touch panel	Electrostatic (with LCD panel)
Controller	CPU module (Elbert)	ARMADA168, memory, extended GPIO, Ethernet PHY, Audio Codec, WIFI
	Base board (SG4_base)	RTC, extended GPIO, IR receiver, External I/F connector (Ethernet, USB_HOST, USB_OTG, SD card, Audio I/O, DC power jack, connector for extended BD, serial board (USB) for debug. Option: FOMA module, NFC module, HDMI controller/ connector
Package		AC adaptor, 5V/2A, cable
External size		170W×110D×30H (mm)

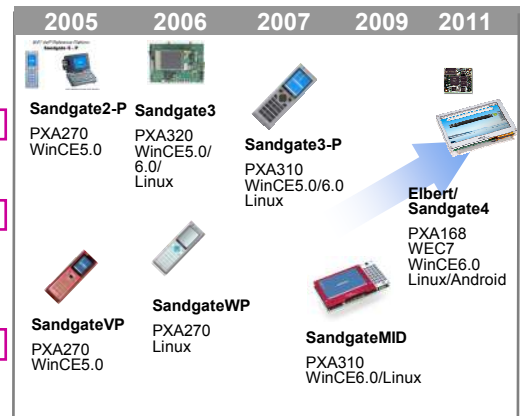
Sandgate4 driver list

Item	Linux	Android	WinCE 6.0
Bootloader	○	○	○
Debug serial	○	○	○
SD	○	○	○
USB Host	○	○	○
USB OTG	○	○	○
LCD	○	○	○
Touch panel	○	○	○
Ethernet	○	○	○
Audio	○	○	○
WiFi	○	○	○
RTC	○	○	○
IPM	-	-	○
Key-bat	○	○	○
HDMI	-	-	-






Please contact intsales@sophia-systems.co.jp for details.



History of Sandgate series



Select line-up

Outline	<ul style="list-style-type: none"> ● Elbert can be used for mass-production as is. 	<ul style="list-style-type: none"> ● Evaluation platform Sandgate4 			
Product code	BDT035M Elbert	BDT035 Sandgate4	BDT035L Sandgate4 Linux	BDT035A Sandgate4 Android	
OS, BSP		WindowsCE6.0	Linux BSP for Linux/Android	Android BSP for Linux/Android	
Package	Datasheet, manual	BSP manual	 Serial cable	 LAN	 AC adaptor
Price	Depends on quantity				
Note	Contact to intsales@sophia-systems.co.jp	Please contact to intsales@sophia-systems.co.jp for more details of BSP version and Windows Embedded Compact7 BSP. ※1			

(MKT-03SCO23)

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