

**Advantest Corporation**  
**FY2024 1Q (Three months ended June 30, 2024) Financial Briefing**  
**Q & A Summary**

July 31, 2024

- Q1: Strong short-term demand prompted you to upgrade your tester market outlook for CY2024. Have the market forecasts you presented in your Third Mid-term Management Plan (MTP3) for CY2025 and CY2026 changed? Also, has a more favorable product mix changed your outlook for margins?
- A1: It is difficult to speak in quantitative terms about prospects for market size and margins in CY2025 and beyond given the many variables involved. We believe it fair to expect the market to grow for at least the next year. The domains in which we have established good market positions look poised for growth, and we hope to bolster our profitability given that we expect increased demand for highly profitable SoC testers for HPC applications and given that we will be rolling out solutions to address technological advances in HBM.
- Q2: I believe that you estimate tester demand based on rough production forecasts for the fabless chipmakers and foundries. You upgraded your full-year earnings outlook, but when you think about the number of chips that your customers look likely to produce for HPC or AI or the number of GPUs and the like, do you think that the orders that they are placing appear to be on the high side, or do you think they are still a bit too low? How would you describe the level of inquiries you are receiving for testers?
- A2: There has been quite an increase in assembly capacity for advanced packaging in our customers' supply chains, so they have radically increased production of high-end logic devices for generative AI. During the course of the past month or so, we have learned that more thorough testing is required than what our customers had actually anticipated. Also, tester utilization by OSATs, especially in Taiwan, had slumped because of the decline in smartphone demand, but we are now seeing nearly full utilization on our latest V93000 platform, which is configurable for testing generative AI chips. It is this combination of factors that led us to raise our forecasts.
- We find ourselves in a market that can change so much in the span of a single month, which makes it extremely difficult for us to anticipate how the outlook might change going forward. However, we premise our forecasts on a variety of demand variables, including production volumes, test times, and utilization rates.

- Q3: Demand for SoC testers for AI processors is on the rise. Is it fair to assume that test times for those processors are unlikely to get any shorter over the next year or so?
- A3: The increasing complexity of chips makes it difficult to predict test times, which we view as a major challenge.
- Generally speaking, once a new chip is on the market, the chipmaker works to bring its fabrication process to maturity and to stabilize quality. This results in shorter test times. We expect to see that happen over the course of the next year. However, for chips like GPUs where complexity continues to increase, advances along the roadmap take place with great speed, so new chips are likely to hit the market again next year. It is difficult to predict how test times will be impacted when development cycles are so short.
- Q4: 1Q SoC tester sales were high at roughly 69 billion yen, but you also noted that smartphone-related demand remains uncertain. What trajectory does your full-year SoC tester sales forecast of 292 billion yen assume for the remaining quarters of the year, and what sort of visibility do you have on that?
- A4: We are seeing strong customer interest because three factors that are positive for SoC tester demand are coinciding, namely longer test times, increased assembly capacity in semiconductor supply chains, and greater tester utilization in testing supply chains. Unexpected risks could always materialize in 2Q and beyond, but we are confident in our decision to add another 47 billion yen to our FY2024 SoC tester sales forecast. Smartphone-related test demand remains small compared to demand associated with generative AI. However, given the increase in tester utilization, new test demand for application processors with AI functionality could gradually pick up, which could create upside for test demand going forward.
- Q5: You are assuming that your total sales will trend basically flat for the remaining quarters of FY2024. You also assume that sales of memory testers will increase in 2H, especially for HBM applications. This suggests that you expect a slight drop in SoC tester sales in 2H. Have you formulated a cautious sales outlook because of the uncertainty created by how short lead times are at present?
- A5: You are correct. We do currently assume that SoC tester sales will be slightly lower in 2H than in 1H. While we do not observe any factors especially likely to lead to a downturn in demand, we at present do not have ample visibility on some aspects of 2H.
- Q6: Were longer test times the greatest impetus for the increase in your SoC tester sales forecast versus where it stood three months ago? Also, were the numeric targets you

included in your MTP3 that you unveiled at the end of June reflective of this greater-than-expected SoC tester demand?

A6: We had to some degree anticipated the increases in advanced packaging assembly capacity and tester utilization at mass-production facilities. However, we were caught off guard by the extent to which test times increased. This came as a surprise to our customers as well, and we were therefore unable to reflect this in our earnings outlook in April. Because of increasing device complexity, it is not until our customers actually start ramping that yields become apparent, and they have to adjust their test programs or test insertions accordingly. We did not become aware of this significant change in demand until sometime in the past month or so. As such, it is not reflected in our numeric targets under MTP3.

Q7: Given your upgrade to FY2024 guidance, do you see less likelihood of only reaching the lower end of your 3-year average sales target under MTP3?

A7: Our confidence in the outlook for FY2025 and beyond is not yet firm. While FY2024 has gotten off to an excellent start, we need to closely examine our outlook for FY2025 and beyond based on solid communication with our customers.

