

Advantest Corporation
FY2023 3Q (Three months ended December 31, 2023) Financial Briefing
Q & A Summary

January 31, 2024

Q: What are your outlooks for the CY2024 SoC and memory tester markets by application? Please also share your outlook on your market share and thinking on your gross profit margin.

A: In the SoC tester market, we think that test demand for logic chips used in generative AI will definitely grow. We expect test demand for mobile-related application processors (APUs) to increase as well given the high likelihood that our customers will be migrating to new process nodes in the latter half of CY2024. However, our customers' current testers have yet to reach full utilization, so we do not expect the tester market to start growing until the latter half of CY2024. In terms of memory testers, we believe that test for high-performance types of DRAM such as HBM and DDR5 will represent a major market for us. In addition, we also expect demand for test for non-volatile memory to start to recover to some extent in the latter half of CY2024.

We believe that we will be able to achieve market shares of around 55-59% in both SoC and memory testers in 2024, which would be on par with CY2023. Our thinking on our gross profit margin is that product mix is unlikely to create significant change in our profitability versus FY2023 in the first half of CY2024 given that we expect memory tester demand to be strong and SoC tester demand to be muted. As we head toward the end of CY2024, we should enjoy a more favorable product mix thanks to SoC tester demand picking up.

Q: At your last briefing, you said that the tester market was taking slightly longer to return to CY2022 levels than what you had anticipated. What is your latest view on the CY2024 tester market?

A: At the outset of CY2023, we envisioned the tester market returning to the CY2022 level in CY2024, but the market has taken longer to pick up than we had anticipated. We expect demand for both SoC and memory testers to grow in CY2024 as semiconductor manufacturers bring more supply capacity online to meet the strong demand for AI chips. At the upper end of the range we estimate for the CY2024 tester market, we believe it has a chance to reach \$5.2 billion, which would be in line with CY2022. That said, memory testers will account for a larger portion of the overall tester market in CY2024 than in

CY2022. While we can expect increased memory tester sales, we unfortunately think that we will not quite reach the levels of profitability that we did in FY2022, which we view as a challenge for ourselves.

Q: I believe that higher sales of HBM testers was one of the reasons that you raised your FY2023 sales forecast. How has your outlook on demand changed compared to when you held your 2Q financial briefing or your IR technical briefing in November 2023? Did you raise your forecast because of your outlook for HBM tester demand or because your production capacity has increased?

A: Demand for HBM testers had already taken off as of November or so. Around the end of CY2023, our customers began firming up their plans through CY2024, and they gave us their capex forecasts through the end of that year. Those forecasts suggested demand that was a level higher than what we had been anticipating roughly three months earlier. We believe that demand will remain strong throughout CY2024. While we think that demand will also remain high in CY2025, we do not have clear visibility as of yet. We do not believe our customers have completely finalized their tester procurement plans, either. As such, while we have increased our sales forecast versus where it was three months ago, our supply capacity remains a constraint. We are working to add to our production capacity in order to meet growing demand. We may need in volume terms to roughly double our tester production capacity in FY2024 compared to what it was in around the autumn of 2023. However, given that demand fluctuations are always possible, we want to increase our supply capacity in such a way that we are able to maintain as smooth a production curve as possible while also meeting our customers' needs.

Q: Your 4Q sales are typically higher than your 3Q sales, but you seem to be forecasting a quarter-on-quarter decline in SoC tester sales in 4Q FY2023. I assume the primary reason is that you have lowered your outlook for sales of testers for mature process nodes, but could you confirm your reasoning and how likely you think this decline to be?

A: 4Q has typically seen high demand for SoC testers, especially for chips used in smartphones. However, while we had some requests for early shipments in 3Q FY2023, that is not guaranteed to continue, and smartphone-related tester demand is weak at the moment, thus explaining our forecast for a quarter-on-quarter decline in our sales in 4Q.

Q: At your 2Q financial briefing, you said that the market might recover around six to nine months later than what you had been expecting in July. Has that changed? If there have been any changes, which applications have they affected?

A: While we have seen firmer demand for automotive and industrial applications in FY2023 than for computing and communications applications, current conditions suggest weaker demand going forward, and smartphone-related demand is also muted. These factors are delaying the recovery of the overall SoC tester market.

