

# Lenovo B560

Das B560 ist ein Schminkspiegel der übleren Sorte: Im Hellen sieht man auf dem Bildschirm ... sich selbst und die Umgebung. Die Mitnahme eines Sonnenschirmes aus schwarzem Stoff oder einer

Überwurfdecke für die Arbeit im Freien wird dringend angeraten



## Konfigurationshinweise

Die folgende Beschreibung gilt für Ubuntu Oneiric 11.10:

Jockey erkennt die Broadcom WLAN Karte zwar richtig, dann schießt aber leider das Modul acer\_wmi quer: Dieses meint zu erkennen, dass mit Hilfe des frontseitigen Schalters WLAN deaktiviert worden wäre. Erst der Eintrag

```
blacklist acer_wmi
```

in

```
/etc/modprobe.d/blacklist.conf
```

mit anschließendem Neustart liefert eine funktionierende Schnittstelle.

Ob man es mit einem B560 in der hier beschriebenen Ausstattung zu tun hat, zeigt:

```
lspci -vnn | grep 14e4
```

das die folgende Ausgabe produzieren sollte:

```
04:00.0 Network controller [0280]: Broadcom Corporation BCM4313 802.11b/g/n  
Wireless LAN Controller [14e4:4727] (rev 01)  
Subsystem: Broadcom Corporation Device [14e4:0510]
```

Wer im Vorfeld auf die Idee kam, b43 oder b43-fwcutter zu installieren, rennt gegen Wände. Genutzt wird ausschließlich das Modul wl - unterhalb von /etc/modprobe.d/ befindet sich deswegen eine Datei blacklist-bcm43.conf mit den folgenden Einträgen, die von bcwml (Broadcom-STA-WLAN Treiberpaket) automatisch angelegt werden sollte, aber nicht den Eintrag für bcma enthält:

```
blacklist b43  
blacklist b43legacy  
blacklist ssb  
blacklist bcm43xx  
blacklist brcm80211  
blacklist brcmsmac  
blacklist bcma
```

Ein

```
sudo hwinfo --wlan
```

kann bei der Konfiguration helfen. hwinfo muss hierzu aber nachinstalliert werden.

## Hardwarebeschreibung

```
00:00.0 Host bridge: Intel Corporation Core Processor DRAM Controller (rev 02)
  Subsystem: Lenovo Device 391e
  Control: I/O- Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr-
Stepping- SERR+ FastB2B- DisINTx-
  Status: Cap+ 66MHz- UDF- FastB2B+ ParErr- DEVSEL=fast >TAbort- <TAbort+
<MAbort+ >SERR- <PERR- INTx-
  Latency: 0
  Capabilities: [e0] Vendor Specific Information: Len=0c <?>
  Kernel driver in use: agpgart-intel

00:02.0 VGA compatible controller: Intel Corporation Core Processor
Integrated Graphics Controller (rev 02) (prog-if 00 [VGA controller])
  Subsystem: Lenovo Device 3920
  Control: I/O+ Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr-
Stepping- SERR- FastB2B- DisINTx+
  Status: Cap+ 66MHz- UDF- FastB2B+ ParErr- DEVSEL=fast >TAbort- <TAbort-
<MAbort- >SERR- <PERR- INTx-
  Latency: 0
  Interrupt: pin A routed to IRQ 41
  Region 0: Memory at f2000000 (64-bit, non-prefetchable) [size=4M]
  Region 2: Memory at d0000000 (64-bit, prefetchable) [size=256M]
  Region 4: I/O ports at 1800 [size=8]
  Expansion ROM at <unassigned> [disabled]
  Capabilities: [90] MSI: Enable+ Count=1/1 Maskable- 64bit-
  Address: fee0100c Data: 4161
  Capabilities: [d0] Power Management version 2
  Flags: PMEclk- DSI+ D1- D2- AuxCurrent=0mA PME(D0-,D1-,D2-,D3hot-
,D3cold-)
  Status: D0 NoSoftRst- PME-Enable- DSel=0 DScale=0 PME-
  Capabilities: [a4] PCI Advanced Features
  AFCap: TP+ FLR+
  AFCtrl: FLR-
  AFStatus: TP-
  Kernel driver in use: i915
  Kernel modules: i915

00:16.0 Communication controller: Intel Corporation 5 Series/3400 Series
Chipset HECI Controller (rev 06)
  Subsystem: Lenovo Device 38a5
  Control: I/O- Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr-
```

## Stepping- SERR- FastB2B- DisINTx-

Status: Cap+ 66MHz- UDF- FastB2B- ParErr- DEVSEL=fast >TAbort- <TAbort-  
<MAbort- >SERR- <PERR- INTx+

Latency: 0

Interrupt: pin A routed to IRQ 11

Region 0: Memory at f2804000 (64-bit, non-prefetchable) [size=16]

Capabilities: [50] Power Management version 3

Flags: PMEClk- DSI- D1- D2- AuxCurrent=0mA PME(D0+,D1-,D2-,D3hot+,D3cold+)

Status: D0 NoSoftRst+ PME-Enable- DSel=0 DScale=0 PME-

Capabilities: [8c] MSI: Enable- Count=1/1 Maskable- 64bit+

Address: 0000000000000000 Data: 0000

## 00:1a.0 USB Controller: Intel Corporation 5 Series/3400 Series Chipset USB2 Enhanced Host Controller (rev 05) (prog-if 20 [EHCI])

Subsystem: Lenovo Device 38aa

Control: I/O- Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr-  
Stepping- SERR+ FastB2B- DisINTx-

Status: Cap+ 66MHz- UDF- FastB2B+ ParErr- DEVSEL=medium >TAbort-  
<TAbort- <MAbort- >SERR- <PERR- INTx-

Latency: 0

Interrupt: pin A routed to IRQ 16

Region 0: Memory at f2806000 (32-bit, non-prefetchable) [size=1K]

Capabilities: [50] Power Management version 2

Flags: PMEClk- DSI- D1- D2- AuxCurrent=375mA PME(D0+,D1-,D2-,D3hot+,D3cold+)

Status: D0 NoSoftRst- PME-Enable- DSel=0 DScale=0 PME-

Capabilities: [58] Debug port: BAR=1 offset=00a0

Capabilities: [98] PCI Advanced Features

AFCap: TP+ FLR+

AFCtrl: FLR-

AFStatus: TP-

Kernel driver in use: ehci\_hcd

## 00:1b.0 Audio device: Intel Corporation 5 Series/3400 Series Chipset High Definition Audio (rev 05)

Subsystem: Lenovo Device 38af

Control: I/O- Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr-  
Stepping- SERR+ FastB2B- DisINTx+

Status: Cap+ 66MHz- UDF- FastB2B- ParErr- DEVSEL=fast >TAbort- <TAbort-  
<MAbort- >SERR- <PERR- INTx-

Latency: 0, Cache Line Size: 64 bytes

Interrupt: pin A routed to IRQ 42

Region 0: Memory at f2800000 (64-bit, non-prefetchable) [size=16K]

Capabilities: [50] Power Management version 2

Flags: PMEClk- DSI- D1- D2- AuxCurrent=55mA PME(D0+,D1-,D2-,D3hot+,D3cold+)

