

eMemory 1Q22 Earnings Call Q&A Transcript

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Q&A Transcription

1. A large portion of the company's royalties comes from smartphone applications. As the smartphone market is very weak at the moment, what is the impact on the company?

>> We have been increasing our penetration rate in smartphone area, by increasing chips application, from DDI, PMIC, Fingerprint, to WiFi and ISP and RF this year, from one customer to multiple customers and toward to becoming the industry standard. There are some factors for our growth besides increasing penetration for more customers. For example, DDI moves to TDDI, then OLED which increase royalty per chip and content increase (10 PMIC for 4G and 20 PMIC required for 5G.) Also, all smartphone chip customers are expanding their application into automotive, wearable and other end applications. Taking fingerprint for example, as the end chip price dropped and affordable for widely adoption to automotive and consumer area. We have seen steady growth on royalty contribution from fingerprint segment.

There are still a lot of chips not used our IP in smartphones, so there is still a lot of room for growth, just like our penetration in the foundry.

In the beginning, the royalty for our general driver IC per chip was around one-cent (\$0.01 USD); when we moved to TDDI, the royalty per chip was around two-cents (\$0.02 USD); right now, the royalty per chip for OLED is around five-cents (\$0.05 USD). The most recent image-processor ISP, which is manufactured in 28nm, also receives around five-cents per chip. Keeping in mind that smartphones can have around 1-3 ISP per smartphone, in Q1 we just got into RF and each smartphone can have multiple RF chips. There are still a lot of chips we haven't gotten into, such as the AP processor. The current per chip royalty we receive based on wafer price is around twenty-cents (\$0.2 USD) so smartphones still remain a very huge market for us, just like our penetration rate in foundry is still relatively low which means we have more room to grow.

2. What is the company's progress in the area of high-performance computing?

>> High-performance computing refers to two things: one is the use of the most advanced processors, such as CPU, GPU, DPU and so on. The other refers to related chips that need to be upgraded to match the performance of the main chip, such as WiFi, SSD controllers, etc. These applications are all in 12-inch.

As our process development has reached 4/5nm, we also successfully introduced processor-related applications to leading companies in Q1 this year. Our collaboration with ARM on V9 Confidential Computing is targeted at this type of application. We are confident that high-performance computing will be a major source of growth for the company.

3. What are your thoughts on the concerns of a down-cycle for the semiconductor industry?

>> In the semiconductor industry, the biggest costs are depreciation of factory equipment, operating materials, and inventory of finished goods, which will lead to operational risks when the economy changes.

We are an R&D company, and our main business is to invent new technologies and license them to foundries and chip design companies. In turn, we will receive royalties and licensing fees as a source of revenue. Our operations do not involve manufacturing, so our operating risks are relatively low.

The technologies we have invented are used to improve cost and performance of customers' chips. Customers are even more willingly to adopt our IPs to improve their competitiveness when economic conditions are tough. In addition, the vast majority of customers are making unprecedented profits and have accumulated a lot of cash, and will increase their R&D efforts to invent new applications.

Future applications, such as automotive, AI, IoT, industrial automation, etc. will require security as a foundation. This will create the best opportunity for us to expand the introduction of our security IPs. We have also recently been able to see the results of such demand. For example, our first NeoFuse customer is planning to implement our PUF OTP to enhance product competitiveness and differentiation.

4. What is the impact on the company as global foundries continue to expand their foundries?

>> On average every year, we are adding at least 20-30 process licensing platforms (i.e. platforms that generate royalty revenue).

The worldwide expansion of foundries means that the market of our licensed technology platforms is also expanding. The more advanced the process, the higher the royalty contribution per wafer since the royalty is linked to foundry wafer price. In addition, as the cost of foundries under construction becomes higher, the foundry will also charge a higher price, which is a good thing for our royalty income.

5. What is the current percentage for automotive in the company's royalty revenue and what is the room for future growth?

>> We do not break down our revenue specifically by end applications because most of our smartphone customers are also doing automotive applications. However, there are special automotive chips such as 7nm ADAS, 22/28nm Switch, Ethernet, WiFi and various sensors, which have accumulated a lot of our previous design tape outs and will contribute to revenue after mass production. In addition, we have also introduced PUF into automotive. For example, we have already joined the Foxconn MIH Alliance to cooperate in the introduction of automotive chips.

6. What is the progress for PUF Licensing and Royalties this year?

>> Due to the wide application of our PUF-based IPs being adopted by our customers, we expect PUF-related license and royalty revenue to be multiple times as compared to last year. This is the result of our continuous efforts in developing world leading PUF-based security solutions in the past few years. Since our security solutions integrate both OTP and PUF together, the license and royalty of PUF solutions will increase our OTP royalty too.

7. eMemory has mentioned that 28nm will contribute more in the future. Will the contribution of 28nm come from foundry new facility or old facility?

