

eMemory 4Q22 Earnings Call Transcript

February 8th, 2023, 16:00-17:00 Taiwan Time

OPENING REMARKS

Dr. Charles Hsu, Chairman

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

The revenue of the fourth-quarter and the full year of 2022 hit a record high, reflecting the results of our continuous invention of new technologies and the development of new application fields.

Looking forward to 2023, although first-half revenue will be impacted by the sharp decrease of foundry overall utilization rate, our view on our multi-year growth trend still remains intact.

A substantial increase in security-related licensing fees will drive this year's growth momentum. We have completed a series of PUF-based security IPs and solutions, which I will discuss later. With the rapid increase in demand for security, our PUF-based business will be imperative for driving the future growth of our company. In terms of royalties, more than 600 new product designs have taped-out each year over the past two years. As these new products gradually enter mass production, we are confident that our royalties will continue to grow in the long run. Furthermore, our technology development has reached 4/5nm, and 3nm verification is about to start. The customer adoption of 6/7nm is also accelerating, which will drive our future growth momentum.

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

FINANCIAL RESULTS

Michael Ho, President

Q4 2022 Financial Results

Good afternoon everyone. Now, let's begin with our 2022 fourth-quarter financial results. The fourth-quarter revenue was nine hundred and three million NT dollars (NT\$ 903 mil), up 14.2% sequentially and up 43% year-over-year.

Operating expenses were three hundred and sixty-eight million NT dollars (NT\$ 368 mil), up 6.6% sequentially, and up 22.8% year-over-year, mainly attributable to the increase in salary and other related human resource expenses, such as the increase in bonuses and rewards.

Operating income was five hundred and thirty-five million NT dollars (NT\$ 535 mil), with a increase of 20% sequentially and 61.2% year-over-year. The operating margin increased by 2.9 percentage points sequentially and increased by 6.7 percentage-points year-over-year to 59.2%.

EPS for the quarter was 5.77 NT dollars (NT\$ 5.77) and ROE was 62.2%.

Revenue across Different Streams

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

Licensing in the fourth-quarter accounted for 22.7% of the total revenue, up 41.8% sequentially and 26.1% year-over-year. In US dollars, the licensing increased 38.2% sequentially and 14% year-over-year.

Royalties in the fourth-quarter contributed 77.3% of the total revenue, increasing 8% sequentially, and 48.8% year-over-year, or up 1.9% sequentially, and 31.2% year-over-year in US dollars.

For the full year of 2022, total revenue grew 36.1% compared to the previous year. Licensing and royalty grew 5.6% and 49%, respectively. In terms of US dollars, the total revenue increased 29% year-over-year, with licensing and royalty both increasing 0.6% and 41%, respectively.

Revenue by Technology

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

NeoBit accounted for 17.7% of total licensing revenue in the fourth-quarter, decreasing 4% sequentially but increase 54.6% year-over-year. Its royalties accounted for 33.3% of total royalty, down 0.7% sequentially but up 16.7% year-over-year.

NeoFuse accounted for 48.4% of total licensing revenue in the fourth-quarter, up 47.6% sequentially but down 3.9% year-over-year. In terms of total royalty revenue, NeoFuse royalties increased 15.9% sequentially and 75.4% year-over-year, accounting for 64.6% of total royalties.

PUF-Based Security IPs contributed to 20.5% of licensing revenue, increasing 112.3% (one-hundred and twelve point three percent) sequentially and increasing 122.1% (one-hundred and twenty-two point one percent) year-over-year. Its royalties accounted for 0.6% of total royalties which is up 88.4% compared to the previous quarter, and up 1,838.8% (one-thousand, eight-hundred and thirty-eight, point eight percent) compared to the previous year.

MTP technology accounted for 13.4% of total licensing revenue, increasing 39.3% sequentially and 61.8% year-over-year. Royalty from MTP decreased 49% sequentially and 14.6% year-over-year.

From the full year of 2022, the licensing and revenue are as follows:

NeoBit licensing revenue increased 9.8% year-over-year and royalty increased 17.5%, accounting for 33.2% of the total revenue.

NeoFuse licensing revenue decreased 1.3% but royalty increased 77% year-over-year, contributing to 58% of the total revenue.

PUF-based security IP licensing revenue increased 294.9% (two-hundred and ninety-four point nine percent) year-over-year, while royalty revenue increased 3,278.1% (three-thousand, two-hundred and seventy-eight point one percent), accounting for 3.8% of the total revenue.

MTP technology licensing revenue decreased 38.9% year-over-year but royalty revenue increased 55.2%, accounting for 5% of total revenue.