Status: D0 NoSoftRst- PME-Enable- DSel=0 DScale=0 PME-

Capabilities: [60] MSI: Enable+ Count=1/1 Maskable- 64bit+

Address: 00000000fee0100c Data: 4171

Capabilities: [70] Express (v1) Root Complex Integrated Endpoint, MSI 00

```
DevCap:      MaxPayload 128 bytes, PhantFunc 0, Latency L0s <64ns, L1
<1us
      ExtTag- RBE- FLReset+
DevCtl:      Report errors: Correctable- Non-Fatal- Fatal-
Unsupported-
      RlxdOrd- ExtTag- PhantFunc- AuxPwr- NoSnoop+
      MaxPayload 128 bytes, MaxReadReq 128 bytes
DevSta:      CorrErr- UncorrErr- FatalErr- UnsuppReq- AuxPwr+
TransPend-
      LnkCap:      Port #0, Speed unknown, Width x0, ASPM unknown, Latency
L0 <64ns, L1 <1us
      ClockPM- Surprise- LLActRep- BwNot-
      LnkCtl:      ASPM Disabled; Disabled- Retrain- CommClk-
      ExtSynch- ClockPM- AutWidDis- BWInt- AutBWInt-
      LnkSta:      Speed unknown, Width x0, TrErr- Train- SlotClk- DLActive-
BWMgmt- ABWMgmt-
      Capabilities: [100 v1] Virtual Channel
      Caps:      LPEVC=0 RefClk=100ns PATEntryBits=1
      Arb:      Fixed- WRR32- WRR64- WRR128-
      Ctrl:      ArbSelect=Fixed
      Status:      InProgress-
      VC0:      Caps:      PATOffset=00 MaxTimeSlots=1 RejSnoopTrans-
      Arb:      Fixed- WRR32- WRR64- WRR128- TWRR128- WRR256-
      Ctrl:      Enable+ ID=0 ArbSelect=Fixed TC/VC=01
      Status:      NegoPending- InProgress-
      VC1:      Caps:      PATOffset=00 MaxTimeSlots=1 RejSnoopTrans-
      Arb:      Fixed- WRR32- WRR64- WRR128- TWRR128- WRR256-
      Ctrl:      Enable+ ID=1 ArbSelect=Fixed TC/VC=02
      Status:      NegoPending- InProgress-
      Capabilities: [130 v1] Root Complex Link
      Desc:      PortNumber=0f ComponentID=00 EltType=Config
      Link0:      Desc:      TargetPort=00 TargetComponent=00 AssocRCRB-
LinkType=MemMapped LinkValid+
      Addr:      00000000fed1c000
      Kernel driver in use: HDA Intel
      Kernel modules: snd-hda-intel

00:1c.0 PCI bridge: Intel Corporation 5 Series/3400 Series Chipset PCI
Express Root Port 1 (rev 05) (prog-if 00 [Normal decode])
      Control: I/O+ Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr-
Stepping- SERR+ FastB2B- DisINTx-
      Status: Cap+ 66MHz- UDF- FastB2B- ParErr- DEVSEL=fast >TAbort- <TAbort-
<MAbort- >SERR- <PERR- INTx-
      Latency: 0, Cache Line Size: 64 bytes
      Bus: primary=00, secondary=03, subordinate=03, sec-latency=0
      I/O behind bridge: 00002000-00002fff
      Memory behind bridge: f2400000-f24fffff
      Prefetchable memory behind bridge: 000000007c000000-000000007c1fffff
      Secondary status: 66MHz- FastB2B- ParErr- DEVSEL=fast >TAbort- <TAbort-
```

```

<MAbort- <SERR- <PERR-
  BridgeCtl: Parity- SERR- NoISA+ VGA- MAbort- >Reset- FastB2B-
    PriDiscTmr- SecDiscTmr- DiscTmrStat- DiscTmrSERREn-
  Capabilities: [40] Express (v2) Root Port (Slot+), MSI 00
    DevCap:      MaxPayload 128 bytes, PhantFunc 0, Latency L0s <64ns, L1
<1us
      ExtTag- RBE+ FLReset-
    DevCtl:      Report errors: Correctable- Non-Fatal- Fatal-
Unsupported-
      RlxdOrd- ExtTag- PhantFunc- AuxPwr- NoSnoop-
      MaxPayload 128 bytes, MaxReadReq 128 bytes
    DevSta:      CorrErr- UncorrErr- FatalErr- UnsuppReq- AuxPwr+
TransPend-
    LnkCap:      Port #1, Speed 2.5GT/s, Width x1, ASPM L0s L1, Latency L0
<256ns, L1 <4us
      ClockPM- Surprise- LLActRep+ BwNot-
    LnkCtl:      ASPM L1 Enabled; RCB 64 bytes Disabled- Retrain- CommClk+
      ExtSynch- ClockPM- AutWidDis- BWInt- AutBWInt-
    LnkSta:      Speed 2.5GT/s, Width x1, TrErr- Train- SlotClk+ DLActive+
BWMgmt- ABWMgmt-
    SltCap:      AttnBtn- PwrCtrl- MRL- AttnInd- PwrInd- HotPlug+
Surprise+
      Slot #0, PowerLimit 10.000W; Interlock- NoCompl+
    SltCtl:      Enable: AttnBtn- PwrFlt- MRL- PresDet+ CmdCplt- HPIrq-
LinkChg-
      Control: AttnInd Unknown, PwrInd Unknown, Power- Interlock-
    SltSta:      Status: AttnBtn- PowerFlt- MRL- CmdCplt- PresDet+
Interlock-
      Changed: MRL- PresDet- LinkState+
    RootCtl: ErrCorrectable- ErrNon-Fatal- ErrFatal- PMEIntEna-
CRSVisible-
    RootCap: CRSVisible-
    RootSta: PME ReqID 0000, PMEStatus- PMEPending-
    DevCap2: Completion Timeout: Range BC, TimeoutDis+ ARIFwd-
    DevCtl2: Completion Timeout: 50us to 50ms, TimeoutDis- ARIFwd-
    LnkCtl2: Target Link Speed: 2.5GT/s, EnterCompliance- SpeedDis-,
Selectable De-emphasis: -6dB
      Transmit Margin: Normal Operating Range,
EnterModifiedCompliance- ComplianceSOS-
      Compliance De-emphasis: -6dB
    LnkSta2: Current De-emphasis Level: -6dB
  Capabilities: [80] MSI: Enable- Count=1/1 Maskable- 64bit-
    Address: 00000000 Data: 0000
  Capabilities: [90] Subsystem: Lenovo Device 38b0
  Capabilities: [a0] Power Management version 2
    Flags: PMEClk- DSI- D1- D2- AuxCurrent=0mA PME(D0+,D1-,D2-
,D3hot+,D3cold+)
    Status: D0 NoSoftRst- PME-Enable- DSel=0 DScale=0 PME-
  Kernel driver in use: pcieport
  Kernel modules: shpchp

```

```
00:1c.1 PCI bridge: Intel Corporation 5 Series/3400 Series Chipset PCI Express Root Port 2 (rev 05) (prog-if 00 [Normal decode])
  Control: I/O+ Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping- SERR+ FastB2B- DisINTx-
  Status: Cap+ 66MHz- UDF- FastB2B- ParErr- DEVSEL=fast >TAbort- <TAbort- <MAbort- >SERR- <PERR- INTx-
  Latency: 0, Cache Line Size: 64 bytes
  Bus: primary=00, secondary=04, subordinate=04, sec-latency=0
  I/O behind bridge: 00004000-00004fff
  Memory behind bridge: f2500000-f25fffff
  Prefetchable memory behind bridge: 000000007c200000-000000007c3fffff
  Secondary status: 66MHz- FastB2B- ParErr- DEVSEL=fast >TAbort- <TAbort- <MAbort- <SERR- <PERR-
  BridgeCtl: Parity- SERR- NoISA+ VGA- MAbort- >Reset- FastB2B- PriDiscTmr- SecDiscTmr- DiscTmrStat- DiscTmrSERREN-
  Capabilities: [40] Express (v2) Root Port (Slot+), MSI 00
    DevCap:    MaxPayload 128 bytes, PhantFunc 0, Latency L0s <64ns, L1 <1us
      ExtTag- RBE+ FLReset-
    DevCtl:    Report errors: Correctable- Non-Fatal- Fatal- Unsupported-
      RlxdOrd- ExtTag- PhantFunc- AuxPwr- NoSnoop-
        MaxPayload 128 bytes, MaxReadReq 128 bytes
    DevSta:    CorrErr- UncorrErr- FatalErr- UnsuppReq- AuxPwr+ TransPend-
    LnkCap:    Port #2, Speed 2.5GT/s, Width x1, ASPM L0s L1, Latency L0 <256ns, L1 <4us
      ClockPM- Surprise- LLActRep+ BwNot-
    LnkCtl:    ASPM L1 Enabled; RCB 64 bytes Disabled- Retrain- CommClk+ ExtSynch- ClockPM- AutWidDis- BWInt- AutBWInt-
    LnkSta:    Speed 2.5GT/s, Width x1, TrErr- Train- SlotClk+ DLActive+ BWMgmt- ABWMgmt-
    SltCap:    AttnBtn- PwrCtrl- MRL- AttnInd- PwrInd- HotPlug+ Surprise+
      Slot #1, PowerLimit 10.000W; Interlock- NoCompl+
    SltCtl:    Enable: AttnBtn- PwrFlt- MRL- PresDet+ CmdCplt- HPIrq- LinkChg-
      Control: AttnInd Unknown, PwrInd Unknown, Power- Interlock-
    SltSta:    Status: AttnBtn- PowerFlt- MRL- CmdCplt- PresDet+ Interlock-
      Changed: MRL- PresDet- LinkState+
    RootCtl: ErrCorrectable- ErrNon-Fatal- ErrFatal- PMEIntEna- CRSVisible-
    RootCap: CRSVisible-
    RootSta: PME ReqID 0000, PMEStatus- PMEPending-
    DevCap2: Completion Timeout: Range BC, TimeoutDis+ ARIFwd-
    DevCtl2: Completion Timeout: 50us to 50ms, TimeoutDis- ARIFwd-
    LnkCtl2: Target Link Speed: 2.5GT/s, EnterCompliance- SpeedDis-, Selectable De-emphasis: -6dB
```

```
Transmit Margin: Normal Operating Range,
EnterModifiedCompliance- ComplianceSOS-
Compliance De-emphasis: -6dB
LnkSta2: Current De-emphasis Level: -6dB
Capabilities: [80] MSI: Enable- Count=1/1 Maskable- 64bit-
Address: 00000000 Data: 0000
Capabilities: [90] Subsystem: Lenovo Device 38b1
Capabilities: [a0] Power Management version 2
Flags: PMEClk- DSI- D1- D2- AuxCurrent=0mA PME(D0+,D1-,D2-,D3hot+,D3cold+)
Status: D0 NoSoftRst- PME-Enable- DSel=0 DScale=0 PME-
Kernel driver in use: pcieport
Kernel modules: shpchp

00:1c.3 PCI bridge: Intel Corporation 5 Series/3400 Series Chipset PCI
Express Root Port 4 (rev 05) (prog-if 00 [Normal decode])
Control: I/O+ Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr-
Stepping- SERR+ FastB2B- DisINTx-
Status: Cap+ 66MHz- UDF- FastB2B- ParErr- DEVSEL=fast >TAbort- <TAbort-
<MAbort- >SERR- <PERR- INTx-
Latency: 0, Cache Line Size: 64 bytes
Bus: primary=00, secondary=05, subordinate=06, sec-latency=0
I/O behind bridge: 00003000-00003fff
Memory behind bridge: f1000000-f1ffffff
Prefetchable memory behind bridge: 00000000f0000000-00000000f0ffffff
Secondary status: 66MHz- FastB2B- ParErr- DEVSEL=fast >TAbort- <TAbort-
<MAbort- <SERR- <PERR-
BridgeCtl: Parity- SERR- NoISA+ VGA- MAbort- >Reset- FastB2B-
PriDiscTmr- SecDiscTmr- DiscTmrStat- DiscTmrSERREN-
Capabilities: [40] Express (v2) Root Port (Slot+), MSI 00
DevCap: MaxPayload 128 bytes, PhantFunc 0, Latency L0s <64ns, L1
<1us
ExtTag- RBE+ FLReset-
DevCtl: Report errors: Correctable- Non-Fatal- Fatal-
Unsupported-
RlxdOrd- ExtTag- PhantFunc- AuxPwr- NoSnoop-
MaxPayload 128 bytes, MaxReadReq 128 bytes
DevSta: CorrErr- UncorrErr- FatalErr- UnsuppReq- AuxPwr+
TransPend-
LnkCap: Port #4, Speed 2.5GT/s, Width x1, ASPM L0s L1, Latency L0
<1us, L1 <4us
ClockPM- Surprise- LLActRep+ BwNot-
LnkCtl: ASPM Disabled; RCB 64 bytes Disabled- Retrain- CommClk-
ExtSynch- ClockPM- AutWidDis- BWInt- AutBWInt-
LnkSta: Speed 2.5GT/s, Width x0, TrErr- Train- SlotClk+ DLActive-
BWMgmt- ABWMgmt-
SltCap: AttnBtn- PwrCtrl- MRL- AttnInd- PwrInd- HotPlug+
Surprise+
Slot #3, PowerLimit 10.000W; Interlock- NoCompl+
SltCtl: Enable: AttnBtn- PwrFlt- MRL- PresDet+ CmdCplt- HPIrq-
LinkChg-
```

```
Control: AttnInd Unknown, PwrInd Unknown, Power- Interlock-
SltSta: Status: AttnBtn- PowerFlt- MRL- CmdCplt- PresDet-
Interlock-
Changed: MRL- PresDet- LinkState-
RootCtl: ErrCorrectable- ErrNon-Fatal- ErrFatal- PMEIntEna-
CRSVisible-
RootCap: CRSVisible-
RootSta: PME ReqID 0000, PMEStatus- PMEPending-
DevCap2: Completion Timeout: Range BC, TimeoutDis+ ARIFwd-
DevCtl2: Completion Timeout: 50us to 50ms, TimeoutDis- ARIFwd-
LnkCtl2: Target Link Speed: 2.5GT/s, EnterCompliance- SpeedDis-,
Selectable De-emphasis: -6dB
Transmit Margin: Normal Operating Range,
EnterModifiedCompliance- ComplianceSOS-
Compliance De-emphasis: -6dB
LnkSta2: Current De-emphasis Level: -6dB
Capabilities: [80] MSI: Enable- Count=1/1 Maskable- 64bit-
Address: 00000000 Data: 0000
Capabilities: [90] Subsystem: Lenovo Device 38b3
Capabilities: [a0] Power Management version 2
Flags: PMEClk- DSI- D1- D2- AuxCurrent=0mA PME(D0+,D1-,D2-,
,D3hot+,D3cold+)
Status: D0 NoSoftRst- PME-Enable- DSel=0 DScale=0 PME-
Kernel driver in use: pcieport
Kernel modules: shpchp

00:1d.0 USB Controller: Intel Corporation 5 Series/3400 Series Chipset USB2
Enhanced Host Controller (rev 05) (prog-if 20 [EHCI])
Subsystem: Lenovo Device 38b8
Control: I/O- Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr-
Stepping- SERR+ FastB2B- DisINTx-
Status: Cap+ 66MHz- UDF- FastB2B+ ParErr- DEVSEL=medium >TAbort-
<TAbort- <MAbort- >SERR- <PERR- INTx-
Latency: 0
Interrupt: pin A routed to IRQ 23
Region 0: Memory at f2807000 (32-bit, non-prefetchable) [size=1K]
Capabilities: [50] Power Management version 2
Flags: PMEClk- DSI- D1- D2- AuxCurrent=375mA PME(D0+,D1-,D2-,
,D3hot+,D3cold+)
Status: D0 NoSoftRst- PME-Enable- DSel=0 DScale=0 PME-
Capabilities: [58] Debug port: BAR=1 offset=00a0
Capabilities: [98] PCI Advanced Features
AFCap: TP+ FLR+
AFCtrl: FLR-
AFStatus: TP-
Kernel driver in use: ehci_hcd

00:1e.0 PCI bridge: Intel Corporation 82801 Mobile PCI Bridge (rev a5)
(prog-if 01 [Subtractive decode])
```

```
Control: I/O+ Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr-
Stepping- SERR+ FastB2B- DisINTx-
Status: Cap+ 66MHz- UDF- FastB2B- ParErr- DEVSEL=fast >TAbort- <TAbort-
<MAbort- >SERR- <PERR- INTx-
Latency: 0
Bus: primary=00, secondary=0f, subordinate=0f, sec-latency=0
Secondary status: 66MHz- FastB2B+ ParErr- DEVSEL=medium >TAbort-
<TAbort- <MAbort+ <SERR- <PERR-
BridgeCtl: Parity- SERR- NoISA+ VGA- MAbort- >Reset- FastB2B-
PriDiscTmr- SecDiscTmr- DiscTmrStat- DiscTmrSERREn-
Capabilities: [50] Subsystem: Lenovo Device 383f
```

