fusion the GreenSheet™

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MEMORY UPDATE

09-May-2011

"Memory Update"

CURRENT SITUATION

The recent and unexpected decline in spot memory quotations did not come as a surprise to certain sectors of market analysts. As the effects of a cyclical market slowdown begin to kick in, even the aftermath of Japan's earthquake seems hard pressed to deny the influence of prevailing economic trends. Although a late April surge in buying activity for modules seemed to buck the overall market sentiment, this anomaly was largely attributed to fears about lower wafer yield rates due to advancements in process geometries. The burst of spot trading activity was limited to DDR3/2G & 4G modules while other segments were experimenting with 1600Mhz speeds. The latest introduction of production modules capable of blazing along at speeds of 1600Mhz has provided early adopters with a major performance edge. While major OEMs have forecasted mainstream usage only in 2012, these engineering marvels are already being traded in the spot alongside their 1333Mhz cousins. Mainstream adoption still has some ways to go as compatibility issues with current motherboards remain a legitimate concern.

SHORT-TERM FORECASTING

Even after all the buzz surrounding the shortage of Japanese wafers used in the production of Nand Flash, prices for mainstream production die remains soft and have contracted marginally in the past 2 weeks. The most immediate

effect to spot Nand Flash supply appears to have hit the older die revisions most dramatically. Smaller sized Nand Flash from 2G and below have also experienced the most activity and volatility since the quake hit, as OEMs and CMs rushed to secure supplies that would last for the next 3-6 months. Fusion expects more spot demand for Nand Flash sized at 2G and below to resonate in the coming quarter as companies that were slower to react to the impact of the quake suddenly come to terms with supply issues.

LONG-TERM FORECASTING

While most forecasts and expectations predict that spot quotations for Nand Flash will spike in the long term, this contrasts greatly with the sentiment for memory modules. As the demand for tablets begins to outstrip supply and consumers shift their attention away from desktops and notebooks, the types of memory used to power these divergent platforms will indubitably be subject to future pricing upheavals. Global prices for DDR3 x8 chips remain sluggish and are unlikely to recover even as projected 25nm die shrinks condemn prices to an even greater free fall later in the year.

CPU UPDATE

09-May-2011

"CPU Update"

CURRENT SITUATION

The Desktop landscape is seeing relatively healthy supply in the spot market. Entry-level Sandy Bridge chips are on the active watch list. Pricing is around direct or very close to it, spot market availability moves fast. There has been some cost-savings activity on Clarkdale and Lynnfield chips where the spot market was able to identify opportunities for OEM customers.

The major focus on the mobile space in the spot market continues to surround the Sandy Bridge Huron river chips. Many OEMs are in the midst of shifting their focus forward onto the newer SKU in this family. The demand is high and OEMs may seek spot market availability for any upside and delivery gaps from Intel. Fusion is monitoring the situation daily.

SHORT-TERM FORECASTING

Fusion will continue to keep an eye on all mainstream Sandy Bridge desktop chips. Again, it seems to be the current runner that could have issues down the road while taking over from the former mainstream Clarkdale, Lynnfield and Bloomfield families. Now that quarter-end has passed for many OEMs, we should see more spot market activity. The situation will play out in favor of the first few OEMs that utilize outsourcing. As for activity on entry-level segments, OEMs will likely start using Pentium-based Gxxx Sandy Bridge chips, although the supply seems to be healthy. Don't be surprised to see spot market activity as soon as this month for cost-savings or OEMs taking possession on extra quantity from the spot market.

Sandy Bridge mobile processors will continue to be the main runner, however let's not forget many customers are still transitioning from the Arrandale series. Fusion doesn't expect to see much of these former mainstream items to hit the open market with great cost-saving opportunities in the near-term. Intel is most likely moving customers along its roadmap and steer the older SKUs away from the channels and end-customers. OEMs who continue their builds for either last time buys or cost-savings opportunities on Arrandale SKUs should keep an eye out on any possible spot market availability that makes sense for immediate supply. Unexpected delays from Intel aren't going to be a surprise due to the majority moving away from the platform.

LONG-TERM FORECASTING

In the coming months, Intel plans to expand its processor line-up with a series of new SKUs based on the Sandy Bridge platform for mobile i3-2350M and i5-2430M; which will replace their current "off-the-roadmap" predecessors i3-23xx and i5-24xx. We can be sure customers are going to look for spot market opportunities heading into the summer and roll right into the holiday-build season. Fusion is also looking into AMD's development on APUs, Zambezi FX-Series and Llano A-Series to be released in June. These chips are likely to replace some higher-end Phenom II chips. Fusion will have more discussions once these newcomers materialize into the spot market down the road.