Q: How much visibility do you have when you say that you expect the SoC tester market to start picking up in the latter half of CY2024? If your product lead time is around six months, I would say that you have a fair degree of confidence, but how should we think about the risk of the recovery being delayed even longer?

A: Our tester delivery lead times are returning to normal, and while it depends on the model in question or its configuration, we are reaching the point that we can deliver them in two to six months. Therefore, our expectation for a recovery in the latter half of CY2024 is not informed by our product lead times. The reason we now expect a later recovery in SoC tester demand than we did when we released our 2Q results is that we can see automotive and industrial demand getting weaker. Markets constantly change, so it is difficult to accurately describe how much visibility we have. However, the plan we have put forth is informed by factors such as our historical experience and our customers' plans for forthcoming devices.

We monitor utilization on our testers that our customers have installed. We are seeing customers upgrading the configurations on their existing testers to support testing for HPC/AI rather than for smartphones, and this is helping drive tester utilization rates higher. However, we do not think utilization will peak and lead to higher demand for actual testers until the latter half of CY2024.

Q: Could you tell us what your customers' tester utilization rates looked like six months ago, three months ago, and now?

A: We cannot share the exact numbers. They were very low in around the spring of CY2023, marking a bottom. They have come up from there. Utilization peaks at 90% or thereabouts, and we expect it to take a little longer to reach that level.

Q: You say that you expect demand for testers for HPC/AI and APUs to start to pick up in the latter half of CY2024. However, if the recovery were to come earlier, what could serve as a potential catalyst for that? For example, even if mobile device volumes were not to grow very much, would enhancements to AI features be a positive for you?

A: At present, the semiconductor industry's supplies are not keeping up with the strong demand for AI chips. A major foundry began increasing its production at the outset of

CY2024, so if supplies expand going forward, it will lead to greater demand for testers. However, we believe that production increases will track the manufacturers' plans and do not see much possibility of that happening any more quickly. If high-performance AI features are added to smartphones and those become commonplace, demand in the mobile space could pick up more quickly than we are anticipating, but we do not have high confidence at present that we will see an earlier recovery in demand. We also have hopes that we will see business opportunities with new entrants who join the semiconductor market as part of the drive to incorporate greater AI capabilities into mobile and other edge devices.

Q: How will you benefit from the AI smartphones that everyone is talking about?

A: AI cores are actually already incorporated into the APUs of some smartphones. Growth in the number of specific AI use cases could stimulate replacement demand for smartphones. Expectations are also mounting for the use of AI in edge computing in the industrial space to conserve power, lessen workloads, and protect privacy. If these become robust trends, we believe AI will become the driver of semiconductor demand. At present, repurposing testers for HPC/AI applications rather than APUs is filling in open tester capacity, but when we additionally start to see growth in demand for edge AI applications, we believe it fair to expect substantial growth in the industry.

Q: What is your outlook for the system level test (SLT) business?

A: Demand had been soft for SLT demand for smartphones. However, it has picked up somewhat because customers have been investing in testers as they increase their production volumes, and we have won some new customers. While our demand forecast assumes FY2023 demand will be flat year-on-year, we take a positive view of these signs in 3Q of demand picking up. While we do not have a clear picture of what demand will look like in FY2024 yet, we hope to see tester demand grow as the smartphone-related market picks back up. We are also hopeful that customers will adopt SLT for HPC applications as a means of boosting their yields. It is difficult to say what is likely to happen in the short term, but we expect the SLT business to expand over the long term.

Q: I understand that your US competitor formed a partnership with a major probe card manufacturer in November 2023. How is that likely to impact your business?

A: Semiconductor supply chain participants are of the shared opinion that testers and probe cards represent an open ecosystem. It is our customers, namely the semiconductor manufacturers, that select which testers and which probe cards will be used for their

products. As such, we do not believe that even if our competitor were to invest in a probe card manufacturer it would have any direct impact on whether customers choose Advantest testers. That said, our competitor's interest in the consumables business suggests that it shares the idea that we have expressed in our Grand Design of "integrating our test and measurement solutions." We will keep an eye on what our competitor does in that context as we continue to explore what actions we will take ourselves.

Note

This document is prepared for those who were unable to attend the financial briefing and is intended only for reference purposes. The original content has been revised and edited by Advantest for ease of understanding.

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