00:1f.0 ISA bridge: Intel Corporation Mobile 5 Series Chipset LPC Interface Controller (rev 05)

```
Subsystem: Lenovo Device 38be
Control: I/O+ Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr-
Stepping- SERR- FastB2B- DisINTx-
Status: Cap+ 66MHz- UDF- FastB2B- ParErr- DEVSEL=medium >TAbort-
<TAbort- <MAbort- >SERR- <PERR- INTx-
Latency: 0
Capabilities: [e0] Vendor Specific Information: Len=10 <?>
Kernel modules: iTCO_wdt
```

00:1f.2 SATA controller: Intel Corporation 5 Series/3400 Series Chipset 4 port SATA AHCI Controller (rev 05) (prog-if 01 [AHCI 1.0])

```
Subsystem: Lenovo Device 38c1
Control: I/O+ Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr-
Stepping- SERR- FastB2B- DisINTx+
Status: Cap+ 66MHz+ UDF- FastB2B+ ParErr- DEVSEL=medium >TAbort-
<TAbort- <MAbort- >SERR- <PERR- INTx-
Latency: 0
Interrupt: pin B routed to IRQ 40
Region 0: I/O ports at 1818 [size=8]
Region 1: I/O ports at 180c [size=4]
Region 2: I/O ports at 1810 [size=8]
Region 3: I/O ports at 1808 [size=4]
Region 4: I/O ports at 1820 [size=32]
Region 5: Memory at f2808000 (32-bit, non-prefetchable) [size=2K]
Capabilities: [80] MSI: Enable+ Count=1/1 Maskable- 64bit-
Address: fee0100c Data: 4159
Capabilities: [70] Power Management version 3
Flags: PMEClk- DSI- D1- D2- AuxCurrent=0mA PME(D0-,D1-,D2-,
,D3hot+,D3cold-)
Status: D0 NoSoftRst+ PME-Enable- DSel=0 DScale=0 PME-
Capabilities: [a8] SATA HBA v1.0 BAR4 Offset=00000004
Capabilities: [b0] PCI Advanced Features
AFCap: TP+ FLR+
AFCtrl: FLR-
AFStatus: TP-
Kernel driver in use: ahci
Kernel modules: ahci
```

00:1f.3 SMBus: Intel Corporation 5 Series/3400 Series Chipset SMBus Controller (rev 05)

Subsystem: Lenovo Device 38bf

Control: I/O+ Mem+ BusMaster- SpecCycle- MemWINV- VGASnoop- ParErr- Stepping- SERR+ FastB2B- DisINTx-

Status: Cap- 66MHz- UDF- FastB2B+ ParErr- DEVSEL=medium >TAbort- <TAbort- <MAbort- >SERR- <PERR- INTx-

Interrupt: pin C routed to IRQ 10

Region 0: Memory at f2809000 (64-bit, non-prefetchable) [size=256]

Region 4: I/O ports at 1840 [size=32]

Kernel modules: i2c-i801

00:1f.6 Signal processing controller: Intel Corporation 5 Series/3400 Series Chipset Thermal Subsystem (rev 05)

Subsystem: Lenovo Device 38c0

Control: I/O- Mem+ BusMaster- SpecCycle- MemWINV- VGASnoop- ParErr- Stepping- SERR- FastB2B- DisINTx-

Status: Cap+ 66MHz- UDF- FastB2B- ParErr- DEVSEL=fast >TAbort- <TAbort- <MAbort- >SERR- <PERR- INTx-

Interrupt: pin C routed to IRQ 10

Region 0: Memory at f280a000 (64-bit, non-prefetchable) [size=4K]

Capabilities: [50] Power Management version 3

Flags: PMEClk- DSI+ D1- D2- AuxCurrent=0mA PME(D0-,D1-,D2-,D3hot-,D3cold-)

Status: D0 NoSoftRst+ PME-Enable- DSel=0 DScale=0 PME-

Capabilities: [80] MSI: Enable- Count=1/1 Maskable- 64bit-

Address: 00000000 Data: 0000

Kernel modules: intel\_ips

03:00.0 Ethernet controller: Atheros Communications AR8131 Gigabit Ethernet (rev c0)

Subsystem: Lenovo Device 3956

Control: I/O+ Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping- SERR+ FastB2B- DisINTx+

Status: Cap+ 66MHz- UDF- FastB2B- ParErr- DEVSEL=fast >TAbort- <TAbort- <MAbort- >SERR+ <PERR- INTx-

Latency: 0, Cache Line Size: 64 bytes

Interrupt: pin A routed to IRQ 43

Region 0: Memory at f2400000 (64-bit, non-prefetchable) [size=256K]

Region 2: I/O ports at 2000 [size=128]

Capabilities: [40] Power Management version 3

Flags: PMEClk- DSI- D1- D2- AuxCurrent=375mA

PME(D0+,D1+,D2+,D3hot+,D3cold+)

