

USB MAPPING - Asus X99A/USB3.1

26th August 2016

TAKEN FROM SPECIFICATION OF X99A/USB3.1 ON THE ASUS WEB SIRE

Intel® X99 chipset:	5 x USB 3.0/2.0 port(s) (1 at back panel, 4 at mid-board)
Intel® X99 chipset:	8 x USB 2.0/1.1 port(s) (4 at back panel, 4 at mid-board)
ASMedia® USB 3.0 controller:	3 x USB 3.0/2.0 port(s) (3 at back panel)
ASMedia® USB 3.1 controller:	2 x USB 3.1/3.0/2.0 port(s) (2 at back panel, teal blue)

The designation used here is as follows:

First Intel X99 chipset:	Intel 1
Second Intel X99 chipset:	Intel 2
First ASMedia chipset:	ASMedia 1
Second ASMedia chipset:	ASMedia 2

The following results were taken by running USB Tree View under Windows 10 Professional

REAR - WITH USB 2.0 DEVICE CONNECTED

USB7 (USB2.0 socket on rear with USB2.0 device)

Location 13 of Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info:	Port_#0013.Hub_#0003
Location IDs:	PCIROOT(0)#PCI(1400)#USBROOT(0)#USB(13), ACPI(_SB_)#ACPI(PCI0)#ACPI(XHCI)#ACPI(RHUB)#ACPI(HS13)
Address:	13

USB8 (USB2.0 socket on rear with USB2.0 device)

Location 14 of Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info:	Port_#0014.Hub_#0003
Location IDs:	PCIROOT(0)#PCI(1400)#USBROOT(0)#USB(14), ACPI(_SB_)#ACPI(PCI0)#ACPI(XHCI)#ACPI(RHUB)#ACPI(HS14)
Address:	14

USB10 (USB2.0 socket on rear with USB2.0 device)

Location 5 of Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info:	Port_#0005.Hub_#0003
Location IDs:	PCIROOT(0)#PCI(1400)#USBROOT(0)#USB(5), ACPI(_SB_)#ACPI(PCI0)#ACPI(XHCI)#ACPI(RHUB)#ACPI(HS05)
Address:	5

USB9 (USB2.0 socket on rear with USB2.0 device)

Location 6 of Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info:	Port_#0006.Hub_#0003
Location IDs:	PCIROOT(0)#PCI(1400)#USBROOT(0)#USB(6), ACPI(_SB_)#ACPI(PCI0)#ACPI(XHCI)#ACPI(RHUB)#ACPI(HS06)
Address:	6

USB3_E5 (USB3.1 socket on rear with USB 2 device)

Location 3 on ASMedia USB3.1 eXtensible Host Controller of Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info: Port_#0003.Hub_#0001

Location IDs: PCIRoot(0)#PCI(1C04)#PCI(0000)#USBRoot(0)#USB(3),
ACPI(_SB_)#ACPI(PCIO)#ACPI(RP05)#ACPI(D082)#USBRoot(0)#USB(3)

Address: 2 (!*ERROR Should be equal to the port number)

USB3_E6 (USB3.1 socket on rear with USB 2 device)

Location 4 on ASMedia USB3.1 eXtensible Host Controller of Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info: Port_#0004.Hub_#0001

Location IDs: PCIRoot(0)#PCI(1C04)#PCI(0000)#USBRoot(0)#USB(4),
ACPI(_SB_)#ACPI(PCIO)#ACPI(RP05)#ACPI(D082)#USBRoot(0)#USB(4)

Address: 5 (!*ERROR Should be equal to the port number)

USB3_E3 (USB3.0 socket on rear with USB 2 device)

Location 3 on Location 10 (Generic USB 2.1 Hub) from Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info: Port_#0003.Hub_#0005

Location IDs: PCIRoot(0)#PCI(1400)#USBRoot(0)#USB(10)#USB(3),
ACPI(_SB_)#ACPI(PCIO)#ACPI(XHCI)#ACPI(RHUB)#ACPI(HS10)#ACPI(P
RT3)

Address: 3

USB3_E4 (USB3.0 socket with USB 2 device)

Location 4 on Location 10 (Generic USB 2.1 Hub) from Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info: Port_#0004.Hub_#0005

