



威盛GMB策略聯盟

新世代产品的创新应用技术

联阳半导体 产品经理 王忠贤

ITE产品应用于 威盛GMB联盟参考设计

- Embedded Controller
- CIR Solution Function
- Video Link Products
- Card Reader Product



上網本開創新商機

2009年出貨倍數成長 2725萬台

Stage 1 : Now

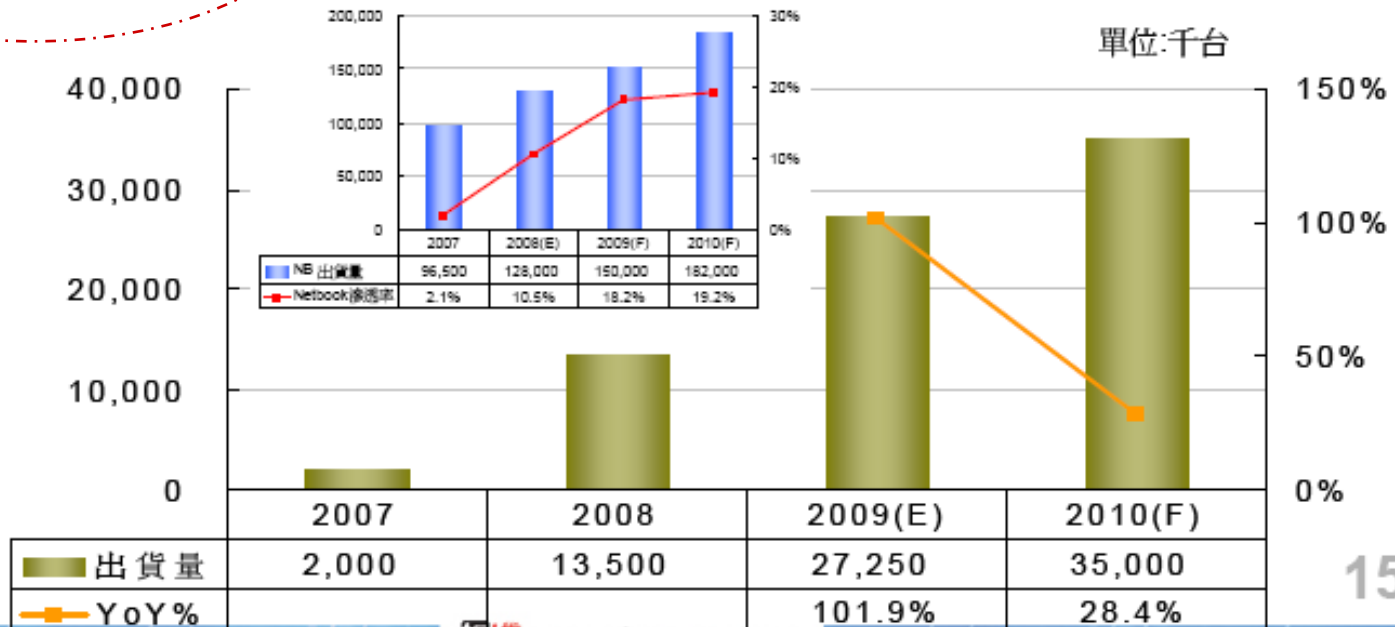
成熟市場的第二台PCs
擴張現有NB市場
現有通路
\$350 up Netbook