Q8: You expect the computing/comms domain to account for 80% of your SoC tester business in FY2024. Could you give us an application breakdown for that? I am especially interested in the contribution from HPC/AI applications.

Also, if that domain were to produce upside in 2H, which applications would be the likely drivers?

A8: Even among HPC applications, we are seeing AI accelerators take off as an extremely large portion of our business in FY2024. In general, it is that business that is driving demand. Demand for testers for comms and mobile applications remains muted at present, but as HPC and AI go into greater use in our everyday lives, we expect it to pick back up a little as an element of end demand.

You also asked about potential upside in tester demand. As AI comes to play a greater part in our everyday lives, the incorporation of AI into PCs and a variety of other applications could lead to additional business opportunities for us, as could new players joining the market to develop chips for such applications. However, that is not something on which we have clear visibility at this time. We intend to keep a close watch on such developments by maintaining lines of communication with a variety of customers.

- Q9: Broadly speaking, is it AI-related domains where you see upside potential? I believe there are many potential applications of AI at the edge, including smartphones and PCs, but ultimately are you of the view that it is the HPC/AI space where you could see upside?
- A9: Yes. At present, it is data centers that are driving this business, but we are beginning to see signs of expansion in edge AI. Given the sheer volumes of smartphones and other consumer electronics, the spread of edge AI naturally presents upside. We can expect to see growth over the medium term as edge AI spreads, in addition to the data center piece.
- Q10: I would like to ask about your product supply capacity and the upward elasticity of your sales. Your revised earnings outlook suggests that from 2Q onward, you will require production capacity to support quarterly sales in excess of 150 billion yen. Would that be the most you could support with your current production capacity? And what would you see as the maximum level of sales you could support going forward?
- A10: We cannot speak in quantitative terms about the specific level of sales we are able to support with our supply capacity. However, we intend to continue to keep pace with demand growth based on the long-term forecasts that we receive in advance from our customers. At present, we receive long-term forecasts from our customers regarding memory testers, especially for HBM-related demand. Based on those, we work with our suppliers to enhance our ability to support higher production levels. When it comes to SoC testers, the longer test times for HPC/AI chips is creating an urgent need for testers among our customers. However, because of the strategic approach we have taken to procure parts and materials for growth areas, we are capable of fulfilling customers' requests to a considerable degree.
- Q11: I believe your 1Q gross margin of 55.4% represents quite an improvement. Does that owe to a more favorable product mix created by the growth in SoC tester sales, or did you also see greater-than-expected improvement in profitability associated with HBM? What was the driver?
- Also, you anticipate a full-year gross margin of around 52%, suggesting that you assume your margin will decline slightly in the remaining quarters of the year. Could you also share your reasoning there?
- A11: There are two main reasons for the increase in our gross margin in 1Q. Firstly, our product mix improved significantly. By this, I mean that we booked substantial sales of high-performance, high-functionality SoC testers because of the very strong ramp we saw in GPUs for HPC applications and AI servers, as well as in accelerated processing units.

Secondly, we are seeing a gradual increase in requests for upgrades required to enable more precise testing of HBM, which also helped improve our gross margin. We are expecting a continued rise in such upgrade requests in 2H.

In terms of the trajectory of our gross margin over the full year, while we expect to continue to ship plenty of SoC testers, we also expect sales of memory testers for HBM to increase in 2H given improved production capacity. We anticipate that the resulting change in product mix will lead to somewhat of a decline in our gross margin in the remaining quarters of the year.

Q12: Was the more favorable mix created by the shift in computing/comms and automotive/industrial/consumer/DDIC as percentages of your business the greatest factor behind the sharp increase in your planned FY2024 gross margin from around 48% to around 52%?

A12: Under our revised forecast, we have raised our outlook for computing/comms as a percentage of our SoC tester sales to roughly 80%. In particular, it is the increased sales contribution from HPC device testers, which have high average sales prices and profitability, that was the greatest informant of our decision to increase our FY2024 gross margin forecast.

Q13: When do you expect to have updated test solutions to address the migration to HBM3E and HBM4?

A13: We are in active development of new solutions to address the next generations of HBM. We have established a very strong position with memory customers, so we are working in lockstep with them to meet the timelines for their next-generation HBM device releases.

Q14: Companies developing their own chips in house could drive growth in the tester market going forward. How much demand do you expect to capture from these new customers over the next couple of years? I believe your competitor's position is also strong, but what are you doing to secure share?

A14: We already have strong positions with the existing customers in the HPC/AI space, and I think it is important to distinguish these traditional semiconductor companies from new entrants developing their own chips like the hyperscalers. Also, while they are still few in number, we recognize that companies that develop ASICs for the hyperscalers are also going to be of increasing importance going forward. In either instance, we are already in a good position. Such customers are likely to act as a growth driver for us over the next couple of years and to become a meaningful part of the SoC market going forward.

#### 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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