

# TMPV7528/7506/7502 Evaluation Board

Supports image recognition processor produced by Toshiba  
Reduces overall system development time of H/W & S/W



## Main Features

- Compact and lightweight and best for demonstration
- Easy to make prototype
- Shortens the overall development time by developing hardware and software concurrently
- Free version of SDK (binary only) included
- Optional Toshiba SDK available (including various driver C source)
- Supports TMPV7528 and TMPV7506 by switch setting of DIP-SW
- Exchangeable to TMPV7502 CPU board which bundled
- **Attaches Schematics and parts list**

We can meet customers' needs such as

- to expedite the development delivery time and **release earlier** than competitors
- to **reduce** development expense and product cost
- to **save time** for learning know-how and knowledge about new development theme
- to **get quickly** the accurate and helpful information required for driver development

## Applied Products

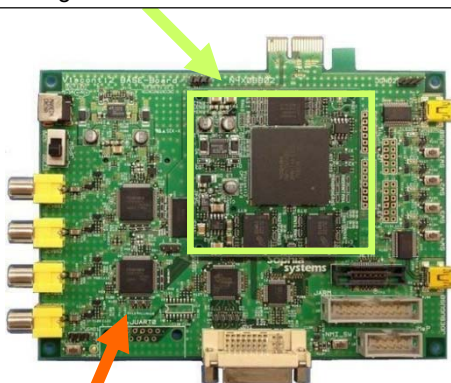
- In-vehicle camera
- Monitoring camera
- Take in multiple channel for image processing and so on

## Specifications

CPU BOARD PARAMETER	SPECIFICATIONS
CPU	TMPV7528
	TMPV7502
Memory	DDR2 SDRAM TMPV7528: 512MByte (2Gbit×2) TMPV7502: 512MByte (2Gbit×1) NOR Flash : PC28F512M29EWH (64MByte)
Power Supply	External : 12V Internal : 3.3V, 1.8V, 1.1V
Size	60 [mm] × 60 [mm]
Operating Temperature range	0 [°C] ~ 35 [°C]
Interface Connector	BSH-060-01-L-D-A×2 120pin×2 (It connects with a EVA BASE BOARD)

BASE BOARD PARAMETER	SPECIFICATIONS
PanelLink Transmitter	SII164CTG64 (VGA to UXGA)
Video DAC	ADV7123KSTZ140
Video decoder	TC90105FG × 2
Power Supply	External : 12V/2A Internal : 3.3V, 1.5V
Size (include PCI e terminal)	105 [mm] × 148 [mm] (117.75 [mm] × 148 [mm] )
Operating Temperature range	0 [°C] ~ 35 [°C]
Interface Connector	BTH-060-01-L-D-A × 2 120pin×2 (It connects with a EVA CPU BOARD) BSH-060-01-L-D-A × 2 120pin×2 (It connects with a VIDEO extension Connector)
PCI Express	1Lane : PCIe 1.1, Card edge type
Video output	1ch : DVI-I 29pin digital(DVI) + Analog(VGA)
Composite input	4ch(TMPV7528/7506), 1ch(TMPV7502)
Audio input	1ch : Only pattern
Audio output	1ch : Only pattern
GPIO	LED×4bit : Lights Green LEDs, SW×4bit : Button type
SD Card	1slot
UART RS-232C Transceiver	1ch : D-SUB 9pin
Debug I/F (JTAG I/F)	MeP : 10pin ARM : 20pin
Debug I/F (UART I/F)	USB to serial UART I/F
HDMI Expander board	HDMI Input 2ch(*1) (*1) When use with TMPV7502 this valid CN1 only.

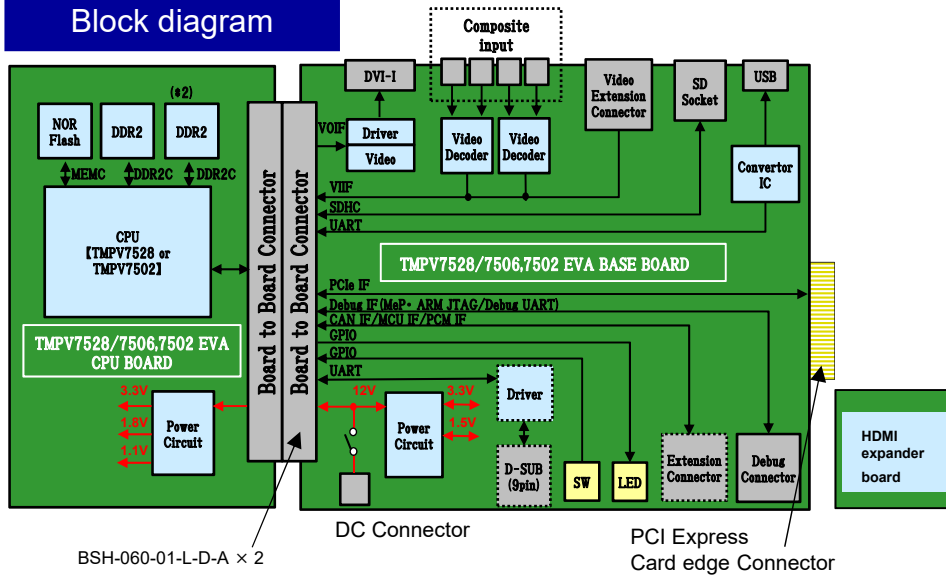
TMPV7528/7506 EVA CPU BOARD  
※Exchangeable TMPV7502 EVA CPU BOARD