Stage 2 : 2009~2011

+ 新興市場第一台PCs
\$250 up Netbook
+ 搭配電信服務商
Wireless Broadband 傳輸服務

Stage 3 : 2011~

+ “雲終端”
新興市場需求興起
新興雲端服務終端



15

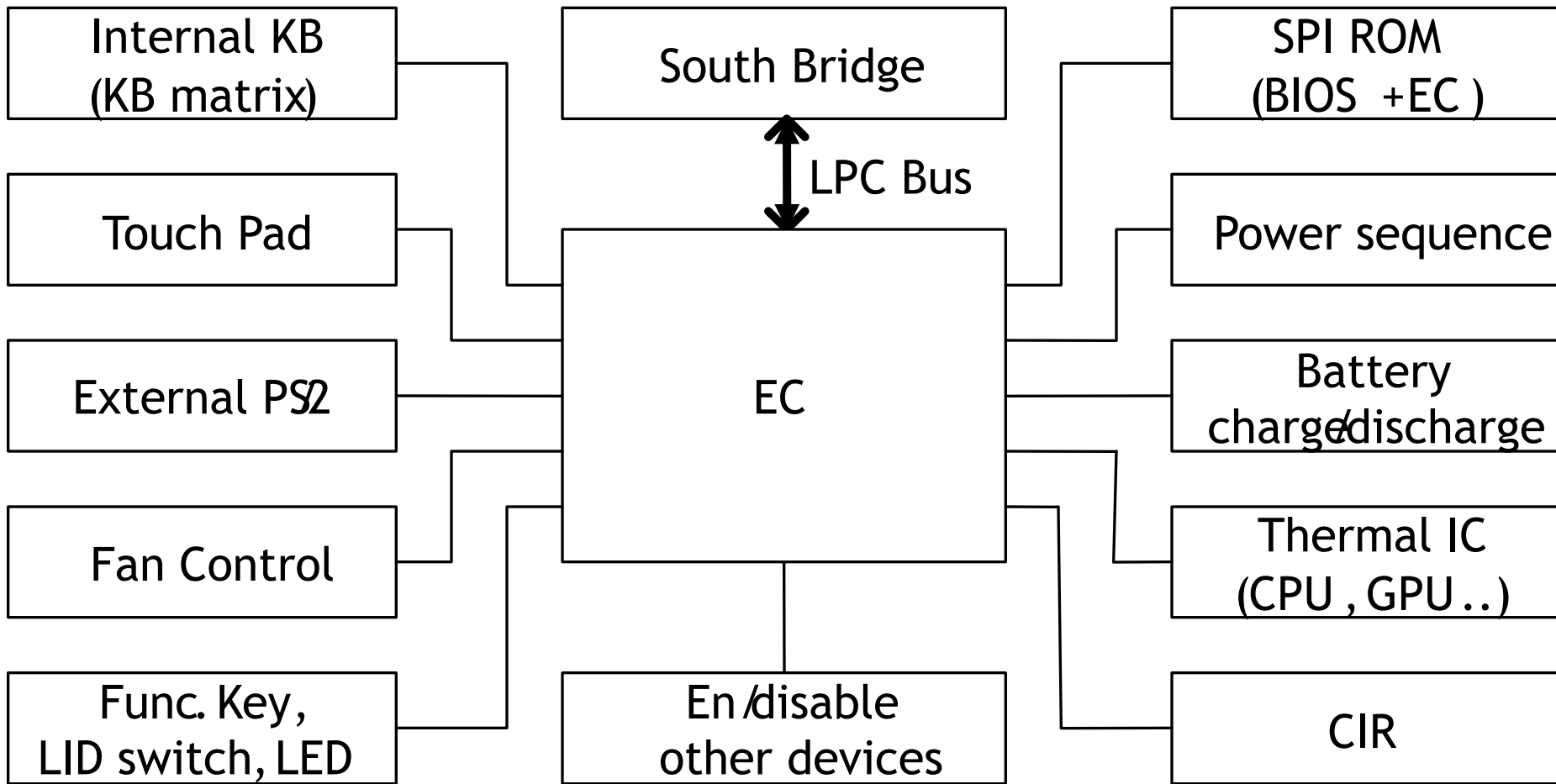
Source : TRI , 2008/11 , 2009/04 updated

2009/04/22 TRI研討會 曾筱軫



威盛GMB策略聯盟

EC 在上网本中的功能



Notebook Embedded Controller



- Ext. 32768
- 4K SRAM
- Up to 16MB Serial Flash
- 12 ADC Channels, 10-bit
- 6 DAC Channels, 8-bit
- 8 PWM Channels
- **8502 No CIR**; 8512 2 MCE CIR Ports
- SPI Flash Read Protection
- SPI Flash Write Protection
- PM3 I/O Channel (62/66, 68/6C, 6A/6E)
- Ext. WDT Can Stop After Starting

- Battery-backed 192Byte SRAM
- 73 + 9 GPIO
- UART Port **x1**
- SPI Device I/F **x1**, with a BUSY
- 4 SM Bus Masters
- A SMB Slave On Any Channel
- Signal Buffers
- 32768Hz Clock Out
- Timer x5
- PECL 2.0 Host
- TMR

- Ext. 32768
- 4K SRAM
- Up to 16MB Serial Flash
- 12 ADC Channels, 10-bit
- 6 DAC Channels, 8-bit
- 8 PWM Channels
- 2 MCE CIR Ports
- SPI Flash Read Protection
- SPI Flash Write Protection
- PM3 I/O Channel (62/66, 68/6C, 6A/6E)
- Ext. WDT Can Stop After Starting
- **RTC**
- Battery-backed 192Byte SRAM
- 73 + 9 GPIO
- UART Port **x2**
- SPI Device I/F **x2**, share a BUSY
- 4 SM Bus Masters
- A SMB Slave On Any Channel
- Signal Buffers
- 32768Hz Clock Out
- Timer x5
- PECL 2.0 Host
- TMR

- Int./Ext. 32768
- 2K SRAM
- Up to 16MB Serial Flash
- 4 ADC Channels (10-bit)
- 4 DAC Channels (8-bit)
- 6 PWM Channels