IC UPDATE

09-May-2011

In the aftermath of the Japanese earthquake, it finally looks as though some of the semiconductor manufacturers and

the OEM/CM's are finally able to grasp how this tragedy is going to affect business for the long term.

Renesas, the largest producer of automobile microcontrollers, finally has some relief in sight. They are optimistic they should be able to reopen their factory for full production by June 15th. Likewise, Murata, a powerhouse in the passives market believes that they are getting much closer to being back up to full capacity. That optimism is being received cautiously in the market, however, as both of these companies had been holding strong with long lead times on several lines even before the earthquake. Also, Murata has disclosed that, since the earthquake, they have seen an extreme uptick in the amount of counterfeit Murata parts that have surfaced. The harder the part is to find, the more likely the chance for counterfeiting. Murata has suggested extra caution be used in procuring their common mode chokes lines (DLW series) and their chip inductor lines (LQW and LQH).

In surveying the market, despite general improvements, we expect a further long term backlash from the IC and Passive shortage that started in mid March. The first explanation for the ongoing instability is "hoarding" of product. Many of the large OEM's and CM's wanted to stay ahead of the shortage and were very aggressive in gathering as much buffer stock as possible in case of extended availability issues. This ripple effect has taken lots of product out of the market and left many of the smaller manufacturers scrambling to find product. The second reason for our pessimistic view is that many manufacturers and builders thought they were dual sourced with product from non-Japanese sources. Contrary to what they initially planned for, they now realize their competitors and peers were also relying on the same 2nd and 3rd sources. This is leaving many to scramble for stock that they thought would be available but has now disappeared.

09-May-2011

Just a few months after the Sandy Bridge CPU issues, Intel is experiencing more problems, this time being hit hard by component issues on a variety of desktop motherboards. Intel is expecting a manufacturing delay due to a variety of component shortages as a result of the disaster in Japan. Allocation is expected to last through Q3, and some distributors have been told not to expect any shipments until November. Integrators are reporting that Intel was closing some motherboard orders short after shipping only 5% of the total order. So far the those named have been various units in the Series 5 and Series 6 desktop motherboards. Intel has reportedly been quick to identify the manufacturing issues and come forth with information. Other motherboard manufacturers are sure to be having similar issues and we expect these problems to be widespread across several motherboard manufacturers. Fusion expects more issues to become apparent in the finished goods market at the end of May and beginning of June due

to the earthquake in Japan.

Although shortages are expected for the next few quarters on notebook hard drives, Fusion is still seeing pockets of availability in certain regions. Asia has been experiencing shortages on 2.5" hard drives, and problems are expected to persist into Q3. Hitachi may be one of the hardest hit as they are estimated to be several million units short in the coming months. Builders have been scrambling to spec in some alternative hard drive options from manufacturers like Western Digital, who's factory output has not been as diminished by controller and substrate shortages. Seagate is expecting component supply issues to affect their 3.5" desk drives, but it's likely to have a limited impact due to the excess that's been building up in the channel.

09-May-2011

Fusion has a robust process for avoiding counterfeit product. It incorporates industry leading receiving and inspection processes that have been customer tested and verified. They include stringent ISO 9001:2008 certified procedures and start from sourcing and end with an anti-counterfeit insurance policy to protect our customers.

Trending for counterfeit parts has had a small decrease with 12 new parts being reported.

- Intel - P80C51FA-1
- LSI - RJ017
- Motorola - SN74LS197N
- Zilog - Z8S18020VSC
- Texas Instruments - OPA277U
- Xilinx - XC3042A-7PQ100C
- National Semi - GX1-300B-85-2.0
- ST Micro - F8NK100Z
- National Semi - CS5530A-UCE
- Texas Instruments - TMS320F2806PZA
- Motorola - MC68B09CP
- Intersil - ICL7104-16CPL

Note that although it appears that there have been a lot of counterfeits being reported, they are not all current counterfeits. There are occasions such as this where there have been delays in reporting or new distributors report their experience all at once. The information being reported however is just as valid and noteworthy since these

counterfeited parts do not disappear from the market and can pop up again at any time.

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