

Petrov Group provides breakdown of Texas Instruments business model (part 2)

<http://www.digitimes.com/news/a20120924PR202.html>

Contributed by the Petrov Group [Wednesday 26 September 2012]

The Petrov Group has announced a new 333-page/211-figure report titled "Texas Instrument's Power Business - Edition 2012". Texas Instruments (TI), the largest analog IC vendor, is an undisputed market leader (nearly two times larger than its next competitor) and trend-setter in power management. That its products broadly cover all power IC market segments is well known.

This is part 2 of 2. Part 1 can be read [here](#).

TI's patent strategy

Patents represent TI's powerful and profitable historic asset as well as a competitive weapon. In fact, TI was the first semiconductor vendor to turn its patent portfolio into a money making business in the mid-1980s. TI's patent portfolio of published US patent applications and patents (up to July 12, 2012) includes 5,247 published applications and 17,665 issued patents.

During the recent 1-year period TI has generated about 1,650 published patent applications and acquired 2,050 issued patents. Three power domains stand out – analog power conversion, battery power, and lighting & display power.

Analog IC product terminology

There are only two analog product types that can be sold – catalog and custom products.

Custom are referred to as ASICs when jointly developed with a customer. Catalog products can be: Function-oriented (sold regardless of end-equipment system), and Application-oriented (ASSP - sold as optimized in functionality and performance for a limited number of end-equipment systems).

The above terminology refers to products that are sold. It should not be mixed with terms like general purpose and application-specific which are application-oriented terms – a source of much confusion in various market assessments.

Analog IC vendor definition

Recently there were several different lists of analog vendors published with much revision of analog IC vendor ranking. The confusion stems from the definition on what makes a company an analog IC vendor.

An "Analog IC Company" is in Petrov Group reports defined as an IC vendor that develops and sells ICs that are confined to the analog part of the Analog-Digital spectrum of an IC's functional content. These ICs feature a high degree of analog or analog-intensive functional content. They could be function specific (e.g., an operational amplifier) or application specific (e.g., an RF power amplifier).

Representative companies focusing on the analog functional content include traditional analog IC companies, including TI, Analog Devices, Maxim, and Linear Technology. Representative companies focusing on the analog-intensive functional content include STMicroelectronics, Infineon, NXP, and Skyworks Solutions.

The boundary between the analog/analog-intensive and mixed-signal parts of the Analog-Digital spectrum is vaguely defined, hence, left to interpretations. Two key attributes of an Analog IC Company in the PG model include: Analog and analog-intensive ICs represent the company's primary and dominant business in terms of revenues and product portfolio. And the company addresses and competes in the broader analog market featuring thousands of users (horizontal markets).

Some IC vendors in the middle, mixed-signal, part of the analog-digital spectrum also provide power management ICs, typically as part of their chipsets, such as Qualcomm. Qualcomm is not, however, an analog IC vendor because it does not meet the second condition, according to Petrov Group's definition.

Qualcomm's pursuit of emerging wireless power charging for mobile devices and electric vehicles represents an extension of its core wireless signal business rather than an entry into the broader analog IC business. A large number of vendors are mixed-signal vendors, e.g., Broadcom.

TI revenue share in power catalog ICs

The focus of Petrov Group's major new report on TI's power business is TI's catalog power products. The segment that includes the Top-10 analog vendors in the catalog power segment is quite different – Renesas, Sanken and Rohm are major vendors and ADI does not participate. Both TI and the former National focus on function-oriented power catalog products while Infineon, STM, Renesas and Rohm focus on application-oriented power catalog products.

Petrov Group: Revenue share of Top-10 analog IC companies, and their Catalog and Custom product revenue shares, 2011				
2011	Top-10 analog (US\$b)	Market share (%)	Catalog (US\$b)	Custom (US\$b)
TI	5.9	24%	20%	42%
STM	4.2	17%	11%	42%
ADI	2.7	11%	14%	0%
Maxim	2.4	10%	12%	1%
Infineon	2.2	9%	10%	4%
NXP	1.5	6%	8%	1%
ON Semi	1.5	6%	5%	10%
Skyworks	1.4	6%	7%	0%
Linear	1.3	6%	7%	0%
National	1.2	5%	6%	0%
Total	24.3	100%	100%	100%

Source: Petrov Group, compiled by Digitimes, September 2012

Petrov Group: TI revenue share in Power Catalog ICs	
2011	Catalog Power market share (%)
TI	21
Infineon	13
Maxim	13
STM	12
Renesas	8
Linear	8
National	8
ON Semi	7
Sanken	5
Rohm	5

Source: Petrov Group, compiled by Digitimes, September 2012

TI's Power products provide very significant revenue leverage. TI combines analog and digital products into complete system level solutions, which enables it to achieve a relatively high gross margin in the 50% to 60% range. TI's power products support TI's revenue growth and provide an increasing challenge to competitors and a barrier to competitive entry.

Power business provides that leverage because it applies to all end-equipment applications, yielding about US\$3 billion in FY2011 and with the National acquisition US\$3.6 billion in FY2012. TI's US\$6.5 billion acquisition of National will likely be very successful. National Semiconductor, a premier and venerable analog products company, will be launched into a new solutions orbit as well as providing TI with a stronger position in the industrial segment that takes decades to build.

For more information contact the [Petrov Group](#).

RELATED STORIES

- [Petrov Group provides breakdown of Texas Instruments business model \(part 1\) \(Sep 24\)](#)
- [RF transceiver market for mobile devices to reach 1.5 billion by 2015, says Petrov Group \(part 2\) \(Oct 28\)](#)
- [Standalone transceiver chips to dominate the smartphone market, says Petrov Group \(part 1\) \(Oct 21\)](#)
- [Baseband processors still essential, says Petrov Group \(May 3\)](#)
- [Integrated mobile processors to challenge standalone application processors, says Petrov Group \(part 2\) \(Mar 16\)](#)
- [Standalone application processors are winning in mobility markets, says Petrov Group \(part 1\) \(Mar 8\)](#)
- [Adoption by Intel makes digital controllers mainstream technology, says Petrov Group \(Oct 29\)](#)
- [Li-Ion/Poly batteries drive high growth of battery management ICs from headsets to electric vehicles, says Petrov Group \(Oct 21\)](#)
- [Explosive growth of LED driver ICs truly unparalleled, says Petrov Group \(Sep 23\)](#)
- [Thirty billion power conversion ICs enable power management applications, says Petrov Group \(Aug 24\)](#)
- [Power management ICs in portable devices represent nearly 40% of total analog IC revenues, says Petrov Group \(Aug 10\)](#)