eMemory 3Q22 Earnings Call Q&A Transcript

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Q&A Transcript

1. **What is the impact of the latest US sanctions on the company?**

   >> The latest sanctions mainly target HPC-related products for AI applications. We currently have no Chinese customers in this area, as mostly our leading-edge customers are US and Japan-based. Also, since we develop our intellectual property rather than licensing US technology, we are not directly affected by the sanctions.

2. **Since eMemory's royalty is based on a percentage of foundry price, what are your thoughts on the current trends of foundry pricing?**

   >> Currently, only some small foundry customers offer discounted prices. The major foundries, however, will still maintain their existing pricing strategy into next year as far as we know. We remain confident in our ASP growth trend due to the increasing contributions from more leading-edge technologies and higher royalty rates from PUF-based and MTP-related technologies.

3. **TSMC believes that the impact of the inventory correction will continue into the first half of next year. What will be the impact on eMemory?**

   >> Our royalties are recognized in the quarter after foundry shipment.
   So our October royalty already reflect the lower utilization rate in some small foundries. However, since our 12-inch penetration rate has just started to take off, the overall royalty growth and penetration rate will be contributed from 12-inch applications in major foundries. The decline in utilization from major foundries was mainly in 6/7nm. However, this is a very small percentage for us as customers are just starting production. We expect this will still grow next year. In addition, licensing from PUF-based will grow significantly next year so we remain confident in our long-term growth trend.

4. **Why didn't eMemory have non-operating currency exchange gain due to the devaluation of the Taiwan dollar?**

   >> Typically, when we receive revenue in US dollars, we immediately convert it into Taiwan dollars to cover expenses here in Taiwan.
   Recently, due to establishing our US and Japanese subsidiaries and the spread of high-interest rates between the NT dollar and US dollar, we will be more flexible in keeping some US dollars in our accounts in the future.

5. **Can we predict future royalties based on tape-out numbers or license fees?**

   >> Tape-outs vary significantly in terms of customer size, product application, and mass production scale, so it isn't easy to use them directly to predict future revenue. However, with the increasing number of process platforms and technologies, there is a clear long-term growth trend for tape-outs and licensing revenue.

6. **Does this year's licensing decrease mean future royalty will also decline?**

   >> This year, we waive the technology licensing fee to foundry, especially for MTP-related technology, but increased production royalty. This will accelerate foundries' progress of buildings platforms for our technologies which we expect to bring a higher royalty contribution in the future. We also expect increased growth in licensing revenue next year driven by PUF-based solutions.

7. **PUF-based revenue declined in the third quarter compared to the second quarter. With the impact on the economy, will it continue to grow next year?**

   >> As this is still early stage, there is a big correlation between the PUF license fee and the tape-out time of the customer. At present, there are many customers in the pipeline, and most of them are first-time users of security IP, so it takes more time for customers to learn how to use it. We expect with incorporating our solution into Arm and other platforms, will accelerate the adoption rate and lead to much significant contribution in revenue.

8. **Who are the competitors of PUF? Does Synopsys have PUF technology? Does security have to use PUF?**

   >> Synopsys does not have PUF technology. Intrinsic ID has SRAM PUF on the market, but SRAM PUF is unstable due to the following reasons:
   1. The values will change after power-on
   2. Variations in operating voltage or temperature will also change the value of SRAM storage
   3. Noise will also cause the value of SRAM to change
   4. Long-term use of SRAM is unreliable

   All of the issues mentioned above causes problems for chips when using SRAM PUF. Therefore, after the introduction of our PUF, we have become very popular because our PUF has excellent stability and reliability.

   In the future, the requirements for system security will become more stringent to meet the Zero Trust specification, which means "Never Trust, Always Verify". PUF is the chip fingerprint, which is the best and necessary solution for Unique ID, because it is generated by taking advantage of the small differences in each chip process. No two chips will have the same ID.

9. **Rambus also has a security solution. What is the difference between Rambus and eMemory's solution?**

   >> Rambus only have algorithm-related solutions. If customers adopt Rambus' solution, they will still lack a secure OTP or PUFrt to serve as the chip's root-of-trust.

10. **eMemory experienced a small downturn in 2019, what are the reasons? Why is the company still confident that it will not be affected by the economic downturn, which is even worse than the one in 2019?**

    >> NeoBit was the main royalty revenue in 2019 and NeoFuse just only reached 1 million wafer production that year. Now our main royalty contribution is NeoFuse. The penetration rate in 12-inch is still low, plus the trend for hardware security has just started, accelerating the contribution of PUF-related solutions, the latter two receive much higher license and royalty fees compared to NeoBit. Therefore, this is structurally different compared to our situation in 2019.

11. TSMC said 6/7nm demand will be corrected in the next two quarters, what is the impact on eMemory?

>> Our 6/7nm tape-out at TSMC has only just started small volume production and accounts for a very small percentage of the company.

