

# 2007-2008 年全球手机平台 (基频) 行业研究报告

Global Mobile Phone Platform(Baseband) Industry Report, 2007-2008

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## 摘要

现在主要的手机基频厂家有德州仪器、爱立信移动平台、高通、联发科、NXP、飞思卡尔、英飞凌、博通、展讯。德州仪器在 2G 时代依靠和诺基亚的合作关系,造就了两者的双赢。2G 时代的成功也导致德州仪器对 3G 时代的到来显得估计不足,除了大量推出应用处理器外,德州仪器缺乏3G 时代的基频产品,唯一一款 OMAPV2230 乏人问津。在整个 2007 年,德州仪器没有推出任何 3G 基频的产品,实际就连 2G 的新产品也只有 1-2 款。也难怪德州仪器要和爱立信移动平台(EMP)联手开发 3G 基频,似乎现在联合晚了点。

EMP 是爱立信的子公司,从 2001 年成立时就瞄准 3G 基频领域,U100 的 3G 手机平台累积出货超过 5000 万。 EMP 不大适应消费类电子的快节奏,缺乏市场推广,不过近来有所改变,在 2008年 2 月连续推出 U380 和 U500 两款手机平台。U500 具备超强的多媒体性能,U380 则是融入了德州仪器的 OMAP3430。

高通则是轻松的赢家,无论 3G 和还是 4G,高通占据产业链的最上游,轻松地赚大钱。4G 时代,人们都认为高通的 UMB 没有什么前途,而 2005 年高通就已经买下了具备 OFDMA 技术的开发商 Flarion。任何一种 4G 的核心技术都有 OFDMA,也就是说 4G 时代一样谁都绕不开高通。3G 时代更是如此,高通的 MSM 系列芯片始终是大厂家的唯一选择。

联发科收购 ADI 之后如虎添翼,顺利打入 LG 的供应链,下一步打入三星的供应链也是有九成的把握。收购 ADI 的手机部门对联发科帮助甚多,其中包括:

- 一、获得 TD-SCDMA 基频技术与通行证,ADI 是 TD-SCDMA 基频技术的主要拥有者,也是大陆 TD-SCDMA 的主力外国支持厂家;
- 二、获得国际一线手机大厂客户,ADI 的基频大客户中包括 LG 和夏普,这些都可能成为联发科的客户,三星则采用ADI 的射频 IC:
- 三、获得 3 亿美元以上的收入,2007 年估计 ADI 手机部门贡献 3.2 亿美元的收入,2008 年可以达到 3.4 亿美元;

四、获得 ADI 的 DSP 和射频技术,有助于开发 4G 产品, 也扩展了联发科的技术能力,为进入一线大厂打下坚实的基础。甚至要求苛刻的日本手机厂家都已经开始认同联发科的产品,三洋的手



机就使用了联发科的平台。即使联发科放弃黑手机市场,联发科依然可以排到全球前三的位置。

飞思卡尔则过分依赖摩托罗拉这个大客户,摩托罗拉的下滑导致飞思卡尔跟着下滑。如果摩托罗拉出售手机业务,那么飞思卡尔有可能也出售手机业务。离开了摩托罗拉,飞思卡尔的手机业务几乎要全线溃败。现在来看,摩托罗拉出售手机业务的可能性很小。飞思卡尔的手机业务要生存,就必须开拓新的大客户。

飞思卡尔有可能出售自己的手机业务:

首先,飞思卡尔业绩连续下滑,手机业务在飞思卡尔的三条产品线中毛利最低,但却开支巨大; 其次,飞思卡尔手机业务的大客户摩托罗拉 业绩下滑,拖累了飞思卡尔的表现:

再次, 手机产业面临升级换代, 需要投入大量的研发人员和资金, 而未来市场面临诸多不确定性, 即便在技术上站稳脚, 市场上未必能站稳。风险巨大;

最后,飞思卡尔已经属于私募基金拥有,全球经济下滑尤其美国的次贷危机导致基金业绩大幅 度下滑,私募基金必然试图出售部分资产渡过难关。

英飞凌收购 LSI 的手机业务,顺利进入三星的供应链。英飞凌则手机射频领域内几乎无敌,而 英飞凌特别擅长 IC 制造和封装。英飞凌的 X-GOLD-213 毫无疑问是目前最先进的基频,不仅集成 了收发器、电源管理和混合信号,还集成了 FM 收音和 SRAM。最优秀的是这样高集成的基频, 封装尺寸只有 8\*8mm,同样集成这些功能的博通的基频 BCM-21551 封装尺寸有 14\*14mm。毫无 疑问英飞凌将是最具潜力的基频厂家。

