

eMemory 2Q24 Earnings Call Q&A Transcript

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Q&A Transcript

1. Price-cutting competition among Chinese foundries is very serious. Have you been affected?

>> In recent years, China has actively expanded its production capacity by building new foundries and new fab areas for mature processes, many of which are using our logic NVM technology. In terms of royalties from China, the capacity expansion and increasing penetration rate will drive overall growth, even if foundry wafer prices decline.

2. Recently, Trump said that TSMC should pay the United States for protection. Will this have an impact on eMemory?

>> Our IP is licensed to foundries around the world, including in the US (such as Intel and Global Foundry). With our platforms established globally, we have a widespread range of technologies and in various processes, making us less susceptible to political influence.

3. Are you seeing a trend of customers incorporating AI capabilities into their designs? How does this impact your company?

>> As far as we know, we already have customers who have incorporated AI functions into their designs and are moving to tape out in more advanced processes for functions such as recognition and image processing. As mentioned in the last earnings, AI application systems involve data input, data/model storage and computing (accelerators). Currently, our IPs are adopted for applications related to data input through various sensors. For data storage in NAND/DRAM, customers are using our IPs for SSD controller and CXL memory interface. In terms of computing, which is mainly in advanced processes, we have customers adopting our Root of Trust IPs and SRAM repair IPs. These developments are expected to drive our future licensing and royalty growth.

4. Chairman Hsu just mentioned that eMemory's True Random Number Generator (TRNG) is the fastest in the world. If this is the case, why haven't major HPC vendors used it?

>> Our TRNG is based on our OTP and PUF technologies. This is a hard IP and must be qualified in each process. The number of our qualified processes continues to grow, progressing towards the most advanced nodes. As more customers adopt our technology and accumulate production records, and as hackers use faster computing to launch attacks, the market will demand faster random number generators. We are working with our CPU partners to promote this technology and are very confident about its future developments.

5. What is the reason why PUF's royalties have not increased significantly?

>> Licensing for our PUF technology has been increasing. The first customer to adopt our PUF was China's largest chip company. However, due to US government sanctions, we were unable to continue receiving royalties from their production. Despite this, we have more than 60 tape-outs gradually entering the mass production stage and will soon contribute to our royalties.

6. What is the progress in 2nm and 3nm? Is it possible that after eMemory's IP is ready for 3nm, customers will already start to migrate to 2nm?

>> Our development of 3nm and 2nm has always aligned with the requirements of the most advanced foundry processes and customers. Currently, some customers have already started design-in for 3nm, while 2nm is in the early stages of development, progressing much faster than previous years. Even if our technology is not adopted by the first generation, there will still be future opportunities due to process migration. For example, even in mature nodes, we still have hundreds of new products using our technologies every year.

7. MTP's licensing fees and royalties have experienced the most significant growth. In which application is it mainly used? How do we expect MTP to contribute to the company's future?

>> Our MTP technologies include comprehensive product lines that meet different specifications, ranging from high endurance NeoEE and medium-density NeoMTP which require no additional masks, to high-density embedded flash such as NeoFlash/RRAM. The recent growth in MTP is driven by the adoption of NeoEE in PMIC and SPD ICs on DDR5, as well as NeoMTP in new four-color e-paper and electronic shelf label (ESL) driver ICs. Currently, technology licensing to foundries and the adoption across different applications are accelerating. The royalty rate of MTP is higher than OTP, so its contribution to our revenue will become increasingly significant.

8. What is your progress in DRAM?

>> Our OTP is mainly used for repair function in DRAM. It has already been implemented on multiple process platforms of several customers and is continuously being developed for more advanced processes. Recently, with the mass production of new processes of DRAM customers, the royalties have increased significantly.

9. What is the application of your first 3nm customer? When will we see contribution?

>> Our first 3nm customers are primarily in Data Center server applications. They require not only OTP, but also PUF-based security to protect data. They will contribute to our revenue in the second half of this year.

10. The chairman mentioned in previous quarters that the SRAM density is increasing, providing more opportunities for your IPs. What is your progress in this area? When can we expect to see contributions?

>> As the demand for AI and HPC increases, the density of embedded SRAM is also growing. Therefore, the demand for using OTP for SRAM repair continues to rise. We have seen an increase in the adoption of our solutions by more customers and products, resulting in more royalty, which we foresee will be a trend and the contribution will increase significantly in the future.

11. When will OLED DDI 28nm mass production begin?

>> As early as four years ago, our OTP was adopted in 28nm OLED DDI products by many customers. These products have gradually entered production and continue to contribute to royalties. The penetration rate of OLED DDI in mobile, tablets and notebooks keep on rising and moving towards more advanced processes, driving the royalty growth. Currently, some customers are moving to 22nm OLED DDI, accumulating good production records, and are developing products for the next generation of FinFET HV processes. We are optimistic about our continued growth in this market.

12. Although the recent blue screen crash event at CrowdStrike seems unrelated to security, CrowdStrike's endpoint security is also touted as Zero Trust. How can eMemory compete with software companies using a hardware approach?

>> Within the Zero Trust framework, eMemory's hardware security provides a hardware root of trust and security computation capabilities. For cybersecurity software companies, hardware security can enhance the security of their applications. eMemory's security IP aims to boost the competitiveness of these software companies, not to compete with them.

13. What role does eMemory play in OpenTitan?

>> The OpenTitan platform sets the standard for securing data transmission between IoT devices and the cloud through hardware security. Our security IP, being a hardware security solution, can be directly applied to Google's OpenTitan platform for encryption and decryption.

14. It looks like TRNG can provide a random source for generating a secret key and making obfuscation that will help resist attacks. Does this imply that having high-speed TRNG in security design is more important than having a PUF?

>> In very high security systems, the high-speed TRNG is very important as well as PUF because in our invention, the high-speed TRNG relies on the PUF as input to generate random numbers. PUF also plays an important role as unique ID, which requires unique numbers from natural randomness. By using this natural randomness, the unique ID can also create the mother security key for the system. Therefore, in very high security systems, both PUF and high-speed TRNG are very important.