Status: D0 NoSoftRst+ PME-Enable- DSel=0 DScale=0 PME-

Capabilities: [48] MSI: Enable+ Count=1/1 Maskable- 64bit+

Address: 00000000fee0300c Data: 4179

Capabilities: [58] Express (v1) Endpoint, MSI 00

DevCap: MaxPayload 4096 bytes, PhantFunc 0, Latency L0s <4us, L1 unlimited

```
ExtTag- AttnBtn+ AttnInd+ PwrInd+ RBE+ FLReset-
DevCtl: Report errors: Correctable- Non-Fatal- Fatal-
Unsupported-
RlxdOrd- ExtTag- PhantFunc- AuxPwr- NoSnoop-
MaxPayload 128 bytes, MaxReadReq 512 bytes
DevSta: CorrErr+ UncorrErr+ FatalErr- UnsuppReq+ AuxPwr+
TransPend-
LnkCap: Port #0, Speed 2.5GT/s, Width x1, ASPM L0s L1, Latency L0
unlimited, L1 unlimited
ClockPM+ Surprise- LLActRep- BwNot-
LnkCtl: ASPM L1 Enabled; RCB 64 bytes Disabled- Retrain- CommClk+
ExtSynch- ClockPM+ AutWidDis- BWInt- AutBWInt-
LnkSta: Speed 2.5GT/s, Width x1, TrErr- Train- SlotClk+ DLActive-
BWMgmt- ABWMgmt-
Capabilities: [6c] Vital Product Data
Not readable
Capabilities: [100 v1] Advanced Error Reporting
UESa: DLP- SDES- TLP- FCP- CmpltTO- CmpltAbrt+ UnxCmplt- RxOF-
MalftTLP- ECRC- UnsupReq+ ACSViol-
UEMsk: DLP- SDES- TLP- FCP- CmpltTO- CmpltAbrt- UnxCmplt- RxOF-
MalftTLP- ECRC- UnsupReq- ACSViol-
UESvrt: DLP- SDES+ TLP- FCP- CmpltTO- CmpltAbrt- UnxCmplt- RxOF+
MalftTLP+ ECRC- UnsupReq- ACSViol-
CESta: RxErr- BadTLP+ BadDLLP+ Rollover- Timeout- NonFatalErr-
CEMsk: RxErr- BadTLP- BadDLLP- Rollover- Timeout- NonFatalErr+
AERCap: First Error Pointer: 14, GenCap+ CGenEn- ChkCap+ ChkEn-
Capabilities: [180 v1] Device Serial Number ff-2e-54-54-f0-de-f1-ff
Kernel driver in use: atl1c
Kernel modules: atl1c
```

```
04:00.0 Network controller: Broadcom Corporation BCM4313 802.11b/g/n
Wireless LAN Controller (rev 01)
Subsystem: Broadcom Corporation Device 0510
Control: I/O- Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr-
Stepping- SERR+ FastB2B- DisINTx-
Status: Cap+ 66MHz- UDF- FastB2B- ParErr- DEVSEL=fast >TAbort- <TAbort-
<MAbort- >SERR- <PERR- INTx-
Latency: 0, Cache Line Size: 64 bytes
Interrupt: pin A routed to IRQ 17
Region 0: Memory at f2500000 (64-bit, non-prefetchable) [size=16K]
Capabilities: [40] Power Management version 3
Flags: PMEClk- DSI- D1+ D2+ AuxCurrent=0mA PME(D0+,D1-,D2-
,D3hot+,D3cold+)
Status: D0 NoSoftRst+ PME-Enable- DSel=0 DScale=2 PME-
Capabilities: [58] Vendor Specific Information: Len=78 <?>
Capabilities: [48] MSI: Enable- Count=1/1 Maskable- 64bit+
Address: 0000000000000000 Data: 0000
Capabilities: [d0] Express (v1) Endpoint, MSI 00
DevCap: MaxPayload 128 bytes, PhantFunc 0, Latency L0s <4us, L1
unlimited
ExtTag+ AttnBtn- AttnInd- PwrInd- RBE+ FLReset-
```

```
DevCtl:      Report errors: Correctable- Non-Fatal- Fatal-
Unsupported-
            RlxdOrd- ExtTag- PhantFunc- AuxPwr- NoSnoop-
            MaxPayload 128 bytes, MaxReadReq 128 bytes
DevSta:      CorrErr+ UncorrErr- FatalErr- UnsuppReq+ AuxPwr+
TransPend-
            LnkCap:      Port #0, Speed 2.5GT/s, Width x1, ASPM L0s L1, Latency L0
<4us, L1 <64us
            ClockPM+ Surprise- LLActRep+ BwNot-
            LnkCtl:      ASPM L1 Enabled; RCB 64 bytes Disabled- Retrain- CommClk+
            ExtSynch- ClockPM+ AutWidDis- BWInt- AutBWInt-
            LnkSta:      Speed 2.5GT/s, Width x1, TrErr- Train- SlotClk+ DLActive+
BWMgmt- ABWMgmt-
            Capabilities: [100 v1] Advanced Error Reporting
            UESta:      DLP- SDES- TLP- FCP- CmpltTO- CmpltAbrt- UnxCmplt- RxOF-
MalftTLP- ECRC- UnsupReq- ACSViol-
            UEMsk:      DLP- SDES- TLP- FCP- CmpltTO- CmpltAbrt- UnxCmplt- RxOF-
MalftTLP- ECRC- UnsupReq- ACSViol-
            UESvrt:      DLP+ SDES- TLP- FCP+ CmpltTO- CmpltAbrt- UnxCmplt- RxOF+
MalftTLP+ ECRC- UnsupReq- ACSViol-
            CESTa:      RxErr- BadTLP- BadDLLP- Rollover- Timeout- NonFatalErr+
            CEMsk:      RxErr- BadTLP- BadDLLP- Rollover- Timeout- NonFatalErr+
            AERCap:      First Error Pointer: 14, GenCap+ CGenEn- ChkCap+ ChkEn-
            Capabilities: [13c v1] Virtual Channel
            Caps:      LPEVC=0 RefClk=100ns PATEntryBits=1
            Arb:      Fixed- WRR32- WRR64- WRR128-
            Ctrl:      ArbSelect=Fixed
            Status:      InProgress-
            VC0:      Caps:      PATOffset=00 MaxTimeSlots=1 RejSnoopTrans-
            Arb:      Fixed- WRR32- WRR64- WRR128- TWRR128- WRR256-
            Ctrl:      Enable+ ID=0 ArbSelect=Fixed TC/VC=ff
            Status:      NegoPending- InProgress-
            Capabilities: [160 v1] Device Serial Number 00-00-12-ff-ff-16-ac-81
            Capabilities: [16c v1] Power Budgeting <?>
            Kernel driver in use: wl
            Kernel modules: wl, brcm80211
```

ff:00.0 Host bridge: Intel Corporation Core Processor QuickPath Architecture  
Generic Non-core Registers (rev 02)

```
Subsystem: Lenovo Device 392b
Control: I/O- Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr-
Stepping- SERR- FastB2B- DisINTx-
Status: Cap- 66MHz- UDF- FastB2B- ParErr- DEVSEL=fast >TAbort- <TAbort-
<MAbort- >SERR- <PERR- INTx-
Latency: 0
```

ff:00.1 Host bridge: Intel Corporation Core Processor QuickPath Architecture  
System Address Decoder (rev 02)

Subsystem: Lenovo Device 392b

Control: I/O- Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping- SERR- FastB2B- DisINTx-  
Status: Cap- 66MHz- UDF- FastB2B- ParErr- DEVSEL=fast >TAbort- <TAbort- <MAbort- >SERR- <PERR- INTx-  
Latency: 0

ff:02.0 Host bridge: Intel Corporation Core Processor QPI Link 0 (rev 02)  
Subsystem: Lenovo Device 392b  
Control: I/O- Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping- SERR- FastB2B- DisINTx-  
Status: Cap- 66MHz- UDF- FastB2B- ParErr- DEVSEL=fast >TAbort- <TAbort- <MAbort- >SERR- <PERR- INTx-  
Latency: 0

ff:02.1 Host bridge: Intel Corporation Core Processor QPI Physical 0 (rev 02)  
Subsystem: Lenovo Device 392b  
Control: I/O- Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping- SERR- FastB2B- DisINTx-  
Status: Cap- 66MHz- UDF- FastB2B- ParErr- DEVSEL=fast >TAbort- <TAbort- <MAbort- >SERR- <PERR- INTx-  
Latency: 0

ff:02.2 Host bridge: Intel Corporation Core Processor Reserved (rev 02)  
Subsystem: Lenovo Device 392b  
Control: I/O- Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping- SERR- FastB2B- DisINTx-  
Status: Cap- 66MHz- UDF- FastB2B- ParErr- DEVSEL=fast >TAbort- <TAbort- <MAbort- >SERR- <PERR- INTx-  
Latency: 0

ff:02.3 Host bridge: Intel Corporation Core Processor Reserved (rev 02)  
Subsystem: Lenovo Device 392b  
Control: I/O- Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping- SERR- FastB2B- DisINTx-  
Status: Cap- 66MHz- UDF- FastB2B- ParErr- DEVSEL=fast >TAbort- <TAbort- <MAbort- >SERR- <PERR- INTx-  
Latency: 0

Bus 002 Device 002: ID 8087:0020 Intel Corp. Integrated Rate Matching Hub  
Device Descriptor:

|                 |                                     |
|-----------------|-------------------------------------|
| bLength         | 18                                  |
| bDescriptorType | 1                                   |
| bcdUSB          | 2.00                                |
| bDeviceClass    | 9 Hub                               |
| bDeviceSubClass | 0 Unused                            |
| bDeviceProtocol | 1 Single TT                         |
| bMaxPacketSize0 | 64                                  |
| idVendor        | 0x8087 Intel Corp.                  |
| idProduct       | 0x0020 Integrated Rate Matching Hub |

```
bcdDevice          0.00
iManufacturer      0
iProduct           0
iSerial            0
bNumConfigurations 1
Configuration Descriptor:
  bLength           9
  bDescriptorType    2
  wTotalLength       25
  bNumInterfaces     1
  bConfigurationValue 1
  iConfiguration     0
  bmAttributes       0xe0
    Self Powered
    Remote Wakeup
  MaxPower           0mA
Interface Descriptor:
  bLength           9
  bDescriptorType    4
  bInterfaceNumber   0
  bAlternateSetting   0
  bNumEndpoints      1
  bInterfaceClass     9 Hub
  bInterfaceSubClass  0 Unused
  bInterfaceProtocol  0 Full speed (or root) hub
  iInterface         0
Endpoint Descriptor:
  bLength           7
  bDescriptorType    5
  bEndpointAddress   0x81 EP 1 IN
  bmAttributes       3
    Transfer Type     Interrupt
    Synch Type        None
    Usage Type        Data
  wMaxPacketSize     0x0002 1x 2 bytes
  bInterval          12
Hub Descriptor:
  bLength           11
  bDescriptorType    41
  nNbrPorts          8
  wHubCharacteristic 0x0089
    Per-port power switching
    Per-port overcurrent protection
    TT think time 8 FS bits
    Port indicators
  bPwrOn2PwrGood     50 * 2 milli seconds
  bHubContrCurrent    0 milli Ampere
  DeviceRemovable     0x00 0x00
  PortPwrCtrlMask     0xff 0xff
```

## Hub Port Status:

Port 1: 0000.0100 power  
Port 2: 0000.0100 power  
Port 3: 0000.0100 power  
Port 4: 0000.0100 power  
Port 5: 0000.0100 power  
Port 6: 0000.0100 power  
Port 7: 0000.0100 power  
Port 8: 0000.0100 power

## Device Qualifier (for other device speed):

bLength 10  
bDescriptorType 6  
bcdUSB 2.00  
bDeviceClass 9 Hub  
bDeviceSubClass 0 Unused  
bDeviceProtocol 0 Full speed (or root) hub  
bMaxPacketSize0 64  
bNumConfigurations 1

Device Status: 0x0001  
Self Powered

Bus 002 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub

## Device Descriptor:

bLength 18  
bDescriptorType 1  
bcdUSB 2.00  
bDeviceClass 9 Hub  
bDeviceSubClass 0 Unused  
bDeviceProtocol 0 Full speed (or root) hub  
bMaxPacketSize0 64  
idVendor 0x1d6b Linux Foundation  
idProduct 0x0002 2.0 root hub  
bcdDevice 2.06  
iManufacturer 3 Linux 2.6.38-8-generic ehci\_hcd  
iProduct 2 EHCI Host Controller  
iSerial 1 0000:00:1d.0  
bNumConfigurations 1

