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2007-2008 年手机应用处理器 IC（多媒体 IC）产业研究报告

Mobile Phone Application Processor IC（Multimedia Processor IC）Report, 2007-2008

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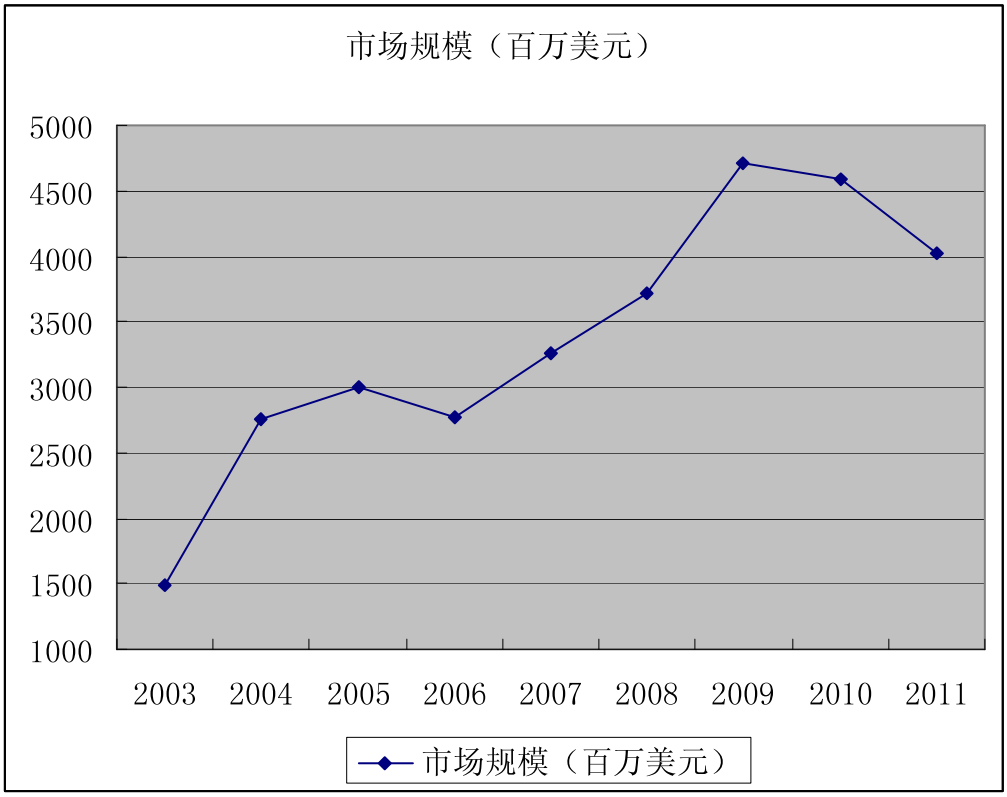
摘要

手机的应用处理器是针对手机的某些特定类型的应用所开发的处理器。我们可以将应用处理器分为三大类型，一类是全面型的，一类是多媒体型的，再有一类是单一媒体型的。全面型的既要有多媒体应用处理器的功能，同时也能运行复杂的类似 Linux 之类的操作系统，这样的厂家通常有 SAMSUNG、ST、TI、RENESAS 和 Marvell。多媒体型指那些处理媒介超过两种的处理器，通常是图像、声音、视频、3D 图形之类的。大多数应用处理器都是这一类的。单一型只处理静止图像或者声音。本报告不研究单一型应用处理器。

应用处理器的出现源自手机应用的不断创新和发展。对大多数厂家来说，他们都在手机平台设计上累积丰富的经验和知识产权。这些平台都是早年只针对通讯，对于通讯之外的应用，这些平台都无能为力。因此应用处理器出现了。应用处理器最大的好处在于完全独立在手机通讯平台之外，灵活方便，缩短设计流程，最大化利用已有的经验和 IP。照相手机的出现，造就了一批专门处理照相后段的应用处理器厂家。而基频厂家都是 SoC 的行家，基频厂家在 1-2 年内将处理照相后段的 JPEG 解码功能集成在基频中，这就导致了一大批 JPEG 解码功能的应用处理器厂家进入低谷期。也就是 2006 年，这些厂家的收入大幅度下滑，出货量锐减。不过手机的新应用催生了另一波应用处理器的高潮。这些应用包括复杂操作系统、移动电视、高品质 3D 图像、300 万以上照相、智能化、GPS、高分辨率拍摄视频流等。不过应用处理器厂家们需要注意了，现在部分基频厂家已经将支持 500 万像素，30 fps, H.264, MPEG4, H.263 和 WMV9 视频播放，VGA 分辨率输出，16 比特颜色深度集成在基频里，这些高性能基频预计在 2011 年大量进入手机应用。届时，应用处理器厂家又要遭遇一次下滑。