博通擅长打官司,高通也擅长打官司。不过毕竟博通技高一筹,关于基频的官司,博通胜诉,终于有厂家可以绕开高通进军 3G 基频市场。博通的 3G 产品也获得了三星的认可,此外在索爱的低端产品中,博通也占据了超过 70%的份额。博通豪言 2009 年市场占有率达到 15%,显然是不可能的,不过博通的潜力也是很强的。

NXP 收购了 Silicon Labs 的手机射频部门后对自己的产品线作了调整,不过调整的太慢,产品线也不够丰富。低端的超低价手机基频要等到 2008 年 4 季度才能量产,显然太慢了。要知道超低价手机基频在 2005 年都有问世的,NXP 等到两年后才开发相关产品,市场早已经饱和了,决策效率低下。而"玉兰"计划试图模仿联发科的成功路线,此一时彼一时,联发科如果换到现在才开始进军基频,一样不会成功。 高端的 3G 产品只有依靠 T3G 的 7130,先不说 7130 的设计方案复杂且成本高昂,单押宝 TD-SCDMA 就风险巨大。



展讯则收购了一家射频厂家来补足自己的短板,这是非常明智的。单片双卡的设计也很有创意, 显示出展讯不乏智慧。不过博通如果想进军中国市场,收购展讯将是最快和最明智的方法。博通擅 长收购,因此我们认为,博通收购展讯的可能性很大。

## 第一章 手机产业简介

- 1.1 手机产业概况
- 1.2 中国手机产业概况

### 第二章 基频行业与市场简介

- 2.1 基频简介
- 2.2 手机通讯协议发展趋势
- 2.2.1、LTE 夺冠呼声最高
- 2.2.2、WiMAX 仍然有潜力
- 2.2.3、4G 未来预测
  - 2.3 手机基频发展趋势
- 2.3.1 集成度进一步提高
- 2.3.2 开发成本降低
- 2.3.3 多媒体化
- 2.3.4、集成和封装成为关键
- 2.3.5、基频行业现状与趋势

## 正文 目录

## 第三章 手机平台市场概况

- 3.1 全球手机平台市场概况
- 3.2 中国手机平台市场概况
- 3.3 主要手机厂家手机平台简介
- 3.3.1 波导
- 3.3.2 联想
- 3.3.3 TCL
- 3.3.4 夏新
- 3.3.5 康佳
- 3.3.6 天时达、金立
- 3.3.7、天宇朗通
- 3.3.8、诺基亚
- 3.3.9、摩托罗拉
- 3.3.10、三星
- 3.3.11、索尼爱立信
- 3.3.12, LG
- 3.3.13 其它和黑手机
  - 3.4 TD-SCDMA 手机



### 第四章 手机平台厂家研究

- 4.1 高通
- 4.2 德州仪器
- 4.3 飞思卡尔
- 4.5 爱立信移动平台
- 4.6 英飞凌
- 4.7 BROADCOM (博通)
- 4.8 NXP
- 4.9 联发科
- 4.10 凌阳电通
- 4.11 T3G
- 4.12 展讯
- 4.13 凯明

