

eMemory 4Q23 Earnings Call Transcript

February 6th, 2024, 16:00-17:00 Taiwan Time

OPENING REMARKS

Dr. Charles Hsu, Chairman

Good afternoon, everyone, and thank you for attending our conference call today.

With strong technology licensing momentum and new processes and applications gradually entering production, our company has begun to enter the next multi-year growth cycle. eMemory's technology licensing is a platform-based business. We develop our technologies at foundry's process platform, as customers use this process, we collect royalties by per wafer basis. Over the past 20 years, we have established 621 process platforms ranging from 0.5 um to 3nm in 25 foundries worldwide. The number of new technology license cases and technologies under development and verification last year doubled compared to the past. This indicates that our new technologies, such as MTP and PUF-based security, are rapidly advancing and contributing to the expansion of our technology platforms.

Consider these technology platforms similar to the concept of production capacity, i.e. more technology platforms, more wafer running and more royalties. Additional technology platforms and process nodes will contribute and drive our royalty growth. The newly established technology platforms, whether an advanced process incorporating PUF-based or process involving MTP-related technology, will charge royalties per wafer much higher than the average, accelerating the growth of our royalties. Therefore, we are very optimistic about the future.

Later, I will address a topic that everyone is most concerned about and go into whether our IPs have been adopted in generative AI-related applications.

Next, I invite our president, Michael Ho, to share our fourth-quarter performance and future outlook.

FINANCIAL RESULTS

Michael Ho, President

Q4 2023 Financial Results

Good afternoon, everyone. Now, let's begin with our 2023 fourth-quarter financial results.

The fourth-quarter revenue was eight hundred and ninety-nine million NT dollars (NT\$ 899 mil), up 14.2% sequentially but down 0.4% year-over-year.

Operating expenses were three hundred and fifty-nine million NT dollars (NT\$ 359 mil), down 2.9% sequentially, mainly attributable to the decrease in bonuses.

Operating income was five hundred and forty million NT dollars (NT\$ 540 mil), with an increase of 29.3% sequentially and an increase of 0.9% year-over-year.

Operating margin increased by 7 percentage points sequentially and increased by 0.8 percentage point year-over-year to 60%. However, due to the strong appreciation of the Taiwan Dollar at the end of December, our US dollar fixed deposits incurred an exchange loss of ninety-five million NT dollars (NT\$95 mil). As a result, our net income, amounting to four-hundred and four million NT dollars (NT\$404 mil), experienced a decrease of 0.5% sequentially and 6.2% year-over-year.

EPS for the quarter was 5.41 NT dollars (NT\$ 5.41) and ROE was 53.1%.

Revenue across Different Streams

Next, let's move on to revenue contributions by licensing and royalty.

Licensing in the fourth-quarter accounted for 30.5% of the total revenue, up 5.7% sequentially and 33.6% year-over-year.

Royalties in the fourth-quarter contributed 69.5% of the total revenue, increasing 18.4% sequentially but decreasing 10.4% year-over-year.

Total revenue for the fourth-quarter increased by 14.2% compared to the previous quarter but decreased by 0.4% compared to the previous year.

For the full year of 2023, total revenue decreased by 5.2% compared to the previous year. Total licensing and royalties increased by 24.8% and decrease by 14.1%, respectively.

Revenue by Technology

With that, I will comment on our revenue contribution by specific IPs.

NeoBit accounted for 26.3% of total licensing revenue in the fourth-quarter, increasing 1.4% sequentially and up 97.9% year-over-year. Its royalties accounted for 21.9% of total royalty, up 17.1% sequentially but down 41.1% year-over-year.

NeoFuse accounted for 42.8% of total licensing revenue in the fourth-quarter, up 18% sequentially and up 18.3% year-over-year. In terms of total royalty revenue, NeoFuse royalties increased by 18.2% sequentially and 4.7% year-over-year, accounting for 75.5% of total royalties.

PUF-Based Security IPs contributed 10.9% of licensing revenue, decreasing 47.9% sequentially and decreasing 29% year-over-year. Its royalties accounted for less than 1% of total royalties, up 87.2% compared to the previous quarter, but down 97.8% compared to the previous year.

MTP technology accounted for 20% of total licensing revenue, up 74.4% sequentially and up 99.1% year-over-year. Royalty from MTP increased 37.1% sequentially and up 50.5% year-over-year, accounting for 2.6% of total royalties.

For the full year of 2023, the licensing and royalty revenue are as follows:

NeoBit licensing revenue increased by 48.2% while royalty revenue decreased by 39.8%, accounting for 25.5% of total revenue.

NeoFuse licensing revenue increased by 4.3% and royalty increased 3.2% year-over-year, contributing to 63.3% of the total revenue.

PUF-based security IP licensing revenue increased 13.4% year-over-year, but royalty revenue decreased 87.1%, accounting for 4.3% of the total revenue.

MTP technology licensing revenue increased 88.4% year-over-year, but royalty revenue decreased 38.1%, accounting for 6.9% of total revenue.

Q4 2023 Royalty Revenue by Wafer Size

Now, let's look at royalties for 8-inch and 12-inch wafers.

8-inch wafers accounted for 37.8% of royalties, up 23.4% sequentially but down 28.5% year-over-year.

