

Digitally-Controlled Power Semi Market to Approach \$1 Billion by 2011

DPMs dominates sales, but DCP revenue rises more quickly

By Marijana Vukicevic, iSuppli Corporation

The market for digitally-controlled power semiconductors is set to emerge from the nascent stage over the next three years, as increased adoption in applications including notebook PCs, servers and Digital Televisions (DTVs) drives revenue to nearly \$1 billion by 2011.

Global revenue from shipments of Digital Power Managers (DPMs) and Digital Controllers of Power (DCPs) is set to rise to \$904 million by 2011, almost six times the revenue of \$153 million in 2007, iSuppli Corp. predicts. DPMs will remain the biggest revenue producer within the digital power semiconductor market, with sales of \$613 million in 2011, rising at a Compound Annual Growth Rate (CAGR) of 52.2 percent from a projected \$174 million in



2008. However, DCP revenue will grow at a faster rate, rising to \$291 million in 2011, for a CAGR of 69.3 percent from \$60 million in 2008.

Digital Power 101

iSuppli defines DPMs as devices that

use digital information to manage the overall functioning of a power system and the power supplies within it. With DPMs, digital signals are used for communication to and from the power supplies to monitor and manage power-up, sequencing, load sharing and balancing, fault conditions, hot swapping, maintenance issues and other functions.

DCPs use digital techniques to control the power switching functions within a power supply unit. In its most theoretical form, this means performing the analog-to-digital conversion as early as possible so that all feedback and control functions in the supply are processed in the digital domain.

DPMs now dominate the market, accounting for 77.8 percent of global revenue in 2007. This is because DPM semiconductors today are effective, intermediate solutions for most DC/DC applications. DPM suppliers are striving to define the buses and to develop more user-friendly design interfaces for their products, which enable DPMs to dominate the digital power market.

iSuppli believes that DPMs over the next three years will achieve better success in low-end equipment like notebook computers. Meanwhile, DCPs will capture more of the high-end equipment market, including servers.

Notebooks Deliver Powerful Growth

The fastest-growing application for

Power Systems Design March 2008

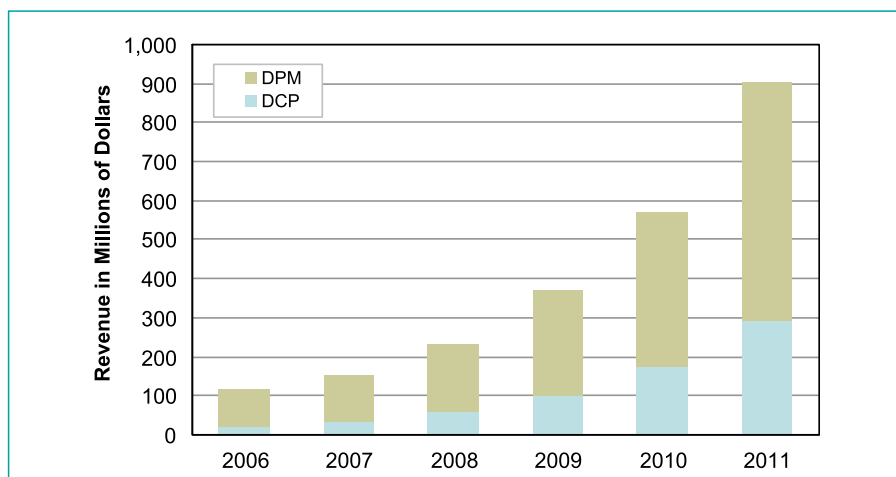


Figure 1 Presents iSuppli's forecast of worldwide DPM and DCP revenue.

digitally-controlled power semiconductors from 2008 to 2011 will be DC/DC conversion in notebook PCs. Global DPM/DCP revenue for this application will rise to \$149.8 million in 2011, growing at a CAGR of 131.3 percent from \$12.1 million in 2008. DPMs will account for the majority of revenue, with 73.7 percent of sales in 2008 and 66.3 percent of sales in 2011.

Even in 2011, this market will have plenty of room for further growth, with only 10.4 percent of notebooks using digitally controlled power semiconductors for DC/DC conversion.

Digitally-controlled power solutions are gaining fast acceptance in notebooks because of the requirement for improved efficiency. As a new, more powerful generation of microprocessors is being adopted, and battery-life issues gain in importance, efficiency is more essential than ever. Another reason for the fast growth of DPMs in this segment is the boom in notebook sales relative to desktop PCs.

High-end gaming PCs also are expected to generate a strong DCP/DPM CAGR of 110.1 percent, with revenue rising to \$11.3 million in 2011, up from \$1.2 million in 2008.

Serving Up the Revenue

The next-fastest growing area after notebooks will be high-end servers, which will consume \$28.4 million worth of DCP/DPM silicon in 2011, rising at a CAGR of 114.3 percent from \$2.9 million in 2008.

Mid-range servers will generate only a 43.6 percent CAGR during the same period, but will grow to \$125 million by 2011, making them the second-largest application for digitally-controlled power during that year. DCPs will dominate this area.

The usage of DCPs in servers is being driven by major challenges in managing data centers and server farms. Such facilities are major energy consumers and heat produced at these centers sometimes results in equipment failure. A portion of the losses comes from energy conversion. The efficiency of energy conversion can be enhanced by using DPMs and DCPs. The difference

in power consumption between analog and digital solutions is particularly significant in idle mode.

Digital Power for Digital TVs

Another fast-growing application will be DTV. Consumption of DCP/DPM solutions by the DTV market will rise to \$39.6 million in 2011, growing at a CAGR of 104.4 percent from \$11.4 million in 2008.

As TV screens get larger, the amount of energy needed to run them is becoming significantly higher and so is the importance of their power

efficiency. DPMs will penetrate the DTV market more quickly than DCPs as the prices for DPMs are expected to have a sharper decline than for DCPs. iSuppli expects penetration of digital power in the DTV market to amount to 3.4 percent in 2011.

After years of talk, DCPs and DPMs now are ready to emerge as high-volume, revenue-generating products, bringing significant power savings to products, and significant sales to suppliers of such devices.

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