目前还出现这样一种设计思路，就是用 ULC 手机的设计方案加应用处理器，尤其是英飞凌的 ULC 手机方案。这对应用处理器来说又多了一片市场空间。

2003-2011 年全球手机应用处理器市场规模统计与预测



正文目录

第一章：手机应用处理器简介
1.1、手机产业简介
1.2、应用处理器背景

第二章 应用处理器市场驱动力
2.1、智能手机
2.2、移动电视
2.2.1、手机电视简介
2.2.2、电视手机市场
2.2.3、DVB-H 手机实例硬件分析
2.3、3D 手机
2.4、H.264 硬件解码手机

第三章 应用处理器产业与市场

第四章 应用处理器厂家研究
4.1、德州仪器
4.2、瑞萨

	4.3、东芝 4.4、AMD/ATI 4.5、NVIDIA 4.6、MTEKVISION 4.7、CORELOGIC 4.8、意法半导体 4.9、FREESCALE 4.10、曜鹏 4.11、MARVELL 4.12、BROADCOM 4.13、华邦 4.14、安凯 4.15、中星微 4.16、杰得微电子 4.17、智多微电子 4.18、三星
部 分 图 表 目录	2005-2011 年全球手机出货量统计及预测 2007 年全球手机市场主要厂家市场占有率 2008-2012 年智能手机出货比例预测 2008-2012 年智能手机操作系统比例预测 各种移动电视频谱分布 全球各地移动电视制式分布 各种移动电视对比 2006-2012 年电视手机各地区出货量预测 2006-2012 年电视手机出货技术类型结构 爱普生移动图像引擎路线图 S1D13743 内部控制流程图 包含数据流和功能块的 H.264 编码器框架图 MPEG-2 和 H.264 解码模块对比 H.264 解码器内部框架图 H.264 运作模式 2007 年全球手机应用处理器主要厂家市场占有率（按出货量） 2007 年全球手机应用处理器主要厂家市场占有率（按销售额） 2008 年全球手机应用处理器主要厂家市场占有率预测（按销售额） 2003-2011 年全球手机应用处理器市场规模统计与预测 2003-2011 年全球手机应用处理器与平均价格统计 2007 年德州仪器产品收入结构 2003-2007 年德州仪器手机产品销售额统计 2003-2007 年德州仪器 3G 手机类产品销售额统计 OMAP1710 内部框架图 OMAP2420 内部框架图

德州仪器最新应用处理器裸晶显微分析
OMAP3420 内部框架图
OMAP-DM510 内部框架图
瑞萨 2004-2008 财年收入与运营利润率统计及预测
2007 财年瑞萨产品收入结构
2002-2009 年 SH-Mobile 出货量统计及预测
SH-Mobile 路线图
SH-Mobile G 系列路线图
SH-Mobile G2、G3 显微裸晶(Die) 图
SH-Mobile 平台结构
SH-Mobile 平台硬件结构
SH-Mobile 平台中间件路线图
SH-Mobile 平台视频中间件路线图
SH-Mobile 平台音频中间件路线图
WMA 应用中间件示例
数字电视中间件结构示例
SH-Mobile L3V2 内部框架图
SH-Mobile UL 内部框架图
SH-Mobile 3（SH73180）内部框架图
SH-Mobile 3A（SH73380）内部框架图
SH7722（SH-MobileR）内部框架图
2001-2010 财年东芝半导体业务收入与利润统计
东芝 2005-2009 财年产品收入结构比例
东芝半导体 2003-2009 财年各领域投资统计及预测
东芝手机应用处理器路线图
东芝手机应用处理器内核结构
东芝手机应用处理器内部框架图
东芝手机应用处理器视频流程图
Nvidia 手机 GPU 内部框架图
Mtekvision 组织结构
Mtekvision 人员配置结构
Mtekvision 运作流程
Mtekvision 全球分布
1999-2008 年 Mtekvision 销售额与产品结构统计及预测
Mtekvision 各型号产品截至 2007 年 2 季度累积出货量
MV8720 内部框架图
采用 Mtekvision 的手机一览
2003-2007 年 CoreLogic 收入与毛利率统计
2003-2008 年 CoreLogic 产品收入结构
CoreLogic 产品路线图
CoreLogic 产品技术发展
CoreLogic SWOT
CL6100 内部框架图
CL9000 内部框架图