Location IDs: PCIRoot(0)#PCI(1400)#USBRoot(0)#USB(10)#USB(4),
ACPI(_SB_)#ACPI(PCIO)#ACPI(XHCI)#ACPI(RHUB)#ACPI(HS10)#ACPI(P
RT4)

Address: 4

USB3_5 (USB3.0 socket with USB 2 device)

Location 2 on Location 10 (Generic USB 2.1 Hub) from Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info: Port_#0002.Hub_#0005

Location IDs: PCIRoot(0)#PCI(1400)#USBRoot(0)#USB(10)#USB(2),
ACPI(_SB_)#ACPI(PCIO)#ACPI(XHCI)#ACPI(RHUB)#ACPI(HS10)#ACPI(P
RT2)

Address: 2

USB3_E2 (USB3.0 socket on rear with USB 2 device)

PORT 09 of Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info: Port_#0009.Hub_#0003

Location IDs: PCIRoot(0)#PCI(1400)#USBRoot(0)#USB(9),
ACPI(_SB_)#ACPI(PCIO)#ACPI(XHCI)#ACPI(RHUB)#ACPI(HS09)

Address: 9

INTERNAL - WITH USB 2.0 DEVICE CONNECTED

USB13/1 (USB2.0 socket on INTERNAL with USB2.0 device)
Port 07 of Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info: Port_#0007.Hub_#0003
Location IDs: PCIRoot(0)#PCI(1400)#USBRoot(0)#USB(7),
ACPI(_SB_)#ACPI(PCIO)#ACPI(XHCI)#ACPI(RHUB)#ACPI(HS07)
Address: 7

USB13/2 (USB2.0 socket on INTERNAL with USB2.0 device)

Port 08 of Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info: Port_#0008.Hub_#0003
Location IDs: PCIRoot(0)#PCI(1400)#USBRoot(0)#USB(8),
ACPI(_SB_)#ACPI(PCIO)#ACPI(XHCI)#ACPI(RHUB)#ACPI(HS08)
Address: 8

USB14/1 (USB2.0 socket on INTERNAL with USB2.0 device)

Port 11 of Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info: Port_#0011.Hub_#0003
Location IDs: PCIRoot(0)#PCI(1400)#USBRoot(0)#USB(11),
ACPI(_SB_)#ACPI(PCIO)#ACPI(XHCI)#ACPI(RHUB)#ACPI(HS11)
Address: 11

USB14/2 (USB2.0 socket on INTERNAL with USB2.0 device)

Port 12 of Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info: Port_#0012.Hub_#0003
Location IDs: PCIRoot(0)#PCI(1400)#USBRoot(0)#USB(12),
ACPI(_SB_)#ACPI(PCIO)#ACPI(XHCI)#ACPI(RHUB)#ACPI(HS12)
Address: 12

USB3_1 (USB3.0 socket on INTERNAL with USB2.0 device)

Port 1 of Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info: Port_#0001.Hub_#0003
Location IDs: PCIRoot(0)#PCI(1400)#USBRoot(0)#USB(1),
ACPI(_SB_)#ACPI(PCIO)#ACPI(XHCI)#ACPI(RHUB)#ACPI(HS01)
Address: 1

USB3_2 (USB3.0 socket on INTERNAL with USB2.0 device)

Port 2 of Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info: Port_#0002.Hub_#0003
Location IDs: PCIRoot(0)#PCI(1400)#USBRoot(0)#USB(2),
ACPI(_SB_)#ACPI(PCIO)#ACPI(XHCI)#ACPI(RHUB)#ACPI(HS02)
Address: 2

USB3_3 (USB3.0 socket on INTERNAL with USB2.0 device)
Port 3 of Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info: Port_#0003.Hub_#0003
Location IDs: PCIRoot(0)#PCI(1400)#USBRoot(0)#USB(3),
ACPI(_SB_)#ACPI(PCI0)#ACPI(XHCI)#ACPI(RHUB)#ACPI(HS03)
Address: 3

USB3_4 (USB3.0 socket on INTERNAL with USB2.0 device)
Port 4 of Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info: Port_#0004.Hub_#0003
Location IDs: PCIRoot(0)#PCI(1400)#USBRoot(0)#USB(4),
ACPI(_SB_)#ACPI(PCI0)#ACPI(XHCI)#ACPI(RHUB)#ACPI(HS04)
Address: 4