- SPI Flash R Protection
- SPI Flash W Protection

- Ext. WDT Can Stop After Starting

- Battery-backed 64-byte SRAM
- 73 GPIOs

- 2 SM Bus Channels

- 32768Hz Clock Out
- Timer x4



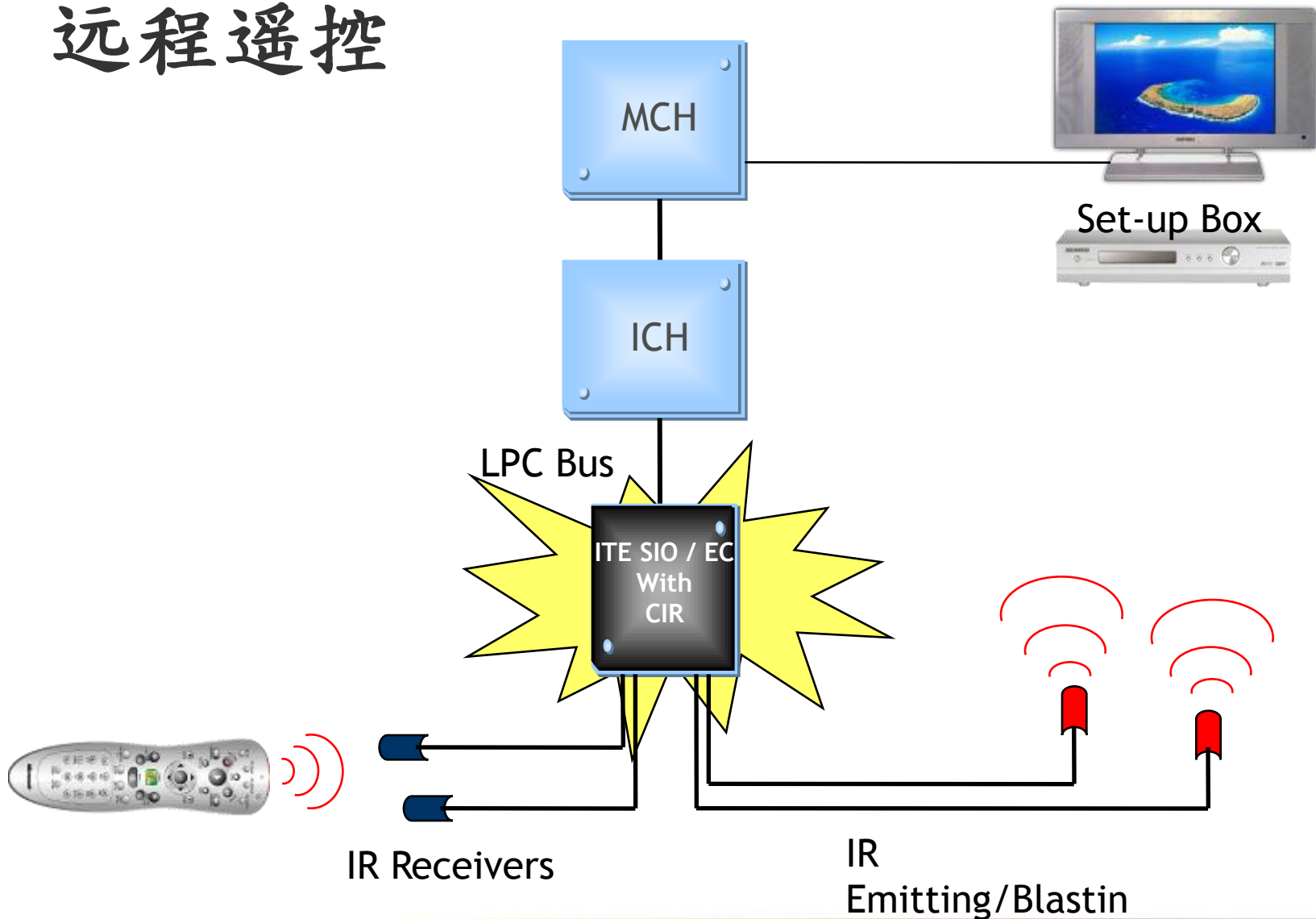
ITE EC Product Selection Guide

| | IT8500/B Sample Stage | IT8502/K | IT8512/K | IT8502/N | IT8512/N | IT8516/F |
|---------------------------------------|--------------------------|--------------|--------------|----------------------|----------------------|----------------------|
| CIR RX/TX | 0 | 0 | 2TX/2RX | 0 | 2TX/2RX | 2TX/2RX |
| 32768 | Int./Ext. | Ext. | Ext. | Ext. | Ext. | Ext. |
| RTC | 0 | 0 | 0 | 0 | 0 | 1 |
| UART Device I/F | 0 | 0 | 0 | 1 | 1 | 2 |
| SPI Device I/F | 0 | 0 | 0 | 1, with busy | 1, with busy | 2, share busy |
| Battery-backed SRAM Map to EC/Host | 64B | 64B | 64B | 192B | 192B | 192B |
| PECI 2.0 Host | 0 | 0 | 0 | 1 | 1 | 1 |
| SM Bus | Master x 2 | Master x 3 | Master x 3 | Master x 4 | Master x 4 | Master x 4 |
| SMB Slave | 0 | 0 | 0 | 1 | 1 | 1 |
| GPIO Extender | No | Yes | Yes | Yes | Yes | Yes |
| PWM | 6 | 8 | 8 | 8 + 4 _{TMR} | 8 + 4 _{TMR} | 8 + 4 _{TMR} |
| SPI Flash Read/Write Protection | Yes | No | No | Yes | Yes | Yes |
| SRAM | 2KB | 4KB | 4KB | 4KB | 4KB | 4KB |
| PS/2 | 2 | 3 | 3 | 3 | 3 | 3 |
| ADC | 4 | 8 | 8 | 8 | 8 | 8 |
| Internal ADC | 0 | 4 | 4 | 4 | 4 | 4 |
| DAC | 4 | 6 | 6 | 6 | 6 | 6 |
| Fan Tachometer | 2 | 2 | 2 | 2 | 2 | 2 |
| Pin Count | 128 | 128 | 128 | 128 | 128 | 128 |
| Vbat | N.C. | 1 | 1 | 1 | 1 | 1 |
| Package | LQFP, QFP | LQFP, QFP | LQFP, BGA | LQFP, QFP | LQFP, BGA | LQFP, BGA |



ITE CIR Solution

远程遥控



Microsoft certifications letter for IT8512E



Windows® Media Center RC and IR Technologies

Dear PC OEM/ODM :

January 3, 2007

This certifies that the following:

ITE's CIR chip solution has passed the Cirtest Utility test for Windows Vista in both the 32 bit version and 64 bit version for an IR Transceiver product. This chip is a part of receiver system that includes a full BOM listing of key items.

