

Advantest Corporation
FY2019 2Q (Three months ended September 30, 2019) Financial Briefing
Q&A Summary

October 30, 2019

Q: The Taiwanese foundry is steadily investing in advanced process nodes, which is likely to have positive implications for tester demand. In addition, the fact that there is this much demand for testers in the early stages of 5G suggests the potential for explosive growth in SoC tester demand once 5G smartphones go into mass production. How do you expect to see your business develop in each of these contexts?

A: Firstly, the greater the adoption of advanced process nodes, the more pronounced the growth in the number of transistors contained in devices is and the more complex the testing of them becomes. While we may enter a correction phase in 2H, we believe that SoC tester demand will grow going forward as the industry transitions to more advanced nodes.

As regards 5G, we benefitted in 1Q from significant demand for testers used in the engineering of 5G devices. In 2Q we received orders associated with initial mass production, and we look for 5G-related semiconductors to enter full-fledged mass production in 4Q. In 2020 and beyond, we expect even further device complexity as the number of 5G smartphone models grows, the functionality of the semiconductors used in them evolves, and the uptake of millimeter wave technology advances. We look to 5G to represent an opportunity over the medium-to-long term as the number of test items increases, test times grow, and customers become more demanding about tester performance.

Since customers will at the same time be working to increase testing efficiency, tester demand is unlikely to grow in a linear fashion that parallels gains in device sophistication and complexity. However, as the result of a massive number of development initiatives, 5G devices are poised in the course of the next decade to be used not only in smartphones, but also in a variety of contexts ranging from factories to homes, offices, industrial equipment, and medical equipment. Our long-term strategy is to build a robust offering of test solutions for those devices and to deliver them to customers around the world.

Q: There are reports of Chinese memory companies producing devices with no regard for patents and concerns that this will eventually lead to issues with the US. What is your view on that? Also, my understanding is that some manufacturers in the flash memory industry have begun to increase production, and I believe that should lead to investment in testers, but what is your sense?

A: We will refrain from discussing the patent question as we are not positioned to comment. As regards demand for flash memory testers, we feel that flash memory will pick up earlier than DRAM, but we have yet to see anything major in the way of inquiries.

Q: 5G is being put to some commercial use in China, but how do you expect 5G device demand to grow in this fiscal year and beyond? Also, tester demand may also gather pace as device demand grows. If demand growth is as dramatic as it was in the case of 4G LTE, will you be all right in terms of production capacity?

A: We put annual smartphone volume at roughly 1.4 billion units, and we expect just over 10% of that figure to transition to 5G in 2020. We believe we are amply capable of supporting that demand with our current production capacity, using our supply chain.

Q: There are some reports that as many as 250-300 million 5G smartphones could be produced in 2020. Would you really be capable of supporting such drastic production growth?

A: Tester demand does not necessarily track smartphone volume growth. It sometimes declines due to gains in test efficiency or production yields. However, even if there is explosive growth in tester demand, our intention is to meet it and to do so gladly. We intend to keep a watchful eye on market trends for 5G smartphones.

Q: At what sort of speed do you expect the memory market to adopt DDR5 in 2020? Will your production capacity be able to keep up with it?

A: High-end smartphone manufacturers will initially be the primary customers for DDR5/LPDDR5. We look for their uptake to track the growth in 5G smartphones and believe our production capacity will enable us to support the initial launch.

Q: You look for 142 billion yen in SoC tester sales in FY2019. How much of that do you expect to be related to 5G? Phrased differently, at the beginning of the fiscal year, you had anticipated 113 billion yen in SoC tester sales, but you raised that to 142 billion yen. Is the entirety of that 29-billion-yen hike premised on demand growth related to 5G?

A: Analyzing the drivers of demand is a complex task, so it is difficult at present to give an exact answer on how much we can expect in 5G-related sales. It is a question I would like to explore in more depth going forward.

It is fair for you to assume that the majority of the hike to our SoC tester sales outlook owes to 5G. 5G semiconductors use the latest process nodes, so we are benefitting from business related to the engineering and initial mass production of those cutting-edge 5G SoCs.

Q: Cost is a key consideration in the case of mid-end smartphones. How cost conscious are your customers about the application processors used in mid-end smartphones?

A: You are correct. Competition between our customers has been fierce in the mid-end space since the advent of 4G, and we are always thinking about how to support their cost needs. In the 5G world, we intend to continue to help our customers reduce their CoT (Cost of Testing) by proposing methods for reducing testing times and increasing utilization.

Q: How much shorter are testing times at the mid-end as opposed to the high-end? How many additional chip sets is it possible to test?

A: I can't answer that directly, but I can add some words of explanation. In general, although it varies application by application, the test cost of semiconductors is thought to be about 1% for low-end products, and about 8% for high-value-added devices. (Smartphone SoCs are a high-value-added segment.) But amidst ongoing strong cost pressure in the mid-end smartphone space, customers are always asking us to lower test costs. Therefore, we consult with individual customers about how to improve the efficiency of test.

Q: Your description of your market share seemed very cautious compared to recent comments by your US peer. Could you give us a rough idea of the trends in your market share for DRAM, NAND, and SoC?

A: We gained significant market share in 2018. In particular, we reached a market share in excess of 50% for SoC testers, growing with a momentum we had not seen in recent years. We believe our share of the memory tester market was between 50% and 60%, as has been the case for some time. Within the memory space, we have traditionally been weak with flash memory and strong with DRAM. That was because we had not focused much on flash memory testing in the past because the test specifications were simplistic and the margins not high. However, higher layer counts have resulted in greater testing complexity and longer testing times for NAND. The testing market for NAND is therefore growing and we are stepping up our business in that space. We are proud to say that we maintain a strong position in the DRAM space, and we look for a natural rise in our memory tester market share once investment in DRAM picks back up. We also have competitors in South Korea and China in addition to the US peer. Moreover, some of our customers are using testers produced in-house, so we believe it will be difficult to achieve a market share of 60-70%. However, we think we can target the top position in the market by maintaining a market share in excess of 50%.

Q: You said that orders may decline in 2H, but do you mention it merely as a possibility or are you already seeing a slowdown?

A: We do not look for 3Q sales to drop off very much, in part because of our order backlog. However, we do not have clear visibility as of yet on 3Q and 4Q orders. We typically see fewer orders in 3Q, and given the murky outlook for the global economy, we do not expect 3Q orders to grow very much. However, our customers will have started a new fiscal year in our 4Q, and there is ample possibility that investment in the memory space and in the US will get underway then. Our current guidance reflects only what we have visibility on at present. I believe there are also some aspects on which we are taking a conservative view.

Q: Please tell us about what sort of recovery you are seeing in 2H for display driver and automotive semiconductors, as well as for microcontrollers.

A: 1H was weak for display driver and automotive ICs, as well as for microcontrollers. Moreover, we have unfortunately yet to see signs of recovery. For display drivers, FY2019 is only at 50-60% of the level we saw in FY2018. That said, technology-wise, we expect to see display driver tester demand pick up as of around FY2020. We unfortunately believe that a sharp recovery is likewise unlikely for automotive semiconductors. However, the electrification of automobiles definitely continues, and testers will be increasingly important given that reliability is key in the case of automotive applications. We look for a solid trend over the medium-to-long term.

Note

This document is prepared for those who were unable to attend the information meeting 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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