TrendForce Reports Mobile DRAM Industry Valued Over US$3.6 Billion in 4Q14 Due to Strong Smartphone Shipments

2015-02-11 Avril Wu

DRAMeXchange, a division of TrendForce, reports that worldwide mobile DRAM revenue totaled US$3.607 billion in the fourth quarter of 2014, representing a 27.8% of DRAM industry value and a 4.2% quarterly increase. DRAMeXchange’s Assistant Vice President Avril Wu noted that mobile DRAM made up nearly 40% of all DRAM shipments, more than ever before. Although mobile memory’s average selling price fell slightly by 5% in the fourth quarter, bit shipment volume rose due to sustained smartphone demand growth driven by iPhone 6/6 Plus. This in turn contributed to the continuing growth of the mobile DRAM revenue worldwide.

Wu added that even though the first quarter of 2015 is an off-peak season, mobile DRAM prices during this period will be more stable than the prior quarter with an estimated decline of only 3%. “Mobile DRAM prices are unlikely to fall in 2015 because the next generation iPhone is expected to increase its memory to 2GB,” said Wu, “and in fact, prices may rise in the third quarter.”

The highlight of mobile memory industry for 2015 will be the next-gen LPDDR4. Currently, Qualcomm’s 810 is the first chip to support the new technology, and a few flagship smartphones with LPDDR4 will arrive in the second quarter. However, LPDDR4’s manufacturing costs remain high and has yet to achieve price parity with LPDDR3. Therefore, LPDDR4 is not anticipated to become the market mainstream until the second half of 2016. This year’s mobile demand growth will come from the pressure for increasing device memory. In particular, midlevel smartphones will be required to upgrade to 1.5GB or 2GB in order to get better performance from Android 5.0 since 1GB is not enough for the operating system to run smoothly. This device memory upgrade pressure will boost mobile DRAM demand significantly.

Strategic capacity adjustments decided the market shares of the top three DRAM suppliers

Set against the previous quarter, Samsung had a small drop in its 4Q14 mobile DRAM revenue by 5.2% (QoQ), or around US$1.67 billion. Mobile memory accounted for 31% of Samsung’s total DRAM sales, and the slight quarterly decline was mainly attributed to product mix adjustments. As PC and server DRAM products had higher margins, the mobile memory proportion of total output decreased. Samsung is currently mass producing mobile DRAM on the 23nm process, mainly 4Gb LPDDR3. While 8Gb LPDDR3 mono die is planned for the future, and it is expected to improve Samsung's cost structure and make the company the most profitable of the three DRAM heavyweights.

SK Hynix’s mobile memory revenue increased by 5.4% compared with the previous quarter, or to US$1 billion. This based on SK Hynix and Micron being the main mobile DRAM suppliers for Apple’s iPhone. The strong iPhone demand hence led to revenue growths for both companies. Currently, SK Hynix’s main product is LPDDR3 4Gb on the 25nm process, and as the life cycle of the 25nm process is about a year, the supplier will have to develop LPDDR4 and 8Gb mono die if it wants to maintain mobile DRAM profits.

Micron’s mobile DRAM revenue for the fourth quarter of 2014 amounted to US$840 million, an increase of more than 20% compared with the third quarter. Although Micron’s strategy is the same as Samsung – focusing on increasing the server memory production ratio, the American manufacturer instead got an increase in mobile DRAM revenue because of rising iPhone demand. Micron’s main technology for mobile memory production is currently on the 25nm process, but the supplier is behind its competitors on LPDDR4 and eMCP development. This may negatively affect the supplier’s future growth.

Taiwanese DRAM Maker Nanya Mass Produces LPDDR3, Winbond Continues Technology Migration

Compared with the prior quarter, Nanya’s mobile DRAM revenue in 4Q14 totaled US$63 million, a 2.1% quarterly
increase. Nanya’s share in the global market is now up to 1.8%. Though this market share is still small, Nanya is presently working hard on product development and technology migration. The memory maker mass produced LPDDR2 in 2014 and is expected to achieve economies of scale for LPDDR3 production in 1Q15, bringing it one step closer to catching up to the top tier DRAM makers. As for technology, Nanya’s 30nm process will be ready for mobile DRAM production in the first half of this year, and this will further reduce costs. With continuous efforts, Nanya may position itself as another option aside from the top three memory makers when it comes to mobile DRAM.

Winbond’s mobile DRAM revenue in 4Q14 increased by 4.5% compared to the prior quarter, bringing its global market share to 0.9%. Mobile memory accounted for 12% of Winbond’s total DRAM revenue in the fourth quarter, and this growth resulted from inventory levels at the clients’ end returning to normal and thereby stimulating purchasing activity. Presently, Winbond is advancing to the 46nm process, while some products are being produced on the 38nm process as part of the supplier’s foundry business. Winbond’s capacity reached 40K wafer starts per month in 2014, and is projected to hit a fully loaded 44K starts per month in the first half of 2015.

Table 1: 4Q14 Revenue Rankings for Mobile DRAM Manufacturers

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Company</th>
<th>Revenue</th>
<th>Market Share</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>4Q14</td>
<td>3Q14</td>
</tr>
<tr>
<td>1</td>
<td>Samsung</td>
<td>1,665</td>
<td>1,757</td>
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<tr>
<td>2</td>
<td>SK Hynix</td>
<td>1,009</td>
<td>957</td>
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<tr>
<td>3</td>
<td>Micron Group</td>
<td>840</td>
<td>657</td>
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<td>Nanya</td>
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<tr>
<td>5</td>
<td>Winbond</td>
<td>31</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>3,607</td>
<td>3,462</td>
</tr>
</tbody>
</table>

Note 1: 3Q14 US$1:KRW1,027; US$1:TWD30.02
Note 2: 4Q14 US$1:KRW1,086; US$1:TWD30.82
Source: DRAMeXchange, Feb., 2015

Figure 1: Mobile DRAM Market Share by Region

Source: DRAMeXchange, Feb., 2015

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