2005 年 1 季度到 2007 年 4 季度意法半导体各部门收入统计
2007 年意法半导体各部门收入结构比例
意法半导体 NOMADIK 产品路线图
STN8815 内部框架图
STN8815 特色
STN8815 典型应用图
2007 年飞思卡尔产品收入结构
IMX 系列应用处理器路线图
IMX31 内部框架图
IMX31 视频流程
IMX31 应用实例
曜鹏产品路线图
2001-2008 财年 Marvell 收入与运营利润率统计
Marvell PXA3XX 系列平台典型应用
PXA320 内部框架图
BCM2722 内部框架图
2006 年 2 季度到 2008 年 1 季度华邦收入与毛利率统计
2006 年 2 季度到 2008 年 1 季度华邦分类产品收入与毛利率统计
2007 年 4 季度、2008 年 1 季度华邦产品下游应用比例结构
华邦应用处理器内部框架
2001-2007 年中星微电子收入与毛利率统计
2007 年三星半导体部门产品收入结构
S3C6410 内部框架图
三星移动电视解决方案

2007 年全球前 14 大手机品牌厂家销量
2007 年全球排名前 15 位手机厂家产量（单位：百万部）
2007 年、2008 年 1 季度中国 40 家主要手机厂家产量、销售额、基频提供者
H.264 编码运算复杂度
H.264 与 MPEG4 part2 费用对比
应用处理器厂家制造概况表
德州仪器 OAMP 应用处理器使用手机一览
OMAP3 系列产品对比
OMAP-DM290、299、501、500、510 对比
采用 SH-Mobile 处理器的手机一览
SH-Mobile G2、G3 特性对比
采用东芝应用处理器的手机一览
ATI 手机多媒体芯片一览
使用 ATI 手机 GPU 的手机一览
使用 Nvidia 手机 GPU 的手机一览
Nvidia 手机 GPU 特性对比
CSP 系列产品一览
MVP 系列产品一览
MMP 系列产品一览

	飞思卡尔应用处理器产品一览 曜鹏产品特性对比 华邦应用处理器产品一览 中星微手机多媒体 IC 产品一览 三星应用处理器产品一览表 手持 GPS 导航仪主流方案之成本比较

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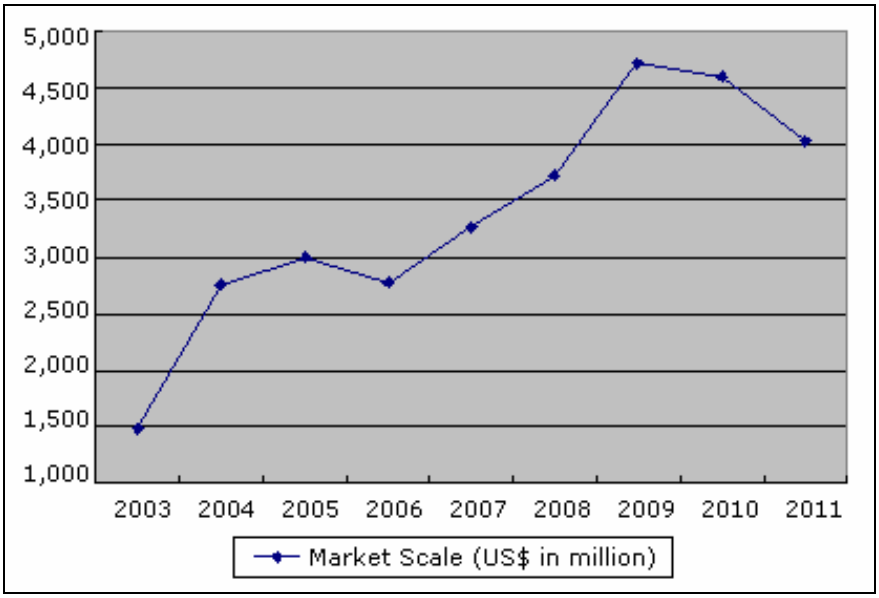
Title	**Mobile Phone Application Processor IC (Multimedia IC) Industry Report, 2007-2008**	Pages	160
Price	PDF USD $ 2,200 Hard Copy USD $ 2,000 Enterprise wide USD $ 3,300	Release Date	Jun/2008
Abstract	Application processor of a handset is developed for certain specific type of applications of a handset, which can be classified into three types, including an all-round type, a multimedia type and a single-media type. The all-round type has not only the function of a multimedia application processor, but also the ability to run complicated operating system similar to Linux. Vendors of this type include Samsung, ST, TI, Renesas and Marvell. The multimedia type refers to the processors that are capable of processing over two media as usual like image, audio, video and 3D graphics, and most of application processors belong to this type. The single-media type only handles static image or audio, which is not studied in this report. Emergence of application processor is the outcome of ceaseless innovation and development of mobile phone applications. For the majority of handset manufacturers, they all have rich experience in the design of mobile phone platforms and own intellectual property rights. In early years, those platforms merely served for communication but could do nothing beyond communication. Therefore, application processor came into being. The biggest advantage of application processor lies in its independence from mobile phone communication platform, thus making it flexible and convenient. Also, the design flow is shortened and the existing experiences and IP are brought into full play. Emergence of camera handset has created a great number of application processor producers, specialized in the processing of camera back-end. Baseband vendors as SoC specialists integrated JPEG decoding function of camera back-end into baseband in 1-2 years, resulting in a market downturn for numerous vendors of application processor with JPEG decoding function. However, new application of mobile phone has conduced to another round of usage peak of application processor, and those applications comprise complex operating system, mobile TV, high-quality 3D graphic, 3-megapixel-and-above camera, intelligentization, GPS, high-definition photographing of video flow, etc. Yet, application processor vendors should attend to it that some baseband vendors have integrated the functions supporting 5-mega pixels, 30fps, H.264, MPEG4, H.263 and WMV9 video playing, VGA resolution output and 16-bit color depth into baseband. Those high-performance basebands are expected to be massively applied in mobile phone in 2011, when application processor vendors will face another market downturn. Presently, there is a design idea, which combines ULC handset design with application processor, in particular the Infineon's ULC handset solutions, indicating an additional huge room for the market of application processor. **Statistics & Forecast of Global Handset Application Processor Market Size, 2003-2011**		