TMPV7528/7506/7502 EVA BASE BOARD

\* MeP: Media embedded Processor

## Block diagram



※The control signal of CPU is connected.  
**DDR2C** : DDR2 SDRAM Controller  
**MEMC** : SRAM/NOR Memory Controller  
**VUIF** : Video Input Interface  
**VOIF** : Video Output Interface  
**GPIO** : General Purpose I/O ports  
**CANIF** : CAN Interface  
**MCUIF** : Micro Controller Unit Interface  
**PCMIIF** : PCM Interface  
**PCIe IF** : PCI Express Interface  
**Debug IF** : Debug Interface  
**HDMI IF** : (For Video Extension Connector)  
 Function : HDMI → MIPI-CS12 →  
 24bit Parallel → Input to TMPV75xx VUIF (\*3)  
 Input I/F : HDMI connector 2ch (\*4)  
 Board size : (approx) 80mm X 105mm

(\*3) Input spec of HDMI-MIPI convert bridge is 1920x1080, 60fs, 24bpp. But, resolution is depends on the settings of SDK.  
 (\*4) When use with TMPV7502 this valid CN1 only.

(\*)2) TMPV7528/7506 2Gbit × 2Bank, TMPV7502 2Gbit × 1Bank

Description	●Set of CPU board & base board	●JTAG emulator	●Debugger	●Cable	
Product code	<ul style="list-style-type: none"> <li>Board</li> <li>BDS048QSH TMPV7528/7506/7502 EVA BOARD</li> <li>Adaptor &amp; Cable (EU/US)</li> <li>VK0066 TMPV7500 Series AC-CABLE-E</li> </ul>	UP0006 Universal Probe Blue	<ul style="list-style-type: none"> <li>MeP</li> <li>UP0011:WP</li> <li>DBG for UniPro MeP</li> </ul>	<ul style="list-style-type: none"> <li>ARM</li> <li>UP0007:WP</li> <li>DBG for UniPro ARM</li> </ul>	<ul style="list-style-type: none"> <li>MeP</li> <li>SCP6000:</li> <li>SCP MeP</li> </ul>
Price	Please contact us	Please contact us	Please contact us	Please contact us	
Configuration	AC adaptor, cable CD-ROM 2pcs Users Manual Warranty Free version of SDK	Emulator main unit 	CD-ROM 	Debugger cable 	
Free version of SDK	1 license is available for use for 3 months after registration. Binary only (Not include C source code.) Operation guarantee is only for the evaluation board produced by SST. Below 2 types included. (U60420) SDK-1-B-3M (For TMPV7528/7506) (U60238) SDK-1-B-3M-SO (For TMPV7502)				
Notes	Debugger and cable are required to use. (Different types required for MeP and ARM)		It is necessary to purchase yearly Sophia Support Service		

## Software Development Kit made by Toshiba (Option)

Description	Product code	Product name	Price	Number of License	Notes
① Limited edition (TMPV7528/7506)	U60421	SDK-5-S-6M	Please contact us	5 licenses	Available for use for 6 months after registration. Includes source code. Operation guarantee is only for the evaluation board produced by SST.
② Limited edition (TMPV7502)	U60429	SDK-5-S-6M-SO	Please contact us	5 licenses	Available for use for 6 months after registration. Includes source code. Operation guarantee is only for the evaluation board produced by SST.
③ Extension of Limited edition (TMPV7528/7506)	U60422	SDK-5-S-3ME	Please contact us	5 licenses	① Limited edition can be extended for 3 months. Operation guarantee is only for the evaluation board produced by SST
④ Extension of Limited edition (TMPV7502)	U60430	SDK-5-S-3ME-SO	Please contact us	5 licenses	① Limited edition can be extended for 3 months. Operation guarantee is only for the evaluation board produced by SST
⑤ Official edition	U60423	SDK-5-S-3Y	Please contact us	5 licenses	Available for use for 3 years after registration. Includes source code. Operation guarantee is for the evaluation board produced by SST and Toshiba Solutions Corporation
⑥ Add'l license (Stand-alone)	U60424	SDK-1-S-3YE	Please contact us	1 license	Additional Official license. Includes source code. Operation guarantee is for the evaluation board produced by SST and Toshiba Solutions Corporation
⑦ Add'l license (Server)	U60425	SDK-5-S-3YE	Please contact us	5 licenses	Additional Official license. Includes source code. Operation guarantee is for the evaluation board produced by SST and Toshiba Solutions Corporation
⑧ Upgrade to official edition	U60426	SDK-5-S-3YUG	Please contact us	5 licenses	Upgrade to Official edition. Includes source code. Operation guarantee is for the evaluation board produced by SST and Toshiba Solutions Corporation

※This product does not use in-vehicle compatible parts. For circuit design of in-vehicle products, please use in-vehicle compatible parts.  
 ※Please refer to the batch file attached to evaluation board when using with the SST evaluation board.

(Ver.170908)



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