REAR - WITH USB 3.0 DEVICE CONNECTED

USB3_E3 (USB3.1 socket on rear with USB 3 device)
Location 1 on ASMedia USB Root Hub of ASMedia USB3.1 eXtensible Host Controller

Location Info: Port_#0001.Hub_#0001
Location IDs: PCIRoot(0)#PCI(1C04)#PCI(0000)#USBRoot(0)#USB(1),
ACPI(_SB_)#ACPI(PCI0)#ACPI(RP05)#ACPI(D082)#USBRoot(0)#USB(1)
Connection Index: 1

USB3_E6 (USB3.1 socket on rear with USB 3 device)
Location 2 on ASMedia USB Root Hub of ASMedia USB3.1 eXtensible Host Controller

Location Info: Port_#0002.Hub_#0001
Location IDs: PCIRoot(0)#PCI(1C04)#PCI(0000)#USBRoot(0)#USB(2),
ACPI(_SB_)#ACPI(PCI0)#ACPI(RP05)#ACPI(D082)#USBRoot(0)#USB(2)
Connection Index: 2

USB3_E3 (USB3.0 socket on rear with USB 3 device)
Location 3 on Location 21 (Generic SuperSpeed USB Hub) of Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info: Port_#0003.Hub_#0004
Location IDs: PCIRoot(0)#PCI(1400)#USBRoot(0)#USB(21)#USB(3),
ACPI(_SB_)#ACPI(PCI0)#ACPI(XHCI)#ACPI(RHUB)#ACPI(SSP6)#ACPI(P
RT3)
Connection Index: 3

USB3_E4 (USB3.0 socket on rear with USB 3 device)
Location 4 on Location 21 (Generic SuperSpeed USB Hub) of Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info: Port_#0004.Hub_#0004
Location IDs: PCIRoot(0)#PCI(1400)#USBRoot(0)#USB(21)#USB(4),
ACPI(_SB_)#ACPI(PCI0)#ACPI(XHCI)#ACPI(RHUB)#ACPI(SSP6)#ACPI(P
RT4)
Address: 4

USB3_5 (USB3.0 socket on rear with USB 3 device)

Location 2 on Location 21 (Generic SuperSpeed USB Hub) of Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info: Port_#0002.Hub_#0004

Location IDs: PCIRoot(0)#PCI(1400)#USBRoot(0)#USB(21)#USB(2),
ACPI(_SB_)#ACPI(PCIO)#ACPI(XHCI)#ACPI(RHUB)#ACPI(SSP6)#ACPI(P
RT2)

Address: 2

USB3_E2 (USB3.0 socket on rear with USB 3 device)

Location 20 on Generic SuperSpeed USB Hub of Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info: Port_#0020.Hub_#0003

Location IDs: PCIRoot(0)#PCI(1400)#USBRoot(0)#USB(20),
ACPI(_SB_)#ACPI(PCIO)#ACPI(XHCI)#ACPI(RHUB)#ACPI(SSP5)

Address: 20

INTERNAL - WITH USB 3.0 DEVICE CONNECTED

USB3_1 (USB3.0 socket on INTERNAL with USB 3 device)

Location 16 on Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info: Port_#0016.Hub_#0003

Location IDs: PCIRoot(0)#PCI(1400)#USBRoot(0)#USB(16),
ACPI(_SB_)#ACPI(PCIO)#ACPI(XHCI)#ACPI(RHUB)#ACPI(SSP1)

Connection Index: 16

USB3_2 (USB3.0 socket on INTERNAL with USB 3 device)

Location 17 on Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info: Port_#0017.Hub_#0003

Location IDs: PCIRoot(0)#PCI(1400)#USBRoot(0)#USB(17),
ACPI(_SB_)#ACPI(PCIO)#ACPI(XHCI)#ACPI(RHUB)#ACPI(SSP2)

Connection Index: 17

USB3_3 (USB3.0 socket on INTERNAL with USB 3 device)

Location 18 on Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info: Port_#0018.Hub_#0003

Location IDs: PCIRoot(0)#PCI(1400)#USBRoot(0)#USB(18),
ACPI(_SB_)#ACPI(PCIO)#ACPI(XHCI)#ACPI(RHUB)#ACPI(SSP3)

Connection Index: 18

USB3_4 (USB3.0 socket on INTERNAL with USB 3 device)

Location 19 on Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft)

Location Info: Port_#0019.Hub_#0003

Location IDs: PCIRoot(0)#PCI(1400)#USBRoot(0)#USB(19),
ACPI(_SB_)#ACPI(PCIO)#ACPI(XHCI)#ACPI(RHUB)#ACPI(SSP4)

Connection Index: 19

UPDATE
28th AUGUST 2016

During a chat with RehabMan, he encouraged me to try mapping my USB ports under OS X again. This time I tried IPRegistryExplorer 3.02 as opposed to version 2.1. This under OS X 10.11.6 with USBInjectAll.kext installed. Here are my results.

