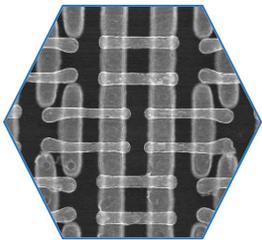
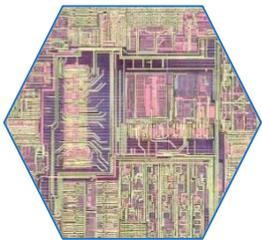


Smartphones PMIC Comparison 2021

Technology and cost comparison of 20 power management integrated circuits (PMIC) in recent smartphones.



Title: Smartphones PMIC Comparison 2021

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Power management integrated circuits (PMIC) represent more than half of the active power electronics semiconductor market. PMIC revenue was estimated at \$33 billion in 2020, with mega trends being the main driver. Consumer connected devices, adoption of 5G connection, and automation will increase the production of semiconductor devices, which in turn will increase battery-operated devices. This surge has resulted in accelerated growth of the global PMIC market, which is highly competitive yet well established and with a few new players and foundries entering.

Power management devices are necessary for controlling, converting, and distributing power in devices. Their high demand in consumer electronics is driven mainly by the smartphone market. New technologies encourage PMIC manufacturers to design chips that integrate different functions on a single chip. The power management integrated circuits analyzed here use CMOS, BiCMOS, and BCD technology, with a process node ranging from 45 nm to 0.5 μm . Several PMIC integrate different memories on their die, such as the SRAM, ROM, and EEPROM memory, or a combination of different memories.

This report studies PMIC used in recent smartphones, which are the main contributors to the overall consumer PMIC

market. Specifically, this report focuses on PMIC used in high-end and luxury smartphones and includes more than 20 products from the following players: Apple, Dialog Semiconductor, STMicroelectronics, On Semiconductor-Fairchild, Samsung, Qualcomm, Maxim Integrated, HiSilicon, Intel, and Mediatek. This report also highlights the trends for PMIC in smartphones, the supply chain, and the cost advantages of each technology. A detailed analysis of each PMIC is offered as well, including package, high-resolution images of the die with cross-section, and technology identification. A cost analysis is furnished with estimates of each PMIC wafer and die cost, and a comparison of the different PMIC from various manufacturers is included, covering technology, wafer size, and wafer cost.

COMPLETE TEARDOWN WITH

- Detailed photos
- Precise measurements
- Materials analysis
- Supply chain evaluation
- Manufacturing cost analysis
- Comparison by manufacturer
- PMIC comparison

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- ✓ Cost analysis (FE cost, die cost)

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- Fairchild Semiconductor
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- Qualcomm
- Samsung
- STMicroelectronics
- Mediatek

Comparison

- Physical Comparison
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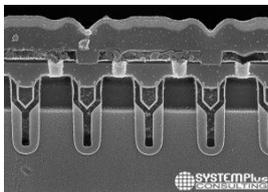


Ying-Wu Liu serves as a Technology & Cost Analyst at System Plus Consulting. Ying-Wu's core expertise is Integrated Circuits technologies. With solid expertise in physical and electrical analysis of devices and experiences in wafer manufacturing and technical supports with international clients, Ying's mission is to develop reverse engineering & costing reports.



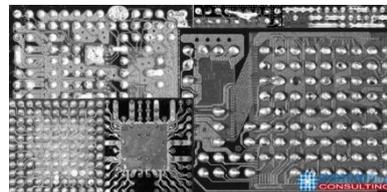
Peggy Gallois joined System Plus Consulting's laboratory of micro-electronics team in July 2019. She previously worked in the laboratory of metallographic expertise for Dassault Aviation near Paris.

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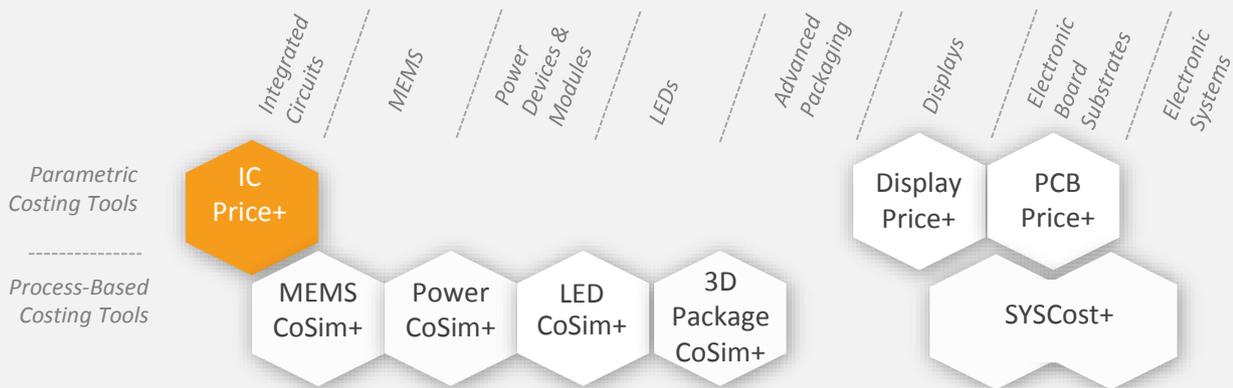
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Power Management IC: Technology, Industry and Trends 2019

China, 300mm, societal impacts, and important strategic decisions are shuffling the cards in the power IC industry.
November 2019

COSTING TOOLS



Our analysis is performed with our costing tool IC Price+.

System Plus Consulting offers powerful costing tools to evaluate the production cost and selling price from single chip to complex structures.

IC Price+

The tool performs the necessary cost simulation of any Integrated Circuit: ASICs, microcontrollers, DSP, memories, smartpower...

ABOUT SYSTEM PLUS CONSULTING

WHAT IS A REVERSE COSTING®?

Reverse Costing® is the process of disassembling a device (or a system) in order to identify its technology and calculate its manufacturing cost, using in-house models and tools.



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Buyer must note that placing an order means an agreement without any restriction with these terms and conditions.

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System Plus Consulting may change its prices whenever the company thinks it necessary. However, the company commits itself in invoicing at the prices in force on the date the order is placed.

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