## Configuration Descriptor:

bLength 9  
bDescriptorType 2  
wTotalLength 25  
bNumInterfaces 1  
bConfigurationValue 1  
iConfiguration 0  
bmAttributes 0xe0  
Self Powered  
Remote Wakeup

MaxPower 0mA

## Interface Descriptor:

bLength 9  
bDescriptorType 4

```
bInterfaceNumber      0
bAlternateSetting     0
bNumEndpoints         1
bInterfaceClass       9 Hub
bInterfaceSubClass    0 Unused
bInterfaceProtocol    0 Full speed (or root) hub
iInterface            0
Endpoint Descriptor:
  bLength              7
  bDescriptorType      5
  bEndpointAddress     0x81  EP 1 IN
  bmAttributes         3
    Transfer Type      Interrupt
    Synch Type         None
    Usage Type         Data
  wMaxPacketSize       0x0004  1x 4 bytes
  bInterval            12
```

Hub Descriptor:

```
bLength              9
bDescriptorType      41
nNbrPorts            3
wHubCharacteristic  0x000a
  No power switching (usb 1.0)
  Per-port overcurrent protection
bPwrOn2PwrGood       10 * 2 milli seconds
bHubContrCurrent      0 milli Ampere
DeviceRemovable      0x00
PortPwrCtrlMask      0xff
```

Hub Port Status:

```
Port 1: 0000.0503 highspeed power enable connect
Port 2: 0000.0100 power
Port 3: 0000.0100 power
```

Device Status: 0x0003

```
Self Powered
Remote Wakeup Enabled
```

Bus 001 Device 004: ID 04f2:b1c1 Chicony Electronics Co., Ltd

Device Descriptor:

```
bLength              18
bDescriptorType      1
bcdUSB               2.00
bDeviceClass         239 Miscellaneous Device
bDeviceSubClass      2 ?
bDeviceProtocol      1 Interface Association
bMaxPacketSize0      64
idVendor              0x04f2 Chicony Electronics Co., Ltd
idProduct             0xb1c1
bcdDevice            25.07
iManufacturer        1 Chicony Corp.
```

```
iProduct          2 Lenovo EasyCamera
iSerial           0
bNumConfigurations 1
Configuration Descriptor:
  bLength          9
  bDescriptorType   2
  wTotalLength     405
  bNumInterfaces   2
  bConfigurationValue 1
  iConfiguration   0
  bmAttributes     0x80
    (Bus Powered)
  MaxPower        320mA
  Interface Association:
    bLength        8
    bDescriptorType 11
    bFirstInterface 0
    bInterfaceCount 2
    bFunctionClass  14 Video
    bFunctionSubClass 3 Video Interface Collection
    bFunctionProtocol 0
    iFunction       2 Lenovo EasyCamera
  Interface Descriptor:
    bLength        9
    bDescriptorType 4
    bInterfaceNumber 0
    bAlternateSetting 0
    bNumEndpoints  1
    bInterfaceClass 14 Video
    bInterfaceSubClass 1 Video Control
    bInterfaceProtocol 0
    iInterface     2 Lenovo EasyCamera
  VideoControl Interface Descriptor:
    bLength        13
    bDescriptorType 36
    bDescriptorSubtype 1 (HEADER)
    bcdUVC         1.00
    wTotalLength   79
    dwClockFrequency 30.000000MHz
    bInCollection  1
    baInterfaceNr( 0) 1
  VideoControl Interface Descriptor:
    bLength        18
    bDescriptorType 36
    bDescriptorSubtype 2 (INPUT_TERMINAL)
    bTerminalID     1
    wTerminalType   0x0201 Camera Sensor
    bAssocTerminal  0
    iTerminal       0
    wObjectiveFocalLengthMin 0
    wObjectiveFocalLengthMax 0
```

```
wOcularFocalLength      0
bControlSize            3
bmControls              0x00000000
VideoControl Interface Descriptor:
  bLength                11
  bDescriptorType        36
  bDescriptorSubtype     5 (PROCESSING_UNIT)
Warning: Descriptor too short
  bUnitID                2
  bSourceID              1
  wMaxMultiplier        0
  bControlSize           2
  bmControls             0x0000147f
    Brightness
    Contrast
    Hue
    Saturation
    Sharpness
    Gamma
    White Balance Temperature
    Power Line Frequency
    White Balance Temperature, Auto
  iProcessing            0
  bmVideoStandards       0x 9
    None
    SECAM - 625/50
VideoControl Interface Descriptor:
  bLength                9
  bDescriptorType        36
  bDescriptorSubtype     3 (OUTPUT_TERMINAL)
  bTerminalID            3
  wTerminalType          0x0101 USB Streaming
  bAssocTerminal         0
  bSourceID              2
  iTerminal              0
VideoControl Interface Descriptor:
  bLength                28
  bDescriptorType        36
  bDescriptorSubtype     6 (EXTENSION_UNIT)
  bUnitID                4
  guidExtensionCode      {5dc717a9-1941-da11-ae0e-000d56ac7b4c}
  bNumControl            8
  bNrPins                1
  baSourceID( 0)         1
  bControlSize           3
  bmControls( 0)         0x59
  bmControls( 1)         0x80
  bmControls( 2)         0x80
  iExtension             0
```

## Endpoint Descriptor:

|                  |        |             |
|------------------|--------|-------------|
| bLength          | 7      |             |
| bDescriptorType  | 5      |             |
| bEndpointAddress | 0x81   | EP 1 IN     |
| bmAttributes     | 3      |             |
| Transfer Type    |        | Interrupt   |
| Synch Type       |        | None        |
| Usage Type       |        | Data        |
| wMaxPacketSize   | 0x000a | 1x 10 bytes |
| bInterval        | 5      |             |

## Interface Descriptor:

|                    |    |                 |
|--------------------|----|-----------------|
| bLength            | 9  |                 |
| bDescriptorType    | 4  |                 |
| bInterfaceNumber   | 1  |                 |
| bAlternateSetting  | 0  |                 |
| bNumEndpoints      | 0  |                 |
| bInterfaceClass    | 14 | Video           |
| bInterfaceSubClass | 2  | Video Streaming |
| bInterfaceProtocol | 0  |                 |
| iInterface         | 0  |                 |

## VideoStreaming Interface Descriptor:

|                     |     |                |
|---------------------|-----|----------------|
| bLength             | 14  |                |
| bDescriptorType     | 36  |                |
| bDescriptorSubtype  | 1   | (INPUT_HEADER) |
| bNumFormats         | 1   |                |
| wTotalLength        | 167 |                |
| bEndPointAddress    | 130 |                |
| bmInfo              | 0   |                |
| bTerminalLink       | 3   |                |
| bStillCaptureMethod | 1   |                |
| bTriggerSupport     | 1   |                |
| bTriggerUsage       | 1   |                |
| bControlSize        | 1   |                |
| bmaControls( 0)     | 27  |                |

## VideoStreaming Interface Descriptor:

|                      |    |                       |
|----------------------|----|-----------------------|
| bLength              | 27 |                       |
| bDescriptorType      | 36 |                       |
| bDescriptorSubtype   | 4  | (FORMAT_UNCOMPRESSED) |
| bFormatIndex         | 1  |                       |
| bNumFrameDescriptors | 4  |                       |
| guidFormat           |    |                       |

{59555932-0000-1000-8000-00aa00389b71}

|                    |      |  |
|--------------------|------|--|
| bBitsPerPixel      | 16   |  |
| bDefaultFrameIndex | 1    |  |
| bAspectRatioX      | 0    |  |
| bAspectRatioY      | 0    |  |
| bmInterlaceFlags   | 0x00 |  |

Interlaced stream or variable: No

Fields per frame: 1 fields

Field 1 first: No

Field pattern: Field 1 only

```
        bCopyProtect                0
VideoStreaming Interface Descriptor:
    bLength                        30
    bDescriptorType                36
    bDescriptorSubtype             5 (FRAME_UNCOMPRESSED)
    bFrameIndex                    1
    bmCapabilities                  0x01
        Still image supported
    wWidth                        640
    wHeight                       400
    dwMinBitRate                   196608000
    dwMaxBitRate                   196608000
    dwMaxVideoFrameBufferSize     960000
    dwDefaultFrameInterval        333333
    bFrameIntervalType            1
    dwFrameInterval( 0)          333333
VideoStreaming Interface Descriptor:
    bLength                        30
    bDescriptorType                36
    bDescriptorSubtype             5 (FRAME_UNCOMPRESSED)
    bFrameIndex                    2
    bmCapabilities                  0x01
        Still image supported
    wWidth                        640
    wHeight                       480
    dwMinBitRate                   196608000
    dwMaxBitRate                   196608000
    dwMaxVideoFrameBufferSize     614400
    dwDefaultFrameInterval        333333
    bFrameIntervalType            1
    dwFrameInterval( 0)          333333
VideoStreaming Interface Descriptor:
    bLength                        30
    bDescriptorType                36
    bDescriptorSubtype             5 (FRAME_UNCOMPRESSED)
    bFrameIndex                    3
    bmCapabilities                  0x01
        Still image supported
    wWidth                        320
    wHeight                       240
    dwMinBitRate                   196608000
    dwMaxBitRate                   196608000
    dwMaxVideoFrameBufferSize     153600
    dwDefaultFrameInterval        333333
    bFrameIntervalType            1
    dwFrameInterval( 0)          333333
VideoStreaming Interface Descriptor:
    bLength                        30
    bDescriptorType                36
```

```

        bDescriptorSubtype          5 (FRAME_UNCOMPRESSED)
        bFrameIndex                  4
        bmCapabilities                0x01
            Still image supported
        wWidth                        160
        wHeight                       120
        dwMinBitRate                  196608000
        dwMaxBitRate                  196608000
        dwMaxVideoFrameBufferSize    38400
        dwDefaultFrameInterval       333333
        bFrameIntervalType           1
        dwFrameInterval( 0)          333333
VideoStreaming Interface Descriptor:
    bLength                          6
    bDescriptorType                   36
    bDescriptorSubtype               13 (COLORFORMAT)
    bColorPrimaries                   0 (Unspecified)
    bTransferCharacteristics          0 (Unspecified)
    bMatrixCoefficients              0 (Unspecified)
Interface Descriptor:
    bLength                          9
    bDescriptorType                   4
    bInterfaceNumber                 1
    bAlternateSetting                 1
    bNumEndpoints                    1
    bInterfaceClass                   14 Video
    bInterfaceSubClass                2 Video Streaming
    bInterfaceProtocol                0
    iInterface                       0
Endpoint Descriptor:
    bLength                          7
    bDescriptorType                   5
    bEndpointAddress                 0x82 EP 2 IN
    bmAttributes                      5
        Transfer Type                 Isochronous
        Synch Type                     Asynchronous
        Usage Type                     Data
    wMaxPacketSize                    0x0080 1x 128 bytes
    bInterval                        1
Interface Descriptor:
    bLength                          9
    bDescriptorType                   4
    bInterfaceNumber                 1
    bAlternateSetting                 2
    bNumEndpoints                    1
    bInterfaceClass                   14 Video
    bInterfaceSubClass                2 Video Streaming
    bInterfaceProtocol                0
    iInterface                       0
Endpoint Descriptor:
    bLength                          7