Because of the low utilization rate, foundry customers are encouraging 12/16nm chip customers to migrate forward, as evidenced by the rapid increase in the number of 6/7nm tape-outs in the past few quarters, which all migrated from 12/16nm in their previous generation. We expect this trend will be more obvious next year and drive our royalty growth further once 6/7nm customers move into production.

12. What is the business model for working with Arm? Do you need to share royalties or licensing fees with the other parties?

>> We still charge license fees and royalties. The joint activity is mainly for promotion, we do not need to pay the other party any fees or profit shares.

13. Are there any customer requests to decentralize R&D resources, does this have any impact on eMemory?

>> We have been licensing our IPs to foundries all over the world. The advantage of using our IP is that our customers can go to different locations for production. There is no such request from customers to decentralize our RD outside of Taiwan. But we did set up Japanese RD team for the reason to recruit talents.

14. Do Chinese companies have to obtain permission from the U.S. government to license with a company?

>> Since our IP technologies are our own invention, we don't need any US or government approval so we can license it directly to anyone.

15. **Does the company have a backup plan if there is a war between the two sides of the Taiwan Strait? Are customers worried about this risk and has this lead to customers avoiding the company's technology?**

>> Although our main R&D is in Taiwan, our IP data is stored in the cloud server. Our patents are registered in all major regions of the world and protected by international regulations. As long as the company's technology is used, regardless of the chip company or foundry, they must pay the license fee and royalty, which is the greatest protection for the company's shareholders. Currently no customers have avoided our IPs due to concerns about war.

16. **Can the U.S. government restrict your security-related IPs from being licensed to Chinese companies? What is the company's patent protection policy? In addition, patent protection typically lasts 20 years, can NeoBit continue to receive royalties since its technology is 20 years old? Can other companies use NeoBit's technology without the company's authorization because the patent rights have expired?**

>> Our technology is a genetic invention and there are no government restrictions. The technology patent is for 20 years, but we improve the version periodically to extend the patent period. For example, NeoBit's patent was extended to 2034 in 2014. In addition, the complete IP, including circuit design, has 50 years of copyright protection, and the royalty payment contracts we license to foundries have no termination date.

17. **Why has eMemory’s technology become a standard for DDI and PMIC, but not for other applications? What is the alternative for other applications?**

>> DDI and PMIC are analog circuit designs. Because there are variations in the production process of fabs, to control the output signal accurately and meet the specification, they need our OTP/MTP IP to perform output tuning, function setting, post-test parameter storage and code update.

These are already a standard in DDI and PMIC designs. We expect more analog and mixed mode application to follow.

18. **Is the patent right held by the inventor or the company? Can the patent inventor use their invention if they leave the company?**

    >> All patents are held by the company, and the inventor cannot use the patent if they leave.

19. **Does the company have any issues with accounts receivable? Are Chinese customers not receiving their money?**

    >> We have no accounts receivable problems. Since the company was established, we have only had one small collection problem in the early days, and for most of our Chinese customers, we take prepayment.

20. **Although advanced process eFuse has the drawback of burn-in error, foundry can still provide hundreds of thousands of reliability tests, if customers do not need to test to that number, how can we convince customers to use NeoPUF?**

    >> Reliability is not the only consideration.
    UID and Key ensure the chip's identity cannot be tampered with, copied or stolen, and the process of generating it needs to be strictly controlled. To use eFuse to for Key storage or UID, you must first write-in the key or obtain a random number from outside. The eFuse of each chip is empty at the beginning, and the data is written externally, which gives attackers opportunity to manipulate information. Using NeoPUF to generate Key or UID is from the chip's own PUF and cannot be written externally. The security of these two methods are different.

    In addition to generating the UID and Key, which cannot be interfered with externally, our PUFrt and Secure OTP both contain physical, electrical anti-tampering designs (certified by Riscure), which can further prevent attacks.

21. **NeoPUF has many applications in AI SOC/FPGA/DPU/HPC related CPUs, how do you deal with the US restrictions and how does KYC deal with it?**

    >> We are not affected by the U.S. requirements and do not need to provide KYC information. Our customers are mainly from Europe, US and Japan.

22. Is the decline in 8-inch capacity utilization a result of Chinese foundries using 12-inch to produce 8-inch products? What is the impact on eMemory?

>> This question mainly refers to the use of 12-inch fabs to produce 8-inch process like 0.18 or 0.11. This has been happening for a long time, especially in new fabs built in China.

This has no impact to us. We are promoting our NeoFlash technology to the foundries because NeoFlash does not require additional equipment compared to embedded flash (which requires purchasing additional equipment). Our strategy of waiving technology license and raising production royalty is very attractive to fab customers as they can add-value and increase wafer price by adopting our technology.