>> The growth of 28nm royalty will come from both new and existing foundries. On one hand, we continue to add new customers and new applications, such as new ISP customers, RF applications and others this year. On the other hand, foundries customers are expanding their production capacity to increase the wafer shipment from existing customers. In addition, we have accumulated nearly 200 28nm NTO's (new tape-outs) from the past and continue to introduce more customers and applications.

8. Is licensing revenue indicative of future royalty revenue? With the market pessimistic about the semiconductor industry next year, will licensing further decline?

>> Our license fee is growing steadily because our business model is aimed for royalty growth and license fee is mainly used to cover our operating expenses. However, sometimes there are large amounts of technology licensing revenue, such as last year's MRAM, which is a one-time license, resulting in large fluctuations in licensing revenue.

We believe our license will continue to grow regardless of the economy, primarily because we continue to invent new technologies. These new technologies, no matters NeoFuse, PUFsecurity, or emerging memory, all with much higher license fee. With more technologies for license and higher license fee, it's not difficult to maintain license fee growth.

Even in the worst economic downturn of 2009, we were one of the very few semiconductor companies in the world to continue to grow in revenue and profitability with only one 8-inch technology, NeoBit. Now, although the company is much larger, the widespread application and importance of our technology, the multitude of end-use applications and customers, and the untapped market are so large that we are not worried about the impact of the downturn.

9. The revenue of ISP-related products has moved to 28nm in the mainstream process, has the demand for ISP programming density increased? (From 4K-256K) What is the royalty contribution?

>> ISP market is very big, not only in smartphone (1-3 chips per phone), but also in surveillance and automotive. We have just gotten into the market in recent years, royalty contribution is 7.5% this Q1. This is partly due to the increase in pixels of the CIS sensor, and partly due to the increase in functionality of ISP, which has increased the demand for more settings and programs, driving the OTP density.

This trend will push customers who were using only eFuse to switch to OTP due to the significant increase in the required program content density. Currently, our OTP has been successfully introduced into many Tier 1 and Tier 2 customers' ISP chip designs. We also built platforms and IPs for customers to use in foundry's related processes. The growth to our revenue is just at the beginning stage, we expect a very significant growth in the future.

10. Research institutes estimate that the MEMS oscillator will have a market value of \$5-6Bn USD in 2025, and will be an important product replacing crystal in the future and the programmable feature on the ASIC side is a key point. Please tell us how eMemory will assist the oscillator manufacturers in this area. What are your current regional customers?

>> We've had many customers in Japan, US and Europe using MEMS oscillator to replace crystal for many years, similar to other MEMS applications, which require logic NVM for tuning and configuration.

11. April's "royalty" revenue was a record high and YoY reached 63.6%, which was astonishing. (Every April is a low season in the past). May I ask: In addition to the TSMC foundry price increase, was this due to more 28/22nm products in mass production? Or has the new 16/12/7nm products started production? Or other factors?

>> In April's royalty revenue, we saw significant YoY growth for all major foundries. In addition to existing applications that continue to grow due to increased penetration, new applications such as networking and multimedia have also seen significant growth, all of which are distributed across different process nodes. Furthermore, new products continue to enter mass production on the FINFET process (16/12/7nm), so this is the result of multi-faceted growth.

12. As we all know, there are a lot of noise and concerns on the semiconductor industry. Are there any production delays or cancellations for products that are in tape-out? What is the impact on the company?

>> Generally speaking, our customers' products have a certain amount of lead time for advanced planning. The more advanced the process is, the more time is required.

We have not heard any news of production delays or cancellations from our customers' products that have entered tape-out. Our current design cases at hand are still proceeding according to clients' plan and we have not seen any negative impact.

13. Synopsys is being investigated in the US for providing technology to SMIC, will this also affect the company in the future?

>> We do not know what the reason for the investigation is, but we always complied with regulations and have an internal audit control system, so we are confident we will not have any problems.

14. Can you disclose the number of foundries who have adopted your security-related IPs?

>> Our PUF-based security IPs are based on the technology developed by OTP. There are 106 process platforms under 55nm in NeoFuse OTP that have been qualified and 44 platforms under development. These platforms can provide related security IP for customers to use and are mainly in the top few foundries.

15. If MRAM can enter mass production in the future, can our existing business model be applied?

>> In terms of IP services for MRAM and ReRAM, we are still following the current business model of IP design licensing and foundry royalty, so our existing business model can still be applied.

16. Other than advanced nodes, can PUF-based solutions be used in legacy nodes such as 0.25um, 0.18um, and 0.11um? Will these legacy nodes also require PUF-based solutions?

>> Yes, there are MCU, Sensors, PMIC, and many other different applications in these legacy nodes. PUF-based solutions can be used to provide unique identity, authentication, and data protections for these chips.

17. At what stage will we receive license fee from foundry instead of design houses?

>> Our licensing revenue come from foundries and chip companies. For foundries, we license our technology for each process and charge a technology license fee. For chip companies (fabless), we license IP and receive design licensing fees.