```

```
    bDescriptorType      5
    bEndpointAddress    0x82  EP 2  IN
    bmAttributes        5
        Transfer Type      Isochronous
        Synch Type        Asynchronous
        Usage Type        Data
    wMaxPacketSize      0x0200  1x 512 bytes
    bInterval          1
Interface Descriptor:
    bLength              9
    bDescriptorType      4
    bInterfaceNumber     1
    bAlternateSetting    3
    bNumEndpoints        1
    bInterfaceClass      14 Video
    bInterfaceSubClass   2 Video Streaming
    bInterfaceProtocol   0
    iInterface           0
Endpoint Descriptor:
    bLength              7
    bDescriptorType      5
    bEndpointAddress    0x82  EP 2  IN
    bmAttributes        5
        Transfer Type      Isochronous
        Synch Type        Asynchronous
        Usage Type        Data
    wMaxPacketSize      0x0400  1x 1024 bytes
    bInterval          1
Interface Descriptor:
    bLength              9
    bDescriptorType      4
    bInterfaceNumber     1
    bAlternateSetting    4
    bNumEndpoints        1
    bInterfaceClass      14 Video
    bInterfaceSubClass   2 Video Streaming
    bInterfaceProtocol   0
    iInterface           0
Endpoint Descriptor:
    bLength              7
    bDescriptorType      5
    bEndpointAddress    0x82  EP 2  IN
    bmAttributes        5
        Transfer Type      Isochronous
        Synch Type        Asynchronous
        Usage Type        Data
    wMaxPacketSize      0x0b00  2x 768 bytes
    bInterval          1
Interface Descriptor:
```

```

bLength          9
bDescriptorType   4
bInterfaceNumber  1
bAlternateSetting 5
bNumEndpoints    1
bInterfaceClass   14 Video
bInterfaceSubClass 2 Video Streaming
bInterfaceProtocol 0
iInterface        0
Endpoint Descriptor:
  bLength          7
  bDescriptorType   5
  bEndpointAddress 0x82 EP 2 IN
  bmAttributes      5
    Transfer Type   Isochronous
    Synch Type      Asynchronous
    Usage Type      Data
  wMaxPacketSize   0x0c00 2x 1024 bytes
  bInterval        1
Interface Descriptor:
  bLength          9
  bDescriptorType   4
  bInterfaceNumber  1
  bAlternateSetting 6
  bNumEndpoints    1
  bInterfaceClass   14 Video
  bInterfaceSubClass 2 Video Streaming
  bInterfaceProtocol 0
  iInterface        0
  Endpoint Descriptor:
    bLength          7
    bDescriptorType   5
    bEndpointAddress 0x82 EP 2 IN
    bmAttributes      5
      Transfer Type   Isochronous
      Synch Type      Asynchronous
      Usage Type      Data
    wMaxPacketSize   0x1380 3x 896 bytes
    bInterval        1
Interface Descriptor:
  bLength          9
  bDescriptorType   4
  bInterfaceNumber  1
  bAlternateSetting 7
  bNumEndpoints    1
  bInterfaceClass   14 Video
  bInterfaceSubClass 2 Video Streaming
  bInterfaceProtocol 0
  iInterface        0
  Endpoint Descriptor:
    bLength          7

```

|                  |        |               |
|------------------|--------|---------------|
| bDescriptorType  | 5      |               |
| bEndpointAddress | 0x82   | EP 2 IN       |
| bmAttributes     | 5      |               |
| Transfer Type    |        | Isochronous   |
| Synch Type       |        | Asynchronous  |
| Usage Type       |        | Data          |
| wMaxPacketSize   | 0x1400 | 3x 1024 bytes |
| bInterval        | 1      |               |

Device Qualifier (for other device speed):

|                    |      |                       |
|--------------------|------|-----------------------|
| bLength            | 10   |                       |
| bDescriptorType    | 6    |                       |
| bcdUSB             | 2.00 |                       |
| bDeviceClass       | 239  | Miscellaneous Device  |
| bDeviceSubClass    | 2    | ?                     |
| bDeviceProtocol    | 1    | Interface Association |
| bMaxPacketSize0    | 64   |                       |
| bNumConfigurations | 1    |                       |

Device Status: 0x0000  
(Bus Powered)

Bus 001 Device 003: ID 1c7a:0801 LighTuning Technology Inc.

Device Descriptor:

|                    |        |                              |
|--------------------|--------|------------------------------|
| bLength            | 18     |                              |
| bDescriptorType    | 1      |                              |
| bcdUSB             | 1.10   |                              |
| bDeviceClass       | 0      | (Defined at Interface level) |
| bDeviceSubClass    | 0      |                              |
| bDeviceProtocol    | 0      |                              |
| bMaxPacketSize0    | 64     |                              |
| idVendor           | 0x1c7a | LighTuning Technology Inc.   |
| idProduct          | 0x0801 |                              |
| bcdDevice          | 1.00   |                              |
| iManufacturer      | 1      | Generic                      |
| iProduct           | 2      | FingerPrinter Reader         |
| iSerial            | 3      | 0000000000000006             |
| bNumConfigurations | 1      |                              |

Configuration Descriptor:

|                     |      |  |
|---------------------|------|--|
| bLength             | 9    |  |
| bDescriptorType     | 2    |  |
| wTotalLength        | 32   |  |
| bNumInterfaces      | 1    |  |
| bConfigurationValue | 1    |  |
| iConfiguration      | 0    |  |
| bmAttributes        | 0xa0 |  |

(Bus Powered)

Remote Wakeup

MaxPower 100mA

Interface Descriptor:

|         |   |  |
|---------|---|--|
| bLength | 9 |  |
|---------|---|--|

```
bDescriptorType      4
bInterfaceNumber     0
bAlternateSetting     0
bNumEndpoints        2
bInterfaceClass      255 Vendor Specific Class
bInterfaceSubClass   255 Vendor Specific Subclass
bInterfaceProtocol    255 Vendor Specific Protocol
iInterface           0
Endpoint Descriptor:
  bLength             7
  bDescriptorType     5
  bEndpointAddress    0x01 EP 1 OUT
  bmAttributes        2
    Transfer Type      Bulk
    Synch Type         None
    Usage Type         Data
  wMaxPacketSize      0x0040 1x 64 bytes
  bInterval           1
Endpoint Descriptor:
  bLength             7
  bDescriptorType     5
  bEndpointAddress    0x82 EP 2 IN
  bmAttributes        2
    Transfer Type      Bulk
    Synch Type         None
    Usage Type         Data
  wMaxPacketSize      0x0040 1x 64 bytes
  bInterval           1
```

```
Device Status:      0x0000
  (Bus Powered)
```

Bus 001 Device 002: ID 8087:0020 Intel Corp. Integrated Rate Matching Hub

Device Descriptor:

```
bLength             18
bDescriptorType     1
bcdUSB              2.00
bDeviceClass        9 Hub
bDeviceSubClass     0 Unused
bDeviceProtocol     1 Single TT
bMaxPacketSize0     64
idVendor            0x8087 Intel Corp.
idProduct           0x0020 Integrated Rate Matching Hub
bcdDevice           0.00
iManufacturer       0
iProduct            0
iSerial             0
bNumConfigurations  1
Configuration Descriptor:
  bLength             9
  bDescriptorType     2
  wTotalLength        25
```

```
bNumInterfaces          1
bConfigurationValue     1
iConfiguration          0
bmAttributes             0xe0
    Self Powered
    Remote Wakeup
MaxPower                 0mA
Interface Descriptor:
    bLength              9
    bDescriptorType      4
    bInterfaceNumber     0
    bAlternateSetting    0
    bNumEndpoints       1
    bInterfaceClass      9 Hub
    bInterfaceSubClass   0 Unused
    bInterfaceProtocol   0 Full speed (or root) hub
    iInterface           0
    Endpoint Descriptor:
        bLength          7
        bDescriptorType  5
        bEndpointAddress 0x81 EP 1 IN
        bmAttributes     3
            Transfer Type    Interrupt
            Synch Type      None
            Usage Type      Data
        wMaxPacketSize    0x0001 1x 1 bytes
        bInterval        12
```

#### Hub Descriptor:

```
bLength          9
bDescriptorType  41
nNbrPorts        6
wHubCharacteristic 0x0089
    Per-port power switching
    Per-port overcurrent protection
    TT think time 8 FS bits
    Port indicators
bPwrOn2PwrGood    50 * 2 milli seconds
bHubContrCurrent  0 milli Ampere
DeviceRemovable   0x00
PortPwrCtrlMask   0xff
```

#### Hub Port Status:

```
Port 1: 0000.0100 power
Port 2: 0000.0100 power
Port 3: 0000.0103 power enable connect
Port 4: 0000.0100 power
Port 5: 0000.0100 power
Port 6: 0000.0503 highspeed power enable connect
```

#### Device Qualifier (for other device speed):

```
bLength          10
```

```
bDescriptorType      6
bcdUSB               2.00
bDeviceClass         9 Hub
bDeviceSubClass       0 Unused
bDeviceProtocol       0 Full speed (or root) hub
bMaxPacketSize0      64
bNumConfigurations   1
Device Status:       0x0001
Self Powered
```

Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub

Device Descriptor:

```
bLength              18
bDescriptorType      1
bcdUSB               2.00
bDeviceClass         9 Hub
bDeviceSubClass       0 Unused
bDeviceProtocol       0 Full speed (or root) hub
bMaxPacketSize0      64
idVendor             0x1d6b Linux Foundation
idProduct            0x0002 2.0 root hub
bcdDevice            2.06
iManufacturer        3 Linux 2.6.38-8-generic ehci_hcd
iProduct             2 EHCI Host Controller
iSerial              1 0000:00:1a.0
bNumConfigurations   1
```