Any major component variation in the BOM's for this device requires a resubmission of the tests. The Build of Materials for these certifications are noted here.

CIR 8512 Version:

Microcontroller: N/A : Firmware: N/A : USB chip (interface chip): N/A

Custom silicon: IT 8512

Light detector parts: Vishay TSOP6236

Thank you,

Debi Miller Murphy

Debi Miller Murphy

Program Manager

eHome Partner Engagement Team



威盛GMB策略聯盟

ITE EC code solution

(It's free under NDA)

- The Licensed Software includes the complete firmware required and available for Licensee Embedded Controllers defined in Exhibit A as follows:
- Allows for three scan matrix tables to be appended to ROM
- All standard notebook PC keys are available, including keypad overlay keys
- Core functionality includes:
 - =====
 - Host interface configured to provide IBM PS/2 and AT compatibility
 - AT and PS/2 8042 Compatible
 - All defined Host commands are available
 - Supports secondary Host interface for power management or other use
 - ACPI Embedded Controller support
 - ACPI Embedded Controller Full Command Set.
 - SMBus Host Controller interface
 - SCI Event generation
 - PS/2 ports
 - support either a pointing device or a keyboard device
- Keyboards and pointing devices operate simultaneously
- External PS/2 devices can be hot-inserted with automatic device detection.
- Password security
- Supports all standard Host commands
- Self-test and diagnostic commands
- Support Extended Controller Commands (Code structure only)
- Scans keyboard matrix
- Legacy Read/Write Embedded Controller Space
- Sample A/D
- Read SMI Cause Value
- Write D/A
- LEDs control
- GPIO control
- Write/Read Scanner Control Byte
- General configuration
- Crisis-Recovery Commands (Code structure only)
- Write RAM
- Jump to RAM Program
- Get Critical Status Byte



Main Customers

Notebook



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ITE 如何與 GMB 客戶合作

ITE 將於 11 月份舉辦一場免費 EC 訓練課程

《預計 EC 訓練課程》

Time: 2009/11/06(五), 13:30

Place: 深圳市福田區深南大道 7006 號
富春東方大廈 1409-1416

課程聯絡及報名:

Bill Wang (886-938-361299)