## 部 分 图表

目录

- 图 1-1: 2005-2011 年全球手机出货量统计及预测
- 图 1-2:2007 年手机地区出货量比例统计
- 图 1-3: 2007 年全球手机市场主要厂家市场占有率
- 图 1-4: 手机整机厂家业务流程
- 图 2-1: 手机基本结构
- 图 2-2: 通讯协议空中界面发展趋势
- 图 2-3: 2006-2010 年通讯协议标准发展预测
- 图 2-4 基频封装工艺路线图
- 图 2-5 集成了内存的基频示意图
- 图 3-12007 年全球手机基频主要厂家市场占有率(按出货量)
- 图 3-2: 2006 年全球手机平台主要厂家市场占有率(按出货量)
- 图 3-3 2007 年中国手机平台主要厂家市场占有率(按出货量)
- 图 3-4 2005 年 1 季度到 2007 年 4 季度诺基亚手机地域出货量结构统计
- 图 3-5 2005 年 1 季度到 2007 年 4 季度诺基亚手机出货量与平均销售价格统计
- 图 3-6 2005 年 1 季度到 2007 年 4 季度诺基亚手机销售额与运营利润率统计
- 图 3-7 摩托罗拉 06 年 1 季度到 07 年 4 季度手机销售额与运营利润率统计
- 图 3-8 三星 2001-2007 年手机出货量与年增幅统计与预测
- 图 3-9 三星 2005 年 1 季度到 2007 年 4 季度每季度手机出货量统计
- 图 3-10 2006 年 4 季度-2007 年 3 季度三星手机出货地域结构比例
- 图 3-11 2005 年 1 季度到 2007 年 1 季度三星手机出口平均价格与运营利润率统计
- 图 3-12 2005 年 1 季度到 2007 年 4 季度索尼爱立信出货量与平均销售价格统计
- 图 3-13 2006 年 1 季度到 2007 年 4 季度索尼爱立信收入与运营利润率统计
- 图 3-14 2001-2007 年 LG 手机出货量与年增幅统计及预测
- 图 3-15 2005 年 4 季度到 2007 年 4 季度 LG 手机每季度出货量(按制式)
- 图 3-16 2006 年 1 季度到 2007 年 4 季度 LG 手机每季度销售额与运营利润统计
- 图 3-17 LG 手机部门地域收入结构
- 图 3-18 LG 2006 年 2 季度到 2007 年 4 季度销售额、平均价格统计
- 图 3-19 2006-2010 年 TD-SCDMA 终端市场规模预期



- 图 4-1: 2004-2007 财年每季度高通 MSM 芯片出货量统计
- 图 4-2: 高通基频产品路线图
- 图 4-3 德州仪器手机基频分布
- 图 4-4: TCS2315 内部框架图
- 图 4-5: OMAPV1035 内部框架图
- 图 4-6: OMAPV 系列软件结构
- 2007年飞思卡尔产品收入结构
- 图 4-7: 飞思卡尔 3G 手机框架图
- 图 4-8: 飞思卡尔 3G 手机设计方案软件结构图
- 图 4-9: EMP 产品路线图
- 图 4-10: EMPIP 多媒体子系统软件结构图
- 图 4-11: EMP3G 平台产品多媒体能力
- 图 4-12: EMP 平台的多媒体软件结构
- 图 4-13: U250 平台结构图
- 图 4-14: U100 软件结构图
- 图 4-15: 2006Q1-2007Q4 英飞凌收入与运营利润率统计(EUR million)
- 图 4-16: 2006Q3-2007Q4 英飞凌通讯部门收入与运营利润率统计(EUR million)
- 图 4-17 英飞凌手机领域路线图
- 图 4-18: PMB7870 内部框架图
- 图 4-19 X-GOLD-213 内部与应用框架图
- 图 4-20 XMM2050 软件结构图
- 图 4-21 XMM2051 内部框架图
- 图 4-22: 博通收入结构
- 图 4-23: BCM2124 内部框架图
- 图 4-24: BCM21331 内部框架图
- 图 4-25: BCM2133 内部框架图
- 图 4-26: BCM2152 内部框架图
- 图 4-27 BCM21551 内部框架图
- 图 4-28: 2005、2006 年 NXP 产品下游应用收入结构(百万欧元)
- 图 4-29 NXP 地域收入结构
- 图 4-30 PNX4902 框架图
- 图 4-31 PNX5209 框架图
- 图 4-32: PCF5213 内部框架图
- 图 4-33: Nexperia System Solution 5210 系统图
- 图 4-34: NXPTD-SCDMA7130 平台框架图
- 图 4-35: NXP7210 平台框架图
- 图 4-36: PNX5221 内部框架图
- 图 4-37: 2001-2009 年联发科收入与毛利率统计及预测
- 图 4-38: 2005Q1-2007Q4 联发科季度产品收入结构统计及预测
- 图 4-39: MT6229 应用框架图
- 图 4-40 MT6218 应用框架图
- 图 4-41: MT6219 内部框架图
- 图 4-42 MT6229 内部框架图
- 图 4-43: AD6900 EDGE 平台框架图