Configuration Descriptor:

```
bLength              9
bDescriptorType      2
wTotalLength         25
bNumInterfaces       1
bConfigurationValue  1
iConfiguration       0
bmAttributes         0xe0
    Self Powered
    Remote Wakeup
```

MaxPower 0mA

Interface Descriptor:

```
bLength              9
bDescriptorType      4
bInterfaceNumber     0
bAlternateSetting     0
bNumEndpoints        1
bInterfaceClass       9 Hub
bInterfaceSubClass    0 Unused
bInterfaceProtocol    0 Full speed (or root) hub
iInterface            0
```

Endpoint Descriptor:

```
bLength              7
bDescriptorType      5
bEndpointAddress     0x81 EP 1 IN
```

|                |        |            |
|----------------|--------|------------|
| bmAttributes   | 3      |            |
| Transfer Type  |        | Interrupt  |
| Synch Type     |        | None       |
| Usage Type     |        | Data       |
| wMaxPacketSize | 0x0004 | 1x 4 bytes |
| bInterval      | 12     |            |

#### Hub Descriptor:

|                                 |                      |
|---------------------------------|----------------------|
| bLength                         | 9                    |
| bDescriptorType                 | 41                   |
| nNbrPorts                       | 3                    |
| wHubCharacteristic              | 0x000a               |
| No power switching (usb 1.0)    |                      |
| Per-port overcurrent protection |                      |
| bPwrOn2PwrGood                  | 10 * 2 milli seconds |
| bHubContrCurrent                | 0 milli Ampere       |
| DeviceRemovable                 | 0x00                 |
| PortPwrCtrlMask                 | 0xff                 |

#### Hub Port Status:

Port 1: 0000.0503 highspeed power enable connect  
Port 2: 0000.0100 power  
Port 3: 0000.0100 power

Device Status: 0x0003

Self Powered

Remote Wakeup Enabled

#### bienenag

description: Notebook

version: Lenovo B560

width: 32 bits

capabilities: smbios-2.6 dmi-2.6 smp-1.4 smp

configuration: administrator\_password=disabled boot=normal

chassis=notebook cpus=2 family=IDEAPAD frontpanel\_password=unknown

keyboard\_password=unknown power-on\_password=disabled uuid=5091FAE0-F88B-11DF-A61C-CEC33BD1B017