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Contents

1. Brief Introduction of Handset Application Processor
1.1 Brief Introduction of Handset Industry
1.2 Background of Application Processor

2. Driving Force of Application Processor Market
2.1 Smart Phone
2.2 Mobile TV
2.2.1 Brief Introduction of Handset TV
2.2.2 Handset TV Market
2.2.3 Hardware Analysis of DVB-H Handset Sample
2.3 3D Handset
2.4 H.264 Hardware Decoding Handset

3. Application Processor Industry and Market

4. Application Processor Vendors
4.1 TI
4.2 Renesas
4.3 Toshiba
4.4 AMD/ATI
4.5 NVIDIA
4.6 MTEKVISION
4.7 CORELOGIC
4.8 STMicroelectronics
4.9 FREESCALE
4.10 AIT

	4.11 MARVELL 4.12 BROADCOM 4.13 Winbond 4.14 Anyka 4.15 Vimicro 4.16 Jade Tech 4.17 Chipnuts 4.18 Samsung
Selected Charts	Statistics and Forecast of Global Handset Shipment, 2005-2011 Global Market Share of Main Handset Brands, 2007 Forecasted Proportion of Smart Phone Shipment, 2008-2012 Forecasted Proportion of Smart Phone Operating System, 2008-2012 Frequency Spectrum Distribution of Various Mobile TVs Global Distribution of Mobile TVs by Network Comparison of Various Mobile TVs Forecast of TV Handset Shipment by Region, 2006-2012 Forecast of TV Handset Shipment by Technology, 2006-2012 Moving Graphics Engine Roadmap of Epson Inner Control Flow of S1D13743 H.264 Coder Framework Containing Data Flow and Function Module Comparison of MPEG-2 and H.264 Decoding Module Block Diagram of H.264 Decoder Operation Mode of H.264 Market Share of Global Main Handset Application Processor Vendors, 2007 (by Shipment) Market Share of Global Main Handset Application Processor Vendors, 2007 (by Sale) Forecast of Market Share of Global Main Handset Application Processor Vendors, 2008 (by Sale) Statistics and Forecast of Global Handset Application Processor Market Scale, 2003-2011 Global Handset Application Processor and Average Price Statistics, 2003-2011 Revenue of TI by Product, 2007 Revenue of TI from Handset Products, 2003-2007 Revenue of TI from 3G Handset-based Products, 2003-2007 Block Diagram of OMAP1710 Block Diagram of OMAP2420 Die Microscopic Analysis of TI's Latest Application Processor Block Diagram of OMAP3420 Block Diagram of OMAP-DM510 Statistics and Forecast of Revenue and Operating Profit of Renesas, FY2004-FT2008 Revenue of Renesas by Product, FY2007 Shipment Statistics and Forecast of SH-Mobile, 2002-2009 Roadmap of SH-Mobile Roadmap of SH-Mobile G Series