bill.wang@ite.com.tw

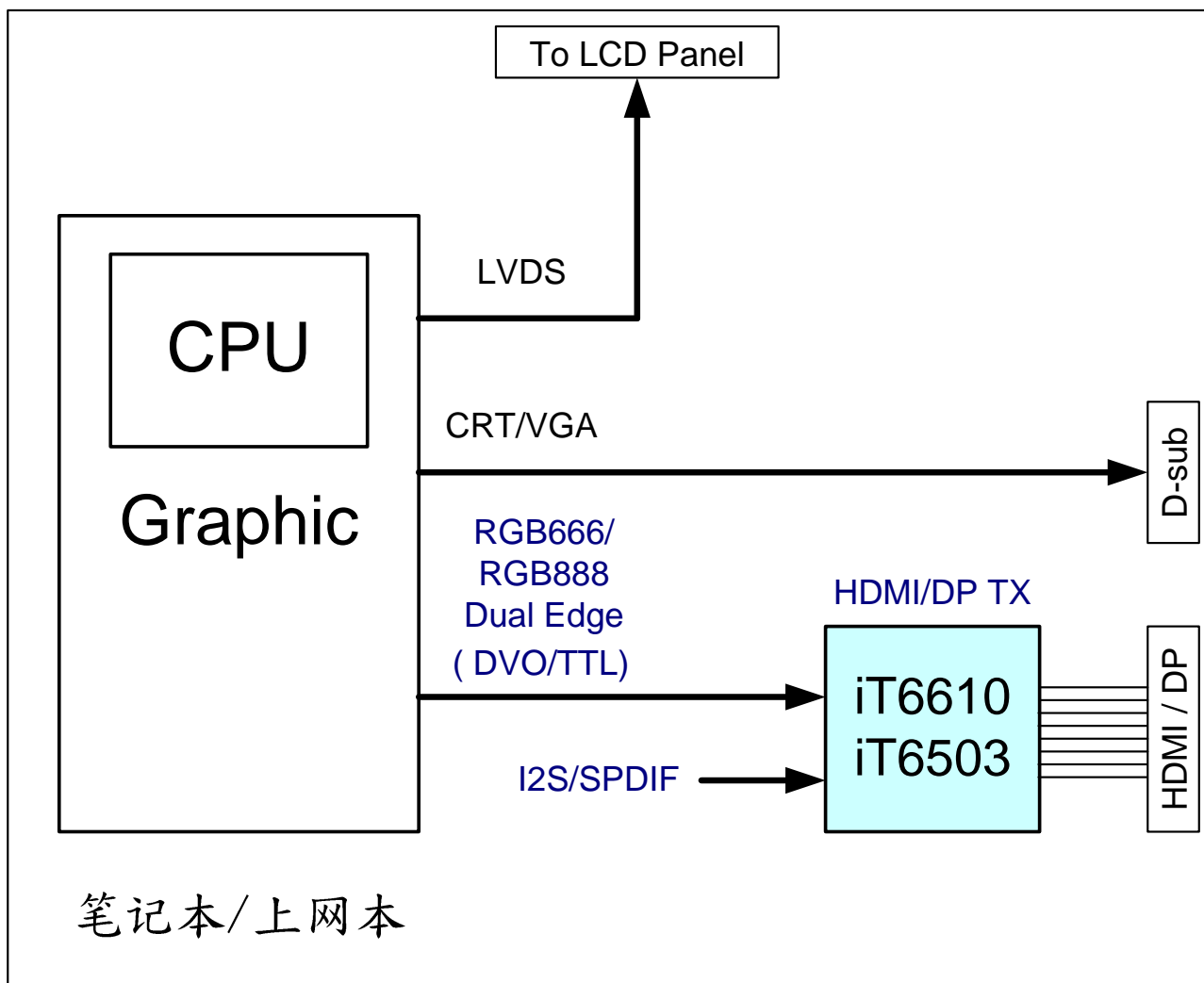
Sunny Liu T: 138 2-317-5662

Sunny.liu@ite.com.tw

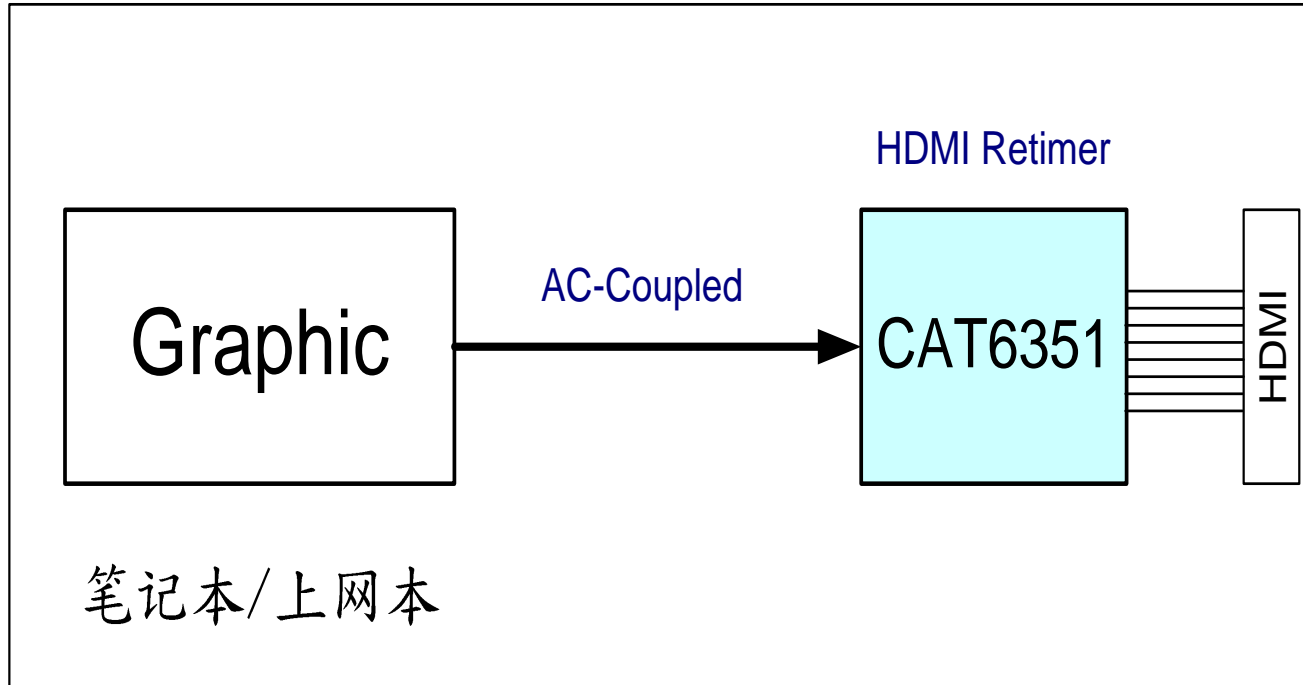


Video Link 产品系列