#### \*-core

description: Motherboard

physical id: 0

#### \*-firmware

description: BIOS

vendor: LENOVO

physical id: 0

version: 39CN16WW

date: 07/29/2010

size: 125KiB

capacity: 4032KiB

capabilities: pci pcmcia pnp upgrade shadowing escd cdboot acpi

#### usb biosbootspecification

##### \*-board UNCLAIMED

description: Motherboard

product: MoutCook

```
vendor: LENOVO
physical id: 2
version: Not Applicable
serial: WB01063186
slot: Not Applicable
*-cpu:0
  description: CPU
  product: Intel(R) Pentium(R) CPU          P6100  @ 2.00GHz
  vendor: Intel Corp.
  physical id: 4
  bus info: cpu@0
  version: 6.5.5
  serial: 0002-0655-0000-0000-0000-0000
  slot: CPU 1
  size: 1999MHz
  capacity: 3200MHz
  width: 64 bits
  clock: 133MHz
  capabilities: x86-64 boot fpu fpu_exception wp vme de pse tsc msr
pae mce cx8 apic mtrr pge mca cmov pat pse36 clflush dts acpi mmx fxsr sse
sse2 ss ht tm pbe nx rdtscp constant_tsc arch_perfmon pebs bts xtopology
nonstop_tsc aperfmperf pni dtes64 monitor ds_cpl est tm2 ssse3 cx16 xtpr
pdc_m popcnt lahf_lm arat cpufreq
  configuration: cores=1 enabledcores=1 id=0 threads=2
*-cache:0
  description: L1 cache
  physical id: 5
  slot: L1 Cache
  size: 32KiB
  capacity: 32KiB
  capabilities: asynchronous internal write-through data
*-cache:1
  description: L2 cache
  physical id: 6
  slot: L2 Cache
  size: 256KiB
  capacity: 1MiB
  capabilities: burst internal write-through unified
*-cache:2
  description: L3 cache
  physical id: 7
  slot: L3 Cache
  size: 3MiB
  capacity: 8MiB
  capabilities: burst internal write-back
*-logicalcpu:0
  description: Logical CPU
  physical id: 0.1
  width: 64 bits
  capabilities: logical
*-logicalcpu:1
```

```
        description: Logical CPU
        physical id: 0.2
        width: 64 bits
        capabilities: logical
*-logicalcpu:2
        description: Logical CPU
        physical id: 0.3
        width: 64 bits
        capabilities: logical
*-logicalcpu:3
        description: Logical CPU
        physical id: 0.4
        width: 64 bits
        capabilities: logical
*-logicalcpu:4
        description: Logical CPU
        physical id: 0.5
        width: 64 bits
        capabilities: logical
*-logicalcpu:5
        description: Logical CPU
        physical id: 0.6
        width: 64 bits
        capabilities: logical
*-logicalcpu:6
        description: Logical CPU
        physical id: 0.7
        width: 64 bits
        capabilities: logical
*-logicalcpu:7
        description: Logical CPU
        physical id: 0.8
        width: 64 bits
        capabilities: logical
*-logicalcpu:8
        description: Logical CPU
        physical id: 0.9
        width: 64 bits
        capabilities: logical
*-logicalcpu:9
        description: Logical CPU
        physical id: 0.a
        width: 64 bits
        capabilities: logical
*-logicalcpu:10
        description: Logical CPU
        physical id: 0.b
        width: 64 bits
        capabilities: logical
```

```
*-logicalcpu:11
  description: Logical CPU
  physical id: 0.c
  width: 64 bits
  capabilities: logical
*-logicalcpu:12
  description: Logical CPU
  physical id: 0.d
  width: 64 bits
  capabilities: logical
*-logicalcpu:13
  description: Logical CPU
  physical id: 0.e
  width: 64 bits
  capabilities: logical
*-logicalcpu:14
  description: Logical CPU
  physical id: 0.f
  width: 64 bits
  capabilities: logical
*-logicalcpu:15
  description: Logical CPU
  physical id: 0.10
  width: 64 bits
  capabilities: logical
*-memory
  description: System Memory
  physical id: 18
  slot: System board or motherboard
  size: 2GiB
*-bank:0
  description: SODIMM DDR3 Synchronous 1334 MHz (0,7 ns)
  product: DDDDDDDDDDDDDDDDDDD
  vendor: 4444
  physical id: 0
  serial: 44444444
  slot: M1
  size: 2GiB
  width: 64 bits
  clock: 1334MHz (0.7ns)
*-bank:1
  description: SODIMM Synchronous [empty]
  physical id: 1
  slot: M2
*-bank:2
  description: SODIMM Synchronous [empty]
  physical id: 2
  slot: M3
*-bank:3
  description: SODIMM Synchronous [empty]
  physical id: 3
```

```
slot: M4
*-cpu:1
  physical id: 1
  bus info: cpu@1
  version: 6.5.5
  serial: 0002-0655-0000-0000-0000-0000
  size: 933MHz
  capacity: 933MHz
  capabilities: ht cpufreq
  configuration: id=0
*-logicalcpu:0
  description: Logical CPU
  physical id: 0.1
  capabilities: logical
*-logicalcpu:1
  description: Logical CPU
  physical id: 0.2
  capabilities: logical
*-logicalcpu:2
  description: Logical CPU
  physical id: 0.3
  capabilities: logical
*-logicalcpu:3
  description: Logical CPU
  physical id: 0.4
  capabilities: logical
*-logicalcpu:4
  description: Logical CPU
  physical id: 0.5
  capabilities: logical
*-logicalcpu:5
  description: Logical CPU
  physical id: 0.6
  capabilities: logical
*-logicalcpu:6
  description: Logical CPU
  physical id: 0.7
  capabilities: logical
*-logicalcpu:7
  description: Logical CPU
  physical id: 0.8
  capabilities: logical
*-logicalcpu:8
  description: Logical CPU
  physical id: 0.9
  capabilities: logical
*-logicalcpu:9
  description: Logical CPU
  physical id: 0.a
```

```
    capabilities: logical
*-logicalcpu:10
    description: Logical CPU
    physical id: 0.b
    capabilities: logical
*-logicalcpu:11
    description: Logical CPU
    physical id: 0.c
    capabilities: logical
*-logicalcpu:12
    description: Logical CPU
    physical id: 0.d
    capabilities: logical
*-logicalcpu:13
    description: Logical CPU
    physical id: 0.e
    capabilities: logical
*-logicalcpu:14
    description: Logical CPU
    physical id: 0.f
    capabilities: logical
*-logicalcpu:15
    description: Logical CPU
    physical id: 0.10
    capabilities: logical
*-pci:0
    description: Host bridge
    product: Core Processor DRAM Controller
    vendor: Intel Corporation
    physical id: 100
    bus info: pci@0000:00:00.0
    version: 02
    width: 32 bits
    clock: 33MHz
    configuration: driver=agpgart-intel
    resources: irq:0
*-display
    description: VGA compatible controller
    product: Core Processor Integrated Graphics Controller
    vendor: Intel Corporation
    physical id: 2
    bus info: pci@0000:00:02.0
    version: 02
    width: 64 bits
    clock: 33MHz
    capabilities: msi pm vga_controller bus_master cap_list rom
    configuration: driver=i915 latency=0
    resources: irq:41 memory:f2000000-f23fffff memory:d0000000-
dfffffff ioport:1800(size=8)
*-communication UNCLAIMED
    description: Communication controller
```

```
product: 5 Series/3400 Series Chipset HECI Controller
vendor: Intel Corporation
physical id: 16
bus info: pci@0000:00:16.0
version: 06
width: 64 bits
clock: 33MHz
capabilities: pm msi bus_master cap_list
configuration: latency=0
resources: memory:f2804000-f280400f

*-usb:0
description: USB Controller
product: 5 Series/3400 Series Chipset USB2 Enhanced Host
Controller
vendor: Intel Corporation
physical id: 1a
bus info: pci@0000:00:1a.0
version: 05
width: 32 bits
clock: 33MHz
capabilities: pm debug ehci bus_master cap_list
configuration: driver=ehci_hcd latency=0
resources: irq:16 memory:f2806000-f28063ff

*-multimedia
description: Audio device
product: 5 Series/3400 Series Chipset High Definition Audio
vendor: Intel Corporation
physical id: 1b
bus info: pci@0000:00:1b.0
version: 05
width: 64 bits
clock: 33MHz
capabilities: pm msi pciexpress bus_master cap_list
configuration: driver=HDA Intel latency=0
resources: irq:42 memory:f2800000-f2803fff

*-pci:0
description: PCI bridge
product: 5 Series/3400 Series Chipset PCI Express Root Port 1
vendor: Intel Corporation
physical id: 1c
bus info: pci@0000:00:1c.0
version: 05
width: 32 bits
clock: 33MHz
capabilities: pci pciexpress msi pm normal_decode bus_master
cap_list
configuration: driver=pcieport
resources: irq:16 ioport:2000(size=4096) memory:f2400000-
f24fffff ioport:7c000000(size=2097152)
```

```
*-network
    description: Ethernet interface
    product: AR8131 Gigabit Ethernet
    vendor: Atheros Communications
    physical id: 0
    bus info: pci@0000:03:00.0
    logical name: eth0
    version: c0
    serial: f0:de:f1:2e:54:54
    capacity: 1Gbit/s
    width: 64 bits
    clock: 33MHz
    capabilities: pm msi pciexpress vpd bus_master cap_list ethernet physical tp 10bt 10bt-fd 100bt 100bt-fd 1000bt-fd autonegotiation
    configuration: autonegotiation=on broadcast=yes driver=atl1c
    driverversion=1.0.1.0-NAPI firmware=N/A latency=0 link=no multicast=yes
    port=twisted pair
    resources: irq:43 memory:f2400000-f243ffff
ioport:2000(size=128)
*-pci:1
    description: PCI bridge
    product: 5 Series/3400 Series Chipset PCI Express Root Port 2
    vendor: Intel Corporation
    physical id: 1c.1
    bus info: pci@0000:00:1c.1
    version: 05
    width: 32 bits
    clock: 33MHz
    capabilities: pci pciexpress msi pm normal_decode bus_master
cap_list
    configuration: driver=pcieport
    resources: irq:17 ioport:4000(size=4096) memory:f2500000-
f25ffffff ioport:7c200000(size=2097152)
*-network
    description: Wireless interface
    product: BCM4313 802.11b/g/n Wireless LAN Controller
    vendor: Broadcom Corporation
    physical id: 0
    bus info: pci@0000:04:00.0
    logical name: eth1
    version: 01
    serial: ac:81:12:16:9e:76
    width: 64 bits
    clock: 33MHz
    capabilities: pm msi pciexpress bus_master cap_list ethernet
physical wireless
    configuration: broadcast=yes driver=wlo
    driverversion=5.100.82.38 ip=192.168.0.79 latency=0 multicast=yes
    wireless=IEEE 802.11
    resources: irq:17 memory:f2500000-f2503fff
*-pci:2
```

```
description: PCI bridge
product: 5 Series/3400 Series Chipset PCI Express Root Port 4
vendor: Intel Corporation
physical id: 1c.3
bus info: pci@0000:00:1c.3
version: 05
width: 32 bits
clock: 33MHz
capabilities: pci pciexpress msi pm normal_decode bus_master
cap_list
configuration: driver=pcieport
resources: irq:19 ioport:3000(size=4096) memory:f1000000-
f1ffffff ioport:f0000000(size=16777216)
*-usb:1
description: USB Controller
product: 5 Series/3400 Series Chipset USB2 Enhanced Host
Controller
vendor: Intel Corporation
physical id: 1d
bus info: pci@0000:00:1d.0
version: 05
width: 32 bits
clock: 33MHz
capabilities: pm debug ehci bus_master cap_list
configuration: driver=ehci_hcd latency=0
resources: irq:23 memory:f2807000-f28073ff
*-pci:3
description: PCI bridge
product: 82801 Mobile PCI Bridge
vendor: Intel Corporation
physical id: 1e
bus info: pci@0000:00:1e.0
version: a5
width: 32 bits
clock: 33MHz
capabilities: pci subtractive_decode bus_master cap_list
*-isa
description: ISA bridge
product: Mobile 5 Series Chipset LPC Interface Controller
vendor: Intel Corporation
physical id: 1f
bus info: pci@0000:00:1f.0
version: 05
width: 32 bits
clock: 33MHz
capabilities: isa bus_master cap_list
configuration: latency=0
*-storage
description: SATA controller
```

```
product: 5 Series/3400 Series Chipset 4 port SATA AHCI
Controller
  vendor: Intel Corporation
  physical id: 1f.2
  bus info: pci@0000:00:1f.2
  logical name: scsi0
  logical name: scsi4
  version: 05
  width: 32 bits
  clock: 66MHz
  capabilities: storage msi pm ahci_1.0 bus_master cap_list
emulated
  configuration: driver=ahci latency=0
  resources: irq:40 ioport:1818(size=8) ioport:180c(size=4)
ioport:1810(size=8) ioport:1808(size=4) ioport:1820(size=32)
memory:f2808000-f28087ff
*-disk
  description: ATA Disk
  product: WDC WD5000BEVT-2
  vendor: Western Digital
  physical id: 0
  bus info: scsi@0:0.0.0
  logical name: /dev/sda
  version: 01.0
  serial: WD-WXP1E80P4435
  size: 465GiB (500GB)
  capabilities: partitioned partitioned:dos
  configuration: ansiversion=5 signature=c3ffc3ff
*-volume:0
  description: EXT4 volume
  vendor: Linux
  physical id: 1
  bus info: scsi@0:0.0.0,1
  logical name: /dev/sda1
  logical name: /
  version: 1.0
  serial: e45d72dd-6322-4d97-ad37-e101cb44a8ca
  size: 18GiB
  capacity: 18GiB
  capabilities: primary bootable journaled
extended_attributes large_files huge_files dir_nlink extents ext4 ext2
initialized
  configuration: created=2011-04-23 13:33:32
filesystem=ext4 label=root lastmountpoint=/ modified=2011-04-23 14:21:48
mount.fstype=ext4 mount.options=rw,relatime,errors=remount-
ro,barrier=1,data=ordered mounted=2011-04-24 07:46:21 state=mounted
*-volume:1
  description: Linux swap volume
  physical id: 2
  bus info: scsi@0:0.0.0,2
  logical name: /dev/sda2
```

```
version: 1
serial: 687a7b2b-029a-4a4c-929e-0538c44c0e22
size: 3815MiB
capacity: 3815MiB
capabilities: primary nofs swap initialized
configuration: filesystem=swap pagesize=4096
*-volume:2
description: EXT4 volume
vendor: Linux
physical id: 3
bus info: scsi@0:0.0.0,3
logical name: /dev/sda3
logical name: /home
version: 1.0
serial: 7c4f1980-b3b4-48b2-8c24-952b3b1d687c
size: 443GiB
capacity: 443GiB
capabilities: primary journaled extended_attributes
large_files huge_files dir_nlink recover extents ext4 ext2 initialized
configuration: created=2011-04-23 13:33:35
filesystem=ext4 label=home lastmountpoint=/home modified=2011-04-24 09:32:36
mount.fstype=ext4 mount.options=rw,relatime,barrier=1,data=ordered
mounted=2011-04-24 09:32:36 state=mounted
*-cdrom
description: DVD-RAM writer
product: DVD-RAM GT30N
vendor: HL-DT-ST
physical id: 1
bus info: scsi@4:0.0.0
logical name: /dev/cdrom
logical name: /dev/cdrw
logical name: /dev/dvd
logical name: /dev/dvdrw
logical name: /dev/scd0
logical name: /dev/sr0
version: LE09
capabilities: removable audio cd-r cd-rw dvd dvd-r dvd-ram
configuration: ansiversion=5 status=nodisc
*-serial UNCLAIMED
description: SMBus
product: 5 Series/3400 Series Chipset SMBus Controller
vendor: Intel Corporation
physical id: 1f.3
bus info: pci@0000:00:1f.3
version: 05
width: 64 bits
clock: 33MHz
configuration: latency=0
resources: memory:f2809000-f28090ff ioport:1840(size=32)
```

**\*-generic UNCLAIMED**

description: Signal processing controller  
product: 5 Series/3400 Series Chipset Thermal Subsystem  
vendor: Intel Corporation  
physical id: 1f.6  
bus info: pci@0000:00:1f.6  
version: 05  
width: 64 bits  
clock: 33MHz  
capabilities: pm msi cap\_list  
configuration: latency=0  
resources: memory:f280a000-f280afff

**\*-pci:1**

description: Host bridge  
product: Core Processor QuickPath Architecture Generic Non-core

**Registers**

vendor: Intel Corporation  
physical id: 101  
bus info: pci@0000:ff:00.0  
version: 02  
width: 32 bits  
clock: 33MHz

**\*-pci:2**

description: Host bridge  
product: Core Processor QuickPath Architecture System Address

**Decoder**

vendor: Intel Corporation  
physical id: 102  
bus info: pci@0000:ff:00.1  
version: 02  
width: 32 bits  
clock: 33MHz

**\*-pci:3**

description: Host bridge  
product: Core Processor QPI Link 0  
vendor: Intel Corporation  
physical id: 103  
bus info: pci@0000:ff:02.0  
version: 02  
width: 32 bits  
clock: 33MHz

**\*-pci:4**

description: Host bridge  
product: Core Processor QPI Physical 0  
vendor: Intel Corporation  
physical id: 104  
bus info: pci@0000:ff:02.1  
version: 02  
width: 32 bits  
clock: 33MHz

**\*-pci:5**

description: Host bridge  
product: Core Processor Reserved  
vendor: Intel Corporation  
physical id: 105  
bus info: pci@0000:ff:02.2  
version: 02  
width: 32 bits  
clock: 33MHz

\*-pci:6

description: Host bridge  
product: Core Processor Reserved  
vendor: Intel Corporation  
physical id: 106  
bus info: pci@0000:ff:02.3  
version: 02  
width: 32 bits  
clock: 33MHz

\*-battery

description: Lithium Ion Battery  
product: Intel Corporation  
vendor: Intel Corporation  
physical id: 1  
slot: Rear  
capacity: 1000mWh  
configuration: voltage=0,0V

\*-remoteaccess UNCLAIMED

vendor: Intel  
physical id: 2  
capabilities: outbound

\*-power UNCLAIMED

description: To Be Defined By O.E.M  
product: To Be Defined By O.E.M  
vendor: To Be Defined By O.E.M  
physical id: 3  
version: 2.50  
serial: To Be Defined By O.E.M  
capacity: 32768mWh

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