

dont_enable_bridge_and_let_it_configure_in_linux_normalmode

*00:02.0 PCI bridge: Advanced Micro Devices, Inc.
[AMD] Family 15h (Models 10h-1fh) Processor Root Port*

1	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0*	22	10	12	14	07	04	10	00	00	00	04	06	00	00	01	00
1*	0	.	.	.	.	.	.	0	00	04	04	00	31	31	00	00
2*	30	F0	30	F0	F1	FF	01	00	0	.	.	.	.	.	.	0
3*	0	.	.	0	50	00	00	00	0	.	.	0	FF	01	00	00
4*	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0
5*	01	58	03	C8	0	.	.	0	10	A0	42	01	21	80	00	00
6*	30	29	00	00	02	0D	70	00	40	00	82	B0	00	00	04	00
7*	00	00	48	01	18	00	01	00	0	.	.	0	1F	00	70	00
8*	06	80	00	00	06	00	00	00	02	00	00	00	0	.	.	0
9*	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0
A*	05	B0	81	00	00	00	E0	FE	0	.	.	.	.	.	.	0
B*	0D	B8	00	00	22	10	34	12	08	00	03	A8	0	.	.	0
C*	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0
D*	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0
E*	50	00	00	00	10	00	00	00	0	.	.	.	.	.	.	0
F*	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0

dont_enable_bridge_and_let_it_configure_in_linux_nomodeset = normal

*00:02.0 PCI bridge: Advanced Micro Devices, Inc.
[AMD] Family 15h (Models 10h-1fh) Processor Root Port*

dont_enable_bridge_and_let_it_configure_in_linux_normalmode (vs 3)

```
04:00.0 Display controller: Advanced Micro Devices, Inc.  
[AMD/ATI] Jet PRO [Radeon R5 M230]
```

[illegible]

dont_enable_bridge_and_let_it_configure_in_linux_nomodeset (vs 2)

```
04:00.0 Display controller: Advanced Micro Devices, Inc.  
[AMD/ATI] Jet PRO [Radeon R5 M230]
```

[illegible]

core_enable_bridge_-_nomodeset (vs 1)

```
00:02.0 PCI bridge: Advanced Micro Devices, Inc.  
[AMD] Family 15h (Models 10h-1fh) Processor Root Port
```

[illegible]

dont_enable_bridge_and_let_it_configure_in_linux_nomodeset (vs 4)

```
00:02.0 PCI bridge: Advanced Micro Devices, Inc.  
[AMD] Family 15h (Models 10h-1fh) Processor Root Port
```

[illegible]

core_enable_bridge_-_nomodeset (vs 3)

```
01:00.0 Display controller: Advanced Micro Devices, Inc.  
[AMD/ATI] Jet PRO [Radeon R5 M230]
```

[illegible]

dont_enable_bridge_and_let_it_configure_in_linux_nomodeset (vs 5)

```
01:00.0 Display controller: Advanced Micro Devices, Inc.  
[AMD/ATI] Jet PRO [Radeon R5 M230]
```

[illegible]

UEFI_normal1_mode (vs 8)

```
00:02.0 PCI bridge: Advanced Micro Devices, Inc.  
[AMD] Family 15h (Models 10h-1fh) Processor Root Port
```

[illegible]

```
01:00.0 Display controller: Advanced Micro Devices, Inc. [AMD/ATI]
Jet PRO [Radeon R5 M230] (rev ff)
```

[illegible]

UEFI_nomodeset (vs 6)

```
00:02.0 PCI bridge: Advanced Micro Devices, Inc.  
[AMD] Family 15h (Models 10h-1fh) Processor Root Port
```

[illegible]

```
01:00.0 Display controller: Advanced Micro Devices, Inc.  
[AMD/ATI] Jet PRO [Radeon R5 M230]
```

[illegible]

UEFI Windows - Bridge

A	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0*	22	10	12	14	07	00	10	00	00	00	04	06	10	00	01	00
1*	0	.	.	.	.	.	.	0	00	01	01	00	31	31	00	00
2*	20	F0	20	F0	01	E0	F1	EF	0	.	.	.	.	.	.	0
3*	00	00	00	00	50	00	00	00	0	.	.	0	12	01	00	00
4*	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0
5*	01	58	03	C8	0	.	.	0	10	A0	42	01	21	80	00	00
6*	10	28	00	00	02	0D	70	00	00	00	81	30	40	00	04	00
7*	00	00	48	01	00	00	01	00	0	.	.	0	1F	00	00	00
8*	06	00	00	00	06	00	00	00	02	00	01	00	0	.	.	0
9*	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0
A*	05	B0	80	00	0	.	.	.	.	.	.	.	.	.	.	0
B*	0D	B8	00	00	22	10	34	12	08	00	03	A8	0	.	.	0
C*	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0
D*	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0
E*	01	00	00	00	10	00	00	00	0	.	.	.	.	.	.	0
F*	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0

Type	PCI Express	Bus	00	Device	02	Function	00
Width	01	Device/VendorID	0x14121022	Revision ID	0x00	Class Code	0x060400
Cacheline Size	0x10	Latency Timer	0x00	Interrupt Pin	INTA	Interrupt Line	IRQ18
BAR1	0x00000000	BAR2	0x00000000	Primary Bus#	0x00	Secondary Bus#	0x01
Subordinate Bus#	0x01	IO Range	0x00003000	Memory Range	0xF0200000		
			-		-		
			0x00003FFF		0xF02FFFFF		
Prefetchable Memory Range	0xE0000000	Expansion ROM	0x00000000	Subsystem ID	0x12341022		
	-						
	0xEFFFFFFF						