HDMI/DP发射器用于上网本



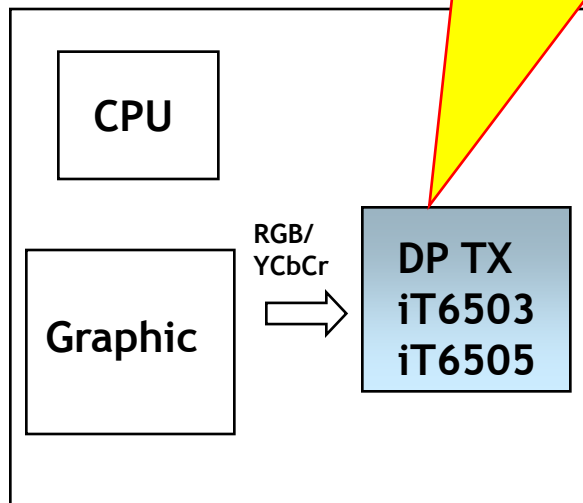
HDMI Retimer: CAT6351用于上网本



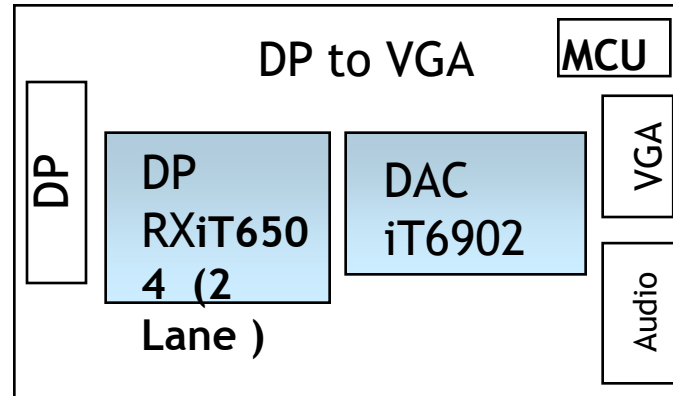
- AC Coupling to DC Coupling
- HDMI Signal Repeater