Q4 2022 Royalty Revenue by Wafer Size

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

8-inch wafers, which accounted for 47.4% of royalties, increasing 9.6% sequentially and 40.2% year-over-year.

12-inch wafers contributed to 52.6% of royalties, increasing 6.6% sequentially, and 57.5% year-over-year.

In total, 150 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. We foresee revenue growth to decrease sequentially in the first quarter of 2023 due to the sharp decrease in foundry utilization rate, especially for second and third-tier foundries. However, as strong new tape-outs from the past two years are gradually moving to production, we expect our royalty momentum to pick up in the second half of the year.

For licensing revenues: Licensing will grow significantly this year due to the strong demand for our PUF-related solutions.

For the royalty revenues: The growth momentum of royalty will be driven by penetration rate increase from 28nm, 12/16nm, 6/7nm and the newly qualified 5nm. We expect first-half royalty to be impacted by overall low utilization rate in foundry customers but will pick up momentum in the second half of the year.

Moving on to new IP technology and business development:

1. NeoFlash technology platforms are developed in several foundries, targeting the embedded flash market.
2. PUF-based IPs have completed N5 tape-out and is moving to N4/N3, maintaining the leading position in technology.

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

CHAIRMAN REMARKS

Dr. Charles Hsu, Chairman

From OTP to PUF: The Evolution of PUF-based Security Subsystems

(Page 13: Evolution from OTP to Security Sub-Systems)

Based on our OTP technology, we developed a PUF-based chip fingerprint IP. Both OTP and PUF, which stands for Physically Unclonable Function, are important IPs for a security subsystem. Within a security system, the most important component is the root of trust, including key storage and key generation function. By integrating OTP with PUF, we can create new IP solutions that include Hard IP, such as our PUFrt, our root of trust IP.

Our security subsystem SoC IP was created by integrating a crypto engine, which is Soft IP, with the Root of Trust IP, which is Hard IP. We created the Hard IP by integrating OTP with PUF, resulting in PUFrt, our root of trust IP. Furthermore, we created a purely digital Crypto Engine from different cryptographic algorithms and digital circuit IPs to perform the cryptographic computation of encrypting or decrypting data for security operations.

To facilitate the security operations in SoC, we must protect data-at-rest or data-in-transit using the operations of the security subsystem. We also developed firmware, software and various tools to perform security functions in the security subsystem IPs, such as signing of software, OTA (over the air) updates, secure boot, etc.

With the growing demands for security in different applications, we are seeing growth from our security products in current business opportunities. Therefore, we expect to dominate the security IP market with our ready-to-go Root-of-Trust technology. Our security IPs have a competitive advantage because they are proven in many different processes, like our OTP technology, developed in over 600 process platforms over the past 22 years.

We create new business opportunities by expanding our technologies from OTP to PUF-based root of trust, security subsystem, and security function software, propelling us beyond selling individual IPs to selling security subsystem SoC IPs and related security software services.

(Page 14: Security Business Development)

As eMemory is an established IP company, there are different platforms that we can use to leverage our sales in security IPs and subsystems.

1. **Foundry Platforms:** in the past, foundry platforms were our main champions for our OTP technologies. Now, we licensed our security technologies to major foundries, such as TSMC, Intel, UMC, and GF, and are jointly promoting with them to further the business effort.
2. **CPU Partners:** we recently announced our cooperation with CPU partners such as Arm and RISC-V by providing a security subsystem to integrate with CPU IPs. In many applications, SoC customers require CPU and security subsystem IPs.
3. **OEM and Design Services:** many OEM companies have started to ask design services companies to customize their chips in system devices. Most of these system devices require strong security functions, which our security IPs can provide.

(Page 15: Next Computing: Confidential Computing)

In addition to the above platforms, I want to address that the future of computing architecture is moving towards Confidential Computing. Confidential Computing Architecture protects the program codes in the virtual memory from being attacked by other users running other programs in the same virtual memory during execution. Assigning tag keys exclusive to different programs may prevent information (data/code) from being stolen or accessed by malicious hackers.

We are co-working with Arm on their future confidential computing architecture by providing a PUF-based root of trust to protect the boot codes and data-in-use by providing tag keys. We believe that the future computing architecture is confidential computing, which will become a major application of our PUF technology in high-performance computing.

This concludes my remarks. Next, we will enter the Q&A session.

CLOSING REMARKS

Dr. Charles Hsu, Chairman

For more information about our PUF-based security IPs, 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 IP innovation and security solutions for our customers and bring higher returns for our shareholders. Thank you!