12-inch wafers contributed 62.2% of royalties, increasing 15.5% sequentially and up 5.9% year-over-year.

In total, 149 product tape-outs were completed in the fourth-quarter. We will provide more information in the management report.

FUTURE OUTLOOK

Michael Ho, President

In the next section, I will address our future outlook.

For licensing revenues: Strong licensing demand will continue to drive the growth momentum of licensing fees.

For royalty revenues: We expect royalties in the first quarter to be temporarily affected by a customer moving to more advanced node, resulting in a single-digit quarter-by-quarter decline but growth year-over-year.

Overall, revenue will decline by single digits quarterly, but increase by double-digits yearly.

Moving on to new IP technology and business development:

1. Specialty processes (HV, HK, BCD, embedded flash, and emerging memory):

There will be more foundry technology licensing this quarter. The per wafer royalty ASP will increase due to ongoing development into more advanced nodes. The continued adoption of RRAM by more customers will drive increasing applications and contribute to royalty growth in the future.

2. Advanced processes:

Last quarter, we successfully licensed our 3nm OTP and PUF technology to a US foundry customer and will be collaborating on the development of the most leading processes in the future. Furthermore, our PUF-based security has been successfully adopted in a leading US high-performance computing (HPC) customer's related application. There are multiple projects in 3/4/5nm under progress.

This concludes my comments. Next, I will pass the time to Charles.

CHAIRMAN REMARKS

Dr. Charles Hsu, Chairman

Page 13: Enhancing Data Security from AI Servers to AI Edge Computing

(Page 14: eMemory's Contribution to AI)

AI has experienced widespread adoption across various computing environments, ranging from Edge Devices to Servers. These AI systems comprise a multitude of essential components, such as the CPU, GPU, DPU, accelerators in charge of computation and processing, as well as storage components like SRAM, DRAM, SSD (solid-state drive), HDD (hard disk drive), and peripheral devices such as sensors and actuators. Our technologies and IPs, including OTP, MTP and PUF-based Root of Trust (PUFrt) have been deployed on all the mentioned components, enhancing the overall functionality and security of AI systems.

(Page 15: Example: eMemory helps Memory)

Our solutions not only contribute to bolstering data security in memory components but also prove instrumental in enhancing yield.

There are different types of memories in the memory hierarchy of computing system, spanning from SRAM, DRAM, SSD to HDD. For AI and High-Performance Computing, high density SRAM and DRAM are needed.

Our OTP IPs play critical role in repairing the broken bits of memory to improve the yield. In addition, the CXL Memory (Compute Express Link), facilitates high-speed CPU-to-device memory access. Security is required in the CXL memory controller. Our PUF-based security solutions are deployed to enable security functions and ensure robust secure data transmission.

Another contribution of our IPs to the DRAM module is the EEPROM or MTP embedded in DIMM card's SPDHub. The EEPROM is used to store the configuration information for the DIMM and DRAMs. For non-volatile memory storage in the SSD and HDD, our security solutions are embedded in the disk controller to ensure the protection of stored data.

All the aforementioned memories are used in AI servers, and our IPs have been deployed into the memory systems of these AI servers.

(Page 16: eMemory Solutions for AI Servers)

In addition to the memory system I just mentioned, the computing elements, such as CPU and GPU, will transition towards confidential computing to protect data used in computation and processing. As shown in this figure, root of trust security solutions are embedded not only in the CPU and GPU, but also in the memory controller, such as SSD/HDD and CXL controller.

(Page 17: eMemory Solutions for AI Edge Devices)

For the fast response of IoT devices at the network edge, AIs are frequently used in edge devices.

Similarly, our IPs used in AI servers also serve the same functionality in AI edge devices, as shown in the slide. However, there are additional components in AI edge devices compared to AI servers that will leverage our IPs, including actuators, sensors, and embedded Flash. Our OTP is used for the trimming functions on analog circuit design for sensor and actuators. Additionally, our NeoFlash, in the near future, will be utilized to store the AI model and program code.

In summary, while eMemory does not directly develop AI accelerators, our IPs play a crucial role in AI servers and AI edge devices. Various components such as CPU, GPU, SRAM, DRAM, data storage controllers, sensors, actuators, and more utilize our IPs to enhance security functions and improve yield. The wide adoption of AI applications will speed up the utilization of our IPs and make eMemory grow faster. For example, Every AI chip needs SRAM repair, it is a very big business.

This concludes my remarks. Next, I will hand the floor over to Millie.

Website Demo

Millie Wang, IR

Thank you, Charles. This quarter, my team and I have been dedicated to improving the IR website to ensure that all of our resources are accessible. We want to make our information transparent to all investors. We have prepared a website demo to show you some of the improvements we've made.

[Video]

I hope you find this information helpful and take this opportunity to utilize all the resources on our IR website.

That concludes our prepared statement, next we will enter the Q&A session.

CLOSING REMARKS

Dr. Charles Hsu, Chairman

For more information about our PUF-based security IPs and technology, we encourage you to visit our PUFsecurity website at <https://www.pufsecurity.com/> and check out our articles and other materials.

Thank you once again for your patience and support for eMemory. We will continue to work hard on technology and IP innovation and PUF-based hardware security solutions for our customers and bring higher returns for our shareholders. Thank you!