Note that this time I disabled the USB3.1 ports in my BIOS and I have also made a note of the built-in hubs.

Asus X99a/USB3.1 USB MAPPING WITH IO REGISTRY EXPLORER 3.02

WITH USB 2.0 DEVICE CONNECTED

USB7	Location ID: Device Speed: Port Number:	0x14d00000 0x2 0xd	Connected to ASM107x@14a00000
USB8	Location ID: Device Speed: Port Number:	0x14e00000 0x2 0xe	
USB9	Location ID: Device Speed: Port Number:	0x14500000 0x2 0x5	
USB10	Location ID: Device Speed: Port Number:	0x14600000 0x2 0x6	
USB3_E5	N/A	N/A	
USB3_E6	N/A	N/A	
USB3_E3	Location ID: Device Speed: Port Number:	0x14a30000 0x2 0x3	Connected to ASM107x@14a00000
USB3_E4	Location ID: Device Speed: Port Number:	0x14a40000 0x2 0x4	
USB3_E5	Location ID: Device Speed: Port Number:	0x1420000 0x2 0x2	
USB3_E2	Location ID: Device Speed: Port Number:	0x14900000 0x2 0x9	Connected to ASM107x@14a00000
USB13 1	Location ID: Device Speed: Port Number:	0x14700000 0x2 0x7	
USB13 2	Location ID: Device Speed: Port Number:	0x14800000 0x2 0x8	
USB14 1	Location ID: Device Speed: Port Number:	0x14b00000 0x2 0xb	
USB14 2	Location ID: Device Speed: Port Number:	0x14c00000 0x2 0xc	
USB3_1	Location ID: Device Speed: Port Number:	0x14100000 0x2 0x1	
USB3_2	Location ID: Device Speed: Port Number:	0x14200000 0x2 0x2	
USB3_3	Location ID: Device Speed: Port Number:	0x14300000 0x2 0x3	
USB3_4	Location ID: Device Speed: Port Number:	0x14400000 0x2 0x4	