DP TX and DP to VGA

iT6505 :全球第一个通过
DisplayPort CTS 1.1
Source Device的产品

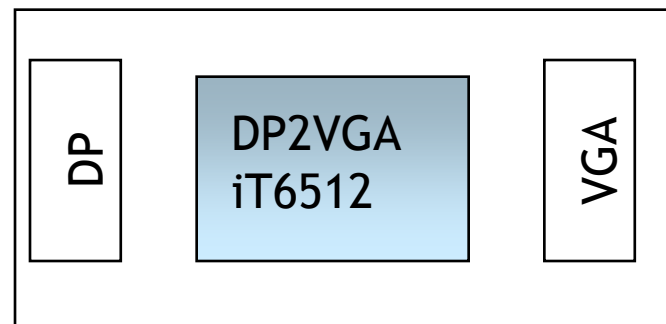


笔记本/上网本



第一代

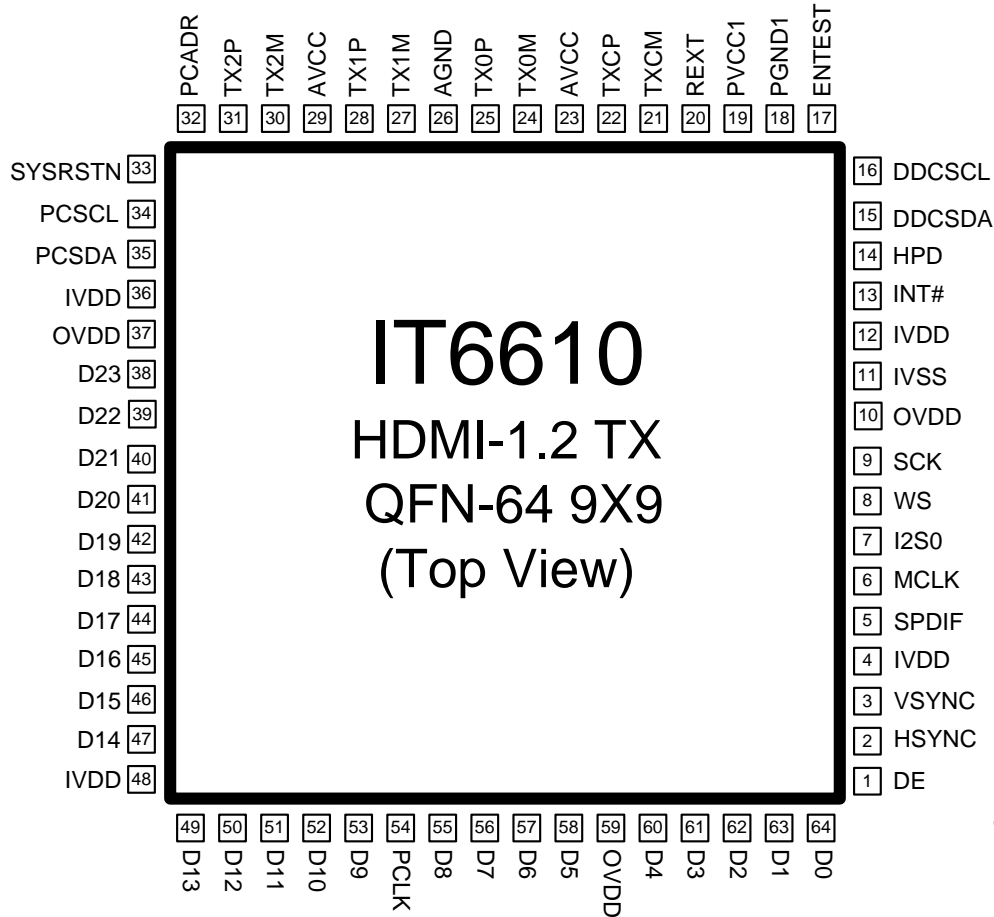
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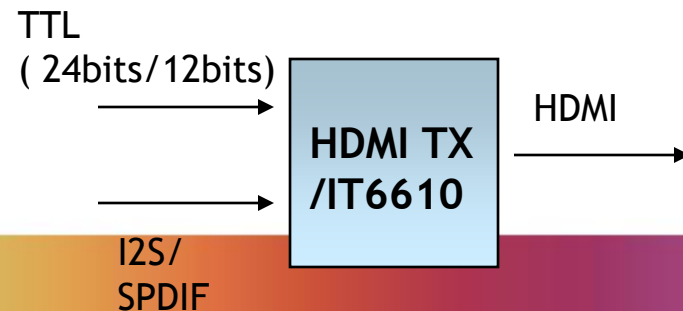
第二代



IT6610 - HDMI TX发射器



- HDMI CTS 1.3c Compatible
- Small Package: QFN64 9X9 (Exposed Pad Needed)
- RGB888/YCbCr Video Inputs Connected to Graphics
- Dual Edge Mode (DDR) Input Interface for 1080p
- Low Cost
- Low Power
- Applications:
Netbook/Notebook
Portable Devices
PMP
HDD Player



ITE联络窗口 (Video Link)