Microscopic Die Chart of SH-Mobile G2 and G3
Structure of SH-Mobile Platform
Hardware Structure of SH-Mobile Platform
Middleware Roadmap of SH-Mobile Platform
Video Middleware Roadmap of SH-Mobile Platform
Audio Middleware Roadmap of SH-Mobile Platform
Application Middleware Cases of WMA
Middleware Structure Cases of Digital TV
Block Diagram of SH-Mobile L3V2
Block Diagram of SH-Mobile UL
Block Diagram of SH-Mobile 3 (SH73180)
Block Diagram of SH-Mobile 3A (SH73380)
Block Diagram of SH7722 (SH-MobileR)
Revenue and Profit of Toshiba Semiconductor, FY2001-FY2010
Revenue of Toshiba by Product, FY2005-FY2009
Investments of Toshiba Semiconductor by Field, FY2003-FY2009
Application Processor Roadmap of Toshiba
Core Structure of Toshiba's Handset Application Processor
Block Diagram of Toshiba's Handset Application Processor
Video Flow Chart of Toshiba's Handset Application Processor
Block Diagram of Nvidia Handset GPU
Organization Chart of Mtekvision
Staff Structure of Mtekvision
Operation Flow of Mtekvision
Global Distribution of Mtekvision
Statistics and Forecast of Sales Revenue of Mtekvision by Product, 1999-2008
Accumulated Shipment of Mtekvision's Product Models as of 2007Q2
Block Diagram of MV8720
Overview of Handsets Adopting Mtekvision
Revenue and Gross Profit Margin of CoreLogic, 2003-2007
Revenue of CoreLogic by Product, 2003-2008
Product Roadmap of CoreLogic
Product Technological Roadmap of CoreLogic
SWOT Analysis of CoreLogic
Block Diagram of CL6100
Block Diagram of CL9000
Revenue of ST by Dept., 2005Q1-2007Q4
Revenue of ST by Dept., 2007
NOMADIK Product Roadmap of ST
Block Diagram of STN8815
Features of STN8815
Typical Application of STN8815
Revenue of Freescale by Product, 2007
Roadmap of IMX-series Application Processor

Block Diagram of IMX31
Video Flow of IMX31
Application Example of IMX31
Product Roadmap of AIT
Statistics of Revenue and Operating Profit Margin of Marvell, FY2001-FY2008
Typical Application of Marvell PXA3XX-series Platform
Block Diagram of PXA320
Block Diagram of BCM2722
Revenue and Gross Profit Margin of Winbond, 2006Q2-2008Q1
Revenue and Gross Profit Margin of Winbond by Product, 2006Q2-2008Q1
Revenue of Winbond by Application, 2007Q4 & 2008Q1
Block Diagram of Winbond Application Processor
Revenue and Gross Profit Margin of Vimicro, 2001-2007
Revenue of Samsung Semiconductor by Product, 2007
Block Diagram of S3C6410
Mobile TV Solutions of Samsung
Shipments of Global Top 14 Handset Vendors, 2007
Output of Global Top 15 Handset Manufacturers, 2007
Output, Sales Revenue and Baseband Supplier of 40 Handset Manufacturers in China, 2007-1Q2008
Complexity of H.264 Coding Algorithm
Cost Comparison: H.264 and MPEG4 part2
Overview of Application Processor Vendors
List of Handset Using TI's OAMP Application Processor
Comparison of OMAP3 Series
Comparison of OMAP-DM290, 299, 501, 500, 510
List of Handsets Using SH-Mobile Processor
Comparison of SH-Mobile G2 and SH-Mobile G3 by Feature
List of Handsets Using Toshiba's Application Processor
Handset Multimedia Chips of ATI
List of Handsets Using ATI's Handset GPU
List of Handsets of Using Nvidia's Handset GPU
Features of Nvidia's Handset GPU
Product List of CSP Series
Product List of MVP Series
Product List of MMP Series
Overview of Freescale's Application Processors
Comparison of AIT Product Features
Overview of Winbond's Application Processors
Handset Multimedia IC Products of Vimicro
Overview of Samsung's Application Processors
Comparison of the Cost of Mainstream Solutions for Handheld GPS Navigator