Asus X99a/USB3.1 USB MAPPING WITH IO REGISTRY EXPLORER 3.02

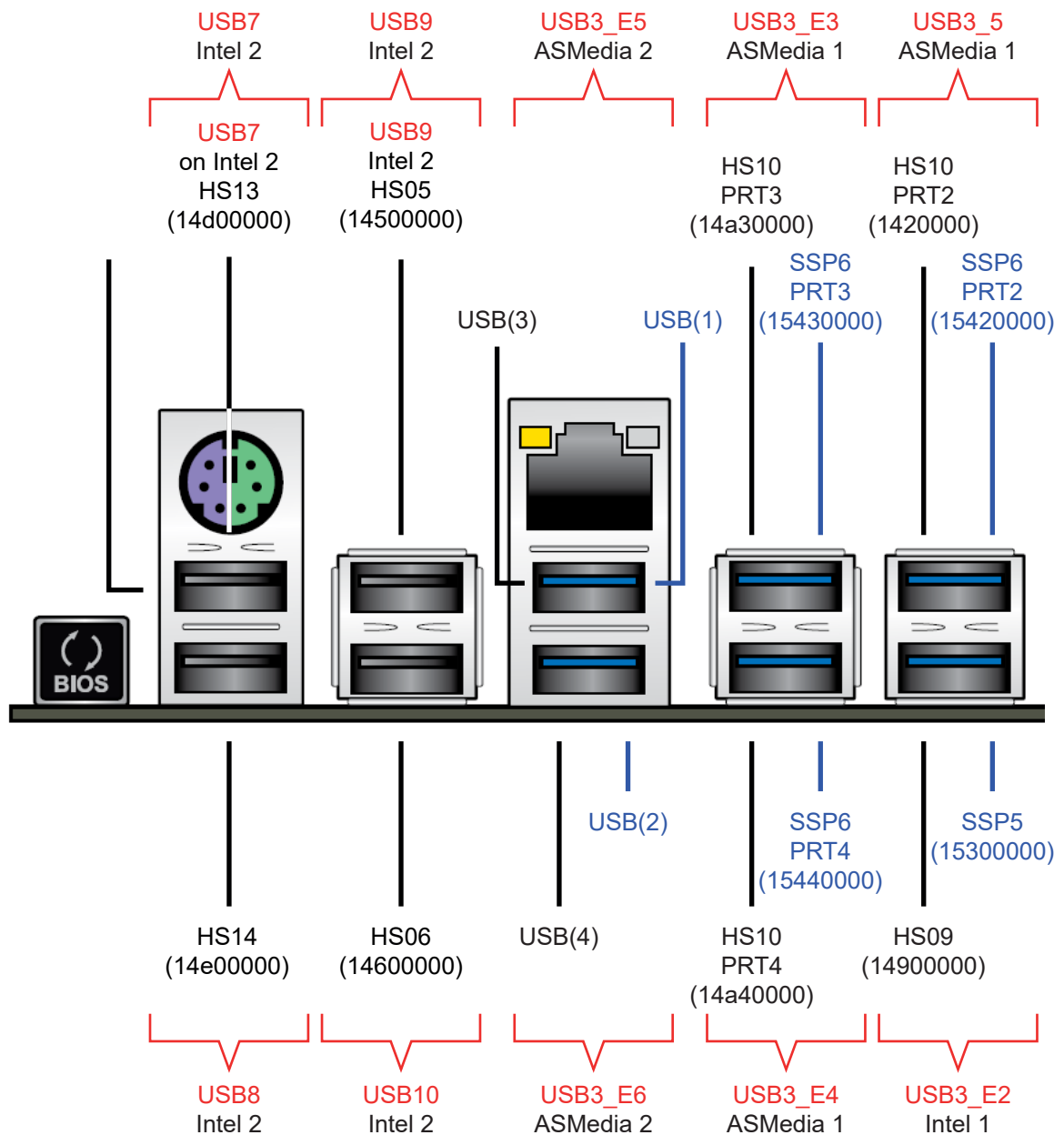
WITH USB 3.0 DEVICE CONNECTED

USB7	Location ID: Device Speed: Port Number:	Max speed = USB 2.0	
USB8	Location ID: Device Speed: Port Number:	Max speed = USB 2.0	
USB9	Location ID: Device Speed: Port Number:	Max speed = USB 2.0	
USB10	Location ID: Device Speed: Port Number:	Max speed = USB 2.0	
USB3_E5	N/A	N/A	
USB3_E6	N/A	N/A	
USB3_E3	Location ID: Device Speed: Port Number:	0x15430000 0x3 0x3	Connected to ASM107x@15400000
USB3_E4	Location ID: Device Speed: Port Number:	0x15440000 0x3 0x4	
USB3_E5	Location ID: Device Speed: Port Number:	0x15420000 0x3 0x2	
USB3_E2	Location ID: Device Speed: Port Number:	0x15300000 0x3 0x3	Connected directly to Root Hub Simulation Simulation@14000000
USB3_1	Location ID: Device Speed: Port Number:	0x14f00000 0x3 0xf	
USB3_2	Location ID: Device Speed: Port Number:	0x15000000 0x3 Not specified	
USB3_3	Location ID: Device Speed: Port Number:	0x15100000 0x3 0x1	
USB3_4	Location ID: Device Speed: Port Number:	0x15200000 0x3 0x2	

INTERNAL HUBS

ASM107x	Location ID: Device Speed: Port Number:	14a00000 0x2 0xa	Connected directly to Root Hub Simulation Simulation@14000000
ASM107x	Location ID: Device Speed: Port Number:	15400000 0x3 0x4	