- 图 4-44: AD6722 内部框架图
- 图 4-45: AD6721 内部框架图
- 图 4-46: AD6720 内部框架图
- 图 4-47: WCDMA 平台框架图
- 图 4-48: TD-SCDMA 平台框架图
- 图 4-49: AD6525 内部功能模块图
- 图 4-50: AD6537 内部模块图
- 图 4-51: AD6720 应用结构图
- 图 4-52: ADITD-SCDMA 手机参考设计方框图
- 图 4-53: ADITD-SCDMA 数字基频 6901 内部框架图
- 图 4-54: T3G 研发人员分配比例
- 图 4-55: T3GTD-SCDMA 基频处理器内部框架图
- 图 4-56: T3GTD-SCDMA 基频处理器应用框架图
- 图 4-57: T3GTD-SCDMA 基频处理器协议栈图
- 图 4-57:: T3GTD-SCDMA 手机参考设计图
- 图 4-58: T3G 的产品路线图
- 图 4-59 展讯 2003-2007 年收入统计
- 图 4-60 展讯 2006 年 1 季度到 2007 年 4 季度基频领域收入统计
- 图 4-61 展讯基频产品规划图
- 图 4-62 SC8800H 典型应用图
- 图 4-63 SC8800D 典型应用图
- 图 4-64: 凯明持股状况
- 图 4-65: 凯明公司员工教育结构
- 图 4-66: 凯明公司芯片组
- 图 4-67: 凯明芯片研发路线图
- 图 4-68: 凯明 TD-SCDMA/GSM/GPRS 双模基频内部框架图
- 图 4-69 凯明 TD-SCDMA/GSM/GPRS/EDGE 双模协议栈示意图
- 图 4-70: 凯明海王星平台的软件结构图



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	cooperation with Ericsson Mobile Platform or EMP, to jointly develop 3G baseband,							
	but it seems a bit late.							
	EMP, a subsidiary of Ericsson, has aimed at the o	development of	3G baseband					



products since its establishment in 2001. Its accumulated shipment of 3G mobile phone platform of U100 has exceeded 50 million. EMP used not to adapt itself to the rapid development of consumer electronics and was lack of market promotion. However, in the recent years, EMP has made some changes and rolled out U380 and U500 mobile phone platforms in February of 2008 successively. The U500 is a powerful multimedia platform, while the U380 mobile platform is a one-chip solution combining an Ericsson HSPA modem with a TI OMAP3430 processor.

As an easy winner, Qualcomm has occupied the top upstream of the industry chain and earned huge profits easily no matter from 3G or 4G. People all thought that its UMB would not have a bright future in 4G Era, but Qualcomm bought Flarion, the developer with OFDMA technology in 2005. OFDMA technology has covered any core technologies of 4G, that is to say that nobody can get rid of Qualcomm in 4G Era, let alone in 3G era. Its MSM series chips have been the only choice of key producers all along.

MTK has got access to the supply chain of LG smoothly after purchasing ADI and has 90 percent of opportunity to become a supplier of Samsung supply chain. The purchase of the mobile phone department of ADI helps MTK greatly, including:

- I. Obtaining TD-SCDMA baseband technology and permit, ADI is the primary owner of TD-SCDMA baseband technology and the major foreign supporter of TD-SCDMA in Mainland China;
- II. Obtaining the clients of big international mobile phone manufacturers, the big baseband clients of ADI include LG and Sharp, which can become the clients of MTK, and Samsung adopts the radio frequency IC of ADI;
- III. Obtaining the revenue above US\$300 million, the mobile phone department of



ADI is expected to contribute revenue of US\$320 million in 2007 and contribute revenue of US\$340 million in 2008;

IV. Obtaining the DSP and radio frequency technology of ADI, which help MTK develop its 4G products, enhance its technical strength and lay a solid foundation for turning itself into a big producer. Even the strict Japanese mobile phone manufacturers have accepted its products and Sanyo has adopted the platforms of MTK. Even if MTK gives up the black market of mobile phones, it will be still among the top three globally.

Freescale relies too much on Motorola, so whenever Motorola's performance falls, it follow suit. If Motorola sells its mobile phone business, Freescale may do so as well. Therefore, its mobile phone business could become nothing without the big client of Motorola. The possibility is very small that Motorola sells its mobile phone business. Freescale must open up new market to reduce its heavy dependence on Motorola.

Freescale may sell its mobile phone business:

Firstly, it has a continuous drop in performance and its mobile phone business has the lowest gross profit in its three product lines, but its spending in mobile phone business is huge.

Secondly, Motorola's fall in performance weighs on the performance of Freescale.

Thirdly, the mobile phone industry faces upgrading, which require a huge input of both capital and professionals, and even if it gains a firm footing in technology, it doesn't mean it stands firmly in the market. So, the risk is huge.

Finally, Freescale is under the control of private equity fund. Global economic



downturn and especially the credit crunch in the U.S.A. has resulted in a plunge in fund performance, private equity fund will surely make an attempt to sell part of assets to ride out the storm.