UEFI Windows - R5 M230

B	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0*	02	10	65	66	07	04	10	00	00	00	80	03	10	00	00	00
1*	0C	00	00	E0	0	.	.	0	04	00	2C	F0	0	.	.	0
2*	01	3F	00	00	0	.	.	.	.	.	.	0	AA	17	04	38
3*	00	00	00	00	48	00	00	00	0	.	.	0	00	01	00	00
4*	0	.	.	.	.	.	.	0	09	50	08	00	AA	17	04	38
5*	01	58	03	76	0	.	.	0	10	A0	12	00	A1	8F	00	00
6*	10	29	00	00	82	0C	40	00	00	00	81	10	0	.	.	0
7*	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0
8*	0	.	.	0	0E	00	00	00	02	00	01	00	0	.	.	0
9*	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0
A*	05	00	81	00	0C	F0	E0	FE	0	.	.	0	52	49	00	00
B*- F*	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0

Type	PCI Express	Bus	01	Device	00	Function	00
Width	01	Device/ VendorID	0x66651002	Revision ID	0x00	Class Code	0x038000
Cacheline Size	0x10	Latency Timer	0x00	Interrupt Pin	INTA	Interrupt Line	None
BAR1	0xE000000C	BAR2	0x00000000	BAR3	0xF02C0004	BAR4	0x00000000
BAR5	0x00003F01	BAR6	0x00000000	ExpansionROM	0x00000000	SubsysID	0x380417AA

```
coreinfo_PCI_with_0_02_00_enabled
    BUS - with bus enabled
```

[illegible]

BUS - without bus enabled

[illegible]

BUS – PCI CONFIG SPACE DECODING

```
04: 07 -> 00 0C: 10 -> 00 19: 01 -> 00 1A: 01 -> 00 1C: 11 -> 01 1D: 11 -> 01
PCI_COMMAND PCI_CACHE_LINE_SIZE PCI_SECONDARY_BUS PCI_SUBORDINATE_BUS PCI_IO_BASE PCI_IO_LIMIT
21: F0 -> 00 23: F0 -> 00 25: E0 -> 00 26: F1 -> 01 27: EF -> 00
20 = PCI_MEMORY_BASE 22 = PCI_MEMORY_LIMIT 24 = PCI_PREF_MEMORY_BASE 26 = PCI_PREF_MEMORY_LIMIT
3C: FF -> 00 3E: 03 -> 00
3C = PCI_INTERRUPT_LINE 3E = PCI_BRIDGE_CONTROL
```

0E: 01 --> Header Type is 01h (PCI-to-PCI bridge)

04: 07 --> Command = 0000 0111 -> 0000 0000

bit 2) Bus Master - If set to 1 the device can behave as a bus master; otherwise, the device can not generate PCI accesses.

bit 1) Memory Space - If set to 1 the device can respond to Memory Space accesses; otherwise, the device's response is disabled.

bit 0) I/O Space - If set to 1 the device can respond to I/O Space accesses; otherwise, the device's response is disabled.

0C: 10 --> Cache Line Size = 0001 0000 -> 0000 0000

Cache Line Size: Specifies the system cache line size in 32-bit units. A device can limit the number of cacheline sizes it can support, if a unsupported value is written to this field, the device will behave as if a value of 0 was written.

/* Set the cache line size, so far 64 bytes is good for everyone. */

```
pci_write_config8(dev, PCI_CACHE_LINE_SIZE, 64 >> 2); // 64 = 0x40 ; 0x40 << 2 = 0x100
```

19: 01 --> Secondary Bus Number = 0000 0001 ???

1A: 01 --> Subordinate Bus Number = 0000 0001 ???

1C: 11 --> I/O Base

1D: 11 --> I/O Limit

21: F000 --> Memory Base

23: F000 --> Memory Limit

25: E0F1 --> Prefetchable Memory Base

27: 00EF --> Prefetchable Memory Limit

3C: FF --> Interrupt Line

3E: 03 --> Bridge Control = 0000 0011

R5 M230 WITH BUS ENABLED (BEHIND BUS) (vs B)

UEFI Windows - R5 M230

[illegible]

UEFI Windows HD8650G (RW Everything, vs ...normal)

G	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0*	02	10	0B	99	07	04	10	00	00	00	00	03	10	00	80	00
1*	08	00	00	D0	01	40	00	00	00	00	30	F0	0	.	.	0
2*	0	.	.	.	.	.	.	.	.	.	.	0	AA	17	04	38
3*	0	.	.	0	50	00	00	00	0	.	.	0	00	01	00	00
4*	0	.	.	.	.	.	.	.	.	.	.	0	AA	17	04	38
5*	01	58	03	06	0	.	.	0	10	A0	92	00	A0	8F	00	00
6*	10	08	00	00	0	.	.	.	.	.	.	.	.	.	.	0
7* - 9*	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0
A*	05	00	81	00	0C	F0	E0	FE	00	00	00	00	62	49	00	00
B* - F*	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0

Type	PCI	Bus	00	Device	01	Function	00
Width	Express						
	01	Device/	0x990B1002	Revision	0x00	Class	0x030000
		VendorID		ID		Code	
Cacheline	0x10	Latency	0x00	Interrupt	INTA	Interrupt	None
Size		Timer		Pin		Line	
BAR1	0xD00000008	BAR2	0x00004001	BAR3	0xF0300000	BAR4	0x00000000
BAR5	0x00000000	BAR6	0x00000000	ExpansioROM	0x00000000	SubsysID	0x380417AA

UEFI HD8650G - normal (vs Windows)

[illegible]

```
00:01.0 VGA compatible controller: Advanced Micro Devices, Inc. [AMD/ATI]
                                Richland [Radeon HD 8650G]
```

UEFI HD8650G - normal (vs J, ...nomodeset)

[illegible]

UEFI HD8650G - nomodeset (vs I,...normal)

[illegible]