ASUS X99A/USB3.1 LOGICAL USB PORTS REAR PANEL

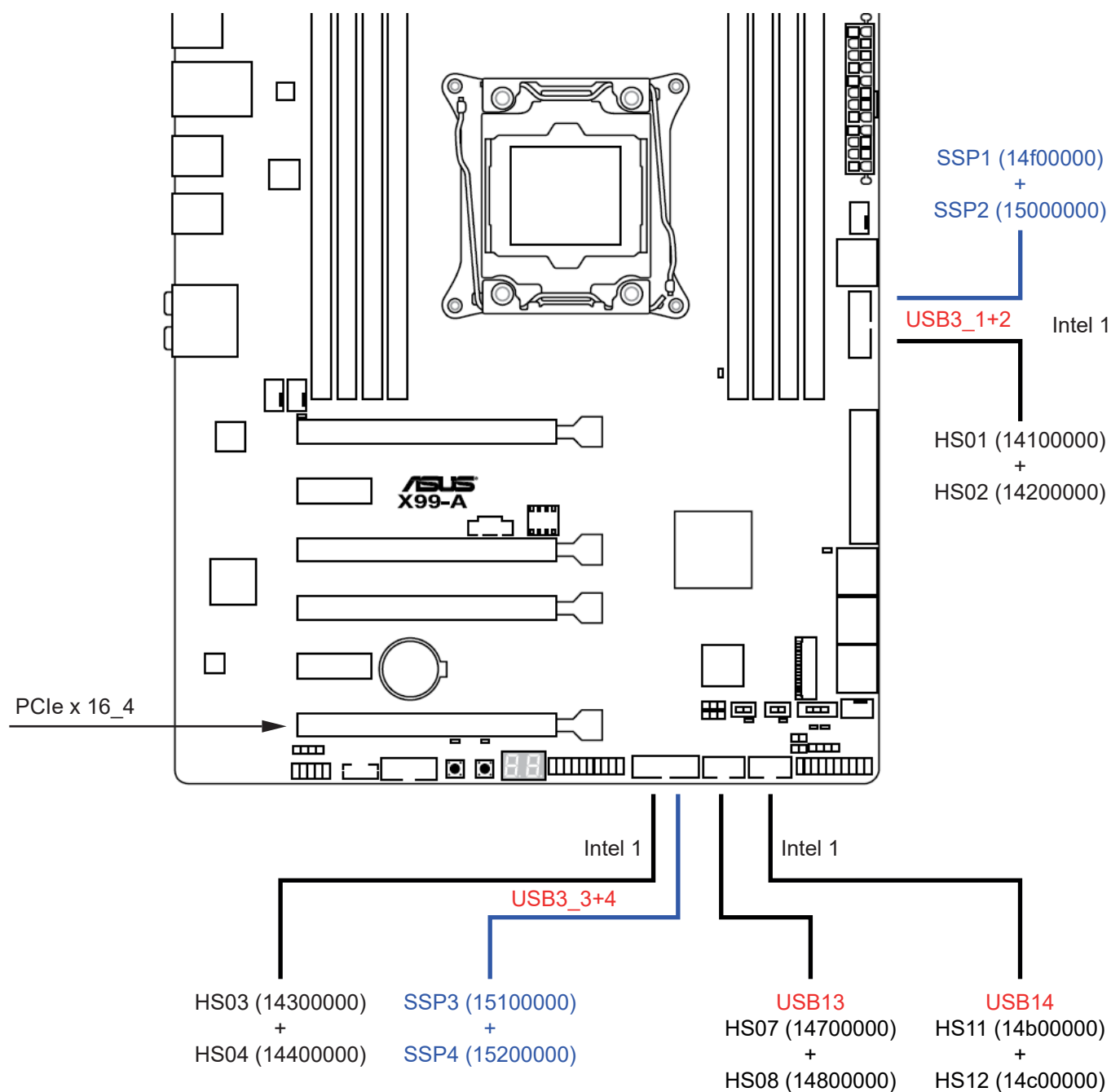


NOTES: The Asus port designation is shown in red.

When using the on-board M.2 iniface, PCIe x 16_4 is disabled. This is true with either a 28-lane or a 40-lane CPU.

Also note that when using a 28-lane processor (e.g. 5820k), USB3_E5 and USB3_E6 (the USB 3.1 ports) share resources with PCIeX1_1 and PCIeX16_2.

ASUS X99A/USB3.1 LOGICAL USB PORTS INTERNAL



NOTES: The Asus port designation is shown in red.

When using the on-board M.2 inreface, PCIe x 16_4 is disabled. This is true with either a 28-lane or a 40-lane CPU.

Also note that when using a 28-lane processor (e.g. 5820k), USB3_E5 and USB3_E6 (the USB 3.1 ports) share resources with PCIeX1_1 and PCIeX16_2.