Infineon has successfully got access to the supply chain of Samsung by purchasing the mobile phone business of LSI. Infineon is nearly matchless in mobile phone radio frequency field, while it is adept at IC manufacturing and packaging. The X-GOLD-213 of Infineon is the most advanced baseband globally without doubt, and it not only integrates transceiver, power source management and mixed-signal but also integrates FM radio and SRAM. The best part is its packaging size is only 8\*8mm, compared to 14\*14mm, the packaging size of the baseband BCM-21551 of Broadcom with the same function. Infineon will be the most potential baseband manufacturer undoubtedly.

Both Broadcom and Qualcomm are good at engaging in lawsuits. But Broadcom won the lawsuit on baseband, meaning at last there is a manufacturer, which is able to enter into 3G market through bypassing Qualcomm. The 3G products of Broadcom has also got the authorization of Samsung, moreover, Broadcom has occupied over 70% of the market share in the low-end products of Sony ERSSION. It is impossible for Broadcom to occupy 15% of the global market share in 2009, but the potential of Broadcom is strong.

NXP has made some adjustments to its product lines after purchasing the mobile phone radio frequency department of Silicon Labs, but the adjustment is too slow. Its low-end mobile phone won't be put into mass production until the last quarter of 2008, it is obviously too slow. As we all know that low-end mobile phone was put on the market as early as 2005. So when its low-end product is put on the market in late 2008, the market will have become saturated by then.

It is very wise for Spreadtrum to purchase a radio frequency factory to fill up the gap in its business. The design of single chip and double card is quite innovative.



If Broadcom wants to get access to China's market, it will be the fastest and wisest way for it to purchase Spreadtrum. Broadcom is adept at growing rapidly through acquisitions and mergers, so we believe that the possibility that Broadcom purchases Spreadtrum is very big that.

## 1. Brief Introduction of Mobile Phone Industry

- 1.1 Outline of Mobile Phone Industry
- 1.2 Outline of China Mobile Phone Industry

## 2. Baseband Industry and Market Introduction

- 2.1 Baseband Introduction
- 2.2 Development Trend of Mobile Phone Protocol
- 2.2.1 LTE Is a Great Favorite
- 2.2.2 WiMAX Still Has the Potential
- 2.2.3 Forecast of 4G Development
- 2.3 Development Trend of Mobile Phone Baseband
- 2.3.1 Further Improvement of Integration
- 2.3.2 Decrease of Development Cost
- 2.3.3 Multimedia
- 2.3.4 Integration and Packaging
- 2.3.5 Status Quo and Tendency of Baseband Industry

#### 3. Mobile Phone Platform Market

#### Contents

- 3.1 Global Mobile Phone Platform Market
- 3.2 China Mobile Phone Platform Market
- 3.3 Mobile Phone Platforms of Main Mobile Phone Manufacturers
- 3.3.1 Bird
- 3.3.2 Lenovo
- 3.3.3 TCL
- 3.3.4 AMOI
- 3.3.5 KONKA
- 3.3.6 TSD and Gionee
- 3.3.7 Tianyu
- 3.3.8 Nokia
- 3.3.9 Motorola
- 3.3.10 Samsung
- 3.3.11 Sony Ericsson
- 3.3.12 LG
- 3.3.13 Others and Black Handsets
- 3.4 TD-SCDMA Mobile Phone

#### 4. Mobile Phone Platform Manufacturers



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- 4.2 Texas Instruments
- 4.3 Freescale
- 4.4 EMP
- 4.5 Infineon
- 4.6 Broadcom
- 4.7 NXP
- 4.8 MTK
- 4.9 Sunplus Mobile
- 4.10 T3G
- 4.11 Spreadtrum
- 4.12 Commit

# Selected Charts

Shipment Statistics and Forecast of Global Mobile Phone, 2005-2011

Regional Shipment Proportion of Mobile Phone, 2007

Market Share of Main Manufacturers of Global Mobile Phone Market, 2007

Business Process of Complete Appliance Manufacturers

Basic Structure of Mobile Phone

Development Tendency of Protocol Air Interface

Development Forecast of Protocol Standard, 2006-2010

Route Map of Baseband Packaging Process

Baseband Diagram Integrated with Memory

Market Share of Global Main Mobile Phone Baseband Manufacturers, 2007 (By Shipment)

Market Share of Global Main Mobile Phone Platform Manufacturers, 2006 (By

Shipment)

Market Share of Main Mobile Phone Platform Manufacturers in China, 2007 (By

Shipment)