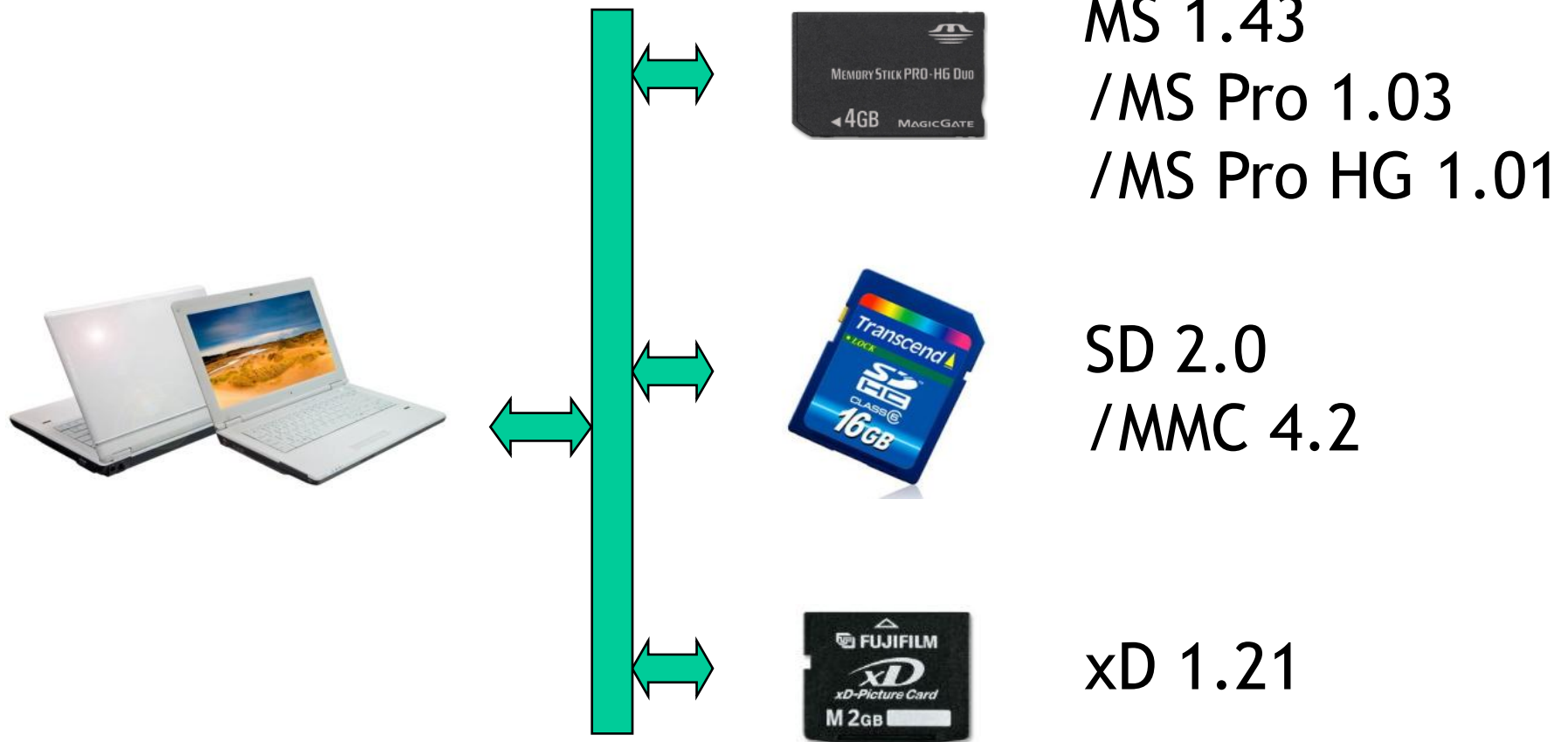
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Card Reader Product

IT1337E-48C/BX1



IT1337 Highlights for NB & AIO PC - Key Features



- **Single LUN**
- **SD/MMC/MS/xD Combo socket support**
- **Support 12 or 48MHz clock input option**
- **Support 5V or 3.3V single power source option**
- **Power saving mode supported for NB battery life consideration**
 - **Default Setting for No Card No Device No Icon (Disconnect mode)**
 - Icon invisible while no card inserted
 - CR disconnect while no card inserted
 - **SW Driver for No access No power (Suspend mode)**
 - Enabling Selective Suspend while card no access
 - Enabling NB CPU enter C3 to save power
 - MS Windows XP and Vista WHQL Certified
- **Memory cards Supported**
 - SD Rev. 2.0 (SDHC)
 - MMC Rev. 4.2 (1/4/8-bit)
 - MS/MS Pro Rev. 1.43; MS PRO (4-bit) Rev. 1.03; MS PRO-HG (8-bit) Rev. 1.01
 - xD-Picture card Rev. 1.21 and SM card Rev. 1.0
- **48 LQFP and 24-pin TQFN Package**



ITE Contact (Card reader)

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- Mobile:

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86-134-80150018 (China)

Capacitance Sensor



Capacitive Touch Sensor

- 13 inputs (2 H/W sliders)
- Automatic calibration
- **I2C interface**
- 2 power-on key
- 13 GPIO or 15 LED H/W dimming
- Good immunity to noise by active shield technology



Capacitive Touch Sensor

- 13 inputs (2 H/W sliders)
- Automatic calibration
- **SPI interface**
- 2 power-on key
- 13 GPIO or 15 LED H/W dimming
- Good immunity to noise by active shield technology



Capacitive Touch Sensor

- 7 inputs (2 H/W sliders)
- Automatic calibration
- **I2C interface**
- 1 power-on key
- 6 GPIO or 7 LED H/W dimming
- Good immunity to noise by active shield technology

2009Q1

2009Q2



ITE 的优势

- 联华电子 (UMC) 关系企业
- 台湾股票上市公司
- 完整的产品组合
- 高市场份额 (Market Share)
- 稳定、大量的交货能力
- 强大、快速的产品开发能力
- 良好、稳定的量产品质控管能力
- 能满足客户全方位的需求



ITE Solution on PC/NB