Regional Shipment Structure of Nokia, Q12005 - Q42007

Shipment and Average Sales Price of Nokia, Q12005 – Q42007

Sales Revenue and Operating Profit of Nokia, Q12005 - Q42007

Sales Revenue and Operating Profit of Motorola, Q12006 - Q42007

Shipment and Annual Growth Statistics and Forecast of Samsung, 2001-2007

Mobile Phone Shipment Quarterly, Q12005 - Q42007

Regional Structure Proportion of Shipment of Samsung, Q42006 - Q32007

Average Export Price and Operating Profit of Samsung, Q12005 - Q12007

Shipment and Average Sales Price of Sony Ericson, Q12005 - Q42007

Revenue and Operating Profit of Sony Ericson, Q12006 - Q42007

Shipment and Annual Growth Statistics and Forecast of LG, 2001-2007

Quarterly Shipment of LG, Q42005 – Q42007 (By System)

Sales Revenue Quarterly and Operating Profit of LG, Q12006 - Q42007

Regional Income Structure of LG Mobile Phone Department

Sales Revenue and Average Price of LG, Q22006 – Q42007

Scale Forecast of TD-SCDMA Terminal Market, 2006-2010



Shipment of QUALCOMM MSN Chips Quarterly, FY2004-2007

Route Map of Qualcomm Baseband Products

Mobile Phone Baseband Allocation of Texas Instruments

Internal Framework of TCS2315

Internal Framework of OMAPV1035

Software Structure of OMAPV Series

Product Income Structure of Freescale, 2007

3G Mobile Phone Framework of Freescale

Design Scheme Software Structure of Freescale 3G Mobile Phone

Product Route Map of EMP

Multimedia Subsystem Software Structure of EMPIP

Multimedia Capacity of EMP 3G Platform Products

Multimedia Software Structure of EMP

Structure Chart of U250 Platform

Software Structure of U100

Sales Revenue and Operating Profit of Infineon, 2006Q1-2007Q4 (EUR million)

Sales Revenue and Operating Profit of Infineon Telecommunication Department,

2006Q3-2007Q4 (EUR million)

Route Map of Infineon Mobile Phone Fields

Internal Framework of PMB7870

Internal and Application Framework of X-GOLD-213

Software Structure of XMM2050

Internal Framework of XMM2051

Income Structure of Broadcom

Internal Framework of BCM2124

Internal Framework of BCM21331

Internal Framework of BCM2133

Internal Framework of BCM2152

Internal Framework of BCM21551

Downstream Application Income Structure of NXP Products, 2005-2006 (EUR million)

Regional Income Structure of NXP

Framework of PNX4902

Framework of PNX5209

Internal Framework of PCF5213

System Chart of Nexperia System Solution 5210

Framework of NXP TD-SCDMA7130 Platform

Framework of NXP7210 Platform

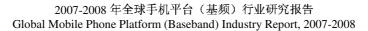
Internal Framework of PNX5221

Income and Gross Margin Statistics and Forecast of MTK, 2001-2009

Product Income Structure Statistics and Forecast of MTK Quarterly, 2005Q1-2007Q4

Application Framework of MT6229

Application Framework of MT6218





Internal Framework of MT6219

Internal Framework of MT6229

Framework of AD6900 EDGE Platform

Internal Framework of AD6722

Internal Framework of AD6721

Internal Framework of AD6720

Framework of WCDMA Framework

Framework of TD-SCDMA Framework

Internal Function Module of AD6525

Internal Module of AD6537

Application Structure Chart of AD6720

Reference Design Chart of ADITD-SCDMA

Internal Framework of ADITD-SCDMA Digital Baseband 6901

Allocation Proportion of Researchers of T3G

Internal Framework of T3GTD-SCDMA Baseband Processor

Application Framework of T3GTD-SCDMA Baseband Processor

Protocol Stack of T3GTD-SCDMA Baseband Processor

Reference Design Chart of T3GTD-SCDMA

Product Route Map of T3G

Sales Revenue of Spreadtrum, 2003-2007

Sales Revenue in Baseband Field of Spreadtrum, Q12006-Q42007

Baseband Product Layout of Spreadtrum

Typical Application Chart of SC8800H

Typical Application Chart of SC8800D

Shareholding Status of Commit

Educational Structure of Staffs in Commit

Chip Sets of Commit

**R&D** Route of Commit Chips

Internal Framework of TD-SCDMA/GSM/GPRS Dual-Mode Baseband of Commit

Diagram of TD-SCDMA/GSM/GPRS/EDGE Dual-Mode Protocol Stack of Commit

Software Structure of Commit Neptune Platform